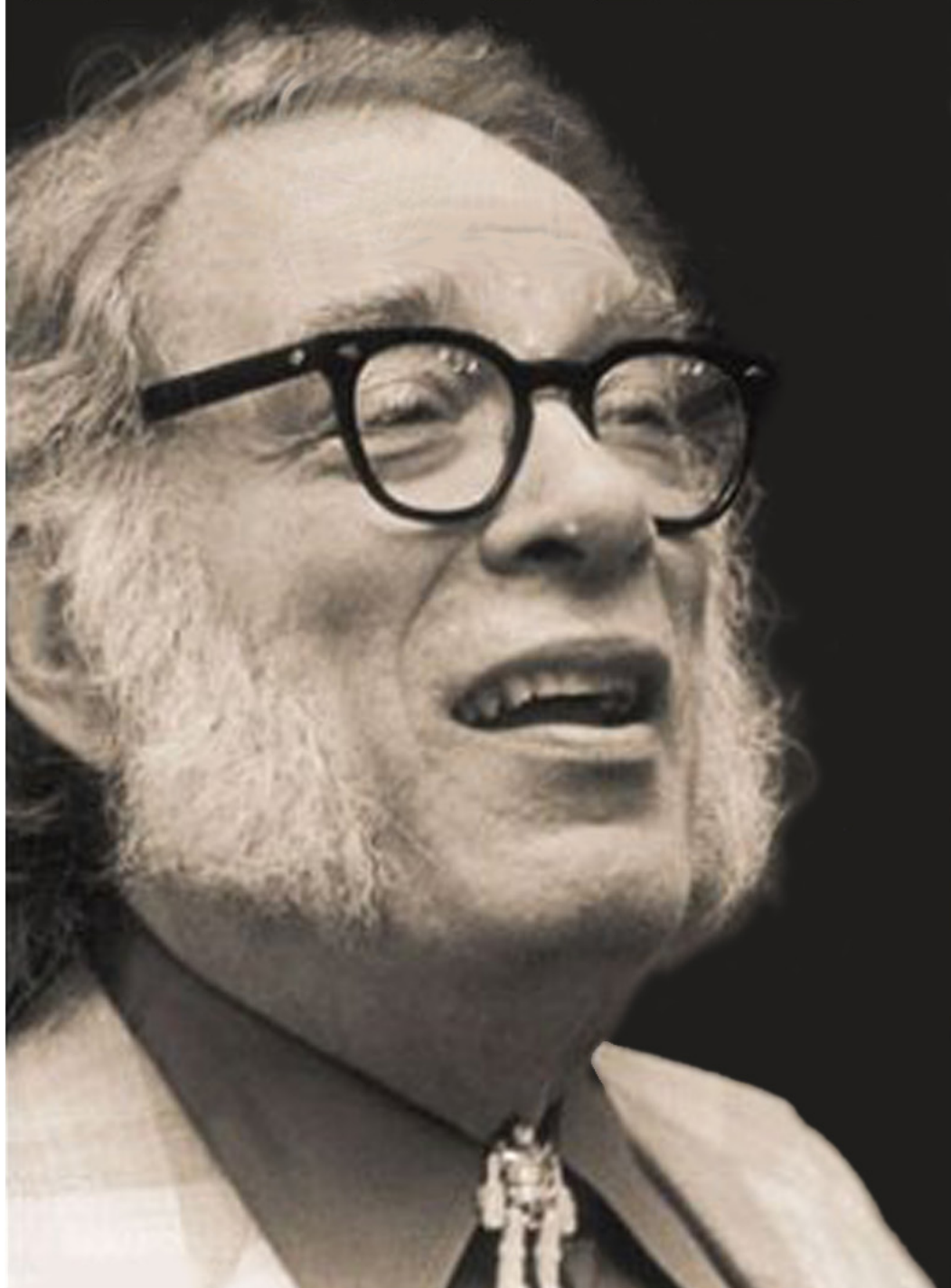


the complete
ASIMOV



a compilation by ff

THE EARLY ASIMOV

To the memory of

John Wood Campbell, Jr. (1910-71)

for reasons that this book will make amply obvious

Although I have written over a hundred and twenty books, on almost every subject from astronomy to Shakespeare and from mathematics to satire, it is probably as a science fiction writer that I am best known.

I began as a science fiction writer, and for the first eleven years of my literary career I wrote nothing but science fiction stories, for magazine publication only—and for minute payment. The thought of actually publishing honest-to-goodness books never entered my essentially humble mind.

But the time came when I did begin to produce books, and then I began to gather together the material I had earlier written for magazines. Between 1950 and 1969, ten collections appeared (all of which were published by Doubleday).

These contained eighty-five stories (plus four pieces of comic verse) originally intended for, and published in, the science fiction magazines. Nearly a quarter of them came from those first eleven years.

For the record, these books are:

I, ROBOT (1950)

FOUNDATION (1951)

FOUNDATION AND EMPIRE (1952)

SECOND FOUNDATION (1953)

THE MARTIAN WAY AND OTHER STORIES (1955)

EARTH IS ROOM ENOUGH (1957)

NINE TOMORROWS (1959)

THE REST OF THE ROBOTS (1964)

ASIMOV'S MYSTERIES (1968)

NIGHTFALL AND OTHER STORIES (1969)

It might be argued that this was quite enough, but in arguing so, one is omitting the ravenous appetites of my readers (bless them!). I am constantly getting letters requesting lists of ancient stories out of me so that the letter writers can haunt second-hand shops for old magazines. There are people who prepare bibliographies of my science fiction (don't ask me why) and who want to know all sorts of half-forgotten details concerning them. They even grow distinctly angry when they find that some early stories

were never sold and no longer exist. They want those, too, apparently, and seem to think I have negligently destroyed a natural resource.

So when Panther Books, in England, and Doubleday suggested that I make a collection of those of my early stories not already collected in the ten books listed above, with the literary history of each, I could resist no further. Everyone who has ever met me knows just how amenable to flattery I am, and if you think I can withstand this kind of flattery for more than half a second (as a rough estimate), you are quite wrong.

Fortunately I have a diary, which I have been keeping since January 1, 1938 (the day before my eighteenth birthday); it can give me dates and details.

I began to write when I was very young—eleven, I think. The reasons are obscure, I might say it was the result of an unreasoning urge, but that would just indicate I could think of no reason.

Perhaps it was because I was an avid reader in a family that was too poor to afford books, even the cheapest, and besides, a family that considered cheap books unfit reading. I had to go to the library (my first library card was obtained for me by my father when I was six years old) and make do with two books per week.

This was simply not enough, and my craving drove me to extremes. The diary began as the sort of thing a teen-ager would write, but it quickly degenerated to a simple kind of literary record. It is, to anyone but myself, utterly boring—so boring, in fact, that I leave it around for anyone who wishes, to read. No one ever reads more than two pages. Occasionally someone asks me if I have never felt that my diary ought to record my innermost feelings and emotions, and my answer is always, "No. Never!"

After all, what's the point of being a writer if I have to waste my innermost feelings and emotions on a mere diary? At the beginning of each school term, I eagerly read through every schoolbook I was assigned, going from cover to cover like a personified conflagration. Since I was blessed with a tenacious memory and with instant recall, that was all the studying I had to do for that school term, but I was through before the week was over, and then what? So, when I was eleven, it occurred to me that if I wrote my own books, I could then reread them at my leisure. I never really wrote a complete book, of course. I would start one and keep rambling on with it till I outgrew it and then I would start another. All these early writings are forever gone, though I remember some of the details quite clearly.

In the spring of 1934 I took a special English course given at my high school (Boys' High School in Brooklyn) that placed the accent on writing. The teacher was also faculty adviser for the semi-annual literary magazine put out by the students, and it was his intention to gather material. I took that course.

It was a humiliating experience. I was fourteen at the time, and a rather green and innocent fourteen. I wrote trifles, while everyone else in the class (who were sixteen apiece) wrote sophisticated, tragic mood pieces. All of them made no particular secret of their scorn for me, and though I resented it bitterly there was nothing I could do about it.

For a moment I thought I had them when one of my products was accepted for the semi-annual literary magazine while many of theirs were rejected. Unfortunately the

teacher told me, with callous insensitivity, that mine was the only item submitted that was humorous and that since he had to have one non-tragic piece he was forced to take it.

It was called "Little Brothers," dealt with the arrival of my own little brother five years earlier, and was my first piece of published material of any kind. I suppose it can be located in the records at Boys' High, but I don't have it. Sometimes I wonder what happened to all those great tragic writers in the class. I don't remember a single name and I have no intention of ever trying to find out—but I sometimes wonder.

It was not until May 29, 1937 (according to a date I once jotted down—though that was before I began my diary, so I won't swear to it), that the vague thought occurred to me that I ought to write something for professional publication; something that would be paid for! Naturally it would have to be a science fiction story, for I had been an avid science fiction fan since 1929 and I recognized no other form of literature as in any way worthy of my efforts.

The story I began to compose for the purpose, the first story I ever wrote with a view to becoming a "writer," was entitled "Cosmic Corkscrew."

In it I viewed time as a helix (that is, something like a bedspring). Someone could cut across from one turn directly to the next, thus moving into the future by some exact interval but being incapable of travelling one day less into the future.

My protagonist made the cut across time and found the Earth deserted. All animal life was gone; yet there was every sign that life had existed until very shortly before—and no indication at all of what had brought about the disappearance. It was told in the first person from a lunatic asylum, because the narrator had, of course, been placed in a madhouse after he returned and tried to tell his tale.

I wrote only a few pages in 1937, then lost interest. The mere fact that I had publication in mind must have paralyzed me. As long as something I wrote was intended for my own eyes only, I could be carefree enough. The thought of possible other readers weighed down heavily upon my every word.

—So I abandoned it.

Then, in May 1938, the most important magazine in the field. *Astounding Science Fiction*, changed its publication schedule from the third Wednesday of the month to the fourth Friday. When the June issue did not arrive on its accustomed day, I went into a decline.

By May 17, I could stand it no more and took the subway to 79 Seventh Avenue, where the publishing house. Street & Smith Publications, Inc., was then located. There, an official of the firm informed me of the changed schedule, and on May 19, the June issue arrived. The near brush with doom, and the ecstatic relief that followed, reactivated my desire to write and publish. I returned to "Cosmic Corkscrew" and by June 19 it was finished.

I told this story in some detail in an article entitled "Portrait of the Writer as a Boy," which was included as Chapter 17 of my book of essays *Science, Numbers and I* (Doubleday, 1968).

In it, relying on memory alone, I said that I had called Street & Smith on the phone. When I went back to my diary to check actual dates for this book, I was astonished to discover that I had actually made the subway trip—an utterly daring venture for me in those days, and a measure of my desperation.

The next question was what to do with it. I had absolutely no idea what one did with a manuscript intended for publication, and no one I knew had any idea either. I discussed it with my father, whose knowledge of the real world was scarcely greater than my own, and he had no idea either.

But then it occurred to me that, the month before, I had gone to 79 Seventh Avenue merely to inquire about the non-appearance of *Astounding*. I had not been struck by lightning for doing so. Why not repeat the trip, then, and hand in the manuscript in person? The thought was a frightening one. It became even more frightening when my father further suggested that necessary preliminaries included a shave and my best suit. That meant I would have to take additional time, and the day was already wearing on and I would have to be back in time to make the afternoon newspaper delivery. (My father had a candy store and newsstand, and life was very complicated in those days for a creative writer of artistic and sensitive bent such as myself. For instance, we lived in an apartment in which all the rooms were in a line and the only way of getting from the living room to the bedroom of my parents, or of my sister, or of my brother, was by going through my bedroom. My bedroom was therefore frequently gone through, and the fact that I might be in the throes of creation meant nothing to anyone.) I compromised. I shaved, but did not bother changing suits, and off I went. The date was June 21, 1938.

I was convinced that, for daring to ask to see the editor of *Astounding Science Fiction*, I would be thrown out of the building bodily, and that my manuscript would be torn up and thrown out after me in a shower of confetti. My father, however (who had lofty notions) was convinced that a writer—by which he meant anyone with a manuscript—would be treated with the respect due an intellectual. He had no fears at all—but I was the one who had to go into the building.

Trying to mask panic, I asked to see the editor. The girl behind the desk (I can see the scene in my mind's eye right now exactly as it was) spoke briefly on the phone and said, "Mr. Campbell will see you."

She directed me through a large, loft like room filled with huge rolls of paper and enormous piles of magazines and permeated with the heavenly smell of pulp (a smell that, to this day, will recall my youth in aching detail and reduce me to tears of nostalgia). And there, in a small room on the other side, was Mr. Campbell.

John Wood Campbell, Jr., had been working for Street & Smith for a year and had taken over sole command of *Astounding Stories* (which he had promptly renamed *Astounding Science Fiction*) a couple of months earlier. He was only twenty-eight years old then. Under his own name and under his pen name, Don A. Stuart, he was one of the most famous and highly regarded authors of science fiction, but he was about to bury his writing reputation forever under the far greater renown he was to gain as editor.

He was to remain editor of *Astounding Science Fiction* and of its successor, *Analog Science Fact—Science Fiction*, for a third of a century. During all that time, he and I were to remain friends, but however old I grew and however venerable and respected a star of our mutual field I was to become, I never approached him with anything but that awe he inspired in me on the occasion of our first meeting.

He was a large man, an opinionated man, who smoked and talked constantly, and who enjoyed, above anything else, the production of outrageous ideas, which he bounced off his listener and dared him to refute. It was difficult to refute Campbell even when his ideas were absolutely and madly illogical.

We talked for over an hour that first time. He showed me forthcoming issues of the magazine (actual future issues in the cellulose-flesh). I found he had printed a 'fan letter of mine in the issue about to be published, and another in the next—so he knew the genuineness of my interest.

He told me about himself, about his pen name and about his opinions. He told me that his father had sent in one of his manuscripts to *Amazing Stories* when he was seventeen and that it would have been published but the magazine lost it and he had no carbon. (I was ahead of him there. I had brought in the story myself and I had a carbon.) He also promised to read my story that night and to send a letter, whether acceptance or rejection, the next day. He promised also that in case of rejection he would tell me what was wrong with it so I could improve.

He lived up to every promise. Two days later, on June 23, I heard from him. It was a rejection. (Since this book deals with real events and is not a fantasy—you can't be surprised that my first story was instantly rejected.) Here is what I said in my diary about the rejection: "At 9:30 I received back 'Cosmic Corkscrew' with a polite letter of rejection. He didn't like the slow beginning, the suicide at the end."

Campbell also didn't like the first-person narration and the stiff dialog, and further pointed out that the length (nine thousand words) was inconvenient—too long for a short story, too short for a novelette. Magazines had to be put together like jigsaw puzzles, you see, and certain lengths for individual stories were more convenient than others.

By that time, though, I was off and running. The joy of having spent an hour and more with John Campbell, the thrill of talking face to face and on even terms with an idol, had already filled me with the ambition to write another science fiction story, better than the first, so that I could try him again. The pleasant letter of rejection—two full pages—in which he discussed my story seriously and with no trace of patronization or contempt, reinforced my joy. Before June 23 was over, I was halfway through the first draft of another story.

Many years later I asked Campbell (with whom I had by then grown to be on the closest terms) why he had bothered with me at all, since that first story was surely utterly impossible.

"It was," he said frankly, for he never flattered. "On the other hand, I saw something in you. You were eager and you listened and I knew you wouldn't quit no

matter how many rejections I handed you. As long as you were willing to work hard at improving, I was willing to work with you."

That was John. I wasn't the only writer, whether newcomer or old-timer, that he was to work with in this fashion. Patiently, and out of his own enormous vitality and talent, he built up a stable of the best s.f. writers the world had, till then, ever seen.

What happened to "Cosmic Corkscrew" after that I don't really know. I abandoned it and never submitted it anywhere else. I didn't actually tear it up and throw it away; it simply languished in some desk drawer until eventually I lost track of it. In any case, it no longer exists.

This seems to be one of the main sources of discomfort among the archivists—they seem to think the first story I ever wrote for publication, however bad it might have been, was an important document. All I can say, fellows, is that I'm sorry but there was no way of my telling in 1938 that my first try might have historic interest someday. I may be a monster of vanity and arrogance, but I'm not that much a monster of vanity and arrogance.

Besides, before the month was out I had finished my second story, "Stowaway," and I was concentrating on that. I brought it to Campbell's office on July 18, 1938, and he was just a trifle slower in returning it, but the rejection came on July 22.

I said in my diary concerning the letter that accompanied it: ". . . it was the nicest possible rejection you could imagine.

Indeed, the next best thing to an acceptance. He told me the idea was good and the plot passable. The dialog and handling, he continued, were neither stiff nor wooden (this was rather a delightful surprise to me) and that there was no one particular fault but merely a general air of amateurishness, constraint, forcing. The story did not go smoothly. This, he said, I would grow out of as soon as I had had sufficient experience.

He assured me that I would probably be able to sell my stories but it meant perhaps a year's work and a dozen stories before I could click. . . "

It is no wonder that such a "rejection letter" kept me hotly charged with enormous enthusiasm to write, and I got promptly to work on a third story.

What's more, I was sufficiently encouraged to try to submit "Stowaway" elsewhere. In those days there were three science fiction magazines on the stands. Astounding was the aristocrat of the lot, a monthly with smooth edges and an appearance of class. The other two. Amazing Stories and Thrilling Wonder Stories, were somewhat more primitive in appearance and printed stories, with more action and less sophisticated plots. I sent "Stowaway" to Thrilling Wonder Stories, which, however, also rejected it promptly on August 9, 1938 (with a form letter).

By then, though, I was deeply engaged with my third story, which, as it happened, was fated to do better—and do it faster. In this book, however, I am including my stories not in the order of publication but in order of writing—which I presume is more significant from the standpoint of literary development. Let me stay with "Stowaway," therefore.

In the summer of 1939, by which time I had gained my first few successes, I returned to "Stowaway," refurbished it somewhat, and tried Thrilling Wonder Stories

again. Undoubtedly I had a small suspicion that the new luster of my name would cause them to read it with a different attitude than had been the case when I was a complete unknown. I was quite wrong. It was rejected again.

Then I tried *Amazing*, and again it was rejected.

That meant the story was dead, or would have meant so were it not for the fact that science fiction was entering a small "boom" as the 1930s approached their end. New magazines were being founded, and toward the end of 1939, plans were made to publish a magazine to be called *Astonishing Stories*, which would retail for the price of ten cents. (Astounding cost twenty cents an issue.) The new magazine, together with a sister magazine, *Super Science Stories*, were to be edited on a shoestring by a young science fiction fan, Frederic Pohl, who was then just turning twenty (he was about a month older than myself), and who, in this way, made his entry into what was to be a distinguished professional career in science fiction.

Pohl was a thin, soft-spoken young man, with hair that was already thinning, a solemn face, and a pronounced overbite that gave him a rabbity look when he smiled. The economic facts of his life kept him out of college, but he was far brighter (and knew more) than almost any college graduate I've ever met.

Pohl was a friend of mine (and still is) and perhaps did more to help me start my literary career than anyone except, of course, Campbell himself. We had attended fan-club meetings together. He had read my manuscripts and praised them —and now he needed stories in a hurry, and at low rates, for his new magazines.

He asked to look through my manuscripts again. He began by choosing one of my stories for his first issue. On November 17, 1939, nearly a year and a half after "Stowaway" was first written, Pohl selected it for inclusion in his second issue of *Astonishing*. He was an inveterate title changer, however, and he plastered "The Callistan Menace" on the story and that was how it was published.

So here it is, the second story I ever wrote and the earliest story to see professional publication. The reader can judge for himself whether Campbell's critique, given above, was overly kind and whether he was justified in foreseeing a professional writing career for me on the basis of this story.

"The Callistan Menace" appears here (as will all the stories in this volume) exactly as it appeared in the magazine with only the editing and adjustment required to correct typographical errors.

THE CALLISTAN MENACE

Astonishing Stories, April 1940
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"Damn Jupiter!" growled Ambrose Whitefield viciously, and I nodded agreement.

"I've been on the Jovian satellite run," I said, "for fifteen years and I've heard those two words spoken maybe a million times. It's probably the most sincere curse in the Solar System."

Our watch at the controls of the scout ship Ceres had just been relieved and we descended the two levels to our room with dragging steps.

"Damn Jupiter—and damn it again," insisted Whitefield morosely. "It's too big for the System. It stays out there behind us and pulls and pulls and pulls! We've got to keep the Atomos firing all the way. We've got to check our course—completely—every hour. No relaxation, no coasting, no taking it easy! nothing but the rottenest kind of work."

There were tiny beads of perspiration on his forehead and he swabbed at them with the back of his hand. He was a young fellow, scarcely thirty, and you could see in his eyes that he was nervous, and even a little frightened.

And it wasn't Jupiter that was bothering him, in spite of his profanity. Jupiter was the least of our worries. It was Callisto! It was that little moon which gleamed a pale blue upon our visiplates that made Whitefield sweat and that had spoiled four nights' sleep for me already. Callisto! Our destination! Even old Mac Steeden, gray mustachioed veteran who, in his youth, had sailed with the great Peewee Wilson himself, went about his duties with an absent stare. Four days out—and ten days more ahead of us—and panic was reaching out with clammy fingers.

We were all brave enough in the ordinary course of events.

The eight of us on the Ceres had faced the purple Lectronics and stabbing Disintos of pirates and rebels and the alien environments of half a dozen worlds. But it takes more than run-of-the-mill bravery to face the unknown; to face Callisto, the "mystery world" of the Solar System.

One fact was known about Callisto—one grim, bare fact.

Over a period of twenty-five years, seven ships, progressively better equipped, had landed—and never been heard from again. The Sunday supplements peopled the satellite with anything from super-dinosaurs to invisible ghosts of the fourth dimension, but that did not solve the mystery.

We were the eighth. We had a better ship than any of those preceding. We were the first to sport the newly-developed beryl-tungsten hull, twice as strong as the old steel shells. We possessed super-heavy armaments and the very latest Atomic Drive engines.

Still—we were only the eighth, and every man jack of us knew it.

Whitefield entered our quarters silently and flopped down upon his bunk. His fists were clenched under his chin and showed white at the knuckles. It seemed to me that he wasn't far from the breaking point. It was a case for careful diplomacy.

"What we need," said I, "is a good, stiff drink."

"What we need," he answered harshly, "is a hell of a lot of good, stiff drinks."

"Well, what's stopping us?"

He looked at me suspiciously, "You know there isn't a drop of liquor aboard ship. It's against Navy regulations!"

"Sparkling green Jabra water," I said slowly, letting the words drip from my mouth.

"Aged beneath the Martian deserts. Melted emerald juice. Bottles of it! Cases of it!"

"Where?"

"I know where. What do you say? A few drinks—just a few—will cheer us both up."

For a moment, his eyes sparkled, and then they dulled again, "What if the Captain finds out? He's a stickler for discipline, and on a trip like this, it's liable to cost us our rating."

I winked and grinned, "It's the Captain's own cache. He can't discipline us without cutting his own throat—the old hypocrite. He's the best damn Captain there ever was, but he likes his emerald water."

Whitefield stared at me long and hard, "All right. Lead me to it."

We slipped down to the supply room, which was deserted, of course. The Captain and Steeden were at the controls; Brock and Charney were at the engines; and Harrigan and Tuley were snoring their fool heads off in their own room.

Moving as quietly as I could, through sheer habit, I pushed aside several crates of food tabs and slid open a hidden panel near the floor. I reached in and drew out a dusty bottle, which, in the dim light, sparkled a dull sea-green.

"Sit down," I said, "and make yourself comfortable." I produced two tiny cups and filled them.

Whitefield sipped slowly and with every evidence of satisfaction. He downed his second at one gulp.

"How come you volunteered for this trip, anyway, Whitey?"

I asked, "You're a little green for a thing like this."

He waved his hand, "You know how it is. Things get dull after a while. I went in for zoology after getting out of college—big field since interplanetary travel—and had a nice comfortable position back on Ganymede. It was dull, though; I was bored blue. So I joined the Navy on an impulse, and on another I volunteered for this trip." He sighed ruefully, "I'm a little sorry I did."

"That's not the way to take it, kid. I'm experienced and I know. When you're panicky, you're as good as licked. Why, two months from now, we'll be back on Ganymede."

"I'm not scared, if that's what you're thinking," he exclaimed angrily. "It's—it's," there was a long pause in which he frowned at his third cupful. "Well, I'm just worn out

trying to imagine what the hell to expect. My imagination is working overtime and my nerves are rubbing raw."

"Sure, sure," I soothed, "I'm not blaming you. It's that way with all of us, I guess. But you have to be careful. Why, I remember once on a Mars-Titan trip, we had—"

Whitefield interrupted what was one of my favorite yarns—and I could spin them as well as anyone in the service—with a jab in the ribs that knocked the breath out of me.

He put down his Jabra gingerly.

"Say, Jenkins," he stuttered, "I haven't downed enough liquor to be imagining things, have I?"

"That depends on what you imagined."

"I could swear I saw something move somewhere in the pile of empty crates in the far corner."

"That's a bad sign," and I took another swig as I said it.

"Your nerves are going to your eyes and now they're going back on you. Ghosts, I suppose, or the Callistan menace looking us over in advance."

"I saw it, I tell you. There's something alive there." He edged towards me—his nerves were plenty shot—and for a moment, in the dim, shadowy light even I felt a bit choked up.

"You're crazy," I said in a loud voice, and the echoes calmed me down a bit. I put down my empty cup and got up just a wee bit unsteadily. "Let's go over and poke through the crates."

Whitefield followed me and together we started shoving the light aluminum cubicles this way and that. Neither of us was quite one hundred per cent sober and we made a fair amount of noise. Out of the corner of my eye, I could see Whitefield trying to move the case nearest the wall.

"This one isn't empty," he grunted, as it lifted very slightly off the floor.

Muttering under his breath, he knocked off the cover and looked in. For a half second he just stared and then he backed away slowly. He tripped over something and fell into a sitting position, still gaping at the case.

I watched his actions with raised eyebrows, then glanced hastily at the case in question. The glance froze into a steady glare, and I emitted a hoarse yell that rattled off each of the four walls.

A boy was sticking his head out of the case—a red-haired dirty-faced kid of thirteen or thereabouts.

"Hello," said the boy as he clambered out into the open.

Neither of us found the strength to answer him, so he continued, "I'm glad you found me. I was getting a cramp in my shoulder trying to curl up in there."

Whitefield gulped audibly, "Good God! A kid stowaway! And on a voyage to Callisto!"

"And we can't turn back," I reminded in a stricken voice, "without wrecking ourselves. The Jovian satellite run is poison."

"Look here," Whitefield turned on the kid in a sudden belligerence. "Who are you, you young nut, and what are you doing here?"

The kid flinched. "I'm Stanley Fields," he answered, a bit scared. "I'm from New Chicago on Ganymede. I—I ran away to space, like they do in books." He paused and then asked brightly, "Do you think we'll have a fight with pirates on this trip, mister?"

There was no doubt that the kid was filled to the brim with "Dime Spacers." I used to read them myself as a youngster.

"How about your parents?" asked Whitefield, grimly.

"Oh, all I got 's an uncle. He won't care much, I guess." He had gotten over his first uneasiness and stood grinning at us.

"Well, what's to be done?" said Whitefield, looking at me in complete helplessness.

I shrugged, "Take him to the Captain. Let him worry."

"And how will he take it?"

"Anyway he wants. It's not our fault. Besides, there's absolutely nothing to be done about the mess."

And grabbing an arm apiece, we walked away, dragging the kid between us.

Captain Bartlett is a capable officer and one of the deadpan type that very rarely displays emotion. Consequently, on those few occasions when he does, it's like a Mercurian volcano in full eruption—and you haven't lived until you've seen one of those.

It was a case of the final straw. A satellite run is always wearing. The image of Callisto up ahead was harder on him than on any member of the crew. And now there was this kid stowaway.

It wasn't to be endured! For half an hour, the Captain shot off salvo after salvo of the very worst sort of profanity. He started with the sun and ran down the list of planets, satellites, asteroids, comets, to the very meteors themselves. He was starting on the nearer fixed stars, when he collapsed from sheer nervous exhaustion. He was so excited that he never thought to ask us what we were doing in the storeroom in the first place, and for that Whitefield and I were duly grateful.

But Captain Bartlett is no fool. Having purged his system of its nervous tension, he saw clearly that that which cannot be cured must be endured.

"Someone take him and wash him up," he growled wearily, "and keep him out of my sight for a while." Then, softening a bit, he drew me towards him, "Don't scare him by telling him where we're going. He's in a bad spot, the poor kid."

When we left, the old soft-hearted fraud was sending through an emergency message to Ganymede trying to get in touch with the kid's uncle.

Of course, we didn't know it at the time, but that kid was a Godsend—a genuine stroke of Old Man Luck. He took our minds off Callisto. He gave us something else to think about.

The tension, which at the end of four days had almost reached the breaking point, eased completely.

There was something refreshing in the kid's natural gayety; in his bright ingenuousness. He would meander about the ship asking the silliest kind of questions. He insisted on expecting pirates at any moment. And, most of all, he persisted in regarding each and every one of us as "Dime Spacer" heroes.

That last nattered our egos, of course, and put us on our mettle. We vied with each other in chest-puffing and taletelling, and old Mac Steeden, who in Stanley's eyes was a demi-god, broke the all-time record for plain and fancy lying.

I remember, particularly, the talk-fest we had on the seventh day out. We were just past the midpoint of the trip and were set to begin a cautious deceleration. All of us (except Harrigan and Tuley, who were at the engines) were sitting in the control room. Whitefield, with half an eye on the Mathematico, led off, and, as usual, talked zoology.

"It's a little slug-like thing," he was saying, "found only on Europa. It's called the Carolus Europis but we always referred to it as the Magnet Worm. It's about six inches long and has a sort of a slate-grey color—most disgusting thing you could imagine.

"We spent six months studying that worm, though, and I never saw old Mornikoff so excited about anything before.

You see, it killed by some sort of magnetic field. You put the Magnet Worm at one end of the room and a caterpillar, say, at the other. You wait about five minutes and the caterpillar just curls up and dies.

"And the funny thing is this. It won't touch a frog—too big; but if you take that frog and put some sort of iron band about it, that Magnet Worm kills it just like that. That's why we know it's some type of magnetic field that does it—the presence of iron more than quadruples its strength."

His story made quite an impression on us. Joe Brock's deep bass voice sounded, "I'm damn glad those things are only four inches long, if what you say is right."

Mac Steeden stretched and then pulled at his grey mustachios with exaggerated indifference, "You call that worm unusual. It isn't a patch on some of the things I've seen in my day—" He shook his head slowly and reminiscently, and we knew we were in for a long and gruesome tale. Someone groaned hollowly, but Stanley brightened up the minute he saw the old veteran was in a story-telling mood.

Steeden noticed the kid's sparkling eyes, and addressed himself to the little fellow, "I was with Peewee Wilson when it happened—you've heard of Peewee Wilson, haven't you?"

"Oh, yes," Stanley's eyes fairly exuded hero-worship. "I've read books about him. He was the greatest spacer there ever was."

"You bet all the radium on Titan he was, kid. He wasn't any taller than you, and didn't scale much more than a hundred pounds, but he was worth five times his weight in Venusian Devils in any fight. And me and him were just like that. He never went anyplace but what I was with him. When the going was toughest it was always me that he turned to."

He sighed lugubriously, "I was with him to the very end. It was only a broken leg that kept me from going with him on his last voyage—"

He choked off suddenly and a chilly silence swept over all of us. Whitefield's face went gray, the Captain's mouth twisted in a funny sort of way, and I felt my heart skid all the way down to the soles of my feet.

No one spoke, but there was only one thought among the six of us. Peewee Wilson's last trip had been to Callisto. He had been the second—and had never returned. We were the eighth.

Stanley stared from one to the other of us in astonishment, but we all avoided his eyes.

It was Captain Bartlett that recovered first.

"Say, Steeden, you've got an old spaceship of Peewee Wilson's, haven't you?" His voice was calm and steady but I could see that it took a great deal of effort to keep it so.

Steeden brightened and looked up. He had been chewing at the tips of his mustachios (he always did when nervous) and now they hung downwards in a bedraggled fashion.

"Sure thing. Captain. He gave it to me with his own hand, he did. It was back in '23 when the new steel suits were just being put out. Peewee didn't have any more use for his old vitri-rubber contraption, so he let me have it—and I've kept it ever since. It's good luck for me."

"Well, I was thinking that we might fix up that old suit for the boy here. No other suit 'll fit him, and he needs one bad."

The veteran's faded eyes hardened and he shook his head vigorously, "No sir. Captain. No one touches that old suit Peewee gave it to me himself. With his own hand! It's—it's sacred, that's what it is."

The rest of us chimed in immediately upon the Captain's side but Steeden's obstinacy grew and hardened. Again and again he would repeat tonelessly, "That old suit stays where it is." And he would emphasize the statement with a blow of his gnarled fist.

We were about to give up, when Stanley, hitherto discreetly silent, took a hand.

"Please, Mr. Steeden," there was just the suspicion of a quaver in his voice.

"Please let me have it. I'll take good care of it. I'll bet if Peewee Wilson were alive today he'd say I could have it." His blue eyes misted up and his lower lip trembled a bit. The kid was a perfect actor.

Steeden looked irresolute and took to biting his mustachio again, "Well—oh, hell, you've all got it in for me. The kid can have it but don't expect me to fix it up! The rest of you can lose sleep—I wash my hands of it."

And so Captain Bartlett killed two birds with one stone.

He took our minds off Callisto at a time when the morale of the crew hung in the balance and he gave us something to think about for the remainder of the trip—for renovating that ancient relic of a suit was almost a week's job.

We worked over that antique with a concentration out of all proportion to the importance of the job. In its pettiness, we forgot the steadily growing orb of Callisto. We soldered every last crack and blister in that venerable suit. We patched the inside with

close-meshed aluminum wire. We refurbished the tiny heating unit and installed new tungsten oxygen-containers.

Even the Captain was not above giving us a hand with the suit, and Steeden, after the first day, in spite of his tirade at the beginning, threw himself into the job with a will.

We finished it the day before the scheduled landing, and Stanley, when he tried it on, glowed with pride, while Steeden stood by, grinning and twirling his mustachio.

And as the days passed, the pale blue circle that was Callisto grew upon the visiplat until it took up most of the sky. The last day was an uneasy one. We went about our tasks abstractedly, and studiously avoided the sight of the hard, emotionless satellite ahead.

We dived—in a long, gradually contracting spiral. By this manoeuvre, the Captain had hoped to gain some preliminary knowledge of the nature of the planet and its inhabitants, but the information gained was almost entirely negative. The large percentage of carbon dioxide present in the thin, cold atmosphere was congenial to plant life, so that vegetation was plentiful and diversified. However, the three per cent oxygen content seemed to preclude the possibility of any animal life, other than the simplest and most sluggish species. Nor was there any evidence at all of cities or artificial structures of any kind.

Five times we circled Callisto before sighting a large lake, shaped something like a horse's head. It was towards that lake that we gently lowered ourselves, for the last message of the second expedition—Peewee Wilson's expedition—spoke of landing near such a lake.

We were still half a mile in the air, when we located the gleaming metal ovoid that was the Phobos, and when we finally thumped softly on to the green stubble of vegetation, we were scarcely five hundred yards from the unfortunate craft.

"Strange," muttered the Captain, after we had all congregated in the control room, waiting for further orders, "there seems to be no evidence of any violence at all."

It was true! The Phobos lay quietly, seemingly unharmed.

Its old-fashioned steel hull glistened brightly in the yellow light of a gibbous Jupiter, for the scant oxygen of the atmosphere could make no rusty inroads upon its resistant exterior.

The Captain came out of a brown study and turned to Charney at the radio.

"Ganymede has answered?"

"Yes, sir. They wish us luck." He said it simply, but a cold shiver ran down my spine.

Not a muscle of the Captain's face flickered. "Have you tried to communicate with the Phobos?"

"No answer, sir."

"Three of us will investigate the Phobos. Some of the answers, at least, should be there."

"Matchsticks" grunted Brock, stolidly.

-The Captain nodded gravely.

He palmed eight matches, breaking three in half, and extended his arm towards us, without saying a word.

Chamey stepped forward and drew first. It was broken and he stepped quietly towards the space-suit rack. Tuley followed and after him Harrigan and Whitefield. Then I, and I drew the second broken match. I grinned and followed Charney, and in thirty seconds, old Steeden himself joined us.

"The ship will be backing you fellows," said the Captain quietly, as he shook our hands. "If anything dangerous turns up, run for it. No heroics now, for we can't afford to lose men."

We inspected our pocket Lectronics and left. We didn't know exactly what to expect and weren't sure but that our first steps on Callistan soil might not be our last, but none of us hesitated an instant. In the "Dime Spacers," courage is a very cheap commodity, but it is rather more expensive in real life. And it is with considerable pride that I recall the firm steps with which we three left the protection of the Ceres.

I looked back only once and caught a glimpse of Stanley's face pressed white against the thick glass of the porthole.

Even from a distance, his excitement was only too apparent.

Poor kid! For the last two days he had been convinced we were on our way to clean up a pirate stronghold and was almost dying with impatience for the fighting to begin. Of course, none of us cared to disillusion him.

The outer hull of the Phobos rose before us and overshadowed us with its might. The giant vessel lay in the dark green stubble, silent as death. One of the seven that had attempted and failed. And we were the eighth.

Charney broke the uneasy silence, "What are these white smears on the hull?"

He put up a metal-encased finger and rubbed it along the steel plate. He withdrew it and gazed at the soft white pulp upon it. With an involuntary shudder of disgust, he scraped it off upon the coarse grass beneath.

"What do you think it is?"

The entire ship as far as we could see—except for that portion immediately next the ground—was besmeared by a thin layer of the pulpy substance. It looked like dried foam—like— I said: "It looks like slime left after a giant slug had come out of the lake and slithered over the ship."

I wasn't serious in my statement, of course, but the other two cast hasty looks at the mirror-smooth lake in which Jupiter's image lay unruffled. Charney drew his hand Lectronic.

"Here!" cried Steeden, suddenly, his voice harsh and metallic as it came over the radio, "that's no way to be talking."

"We've got to find some way of getting into the ship; there must be some break in its hull somewhere. You go around to the right, Charney, and you, Jenkins, to the left. I'll see if I can't get atop of this thing somehow."

Eyeing the smoothly-round hull carefully, he drew back and jumped. On Callisto; of course, he weighed only twenty pounds or less, suit and all, so he rose upwards some

thirty or forty feet. He slammed against the hull lightly, and as he started sliding downwards, he grabbed a rivet-head and scrambled to the top.

Waving a parting to Chamey at this point, I left.

"Everything all right?" the Captain's voice sounded thinly in my ear.

"All O.K.," I replied gruffly, "so far." And as I said so, the Ceres disappeared behind the convex bulge of the dead Phobos and I was entirely alone upon the mysterious moon.

I pursued my round silently thereafter. The spaceship's "skin" was entirely unbroken except for the dark, staring portholes, the lowest of which were still well above my head.

Once or twice I thought I could see Steeden scrambling monkey-like on top of the smooth hulk, but perhaps that was only fancy.

I reached the prow at last which was bathed in the full light of Jupiter. There, the lowest row of portholes were low enough to see into and as I passed from one to the other, I felt as if I were gazing into a shipful of spectres, for in the ghostly light all objects appeared only as flickering shadows.

It was the last window in the line that proved to be of sudden, overpowering interest. In the yellow rectangle of Jupiter-light stamped upon the floor, there sprawled what remained of a man. His clothes were draped about him loosely and his shirt was ridged as if the ribs below had moulded it into position. In the space between the open shirt collar and engineer's cap, there showed a grinning, eyeless skull. The cap, resting askew upon the smooth skullcase, seemed to add the last refinement of horror to the sight.

A shout in my ears caused my heart to leap. It was Steeden, exclaiming profanely somewhere above the ship. Almost at once, I caught sight of his ungainly steel-clad body slipping and sliding down the side of the ship.

We raced towards him in long, floating leaps and he waved us on, running ahead of us, towards the lake. At its very shores, he stopped and bent over some half-buried object. Two bounds brought us to him, and we saw that the object was a space-suited human, lying face downward. Over it was a thick layer of the same slimy smear that covered the Phobos.

"I caught sight of it from the heights of the ship," said Steeden, somewhat breathlessly, as he turned the suited figure over.

What we saw caused all three of us to explode in a simultaneous cry. Through the glassy visor, there appeared a leprous countenance. The features were putrescent, fallen apart, as if decay had set in and ceased because of the limited air supply. Here and there a bit of gray bone showed through.

It was the most repulsive sight I have ever witnessed, though I have seen many almost as bad.

"My God!" Chamey's voice was half a sob. "They simply die and decay." I told Steeden of the clothed skeleton I had seen through the porthole.

"Damn it, it's a puzzle," growled Steeden, "and the answer must be inside the Phobos." There was a momentary silence, "I tell you what. One of us can go back and get the Captain to dismount the Disintegrator. It ought to be light enough to handle on Callisto, and at low power, we can draw it fine enough to cut a hole without blowing the entire ship to kingdom come. You go, Jenkins. Charney and I will see if we can't find any more of the poor devils."

I set off for the Ceres without further urging, covering the ground in space-devouring leaps. Three-quarters of the distance had been covered when a loud shout, ringing metallically in my ear, brought me to a skidding halt. I wheeled in dismay and remained petrified at the sight before my eyes.

The surface of the lake was broken into boiling foam, and from it there reared the fore-parts of what appeared to be giant caterpillars. They squirmed out upon land, dirty-grey bodies dripping slime and water. They were some four feet long, about one foot in thickness, and their method of locomotion was the slowest of oxygen-conserving crawls. Except for one stalky growth upon their forward end, the tip of which glowed a faint red, they were absolutely featureless.

Even as I watched, their numbers increased, until the shore became one heaving mass of sickly gray flesh.

Charney and Steeden were running towards the Ceres, but less than half the distance had been covered when they stumbled, their run slowing to a blind stagger. Even that ceased, and almost together they fell to their knees.

Charney's voice sounded faintly in my ear, "Get help! My head is splitting. I can't move! I—" Both lay still now.

I started towards them automatically, but a sudden sharp pang just over my temples staggered me, and for a moment I stood confused. Then I heard a sudden unearthly shout from Whitefield, "Get back to the ship, Jenkins! Get back! Get back!"

I turned to obey, for the pain had increased into a continuous tearing pain. I weaved and reeled as I approached the yawning airlock, and I believe that I was at the point of collapse when I finally fell into it. After that, I can recall only a jumble for quite a period.

My next clear impression was of the control-room of the Ceres. Someone had dragged the suit off me, and I gazed about me in dismay at a scene of the utmost confusion. My brain was still somewhat addled and Captain Bartlett as he leant over me appeared double.

"Do you know what those damnable creatures are?" He pointed outwards at the giant caterpillars.

I shook my head mutely.

"They're the great grand-daddies of the Magnet Worm Whitefield was telling us of once. Do you remember the Magnet Worm?"

I nodded, "The one that kills by a magnetic field which is strengthened by surrounding iron."

"Damn it, yes," cried Whitefield, interrupting suddenly.

"I'll swear to it. If it wasn't for the lucky chance that our hull is beryl-tungsten and not steel—like the Phobos and the rest—every last one of us would be unconscious by now and dead before long."

"Then that's the Callistan menace." My voice rose in sudden dismay, "But what of Charney and Steeden?"

"They're sunk," muttered the Captain grimly. "Unconscious —maybe dead. Those filthy worms are crawling towards them and there's nothing we can do about it." He ticked off the points on his fingers. "We can't go after them in a spacesuit without signing our own death warrant—spacesuits are steel."

No one can last there and back without one. We have no weapons with a beam fine enough to blast the Worms without scorching Charney and Steeden as well. I've thought of maneuvering the Ceres nearer and making a dash for it, but one can't handle a spaceship on planetary surfaces like that—not without cracking up. We—"

"In short," I interrupted hollowly, "we've got to stand here and watch them die." He nodded and I turned away bitterly.

I felt a slight twitch upon my sleeve, and when I turned, it was to find Stanley's wide blue eyes staring up at me. In the excitement, I had forgotten about him, and now I regarded him bad-temperedly.

"What is it?" I snapped.

"Mr. Jenkins," his eyes were red, and I think he would have preferred pirates to Magnet Worms by a good deal, "Mr. Jenkins, maybe I could go and get Mr. Carney and Mr. Steeden."

I sighed, and turned away.

"But, Mr. Jenkins, I could. I heard what Mr. Whitefield said, and my spacesuit isn't steel. It's vitri-rubber."

"The kid's right," whispered Whitefield slowly, when Stanley repeated his offer to the assembled men. "The unstrengthened field doesn't harm us, that's evident. He'd be safe in a vitri-rubber suit."

"But it's a wreck, that suit!" objected the Captain. "I never really intended having the kid use it." He ended raggedly and his manner was evidently irresolute.

"We can't leave Neal and Mac out there without trying, Captain," said Brock stolidly.

The Captain made up his mind suddenly and became a whirlwind of action. He dived into the space-suit rack for the battered relic himself, and helped Stanley into it.

"Get Steeden first," said the Captain, as he clipped shut the last bolt. "He's older and has less resistance to the field."

—Good luck to you, kid, and if you can't make it, come back right away. Right away, do you hear me?"

Stanley sprawled at the first step, but life on Ganymede had inured him to below-normal gravities and he recovered quickly. There was no sign of hesitation, as he leaped towards the two prone figures, and we breathed easier. Evidently, the magnetic field was not affecting him yet.

He had one of the suited figures over his shoulders now and was proceeding back to the ship at an only slightly slower pace. As he dropped his burden inside the airlock, he waved an arm to us at the window and we waved back.

He had scarcely left, when we had Steeden inside. We ripped the spacesuit off him and laid him out, a gaunt pale figure, on the couch.

The Captain bent an ear to his chest and suddenly laughed aloud in sudden relief, "The old geezer's still going strong."

We crowded about happily at hearing that, all eager to place a finger upon his wrist and so assure ourselves of the life within him. His face twitched, and when a low, blurred voice suddenly whispered, "So I said to Peewee, I said—" our last doubts were put to rest.

It was a sudden, sharp cry from Whitefield that drew us back to the window again, "Something's wrong with the kid."

Stanley was half way back to the ship with his second burden, but he was staggering now—progressing erratically.

"It can't be," whispered Whitefield, hoarsely, "it can't be.

The field can't be getting him!"

"God!" the Captain tore at his hair wildly, "that damned antique has no radio. He can't tell us what's wrong." He wrenched away suddenly. "I'm going after him. Field or no field, I'm going to get him."

"Hold on. Captain," said Tuley, grabbing him by the arm, "he may make it."

Stanley was running again, but in a curious weaving fashion that made it quite plain, he didn't see where he was going.

Two or three times he slipped and fell but each time he managed to scramble up again. He fell against the hull of the ship, at last, and felt wildly about for the yawning airlock. We shouted and prayed and sweated, but could help in no way.

And then he simply disappeared. He had come up against the lock and fallen inside.

We had them both inside in record time, and divested them of their suits. Charney was alive, we saw that at a glance, and after that we deserted him unceremoniously for Stanley. The blue of his face, his swollen tongue, the line of fresh "blood running from nose to chin told its own story.

"The suit sprung a leak," said Harrigan.

"Get away from him," ordered the Captain, "give him air."

We waited. Finally, a soft moan from the kid betokened returning consciousness and we all grinned in concert.

"Spunky little kid," said the Captain. "He travelled that last hundred yards on nerve and nothing else." Then, again.

"Spunky little kid. He's going to get a Naval Medal for this, if I have to give him my own."

Callisto was a shrinking blue ball on the televisor—an ordinary unmysterious world. Stanley Fields, honorary Captain of the good ship Ceres, thumbed his nose at it,

protruding his tongue at the same time. An inelegant gesture, but the symbol of Man's triumph over a hostile Solar System.

THE END

As I reread the story now (it's the first time I've reread it since it was published) I am amused to see that my stowaway youngster's name is Stanley. That is the name of my younger brother, who was only nine when I wrote the story (the same younger brother who was the subject of my Boys' High essay, and who is now Assistant Publisher of the Long Island Newsday). Why it is necessary to use "real names"

I don't know, but almost every beginning writer does so, I suspect.

You will notice that there are no girls in the story. This is not really surprising. At eighteen I was busy finishing college and working in my father's candy store and handling a paper delivery route morning and evening, and I had actually never had time to have a date. I didn't know anything at all about girls (except for such biology as I got out of books and from other, more knowledgeable, boys).

I eventually had dates and I eventually introduced girls into my stories, but the early imprinting had its effect. To this very day, the romantic element in my stories is minor and the sexual element virtually nil.

On the other hand, I wonder if the above explanation for the lack of sex in my stories is not an oversimplification.

After all, I am also a teetotaler and yet I notice that my characters drink Martian jabra water (whatever that is).

My knowledge of astronomy was quite respectable but I let myself be overinfluenced by the conventions common in the science fiction of that era. All worlds were Earthlike and inhabited in those days, so I gave Callisto an atmosphere containing a small quantity of free oxygen. I also gave it running water, and both plant and animal life. All of this is, of course, unlikely in the extreme, and what evidence we have seems to make of Callisto an airless, waterless world like our Moon (and, of course, I really knew this even back then).

Back to my third story, now— On July 30, 1938, only eight days after Campbell's second rejection, I had finished my third story, "Marooned off Vesta." I did not think it politic to see Campbell oftener than once a month, however, since I suspected that I might easily wear out my welcome if I did. I put "Marooned off Vesta" to one side, therefore, and began to write other stories. By the end of the month I had two more: "This Irrational Planet" and "Ring Around the Sun."

My first three stories, including "Marooned off Vesta," had been typed on a very old, but completely serviceable Underwood No. 5 typewriter, which my father had obtained for me in 1936 for ten dollars. After I had submitted my second story to Campbell, however, my father decided that I was in earnest about a writing career, and feeling that my failure to sell was irrelevant and, in any case, temporary, he set about getting me a brand-new typewriter.

On August 10, 1938, a Smith-Corona portable entered the house and it was on the new typewriter that my fourth and fifth stories were written.

Of the three, I felt "This Irrational Planet" to be the weakest, so I did not submit it to Campbell. I submitted it directly to Thrilling Wonder Stories on August 26, and it was not rejected till September 24. Campbell had spoiled me, and the four-week interval between submission and rejection appalled me. I even called during that interval to make an indignant inquiry—not knowing that a mere four-week wait was brief indeed for anyone but Campbell.

But at least the rejection, when it came, was typewritten ' and was not a printed form. What's more, it contained the sentence, "Try us again, won't you?" That encouraged me. Perhaps I underestimated the story. Buoyantly, I tried Campbell, and he rejected it in six days. Five other magazines rejected it afterward. I never did sell it, and "This Irrational Planet" is also nonexistent now. I don't even remember the plot, except that I'm pretty certain that the planet of the title was Earth itself. (The only other information I have about it is that it was quite short, only three thousand words long. Actually, most of the stories of those early years that I never sold, and no longer exist, were short. The longest was the first, "Cosmic Corkscrew.") The other two stories written in the same month were reserved for a better fate, but it didn't seem so at first. On August 30, 1938, I visited Campbell for the third time and submitted both "Marooned off Vesta" and "Ring Around the Sun"—and both were returned to me on September 8.

The very next day I shipped off "Marooned off Vesta," which I felt to be the better of the two, to Amazing Stories.

It took a month and a half to hear from them, but this time the wait was worth it. On October 21, 1938, there came a letter of acceptance from Raymond A. Palmer, who was then editor of Amazing and who has since achieved his greatest fame as a leading figure in the flying saucers craze and in other forms of occultism. To this day I have never met Mr. Palmer personally.

It was my first acceptance, four months to the day after my first visit to John Campbell. By that time I had written six stories and had collected nine rejections from Various magazines. The check, for \$64 (one cent a word), followed on October 31, and that was the first money I ever earned as a professional writer. For a number of years I kept that first acceptance letter, from Palmer, framed on my bedroom wall. But in the vicissitudes of life, it, too, has disappeared and, yes, I'm sorry.

The story appeared in the March 1939 issue of Amazing Stories, which reached the newsstands on January 10, 1939, just eight days after my nineteenth birthday. It was the first occasion on which I ever appeared professionally, and I still have an intact copy of that issue of the magazine. I did not save one at the time (my sense of historical importance, as I have already explained, is deficient) but eventually removed my story for binding and discarded the rest.

Ordinarily, I don't mind doing this and have done it ruthlessly through all the years (space is limited even in the best of apartments when one is as prolific as I have been), but the time came when I was sorry I hadn't saved that first one intact. The well-known

science fiction fan Forrest J Ackerman heard me express regret and kindly sent me a copy in excellent condition.

In this book, I am going to pay considerable attention to the money I received for my stories. This is not because I write primarily for money or regarded money as particularly important either then or now (my publishers will gladly bear witness to this). The money I received, however, was crucial in determining my career. It paid enough to put me through school and not so much as to lure me out of it. You'll see as we go along.

That copy, by the way, contains a little autobiographical squib in the rear, written by my teen-age self. On rereading, years later, it turned out to be exquisitely embarrassing.

"Marooned off Vesta" is not included here, since it appeared in Asimov's *Mysteries*. (This doesn't mean it was a mystery. The reason for its inclusion in that particular collection is explained there. —Well, go ahead, buy the book and satisfy your curiosity.) As for "Ring Around the Sun," it was rejected by *Thrilling Wonder Stories*, but then, on February 5, 1939, it was accepted by *Future Fiction*, one of the new science fiction magazines that were springing up.

It appeared in the second issue of that magazine, which did not, however, reach the stands until nearly a year after the sale. The payment (theoretically on publication, rather than on acceptance as was Campbell's more civilized procedure) was even more delayed. What's more, it was at the rate of only half a cent a word, so the check came to a mere twenty-five dollars. *Astonishing Stories* also paid only half a cent a word at that time, but "The Callistan Menace" was the longer story—6,500 words—so it netted me \$32.50.

I didn't feel put upon, however. I well knew by that time that in the still earlier history of science fiction magazines, payment of a quarter of a cent a word was common, and that not on publication but (the saying went) on lawsuit.

Besides, those were lean times, and twenty-five dollars represented something like five months' pocket money to me (no kidding).

The editor of *Future Fiction* was, at that time, Charles D. Hornig. I occasionally visited his office to inquire when a story might appear, or when a check might, but I don't recall ever having found him in. In fact, to this day I have never, to my knowledge, met him.

RING AROUND THE SUN

Jimmy Turner was humming merrily, if a bit raucously, when he entered the reception room.

"Is Old Sourpuss in?" he asked, accompanying the question with a wink at which the pretty secretary blushed gratefully.

"He is; and waiting for you." She motioned him towards the door on which was written in fat, black letters, "Frank McCutcheon, General Manager, United Space Mail."

Jim entered. "Hello, Skipper, what now?"

"Oh, it's you, is it?" McCutcheon looked up from his desk, champing a foul-smelling stogie. "Sit down."

McCutcheon stared at him from under bushy gray eyebrows.

"Old Sourpuss," as he was euphoniously known to all members of United Space Mail, had never been known to laugh within the memory of the oldest inmate, though rumor did have it that when a child he had smiled at the sight of his father falling out of an apple-tree. Right now his expression made the rumor appear exaggerated.

"Now, listen. Turner," he barked, "United Space Mail is inaugurating a new service and you're elected to blaze the trail." Disregarding Jimmy's grimace, he continued, "From now on the Venerian mail is on an all-year-round basis."

"What! I've always thought that it was ruinous from a financial standpoint to deliver the Venerian. mail except when it was this side of the Sun."

"Sure," admitted McCutcheon, "if we follow the ordinary routes. But we might cut straight across the system if we could only get near enough to the sun. That's where you come in! They've put out a new ship equipped to approach within twenty million miles of the sun and which will be able to remain at that distance indefinitely."

Jimmy interrupted nervously, "Wait a while, S—Mr. McCutcheon, I don't quite follow. What kind of a ship is this?"

"How do you expect me to know? I'm no fugitive from a laboratory. From what they tell me, it emits some kind of a field that bends the radiations of the sun around the ship. Get it? It's all deflected. No heat reaches you. You can stay there forever and be cooler than in New York."

"Oh, is that so?" Jimmy was skeptical. "Has it been tested, or is that a little detail that has been left for me?"

"It's been tested, of course, but not under actual solar conditions."

'Then it's out. I've done plenty for United, but this is the limit. I'm not crazy, yet."

McCutcheon stiffened. "Must I recall the oath you took upon entering the service. Turner? 'Our flight through space—' "

"—must ne'er be stopped by anything save death," finished Jimmy. "I know that as well as you do and I also notice that it's very easy to quote that from a comfortable armchair. If you're that idealistic, you can do it yourself. It's still out, as far as I'm

concerned. And if you want, you can kick me out. I can get other jobs just like that," he snapped his fingers airily.

McCutcheon's voice dropped to a silky whisper. "Now, now. Turner, don't be hasty. You haven't heard all I have to say yet. Roy Snead is to be your mate."

"Huh! Snead! Why, that four-flusher wouldn't have the guts to take a job like this in a million years. Tell me some other fairy tale."

"Well, as a matter of fact, he has already accepted. I thought you might accompany him, but I guess he was right.

He insisted you'd back down. I thought at first you wouldn't."

McCutcheon waved him away and bent his eyes unconcernedly on the report he had been scrutinizing at the time of Jimmy's entrance. Jimmy wheeled, hesitated, then returned.

"Wait a while, Mr. McCutcheon; do you mean to say that Roy is actually going?" McCutcheon nodded, still apparently absorbed in other matters, and Jimmy exploded, "Why, that low-down, spindle-shanked, dish-faced mug! So he thinks I'm too yellow to go! Well, I'll show him. I'll take the job and I'll put up ten dollars to a Venerian nickel that he gets sick at the last minute."

"Good!" McCutcheon rose and shook hands, "I thought you'd see reason. Major Wade has all the details. I think you leave in about six weeks and as I'm leaving for Venus tomorrow, you'll probably meet me there."

Jimmy left, still boiling, and McCutcheon buzzed for the secretary. "Oh, Miss Wilson, get Roy Snead on the 'visor."

A few minutes' pause and then the red signal-light shone.

The 'visor was clicked on and the dark-haired, dapper Snead appeared on the visiplat.

"Hello, Snead," McCutcheon growled. "You lose that bet, Turner accepted that job. I thought he'd laugh himself sick when I told him you said he wouldn't go. Send over the twenty dollars, please."

"Wait a while, Mr. McCutcheon," Snead's face was dark with fury, "what's the idea of telling that punch-drunk imbecile I'm not going? You must have, you double-crosser. I'll be there all right, but you can put up another twenty and I'll bet he changes his mind yet. But I'll be there." Roy Snead was still spluttering when McCutcheon clicked off.

The General Manager leaned back, threw away his mangled cigar, and lit a fresh one. His face remained sour, but there was a definite note of satisfaction in his tone when he said, "Ha! I thought that would get them."

It was a tired and sweaty pair that blasted the good ship Helios across Mercury's orbit. In spite of the perfunctory friendship enforced upon them by the weeks alone in space, Jimmy Turner and Roy Snead were scarcely on speaking terms. Add to this hidden hostility, the heat of the bloated sun and the torturing uncertainty of the final outcome of the trip and you have a miserable pair indeed.

Jimmy peered tiredly at the maze of dials confronting him, and, brushing a damp lock of hair from his eyes, grunted, "What's the thermometer reading now, Roy?"

"One hundred twenty-five degrees Fahrenheit and still climbing," was the growled response.

Jimmy cursed fluently, "The cooling system is on at maximum, the ship's hull reflects 95% of the solar radiation, and it's still in the hundred twenties." He paused. "The gravometer indicates that we're still some thirty-five million miles from the Sun. Fifteen millions miles to go before the Deflection Field becomes effective. The temperature will probably scale 150 yet. That's a sweet prospect! Check the desiccators. If the air isn't kept absolutely dry, we're not going to last long."

"Within Mercury's orbit, think of it!" Snead's voice was husky. "No one has ever been this close to the sun before.

And we're going closer yet."

"There have been many this close and closer," reminded Jimmy, "but they were out of control and landed in the sun.

Friedlander, Debuc, Anton—" His voice trailed into a brooding silence, Roy stirred uneasily. "How effective is this Deflection Field anyway, Jimmy? Your cheerful thoughts aren't very soothing, you know."

"Well, it's been tested under the harshest conditions laboratory technicians could devise. I've watched them. It's been bathed in radiation approximating the sun's at a distance of twenty million. The Field worked like a charm. The light was bent about it so that the ship became invisible. The men inside the ship claimed that everything outside became invisible and that no heat reached them. A funny thing, though, the Field will work only under certain radiation strengths."

"Well, I wish it were over one way or the other," Roy glowered. "If Old Sourpuss is thinking of making this my regular run—, well, he'll lose his ace pilot."

"He'll lose his two ace pilots," Jimmy corrected.

The two lapsed into silence and the Helios blasted on.

The temperature climbed: 130, 135, 140. Then, three days later, with the mercury quivering at 148, Roy announced that they were approaching the critical belt, the belt where the solar radiation reached sufficient intensity to energize the Field.

The two waited, minds at feverish concentration, pulses pounding.

"Will it happen suddenly?"

"I don't know. We'll have to wait."

From the portholes, only the stars were visible. The sun, three times the size as seen from Earth, poured its blinding rays upon opaque metal, for on this specially designed ship, portholes closed automatically when struck by powerful radiation.

And then the stars began disappearing. Slowly, at first, the dimmest faded—then the brighter ones: Polaris, Regulus, Arcturus, Sirius. Space was uniformly black.

"It's working," breathed Jimmy. The words were scarcely out of his mouth, when the sunward portholes clicked open.

The sun was gone! "Ha! I feel cooler already," Jimmy Turner was jubilant.

"Boy, it worked like a charm. You know, if they could adjust this Deflection field to all radiation strengths, we would have perfected invisibility. It would make a convenient war weapon." He lit a cigarette and leaned back luxuriously.

"But meanwhile we're flying blind," Roy insisted.

Jimmy grinned patronizingly, "You needn't worry about that, Dishface. I've taken care of everything. We're in an orbit about the sun. In two weeks, we'll be on the opposite side and then I'll let the rockets blast and out of this band we go, zooming towards Venus." He was very self-satisfied indeed.

"Just leave it to Jimmy 'Brains' Turner. I'll have us through in two months, instead of the regulation six. You're with United's ace pilot, now."

Roy laughed nastily. "To listen to you, you'd think you did all the work. All you're doing is to run the ship on the course I've plotted. You're the mechanic; I'm the brains."

"Oh, is that so? Any damn pilot-school rookie can plot a course. It takes a man to navigate one."

"Well, that's your opinion. Who's paid more, though, the navigator or the course-plotter?"

Jimmy gulped on that one and Roy stalked triumphantly out of the pilot room. Unmindful of all this, the Helios blasted on.

For two days, all was serene; then, on the third day. Jimmy inspected the thermometer, scratched his head and looked worried. Roy entered, watched the proceedings and raised his eyebrows in surprise.

"Is anything wrong?" He bent over and read the height of the thin, red column. "Just 100 degrees. That's nothing to look like a sick goat over. From your expression, I thought something had gone wrong with the Deflection Field and that it was rising again," he turned away with an ostentatious yawn.

"Oh, shut up, you senseless ape," Jimmy's foot lifted in a half-hearted attempt at a kick. "I'd feel a lot better if the temperature were rising. This Deflection Field is working a lot too good for my liking."

"Huh! What do you mean?"

"I'll explain, and if you listen carefully you may understand me. This ship is built like a vacuum bottle. It gains 40 heat only with the greatest of difficulty and loses it likewise."

He paused and let his words sink in. "At ordinary temperatures this ship is not supposed to lose more than two degrees a day if no outside sources of heat are supplied. Perhaps at the temperature at which we were, the loss might amount to five degrees a day. Do you get me?"

Roy's mouth was open wide and Jimmy continued. "Now this blasted ship has lost fifty degrees in less than three days."

"But that's impossible."

"There it is." Jimmy pointed ironically. "I'll tell you what's wrong. It's that damn Field. It acts as a repulsive agent towards electromagnetic radiations and somehow is hastening the loss of heat of our ship."

Roy sank into thought and did some rapid mental calculations. "If what you say is true," he said at length, "we'll hit freezing point in five days and then spend a week in what amounts to winter weather."

"That's right. Even allowing for the decrease in heat-loss as the temperature is lowered, we'll probably end up with the mercury anywhere between thirty and forty below."

Roy gulped unhappily. "And at twenty million miles away from the sun!"

"That isn't the worst," Jimmy pointed out. "This ship, like all others used for travel within the orbit of Mars, has no heating system. With the sun shining like fury and no way to lose heat except by ineffectual radiation, Mars and Venus space-ships have always specialized in cooling systems. We, for instance, have a very efficient refrigeration device."

"We're in a devil of a fix, then. The same applies to our space suits."

In spite of the still roasting temperature, the two were beginning to experience a few anticipatory chills.

"Say, I'm not going to stand this," Roy burst out. "I vote we get out of here right now and head for Earth. They can't expect more of us."

"Go ahead! You're the pilot. Can you plot a course at this distance from the sun and guarantee that we won't fall into the sun?"

"Hell! I hadn't thought of that."

The two were at their wits' end. Communication via radio had been impossible ever since they had passed Mercury's orbit. The sun was at sunspot maximum and static had drowned out all attempts.

So they settled down to wait.

The next few days were taken up entirely with thermometer watching, with a few minutes taken out here and there when one of the two happened to think of an unused malediction to hurl at the head of Mr. Frank McCutcheon. Eating and sleeping were indulged in, but not enjoyed.

And meanwhile, the Helios, entirely unconcerned in the plight of its occupants, blasted on.

As Roy had predicted, the temperature passed the red line marked "Freezing" towards the end of their seventh day in the Deflection Belt. The two were remarkably unhappy when this happened even though they had expected it.

Jimmy had drawn off about a hundred gallons of water from the tank. With this he had filled almost every vessel on board.

"It might," he pointed out, "save the pipes from bursting when the water freezes. And if they do, as is probable, it is just as well that we supply ourselves with plenty of available water. We have to stay here another week, you know."

And on the next day, the eighth, the water froze. There were the buckets, overflowing with ice, standing chill and blue cold. The two gazed at them forlornly. Jimmy broke one open.

"Frozen solid," he said bleakly and wrapped another sheet about himself.

It was hard to think of anything but the increasing cold now. Roy and Jimmy had requisitioned every sheet and blanket on the ship, after having put on three or four shirts and a like number of pairs of pants.

They kept in bed for as long as they were able, and when forced to move out, they huddled near the small oil-burner for warmth. Even this doubtful pleasure was soon denied them, for, as Jimmy remarked, "the oil supply is extremely limited and we will need the burner to thaw out the water and food."

Tempers were short and clashes frequent, but the common misery kept them from actually jumping on each other's throats. It was on the tenth day, however, that the two, united by a common hatred, suddenly became friends.

The temperature was hovering down near the zero point, making up its mind to descend into the minus regions. Jimmy was huddled in a corner thinking of the times back in New York when he had complained of the August heat and wondered how he could have done so. Roy, meanwhile, had manipulated numb fingers long enough to calculate that they would have to endure the coldness for exactly 6354 minutes more.

He regarded the figures with distaste and read them off to Jimmy. The latter scowled and grunted, "The way I feel, I'm not going to last 54 minutes, let alone 6354." Then, impatiently, "I wish you could manage to think of some way of getting us out of this."

"If we weren't so near the sun," suggested Roy, "we might start the rear blasts and hurry us up."

"Yes, and if we landed in the sun, we'd be nice and warm.

You're a big help!"

"Well, you're the one that calls himself 'Brains' Turner.

You think of something. The way you talk, you'd think all this was my fault."

"It certainly is, you donkey in human clothing! My better judgment told me all along not to go on this fool trip. When McCutcheon proposed it, I refused pointblank. I know better."

Jimmy was very bitter. "So what happened? Like the fool you are, you accept and rush in where sensible men fear to tread. And then, of course. I naturally had to tag along.

"Why, do you know what I should have done," Jimmy's voice ascended the scale, "I should have let you go alone and freeze and then sat down by a roaring fire all by myself and gloated. That is, if I had known what was going to happen."

A hurt and surprised look appeared on Roy's face. "Is that so? So that's how it is! Well, all I can say is that you certainly have a genius for twisting facts, if for nothing else. The fact of the matter is that you were unutterably stupid enough to accept and the poor fellow raked in by the force of circumstances."

Jimmy's expression was one of the utmost disdain. "Evidently the cold has driven you batty, though I admit it wouldn't take much to knock the little sense you possess out of you."

"Listen," Roy answered hotly. "On October 10th, McCutcheon called me up on the 'visor and told me you had accepted and laughed at me for a yellow-belly for refusing to go. Do you deny that?"

"Yes, I do, and unconditionally. On October 10, Sourpass told me that you had decided to go and had bet him that—"

Jimmy's voice faded away very suddenly and a shocked look spread over his face. "Say—, are you sure McCutcheon told you I had agreed to go?"

A chill, clammy feeling clutched at Roy's heart when he caught Jimmy's drift, a feeling that drowned out the numbness of the cold.

"Absolutely," he answered. "I'll swear to that. That's why I went."

"But he told me you had accepted and that's why I went."

Jimmy felt very stupid all at once.

The two fell into a protracted and ominous silence which was broken at length by Roy, who spoke in a voice that quivered with emotion.

"Jimmy, we've been the victims of a contemptible, dirty, lowdown, double-crossing trick." His eyes dilated with fury.

"We've been cheated, robbed—," words failed him but he kept on uttering meaningless sounds, indicative mainly of devouring rage.

Jimmy was cooler, but none the less vindictive, "You're right, Roy; McCutcheon has done us dirty. He has plumbed the depths of human iniquity. But we'll get even. When we get through in 6300 odd minutes, we will have a score to settle with Mr. McCutcheon."

"What are we going to do?" Roy's eyes were filled with a bloodthirsty joy.

"On the spur of the moment, I suggest that we simply tear into him and rend him into tiny, little pieces."

"Not gruesome enough. How about boiling him in oil?"

"That's reasonable, yes; but it might take too long. Let's give him a good old-fashioned beating—with brass knuckles."

Roy rubbed his hands. "We'll have lots of time to think up some really adequate measures. The dirty. God-forsaken, yellow-livered, leprous—" The rest verged fluently into the unprintable.

And for four more days, the temperature dove. It was on the fourteenth and last day that the mercury froze, the solid red shaft pointed its congealed finger at forty below.

On this terrible last day, they had lit the oil-burner, using their entire scanty supply of oil. Shivering and more than half frozen, they crouched close, attempting to extract every last drop of heat.

Jimmy had found a pair of ear-muffs several days before in some obscure corner, and it now changed hands at the end of every hour. Both sat buried under a small mountain of blankets, chafing chilled hands and feet. With every passing minute, their conversation, concerning McCutcheon almost exclusively, grew more vitriolic.

"Always quoting that triply-damned slogan of the Space Mail: 'Our flight through sp—' " Jimmy choked with impotent fury.

"Yes, and always rubbing holes in chairs instead of coming out here and doing something like a man's work, the rotten so-and-so," agreed Roy.

"Well, we're due to pass out of the deflection zone in two hours. Then three weeks and we'll be on Venus," said Jimmy, sneezing.

"That can't be too soon for me," answered Sneed, who had been sniffing for the last two days. "I'm never taking another space trip except maybe the one that takes me back to Earth. After this, I make my living growing bananas in Central America. A fellow can be decently warm out there at least."

"We might not get off Venus, after what we're going to do to McCutcheon."

"No, you're right there. But that's all right. Venus is even warmer than Central America and that's all I care about."

"We have no legal worries either," Jimmy sneezed again.

"On Venus, life imprisonment's the limit for first-degree murder. A nice,-warm dry cell for the rest of my life. What could be sweeter?"

The second hand on the chronometer whirled at its even pace; the minutes ticked off. Roy's hands hovered lovingly over the lever that would set off the right rear blasts which would drive the Helios but away from the sun and from that terrible Deflection Zone.

And at last, "Go!" shouted Jimmy eagerly. "Let her blast!"

With a deep reverberating roar, the rockets fired. The Helios trembled from stem to stern. The pilots felt the acceleration press them back into their seats and were happy. In a matter of minutes, the sun would shine again and they would be warm, feel the blessed heat once more.

It happened before they were aware of it. There was a momentary flash of light and then a grinding and a click, as the sunward portholes closed.

"Look," cried Roy, "the stars! We're out of it!" He cast an ecstatically happy glance at the thermometer. "Well, old boy, from now on we go up again." He pulled the blankets about him closer, for the cold still lingered.

There were two men in Frank McCutcheon's office at the Venus branch of the United Space Mail: McCutcheon himself and the elderly, white-haired Zebulon Smith, inventor of the Deflection Field. Smith was talking.

"But Mr. McCutcheon, it is really of great importance that I learn exactly how my Deflection Field worked. Surely they have transmitted all possible information to you."

McCutcheon's face was a study in dourness as he bit the edge off one of his two-for-five cigars and lit it.

"That, my dear Mr. Smith," he said, "is exactly what they did not do. Ever since they have receded far enough from the sun to render communication possible, I have been sending requests for information regarding the practicability of the Field. They just refuse to answer. They say it worked and that they're alive and that they'll give the details when they reach Venus. That's all!"

Zebulon Smith sighed in disappointment. "Isn't that a bit unusual; insubordination, so to speak? I thought they were required to be complete in their reports and to give any requested details."

"So they are. But these are my ace pilots and rather temperamental. We have to extend some leeway. Besides, I tricked them into going on this trip, a very hazardous one, as you know, and so am inclined to be lenient."

"Well, then, I suppose I must wait."

"Oh, it won't be for long," McCutcheon assured him.

"They're due today, and I assure you that as soon as I get in touch with them, I shall send you the full details. After all, they survived for two weeks at a distance of twenty million miles from the sun, so your invention is a success. That should satisfy you."

Smith had scarcely left when McCutcheon's secretary entered with a puzzled frown on her face.

"Something is wrong with the two pilots of the Helios, Mr. McCutcheon," she informed him. "I have just received a bulletin from Major Wade at Pallas City, where they landed.

They have refused to attend the celebration prepared for them, but instead immediately chartered a rocket to come here, refusing to state the reason. When Major Wade tried to stop them, they became violent, he says." She laid the communication down on his desk.

McCutcheon glanced at it perfunctorily. "Hmm! they do seem confoundedly temperamental. Well, send them to me when they come. I'll snap them out of it."

It was perhaps three hours later that the problem of the two misbehaving pilots again forced itself upon his mind, this time by a sudden commotion that had arisen in the reception room. He heard the deep angry tones of two men and then the shrill remonstrances of his secretary. Suddenly the door burst open and Jim Turner and Roy Snead strode in.

Roy coolly closed the door and planted his back against it.

"Don't let anyone disturb me until I'm through," Jimmy told him.

"No one's getting through this door for a while," Roy answered grimly, "but remember, you promised to leave some for me."

McCutcheon said nothing during all this, but when he saw Turner casually draw a pair of brass knuckles from his pocket and put them on with a determined air, he decided that it was time to call a halt to the comedy.

"Hello, boys," he said, with a heartiness unusual in him.

"Glad to see you again. Take a seat."

Jimmy ignored the offer. "Have you anything to say, any last request, before I start operations?" He gritted his teeth with an unpleasant scraping noise.

"Well, if you put it that way," said McCutcheon, "I might ask exactly what this is all about—if I'm not being too unreasonable. Perhaps the Deflector was inefficient and you had a hot trip."

The only answer to that was a loud snort from Roy and a cold stare on the part of Jimmy.

"First," said the latter, "what was the idea of that filthy, disgusting cheat you pulled on us?"

McCutcheon's eyebrows raised in surprise. "Do you mean the little white lies I told you in order to get you to go? Why, that was nothing. Common business practice, that's all. Why, I pull worse things than that every day and people consider it just routine. Besides, what harm did it do you?"

"Tell him about our 'pleasant trip,' Jimmy," urged Roy.

"That's exactly what I'm going to do," was the response.

He turned to McCutcheon and assumed a martyr-like air.

"First, on this blasted trip, we fried in a temperature that reached 150 but that was to be expected and we're not complaining; we were half Mercury's distance from the sun.

"But after that, we entered this zone where the light bends around us; incoming radiation sank to zero and we started losing heat and not just a degree a day the way we learned it in pilot school." He paused to breathe a few novel curses he had just thought of, then continued.

"In three days, we were down to a hundred and in a week down to freezing. Then for one entire week, seven long days, we drove through our course at sub-freezing temperature. It was so cold the last day that the mercury froze." Turner's voice rose till it cracked, and at the door, a fit of self-pity caused Roy to catch his breath with an audible gulp. McCutcheon remained inscrutable.

Jimmy continued. "There we were without a heating system, in fact, no heat of any kind, not even any warm clothing.

We froze, damn it; we had to thaw out our food and melt our water. We were stiff, couldn't move. It was hell, I tell you, in reverse temperature." He paused, at a loss for words.

Roy Snead took up the burden. "We were twenty million miles away from the sun and I had a case of frost-bitten ears.

Frost-bitten, I say." He shook his fist viciously under McCutcheon's nose. "And it was your fault. You tricked us into it! While we were freezing, we promised ourselves that we'd come back and get you and we're going to keep that promise."

He turned to Jimmy. "Go ahead, start it, will you? We've wasted enough time."

"Hold it, hoys," McCutcheon spoke at last. "Let me get this straight. You mean to say that the Deflection Field worked so well that it kept all the radiation away and sucked out what heat there was in the ship in the first place?"

Jimmy grunted a curt assent.

"And you froze for a week because of that?" McCutcheon continued.

Again the grunt.

And then a very strange and unusual thing happened. McCutcheon, "Old, Sourpuss," the man without the "risus" muscle, smiled. He actually bared his teeth in a grin. And what's more, the grin grew wider and wider until finally a rusty, long-unused

chuckle was heard louder and louder, until it developed into a full-fledged laugh, and the laugh into a bellow. In one stentorian burst, McCutcheon made up for a lifetime of sour gloom.

The walls reverberated, the windowpanes rattled, and still the Homeric laughter continued. Roy and Jimmy stood openmouthed, entirely non-plussed. A puzzled bookkeeper thrust his head inside the door in a fit of temerity and remained frozen in his tracks. Others crowded about the door, conversing in awed whispers. McCutcheon had laughed! Gradually, the risibilities of the old General Manager subsided. He ended in a fit of choking and finally turned a purple face towards his ace pilots, whose surprise had long since given way to indignation.

"Boys," he told them, "that was the best joke I ever heard.

You can consider your pay doubled, both of you." He was still grinning away like clockwork and had developed a beautiful case of hiccoughs.

The two pilots were left cold at the handsome proposal.

"What's so killingly funny?" Jimmy wanted to know, "I don't see anything to laugh at, myself."

McCutcheon's voice dripped honey, "Now, fellows, before I left I gave each of you several mimeographed sheets containing special instructions. What happened to them?"

There was sudden embarrassment in the air.

"I don't know. I must have mislaid mine," gulped Roy.

"I never looked at mine; I forgot about it." Jimmy was genuinely dismayed.

"You see," exclaimed McCutcheon triumphantly, "it was all the fault of your own stupidity."

"How do you figure that out?" Jimmy wanted to know.

"Major Wade told us all we had to know about the ship, and besides, I guess there's nothing you could tell us about running one."

"Oh, isn't there? Wade evidently forgot to inform you of one minor point which you would have found on my instructions. The strength of the Deflection Field was adjustable. It happened to be set at maximum strength when you started, that's all." He was now beginning to chuckle faintly once more. "Now, if you had taken the trouble to read the sheets, you would have known that a simple movement of a small lever," he made the appropriate gesture with his thumb, "would have weakened the Field any desired amount and allowed as much radiation to leak through as was wanted."

And now the chuckle was becoming louder. "And you froze for a week because you didn't have the brains to pull a lever. And then you ace pilots come here and blame me.

What a laugh!" and off he went again while a pair of very sheepish young men glanced askance at each other.

When McCutcheon came around to normal, Jimmy and Roy were gone.

Down in an alley adjoining the building, a little ten-year old boy watched, with open mouth and intense absorption, two young men who were engaged in the strange

and rather startling occupation of kicking each other alternately. They were vicious kicks, too.

THE END

When I wrote "Ring Around the Sun" I was much taken by the two protagonists. Turner and Snead. It was in my mind, I recall, to write other stories about the pair. This was a natural thought, for in the late 1930s there were a number of "series" of stories about a given character or characters. Campbell himself had written some delightful stories featuring two men named Penton and Blake, and I longed to do a Penton-Blake imitation.

There was a practical value to writing a "series." For one thing, you had a definite background that was carried on from story to story, so that half your work was done for you. Secondly, if the "series" became popular, it would be difficult to reject new stories that fit into it.

I didn't make it with Turner and Snead. In fact, I never tried. The time was to come, two years later, when I was to have a pair of very similar characters, Powell and Donovan, who were to be in four stories and who were to be part of a very successful "series" indeed.

By the end of August 1938, then, I had written five stories, of which three were eventually published. Not bad! However, there followed a dry spell. I was finishing my third year of college and was trying, without success, to get admission into medical school. The situation in Europe was disturbing. It was the time of the surrender at Munich, and for a Jewish teen-ager there was something unsettling about the rapid, sure-fire victories of Hitler.

The next three stories took not one month, as had the previous three, but three months. And all were clearly well below the limits of salability even in the most permissive market. They were "The Weapon," "Paths of Destiny," and "Knossos in Its Glory." Campbell rejected each one in very short order, and all made the rounds without luck. There came a time, nearly three years later, when Astonishing seemed interested in "The Weapon," but that fell through and the other two didn't even come that close.

All three stories are now gone forever. I remember nothing at all about two of them, but "Knossos in Its Glory" was an ambitious attempt to retell the Theseus myth in science fiction terms. The minotaur was an extraterrestrial who landed in ancient Crete with only the kindest of intentions, and I remember writing terribly stilted prose in an attempt to make my Cretans sound as I imagined characters in Homer ought to sound. Campbell, always kind, said in rejecting it that my work "was definitely improving, especially where I was not straining for effect."

By the time I was writing "Knossos in Its Glory" I had just received my check for "Marooned off Vesta" and I was a professional. My spirits rose accordingly, and toward the end of November I wrote "Ammonium," which was another attempt (like "Ring Around the Sun") at humor.

I had a pretty good notion that Campbell wouldn't like it, however, and I never showed it to him. I sent it to Thrilling Wonder Stories instead. When they rejected it, I lost heart and retired it. It was only after Future Fiction had taken "Ring Around the Sun" that I thought I would chance this other one, too.

On August 23, 1939, I sent it in to Future Fiction, which took it, altering its name to "The Magnificent Possession."

THE MAGNIFICENT POSSESSION

Walter Sills reflected now, as he had reflected often before, that life was hard and joyless. He surveyed his dingy chemical laboratory and grinned cynically—working in a dirty hole of a place, living on occasional ore analyses that barely paid for absolutely indispensable equipment, while others, not half his worth perhaps, were working for big industrial concerns and taking life easy.

He looked out the window at the Hudson River, ruddied in the flame of the dying sun, and wondered moodily whether these last experiments would finally bring him the fame and success he was after, or if they were merely some more false alarms.

The unlocked door creaked open a crack and the cheerful face of Eugene Taylor burst into view. Sills waved and Taylor's body followed his head and entered the laboratory.

"Hello, old soak," came the loud and carefree hail. "How go things?"

Sills shook his head at the other's exuberance. "I wish I had your foolish outlook on life. Gene. For your information, things are bad. I need money, and the more I need it, the less I have."

"Well, I haven't any money either, have I?" demanded Taylor. "But why worry about it? You're fifty, and worry hasn't got you anything except a bald head. I'm thirty, and I want to keep my beautiful brown hair."

The chemist grinned. "I'll get my money yet. Gene. Just leave it to me."

"Your new ideas shaping out well?"

"Are they? I haven't told you much about it, have I? Well, come here and I'll show you what progress I've made."

Taylor followed Sills to a small table, on which stood a rack of test tubes, in one of which was about half an inch of a shiny metallic substance.

"Sodium-mercury mixture, or sodium amalgam, as it is called," explained Sills pointing to it.

He took a bottle labeled "Ammonium Chloride Sol." from the shelf and poured a little into the tube. Immediately the sodium amalgam began changing into a loosely-packed, spongy substance.

"That," observed Sills, "is ammonium amalgam. The ammonium radical (NH_4) acts as a metal here and combines with mercury." He waited for the action to go to completion and then poured off the supernatant liquid.

"Ammonium amalgam isn't very stable," he informed Taylor, "so I'll have to work fast." He grasped a flask of straw-colored, pleasant-smelling liquid and filled the test-tube with it. Upon shaking, the loosely-packed ammonium amalgam vanished and in its stead a small drop of metallic liquid rolled about the bottom.

Taylor gazed at the test-tube, open-mouthed. "What happened?"

"This liquid is a complex derivative of hydrazine which I've discovered and named Ammonaline. I haven't worked out its formula yet, but that doesn't matter. The point about it is that it has the property of dissolving the ammonium out of the amalgam. Those few drops at the bottom are pure mercury; the ammonium is in solution."

Taylor remained unresponsive and Sills waxed enthusiastic.

"Don't you see the implications? I've gone half way towards isolating pure ammonium, a thing which has never been done before! Once accomplished it means fame, success, the Nobel Prize, and who knows what else."

"Wow!" Taylor's gaze became more respectful. "That yellow stuff doesn't look so important to me." He snatched for it, but Sills withheld it.

"I haven't finished, by any means, Gene. I've got to get it in its free metallic state, and I can't do that so far. Every time I try to evaporate the Ammonaline, the ammonium breaks down to everlasting ammonia and hydrogen. . . But I'll get it—I'll get it!"

Two weeks later, the epilogue to the previous scene was enacted. Taylor received a hurried and emphatic call from his chemist friend and appeared at the laboratory in a flurry of anticipation.

"You've got it?"

"I've got it—and it's bigger than I thought! There's millions in it, really," Sills' eyes shone with rapture.

"I've been working from the wrong angle up to now," he explained. "Heating the solvent always broke down the dissolved ammonium, so I separated it out by freezing. It works the same way as brine, which, when frozen slowly, freezes into fresh ice, the salt crystallizing out. Luckily, the Ammonaline freezes at 18 degrees Centigrade and doesn't require much cooling."

He pointed dramatically to a small beaker, inside a glass-walled case. The beaker contained pale, straw-colored, needlelike crystals and, covering the top of this, a thin layer of a dullish, yellow substance.

"Why the case?" asked Taylor.

"I've got it filled with argon to keep the ammonium (which is the yellow substance on top of the Ammonaline) pure. It is so active that it will react with anything else but a helium-type gas."

Taylor marveled and pounded his complacently-smiling friend on the back.

"Wait, Gene, the best is yet to come."

Taylor was led to the other end of the room and Sills' trembling finger pointed out another airtight case containing a lump of metal of a gleaming, yellow that sparkled and glistened.

"That, my friend, is ammonium oxide (NH_4O), formed by passing absolutely dry air over free ammonium metal. It is perfectly inert (the sealed case contains quite a bit of chlorine, for instance, and yet there is no reaction). It can be made as cheaply as aluminum, if not more so, and yet it looks more like gold than gold does itself. Do you see the possibilities?"

"Do I?" exploded Taylor. "It will sweep the country. You can have ammonium jewelry, and ammonium-plated tableware, and a million other things. Then again, who knows how many countless industrial applications it may have? You're rich, Walt—you're rich."

"We're rich," corrected Sills gently. He moved towards the telephone, "The newspapers are going to hear of this. I'm going to begin to cash in on fame right now."

Taylor frowned, "Maybe you'd better keep it a secret, Walt."

"Oh, I'm not breathing a hint as to the process. I'll just give them the general idea. Besides, we're safe; the patent application is in Washington right now."

But Sills was wrong! The article in the paper ushered in a very, very hectic two days for the two of them.

J. Throgmorton Bankhead is what is commonly known as a "captain of industry." As head of the Acme Chromium and Silver Plating Corporation he no doubt deserved the title; but to his patient and long-suffering wife, he was merely a dyspeptic and grouchy husband, especially at the breakfast table. . . and he was at the breakfast table now.

Rustling his morning paper angrily, he sputtered between bites of buttered toast, "This man is ruining the country." He pointed aghast at big, black headlines. "I said before and I'll say again that the man is as crazy as a bedbug. He won't be satisfied. . ."

"Joseph, please," pleaded his wife, "you're getting purple in the face. Remember your high blood pressure. You know the doctor told you to stop reading the news from Washington if it annoys you so. Now, listen dear, about the cook. She's. . ."

"The doctor's a damn fool, and so are you," shouted J.

Throgmorton Bankhead. "I'll read all the news I please and get purple in the face too, if I want to."

He raised the cup of coffee to his mouth and took a critical sip. While he did so, his eyes fell upon a more insignificant headline towards the bottom of the page: "Savant Discovers Gold Substitute." The coffee cup remained in the air while he scanned the article quickly. "This new metal," it ran in part, "is claimed by its discoverer to be far superior to chromium, nickel, or silver for cheap and beautiful jewelry.

"The twenty-dollar-a-week clerk," said Professor Sills, "will eat off ammonium plate more impressive in appearance than the gold plate of the Indian Nabob. There is no . . ."

But J. Throgmorton Bankhead had stopped reading. Visions of a ruined Acme Chromium and Silver Plating Corporation danced before his eyes; and as they danced, the cup of coffee dropped from his hand, and splashed hot liquid over his trousers.

His wife rose to her feet in alarm, "What is it, Joseph; what is it?"

"Nothing," Bankhead shouted. "Nothing. For God's sake, go away, will you?"

He strode angrily out of the room, leaving his wife to search the paper for anything that could have disturbed him.

"Bob's Tavern" on Fifteenth Street is usually pretty well filled at all times, but on the morning we are speaking of, it was empty except for four or five rather poorly-dressed men who clustered about the portly and dignified form of Peter Q. Homswoggle, eminent ex-Congressman.

Peter Q. Homswoggle was, as usual, speaking fluently. His subject, again as usual, concerned the life of a Congressman.

"I remember a case in point," he was saying, "when that same argument was brought up in the House, and which I answered as follows: The eminent gentleman from Nevada in his statements overlooks one very important aspect of the problem. He does not realize that it is to the interest of the entire nation that the apple-parers of this country be attended to promptly; for, gentlemen, on the welfare of the apple-parers depends the future of the entire fruit industry and on the fruit-industry is based the entire economy of this great and glorious nation, the United States of America.' "

Homswoggle paused, swallowed half a pint of beer at once, and then smiled in triumph, "I have no hesitation in saying, gentlemen, that at that statement, the entire House burst into wild and tumultuous applause."

One of the assembled listeners shook his head slowly and marvelled. "It must be great to be able to spiel like that, Senator. You musta been a sensation."

"Yeah," agreed the bartender, "it's a dirty shame you were beat last election."

The ex-Congressman winced and in a very dignified tone began, "I have been reliably informed that the use of bribery in that campaign reached unprecedented prop . . ." His voice died away suddenly as he caught sight of a certain article in the newspaper of one of his listeners. He snatched at it and read it through in silence and thereupon his eyes gleamed with a sudden idea.

"My friends," he said turning to them again, "I find I must leave you. There is pressing work that must be done immediately at City Hall." He leant over to whisper to the barkeeper, "You haven't got twenty-five cents, have you? I find I left my wallet in the Mayor's office by mistake. I will surely repay you tomorrow."

Clutching the quarter, reluctantly given, Peter Q. Homswoggle left In a small and dimly lit room somewhere in the lower reaches of First Avenue, Michael Maguire, known to the police by the far more euphonious name of Mike the Slug, cleaned his trusty revolver and hummed a tuneless song. The door opened a crack and Mike looked up.

"That you, Slappy?"

"Yeh," a short, wizened person sidled in, "I brung ye de evenin' sheet. De cops are still tinkin' Bragoni pulled de job."

"Yeh? That's good." He bent unconcernedly over the revolver. "Anything else doing?"

"Naw! Some dippy dame killed herself, but dat's all."

He tossed the newspaper to Mike and left. Mike leaned back and flipped the pages in a bored manner.

A headline attracted his eye and he read the short article that followed. Having finished, he threw aside the paper, lit a cigarette, and did some heavy thinking. Then he opened the door.

"Hey, Slappy, c'mere. There's a job that's got to be done."

Walter Sills was happy, deliriously so. He walked about his laboratory king of all he surveyed, strutting like a peacock, basking in his new-found glory. Eugene Taylor sat and watched him, scarcely less happy himself.

"How does it feel to be famous?" Taylor wanted to know.

"Like a million dollars; and that's what I'm going to sell the secret of ammonium metal for. It's the fat of the land for me from now on."

"You leave the practical details to me, Walt. I'm getting in touch with Staples of Eagle Steel today. You'll get a decent price from him."

The bell rang, and Sills jumped. He ran to open the door.

"Is this the home of Walter Sills?" The large, scowling visitor gazed about him superciliously.

"Yes, I'm Sills. Do you wish to see me?"

"Yes. My name is J. Throgmorton Bankhead and I represent the Acme Chromium and Silver Plating Corporation. I would like to have a moment's discussion with you."

"Come right in. Come right in! This is Eugene Taylor, my associate. You may speak freely before him."

"Very well." Bankhead seated himself heavily. "I suppose you surmise the reason for my visit."

"I take it that you have read of the new ammonium metal in the papers."

"That's right. I have come to see whether there is any truth in the story and to buy your process if there is."

"You can see for yourself, sir," Sills led the magnate to where the argon-filled container of the few grams of pure ammonium were. "That is the metal. Over here to the right, I've got the oxide, an oxide which is more metallic than the metal itself, strangely enough. It is the oxide that is what the papers call 'substitute gold.' "

Bankhead's face showed not an atom of the sinking feeling within him as he viewed the oxide with dismay. "Take it out in the open," he said, "and let's see it."

Sills shook his head. "I can't, Mr. Bankhead. Those are the first samples of ammonium and ammonium-oxide that ever existed. They're museum pieces. I can easily make more for you, if you wish."

"You'll have to, if you expect me to sink my money in it You satisfy me and I'll be willing to buy your patent for as much as—oh, say a thousand dollars."

"A thousand dollars!" exclaimed Sills and Taylor together.

"A very fair price, gentlemen."

"A million would be more like it," shouted Taylor in an outraged tone. "This discovery is a goldmine."

"A million, indeed! You are dreaming, gentlemen. The fact of the matter is that my company has been on the track of ammonium for years now, and we are just at the point of solving the problem. Unfortunately you beat us by a week or so, and so I wish to buy up your patent in order to save my company a great deal of annoyance. You realize, of course, that if you refuse my price, I could just go ahead and manufacture the metal, using my own process."

"We'll sue if you do," said Taylor.

"Have you got the money for a long, protracted—and expensive—lawsuit?" Bankhead smiled nastily. "I have, you know. To prove, however, that I am not unreasonable, I will make the price two thousand."

"You've heard our price," answered Taylor stonily, "and we have nothing further to say."

"All right, gentlemen," Bankhead walked towards the door, "think it over. You'll see it my way, I'm sure."

He opened the door and revealed the symmetrical form of Peter Q. Hornswoggle bent in rapt concentration at the key-hole. Bankhead sneered audibly and the ex-Congressman jumped to his feet in consternation, bowing rapidly two or three times, for want of anything better to do.

The financier passed by disdainfully and Hornswoggle entered, slammed the door behind him, and faced the two bewildered friends.

"That man, my dear sirs, is a malefactor of great wealth, an economic royalist. He is the type of predatory interest that is the ruination of this country. You did quite right in refusing his offer." He placed his hand on his ample chest and smiled at them benignantly.

"Who the devil are you?" rasped Taylor, suddenly recovering from his initial surprise.

"I?" Hornswoggle was taken aback. "Why—er—I am Peter Quintus Hornswoggle. Surely you know me. I was in the House of Representatives last year."

"Never heard of you. What do you want?"

"Why, bless me! I read in the papers of your wonderful discovery and have come to place my services at your feet."

"What services?"

"Well, after all, you two are not men of the world. With your new invention, you are prey for every self-seeking unscrupulous person that comes along—like Bankhead, for instance. Now, a practical man of affairs, such as I, one with experience of the world, would be of inestimable use to you.

I could handle your affairs, attend to details, see that—"

"All for nothing, of course, eh?" Taylor asked, sardonically.

Hornswoggle coughed convulsively. "Well, naturally, I thought that a small interest in your discovery might fittingly be assigned to me."

Sills, who had remained silent during all this, rose to his feet suddenly. "Get out of here! Did you hear me? Get out, before I call the police."

"Now, Professor Sills, pray don't get excited," Hornswoggle retreated towards the door which Taylor held open for him.

He passed out, still protesting, and swore softly to himself when the door slammed in his face.

Sills sank wearily into the nearest chair. "What are we to do. Gene? He offers only two thousand. A week ago that would have been beyond anything I could have hoped for, but now—"

"Forget it. The fellow was only bluffing. Listen, I'm going right now to call on Staples. We'll sell to him for what we can get (it ought to be plenty) and then if there's any trouble with Bankhead—well, that's Staples' worry." He patted the other on the shoulder. "Our troubles are practically over."

Unfortunately, however, Taylor was wrong; their troubles were only beginning.

Across the street, a furtive figure, with beady eyes peering from upturned coat-collar, surveyed the house carefully. A curious policeman might have identified him as "Slappy"

Egan if he had bothered to look, but no one did and "Slappy" remained unmolested.

"Cripes," he muttered to himself, "dis is gonna be a cinch. De whole woiks on the bottom floor, back window can be jimmied wid a toot'pick, no alarms, no nuttin'." He chuckled and walked away.

Nor was "Slappy" alone with his ideas. Peter Q. Hornswoggle, as he walked away, found strange thoughts wandering through his massive cranium—thoughts which involved a certain amount of unorthodox action.

And J. Throgmorton Bankhead was likewise active. Belonging to that virile class known as "go-getters" and being not at all scrupulous as to how he "go-got," and certainly not intending to pay a million dollars for the secret of Ammonium, he found it necessary to call on a certain one of his acquaintances.

This acquaintance, while a very useful one, was a bit unsavory, and Bankhead found it advisable to be very careful and cautious while visiting him. However, the conversation that ensued ended in a pleasing manner for both of them.

Walter Sills snapped out of an uneasy sleep with startled suddenness. He listened anxiously for a while and then leaned over and nudged Taylor. He was rewarded by a few incoherent snuffles.

"Gene, Gene, wake up! Come on, get up!"

"Eh? What is it? What are you bothering—"

"Shut up! Listen, do you hear it?"

"I don't hear anything. Leave me alone, will you?"

Sills put his finger on his lips, and the other quieted. There was a distinct shuffling noise down below, in the laboratory.

Taylor's eyes widened and sleep left them entirely. "Burglars!" he whispered.

The two crept out of bed, donned bathrobe and slippers, and tiptoed to the door. Taylor had a revolver and took the lead in descending the stairs.

They had traversed perhaps half the flight, when there was a sudden, surprised shout from below, followed by a series of loud, threshing noises. This continued for a few moments and then there was a loud crash of glassware.

"My ammonium!" cried Sills in a stricken voice and rushed head-long down the stairs evading Taylor's clutching arms.

The chemist burst into the laboratory, followed closely by his cursing associate, and clicked the lights on. Two struggling figures bunked owlshly in the sudden illumination, and separated.

Taylor's gun covered them. "Well, isn't this nice," he said.

One of the two lurched to his feet from amid a tangle of broken beakers and flasks, and, nursing a cut on his wrist, bent his portly body in a still dignified bow. It was Peter Q. Homswoggle.

"No doubt," he said, eyeing the unwavering firearm nervously, "the circumstances seem suspicious, but I can explain very easily. You see, in spite of the very rough treatment I received after having made my reasonable proposal, I still felt a great deal of kindly interest in you two.

"Therefore, being a man of the world, and knowing the iniquities of mankind, I just decided to keep an eye on your house tonight, for I saw you had neglected to take precautions against house-breakers. Judge my surprise to see this dastardly creature," he pointed to the flat-nosed, plug-ugly, who still remained on the floor in a daze, "creeping in at the back window.

"Immediately, I risked life and limb in following the criminal, attempting desperately to save your great discovery.

I really feel I deserve great credit for what I have done. I'm sure you will feel that I am a valuable person to deal with and reconsider your answers to my earlier proposals."

Taylor listened to all this with a cynical smile. "You can certainly lie fluently, can't you P.Q.?"

He would have continued at greater length and with greater forcefulness had not the other burglar suddenly raised his voice in loud protest "Cripes, boss, dis fat slob here is only tryin' to get me in bad. I'm just followin' orders, boss. A fellow hired me to come in here and rifle the safe and I'm just oinin' a bit o' honest money. Just plain safe-crackin', boss, I ain't out to hurt no one.

"Den, just as I was gettin' down to de job—wannin' up, so to say—in crawls dis little guy wid a chisel and blowtorch and makes for de safe. Well, naturally, I don't like no competition, so I lays for him and then—"

But Homswoggle had drawn himself up in icy hauteur. "It remains to be seen whether the word of a gangster is to be taken before the word of one, who, I may truthfully say, was, in his time, one of the most eminent members of the great—"

"Quiet, both of you," shouted Taylor, waving the gun threateningly. "I'm calling the police and you can annoy them with your stories. Say, Walt, is everything all right?"

"I think so!" Sills returned from his inspection of the laboratory. "They only knocked over empty glassware. Everything else is unharmed."

'That's good," Taylor began, and then choked in dismay.

From the hallway, a cool individual, hat drawn well over his eyes, entered. A revolver; expertly handled, changed the situation considerably.

"O. K.," he grunted at Taylor, "drop the gat!" The other's weapon slipped from reluctant fingers and hit the floor with a clank.

The new menace surveyed the four others with a sardonic glance. "Well! So there were two others trying to beat me to it This seems to be a very popular place."

Sills and Taylor stared stupidly, while Homswoggle's teeth chattered energetically. The first mobster moved back uneasily, muttering as he did so, "For Pete's sake, it's Mike the Slug."

"Yeah," Mike rasped, "Mike the Slug. There's lots of guys who know me and who know I ain't afraid to pull the trigger anytime I feel like. Come on, Baldy, hand over the works.

You know—the stuff about your fake gold. Come on, before I count five."

Sills moved slowly toward the old safe in the corner. Mike stepped back carelessly to give him room, and in so doing, his coat sleeve brushed against a shelf. A small vial of sodium sulphate solution tottered and fell.

With sudden inspiration. Sills yelled, "My God, watch out! It's nitroglycerine!"

The vial hit the floor with a smashing tinkle of broken glass, and involuntarily, Mike yelled and jumped in wild dismay.

And as he did so, Taylor crashed into him with a beautiful flying tackle. At the same time. Sills lunged for Taylor's fallen weapon to cover the other two. For this, however, there was no longer need. At the very beginning of the confusion, both had faded hurriedly into the night from whence they came.

Taylor and Mike the Slug rolled round and round the laboratory floor, locked in desperate struggle while Sills hopped over and about them, praying for a moment of comparative quiet that he might bring the revolver into sharp and sudden contact with the gangster's skull.

But no such moment came. Suddenly Mike lunged, caught Taylor stunningly under the chin, and jerked free. Sills yelled in consternation and pulled the trigger at the fleeing figure.

The shot was wild and Mike escaped unharmed. Sills made no attempt to follow.

A sluicing stream of cold water brought Taylor back to his senses. He shook his head dazedly as he surveyed the surrounding shambles.

"Whew!" he said, "what a night!"

Sills groaned, "What are we going to do now. Gene? Our very lives are in danger. I never thought of the possibility of thieves, or I would never have told of the discovery to the newspapers."

"Oh, well, the harm's done; no use weeping over it Now, listen, the first thing we have to do now is to get back to sleep. They won't bother us again tonight Tomorrow you'll go to the bank and put the papers outlining the details of the process in the vault (which you should have done long ago).

Staples will be here at 3 p.m.; well close the deal, and then, at least, we'll live happily ever after."

The chemist shook his head dolefully. "Ammonium has certainly proved to be very upsetting so far. I almost wish I had never heard of it I'd almost rather be back doing ore analysis."

As Walter Sills rattled cross-town towards his bank, he found no reason to change his wish. Even the comforting and homely jiggling of his ancient and battered automobile failed to cheer him. From a life characterized by peaceful monotony, he had entered a period of bedlam, and he was not at all satisfied with the change.

"Riches, like poverty, has its own peculiar problems," he remarked sententiously to himself as he braked the car before the two-story, marble edifice that was the bank. He stepped out carefully, stretched his cramped legs, and headed for the revolving door.

He didn't get there right away, though. Two husky specimens of the human race stepped up, one at each side, and Sills felt a very hard object pressing with painful intensity against his ribs. He opened his mouth involuntarily, and was rewarded by an icy voice in his ears, "Quiet, Baldy, or you'll get what you deserve for the damn trick you pulled on me last night."

Sills shivered and subsided. He recognized Mike the Slug's voice very easily.

"Where's the details?" asked Mike, "and make it quick."

"Inside jacket pocket," croaked Sills tremulously.

Mike's companion passed his hand dexterously into the indicated pocket and flicked out three or four folded sheets of foolscap.

"Dat it, Mike?"

A hasty appraisal and a nod, "Yeh, we got it. All right, Baldy, on your way!" A sudden shove and the two gangsters jumped into their car and drove away rapidly, while the chemist sprawled on the sidewalk. Kindly hands raised him up.

"It's all right," he managed to gasp. "I just tripped, that's all. I'm not hurt." He found himself alone again, passed into the bank, and dropped into the nearest bench, in near-collapse.

There was no doubt about it; the new life was not for him.

But he should have been prepared for it. Taylor had foreseen a possibility of this sort of thing happening. He, himself, had thought a car had been trailing him. Yet, in his surprise and fright, he had almost ruined everything.

He shrugged his thin shoulders and, taking off his hat, abstracted a few folded sheets of paper from the sweatband. It was the work of five minutes to deposit them in a vault, and see the immensely strong steel door swing shut. He felt relieved.

"I wonder what they'll do," he muttered to himself on the way home, "when they try to follow the instructions on the paper they did get." He pursed his lips and shook his head. "If they do, there's going to be one heck of an explosion."

Sills arrived home to find three policemen pacing leisurely up and down the sidewalk in front of the house.

"Police guard," explained Taylor shortly, "so that we have no more trouble like last night."

The chemist related the events at the bank and Taylor nodded grimly. "Well, it's checkmate for them now. Staples will be here in two hours, and until then the police will take care of things. Afterwards," he shrugged, "it will be Staples' affair."

"Listen, Gene," the chemist put in suddenly, "I'm worried about the ammonium. I haven't tested its plating abilities and those are the most important things, you know. What if Staples comes, and we find that all we have is pigeon milk."

"Hmm," Taylor stroked his chin, "you're right there. But I'll tell you what we can do. Before Staples comes, let's plate something—a spoon, suppose—for our own satisfaction."

"It's really very annoying," Sills complained fretfully. "If it weren't for these troublesome hooligans, we wouldn't have to proceed in this slipshod and unscientific manner."

"Well, let's eat dinner first"

After the mid-day meal, they began. The apparatus was set up in feverish haste. In a cubic vat, a foot each way, a saturated solution of Ammonaline was poured. An old, battered spoon was the cathode and a mass of ammonium amalgam (separated from the rest of the solution by a perforated glass partition) was the anode. Three batteries in series provided the current.

Sills explained animatedly, "It works on the same principle as ordinary copper plating. The ammonium ion, once the electric current is run through, is attracted to the cathode, which is in the spoon. Ordinarily it would break up, being unstable, but this is not the case when it is dissolved in Ammonaline. This Ammonaline is itself very slightly ionized and oxygen is given off at the anode.

"This much I know from theory. Let us see what happens in practice."

He closed the key while Taylor watched with breathless interest. For a moment, no effect was visible. Taylor looked disappointed.

Then Sills grasped his sleeve. "See!" he hissed. "Watch the anode!"

Sure enough, bubbles of gas were slowly forming upon the spongy ammonium amalgam. They shifted their attention to the spoon.

Gradually, they noticed a change. The metallic appearance became dulled, the silver color slowly losing its whiteness. A layer of distinct, if dull, yellow was being built up. For fifteen minutes, the current ran and then Sills broke the circuit with a contented sigh.

"It plates perfectly," he said.

"Good! Take it out! Let's see it!"

"What?" Sills was aghast. "Take it out! Why, that's pure ammonium. If I were to expose it to ordinary air, the water vapor would dissolve it to NH_4OH in no time. We can't do that."

He dragged a rather bulky piece of apparatus to the table.

"This," he said, "is a compressed-air container. I run it through calcium chloride dryers and then bubble the perfectly dry oxygen (safely diluted with four times its own volume of nitrogen) directly into the solvent."

He introduced the nozzle into the solution just beneath the spoon and turned on a slow stream of air. It worked like magic. With almost lightning speed, the yellow coating began to glitter and gleam, to shine with almost ethereal beauty.

The two men watched it with beating heart and panting breath. Sills shut the air off, and for a while they watched the wonderful spoon and said nothing.

Then Taylor whispered hoarsely, "Take it out. Let me feel it! My God!—it's beautiful!"

With reverent awe, Sills approached the spoon, grasped it with forceps, and withdrew it from the surrounding liquid.

What followed immediately after that can never be fully described. Later on, when excited newspaper reporters pressed them unmercifully, neither Taylor nor Sills had the least recollection of the happenings of the next few minutes.

What happened was that the moment the ammonium-plated spoon was exposed to open air, the most horrible odor ever conceived assailed their nostrils!—an odor that cannot be described, a terrible broth of Hell that plunged the room into sheer, horrible nightmare.

With one strangled gasp. Sills dropped the spoon. Both were coughing and retching, tearing wildly at their throats and mouths, yelling, weeping, sneezing! Taylor pounced upon the spoon and looked about wildly.

The odor grew steadily more powerful and their wild exertions to escape it had already succeeded in wrecking the laboratory and had upset the vat of Ammonalene. There was only one thing to do, and Sills did it. The spoon went flying out the open window in the middle of Twelfth Avenue. It hit the sidewalk right at the feet of one of the policemen, but Taylor didn't care.

"Take off your clothes. We'll have to burn them," Sills was gasping. "Then spray something over the laboratory—anything with a strong smell. Burn sulphur. Get some liquid Bromine."

Both were tearing at their clothes in distraction when they realized that someone had walked in through the unlocked door. The bell had rung, but neither had heard it. It was Staples, six-foot, lion-maned Steel King.

One step into the hall ruined his dignity utterly. He collapsed in one tearing sob and Twelfth Avenue was treated to the spectacle of an elderly, richly-dressed gentleman tearing uptown as fast as his feet would carry him, shedding as much of his clothes as he dared while doing so.

The spoon continued its deadly work. The three policemen had long since retired in abject rout, and now to the numbed and tortured senses of the two innocent and suffering causes of the entire mess came a roaring and confused shouting from the street. Men and women were pouring out of the neighboring houses, horses were bolting. Fire engines clanged down the street, only to be abandoned by their riders. Squadrons of police came—and left.

Sills and Taylor finally gave up, and clad only in trousers, ran pell-mell for the Hudson. They did not stop until they found themselves neck-deep in water, with blessed, pure air above them.

Taylor turned bewildered eyes to Sills. "But how could it emit that horrible odor? You said it was stable and stable solids have no odors. It takes vapor for that, doesn't it?"

"Have you ever smelled musk?" groaned Sills. "It will give off an aroma for an indefinite period without losing any appreciable weight. We've come up against something like that."

The two ruminated in silence for a while, wincing whenever the wind brought a vagrant waft of Ammonium vapor to them, and then Taylor said in a low voice, "When they finally trace the trouble to the spoon, and find out who made it, I'm afraid we'll be sued—or maybe thrown in jail."

Sills' face lengthened. "I wish I'd never seen the damned stuff! It's brought nothing but trouble." His tortured spirit gave way and he sobbed loudly.

Taylor patted him on the back mournfully. "It's not as bad as all that, of course. The discovery will make you famous and you'll be able to demand your own price, working at any industrial lab in the country. Then, too, you're a cinch to win the Nobel Prize."

"That's right," Sills smiled again, "and I may find a way to counteract the odor, too. I hope so."

"I hope so, too," said Taylor feelingly. "Let's go back. I think they've managed to remove the spoon by now."

THE END

It should be quite obvious to anyone reading "The Magnificent Possession" that I was majoring in chemistry in college at the time. As supposed humor, it is much more embarrassing on rereading than "Ring Around the Sun" is.

Imagine having a Congressman named "Hornswoggle" and having gangsters speak in a ridiculous, misspelled version of Brooklyn slang.

"The Magnificent Possession" was the only one of the first nine stories I wrote that Campbell never saw, and I'm glad of that.

In early December I wrote a story I called "Ad Astra," and on December 21, 1938 (my father's forty-second birthday, though I don't recall thinking of it as an omen one way or the other), I went in to submit it to Campbell. It was my seventh visit to his office, for I had not yet missed a month, and it was the ninth story I submitted to him.

"Ad Astra" is the first story I wrote for which I remember, even after all this time, the exact circumstances of the initiating inspiration. That fall, I applied for and received a National Youth Administration (NYA) job designed to help me through college. I received fifteen dollars a month, if memory serves me, in return for a few hours of typing. The typing I did was for a sociologist who was writing a book on the subject of social resistance to technological innovation. This included everything from the resistance of the

early Mesopotamian priesthood to the dissemination of the knowledge of reading and writing among the general population, down to objections to the airplane by those who said heavier-than-air flight was impossible.

Naturally it occurred to me that a story might be written in which social resistance to space flight might play a small part. It was because of that that I used "Ad Astra" as the title. This was from the Latin proverb "Per aspera ad astra" ("Through difficulties to the stars").

For the first time, Campbell did more than simply send a rejection. On December 29, I received a letter from him asking me to come in for a conference to discuss the story in detail.

On January 5, 1939, I went to see Campbell for the eighth time—and for the first time at his specific request.

It turned out that what he liked in the story was the social resistance to space flight—the space flight itself was, of course, run of the mill.

Rather daunted, for I had never before had to revise a story to meet editorial specification, I went to work. I brought in the revised story on January 24, and on January 31 I discovered the system used by Campbell in accepting stories. Though his rejections were usually accompanied by long and useful letters, his acceptances consisted of a check only, without a single accompanying word. It was his feeling that the check was eloquent enough. In this case it was for sixty-nine dollars, since the story was 6,900 words long and Campbell paid one cent a word in those days.

It was my first sale to Campbell, after seven months of trying and after eight consecutive rejections. The story appeared half a year later, and I then found that Campbell had changed the title (on the whole justifiably, I think) to "Trends."

TRENDS

John Harman was sitting at his desk, brooding, when I entered the office that day. It had become a common sight, by then, to see him staring out at the Hudson, head in hand, a scowl contorting his face—all too common. It seemed unfair for the little bantam to be eating his heart out like that day after day, when by rights he should have been receiving the praise and adulation of the world.

I flopped down into a chair. "Did you see the editorial in today's Clarion, boss?"

He turned weary, bloodshot eyes to me. "No, I haven't.

What do they say? Are they calling the vengeance of God down upon me again?" His voice dripped with bitter sarcasm.

"They're going a little farther now, boss," I answered.

"Listen to this: " 'Tomorrow is the day of John Harman's attempt at profaning the heavens. Tomorrow, in defiance of world opinion and world conscience, this man will defy God.

" This is not given to man to go wheresoever ambition and desire lead him. There are things forever denied him, and aspiring to the stars is one of these. Like Eve, John Harman wishes to eat of the forbidden fruit, and like Eve he will suffer due punishment therefor.

" 'But it is not enough, this mere talk. If we allow him thus to brook the vengeance of God, the trespass is mankind's and not Harman's alone. In allowing him to carry out his evil designs, we make ourselves accessory to the crime, and Divine vengeance will fall on all alike.

" 'It is, therefore, essential that immediate steps be taken to prevent Harman from taking off in his so-called rocketship tomorrow. The government in refusing to take such steps may force violent action. If it will make no move to confiscate the rocketship, or to imprison Harman, our enraged citizenry may have to take matters into their own hands—
"

Harman sprang from his seat in a rage and, snatching the paper from my hands, threw it into the corner furiously. "It's an open call to a lynching," he raved. "Look at this!"

He cast five or six envelopes in my direction. One glance sufficed to tell what they were.

"More death threats?" I asked.

"Yes, exactly that. I've had to arrange for another increase in the police patrol outside the building and for motorcycle police escort when I cross the river to the testing ground tomorrow."

He marched up and down the room with agitated stride. "I don't know what to do, Clifford. I've worked on the Prometheus almost ten years. I've slaved, spent a fortune of

money, given up all that makes life worth while—and for what? So that a bunch of fool revivalists can whip up public sentiment against me until my very life isn't safe."

"You're in advance of the times, boss," I shrugged my shoulders in a resigned gesture which made him whirl upon me in a fury.

"What do you mean 'in advance of the times'? This is 1973.

The world has been ready for space travel for half a century now. Fifty years ago, people were talking, dreaming of the day when man could free himself of Earth and plumb the depths of space. For fifty years, science has inched toward, this goal, and now . . . now I finally have it, and behold! you say the world is not ready for me."

"The '20s and '30s were years of anarchy, decadence, and misrule, if you remember your history," I reminded him gently. "You cannot accept them as criteria."

"I know, I know. You're going to tell me of the First War of 1914, and the Second of 1940. It's an old story to me; my father fought in the Second and my grandfather in the First.

Nevertheless, those were the days when science flourished.

Men were not afraid then; somehow they dreamed and dared.

There was no such thing as conservatism when it came to matters mechanical and scientific. No theory was too radical to advance, no discovery too revolutionary to publish. Today, dry rot has seized the world when a great vision, such as space travel, is hailed as 'defiance of God.' "

His head sank slowly down, and he turned away to hide his trembling lips and the tears in his eyes. Then he suddenly straightened again, eyes blazing: "But I'll show them. I'm going through with it, in spite of Hell, Heaven and Earth. I've put too much into it to quit now."

"Take it easy, boss," I advised. "This isn't going to do you any good tomorrow, when you get into that ship. Your chances of coming out alive aren't too good now, so what will they be if you start out worn to pieces with excitement and worry?"

"You're right. Let's not think of it any more. Where's Shelton?"

"Over at the Institute arranging for the special photographic plates to be sent us."

"He's been gone a long time, hasn't he?"

"Not especially; but listen, boss, there's something wrong with him. I don't like him."

"Poppycock! He's been with me two years, and I have no complaints."

"All right." I spread my hands in resignation. "If you won't listen to me, you won't. Just the same I caught him reading one of those infernal pamphlets Otis Eldredge puts out. You know the kind: 'Beware, O mankind, for judgment draws near. Punishment for your sins is at hand. Repent and be saved.' And all the rest of the time-honoured junk."

Harman snorted in disgust. "Cheap tub-thumping revivalist! I suppose the world will never outgrow his type—not while sufficient morons exist. Still you can't condemn Shelton just because he reads it. I've read them myself on occasion."

"He says he picked it up on the sidewalk and read it in 'idle curiosity,' but I'm pretty sure that I saw him take it out of his wallet. Besides, he goes to church every Sunday."

"Is that a crime? Everyone does, nowadays!"

"Yes, but not to the Twentieth Century Evangelical Society. That's Eldredge's."

That jolted Harman. Evidently, it was the first he had heard of it. "Say, that is something, isn't it? We'll have to keep an eye on him, then."

But after that, things started to happen, and we forgot all about Shelton—until it was too late.

There was nothing much left to do that last day before the test, and I wandered into the next room, where I went over Harman's final report to the Institute. It was my job to correct any errors or mistakes that crept in, but I'm afraid I wasn't very thorough. To tell the truth, I couldn't concentrate. Every few minutes, I'd fall into a brown study.

It seemed queer, all this fuss over a space travel. When Harman had first announced the approaching perfection of the Prometheus, some six months before, scientific circles had been jubilant. Of course, they were cautious in their statements and qualified everything they said, but there was real enthusiasm.

However, the masses didn't take it that way. It seems strange, perhaps, to you of the twenty-first century, but perhaps we should have expected it in those days of '73. People weren't very progressive then. For years there had been a swing toward religion, and when the churches came out unanimously against Harman's rocket—well, there you were.

At first, the opposition confined itself to the churches and we thought it might play itself out. But it didn't. The papers got hold of it, and literally spread the gospel. Poor Harman became an anathema to the world in a remarkably short time, and then his troubles began.

He received death threats, and warnings of divine vengeance every day. He couldn't walk the streets in safety. Dozens of sects, to none of which he belonged—he was one of the very rare free-thinkers of the day, which was another count against him—excommunicated him and placed him under special interdict. And, worst of all, Otis Eldredge and his Evangelical Society began stirring up the populace.

Eldredge was a queer character—one of those geniuses, in their way, that arise every so often. Gifted with a golden tongue and a sulphurous vocabulary, he could fairly hypnotize a crowd. Twenty thousand people were so much putty in his hands, could he only bring them within earshot. And for four months, he thundered against Harman; for four months, a pouring stream of denunciation rolled forth in oratorical frenzy. And for four months, the temper of the world rose.

But Harman was not to be daunted. In his tiny, five-foot two body, he had enough spirit for five six-footers. The more the wolves howled, the firmer he held his ground. With almost divine—his enemies said, diabolical—obstinacy, he refused to yield an inch. Yet his outward firmness was to me, who knew him, but an imperfect concealment of the great sorrow and bitter disappointment within.

The ring of the doorbell interrupted my thoughts at that point and brought me to my feet in surprise. Visitors were very few those days.

I looked out the window and saw a tall, portly figure talking with Police Sergeant Cassidy. I recognized him at once as Howard Winstead, head of the Institute. Harman was hurrying out to greet him, and after a short exchange of phrases, the two entered the office. I followed them in, being rather curious as to what could have brought Winstead, who was more politician than scientist, here.

Winstead didn't seem very comfortable, at first; not his usual suave self. He avoided Harman's eyes in an embarrassed manner and mumbled a few conventionalities concerning the weather. Then he came to the point with direct, undiplomatic bluntness.

"John," he said, "how about postponing the trial for a time?"

"You really mean abandoning it altogether, don't you? Well, I won't, and that's final."

Winstead lifted his hand. "Wait now, John, don't get excited. Let me state my case. I know the Institute agreed to give you a free hand, and I know that you paid at least half the expenses out of your own pocket, but—you can't go through with it."

"Oh, can't I, though?" Herman snorted derisively.

"Now listen, John, you know your science, but you don't know your human nature, and I do. This is not the world of the 'Mad Decades,' whether you realize it or not. There have been profound changes since 1940." He swung into what was evidently a carefully prepared speech.

"After the First World War, you know, the world as a whole swung away from religion and toward freedom from convention. People were disgusted and disillusioned, cynical and sophisticated. Eldredge calls them 'wicked and sinful.' In spite of that, science flourished—some say it always fares best in such an unconventional period. From its standpoint it was a 'Golden Age.' "However, you know the political and economic history of the period. It was a time of political chaos and international anarchy; a suicidal, brainless, insane period—and it culminated in the Second World War. And just as the First War led to a period of sophistication, so the Second initiated a return to religion.

"People were disgusted with the 'Mad Decades.' "They had had enough of it, and feared, beyond all else, a return to it. To remove that possibility, they put the ways of those decades behind them. Their motives, you see, were understandable and laudable. All the freedom, all the sophistication, all the lack of convention were gone—swept away clean. We are living now in a second Victorian age; and naturally so, because human history goes by swings of the pendulum and this is the swing toward religion and convention.

"One thing only is left over since those days of half a century ago. That one thing is the respect of humanity for science. We have prohibition; smoking for women is outlawed; cosmetics are forbidden; low dresses and short skirts are unheard of; divorce is frowned upon. But science has not been confined—as yet.

"It behoves science, then, to be circumspect, to refrain from arousing the people. It will be very easy to make them believe—and Otis Eldredge has come perilously close

to doing it in some of his speeches—that it was science that brought about the horrors of the Second World War. Science outstripped culture, they will say, technology outstripped sociology, and it was that unbalance that came so near to destroying the world. Somehow, I am inclined to believe they are not so far wrong, at that.

"But do you know what would happen, if it ever did come to that? Scientific research may be forbidden; or, if they don't go that far, it will certainly be so strictly regulated as to stifle in its own decay. It will be a calamity from which humanity would not recover for a millennium.

"And it is your trial flight that may precipitate all this. You are arousing the public to a stage where it will be difficult to calm them. I warn you, John. The consequences will be on your head."

There was absolute silence for a moment and then Harman forced a smile. "Come, Howard, you're letting yourself be frightened by shadows on the wall. Are you trying to tell me that it is your serious belief that the world as a whole is ready to plunge into a second Dark Ages? After all, the intelligent men are on the side of science, aren't they?"

"If they are, there aren't many of them left from what I see." Winstead drew a pipe from his pocket and filled it slowly with tobacco as he continued: "Eldredge formed a League of the Righteous two months ago—they call it the L. R.—and it has grown unbelievably. Twenty million is its membership in the United States alone. Eldredge boasts that after the next election Congress will be his; and there seems to be more truth than bluff in that. Already there has been strenuous lobbying in favour of a bill outlawing rocket experiments, and laws of that type have been enacted in Poland, Portugal and Rumania. Yes, John, we are perilously close to open persecution of science." He was smoking now in rapid, nervous puffs.

"But if I succeed, Howard, if I succeed! What then?"

"Bah! You know the chances for that. Your own estimate gives you only one chance in ten of coming out alive."

"What does that signify? The next experimenter will learn by my mistakes, and the odds will improve. That's the scientific method."

"The mob doesn't know anything about the scientific method; and they don't want to know. Well, what do you say? Will you call it off?"

Harman sprang to his feet, his chair tumbling over with a crash. "Do you know what you ask? Do you want me to give up my life's work, my dream, just like that? Do you think I'm going to sit back and wait for your dear public to become benevolent? Do you think they'll change in my lifetime? "Here's my answer: I have an inalienable right to pursue knowledge. Science has an inalienable right to progress and develop without interference. The world, in interfering with me, is wrong; I am right. And it shall go hard; but I -will not abandon my rights."

Winstead shook his head sorrowfully. "You're wrong, John, when you speak of 'inalienable' rights. What you call a 'right' is merely a privilege, generally agreed upon. What society accepts, is right; what it does not, is wrong."

"Would your friend, Eldredge, agree to such a definition of his 'righteousness'?" questioned Harman bitterly.

"No, he would not, but that's irrelevant. Take the case of those African tribes who used to be cannibals. They were brought up as cannibals, have the long tradition of cannibalism, and their society accepts the practice. To them, cannibalism is right, and why shouldn't it be? So you see how relative the whole notion is, and how inane your conception of 'inalienable' rights to perform experiments is."

"You know, Howard, you missed your calling when you didn't become a lawyer." Harman was really growing angry.

"You've been bringing out every moth-eaten argument you can think of. For God's sake, man, are you trying to pretend that it is a crime to refuse to run with the crowd? Do you stand for absolute uniformity, ordinariness, orthodoxy, commonplaceness? Science would die far sooner under the programme you outline than under governmental prohibition."

Harman stood up and pointed an accusing finger at the other. "You're betraying science and the tradition of those glorious rebels: Galileo, Darwin, Einstein and their kind. My rocket leaves tomorrow on schedule in spite of you and every other stuffed shirt in the United States. That's that, and I refuse to listen to you any longer. So you can just get out."

The head of the Institute, red in the face, turned to me.

"You're my witness, young man, that I warned this obstinate nitwit, this . . . this hare-brained fanatic." He spluttered a bit, and then strode out, the picture of fiery indignation.

Harman turned to me when he had gone: "Well, what do you think? I suppose you agree with him."

There was only one possible answer and I made it: "You're not paying me to do anything else but follow orders, boss. I'm sticking with you."

Just then Shelton came in and Harman packed us both off to go over the calculations of the orbit of flight for the umpteenth time, while he himself went off to bed.

The next day, July 15th, dawned in matchless splendour, and Harman, Shelton, and myself were in an almost gay mood as we crossed the Hudson to where the Prometheus—surrounded by an adequate police guard—lay in gleaming grandeur. Around it, roped off at an apparently safe distance, rolled a crowd of gigantic proportions. Most of them were hostile, raucously so. In fact, for one fleeting moment, as our motorcycle police escort parted the crowds for us, the shouts and imprecations that reached our ears almost convinced me that we should have listened to Winstead.

But Harman paid no attention to them at all, after one supercilious sneer at a shout of: "There goes John Harman, son of Belial." Calmly, he directed us about our task of inspection. I tested the foot-thick outer walls and the air locks for leaks, then made sure the air purifier worked. Shelton checked up on the repellent screen and the fuel tanks. Finally, Hal-man tried on the clumsy spacesuit, found it suitable, and announced himself ready.

The crowd stirred. Upon a hastily erected platform of wooden planks piled in confusion by some in the mob, there rose up a striking figure. Tall and lean; with thin, ascetic countenance; deep-set, burning eyes, peering and half closed; a thick, white mane crowning all—it was Otis Eldredge. The crowd recognized him at once and many cheered. Enthusiasm waxed and soon the entire turbulent mass of people shouted themselves hoarse over him.

He raised a hand for silence, turned to Harman, who regarded him with surprise and distaste, and pointed a long, bony finger at him: "John, Harman, son of the devil, spawn of Satan, you are here for an evil purpose. You are about to set out upon a blasphemous attempt to pierce the veil beyond which man is forbidden to go. You are tasting of the forbidden fruit of Eden and beware that you taste not of the fruits of sin."

The crowd cheered him to the echo and he continued: "The finger of God is upon you, John Harman. He shall not allow His works to be defiled. You die today, John Harman." His voice rose in intensity and his last words were uttered in truly prophet-like fervour.

Harman turned away in disdain. In a loud, clear voice, he addressed the police sergeant: "Is there any way, officer, of removing these spectators. The trial flight may be attended by some destruction because of the rocket blasts, and they're crowding too close."

The policeman answered in a crisp, unfriendly tone: "If you're afraid of being mobbed, say so, Mr. Harman. You don't have to worry, though, we'll hold them back. And as for danger—from that contraption—" He sniffed loudly in the direction of the Prometheus, evoking a torrent of jeers and yells.

Harman said nothing further, but climbed into the ship in silence. And when he did so, a queer sort of stillness fell over the mob; a palpable tension. There was no attempt at rushing the ship, an attempt I had thought inevitable. On the contrary, Otis Eldredge himself shouted to everyone to move back.

"Leave the sinner to his sins," he shouted. " 'Vengeance is mine,' saith the Lord."

As the moment approached, Shelton nudged me. "Let's get out of here," he whispered in a strained voice. "Those rocket blasts are poison." Saying this, he broke into a run, beckoning anxiously for me to follow.

We had not yet reached the fringes of the crowd when there was a terrific roar behind me. A wave of heated air swept over me. There was the frightening hiss of some speeding object past my ear, and I was thrown violently to the ground. For a few moments I lay dazed, my ears ringing and my head reeling.

When I staggered drunkenly to my feet again, it was to view a dreadful sight. Evidently, the entire fuel supply of the Prometheus had exploded at once, and where it had lain a moment ago there was now only a yawning hole. The ground was strewn with wreckage. The cries of the hurt were heartrending, and the mangled bodies—but I won't try to describe those.

A weak groan at my feet attracted my attention. One look, and I gasped in horror, for it was Shelton, the back of his head a bloody mass.

"I did it." His voice was hoarse and triumphant but withal so low that I could scarcely hear it. "I did it. I broke open the liquid-oxygen compartments and when the spark went through the acetylide mixture the whole cursed thing exploded." He gasped a bit and tried to move but failed. "A piece of wreckage must have hit me, but I don't care. I'll die knowing that—"

His voice was nothing more than a rasping rattle, and on his face was the ecstatic look of martyr. He died then, and I could not find it in my heart to condemn him.

It was then I first thought of Harman. Ambulances from Manhattan and from Jersey City were on the scene, and one had sped to a wooden patch some five hundred yards distant, where, caught in the treetops, lay a splintered fragment of the Prometheus' forward compartment. I limped there as fast as I could, but they had dragged out Harman and clanged away long before I could reach them.

After that, I didn't stay. The disorganized crowd had no thought but for the dead and wounded now, but when they recovered, and bent their thoughts to revenge, my life would not be worth a straw. I followed the dictates of the better part of valour and quietly disappeared.

The next week was a hectic one for me. During that time, I lay in hiding at the home of a friend, for it would have been more than my life was worth to allow myself to be seen and recognized. Harman, himself, lay in a Jersey City hospital, with nothing more than superficial cuts and bruises—thanks to the backward force of the explosion and the saving clump of trees which cushioned the fall of the Prometheus. It was on him that the brunt of the world's wrath fell.

New York, and the rest of the world also, just about went crazy. Every last paper in the city came out with gigantic headlines, "28 Killed, 73 Wounded—the Price of Sin," printed in blood-red letters. The editorials howled for Harman's life, demanding he be arrested and tried for first-degree murder.

The dreaded cry of "Lynch him!" was raised throughout the five boroughs, and milling thousands crossed the river and converged on Jersey City. At their head was Otis Eldredge, both legs in splints, addressing the crowd from an open automobile as they marched. It was a veritable army.

Mayor Carson of Jersey City called out every available policeman and phoned frantically to Trenton for the State militia. New York clamped down on every bridge and tunnel leaving the city—but not till after many thousands had left.

There were pitched battles on the Jersey coast that sixteenth of July. The vastly outnumbered police clubbed indiscriminately but were gradually pushed back and back. Mounties rode down upon the mob relentlessly but were swallowed up and pulled down by sheer force of numbers. Not until tear gas was used, did the crowd halt—and even then they did not retreat.

The next day, martial law was declared, and the State militia entered Jersey City. That was the end for the lynchers.

Eldredge was called to confer with the mayor, and after the conferences ordered his followers to disperse.

In a statement to the newspapers. Mayor Carson said; "John Harman must needs suffer for his crime, but it is essential that he do so legally. Justice must take its course, and the State of New Jersey will take all necessary measures."

By the end of the week, normality of a sort had returned and Harman slipped out of the public spotlight. Two more weeks and there was scarcely a word about him in the newspapers, excepting such casual references to him in the discussion of the new Zittman antirocketry bill that had just passed both houses of Congress by unanimous votes.

Yet he remained in the hospital still. No legal action had been taken against him, but it began to appear that a sort of indefinite imprisonment "for his own protection" might be his eventual fate. Therefore, I bestirred myself to action.

Temple Hospital is situated in a lonely and outlying district of Jersey City, and on a dark, moonless night I experienced no difficulty at all in invading the grounds unobserved. With a facility that surprised me, I sneaked in through a basement window, slugged a sleepy interne into insensibility and proceeded to Room 15E, which was listed in the books as Harman's.

"Who's there?" Harman's surprised shout was music in my ears.

"Sh! Quiet! It's I, Cliff McKenny."

"You! What are you doing here?"

"Trying to get you out. If I don't, you're liable to stay here the rest of your life. Come on, let's go."

I was hustling him into his clothes while we were speaking, and in no time at all we were sneaking down the corridor.

We were out safely and into my waiting car before Harman collected his scattered wits sufficiently to begin asking questions.

"What's happened since that day?" was the first question.

"I don't remember a thing after starting the rocket blasts until I woke up in the hospital."

"Didn't they tell you anything?"

"Not a damn thing," he swore. "I asked until I was hoarse."

So I told him the whole story from the explosion on. His eyes were wide with shocked surprise when I told of the dead and wounded, and filled with wild rage when he heard of Shelton's treachery. The story of the riots and attempted lynching evoked a muffled curse from between set lips.

"Of course, the papers howled 'murder,' " I concluded, "but they couldn't pin that on you. They tried manslaughter, but there were too many eye-witnesses that had heard your request for the removal of the crowd and the police sergeant's absolute refusal to do so. That, of course, absolved you from all blame.

The police sergeant himself died in the explosion, and they couldn't make him the goat.

"Still, with Eldredge yelling for your hide, you're never safe. It would be best to leave while able."

Harman nodded his head in agreement "Eldredge survived the explosion, did he?"

"Yes, worse luck. He broke both legs, but it takes more than that to shut his mouth."

Another week had passed before I reached our future haven—my uncle's farm in Minnesota. There, in a lonely and out-of-the-way rural community, we stayed while the hullabaloo over Harman's disappearance gradually died down and the perfunctory search for us faded away. The search, by the way, was short indeed, for the authorities seemed more relieved than concerned over the disappearance.

Peace and quiet did wonders with Harman. In six months he seemed a new man—quite ready to consider a second attempt at space travel. Not all the misfortunes in the world could stop him, it seemed, once he had his heart set on something.

"My mistake the first time," he told me one winter's day, "lay in announcing the experiment. I should have taken the temper of the people into account, as Winstead said. This time, however"—he rubbed his hands and gazed thoughtfully into the distance—"I'll steal a march on them. The experiment will be performed in secrecy—absolute secrecy."

I laughed grimly, "It would have to be. Do you know that all future experiment in rocketry, even entirely theoretical research is a crime punishable by death?"

"Are you afraid, then?"

"Of course not, boss. I'm merely stating a fact. And here's another plain fact. We two can't build a ship all by ourselves, you know."

"I've thought of that and figured a way out, Cliff. What's more, I can take care of the money angle, too. You'll have to do some traveling, though."

"First, you'll have to go to Chicago and look up the firm of Roberts & Scranton and withdraw everything that's left of my father's inheritance, which," he added in a rueful aside, "is more than half gone on the first ship. Then, locate as many of the old crowd as you can: Harry Jenkins, Joe O'Brien, Neil Stanton—all of them. And get back as quickly as you can. I am tired of delay."

Two days later, I left for Chicago. Obtaining my uncle's consent to the entire business was a simple affair. "Might as well be strung up for a herd of sheep as for a lamb," he grunted, "so go ahead. I'm in enough of a mess now and can afford a bit more, I guess."

It took quite a bit of travelling and even more smooth talk and persuasion before I managed to get four men to come: the three mentioned by Harman and one other, a Saul Simonoff. With that skeleton force and with the half million' still left Harman out of the reputed millions left him by his father, we began work.

The building of the New Prometheus is a story in itself—a long story of five years of discouragement and insecurity.

Little by little, buying girders in Chicago, beryl-steel plates in New York, a vanadium cell in San Francisco, miscellaneous items in scattered corners of the nation, we constructed the sister ship to the ill-fated Prometheus.

The difficulties in the way were all but insuperable. To prevent drawing suspicion down upon us, we had to spread our purchases over periods of time, and to see to it, as well, that the orders were made out to various places. For this we required the co-

operation of various friends, who, to be sure, did not know at the time for exactly what purpose the purchases were being used.

We had to synthesize our own fuel, ten tons of it, and that was perhaps the hardest job of all; certainly it took the most time. And finally, as Harman's money dwindled, we came up against our biggest problem—the necessity of economizing.

From the beginning we had known that we could never make the New Prometheus as large or as elaborate as the first ship had been, but it soon developed that we would have to reduce its equipment to a point perilously close to the danger line.

The repulsion screen was barely satisfactory and all attempts at radio communication were perforce abandoned.

And as we labored through the years, there in the backwoods of northern Minnesota, the world moved on, and Winstead's prophecies proved to have hit amazingly near the mark.

The events of those five years—from 1973 to 1978—are well known to the schoolboys of today, the period being the climax of what we now call the "Neo-Victorian Age." The happenings of those years seem well-nigh unbelievable as we look back upon them now.

The outlawing of all research on space travel came in the very beginning, but was a bare start compared to the antiscientific measures taken in the ensuing years. The next congressional elections, those of 1974, resulted in a Congress in which Eldredge controlled the House and held the balance of power in the Senate.

Hence, no time was lost. At the first session of the ninety-third Congress, the famous Stonely-Carter bill was passed. It established the Federal Scientific Research Investigatory Bureau—the FSRIB—which was given full power to pass on the legality of all research in the country. Every laboratory, industrial or scholastic, was required to file information, in advance, on all projected research before this new bureau, which could, and did, ban absolutely all such as it disapproved of.

The inevitable appeal to the supreme court came on November 9, 1974, in the case of Westly vs. Simmons, in which Joseph Westly of Stanford upheld his right to continue his investigations on atomic power on the grounds that the Stonely-Carter act was unconstitutional.

How we five, isolated amid the snowdrifts of the Middle West, followed that case! We had all the Minneapolis and St.

Paul papers sent to us—always reaching us two days late—and devoured every word of print concerning it. For the two months of suspense work ceased entirely on the New Prometheus.

It was rumoured at first that the court would declare the act unconstitutional, and monster parades were held in every large town against this eventuality. The League of the Righteous brought its powerful influence to bear—and even the supreme court submitted. It was five to four for constitutionality. Science strangled by the vote of one man.

And it was strangled beyond a doubt. The members of the bureau were Eldredge men, heart and soul, and nothing that would not have immediate industrial use was passed.

"Science has gone too far," said Eldredge in a famous speech at about that time. "We must halt it indefinitely, and allow the world to catch up. Only through that and trust in God may we hope to achieve universal and permanent prosperity."

But this was one of Eldridge's last statements. He had never fully recovered from the broken legs he received that fateful day in July of '73, and his strenuous life since then had strained his constitution past the breaking point. On February 2, 1976, he passed away amid a burst of mourning unequalled since Lincoln's assassination.

His death had no immediate effect on the course of events.

The rules of the FSRIB grew, in fact, in stringency as the years passed. So starved and choked did science become, that once more colleges found themselves forced to reinstate philosophy and the classics as the chief studies—and at that the student body fell to the lowest point since the beginning of the twentieth century.

These conditions prevailed more or less throughout the civilized world, reaching even lower depths in England, and perhaps least depressing in Germany, which was the last to fall under the "Neo-Victorian" influence.

The nadir of science came in the spring of 1978, a bare month before the completion of the New Prometheus, with the passing of the "Easter Edict"—it was issued the day before Easter. By it, all independent research or experimentation was absolutely forbidden. The FSRIB thereafter reserved the right to allow only such research as it specifically requested.

John Harman and I stood before the gleaming metal of the New Prometheus that Easter Sunday; I in the deepest gloom, and he in an almost jovial mood.

"Well, Clifford, my boy," said he, "the last ton of fuel, a few polishing touches, and I am ready for my second attempt.

This time there will be no Sheltons among us." He hummed a hymn. That was all the radio played those days, and even we rebels sang them from sheer frequency of repetition.

I grunted sourly: "It's no use, boss. Ten to one, you end up somewhere in space, and even if you come back, you'll most likely be hung by the neck. We can't win." My head shook dolefully from side to side.

"Bah! This state of affairs can't last, Cliff."

"I think it will. Winstead was right that time. The pendulum swings, and since 1945 it's been swinging against us. We're ahead of the times—or behind them."

"Don't speak of that fool, Winstead. You're making the same mistake he did. Trends are things of centuries and millenniums, not years or decades. For five hundred years we have been moving toward science. You can't reverse that in thirty years."

"Then what are we doing?" I asked sarcastically.

"We're going through a momentary reaction following a period of too-rapid advance in the Mad Decades. Just such a reaction took place in the Romantic Age—the

first Victorian Period—following the too-rapid advance of the eighteenth century Age of Reason."

"Do you really think so?" I was shaken by his evident self-assurance.

"Of course. This period has a perfect analogy in the spasmodic 'revivals' that used to hit the small towns in America's Bible Belt a century or so ago. For a week, perhaps everyone would get religion, and virtue would reign triumphant. Then, one by one, they would backslide and the Devil would resume his sway.

"In fact, there are symptoms of backsliding even now. The L. R. has indulged in one squabble after another since Eldredge's death. There have been half a dozen schisms already. The very extremities to which those in power are going are helping us, for the country is rapidly tiring of it."

And that ended the argument—I in total defeat, as usual.

A month later, the New Prometheus was complete. It was nowhere near as glittering and as beautiful as the original, and bore many a trace of makeshift workmanship, but we were proud of it—proud and triumphant.

"I'm going to try again, men"—Harman's voice was husky, and his little frame vibrant with happiness—"and I may not make it, but for that I don't care." His eyes shone in anticipation. "I'll be shooting through the void at last, and the dream of mankind will come true. Out around the Moon and back; the first to see the other side. It's worth the chance,"

"You won't have fuel enough to land on the Moon, boss, which is a pity," I said.

At that a pessimistic whisper ran through the little group surrounding him, to which he paid no attention.

"Good-bye," he said. "I'll be seeing you." And with a cheerful grin he climbed into the ship.

Fifteen minutes later, the five of us sat about the living room table, frowning, lost in thought, eyes gazing out of the building at the spot where a burned section of soil marked the spot where a few minutes earlier the New Prometheus had lain.

Simonoff voiced the thought that was in the mind of each one of us: "Maybe it would be better for him not to come back. He won't be treated very well if he does, I think." And we all nodded in gloomy assent.

How foolish that prediction seems to me now from the hindsight of three decades.

The rest of the story is really not mine, for I did not see Harman again until a month after his eventful trip ended in a safe landing.

It was almost thirty-six hours after the take-off that a screaming projectile shot its way over Washington and buried itself in the mud just across the Potomac.

Investigators were at the scene of the landing within fifteen minutes, and in another fifteen minutes the police were there, for it was found that the projectile was a rocketship. They stared in involuntary awe at the tired, dishevelled man who staggered out in near-collapse.

There was utter silence while he shook his fist at the staring spectators and shouted: "Go ahead, hang me, fools. But I've reached the Moon, and you can't hang that. Get the FSRIB.

Maybe they'll declare the flight illegal and, therefore, nonexistent." He laughed weakly and suddenly collapsed.

Someone shouted: "Take him to a hospital. He's sick." In stiff unconsciousness Harman was bundled into a police car and carried away, while the police formed a guard about the rocketship.

Government officials arrived and investigated the ship, read the log, inspected the drawings and photographs he had taken of the Moon, and finally departed in silence. The crowd grew and the word spread that a man had reached the Moon.

Curiously enough, there was little resentment of the fact.

Men were impressed and awed; the crowd whispered and cast inquisitive glances at the dim crescent of Luna, scarcely seen in the bright sunlight. Over all, an uneasy pall of silence, the silence of indecision, lay.

Then, at the hospital, Harman revealed his identity, and the fickle world went wild. Even Harman himself was stunned in surprise at the rapid change in the world's temper. It seemed almost incredible, and yet it was true. Secret discontent, combined with a heroic tale of man against overwhelming odds—the sort of tale that had stirred man's soul since the beginning of time—served to sweep everyone into an ever-swelling current of anti-Victorianism. And Eldredge was dead—no other could replace him.

I saw Harman at the hospital shortly after that. He was propped up and still half buried with papers, telegrams and letters. He grinned at me and nodded. "Well, Cliff," he whispered, "the pendulum swung back again."

THE END

Actually, though "Trends" was the second story I sold, it was the third to be published. Ahead of it was not only "Marooned off Vesta," but another story (to be mentioned shortly) that was written and sold after "Trends" but was rushed into print sooner. Both earlier stories were, however, published in *Amazing* and, somehow, I find it difficult to count them. To me, the first story I sold to Campbell and published in *Astounding* is my first significant published story. This is rather ungrateful of me toward *Amazing*, but I can't help it.

The July 1939 issue of *Astounding* is sometimes considered by later fans to mark the beginning of science fiction's so-called Golden Age, a period stretching through most of the 1940s. In that period, Campbell's views were in full force in the magazine, and the authors he trained and developed were writing with the full ardor of youth. I wish I could say that "Trends" was what marked the beginning of that Golden Age, but I can't. Its appearance in that issue was pure coincidence.

What really counted was that the lead novelette in the July 1939 issue was "Black Destroyer," by A. E. van Vogt, a first story by a new author, while in the next issue, August

1939, was a short story, "Lifeline," by Robert A. Heinlein, another first story by a new author.

In time to come, Van Vogt, Heinlein, and I would be universally listed among the top authors of the Golden Age, but Van Vogt and Heinlein were that from the very beginning. Each blazed forth as a first-magazine star at the moment his first story appeared, and their status never flagged throughout the remainder of the Golden Age. I, on the other hand (and this is not false modesty), came up only gradually. I was very little noticed for a while and came to be considered a major author by such gradual steps that despite the healthy helping of vanity with which I am blessed, I myself was the last to notice.

"Trends" is an amusing story in some respects. It sets the initial space flights to the Moon in the 1970s. I thought at the time I was being daring indeed, but it has turned out that I was behind the eventual reality by a full decade, since what I described was done, and with immensely greater sophistication, in the 1960s. My description of the first attempts at space flight was, of course, incredibly naive, in hindsight.

In one respect, however, the story is unusual. In recent years Phil Klas (a science fiction writer who publishes under the pseudonym "William Tenn") pointed out to me that this was the first story in history that predicted resistance of any kind to the notion of space exploration. In all other stories, the general public was either indifferent or enthusiastic. This makes me sound enormously and uniquely perceptive, but having explained the nature of the book I was doing my NYA work on, I can't take credit for brilliance. (Heck!) Notice also the reference to the "Second [World War] of 1940." The story, remember, was written two months after Munich. I did not believe at the time that this meant "peace in our time," as Neville Chamberlain had maintained. I estimated that there would be war in a year and a half, and again I was too conservative.

"Trends," incidentally, is one of the few stories I have written in the first person, and the narrator is named Clifford McKenny. (Why my penchant for Irish last names in those days I haven't been able to figure out.) Behind the first name, though, lies a story.

After my May 1938 scare concerning the demise of Astounding, I began sending monthly letters to the magazine, carefully rating the stories. (I stopped after I began selling stories myself.) These were all published, and, in fact, I had sent a letter to Astounding, which was published, back in 1935. Two established science fiction writers wrote me personally in response to remarks I made concerning their stories. These were Russell R. Winterbotham and Clifford D. Simak.

With both, I maintained a correspondence, quite regular at first, and with long dry intervals in later years. The friendship that resulted, though long distance, was enduring.

I met Russ Winterbotham in person only once, and that was at the World Science Fiction Convention in Cleveland in 1966. He died in 1971. I have met Cliff Simak three times, the most recent occasion being at the World Science Fiction Convention in Boston in 1971, where he was guest of honor.

Simak's first letter to me was in response to a letter of mine printed in Astounding that had given a low rating to his story "Rule 18," in the July 1938 issue. Simak wrote to

ask details so that he might consider my criticisms and perhaps profit from them. (Would that I would react so gently and rationally to adverse criticism!) I reread the story in order to be able to answer properly and found, to my surprise, that there was nothing wrong with it at all. What he had done was to write the story in separate scenes with no explicit transition passages between.

I wasn't used to that technique, so the story seemed choppy and incoherent. The second time around, I recognized what he was doing and realized that not only was the story not in the least incoherent but it moved with a slick speed that would have been impossible if all the dull, bread-and-butter transitions had been inserted.

I wrote Simak to explain, and adopted the same device in my own stories. What's more, I attempted, as far as possible, to make use of something similar to Simak's cool and unadorned style. I have sometimes heard science fiction writers speak of the influence upon their style of such high-prestige literary figures as Kafka, Proust, and Joyce. This may be pose or it may be reality, but, for myself, I make no such claim.

I learned how to write science fiction by the attentive reading of science fiction, and among the major influences on my style was Clifford Simak.

Simak was particularly encouraging in those anxious months during which I was trying to sell a story. On the day I made my first sale, I had a letter, all sealed and addressed and stamped, waiting to be mailed to him. I tore it open to add the news, and destroying a stamped envelope, which represented a clear loss of several cents, was not something I did lightly in those days.

It has always pleased me, therefore, that my first sale to Campbell had, as its first-person narrator, a character named in Clifford Simak's honor.

One more point about "Trends"—In my early sessions with Campbell, he had occasionally pointed out the value of having a name that wasn't odd and hard to pronounce, and suggested the use of a common Anglo-Saxon name as a pseudonym. On this point, I clearly expressed intransigence. My name was my name and it would go on my stories.

When "Trends" was sold, I steeled myself for what I thought might be a struggle with Campbell that might even cost me my precious sale. —It never happened. Perhaps it was because my name had already appeared on two stories in *Amazing*, or perhaps Campbell recognized I would not agree to a pseudonym, but he never raised the point.

As it happened, my disinclination for a pseudonym was lucky indeed, for the name Isaac Asimov proved highly visible. No one could see the name for the first time without smiling at its oddness; and anyone seeing it the second time would instantly remember the first time. I'm convinced that at least part of my eventual popularity came about because the readers recognized the name quickly and became aware of my stories as a group.

Indeed, matters came full circle. In later years, I frequently met readers who were convinced the name was a pseudonym designed to achieve visibility and that my real name must be something like John Smith. It was sometimes hard to disabuse them.

While I was revising "Trends" for Campbell, I was also working on another story, "The Weapon Too Dreadful to Use." That one I did not submit to Campbell. Either I did not wish to push him too hard immediately after I had made a sale to him, or I suspected the story wasn't good enough for him and didn't want to spoil the impression "Trends" might have made. In either case (and I don't really remember the motive) I decided to try it on Amazing first. It was also a one cent market, after all, and perhaps I thought I owed them another chance, now that I had made my Campbell sale.

I mailed "The Weapon Too Dreadful to Use" to Amazing on February 6, 1939, and on February 20 received notice of acceptance. Amazing may have bought it because it needed a story in a hurry, for it appeared in the May issue, which reached the newsstands only three weeks after the sale.

That made it my second published story, for it appeared two months before "Trends."

THE WEAPON TOO DREADFUL TO USE

Karl Frantor found the prospect a terribly dismal one. From low-hanging clouds, fell eternal misty rain; squat, rubbery vegetation with its dull, reddish-brown colour stretched away in all directions. Now and then a Hop-sotch Bird fluttered wildly above them, emitting plaintive squawks as it went.

Karl turned his head to gaze at the tiny dome of Aphrodopolis, largest city on Venus.

"God," he muttered, "even the dome is better than this awful world out here." He pulled the rubberized fabric of his coat closer about him. "I'll be glad to get back to Earth again."

He turned to the slight figure of Antil, the Venusian, "When are we coming to the ruins, Antil?"

There was no answer and Karl noticed the tear that rolled down the Venusian's green, puckered cheeks. Another glistened in the large, lemur-like eyes; soft, incredibly beautiful eyes.

The Earthman's voice softened. "Sorry, Antil, I didn't mean to say anything against Venus."

Antil turned his green face toward Karl, "It was not that, my friend. Naturally, you would not find much to admire in an alien world. I, however, love Venus, and I weep because I am overcome with its beauty." The words came fluently but with the inevitable distortion caused by vocal cords unfitted for harsh-languages.

"I know it seems incomprehensible to you," Antil continued, "but to me Venus is a paradise, a golden land—I cannot express my feelings for it properly."

"Yet there are some that say only Earthmen can love."

Karl's sympathy was strong and sincere.

The Venusian shook his head sadly. "There is much besides the capacity to feel emotion that your people deny us."

Karl changed the subject hurriedly. "Tell me, Antil, doesn't Venus present a dull aspect even to you? You've been to Earth and should know. How can this eternity of brown and grey compare to the living, warm colours of Earth?"

"It is far more beautiful to me. You forget that my colour sense is so enormously different from yours. How can I explain the beauties, the wealth of colour in which this landscape abounds?" He fell silent, lost in the wonders he spoke of, while to the Terrestrial the deadly, melancholy grey remained unchanged.

"Someday," Antil's voice came as from a person in a dream, "Venus will once more belong to the Venusians. The Earthlings shall no longer rule us, and the glory of our ancestors shall return to us."

Karl laughed. "Come, now, Antil, you speak like a member of the Green Bands, that are giving the government so much trouble. I thought you didn't believe in violence."

"I don't, Karl," Antil's eyes were grave and rather frightened, "but the extremists are gaining power, and I fear the worst. And if—if open rebellion against Earth breaks out, I must join them."

"But you disagree with them."

"Yes, of course," he shrugged his shoulders, a gesture he had learned from Earthmen, "we can gain nothing by violence. There are five billion of you and scarcely a hundred million of us. You have resources and weapons while we have none. It would be a fool's venture, and even should we win, we might leave such a heritage of hatred that there could never be peace among our two planets."

"Then why join them?"

"Because I am a Venusian."

The Venusian eye can distinguish between two tints, the wavelengths of which differ by as little as five Angstrom units. They see thousands of colours to which Earthmen are blind.—Author.

The Earthman burst into laughter again. "Patriotism, it seems, is as irrational On Venus as on Earth. But come, let us proceed to the ruins of your ancient city. Are we nearly there?"

"Yes," answered Antil, "it's a matter of little more than an Earth mile now. Remember, however, that you are to disturb nothing. The ruins of Ash-taz.-7.or are sacred to us, as the sole existing remnant of the time when we, too, were a great race, rather than the degenerate remains of one."

They walked on in silence, slogging through the soft earth beneath, dodging the writhing roots of the Snaketree, and giving the occasional Tumbling Vines they passed a wide berth.

It was Antil who resumed the conversation.

"Poor Venus." His quiet, wistful voice was sad. "Fifty years ago the Earthman came with promises of peace and plenty—and we believed. We showed them the emerald mines and the juju weed and their eyes glittered with desire. More and more came, and their arrogance grew. And now—"

"It's too bad, Antil," Karl said, "but you really feel too strongly about it."

"Too strongly! Are we allowed to vote? Have we any representation at all in the Venusian Provincial Congress? Aren't there laws against Venusians riding in the same stratocars as Earthlings, or eating in the same hotel, or living in the same house? Are not all colleges closed to us? Aren't the best and most fertile parts of the planet pre-empted by Earthlings? Are there any rights at all that Terrestrials allow us upon our own planet?"

"What you say is perfectly true, and I deplore it. But similar conditions once existed on Earth with regard to certain so-called 'inferior races,' and in time, all those disabilities were removed until today total equality reigns. Remember, too, that the intelligent

people of Earth are on your side. Have I, for instance, ever displayed any prejudice against a Venusian?"

"No, Karl, you know you haven't. But how many intelligent men are there? On Earth, it took long and weary millennia, filled with war and suffering, before equality was established. What if Venus refuses to wait those millennia?"

Karl frowned, "You're right, of course, but you must wait. What else can you do?"

"I don't know—I don't know," Antil's voice trailed into silence.

Suddenly, Karl wished he hadn't started on this trip to the ruins of mysterious Ash-taz-zor. The maddeningly monotonous terrain, the just grievances of Antil had served to depress him greatly. He was about to call the whole thing on when the Venusian raised his webbed fingers to point out a mound of earth ahead.

"That's the entrance," he said; "Ash-taz-zor has been buried under the soil for uncounted thousands of years, and only Venusians know of it. You're the first Earthman ever to see it."

"I shall keep it absolutely secret, Antil. I have promised."

"Come, then."

Antil brushed aside the lush vegetation to reveal a narrow entrance between two boulders and beckoned to Karl to follow. Into a narrow, damp corridor they crept. Antil drew from his pouch a small Atomite lamp, which cast its pearly white glow upon walls of dripping stone.

"These corridors and burrows," he said, "were dug three centuries ago by our ancestors who considered the city a holy place. Of late, however, we have neglected it. I was the first to visit it in a long, long time. Perhaps that is another sign of our degeneracy."

For over a hundred yards they walked on straight ahead; then the corridors flared out into a lofty dome. Karl gasped at the view before him. There were the remains of buildings, architectural marvels unrivalled on Earth since the days of Periclean Athens. But all lay in shattered ruins, so that only a hint of the city's magnificence remained.

Antil led the way across the open space and plunged into another burrow that twisted its way for half a mile through soil and rock. Here and there, side-corridors branched off, and once or twice Karl caught glimpses of ruined structures. He would have investigated had not Antil kept him on the path.

Again they emerged, this time before a low, sprawling building constructed of a smooth, green stone. Its right wing was utterly smashed, but the rest seemed scarcely touched.

The Venusian's eyes shone; his slight form straightened with pride. "This is what corresponds to a modern museum of arts and sciences. In this you shall see the past greatness and culture of Venus."

With high excitement, Karl entered—the first Earthman ever to see these ancient achievements. The interior, he found, was divided into a series of deep alcoves, branching out from the long central colonnade. The ceiling was one great painting that showed dimly in the light of the Atomite lamp.

Lost in wonder, the Earthman wandered through the alcoves. There was an extraordinary sense of strangeness to the sculptures and paintings about him, an unearthliness that doubled their beauty.

Karl realized that he missed something vital in Venusian art simply because of the lack of common ground between his own culture and theirs, but he could appreciate the technical excellence of the work. Especially, did he admire the colour-work of the paintings which went far beyond anything he had ever seen on Earth. Cracked, faded, and scaling though they were, there was a blending and a harmony about them that was superb.

"What wouldn't Michelangelo have given," he said to Antil, "to have the marvellous colour perception of the Venusian eye."

Antil inflated his chest with happiness. "Every race has its own attributes. I have often wished my ears could distinguish the slight tones and pitches of sound the way it is said Earthmen can. Perhaps I would then be able to understand what it is that is so pleasing about your Terrestrial music. As it is, its noise is dreadfully monotonous to me."

They passed on, and every minute Karl's opinion of Venusian culture mounted higher. There were long, narrow strips of thin metal, bound together, covered with the lines and ovals of Venusian script—thousands upon thousands of them. In them, Karl knew, might lie such secrets as the scientists of Earth would give half their lives to know.

Then, when Antil pointed out a tiny, six-inch-high affair, and said that, according to the inscription, it was some type of atomic converter with an efficiency several times any of the current Terrestrial models, Karl exploded.

"Why don't you reveal these secrets to Earth? If they only knew your accomplishments in ages past, Venusians would occupy a far higher place than they do now."

"They would make use of our knowledge of former days, yes," Antil replied bitterly, "but they would never release their stranglehold on Venus and its people. I hope you are not forgetting your promise of absolute secrecy."

"No, I'll keep quiet, but I think you're making a mistake."

"I think not," Antil turned to leave the alcove, but Karl called to him to wait.

"Aren't we going into this little room here?" he asked.

Antil whirled, eyes staring, "Room? What room are you talking about? There's no room here."

Karl's eyebrows shot up in surprise as he mutely pointed out the narrow crack that extended half way up the rear wall.

The Venusian muttered something beneath his breath and fell to his knees, delicate fingers probing the crack.

"Help me, Karl. This door was never meant to be opened, I think. At least there is no record of its being here, and I know the ruins of Ash-taz-zor perhaps better than any other of my people."

The two pushed against the section of the wall, which gave backward with groaning reluctance for a short distance, then yielded suddenly so as to catapult them into the tiny, almost empty cubicle beyond. They regained their feet and stared about.

The Earthman pointed out broken, ragged rust-streaks on the floor, and along the line where door joined wall. "Your people seem to have sealed this room up pretty effectively. Only the rust of eons broke the bonds. You'd think they had some sort of secret stored here."

Antil shook his green head. "There was no evidence of a door last time I was here. However—" he raised the Atomite lamp up high and surveyed the room rapidly, "there doesn't seem to be anything here, anyway."

He was right. Aside from a nondescript oblong chest that squatted on six stubby legs, the place contained only unbelievable quantities of dust and the musty, almost suffocating smell of long-shut-up tombs.

Karl approached the chest, tried to move it from the corner where it stood. It didn't budge, but the cover slipped under his pressing fingers.

"The cover's removable, Antil. Look!" He pointed to a shallow compartment within, which contained a square slab of some glassy substance and five six-inch-long cylinders resembling fountain-pens.

Antil shrieked with delight when he saw these objects and for the first time since Karl knew him, lapsed into sibilant Venusian gibberish. He removed the glassy slab and inspected it closely. Karl, his curiosity aroused, did likewise. It was covered with closely-spaced, varicoloured dots, but there seemed no reason for Antil's extreme glee.

"What is it, Antil?"

"It is a complete document in our ancient ceremonial language. Up to now we have never had more than disjointed fragments. This is a great find."

"Can you decipher it?" Karl regarded the object with more respect.

"I think I can. It is a dead language and I know little more than a smattering. You see, it is a colour language. Each word is designated by a combination of two, and sometimes three, coloured dots. The colours are finely differentiated, though, and a Terrestrial, even if he had the key to the language, would have to use a spectroscope to read it."

"Can you work on it now?"

"I think so, Karl. The Atomite lamp approximates normal daylight very closely, and I ought to have no trouble with it.

However, it may take me quite a time; so perhaps you'd better continue your investigation. There's no danger of your getting lost, provided you remain inside this building."

Karl left, taking a second Atomite lamp with him, left Antil, the Venusian, bent over the ancient manuscript, deciphering it slowly and painfully.

Two hours passed before the Earthman returned; but when he did, Antil had scarcely changed his position. Yet, now, there was a look of horror on the Venusian's face that had not been there before. The "colour" message lay at his feet, disregarded.

The noisy entrance of the Earthman made no impression upon him. As if ossified, he sat in unmoving, staring fright.

Karl jumped to his side. "Antil, Antil, what's wrong?"

Antil's head turned slowly, as though moving through viscous liquid, and his eyes gazed unseeingly at his friend.

Karl grasped the other's thin shoulders and shook him unmercifully.

The Venusian came to his senses. Writhing out of Karl's grasp he sprang to his feet. From the desk in the corner he removed the five cylindrical objects, handling them with a queer sort of reluctance, placing them in his pouch. There, likewise, did he put the slab he had deciphered.

Having done this, he replaced the cover on the chest and motioned Karl out of the room. "We must go now. Already we have stayed too long." His voice had an odd, frightened tone about it that made the Earthman uncomfortable.

Silently, they retraced their steps until once more they stood upon the soaked surface of Venus. It was still day, but twilight was near. Karl felt a growing hunger. They would need to hurry if they expected to reach Aphrodispolis before the coming of night. Karl turned up the collar of his slicker, pulled his rubberized cap low over his forehead and set out. Mile after mile passed by and the domed city once more rose upon the grey horizon. The Earthman chewed at damp ham sandwiches, wished fervently for the comfortable dryness of Aphrodispolis. Through it all, the normally friendly Venusian maintained a stony silence, vouchsafing not so much as a glance upon his companion.

Karl accepted this philosophically. He had a far higher regard for Venusians than the great majority of Earthmen, but even he experienced a faint disdain for the ultra-emotional character of Antil and his kind. This brooding silence was but a manifestation of feelings that in Karl would perhaps have resulted in no more than a sigh or a frown. Realizing this, Antil's mood scarcely affected him.

Yet the memory of the haunting fright in Antil's eyes aroused a faint unease. It had come after the translation of that queer slab. What secret could have been revealed in that message by those scientific progenitors of the Venusians? It was with some diffidence that Karl finally persuaded himself to ask, "What did the slab say, Antil? It must be interesting, I judge, considering that you've taken it with you."

Antil's reply was simply a sign to hurry, and the Venusian thereupon plunged into the gathering darkness with redoubled speed. Karl was puzzled and rather hurt. He made no further attempt at conversation for the duration of the trip.

When they reached Aphrodispolis, however, the Venusian broke his silence. His puckered face, drawn and haggard, turned to Karl with the expression of one who has come to a painful decision.

"Karl," he said, "we have been friends, so I wish to give you a bit of friendly advice. You are going to leave for Earth next week. I know your father is high in the councils of the Planetary President. You yourself will probably be a personage of importance in the not-too-distant future. Since this is so, I beg you earnestly to use every atom of your influence to a moderation of Earth's attitude toward Venus. I, in my turn,

being a hereditary noble of the largest tribe on Venus, shall do my utmost to repress all attempts at violence."

The other frowned. "There seems to be something behind all this. I don't get it at all. What are you trying to say?"

"Just this. Unless conditions are bettered—and soon—Venus will rise in revolt. In that case, I will have no choice but to place my services at her feet, and then Venus will no longer be defenseless."

These words served only to amuse the Earthman. "Come, Antil, your patriotism is admirable, and your grievances justified, but melodrama and chauvinism don't go with me. I am, above all, a realist."

There was a terrible earnestness in the Venusian's voice.

"Believe me, Karl, when I say nothing is more real than what I tell you now. In case of a Venusian revolt, I cannot vouch for Earth's safety."

"Earth's safety!" The enormity of this stunned Karl.

"Yes," continued Antil, "for I may be forced to destroy Earth. There you have it." With this, he wheeled and plunged into the underbrush on the way back to the little Venusian village outside the great dome.

Five years passed—years of turbulent unrest, and Venus stirred in its sleep like an awakening volcano. The shortsighted Terrestrial masters of Aphrodopolis, Venusia, and other domed cities cheerfully disregarded all danger signals.

When they thought of the little green Venusians at all, it was with a disdainful grimace as if to say, "Oh, THOSE things!"

But "those things" were finally pushed beyond endurance, and the nationalistic Green Bands became increasingly vociferous with every passing day. Then, on one grey day, not unlike the grey days preceding, crowds of natives swarmed upon the cities in organized rebellion.

The smaller domes, caught by surprise, succumbed. In rapid succession New Washington, Mount Vulcan, and SI.

Denis were taken, together with the entire eastern continent, Before the reeling Terrestrials realized what was happening, half of Venus was no longer theirs. Earth, shocked and stunned by this sudden emergency which, of course, should have been foreseen—sent arms and supplies to the inhabitants of the remaining beleaguered towns and began to equip a great space fleet for the recovery of the lost territory.

Earth was annoyed but not frightened, knowing that ground lost by surprise could easily be regained at leisure, and that ground not now lost would never be lost. Or such, at least, was the belief.

Imagine, then, the stupefaction of Earth's leaders as no pause came in the Venusian advance. Venusia City had been amply stocked with weapons and food; her outer defenses were up, the men at their posts. A tiny army of naked, unarmed natives approached and demanded unconditional surrender. Venusia refused haughtily, and the messages to Earth were mirthful in their references to the unarmed natives who had become so recklessly flushed with success.

Then, suddenly, no more messages were received, and the natives took over Venusia.

The events at Venusia were duplicated, over and over again, at what should have been impregnable fortresses. Even Aphrodispolis itself, with half a million population, fell to a pitiful five hundred Venusians. This, in spite of the fact that every weapon known to Earth was available to the defenders.

The Terrestrial Government suppressed the facts, and Earth itself remained unsuspecting of the strange events on Venus; but in the inner councils, statesmen frowned as they listened to the strange words of Karl Frantor, son of the Minister of Education.

Jan Heersen, Minister of War, rose in anger at the conclusion of the report.

"Do you wish us to take seriously the random statement of a half-mad Greenie and make our peace with Venus on its own terms? That is definitely and absolutely impossible. What those damned beasts need is the mailed fist. Our fleet will blast them out of the Universe, and it is time that it were done."

"The blasting may not be so simple, Heersen," said the grey-haired, elder Frantor, rushing to his son's defense. "There are many of us who have all along claimed that the Government policy toward the Venusians was all wrong. Who knows what means of attack they have found and what, in revenge, they will do with it?"

"Fairy Tales!" exclaimed Heersen. "You treat the Greenies as if they were people. They're animals and should be thankful for the benefits of civilization we brought them. Remember, we're treating them much better than some of our own Earth races were treated in our early history, the Red Indians for example."

Karl Frantor burst in once more in an agitated voice. "We must investigate, sirs! Antil's threat is too serious to disregard, no matter how silly it sounds—and in the light of the Venusian conquests, it sounds anything but silly. I propose that you send me with Admiral von Blumdorff, as a sort of envoy. Let me get to the bottom of this before we attack them."

The saturnine Earth President, Jules Debuc, spoke now for the first time. "Frantor's proposal is reasonable, at least. It shall be done. Are there any objections?"

There were none, though Heersen scowled and snorted angrily. Thus, a week later, Kari Frantor accompanied the space armada of Earth when it set off for the inner planet.

It was a strange Venus that greeted Kari after his five years' absence. It was still its old soaking self, its old dreary, monotony of white and grey, its scattering of domed cities—and yet how different.

Where before the haughty Terrestrials had moved in disdainful splendour among the cowering Venusians, now the natives maintained undisputed sway. Aphrodispolis was a native city entirely, and in the office of the former governor sat —Antil.

Kari eyed him doubtfully, scarcely knowing what to say. "I rather thought you might be king-pin," he managed at length.

"You—the pacifist."

"The choice was not mine. It was that of circumstance,"

Antil replied. "But you, I did not expect you to be your planet's spokesman."

"It was to me that you made your silly threat years ago, and so it is I who was most pessimistic concerning your rebellion. I come, you see, but not unaccompanied." His hand motioned vaguely upward, where spaceships lazed motionless and threatening.

"You come to menace me?"

"No! To hear your aims and your terms."

"That is easily accomplished. Venus demands its independence and we promise friendship, together with free and unrestricted trade."

"And you expect us to accept all that without a struggle."

"I hope you do—for Earth's own sake."

Kari scowled and threw himself back in his chair in annoyance, "For God's sake, Antil, the time for mysterious hints and bogies has passed. Show your hand. How did you overcome Aphrodispolis and the other cities so easily?"

"We were forced to it, Kari. We did not desire it." Antil's voice was shrill with agitation. "They would not accept our fair terms of surrender and began to shoot their Tonite guns. We—we had to use the—the weapon. We had to kill most of them afterward—out of mercy."

"I don't follow. What weapon are you talking about?"

"Do you remember that time in the ruins of Ash-tai-zar, Karl? The hidden room; the ancient inscription; the five little rods."

Kari nodded sombrely. "I thought so, but I wasn't sure."

"It was a horrible weapon, Kari." Antil hurried on as if the mere thought of it were not to be endured. "The ancients discovered it—but never used it. They hid it instead, and why they did not destroy it, I can't imagine. I wish they had destroyed it; I really do. But they didn't and I found it and I must use it—for the good of Venus."

His voice sank to a whisper, but with a manifest effort he nerved himself to the task of explanation. "The little harmless rods you saw then, Kari, were capable of producing a force field of some unknown nature (the ancients wisely refused to be explicit there) which has the power of disconnecting brain from mind."

"What?" Kari stared in open-mouthed surprise. "What are you talking about?"

"Why, you must know that the brain is merely the seat of the mind, and not the mind itself. The nature of 'mind' is a mystery, unknown even to our ancients; but whatever it is, it uses the brain as its intermediary to the world of matter."

"I see. And your weapon divorces mind from brain—renders mind helpless—a space-pilot without his controls."

Antil nodded solemnly. "Have you ever seen a decerebrated animal?" he asked suddenly.

"Why, yes, a dog—in my bio course back in college."

"Come, then, I will show you a decerebrated human."

Kari followed the Venusian to an elevator. As he shot downward to the lowest level—the prison level—his mind was in a turmoil. Torn between horror and fury, he had alternate impulses of unreasoning desire to escape and almost insuperable yearnings to

slay the Venusian at his side. In a daze, he left the cubicle and followed Antil down a gloomy corridor, winding its way between rows of tiny, barred cells.

There." Antil's voice roused Kari as would a sudden stream of cold water. He followed the pointing webbed hand and stared in fascinated revulsion at the human figure revealed.

It was human, undoubtedly, in form—but inhuman, nevertheless. It (Kari could not imagine it as "he") sat dumbly on the floor, large staring eyes never leaving the blank wall before him. Eyes that were empty of soul, loose lips from which saliva drooled, fingers that moved aimlessly. Nauseated, Kari turned his head hastily.

"He is not exactly decerebrated." Antil's voice was low.

"Organically, his brain is perfect and unharmed. It is merely —disconnected."

"How does it live, Antil? Why doesn't it die?"

"Because the autonomic system is untouched. Stand him up and he will remain balanced. Push him and he will regain his balance. His heart beats. He breathes. If you put food in his mouth, he will swallow, though he would die of starvation before performing the voluntary act of eating food that has been placed before him. It is life—of a sort; but it were better dead, for the disconnection is permanent."

"It is horrible—horrible."

"It is worse than you think. I feel convinced that somewhere within the shell of humanity, the mind, unharmed, still exists. Imprisoned helplessly in a body it cannot control, what must be that mind's torture?"

Karl stiffened suddenly. "You shan't overcome Earth by sheer unspeakable brutality. It is an unbelievably cruel weapon but no more deadly than any of a dozen of ours. You shall pay for this."

"Please, Karl, you have no conception of one-millionth of the deadliness of the 'Disconnection Field'. The Field is independent of space, and perhaps of time, too, so that its range can be extended almost indefinitely. Do you know that it required merely one discharge of the weapon to render every warm-blooded creature in Aphrodopolis helpless?" Antil's voice rose tensely. "Do you know that I am able to bathe ALL EARTH in the Field—to render all your teeming billions the duplicate of that dead-alive hulk in there AT ONE STROKE."

Karl did not recognize his own voice as he rasped, "Fiend! Are you the only one who knows the secret of this damnable Field?"

Antil burst into a hollow laugh, "Yes, Karl, the blame rests on me, alone. Yet killing me will not help. If I die, there are others who know where to find the inscription, others who have not my sympathy for Earth. I am perfectly safe from you, Karl, for my death would be the end of your world."

The Earthman was broken—utterly. Not a fragment of doubt as to the Venusian's power was left within him. "I yield," he muttered, "I yield. What shall I tell my people?"

"Tell them of my terms, and of what I could do if I wished."

Karl shrank from the Venusian as if his very touch was death, "I will tell them that."

"Tell them also, that Venus is not vindictive. We do not wish to use our weapon, for it too dreadful to use. If they will give us our independence on our own terms, and allow us certain wise precautions against future re-enslavement, we will hurl each of our five guns and the explanatory inscription explaining it into the sun."

The Terrestrial's voice did not change from its toneless whisper. "I will tell them that."

Admiral von Blumdorff was as Prussian as his name, and his military code was the simple one of brute force. So it was quite natural that his reactions to Karl's report were explosive in their sarcastic derision.

"You forsaken fool," he raved at the young man. 'This is what comes of talk, of words, of tomfoolery. You dare come back to me with this old-wives' tale of mysterious weapons, of untold force. Without any proof at all, you accept all that this damned Greenie tells you at absolute face value, and surrender abjectly. Couldn't you threaten, couldn't you bluff, couldn't you lie?"

"He didn't threaten, bluff, or lie," Karl answered warmly.

"What he said was the gospel truth. If you had seen the decerebrated man—"

"Bah! That is the most inexcusable part of the whole cursed business. To exhibit a lunatic to you, some perfectly normal mental defective, and to say, 'This is our weapon!' and for you to accept that without question! Did they do anything but talk? Did they demonstrate the weapon? Did they even show it to you?"

"Naturally not. The weapon is deadly. They're not going to kill a Venusian to satisfy me. As for showing me the weapon—well, would you show your ace-in-the-hole to the enemy? Now you answer me a few questions. Why is Antil so cocksure of himself? How did he conquer all Venus so easily?"

"I can't explain it I admit, but does that prove that theirs is the correct explanation? Anyhow, I'm sick of this talk.

We're attacking now, and to hell with theories. I'll face them with Tonite projectiles and you can watch their bluff backfire in their ugly faces."

"But, Admiral, you must communicate my report to the President."

"I will—after I blow Aphrodopolis into kingdom come."

He turned on the central broadcasting unit. "Attention, all ships! Battle formation! We dive at Aphrodopolis with all Tonites blasting in fifteen minutes." Then he turned to the orderly. "Have Captain Larsen inform Aphrodopolis that they have fifteen minutes to hoist the white flag."

The minutes that ticked by after that were tense and nerve-wracking for Karl Frantor. He sat in bent silence, head buried in his hands and the faint click of the chronometer at the end of every minute sounded like a thunder-clap in his ears. He counted those clicks in a mumbling whisper—8—9— 10. God! Only five minutes to certain death! Or was it certain death? Was von Blumdorff right? Were the Venusians putting over a daring bluff? An orderly catapulted into the room and saluted. "The Greenies have just answered, sir."

"Well," von Blumdorff leaned forward eagerly.

'They say, 'Urgently request fleet not to attack. If done, we shall not be responsible for the consequences.'"

"Is that all?" came the outraged shout "Yes, sir."

The Admiral burst into a sulphurous stream of profanity.

"Why, the infernal gall of them," he shouted. "They dare bluff to the very end."

And as he finished, the fifteenth minute clicked off, and the mighty armada burst into motion. In streaking, orderly flight they shot down toward the cloudy shroud of the second planet.

Von Blumdorff grinned in a grisly appreciation of the awesome view spread over the televisor—until the mathematically precise battle formation suddenly broke.

The Admiral stared and rubbed his eyes. The entire further half of the fleet had suddenly gone crazy. First, the ships wavered; then they veered and shot off at mad angles.

Then calls came in from the sane half of the fleet—reports that the left wing had ceased to respond to radio.

The attack on Aphrodopolis was immediately disrupted as the order went out to capture the ships that had run amok.

Von Blumdorff stamped up and down and tore his hair. Karl Frantor cried out dully, "It is their weapon," and lapsed back into his former silence.

From Aphrodopolis came no word at all. For two solid hours the remnant of the Terrestrial fleet battled their own ships. Following the aimless courses of the stricken vessels, they approached and grappled. Bound together then by rigid force, rocket blasts were applied until the insane flight of the others had been balanced and stopped. Fully twenty of the fleet were never caught; some continuing on some orbit about the sun, some shooting off into unknown space, a few crashing down to Venus.

When the remaining ships of the left wing were boarded, the unsuspecting boarding parties stopped short in horror.

Seventy-five staring witless shells of humanity in each ship.

Not a single human being left.

Some of the first to enter screamed in horror and fled in a panic. Others merely retched and turned away their eyes. One officer took in the situation at a glance, calmly drew his Atomo-pistol and rayed every decerebrate in sight.

Admiral von Blumdorff was a stricken man; a pitiful, limp wreck of his former proud and blustering self, when he heard the worst. One of the decerebrates was brought to him, and he reeled back.

Karl Frantor gazed at him with red-rimmed eyes, "Well, Admiral, are you satisfied?"

But the Admiral made no answer. He drew his gun, and before anyone could stop him, shot himself through the head.

Once again Karl Frantor stood before a meeting of the President and his Cabinet, before a dispirited, frightened group of men. His report was definite and left no doubt as to the course that must now be followed.

President Debut stared at the decerebrate brought in as an exhibit. "We are finished," he said. "We must surrender unconditionally, throw ourselves upon their mercy. But someday—," his eyes kindled in retribution.

"No, Mr. President!" Karl's voice rang out, "there shall be no someday. We must give the Venusians their simple due—liberty and independence. Bygones must be bygones—our dead have but paid for the half-century of Venusian slavery.

After this, there must be a new order in the Solar System—the birth of a new day."

The President lowered his head in thought and then raised it again. "You are right," he answered with decision; "there shall be no thought of revenge."

Two months later the peace treaty was signed and Venus became what it has remained ever since—an independent and sovereign power. And with the signing of the treaty, a whirling speck shot out toward the sun. It was—the weapon too dreadful to use.

THE END

Amazing Stories was, at that time, heavily slanted toward adventure and action and disapproved of too much scientific exposition in the course of the story. I, of course, even then was writing the kind of science fiction that involved scientific extrapolation that was specifically described. What Raymond Palmer did in this case was to omit some of my scientific discussion and to place in footnotes a condensed version of passages that he could not omit without damaging the plot. This was an extraordinarily inept device, at which I chafed at the time. I took the only retaliation available to me. I placed Amazing at the bottom of the list, as far as the order in which to submit stories was concerned.

What I remember most clearly about the story, though, is Fred Pohl's remark concerning it. The story ends with Earth and Venus at peace, with Earth promising to respect Venus' independence and Venus destroying its weapon. Fred said, upon reading the published story, "And after the weapon was destroyed, Earth wiped the Venusians off the face of their planet."

He was quite right. I was naive enough then to suppose that words and good intentions are sufficient. (Fred also remarked that the weapon that was too dreadful to be used was, in fact, used. He was right in that case, too, and that helped sour me on titles that were too long and elaborate. I have tended toward shorter titles since, even one-word titles, something Campbell consistently encouraged, perhaps because short titles fit better on the cover and on the title page of a magazine.) If I thought that my sale to Campbell had made me an expert in knowing what he wanted and in being able to supply that want, I was quite wrong. In February 1939 I wrote a story called "The Decline and Fall." I submitted it to Campbell on February 21 and it was back in my lap, quite promptly, on the twenty-fifth. It made the rounds thereafter without results and was never published. It no longer exists and I remember nothing at all about it.

On March 4, 1939, I began my most ambitious writing project to that date. It was a novelette (in which I named an important character after Russell Winterbotham) that was intended to be at least twice as long as any of my previous stories. I called the story

"Pilgrimage." It was my first attempt to write "future history"; that is, a tale about a far future time written as though it were a historical novel.

I was also my first attempt to write a story on a galactic scale.

I was very excited while working at it and felt somehow that it was an "epic." (I remember, though, that Winterbotham was rather dubious about it when I described the plot to him in a letter.) I brought it in to Campbell on March 21, 1939, with high hopes, but it was back on the twenty-fourth with a letter that said, "You have a basic idea which might be made into an interesting yarn, but as it is, it is not strong enough."

This time I would not let go. I was in to see Campbell again on the twenty-seventh and talked him into letting me revise it in order to strengthen the weaknesses he found in it. I brought in the second version on April 25, and it, too, was found wanting, but this time it was Campbell who asked for a revision. I tried again and the third version was submitted on May 9 and rejected on the seventeenth. Campbell admitted there was still the possibility of saving it, but, after three tries, he said, I should put it to one side for some months and then look at it from a fresh viewpoint.

I did as he said and waited two months (the minimum time I could interpret as "some months") and brought in the fourth version on August 8.

This time, Campbell hesitated over it till September 6, and then rejected it permanently on the ground that Robert A. Heinlein had just submitted an important short novel (later published as "If This Goes On—") that had a religious theme. Since "Pilgrimage" also had a religious theme, John couldn't use it. Two stories on so sensitive a subject in rapid succession were one too many.

I had written the story four times, but I saw Campbell's point. Campbell said Heinlein's story was the better of the two and I could see that an editor could scarcely be expected to take the worse and reject the better simply because writing the worse had been such hard work.

There was nothing, however, to prevent me from trying to sell it elsewhere. I kept trying for two years, during which time I rewrote it twice more and retitled it "Galactic Crusade."

Eventually I sold it to another of the magazines that were springing up in the wake of Campbell's success with Astounding. This was Planet Stories, which during the 1940s was to make its mark as a home for the "space opera," the blood-and-thunder tale of interplanetary war. My story was of this type, and the editor of Planet, Malcolm Reiss, was attracted.

The religious angle worried him, too, however. Would I go through the story, he asked during luncheon on August 18, 1941, and remove any direct reference to religion. Would I, in particular, refrain from referring to any of my characters as "priests." Sighing, I agreed, and the story was revised for a sixth time. On October 7, 1941, he accepted it and, after two and a half years that included ten rejections, the story was finally placed.

But, having put me to the trouble of that particular remove-the-religion revision, what did Reiss do? Why, he retitled it (without consulting me, of course) and called the story "Black Friar of the Flame."

I might mention two points about this story before presenting it.

First, it was the only story I ever sold to Planet.

Second, it was illustrated by Frank R. Paul. Paul was the most prominent of all the science fiction illustrators of the pre-Campbell era, and, to the best of my knowledge, this is the only time our paths crossed professionally.

I did see him once from a distance, though. On July 2, 1939, I attended the First World Science Fiction Convention, which was held in Manhattan. Frank Paul was guest of honor.

It was the first occasion on which I was publicly recognized as a professional, rather than as merely a fan. With three published stories under my belt ("Trends" had just appeared) I was pushed up to the platform to take a bow.

Campbell was sitting in an aisle seat and he waved me toward the platform delightedly, I remember.

I said a few words, referring to myself as the "worst science fiction writer unlynched." I didn't mean it, of course, and I doubt that anyone thought for a moment that I did.

BLACK FRIAR OF THE FLAME

Russell Tymball's eyes were filled with gloomy satisfaction as they gazed at the blackened ruins of what had been a cruiser of the Lhasinuic Fleet a few hours before. The twisted girders, scattered in all directions, were ample witness of the terrific force of the crash.

The pudgy Earthman re-entered his own sleek Strato-rocket and waited. Fingers twisted a long cigar aimlessly for minutes before lighting it. Through the up-drifting smoke, his eyes narrowed and he remained lost in thought. He came to his feet at the sound of a cautious hail. Two men darted in with one last fugitive glance behind them. The door closed softly, and one stepped immediately to the controls. The desolate desert landscape was far beneath them almost at once, and the silver prow of the Strato-rocket pointed for the ancient metropolis of New York.

Minutes passed before Tymball spoke, "All clear?"

The man at the controls nodded. "Not a tyrant ship about.

It's quite evident the 'Grahul' had not been able to radio for help."

"You have the dispatch?" the other asked eagerly.

"We found it easily enough. It is unharmed."

"We also found," said the second man bitterly, "one other thing—the last report of Sidi Peller."

For a moment, Tymball's round face softened and something almost like pain entered his expression. And then it hardened again, "He died! But it was for Earth, and so it was not death. It was martyrdom!"

Silence, and then sadly, "Let me see the report, Petri."

He took the single, folded sheet handed him and held it before him. Slowly, he read aloud: "On September 4, made successful entry into 'Grahul' cruiser of the tyrant fleet. Maintained self in hiding during passage from Pluto to Earth. On September 5, located dispatch in question and assumed possession. Have just shorted rocket jets. Am sealing this report in with dispatch. Long live Earth!"

Tymball's voice was strangely moved as he read the last word. "The Lhasinuic tyrants have never martyred a greater man than Sidi Peller. But we'll be repaid, and with interest The Human Race is not quite decadent yet."

Petri stared out the window. "How did Peller do it all? One man—to stow away successfully upon a cruiser of the fleet and in the face of the entire crew to steal the dispatch and wreck the fleet. How was it done? And we'll never know; except for the bare facts in his report."

"He had his orders," said Willums, as he locked controls and turned about. "I carried them to him on Pluto myself.

Get the dispatch! Wreck the 'Grahul' in the Gobi! He did it! That's all!" He shrugged his shoulders wearily.

The atmosphere of depression deepened until Tymball himself broke it was a growl. "Forget it. Did you take care of everything at the wreck?"

The other two nodded in unison. Petri's voice was businesslike, "All traces of Peller were removed and de-atomized.

They will never detect the presence of a Human among the wreckage. The document itself was replaced by the prepared copy, and carefully burnt beyond recognition. It was even impregnated with silver salts to the exact amount contained in the official seal of the Tyrant Emperor. I'll stake my head that no Lhasinu will suspect that the crash was no accident or that the dispatch was not destroyed by it."

"Good! They won't locate the wreck for twenty-four hours at least. It's an airtight job. Let me have the dispatch now."

He fondled the metalloid container almost with reverence.

It was blackened and twisted, still faintly warm. And then with a savage twist of the wrist, he tore off the lid.

The document that he lifted out unrolled with a rustling sound. At the lower left hand corner was the huge silver seal of the Lhasinuic Emperor himself—the tyrant, who from Vega, ruled one third of the Galaxy. It was addressed to the Viceroy of Sol.

The three Earthmen regarded the fine print solemnly. The harshly angular Lhasinuic script glinted redly in the rays of the setting sun.

"Was I right?" whispered Tymball.

"As always," assented Petri.

Night did not really fall. The sky's black-purple deepened ever so slightly and the stars brightened imperceptibly, but aside from that the stratosphere did not differentiate between the absence and the presence of the sun.

"Have you decided upon the next step?" asked Willums, hesitantly.

"Yes—long ago. I'm going to visit Paul Kane tomorrow, with this," and he indicated the dispatch.

"Loam Paul Kane!" cried Petri.

"That—that Loarist!" came simultaneously from Willums.

"The Loarist," agreed Tymball. "He is our man!"

"Say rather that he is the lackey of the Lhasinu," ground out Willums. "Kane—the head of Loarism—consequently the head of the traitor Humans who preach submission to the Lhasinu."

"That's right," Petri was pale but more calm. "The Lhasinu are our known enemies and are to be met in fair fight—but the Loarists are vermin. Great Space! I would rather throw myself on the mercy of the tyrant Viceroy himself than have anything to do with those snuffling students of ancient history, who praise the ancient glory of Earth and encompass its present degradation."

"You judge too harshly." There was the trace of a smile about Tymball's lips. "I have had dealings with this leader of Loarism before. Oh—" he checked the cries of startled dismay that rose, "I was quite discreet about it. Even you two didn't know, and,

as you see, Kane has not yet betrayed me. I failed in those dealings, but I learned a little bit. Listen to me!"

Petri and Willums edged nearer, and Tymball continued in crisp, matter-of-fact tones, "The first Galactic Drive of the Lhasinu ended two thousand years ago just after the capture of Earth. Since then, the aggression has not been resumed, and the independent Human Planets of the Galaxy are quite satisfied at the maintenance of the status quo. They are too divided among themselves to welcome a return of the struggle.

Loarism itself is only interested in its own survival against the encroachments of newer ways of thought, and it is no great moment to them whether Lhasinu or Human rules Earth as long as Loarism itself prospers. As a matter of fact, we—the Nationalists—are perhaps a greater danger to them in that respect than the Lhasinu."

Willums smiled grimly, "I'll say we are."

"Then, granting that, it is natural that Loarism assume the role of appeasement. Yet, if it were to their interests, they would join us at a second's notice. And this," he slapped the document before him, "is what will convince them where their interests lie."

The other two were silent.

Tymball continued, "Our time is short. Not more than three years, perhaps not more than two. And yet you know what the chances of success for a rebellion today are."

"We'd do it," snarled Petri, and then in a muffled tone, "if the only Lhasinu we had to deal with were those of Earth."

"Exactly. But they can call upon Vega for help, and we can call upon no one. No one of the Human Planets would stir in our defense, any more than they did five hundred years ago.

And that's why we must have Loarism on our side."

"And what did Loarism do five hundred years ago during the Bloody Rebellion?" asked Willums, bitter hatred in his voice. "They abandoned us to save their own precious hides."

"We are in no position to remember that," said Tymball.

"We will have their help now—and then, when all is over, our reckoning with them—"

Willums returned to the controls, "New York in fifteen minutes!" And then, "But I still don't like it. What can those filthy Loarists do? Dried out husks fit for nothing but treason and platitudes!"

"They are the last unifying force of Humanity," answered Tymball. "Weak enough now and helpless enough, but Earth's only chance."

They were slanting downwards now into the thicker, lower atmosphere, and the whistling of the air as it streamed past them became shriller in pitch. Willums fired the braking rockets as they pierced a gray layer of clouds. There upon the horizon was the great diffuse glow of New York City.

"See that our passes are in perfect order for the Lhasinuic inspection and hide the document. They won't search us, anyway."

Loara Paul Kane leaned back in his ornate chair. The slender fingers of one hand played with the ivory paperweight upon his desk. His eyes avoided those of the smaller, rounder man before him, and his voice, as he spoke, took on solemn inflections.

"I cannot risk shielding you longer, Tymball. I have done so until now because of the bond of common Humanity between us, but—" his voice trailed away.

"But?" prompted Tymball.

Kane's fingers turned his paperweight over and over. "The Lhasinu are growing harsher this past year. They are almost arrogant." He looked up suddenly. "I am not quite a free agent, you know, and haven't the influence and power you seem to think I have."

His eyes dropped again, and a troubled note entered his voice, "The Lhasinu suspect. They are beginning to detect the workings of a tightly-knit conspiracy underground, and we cannot afford to become entangled in it."

"I know. If necessary, you are quite willing to sacrifice us as your predecessor sacrificed the patriots five centuries ago.

Once again, Loarism shall play its noble part."

"What good are your rebellions?" came the weary reply.

"Are the Lhasinu so much more terrible than the oligarchy of Humans that rules Santanni or the dictator that rules Trantor? If the Lhasinu are not Human, they are at least intelligent Loarism must live at peace with the rulers."

And now Tymball smiled. There was no humor in it— rather mocking irony, and from his sleeve, he drew forth a small card.

"You think so, do you? Here, read this. It is a reduced photostat of—no, don't touch it—read it as I hold it, and—"

His further remarks were drowned in the sudden hoarse cry from the other. Kane's face twisted alarmingly into a mask of horror, as he snatched-desperately at the reproduction held out to him.

"Where did you get this?" He scarcely recognized his own voice.

"What odds? I have it, haven't I? And yet it cost the life of a brave man, and a ship of His Reptilian Eminence's navy. I believe you can see that there is no doubt as to the genuineness of this."

"No—no!" Kane put a shaking hand to his forehead. "That is the Emperor's signature and seal. It is impossible to forge them."

"You see. Excellency," there was sarcasm in the title, "the renewal of the Galactic Drive is a matter of two years—or three—in the future. The first step in the drive comes within the year—and it is concerning that first step," his voice took on a poisonous sweetness, "that this order has been issued to the Viceroy."

"Let me think a second. Let me think." Kane dropped into his chair.

"Is there the necessity?" cried Tymball, remorselessly. "This is nothing but the fulfillment of my prediction of six months ago, to which you would not listen. Earth, as a Human world, is to be destroyed; its population scattered in groups throughout the Lhasinuic portions of the Galaxy; every trace of Human occupancy destroyed."

"But Earth, Earth, the home of the Human Race; the beginning of our civilization."

"Exactly! Loarism is dying and the destruction of Earth will kill it And with Loarism gone, the last unifying force is destroyed, and the human planets, invincible when united, shall be wiped out, one by one, in the Second Galactic Drive.

Unless—"

The other's voice was toneless.

"I know what you're going to say."

"No more than I said before. Humanity must unite, and can do so only about Loarism. It must have a Cause for which to fight, and that Cause must be the liberation of Earth.

I shall fire the spark here on Earth and you must convert the Human portion of the Galaxy into a powder-keg."

"You wish a Total War—a Galactic Crusade," Kane spoke in a whisper, "yet who should know better than I that a Total War has been impossible for these thousand years." He laughed suddenly, harshly, "Do you know how weak Loarism is today?"

"Nothing is so weak that it cannot be strengthened. Although Loarism has weakened since its great days during the First Galactic Drive, you still have your organization and your discipline; the best in the Galaxy. And your leaders are, as a whole, capable men, I must say that for you. A thoroughly centralized group of capable men, working desperately, can do much. It must do much, for it has no choice."

"Leave me," said Kane, brokenly, "I can do no more now.

I must think." His voice trailed away, but one finger pointed toward the door.

"What good are thoughts?" cried Tymball, irritably. "We need deeds!" And with that, he left.

The night had been a horrible one for Kane. His face was pale and drawn; his eyes hollow and feverishly brilliant. Yet he spoke loudly and firmly.

"We are allies, Tymball."

Tymball smiled bleakly, took Kane's outstretched hand for a moment, and dropped it, "By necessity. Excellency, only. I am not your friend."

"Nor I yours. Yet we may work together. My initial orders have gone out and the Central Council will ratify them. In that direction, at least, I anticipate no trouble."

"How quickly may I expect results?"

"Who knows? Loarism still has its facilities for propaganda.

There are still those who will listen from respect and others from fear, and still others from the mere force of the propaganda itself. But who can say? Humanity has slept, and Loarism as well. There is little anti-Lhasinuic feeling, and it will be hard to drum it up out of nothing."

"Hate is never hard to drum up," and Tymball's moon-face seemed oddly harsh. "Emotionalism! Propaganda! Frank and unscrupulous opportunism! And even in its weakened state, Loarism is rich. The masses may be corrupted by words, but those in high places, the important ones, will require a bit of the yellow metal."

Kane waved a weary hand, "You preach nothing new. That line of dishonor was Human policy far back in the misty dawn of history when only this poor Earth was Human

and even it split into warring segments." Then, bitterly, "To think that we must return to the tactics of that barbarous age."

The conspirator shrugged his shoulders cynically, "Do you know any better?"

"And even so, with all that foulness, we may yet fail."

"Not if our plans are well-laid."

Loara Paul Kane rose to his feet and his hands clenched before him, "Fool! You and your plans! Your subtle, secret, snaky, tortuous plans! Do you think that conspiracy is rebellion, or rebellion, victory? What can you do? You can ferret out information and dig quietly at the roots, but you can't lead a rebellion. I can organize and prepare, but I can't lead a rebellion."

Tymball winced, "Preparation—perfect preparation—"

"—is nothing, I tell you. You can have every chemical ingredient necessary, and all the proper conditions, and yet there may be no reaction. In psychology—particularly mob psychology—as in chemistry, one must have a catalyst."

"What in space do you mean?"

"Can you lead a rebellion?" cried Kane. "A crusade is a war of emotion. Can you control the emotions? Why, you conspirator, you could not stand the light of open warfare an instant. Can I lead the rebellion? I, old and a man of peace? Then who is to be the leader, the psychological catalyst, that can take the dull worthless clay of your precious 'preparation' and breathe life into it?"

Russell Tymball's jaw muscles quivered, "Defeatism! So soon?"

The answer was harsh, "No! Realism!"

There was angry silence and Tymball turned on his heel and left.

It was midnight, ship time, and the evening's festivities were reaching their high point. The grand salon of the superiiner Flaming Nova was filled with whirling, laughing, glittering figures, growing more convivial as the night wore on.

"This reminds me of the triply-damned affairs my wife makes me attend back on Lacto," muttered Sammel Maronni to his companion. "I thought I'd be getting away from some of it, at least out here in hyperspace, but evidently I didn't."

He groaned softly and gazed at the assemblage with a faintly disapproving stare.

Maronni was dressed in the peak of fashion, from purple headsash to sky-blue sandals, and looked exceedingly uncomfortable. His portly figure was crammed into a brilliantly red and terribly tight tunic and the occasional jerks at his wide belt showed that he was only too conscious of its ill fit.

His companion, taller and slimmer, bore his spotless white uniform with an ease born of long experience, and his imposing figure contrasted strongly with the slightly ridiculous appearance of Sammel Maronni. The Lactonian exporter was conscious of this fact. "Blast it, Drake, you've got one fine job here. You dress like a nob and do nothing but look pleasant and answer salutes. How much do you get paid, anyway?"

"Not enough." Captain Drake lifted one gray eyebrow and stared quizzically at the Lactonian. "I wish you had my job for a week or so. You'd sing mighty small after that. If you think taking care of fat dowager damsels and curly-headed society snobs is a bed of

roses, you're welcome to it." He muttered viciously to himself for a moment and then bowed politely to a bejeweled harridan who simpered past. "It's what's grayed my hair and furrowed my brow, by Rigel."

Maronni drew a long Karen smoke out of his waist-pouch and lit up luxuriously. He blew a cloud of apple-green smoke into the Captain's face and smiled impishly.

"I've never heard the man yet who didn't knock his own job, even when it was the pushover yours is, you hoary old fraud. Ah, if I'm not mistaken, the gorgeous Yien Surat is bearing down upon us."

"Oh, pink devils of Sirius! I'm afraid to look. Is that old hag actually moving in our direction?"

"She certainly is—and aren't you the lucky one! She's one of the richest women on Santanni and a widow, too. The uniform gets them, I suppose. What a pity I'm married."

Captain Drake twisted his face into a most frightful grimace, "I hope a chandelier falls on her."

And with that he turned, his expression metamorphosed into one of bland delight in an instant, "Why, Madam Surat, I thought I'd never get the chance to see you tonight."

Yien Surat, for whom the age of sixty was past experience, giggled girlishly, "Be still, you old flirt, or you'll make me forget that I've come here to scold you."

"Nothing is wrong, I hope?" Drake felt a sinking of the heart. He had had previous experience with Madam Surat's complaints. Things usually were wrong.

"A great deal is wrong. I've just been told that in fifty hours, we shall land on Earth—if that's the way you pronounce the word."

"Perfectly correct," answered Captain Drake, a bit more at ease.

"But it wasn't listed as a stop when we boarded."

"No, it wasn't. But then, you see, it's .quite a routine affair.

We leave ten hours after landing."

"But this is insupportable. It will delay me an entire day. It is necessary for me to reach Santanni within the week, and days are precious. Now, I've never heard of Earth. My guide book," she extracted a leather-covered volume from her reticule and flipped its pages angrily, "doesn't even mention the place. No one, I feel sure, has any interest in a halt there.

If you persist in wasting the passengers' time in a perfectly useless stop, I shall take it up with the president of the line.

I'll remind you that I have some little influence back home."

Captain Drake sighed inaudibly. It had not been the first time he had been reminded of Yien Surat's "little influence."

"My dear madam, you are right, entirely right, perfectly right—but I can do nothing. All ships on the Sirius, Alpha Centauri, and 61 Cygni lines must stop at Earth. It is by interstellar agreement, and even the president of the line, no matter how stimulated he may be by your argument, could do nothing."

"Besides," interrupted Maronni, who thought it time to come to the aid of the beleaguered captain, "I believe that we have two passengers who are actually headed for Earth."

"That's right. I had forgotten." Captain Drake's face brightened a bit. "There! We have concrete reason for the stop as well."

"Two passengers out of over fifteen hundred! Reason, indeed!"

"You are unfair," said Maronni, lightly. "After all, it was on Earth that the Human race originated. You know that, I suppose?"

Yien Surat lifted patently false eyebrows, "Did we?"

The blank look on her face twisted to one of disdain, "Oh, well, that was all thousands and thousands of years ago. It doesn't matter any more."

"It does to the Loarists and the two who wish to land are Loarists."

"Do you mean to say," sneered the widow, "that there are still people in this enlightened age who go about studying 'our ancient culture.' Isn't that what they're always talking about?"

"That's what Filip Sanat is always talking about," laughed Maronni. "He gave me a long sermon only a few days ago on that very subject. And it was interesting, too. There was a lot to what he said."

He nodded lightly and continued, "He's got a good head on him, that Filip Sanat. He might have made a good scientist or businessman."

"Speak of meteors and hear them whizz," said the Captain, suddenly, and nodded his head to the right.

"Well!" gasped Maronni. "There he is. But—but what in space is he doing here?"

Filip Sanat did make a rather incongruous picture as he stood framed in the far doorway. His long, dark purple tunic—mark of the Loarist—was a sombre splotch upon an otherwise gay scene. His grave eyes turned toward Maronni and he lifted his hand in immediate recognition.

Astonished dancers made way automatically as he passed, staring at him long and curiously afterwards. One could hear the wake of whispering that he left in his path. Filip Sanat, however, took no notice of this. Eyes fixed stonily ahead of him and expression stolidly immobile, he reached Captain Drake, Sammel Maronni, and Yien Surat. Filip Sanat greeted the two men warmly and then, in response to an introduction, bowed gravely to the widow, who regarded him with surprise and open disdain.

"Pardon me for disturbing you. Captain Drake," said the young man, in a low tone. "I only want to know at what time we are leaving hyperspace."

The captain yanked out a corpulent pocket-chromo. "An hour from now. Not more."

"And we shall then be—?"

"Just outside the orbit of Planet IX."

"That would be Pluto. Sol will then be in sight as we enter normal space?"

"If you're looking in the right direction, it will be—toward the prow of the ship."

"Thank you," Philip Sanat made as if to depart, but Maronni detained him.

"Hold on there, Filip, you're not going to leave us, are you? I'm sure Madam Surat here is fairly dying to ask you several questions. She has displayed a great interest in Loarism."

There was more than the suspicion of a twinkle in the Lactonian's eye.

Filip Sanat turned politely to the widow, who, taken aback for the moment, remained speechless, and then recovered.

"Tell me, young man," she burst forth, "are there really still people like you left?—Loarists, I mean."

Filip Sanat started and stared quite rudely at his questioner, but did lose his tongue. With calm distinctness, he said, "There are still people left who try to maintain the culture and way of life of ancient Earth."

Captain Drake could not forbear a tiny bit of irony, "Even down to the culture of the Lhasinuic masters?"

Yien Surat uttered a stifled scream, "Do you mean to say Earth is a Lhasinuic world? Is it?" Her voice rose to a frightened squeak.

"Why, certainly," answered the puzzled captain, sorry that he had spoken. "Didn't you know?"

"Captain," there was hysteria in the woman's voice. "You must not land. If you do, I shall make trouble—plenty of trouble. I will not be exposed to hordes of those terrible Lhasinu—those awful reptiles from Vega."

"You need not fear. Madam Surat," observed Filip Sanat, coldly. "The vast majority of Earth's population is very much human. It is only the one percent that rules that is Lhasinuic."

"Oh—" A pause, and then, in a wounded manner, "Well, I don't think Earth can be so important, if it is not even ruled by Humans. Loarism indeed! Silly waste of time, I call it!"

Sanat's face flushed suddenly, and for a moment he seemed to struggle vainly for speech. When he did speak, it was in an agitated tone, "You have a very superficial view. The fact that the Lhasinu control Earth has nothing to do with the fundamental problem of Loarism which—"

He turned on his heel and left.

Sammel Maronni drew a long breath as he watched the retreating figure. "You hit him in a sore spot, Madam Surat, I never saw him squirm away from an argument or an attempt at an explanation in that way before."

"He's not a bad looking chap," said Captain Drake.

Maronni chuckled, "Not by a long shot. We're from the same planet, that young fellow and I. He's a typical Lactonian, like me."

The widow cleared her throat grumpily, "Oh, let us change the subject by all means. That person seems to have cast a shadow over the entire room. Why do they wear those awful purple robes? So unstylish!"

Loara Broos Porin glanced up as his young acolyte entered.

"Well?"

"In less than forty-five minutes, Loara Broos."

And throwing himself into a chair, Sanat leaned a flushed and frowning face upon one balled fist.

Porin regarded the other with an affectionate smile, "Have you been arguing with Sammel Maronni again, Filip?"

"No, not exactly." He jerked himself upright. "But what's the use, Loara Broos? There, on the upper level, are hundreds of Humans, thoughtless, gaily dressed, laughing, frolicking; and there outside is Earth, disregarded. Only we two of the entire ship's company are stopping there to view the world of our ancient days."

His eyes avoided those of the older man and his voice took on a bitter tinge, "And once thousands of Humans from every corner of the Galaxy landed on Earth every day. The great days of Loarism are over."

Loara Broos laughed. One would not have thought such a hearty laugh to be in his spindly figure. "That is at least the hundredth time I have heard that said by you. Foolish! The day will come when Earth will once more be remembered.

People will yet again flock. By the thousands and millions they'll come."

"No! It is over!"

"Bah! The croaking prophets of doom have said that over and over again through history. They have yet to prove themselves right."

"This time they will." Sanat's eyes blazed suddenly, "Do you know why? It is because Earth is profaned by the reptile conquerors. A woman has just said to me—a vain, stupid, shallow woman—that I don't think Earth can be so important if it is not even ruled by Humans.' She said what billions must say unconsciously, and I hadn't the words to refute her. It was one argument I couldn't answer."

"And what would your solution be, Filip? Come, have you thought it out?"

"Drive them from Earth! Make it a Human planet once more! We fought them once during the First Galactic Drive two thousand years ago, and stopped them when it seemed as if they might absorb the Galaxy. Let us make a Second Drive of our own and hurl them back to Vega."

Porin sighed and shook his head, "You young hothead! There never was a young Loarist who didn't eat fire on the subject. You'll outgrow it. You'll outgrow it."

"Look, my boy!" Loara Broos arose and grasped the other by the shoulders, "Man and Lhasinu have intelligence, and are the only two intelligent races of the Galaxy. They are brothers in mind and spirit. Be at peace with them. Don't hate; it is the most unreasoning emotion. Instead, strive to understand."

Filip Sanat stared stonily at the ground and made no indication that he heard. His mentor clicked his tongue in gentle rebuke.

"Well, when you are older, you will understand. Now, forget all this, Filip. Remember that the ambition of every real Loarist is about to be fulfilled for you. In two days, we shall reach Earth and its soil shall be under your feet. Isn't that enough to make you happy? Just think! When you return, you shall be awarded the title 'Loara.' You shall be one who has visited Earth. The golden sun will be pinned to your shoulder."

Porin's hand crept to the staring yellow orb upon his own tunic, mute witness of his three previous visits to Earth.

"Loara Filip Sanat," said Sanat slowly, eyes glistening.

"Loara Filip Sanat. It has a wonderful sound, hasn't it? And only a little ways off."

"Now, then, you feel better. But come, in a few moments we shall leave hyperspace and we will see Sol."

Already, even as he spoke, the thick, choking cloak of hyper-stuff that clung so closely to the sides of the Flaming Nova was going through those curious changes that marked the beginning of the shift to normal space. The blackness lightened a bit and concentric rings of various shades of gray chased each other across the port-view with gradually hastening speed. It was a weird and beautiful optical illusion that science has never succeeded in explaining.

Porin clicked off the lights in the room, and the two sat quietly in the dark, watching the feeble phosphorescence of the racing ripples as they sped into a blur. Then, with a terrifying silent suddenness, the whole structure of hyper-stuff seemed to burst apart in a whirling madhouse of brilliant color. And then all was peaceful again. The stars sparkled quietly, against the curved backdrop of normal space.

And up in the corner of the port blazed the brightest spark of the sky with a luminous yellow flame that lit up the faces of the two men into pale, waxen masks. It was Sol! The birth-star of Man was so distant that it lacked a perceptible disc, yet it was incomparably the brightest object to be seen. In its feeble yellow light, the two remained in quiet thought, and Philip Sanat grew calmer.

In two days, the Flaming Nova landed on Earth. Filip Sanat forgot the delicious thrill that had seized him. At the moment when his sandals first came into contact with the firm green sod of Earth, when he caught his first glimpse of a Lhasinuic official.

They seemed actually human—or humanoid, at least.

At first glance, the predominantly Manlike characteristics drowned out all else. The body plan differed in no essential from Man's. The four-limbed, bipedal body; the middling-well proportioned arms and legs; the well-defined neck, were all astonishingly in evidence. It was only after a few minutes that the smaller details marking the difference between the two races were noticed at all.

Chief of these were the scales covering the head and a thick line down the backbone, halfway to the hips. The face itself, with its flat, broad, thinly-scaled nose and lidless eyes was rather repulsive, but in no way bestial. Their clothes were few and simple, and their speech quite pleasant to the ear. And, what was most important, there was no masking the intelligence that showed forth in their dark, luminous eyes.

Porin noted Sanat's surprise at this first glimpse of the Vegan reptiles with every sign of satisfaction.

"You see," he remarked, "their appearance is not at all monstrous. Why should hate exist between Human and Lhasinu, then?"

Sanat didn't answer. Of course, his old friend was right. The word "Lhasinu" had so long been coupled with the words "alien" and "monster" in his mind, that against all knowledge and reason, he had subconsciously expected to see some weird life-form.

Yet, overlying the foolish feeling this realization induced was the same haunting hate that clung closely to him, growing to fury as they passed inspection by an overbearing English-speaking Lhasinu.

The next morning, the two left for New York, the largest city of the planet. In the historic lore of the unbelievably ancient metropolis, Sanat forgot for a day the troubles of the Galaxy outside. It was a great moment for him when he finally stood before a towering structure and said to himself, "This 'is the Memorial."

The Memorial was Earth's greatest monument, dedicated to the birthplace of the Human race, and this was Wednesday, the day of the week when two men "guarded the Flame."

Two men, alone in the Memorial, watched over the flickering yellow fire that symbolized Human courage and Human initiative—and Porin had already arranged that the choice should fall that day upon himself and Sanat, as being two newly-arrived Loarists.

And so, in the fading twilight, the two sat alone in the spacious Flame Room of the Memorial. In the murky semidarkness, lit only by the fitful glare of a dancing yellow flame, a quiet peace descended upon them.

There was something about the brooding aura of the place that wiped all mental disturbance clean away. There was something about the wavering shadows as they weaved through the pillars of the long colonnade on either side, that cast a hypnotic spell.

Gradually, he fell into a half doze, and out of sleepy eyes regarded the Flame intently, until it became a living being of light weaving a dim, silent figure beside him.

But tiny sounds are sufficient to disturb a reverie, especially when contrasted with a hitherto deep silence. Sanat stiffened suddenly, and grasped Porin's elbow in a fierce grip.

"Listen," he hissed the warning quietly.

Porin started violently out of a peaceful day-dream, regarded his young companion with uneasy intentness, then, without a word, trumpeted one ear. The silence was thicker than ever—also a tangible cloak. Then the faintest possible scraping of feet upon marble, far off. A low whisper, down at the limits of audibility, and then silence again.

"What is it?" he asked bewilderedly of Sanat, who had already risen to his feet.

"Lhasinu!" ground out Sanat, face a mask of hate-filled indignation.

"Impossible!" Porin strove to keep his voice coldly steady, but it trembled in spite of itself. "It would be an unheard-of event. We are just imagining things, now. Our nerves are rubbed raw by this silence, that is all. Perhaps it is some official of the Memorial."

"After sunset, on Wednesday?" came Sanat's strident voice.

"That is as illegal as the entrance of Lhasinuic lizards, and far more unlikely. It is my duty as a Guardian of the Flame to investigate this."

He made as if to walk toward the shadowed door, and Porin caught his wrist fearfully, "Don't Filip. Let us forget this until sunrise. One can never tell what will happen. What can you do, even supposing that Lhasinu have entered the Memorial? If you—"

But Sanat was no longer listening. Roughly, he shook off the other's desperate grasp, "Stay here! The Flame must be guarded. I shall be back soon."

He was already half way across the wide, marble-floored hall. Cautiously, he approached the glass-paned door to the dark, twisting staircase that circled its way upwards through the twilit gloom into the desert recesses of the tower.

Slipping off his sandals, he crept up the stairs, casting one last look back toward the softly luminous Flame, and toward the nervous, frightened figure standing beside it.

The two Lhasinu stared about them in the pearly light of the Atomo lamp.

"Dreary old place," said Threg Ban Sola. His wrist camera clicked three times.

"Take down a few of those books on the walls. They'll serve as additional proof."

"Do you think we ought to," asked Cor Wen Hasta. "These Human apes may miss them."

"Let them!" came the cool response. "What can they do? Here, sit down!" He flicked a hasty glance upon his chronometer. "We'll get fifty credits for every minute we stay, so we might as well pile up enough to last us for a while."

"Pirat For is a fool. What made him think we wouldn't take the bet?"

"I think," said Ban Sola, "he's heard about the soldier torn to pieces last year for looting a European museum. The Humans didn't like it, though Loarism is filthy rich, Vega knows."

The Humans were disciplined, of course, but the soldier was dead. Anyway, what Pirat For doesn't know is that the Memorial is deserted Wednesdays. This is going to cost him money."

"Fifty credits a minute. And it's been seven minutes now."

"Three hundred and fifty credits. Sit down. We'll play a game of cards and watch our money mount."

Threg Ban Sola drew forth a worn pack of cards from his pouch which, though they were typically and essentially Lhasinuic, bore unmistakable traces of their Human derivation.

"Put the Atomo-light on the table and I'll sit between it and the window," he continued peremptorily, shuffling the cards as he spoke. "Hah! I'll warrant no Lhasinu ever gamed in such an atmosphere. Why, it will triple the zest of the play."

Cor Wen Hasta seated himself, and then rose again, "Did you hear anything?" He stared into the shadows beyond the half-open door.

"No," Ban Sola frowned and continued shuffling. "You're not getting nervous, are you?"

"Of course not. Still, if they were to catch us here in this blasted tower, it might not be pleasant."

"Not a chance. The shadows are making you jumpy." He dealt the hands.

"Do you know," said Wen Hasta, studying his cards carefully, "it wouldn't be so nice if the Viceroy were to get wind of this, either. I imagine he wouldn't deal lightly with offenders of the Loarists, as a matter of policy. Back on Sirius, where I served before I was shifted, the scum—"

"Scum, all right," grunted Ban Sola. "They breed like flies and fight each other like mad bulls. Look at the creatures!"

He turned his cards downward and grew argumentative. "I mean, look at them scientifically and impartially. What are they? Only mammals! Mammals that can think, in a way; but mammals just the same. That's all."

"I know. Did you ever visit one of the Human worlds?"

Ban Sola smiled, "I may, pretty soon."

"Furlough?" Wen Hasta registered polite astonishment.

"Furlough, my scales. With my ship! And with guns shooting!"

"What do you mean?" There was a sudden glint in Wen Hasta's eyes.

Ban Sola's grin grew mysterious. "This isn't supposed to be known, even among us officers, but you know how things leak out."

Wen Hasta nodded, "I know." Both had lowered their voices instinctively.

"Well. The Second Drive will be on, now, any time."

"No!"

"Fact! And we're starting right here. By Vega, the Viceregal Palace is buzzing with nothing else. Some of the officers have even started a lottery on the exact date of the first move. I've got a hundred credits at twenty to one myself. But then, I drew only to the nearest week. You can get a hundred and fifty to one, if you're nervy enough to pick a particular day."

"But why here on this Galaxy-forsaken planet?"

"Strategy on the part of the Home Office." Ban Sola leaned forward. "The position we're in now has us facing a numerically superior enemy hopelessly divided amongst itself. If we can keep them so, we can take them over one by one. The Human Worlds would just naturally rather cut their own throats than co-operate with each other."

Wen Hasta grinned agreement, "That's typical mammalian behavior for you. Evolution must have laughed when she gave a brain to an ape."

"But Earth has particular significance. It's the center of Loarism, because the Humans originated here. It corresponds to our own Vegan system."

"Do you mean that? But you couldn't! This little two-by-four flyspeck?"

"That's what they say. I wasn't here at the time, so I wouldn't know. But anyway, if we can destroy Earth, we can destroy Loarism, which is centered here. It was Loarism, the historians say, that united the Worlds against us at the end of the First Drive. No Loarism; the last fear of enemy unification is gone; and victory is easy."

"Damned clever! How are we going to go about it?"

"Well, the word is that they're going to pack up every last Human on Earth and scatter them through the subject worlds."

Then we can remove everything else on Earth that smells of the Mammals and make it an entirely Lhasinuic world."

"But when?"

"We don't know; hence the lottery. But no one has placed his bet at a period more than two years in the future."

"Hurrah for Vega! I'll give you two to one I riddle a Human cruiser before you do, when the time comes."

"Done," cried Ban Sola. "I'll put up fifty credits."

They rose to touch fists in token and Wen Hasta grinned at his chronometer, "Another minute and we'll have an even thousand credits coming to us. Poor Pirat For. He'll groan. Let's go now; more would be extortionate."

There was low laughter as the two Lhasinu left, long cloaks swishing softly behind them. They did not notice the slightly darker shadow hugging the wall at the head of the stairs, though they almost brushed it as they passed. Nor did they sense the burning eyes focused upon them as they descended noiselessly.

Loara Broos Porin jerked to his feet with a sob of relief as he saw the figure of Filip Sanat stumble across the hall toward him. He ran to him eagerly, grasping both hands tightly.

"What kept you, Filip? You don't know what wild thoughts have passed through my head this past hour. If you had been gone another five minutes, I would have gone mad for sheer suspense and uncertainty. But what's wrong?"

It took several moments for Loara Broos' wild relief to subside sufficiently to note the other's trembling hands, his disheveled hair, his feverishly-glinting eyes; but when it did, all his fears returned.

He watched Sanat in dismay, scarcely daring to press his question for fear of the answer. But Sanat needed no urging.

In short, jerky sentences he related the conversation he had overheard and his last words trailed into a despairing silence.

Loara Broos' pallor was almost frightening, and twice he tried to talk with no success other than a few hoarse gasps.

Then, finally, "But it is the death of Loarism! What is to be done?"

Filip Sanat laughed, as men laugh when they are at last convinced that nothing remains to laugh at. "What can be done? Can we inform the Central Council? You know only too well how helpless they are. The various Human governments? You can imagine how effective those divided fools would be."

"But it can't be true! It simply can't be!"

Sanat remained silent for seconds, and then his face twisted agonizedly and in a voice thick with passion, he shouted, "I won't have it. Do you hear? It shan't be! I'll stop it!"

It was easy to see that he had lost control of himself; that wild emotion was driving him. Porin, large drops of perspiration on his brow, grasped him about the waist, "Sit down, Filip, sit down! Are you going crazy?"

"No!" With a sudden push, he sent Porin stumbling backwards into a sitting position, while the Flame wavered and flickered madly in the rush of air, "I'm going sane. The time for idealism and compromise and subservience is gone! The time for force has come! We will fight and, by Space, we will win!"

He was leaving the room at a dead run.

Porin limped after, "Philip! Philip!" He stopped at the doorway in frightened despair. He could go no further. Though the Heavens fell, someone must guard the Flame.

But—but what was Filip Sanat going to do? And through Porin's tortured mind flickered visions of a certain night, five hundred years before, when a careless word, a blow, a shot, had lit a fire over Earth that was finally drowned in Human blood.

Loara Paul Kane was alone that night. The inner office was empty; the dim, blue light upon the severely simple desk the only illumination in the room. His thin face was bathed in the ghastly light, and his chin buried musingly between his hands.

And then there was a crashing interruption as the door was flung open and a disheveled Russell Tymball knocked off the restraining hands of half a dozen men and catapulted in. Kane whirled in dismay at the intrusion and one hand flew up to his throat as his eyes widened in apprehension. His face was one startled question.

Tymball waved his arm in a quieting gesture. "It's all right.

Just let me catch my breath." He wheezed a bit and seated himself gently before continuing, "Your catalyst has turned up, Loara Paul—and guess where. Here on Earth! Here in New York! Not half a mile from where we're sitting now!"

Loara Paul Kane eyed Tymball narrowly, "Are you mad?"

"Not so you can notice it. I'll tell you about it, if you don't mind turning on a light or two. You look like a ghost in the blue." The room whitened under the glare of Atomos, and Tymball continued, "Femi and I were returning from the meeting. We were passing the Memorial when it happened, and you can thank Fate for the lucky coincidence that led us to the right spot at the right moment.

"As we passed, a figure shot out the side entrance, jumped on the marble steps in front, and shouted, 'Men of Earth!' Everyone turned to look—you know how filled Memorial Sector is at eleven—and inside of two seconds, he had a crowd."

"Who was the speaker, and what was he doing inside the Memorial? This is Wednesday night, you know."

"Why," Tymball paused to consider, "now that you mention it, he must have been one of the two Guardians. He was a Loarist—you couldn't mistake the tunic. He wasn't Terrestrial, either!"

"Did he wear the yellow orb?"

"No."

"Then I know who he was. He's Porin's young friend. Go ahead."

"There he stood!" Tymball was warming to his task. "He was some twenty feet above street level. You have no idea what an impressive figure he made with the glare of the Luxites lighting his face. He was handsome, but not in an athletic, brawny way. He

was the ascetic type, if you know what I mean. Pale, thin face, burning eyes, long, brown hair.

"And when he spoke! It's no use describing it; in order to appreciate it really, you would have to hear him. He began telling the crowd of the Lhasinuic designs; shouting what I had been whispering. Evidently, he had gotten them from a good source, for he went into details—and how he put them! He made them sound real and frightening. He frightened me with them; had me standing there scared blue at what he was saying; and as for the crowd, after the second sentence, they were hypnotized. Every one of them had 'Lhasinuic Menace' drilled into them over and over again, but this was the first time they listened—actually listened.

"Then he began damning the Lhasinu. He rang the changes on their bestiality, their perfidy, their criminality—only he had a vocabulary that raked them into the lowest mud of a Venusian ocean. And every time he let loose with an epithet, the crowd stood upon its hind legs and let out a roar. It began to sound like a catechism. 'Shall we allow this to go on?' cried he. 'Never!' yelled the crowd. 'Must we yield?' 'Never!' 'Shall we resist?' 'To the end!' 'Down with the Lhasinu!' he shouted.

"Kill them!" they howled.

"I howled as loud as any of them—forgot myself entirely.

"I don't know how long it lasted before Lhasinuic guards began closing in. The crowd turned on them, with the Loarist urging them on. Did you ever hear a mob yell for blood? No? It's the most awful sound you can imagine. The guards thought so, too, for one look at what was before them made them turn and run for their lives, in spite of the fact that they were armed. The mob had grown into a matter of thousands and thousands by then.

"But in two minutes, the alarm siren sounded—for the first time in a hundred years. I came to my senses at last and made for the Loarist, who had not stopped his tirade a moment. It was plain that we couldn't let him fall into the hands of the Lhasinu.

"The rest is pretty much of a mix-up. Squadrons of motorized police were charging down on us, but somehow, Ferni and I managed between the two of us to grab the Loarist, slip out, and bring him here. I have him in the outer room, gagged and tied, to keep him quiet."

During all the last half of the narrative, Kane had paced the floor nervously, pausing every once in a while in deep consideration. Little flecks of blood appeared on his lower lip.

"You don't think," he asked, "that the riot will get out of hand? A premature explosion—"

Tymball shook his head vigorously, "They're mopping up already. Once the young fellow disappeared, the crowd lost its spirit, anyway."

"There will be many killed or hurt, but— Well, bring in the young firebrand." Kane seated himself behind his desk and composed his face into a semblance of tranquility.

Filip Sanat was in sad shape as he knelt before his superior. His tunic was in tatters, and his face scratched and bloody, but the fire of determination shone as

brilliantly as ever in his fierce eyes. Russell Tymball regarded him breathlessly as though the previous hour's magic still lingered.

Kane extended his arm gently, "I have heard of your wild escapade, my boy. What was it that impelled you to do so foolish an act? It might very well have cost you your life, to say nothing of the lives of thousands of others."

"For the second time that night, Sanat repeated the conversation he had overheard—dramatically and in the minutest detail.

"Just so, just so," said Kane, with a grim smile, upon the conclusion of the tale, "and did you think we knew nothing of this? For a long time we have been preparing against this danger, and you have come near to upsetting all our carefully laid plans. By your premature appeal, you might have worked irreparable harm to our cause."

Filip Sanat reddened, "Pardon my inexperienced enthusiasm—"

"Exactly," exclaimed Kane. "Yet, properly directed, you might be of great aid to us. Your oratory and youthful fire might work wonders if well managed. Would you be willing to dedicate yourself to the task?"

Sanat's eyes flashed, "Need you ask?"

Loara Paul Kane laughed and cast a jubilant side-glance at Russell Tymball, "You'll do. In two days, you shall leave for the outer stars. With you, will go several of my own men.

And now, you are tired. You will be taken to where you may wash and treat your cuts. Then, you had better sleep, for you shall need your strength in the days to come."

"But—but Loara Broos Porin—my companion at the Flame?"

"I shall send a messenger to the Memorial immediately. He will tell Loara Broos of your safety and serve as the second Guardian for the remainder of the night. Go, now!"

But even as Sanat, relieved and deliriously happy, rose to go, Russell Tymball leaped from his chair and grasped the older Loarist's wrist in a convulsive grip.

"Great Space! Listen!"

The shrill, keening whine that pierced to the inner sanctum of Kane's offices told its own story. Kane's face turned haggard.

"It's martial law!"

Tymball's very lips had turned bloodless, "We lost out, after all. They're using tonight's disturbance to strike the first blow.

They're after Sanat, and they'll have him. A mouse couldn't get through the cordon they're going to throw about the city now."

"But they mustn't have him." Kane's eyes glittered. "We'll take him to the Memorial by the Passageway. They won't dare violate the Memorial."

"They have done it once already," came Sanat's impassioned cry. "I won't hide from the lizards. Let us fight."

"Quiet," said Kane, "and follow silently."

A panel in the wall had slid aside, and toward it Kane motioned.

And as the panel closed noiselessly behind them, leaving them in the cold glow of a pocket Atomo lamp, Tymball muttered softly, "If they are ready, even the Memorial will yield no protection."

New York was in ferment. The Lhasinuic garrison had mustered its full strength and placed it in a state of siege. No one might enter. No one might leave. Through the key avenues, rolled the ground cars of the army, while overhead poised the Strato-cars that guarded the airways.

The Human population stirred restlessly. They percolated through the streets, gathering in little knots that broke up at the approach of the Lhasinu. The spell of Sanat lingered, and here and there frowning men exchanged angry whispers.

The atmosphere crackled with tension.

The Viceroy of New York realized that as he sat behind his desk in the Palace, which raised its spires upon Washington Heights. He stared out the window at the Hudson River, flowing darkly beneath, and addressed the uniformed Lhasinu before him.

"There must be positive action. Captain. You are right in that. And yet, if possible, an outright break must be avoided.

We are woefully undermanned and we haven't more than five third-rate war-vessels on the entire planet."

"It is not our strength but their own fear that keeps them helpless. Excellency. Their spirit has been thoroughly broken in these last centuries. The rabble would break before a single unit of Guardsmen. That is precisely the reason why we must strike hard now. The population has reared and they must feel the whip immediately. The Second Drive may as well begin tonight."

"Yes," the Viceroy grimaced wryly. "We are caught offstride, but the—er—rabble-rouser must be made an example of. You have him, of course."

The captain smiled grimly, "No. The Human dog had powerful friends. He is a Loarist, you know. Kane—"

"Is Kane standing against us?" Two red spots burnt over the Viceroy's eyes. "The fool presumes! The troops are to arrest the rebel in spite of him—and him, too, if he objects."

"Excellency!" the captain's voice rang metallically. "We have reason to believe the rebel may be skulking in the Memorial."

The Viceroy half-rose to his feet. He scowled in indecision and seated himself once more, "The Memorial! That presents difficulties!"

"Not necessarily!"

"There are some things those Humans won't stand." His voice trailed off uncertainly.

The Captain spoke decisively, "The nettle seized firmly does not sting. Quickly done—a criminal could be dragged from the Hall of the Flame itself—and we kill Loarism at a stroke. There could be no struggle after that supreme defiance."

"By Vega! Blast me, if you're not right. Good! Storm the Memorial!"

The Captain bowed stiffly, turned on his heel, and left the Palace.

Filip Sanat re-entered the Hall of Flame, thin face set angrily, "The entire Sector is patrolled by the lizards. All avenues of approach to the Memorial have been shut off."

Russell Tymball rubbed his jaw, "Oh, they're not fools, They've treed us, and the Memorial won't stop them. As a matter of fact, they may have decided to make this the Day."

Filip frowned and his voice was thickly furious. "And we're to wait here, are we? Better to die fighting, than to die hiding."

"Better not to die at all, Filip." responded Tymball quietly.

There was a moment of silence. Loara Paul Kane sat staring at his fingers.

Finally, he said, "If you were to give the signal to strike now, Tymball, how long could you hold out?"

"Until Lhasinuic reinforcements could arrive in sufficient numbers to crush us. The Terrestrial garrison, including, the entire Solar Patrol, is not enough to stop us. Without outside help, we can fight effectively for six months at the very least.

Unfortunately it's out of the question." His composure was unruffled.

"Why is it out of the question?"

And his face reddened suddenly, as he sprang angrily to his feet, "Because you can't just push buttons. The Lhasinu are weak. My men know that, but Earth doesn't. The lizards have one weapon, fear! We can't defeat them, unless the populace is with us, at least passively." His mouth twisted, "You don't know the practical difficulties involved. Ten years, now, I've been planning, working, trying. I have an army; and a respectable fleet in the Appalachians. I could set the wheels in motion in all five continents simultaneously. But what good would it do? It would be useless. If I had New York, now—if I were able to prove to the rest of Earth that the Lhasinu were not invincible."

"If I could banish fear from the hearts of Humans?" said Kane softly.

"I would have New York by dawn. But it would take a miracle."

"Perhaps! Do you think you can get through the cordon and reach your men?"

"I could if I had to. What are you going to do?"

"You will know when it happens." Kane was smiling fiercely. "And when it does happen, strike!"

There was a Tonite gun in Tymball's hand suddenly, as he backed away. His plump face was not at all gentle, "I'll take a chance, Kane. Good-bye 1"

The captain strode up the deserted marble steps of the Memorial arrogantly. He was flanked on each side by an armed adjutant.

He paused an instant before the huge double-door that loomed up before him and stared at the slender pillars that soared gracefully upwards at its sides.

There was faint sarcasm in his smile, "Impressive, all this, isn't it?"

"Yes, Captain!" was the double reply.

"And mysteriously dark, too, except for the dim yellow of their Flame. You see its light?" He pointed toward the stained glass of the bottom windows, which glinted flickeringly.

"Yes, Captain!"

"It's dark, and mysterious, and impressive—and it is about to fall in ruins." He laughed, and suddenly brought the butt end of his saber down upon the metal carvings on the door in a clanging salvo.

It echoed through the emptiness within and sounded hollowly in the night, but there was no answer.

The adjutant at his left raised his televisor to his ear and caught the faint words issuing therefrom. He saluted, "Captain, the Humans are crowding into the sector."

The captain sneered, "Let them! Order the guns placed in readiness and aimed along the avenues. Any Human attempting to pass the cordon is to be rayed mercilessly."

His barked command was murmured into the televisor, and a hundred yards beyond, Lhasinuic Guardsmen put guns in order and aimed them carefully. A low, inchoate murmur went up—a murmur of fear. Men pressed back.

"If the door does not open," said the captain, grimly, "it is to be broken down." He raised his saber again, and again there was the thunder of metal on metal.

Slowly, noiselessly, the door yawned wide, and the captain recognized the stem, purple-clad figure that stood before him.

"Who disturbs the Memorial on the night of the Guarding of the Flame?" demanded Loara Paul Kane solemnly.

"Very dramatic, Kane. Stand aside!"

"Back!" The words rang out loudly and clearly. "The Memorial may not be approached by the Lhasinu."

"Yield us our prisoner, and we leave. Refuse, and we will take him by force."

"The Memorial yields no prisoner. It is inviolate. You may not enter."

"Make way!"

"Stand back!"

The Lhasinu growled throatily and became aware of a dim roaring. The streets about him were empty, but a block away in every direction was the thin line of Lhasinuic troops, stationed at their guns, and beyond were the Humans. They were massed in noisy thickness and the whites of their faces shone palely in the Chrome-lights.

"What," gritted the captain to himself, "do the scum yet snarl?" His tough skin ridged at the jaws and the scales upon his head uptilted sharply. He turned to the adjutant with the televisor. "Order a round over their heads."

The night was split in two by the purple blasts of energy and the Lhasinu laughed aloud at the silence that followed.

He turned to Kane, who remained standing upon the threshold. "So you see that if you expect help from your people, you will be disappointed. The next round will be aimed at head level. If you think that bluff, try me!"

Teeth clicked together sharply, "Make way!" A Tonite was leveled in his hand, and thumb was firm upon the trigger.

Loara Paul Kane retreated slowly, eyes upon the gun. The captain followed. And as he did so, the inner door of the anteroom swung open and the Hall of the Flame stood

revealed. In the sudden draft, the Flame staggered, and at the sight of it, there came a huge shout from the distant spectators.

Kane turned toward it, face raised upwards. The motion of one of his hands was all but imperceptible.

And the Flame suddenly changed. It steadied and roared up to the vaulted ceiling, a blazing shaft fifty feet high. Loara Paul Kane's hand moved again, and as it did so, the Flame turned carmine. The color deepened and the crimson light of that flaming pillar streamed out into the city and turned the Memorial's windows into staring, bloody eyes.

Long seconds passed, while the captain froze in bewilderment; while the distant mass of Humanity fell into awed silence.

And then there was a confused murmur, which strengthened and grew and split itself into one vast shout.

"Down with the Lhasinu!"

There was the purple flash of a Tonite from somewhere high above, and the captain came to life an instant too late.

Caught squarely, he bent slowly to his death; cold, reptilian face a mask of contempt to the last.

Russell Tymball brought down his gun and smiled sardonically, "A perfect target against the Flame. Good for Kane! The changing of the Flame was just the emotion-stirring thing we needed. Let's go!"

From the roof of Kane's dwelling he aimed down upon the Lhasinu below. And as he did, all Hell erupted. Men mushroomed from the very ground, it seemed, weapons in hand. Tonites blazed from every side, before the startled Lhasinu could spring to their triggers.

And when they did so, it was too late, for the mob, white-hot with flaring rage, broke its bounds. Someone shrieked, "Kill the lizards!" and the cry was taken up in one roaring ululation that swelled to the sky.

Like a many-headed monster, the stream of Humanity surged forward, weaponless. Hundreds withered under the belated fury of the defending guns, and tens of thousands scrambled over the corpses, charging to the very muzzles.

The Lhasinu never wavered. Their ranks thinned steadily under the deadly sharp-shooting of the Tymballists, and those that remained were caught by the Human flood that surged over them and tore them to horrible death.

The Memorial sector gleamed in the crimson of the bloody Flame and echoed to the agony of the dying, and the shrieking fury of the triumphant.

It was the first battle of the Great Rebellion, but it was not really a battle, or even madness. It was concentrated anarchy.

Throughout the city, from the tip of Long Island to the mid-Jersey flatlands, rebels sprang from nowhere and Lhasinu went to their death. And as quickly as Tymball's orders spread to raise the snipers, so did the news of the changing of the Flame speed from mouth to mouth and grow in the telling. All New York heaved, and poured its separate lives into the single giant crucible of the "mob."

It was uncontrollable, unanswerable, irresistible. The Tymballists followed helplessly where it led, all efforts at direction hopeless from the start.

Like a mighty river, it lashed its way through the metropolis, and where it passed no living Lhasinu remained.

The sun of that fateful morning arose to find the masters of Earth occupying a shrinking circle in upper Manhattan. With the cool courage of born soldiers, they linked arms and withstood the charging, shrieking millions. Slowly, they backed away; each building a skirmish; each block a desperate battle.

They split into isolated groups; defending first a building, and then its upper stories, and finally its roof.

With the noonday sun boiling down, only the Palace itself remained. Its last desperate stand held the Humans at bay.

The withering circle of fire about it paved the grounds with blackened bodies. The Viceroy himself from his throne room directed the defense; his own hand upon the butt of a semi-portable.

And then, when the mob had finally come to a pause, Tymball seized his opportunity and took the lead. Heavy guns clanked to the front Atomos and delta-rays, from the rebel stock and from the stores captured the previous night, pointed their death-laden muzzles at the Palace.

Gun answered gun, and the first organized battle of machines flared into desperate fury. Tymball was an omnipresent figure, shouting, directing, leaping from gun-emplacment to gun-emplacment, firing his own band Tonite defiantly at the Palace.

Under a barrage of the heaviest fire, the Humans charged once more and pierced to the walls as the defenders fell back.

An Atomo projectile smashed its way into the central tower and there was a sudden inferno of fire.

That blaze was the funeral pyre of the last of the Lhasinu in New York. The blackening walls of the palace crumbled in, in one vast crash; but to the very last, room blazing about him a face horribly cut, the Viceroy stood his ground, aiming into the thick of the besieging force. And when his semi-portable expended the last dregs of its power and expired, he heaved it out the window in a last futile gesture of defiance, and plunged into the burning Hell at his back.

Above the Palace grounds at sunset, with a yet-roaring furnace as the background, there floated the green flag of independent Earth.

New York was once more Human.

Russell Tymball was a sorry figure when he entered the Memorial once more that night. Clothes in tatters, and bloody from head to foot from the undressed cut on his cheek, he surveyed the carnage about him with sated eyes.

Volunteer squads, occupied in removing the dead and tending to the wounded had not yet succeeded in making more than a dent in the deadly work of the rebellion.

The Memorial was an improvised hospital. There were few wounded, for energy weapons deal death; and of these few, almost none slightly. It was a scene of

indescribable confusion, and the moans of the hurt and dying mingled horribly with the distant yells of celebrating war-drunk survivors.

Loara Paul Kane pushed through the crowding attendants to Tymball.

"Tell me; -is it over?" His face was haggard.

"The beginning is. The Terrestrial Flag flies over the ruins of the Palace."

"It was horrible! The day has—has—" He shuddered and closed his eyes, "If I had known in advance, I would rather have seen Earth dehumanized and Loarism destroyed."

"Yes, it was bad. But the results might have been much more dearly bought, and yet have remained cheap at the price. Where's Sanat?"

"In the courtyard—helping with the wounded. We all are.

It—it—" Again his voice failed him.

There was impatience in Tymball's eyes, and he shrugged weary shoulders, "I'm not a callous monster, but it had to be done, and as yet it is only the beginning. Today's events mean little. The uprising has taken place over most of Earth, but without the fanatic enthusiasm of the rebellion in New York. The Lhasinu aren't defeated, or anywhere near defeated; make no mistake about that Even now the Solar Guard is flashing to Earth, and the forces on the outer planets are being called back. In no time at all, the entire Lhasinuic Empire will converge upon Earth and the reckoning will be a terrible and bloody one. We must have help!"

He grasped Kane by the shoulders and shook him roughly.

"Do you understand? We must have help! Even here in New York the first flush of victory will fade by tomorrow. We must have help!"

"I know," said Kane tonelessly. "I'll get Sanat and he can leave today." He sighed, "If today's action was any criterion of his power as a catalyst, we may expect great events."

Sanat climbed into the little two-man cruiser half an hour later and took his seat beside Petri at the controls.

He extended his hand to Kane a last time, "When I come back it will be with a navy behind me."

Kane grasped the young man's hand tightly, "We depend upon you, Philip." He paused and said slowly, "Good luck, Loara Filip Sanat!"

Sanat flushed with pleasure at the title as he resumed his seat once more. Petri waved and Tymball called out, "Watch out for the Solar Guard!"

The airlock clanged shut, and then, with a coughing roar, the pigmy cruiser was off into the heavens.

Tymball followed it to where it dwindled into a speck and less and then turned to Kane. "All is now in the hands of Fate. And, Kane, just how was that Changing of the Flame worked? Don't tell me the Flame turned red of itself."

Kane shook his head slowly, "No! That carmine blaze was the result of opening a hidden pocket of strontium salts, originally placed there to impress the Lhasinu in case of need.

The rest was chemistry."

Tymball laughed grimly, "You mean the rest was mob psychology! And the Lhasinu, I think, were impressed— and how!"

Space itself gave no warning, but the mass-detector buzzed.

It buzzed peremptorily and insistently. Petri stiffened in his seat and said, "We're in none of the meteor zones."

Filip Sanat held his breath as the other turned the knob that rotated the peri-rotor. The star-field in the 'visor shifted with slow dignity, and then they saw it.

It glinted in the sun like half a tiny, orange football, and Petri growled, "If they've spotted us, we're sunk."

"Lhasinuic ship?"

"Ship? That's no ship! That's a fifty-thousand ton battle cruiser! What in the Galaxy it's doing here, I don't know.

Tymball said the Patrol bad made for Earth."

Sanat's voice was calm, "That one hasn't. Can we outrage it?"

"Fat chance!" Petri's fist clenched white on the G-stick.

"They're coming closer."

The words might have been a signal. The audiometer jiggled and the harsh Lhasinuic voice started from a whisper and rose to stridence as the radio beam sharpened, "Fire reverse motors and prepare for boarding!"

Petri released the controls and shot a look at Sanat, "I'm only the chauffeur. What do you want to do? We haven't the chance of a meteor against the sun—but if you like the gamble—"

"Well," said Sanat, simply, "we're not going to surrender, are we?"

The other grinned, as the decelerating rockets blasted, "Not bad for a Loarist! Can you shoot a mounted Tonite?"

"I've never tried!"

"Well, then, learn how. Grab that little wheel over there and keep your eye on the small 'visor above. See anything?"

Speed was steadily dropping and the enemy ship was approaching.

"Just stars!"

"All right, rotate the wheel—go ahead, further. Try the other direction. Do you see the ship now?"

"Yes! There it is."

"Good! Now center it. Get it where the hairlines cross, and for the sake of Sol, keep it there. Now I'm going to turn toward the lizard scum," siderockets blasted as he spoke, "and you keep it centered."

The Lhasinuic ship was bloating steadily, and Petri's voice descended to a tense whisper, "I'm dropping our screen and lunging directly at her. It's a gamble. If they're sufficiently startled, they may drop their screen and shoot; and if they shoot in a hurry, they may miss."

Sanat nodded silently.

"Now the second you see the purple flash of the Tonite, pull back on the wheel. Pull back hard; and pull back fast. If you're the tiniest trifle late, we're through." He shrugged, "It's a gamble!"

With that, he slammed the G-stick forward hard and shouted, "Keep it centered!"

Acceleration pushed Sanat back gaspingly, and the wheel in his sweating hands responded reluctantly to pressure. The orange football wobbled at the center of the 'visor. He could feel his hands trembling, and that didn't help any. Eyes winced with tension.

The Lhasinuic ship was swelling terribly now, and then, from its prow, a purple sword leaped toward them. Sanat closed his eyes and jerked backwards.

He kept his eyes closed and waited. There was no sound.

He opened them and started to his feet; for Petri, arms akimbo, was laughing down upon him.

"A beginner's own luck," he laughed. "Never held a gun before in his life and knocks out a heavy cruiser in as pretty a pink as I ever saw."

"I hit it?" gasped Sanat.

"Not on the button, but you did disable it. That's good enough. And now, just as soon as we get far enough away from the sun, we're going into hyperspace."

The tall, purple-clad figure standing by the central port view gazed longingly at the silent globe without. It was Earth, huge, gibbous, glorious.

Perhaps his thoughts were just a trifle bitter as he considered the six-month period that had just passed. It had begun with a nova-blaze. Enthusiasm kindled to white heat and spread, leaping the stellar gulfs from planet to planet as fast as the hyper-atomic beam. Squabbling governments, sudden putty before the outraged clamoring of their peoples, outfitted fleets.

Enemies of centuries made sudden peace and flew under the same green flag of Earth.

Perhaps it would have been too much to expect this love feast to continue. While it did the Humans were irresistible, One fleet was not two parsecs from Vega itself; another had captured Luna and hovered one light-second above the Earth, where Tymball's ragged revolutionaries still held on doggedly.

Filip Sanat sighed and turned at the sound of a step. White-haired Ion Smitt of the Lactonian contingent entered.

"Your face tells the story," said Sanat.

Smitt shook his head, "It seems hopeless."

Sanat turned away again, "Did you know that we've gotten word from Tymball today? They're fighting on what they can filch from the Lhasinu. The lizards have captured Buenos Aires, and all South America seems likely to go under their heel. They're disheartened—the Tymballists—and disgusted, and I am, too." He whirled suddenly, "You say that our new needle-ships insure victory. Then, why don't we attack?"

"Well, for one thing," the grizzled soldier planted one booted leg on the chair next to him, "the reinforcements from Santanni are not coming."

Sanat started, "I thought they were on their way. What happened?"

'The Santannian government has decided its fleet is required for home defense.' A wry smile accompanied his words.

"What home defense? Why, the Lhasinu are five hundred parsecs away from them."

Smitt shrugged, "An excuse is an excuse and need not make sense. I didn't say that was the real reason."

Sanat brushed his hair back and his fingers strayed to the yellow sun upon his shoulder, "Even so! We could still fight, with over a hundred ships. The enemy outnumber us two to one, but with the needle-ships and with Lunar Base at our backs and the rebels harassing them in the rear—" He fell into a brooding reverie.

"You won't get them to fight, Filip. The Trantorian squadron favors retreat." His voice was suddenly savage, "Of the entire fleet, I can trust only the twenty ships of my own squadron—the Lactonian. Oh, Filip, you don't know the dirt of it—you never have known. You've won the people to the Cause, but you've never won the governments. Popular opinion forced them in, but now that they are in, they're in only for what they can get."

"I can't believe that, Smitt. With victory in their grasp—"

"Victory? Victory for whom? It is exactly over that bone that the planets are squabbling. At a secret convention of the nations, Santanni demanded control of all the Lhasinuic worlds of the Sirius sector—none of which have been recognized as yet—and was refused. Ah, you didn't know that Consequently, she decides that she must take care of her home defense, and withdraws her various squadrons."

Filip Sanat turned away in pain, but Ion Smitt's voice hammered on, hard, unmerciful.

"And then Trantor realizes that she hates and fears Santanni more than ever she did the Lhasinu and any day now she will withdraw her fleet to refrain from crippling them while her enemy's ships remain quietly and safely in port. The Human nations are falling apart," the soldier's fist came down upon the table, "like rotten cloth. It was a fool's dream to think that the selfish idiots could ever unite for any worthy purpose long."

Sanat's eyes were suddenly calculating slits, "Wait a while! Things will yet work out all right, if we can only manage to seize control of Earth. Earth is the key to the whole situation." His fingers drummed upon the table edge. "Its capture would provide the vital spark. It would drum up Human enthusiasm, now lagging, to the boiling point, and the Governments,—well, they would either have to ride the wave, or be dashed to pieces."

"I know that. If we fought today, you have a soldier's word we'd be on Earth tomorrow. They realize it, too, but they won't fight"

'Then—then they must be made to fight. The only way they can be made to fight is to leave no alternative. They won't fight now, because they can retreat whenever they wish, but if—'

He suddenly looked up, face aglow, "You know, I haven't been out of the Loarist tunic in years. Do you suppose your clothes will fit me?"

Ion Smitt looked down upon his ample girth and grinned, "Well, they might not fit you, but they'll cover you all right.

What are you thinking of doing?"

"I'll tell you. It's a terrible chance, but— Relay the following orders immediately to the Lunar Base garrison—"

The admiral of the Lhasinuic Solar squadron was a war-scarred veteran who hated two things above all else: Humans and civilians. The combination, in the person of the tall, slender Human in ill-fitted clothing, put a scowl of dislike upon his face.

Sanat wriggled in the grasp of the two Lhasinuic soldiers.

"Tell them to let go," he cried in the Vegan tongue. "I am unarmed."

"Speak," ordered the admiral in English. "They do not understand your language" Then, in Lhasinuic to the soldiers, "Shoot when I give the word."

Sanat subsided, "I came to discuss terms."

"I judged as much when you hoisted the white flag. Yet you come in a one-man cruiser from the night side of your own fleet, like a fugitive. Surely, you cannot speak for your fleet."

"I speak for myself."

"Then I give you one minute. If I am not interested by the end of that time, you will be shot." His expression was stony.

Sanat tried once more to free himself, with little success.

His captors tightened their grips.

"Your situation," said the Earthman, "is this. You can't attack the Human squadron as long as they control Lunar Base, without serious damage to your own fleet, and you can't risk that with a hostile Earth behind you. At the same time, I happen to know that the order from Vega is to drive the Humans from the Solar System at all costs, and that the Emperor dislikes failures."

"You have ten seconds left," said the admiral, but tell-tale red spots appeared above his eyes.

"All right, then," came the hurried response, "how's this? What if I offer you the entire Human Fleet caught in a trap?"

There was silence. Sanat went on, "What if I show you how you can take over Lunar Base, and surround the Humans?"

"Go on!" It was the first sign of interest the admiral had permitted himself.

"I am in command of one of the squadrons and I have certain powers. If you'll agree to our terms, we can have the Base deserted within twelve hours. Two ships," the Human raised two fingers impressively, "will take it"

"Interesting," said the Lhasinu, slowly, "but your motive? What is your reason for doing this?"

Sanat thrust out a surly under-lip, "That would not interest you. I have been ill-treated and deprived of my rights. Besides," his eyes glittered, "Humanity's is a lost cause, anyway."

For this I shall expect payment—ample payment. Swear to that, and the fleet is yours."

The admiral glared his contempt 'There is a Lhasinuic proverb: The Human is steadfast in nothing but his treachery.

Arrange your treason, and I shall repay. I swear by the word of a Lhasinuic soldier. You may return to your ships."

With a motion, he dismissed the soldiers and then stopped them at the doorway, "But remember, I risk two ships. They mean little as far as my fleet's strength is concerned, but, nevertheless, if harm comes to a Lhasinuic head through Human treachery—" The scales on his head were stiffly erect and Sanat's eyes dropped beneath the other's cold stare.

For a long while, the admiral sat alone and motionless.

Then he spat 'This Human filth! It is a disgrace even to fight them!"

The Flagship of the Human fleet lazed one hundred miles above Luna, and within it the captains of the Squadrons sat about the table and listened to Ion Smitt's shouted indictment.

"—I tell you your actions amount to treason. The battle off Vega is progressing, and if the Lhasinu win, their Solar squadron will be strengthened to the point where we must retreat. And if the Humans win, our treachery here exposes their flank and renders the victory worthless. We can win, I tell you. With these new needle-ships—"

The sleepy-eyed Trantorian leader spoke up. "The needleships have never been tried before. We cannot risk a major battle on an experiment, when the odds are against us."

"That wasn't your original view, Porcut. You—yes, and the rest of you as well—are a cowardly traitor. Cowards! Cravens!"

A chair crashed backwards as one arose in anger and others followed. Loara Filip Sanat, from his vantage-point at the central port, from where he watched the bleak landscape of Luna below with devouring concentration, turned in alarm.

But Jem Porcut raised a gnarled hand for order.

"Let's stop fencing," he said. "I represent Trantor, and I take orders only from her. We have eleven ships here, and Space knows how many at Vega. How many has Santanni got? None! Why is she keeping them at home? Perhaps to take advantage of Trantor's preoccupation. Is there anyone who hasn't heard of her designs against us? We're not going to destroy our ships here for her benefit. Trantor will not fight! My division leaves tomorrow! Under the circumstances, the Lhasinu will be glad to let us go in peace."

Another spoke up, "And Poritta, too. The treaty of Draconis has hung like neutronium around our neck these twenty years. The imperialist planets refuse revision, and we will not fight a war which is to their interest only."

One after another, surly exclamations dinned the perpetual refrain, "Our interests are against it! We will not fight!"

And suddenly, Loara Filip Sanat smiled. He had turned away from Luna and laughed at the snarling arguers.

"Sirs," he said, "no one is leaving."

Ion Smitt sighed with relief and sank back in his chair.

"Who will stop us?" asked Porcut with disdain.

"The Lhasinu! They have just taken Lunar Base and we are surrounded."

The room was a babble of dismay. Shouting confusion held sway and then one roared above the rest, "What of the garrison?"

"The garrison had destroyed the fortifications and evacuated hours before the Lhasinu took over. The enemy met with no resistance."

The silence that followed was much more terrifying than the cries that had preceded. "Treason," whispered someone.

"Who is at the bottom of this?" One by one they approached Sanat. Fists clenched. Faces flushed. "Who did this?"

"I did," said Sanat, calmly.

A moment of stunned disbelief. "Dog!"

"Pig of a Loarist!"

"Tear his guts out!"

And then they shrank back at the pair of Tonite guns that appeared in Ion Smitt's fists. The burly Lactonian stepped before the younger man.

"I was in on this, too," he snarled. "You'll have to fight now. It is necessary to fight fire with fire sometimes, and Sanat fought treason with treason."

Jem Porcut regarded his knuckles carefully and suddenly chuckled, "Well, we can't wriggle out now, so we might as well fight. Except for orders, I wouldn't mind taking a crack at the damn lizards."

The reluctant pause was followed by shamefaced shouts—proof-positive of the willingness of the rest.

In two hours, the Lhasinuic demand for surrender had been scornfully rejected and the hundred ships of the Human squadron spread outwards on the expanding surface of an imaginary sphere—the standard defense formation of a surrounded fleet—and the Battle for Earth was on.

A space-battle between approximately equal forces resembles in almost every detail a gigantic fencing match in which controlled shafts of deadly radiation are the rapiers and impermeable walls of etheric inertia are the shields.

The two forces advance to battle and maneuver for position.

Then the pale purple of a Tonite beam lashes out in a blaze of fury against the screen of an enemy ship, and in so doing, its own screen is forced to blink out. For that one instant it is vulnerable and is a perfect target for an enemy ray, which, when loosed, renders its ship open to attack for the moment.

In widening circles, it spreads. Each unit of the fleet, combining speed of mechanism with speed of human reaction, attempts to slip through at the crucial moment and yet maintain its own safety.

Loara Filip Sanat knew all this and more. Since his encounter with the battle cruiser on the way out from Earth, he had studied space war, and now, as the battle fleets fell into line, he felt his very fingers twitch for action.

He turned and said to Smitt, "I'm going down to the big guns."

Smitt's eye was on the grand 'visor, his hand on the etherwave sender, "Go ahead, if you wish, but don't get in the way."

Sanat smiled. The captain's private elevator carried him to the gun levels, and from there it was five hundred feet through an orderly mob of gunners and engineers to Tonite One.

Space is at a premium in a battleship. Sanat could feel the crampedness of the room in which individual Humans dovetailed their work smoothly to create the gigantic machine that was a giant dreadnaught.

He mounted the six steep steps to Tonite One and motioned the gunner away. The gunner hesitated; his eye fell upon the purple tunic, and then he saluted and backed reluctantly down the steps.

Sanat turned to the coordinator at the gun's visiplat, "Do you mind working with me? My speed of reaction has been tested and grouped 1-A. I have my rating card, if you'd care to see it."

The coordinator flushed and stammered, "No, sir! It's an honor to work with you, sir."

The amplifying system thundered, "To your stations!" and a deep silence fell, in which the cold purr of machinery sounded its ominous note.

Sanat spoke to the coordinator in a whisper, "This gun covers a full quadrant of space, doesn't it?"

"Yes, sir."

"Good, see if you can locate a dreadnaught with the sign of a double sun in partial eclipse."

There was a long silence. The coordinator's sensitive hands were on the Wheel, delicate pressure turning it this way and that, so that the field in view on the visiplat shifted. Keen eyes scanned the ordered array of enemy ships.

"There it is," he said. "Why, it's the flagship."

"Exactly! Center that ship!"

As the Wheel turned, the space-field reeled, and the enemy flagship wobbled toward the point where the hairlines crossed.

The pressure of the coordinator's fingers became lighter and more expert.

"Centered!" he said. Where the hairlines crossed the tiny oval globe remained impaled.

"Keep it that way!" ordered Sanat, grimly. "Don't lose it for a second as long as it stays in our quadrant. The enemy admiral is on that ship and we're going to get him, you and I."

The ships were getting within range of each other and Sanat felt tense. He knew it was going to be close—very close. The Humans had the edge in speed, but the Lhasinu were two to one in numbers.

A flickering beam shot out, another, ten more.

There was a sudden blinding flash of purple intensity! "First hit," breathed Sanat. He relaxed. One of the enemy ships drifted off helplessly, its stem a mass of fused and glowing metal.

The opposing ships were not at close grips. Shots were being exchanged at blinding speed. Twice, a purple beam showed at the extreme limits of the visiplat and Sanat realized with a queer sort of shiver down his spine that it was one of the adjacent Tonites of their own ship that was firing.

The fencing match was approaching a climax. Two flashes blazed into being, almost simultaneously, and Sanat groaned.

One of the two had been a Human ship. And three times there came that disquieting hum as Atomo-engines in the lower level shot into high gear—and that meant that an enemy beam directed at their own ship had been stopped by the screen.

And, always, the coordinator kept the enemy flagship centered. An hour passed; an hour in which six Lhasinu and four Human ships had been whiffed to destruction; an hour in which the Wheel turned fractions of a degree this way, that way; in which it swivelled on its universal socket mere hairlines in half a dozen directions.

Sweat matted the coordinator's hair and got into his eyes; his fingers half-lost all sensation, but that flagship never left the ominous spot where the hairlines crossed.

And Sanat watched; finger on trigger—watched—and waited.

Twice the flagship had glowed into purple luminosity, its guns blazing and its defensive screen down; and twice Sanat's finger had quivered on the trigger and refrained. He hadn't been quick enough.

And then Sanat rammed it home and rose to his feet tensely. The coordinator yelled and dropped the Wheel.

In a gigantic funeral pyre of purple-hued energy, the flagship with the Lhasinuic Admiral inside had ceased to exist.

Sanat laughed. His hand went out, and the coordinator's came to meet it in a firm grasp of triumph.

But the triumph did not last long enough for the coordinator to speak the first jubilant words that were welling up in his throat, for the visiplat burst into a purple bombshell as five Human ships detonated simultaneously at the touch of deadly energy shafts.

The amplifiers thundered, "Up screens! Cease firing! Ease into Needle formation!"

Sanat felt the deadly pall of uncertainty squeeze his throat.

He knew what had happened. The Lhasinu had finally managed to set up their big guns on Lunar Base; big guns with three times the range of even the largest ship guns—big guns that could pick off Human ships with no fear of reprisal.

And so the fencing match was over, and the real battle was to start. But it was to be a real battle of a type never before fought, and Sanat knew that that was the thought in every man's mind. He could see it in their grim expressions and feel it in their silence.

It might work! And it might not! The Earth squadron had resumed its spherical formation and drifted slowly outwards, its offensive batteries silent.

The Lhasinu swept in for the kill. Cut off from power supply as the Earthmen were, and unable to retaliate with the gigantic guns of the Lunar batteries commanding near-by space, it seemed only a matter of time before either surrender or annihilation.

The enemy Tonite beams lashed out in continuous blasts of energy, and tortured screens on Human ships sparked and fluoresced under the harsh whips of radiation.

Sanat could hear the buzz of the Atomo-engines rise to a protesting squeal. Against his will, his eye flicked to the energy gauge, and the quivering needle sank as he watched, moving down the dial at perceptible speed.

The coordinator licked dry Ups, "Do you think we'll make it, sir?"

"Certainly!" Sanat was far from feeling his expressed confidence. "We need hold out for an hour—provided they don't fall back."

And the Lhasinu didn't. To have fallen back would have meant a thinning of the lines, with a possible break-through and escape on the part of the Humans.

The Human ships were down to crawling speed—scarcely above a hundred miles an hour. Idling along, they crept up the purple beams of energy, the imaginary sphere increasing in size, the distance between the opposing forces ever narrowing.

But inside the ship, the gauge-needle was dropping rapidly, and Sanat's heart dropped with it. He crossed the gun level to where hard-bitten soldiers waited at a gigantic and gleaming lever, in anticipation of an order that had to come soon—or never.

The distance between opponents was now only a matter of one or two miles—almost contact from the viewpoint of space warfare—and then that order shot over the shielded etheric beams from ship to ship.

It reverberated through the gun level: "Out needles!"

A score of hands reached for the lever, Sanat's among them, and jerked downwards. Majestically, the lever bent in a curving arc to the floor and as it did so, there was a vast scraping noise and a sharp thud that shook the ship.

The dreadnaught had become a "needle ship!"

At the prow, a section of armor plate had slid aside and a glittering shaft of metal had lunged outward viciously. One hundred feet long, it narrowed gracefully from a base ten feet in diameter to a needle-sharp diamond point. In the sunlight, the chrome-steel of the shaft gleamed in flaming splendor.

And every other ship of the Human squadron was likewise equipped. Each had become ten, fifteen, twenty, fifty thousand tons of driving rapier.

Swordfish of space! Somewhere in the Lhasinuic fleet, frantic orders must have been issued. Against this Oldest of all naval tactics—old even in the dim dawn of history when rival triremes had maneuvered and rammed each other to destruction with pointed prows—the super-modern equipment of a space-fleet has no defense.

Sanat forced his way to the visiplat and strapped himself into an anti-acceleration seat, and he felt the springs absorb the backward jerk as the ship sprang into sudden acceleration.

He didn't bother with that, though. He wanted to watch the battle! There wasn't one here, nor anywhere in the Galaxy, that risked what he did. They risked only their lives; and he risked a dream that he had, almost single-handed, created out of nothing.

He had taken an apathetic Galaxy and driven it into revolt against the reptile. He had taken an Earth on the point of destruction and dragged it from the brink, almost unaided. A Human victory would be a victory for Loara Filip Sanat and no one else.

He, and Earth, and the Galaxy were now lumped into one and thrown into the scale. And against it was weighed the outcome of this last battle, a battle hopelessly lost by his own purposeful treachery, unless the needles won.

And if they lost, the gigantic defeat—the ruin of Humanity —was also his.

The Lhasinuic ships were jumping aside, but not fast enough. While they were slowly gathering momentum and drifting away, the Human ships had cut the distance by three quarters. On the screen, a Lhasinuic ship had grown to colossal proportions. Its purple whip of energy had gone out as every ounce of power had gone into a man-killing attempt at rapid acceleration.

And nevertheless its image grew and the shining point that could be seen at the lower end of the screen aimed like a glittering javelin at its heart.

Sanat felt he could not bear the tension. Five minutes and he would take his place as the Galaxy's greatest hero—or its greatest traitor! There was a horrible, unbearable pounding of blood in his temples.

Then it came.

Contact!! The screen went wild in a chaotic fury of twisted metal. The anti-acceleration seats shrieked as springs absorbed the shock. Things cleared slowly. The screen view veered wildly as the ship slowly steadied. The ship's needle had broken, the jagged stump twisted awry, but the enemy vessel it had pierced was a gutted wreck.

Sanat held his breath as he scanned space. It was a vast sea ; of wrecked ships, and on the outskirts tattered remnants of the enemy were in flight, with Human ships in pursuit.

There was the sound of colossal cheering behind him and a pair of strong hands on his shoulders.

He turned. It was Smitt—Smitt, the veteran of five wars, with tears in his eyes.

"Filip," he said, "we've won. We've just received word from Vega. The Lhasinuic Home Fleet has been smashed— and also with the needles. The war is over, and we've won! You've won, Filip! You!"

His grip was painful, but Loara Filip Sanat did not mind that. For a single, ecstatic moment, he stood motionless, face transfigured.

Earth was free! Humanity was saved!

THE END

For some reason, possibly because of the awful title, for which I emphatically disclaim responsibility, "Black Friar of the Flame" is taken as the quintessence of my early incompetence. At least, fans who come across a copy think they can embarrass me by referring to it.

Well, it isn't good, I admit, but it has its interesting points.

For one thing, it is an obvious precursor to my successful "Foundation" series. In "Black Friar of the Flame," as in the "Foundation" series, human beings occupy many planets; and two worlds mentioned in the former, Trantor and Santanni, also play important roles in the latter. (Indeed, the first of the "Foundation" series was to appear only a couple of months after "Black Friar of the Flame," thanks to the delay in selling the latter.) Furthermore, there is also a strong suggestion in "Black Friar of the Flame" of my first book-length novel, Pebble in the Sky, which was to appear eight years later. In both, the situation I pictured on Earth was inspired by that of Judea under the Romans. The climactic battle in "Black Friar of the Flame," however, was inspired by that of the Battle of Salamis, the great victory of the Greeks over the Persians. In telling future-history I always felt it wisest to be guided by past-history. This was true in the "Foundation" series, too.) "Black Friar of the Flame" cured me forever, by the way, of attempting repeated revisions. There may well be a connection between the consensus that the story is a poor one and the fact that it was revised six times. I know that there are writers who revise and revise and revise, polishing everything to a high gloss, but I can't do that.

It is my habit now to begin by typing a first draft without an outline. I compose freely on the typewriter though I am frequently questioned about this by readers who seem to think an initial draft can be only in pencil. Actually, writing by hand begins to hurt my wrist after fifteen minutes or so, is very slow, and is hard to read. I can type, on the other hand, ninety words a minute and keep that up for hours without difficulty. As for outlines, I tried one once and it was disastrous, like trying to play the piano from inside a straitjacket.

Having completed the first draft, I go over it and correct it in pen and ink. I then retype the whole thing as the final copy. I revise no more, of my own volition. If an editor asks for a clearly defined revision of a minor nature, with the philosophy of which I agree, I oblige. A request for a major, top-to-bottom revision, or a second revision after the first, is another matter altogether. Then I do refuse.

This is not out of arrogance or temperament. It is just that too large a revision, or too many revisions, indicate that the piece of writing is a failure. In the time it would take to salvage such a failure, I could write a new piece altogether and have infinitely more fun in the process. (Doing a revision is something like chewing used gum.) Failures are therefore put to one side and held for possible sale elsewhere—for what is a failure to one editor is not necessarily a failure to another.

About the time I was working on "Black Friar of the Flame" I was becoming enmeshed in fan activities. I had joined an organization called "The Futurians," which contained a group of ardent science fiction readers, almost all of whom were to become

important in the field as writers or editors or both. Included among them were Frederic Pohl, Donald A. Wollheim, Cyril Kornbluth, Richard Wilson, Damon Knight, and so on.

As I had occasion to say before, I became particularly friendly with Pohl. During the spring and summer of 1939, he visited me periodically, looking over my manuscripts and announcing that I had the "best bunch of rejected stories" he had ever seen.

The possibility began to arise that he might be my agent.

He was no older than myself, but he had a great deal more practical experience with editors and knew a great deal more about the field. I was tempted, but was afraid this might mean I would not be allowed to see Campbell any more, and I valued my monthly visits with him too much to risk it.

In May 1939 I wrote a story I called "Robbie," and on the twenty-third of that month I submitted it to Campbell. It was the first robot story I had ever written and it contained the germ of what later came to be known as the "Three Laws of Robotics." Fred read my carbon and at once said it was a good story but that Campbell would reject it because it had a weak ending plus other shortcomings. Campbell did reject it on June 6, for precisely the reasons Pohl had given me.

(A decade later he became my agent again for a few years. I never enjoyed being represented, however, and except for Pohl on these two occasions, I have never had an agent, despite the vast and complicated nature of my writing commitments. Nor do I intend ever having one.)

I was very impressed by that, and any hesitation I had with respect to letting him represent me vanished—but I specified that his agent ship must be confined to editors other than Campbell.

I gave him "Robbie" after the rejection, but he didn't succeed in selling it either, though he even submitted it to a British science fiction magazine (something I would myself never have thought of doing). In October 1939, however, he himself became editor of *Astonishing Stories* and *Super Science Stories*, and he therefore ceased being my agent. On March 25, 1940, however, he did as editor what he couldn't do as agent. He placed the story—by taking it himself.

It appeared in *Super Science Stories* under a changed title. (Pohl was always changing titles.) He called the story "Strange Playfellow," a miserable choice, in my opinion.

Eventually the story was included as the first of the nine connected "positronic robot" series that made up my book *I, Robot*. In the book, I restored the title to the original "Robbie," and it has appeared as "Robbie" in every form in which the story has been published since.

Fifteen years later, a daughter was born to me. She was named Robyn and I call her Robbie. I have been asked more than once whether there is a connection. Did I deliberately give her a name close to "robot" because I made such a success of my robot stories? The answer is a flat negative. The whole thing is pure coincidence.

One more thing—In the course of my meeting with Campbell on June 6, 1939 (the one in which he rejected "Robbie"), I met a by then quite well established science fiction

writer, L. Sprague de Camp. That started a close friendship —perhaps my closest within the science fiction fraternity— that has continued to this day.

In June 1939 I wrote "Half-Breed" and decided to give Fred Pohl a fair chance. I did not submit it to Campbell, but gave it to Pohl directly to see what he could do with it. He tried *Amazing*, which rejected it. So I took it back and tried Campbell in the usual direct fashion. Campbell rejected it, too.

When Pohl became an editor, however, he announced the fact to me (on October 27, 1939) by saying that he was taking "Half-Breed." In later months he also took first "Robbie," then "The Callistan Menace." He bought seven stories from me altogether during his editorial tenure.

HALF-BREED

Jefferson Scanlon wiped a perspiring brow and took a deep breath. With trembling finger, he reached for the switch—and changed his mind. His latest model, representing over three months of solid work, was very nearly his last hope. A good part of the fifteen thousand dollars he had been able to borrow was in it. And now the closing of a switch would show whether he won or lost Scanlon cursed himself for a coward and grasped the switch firmly. He snapped it down and flicked it open again with one swift movement. And nothing happened—his eyes, strain though they might, caught no flash of surging power. The pit of his stomach froze, and he closed the switch again, savagely, and left it closed. Nothing happened: the machine, again, was a failure.

He buried his aching head in his hands, and groaned. "Oh, God! It should work—it should. My math is right and I've produced the fields I want. By every law of science, those fields should crack the atom." He arose, opening the useless switch, and paced the floor in deep thought.

His theory was right. His equipment was cut neatly to the pattern of his equations. If the theory was right, the equipment must be wrong. But the equipment was right, so the theory must. . .

"I'm getting out of here before I go crazy," he said to the four walls.

He snatched his hat and coat from the peg behind the door and was out of the house in a whirlwind of motion, slamming the door behind him in a gust of fury.

'Atomic power! Atomic power! Atomic power!' The two words repeated themselves over and over again, singing a monotonous, maddening song in his brain. A siren song! It was luring him to destruction; for this dream he had given up a safe and comfortable professorship at M.I.T. For it, he had become a middle-aged man at thirty—the first flush of youth long gone,—an apparent failure.

And now his money was vanishing rapidly. If the love of money is the root of all evil, the need of money is most certainly the root of all despair. Scanlon smiled a little at the thought—rather neat.

Of course, there were the beautiful prospects in store if he could ever bridge the gap he had found between theory and practice. The whole world would be his—Mars too, and even the unvisited planets. All his. All he had to do was to find out what was wrong with his mathematics—no, he'd checked that, it was in the equipment. Although—He groaned aloud once more.

The gloomy train of his thoughts was broken as he suddenly became aware of a tumult of boyish shouts not far off.

Scanlon frowned. He hated noise especially when he was in the dumps.

The shouts became louder and dissolved into scraps of words, "Get him, Johnny!"

"Whee—look at him run!"

A dozen boys careened out from behind a large frame building, not two hundred yards away, and ran pell-mell in Scanlon's general direction.

In spite of himself, Scanlon regarded the yelling group curiously. They were chasing something or other, with the heartless glee of children. In the dimness he couldn't make out just what it was. He screened his eyes and squinted. A sudden motion and a lone figure disengaged itself from the crowd and ran frantically.

Scanlon almost dropped his solacing pipe in astonishment, for the fugitive was a Tweenie—an Earth-Mars half-breed.

There was no mistaking that brush of wiry, dead-white hair that rose stiffly in all directions like porcupine-quills. Scanlon marvelled—what was one of those things doing outside an asylum? The boys had caught up with the Tweenie again, and the fugitive was lost to sight. The yells increased in volume, Scanlon, shocked, saw a heavy board rise and fall with a thud.

A profound sense of the enormity of his own actions in standing idly by while a helpless creature was being hounded by a crew of gamins came to him, and before he quite realized it he was charging down upon them, fists waving threateningly in the air.

"Seat, you heathens! Get out of here before I—" the point of his foot came into violent contact with the seat of the nearest hoodlum, and his arms sent two more tumbling.

The entrance of the new force changed the situation considerably. Boys, whatever their superiority in numbers, have an instinctive fear of adults,—especially such a shouting, ferocious adult as Scanlon appeared to be. In less time than it took Scanlon to realize it they were gone, and he was left alone with the Tweenie, who lay half-prone, and who between panting sobs cast fearful and uncertain glances at his deliverer.

"Are you hurt?" asked Scanlon gruffly.

"No, sir." The Tweenie rose unsteadily, his high silver crest of hair swaying incongruously. "I twisted my ankle a bit, but I can walk. I'll go now. Thank you very much for helping me."

"Hold on! Wait!" Scanlon's voice was much softer, for it dawned on him that the Tweenie, though almost full-grown, was incredibly gaunt; that his clothes were a mere mass of dirty rags; and that there was a heart-rending look of utter weariness on his thin face.

"Here," he said, as the Tweenie turned towards him again, "'Are you hungry?"

The Tweenie's face twisted as though he were fighting a battle within himself. When he spoke it was in a low, embarrassed voice. "Yes—I am, a little."

"You look it. Come with me to my house," he jerked a thumb over his shoulder. "You ought to eat. Looks like you can do with a wash and a change of clothes, too." He turned and led the way.

He didn't speak again until he had opened his front door and entered the hall. "I think you'd better take a bath first, boy. There's the bathroom. Hurry into it and lock the door before Beulah sees you."

His admonition came too late. A sudden, startled gasp caused Scanlon to whirl about, the picture of guilt, and the Tweenie to shrink backwards into the shadow of a hat-rack.

Beulah, Scanlon's housekeeper, scurried towards them, her mild face aflame with indignation and her short, plump body exuding exasperation at every pore.

"Jefferson Scanlon! Jefferson!" She glared at the Tweenie with shocked disgust.

"How can you bring such a thing into this house! Have you lost your sense of morals?"

The poor Tweenie was washed away with the flow of her anger, but Scanlon, after his first momentary panic, collected himself. "Come, come, Beulah. This isn't like you. Here's a poor fellow-creature, starved, tired, beaten by a crowd of boys, and you have no pity for him. I'm really disappointed in you, Beulah."

"Disappointed!" sniffed the housekeeper, though touched.

"Because of that disgraceful thing. He should be in an institution where they keep such monsters!"

"All right, we'll talk about it later. Go ahead, boy, take your bath. And, Beulah, see if you can't rustle up some old clothes of mine."

With a last look of disapproval, Beulah flounced out of the room.

"Don't mind her, boy," Scanlon said when she left "She was my nurse once and she still has a sort of proprietary interest in me. She won't harm you. Go take your bath."

The Tweenie was a different person altogether when he finally seated himself at the dining-room table. Now that the layer of grime was removed, there was something quite handsome about his thin face, and his high, clear forehead gave him a markedly intellectual look. His hair still stood erect, a foot tall, in spite of the moistening it had received. In the light its brilliant whiteness took an imposing dignity, and to Scanlon it seemed to lose all ugliness.

"Do you like cold chicken?" asked Scanlon.

"Oh, yes!" enthusiastically.

"Then pitch in. And when you finish that, you can have more. Take anything on the table."

The Tweenie's eyes glistened as he set his jaws to work; and, between the two of them, the table was bare in a few minutes.

"Well, now," exclaimed Scanlon when the repast had reached its end, "I think you might answer some questions now. What's your name?"

"They called me Max."

"Ah! And your last name?"

The Tweenie shrugged his shoulders. "They never called me anything but Max—when they spoke to me at all. I don't suppose a half-breed needs a name." There was no mistaking the bitterness in his voice.

"But what were you doing running wild through the country? Why aren't you where you live?"

"I was in a home. Anything is better than being in a home—even the world outside, which I had never seen. Especially after Tom died."

"Who was Tom, Max?" Scanlon spoke softly.

"He was the only other one like me. He was younger— fifteen—but he died." He looked up from the table, fury in his eyes. "They killed him, Mr. Scanlon. He was such a young fellow, and so friendly. He couldn't stand being alone the way I could. He needed friends and fun, and—all he had was me.

No one else would speak to him, because he was a half-breed.

And when he died I couldn't stand it anymore either. I left"

"They meant to be kind. Max. You shouldn't have done that You're not like other people; they don't understand you.

And they must have done something for you. You talk as though you've had some education."

"I could attend classes, all right," he assented gloomily. "But I had to sit in a corner away from all the others. They let me read all I wanted, though, and I'm thankful for that."

"Well, there you are. Max. You weren't so badly off, were you?"

Max lifted his head and stared at the other suspiciously.

"You're not going to send me back, are you?" He half rose, as though ready for instant flight Scanlon coughed uneasily. "Of course, if you don't want to go back I won't make you. But it would be the best thing for you."

"It wouldn't!" Max cried vehemently.

"Well, have it your own way. Anyway, I think you'd better go to sleep now. You need it. We'll talk in the morning."

He led the still suspicious Tweenie up to the second floor, and pointed out a small bedroom. "That's yours for the night I'll be in the next room later on, and if you need anything just shout." He turned to leave, then thought of something. "But remember, you mustn't try to run away during the night"

"Word of honor. I won't"

Scanlon retired thoughtfully to the room he called his study.

He lit a dim lamp and seated himself in a worn armchair. For ten minutes he sat without moving, and for the first time in six years thought about something besides his dream of atomic power.

A quiet knock sounded, and at his grunted acknowledgment Beulah entered. She was frowning, her lips pursed. She planted herself firmly before him.

"Oh, Jefferson! To think that you should do this! If your dear mother knew. . . "

"Sit down, Beulah," Scanlon waved at another chair, "and don't worry about my mother. She wouldn't have minded."

"No. Your father was a good-hearted simpleton, too. You're just like him, Jefferson. First you spend all your money on silly machines that might blow the house up any day—and now you pick up that awful creature from the streets. . . "

Tell me, Jefferson," there was a solemn and fearful pause, "are you thinking of keeping it?"

Scanlon smiled moodily. "I think I am, Beulah. I can't very well do anything else."

A week later Scanlon was in his workshop. During the night before, his brain, rested by the change in the monotony brought about by the presence of Max, had thought of a possible solution to the puzzle of why his machine wouldn't work.

Perhaps some of the parts were defective, he thought. Even a very slight flaw in some of the parts could render the machine inoperative.

He plunged into work ardently. At the end of half an hour the machine lay scattered on his workbench, and Scanlon was sitting on a high stool, eying it disconsolately.

He scarcely heard the door softly open and close. It wasn't until the intruder had coughed twice that the absorbed inventor realized another was present.

"Oh—it's Max." His abstracted gaze gave way to recognition. "Did you want to see me?"

"If you're busy I can wait, Mr. Scanlon." The week had not removed his shyness. "But there were a lot of books in my room. . ."

"Books? Oh, I'll have them cleaned out, if you don't want them. I don't suppose you do,—they're mostly textbooks, as I remember. A bit too advanced for you just now."

"Oh, it's not too difficult," Max assured him. He pointed to a book he was carrying. "I just wanted you to explain a bit here in Quantum Mechanics. There's some math with Integral Calculus that I don't quite understand. It bothers me. Here— wait till I find it."

He ruffled the pages, but stopped suddenly as he became aware of his surroundings. "Oh say—are you breaking up your model?"

The question brought the hard facts back to Scanlon at a bound. He smiled bitterly. "No, not yet. I just thought there might be something wrong with the insulation or the connections that kept it from functioning. There isn't—I've made a mistake somewhere."

"That's too bad, Mr. Scanlon." The Tweenie's smooth brow wrinkled mournfully.

"The worst of it is that I can't imagine what's wrong. I'm positive the theory's perfect—I've checked every way I can.

I've gone over the mathematics time and time again, and each time it says the same thing. Space-distortion fields of such and such an intensity will smash the atom to smithereens. Only they don't."

"May I see the equations?"

Scanlon gazed at his ward quizzically, but could see nothing in his face other than the most serious interest. He shrugged his shoulders. "There they are—under that ream of yellow paper on the desk. I don't know if you can read them, though.

I've been too lazy to type them out, and my handwriting is pretty bad."

Max scrutinized them carefully and flipped the sheets one by one. "It's a bit over my head, I guess."

The inventor smiled a little. "I rather thought they would be. Max."

He looked around the littered room, and a sudden sense of anger came over him. Why wouldn't the thing work? Abruptly he got up and snatched his coat. "I'm going out of here. Max," he said. "Tell Beulah not to make me anything hot for lunch."

It would be cold before I got back."

It was afternoon when he opened the front door, and hunger was sharp enough to prevent him from realizing with a puzzled start that someone was at work in his laboratory.

There came to his ears a sharp buzzing sound followed by a momentary silence and then again the buzz which this time merged into a sharp crackling that lasted an instant and was gone.

He bounded down the hall and threw open the laboratory door. The sight that met his eyes froze him into an attitude of sheer astonishment—stunned incomprehension.

Slowly, he understood the message of his senses. His precious atomic motor had been put together again, but this time in a manner so strange as to be senseless, for even his trained eye could see no reasonable relationship among the various parts.

He wondered stupidly if it were a nightmare or a practical joke, and then everything became clear to him at one bound, for there at the other end of the room was the unmistakable sight of a brush of silver hair protruding from above a bench, swaying gently from side to side as the hidden owner of the brush moved.

"Max!" shouted the distraught inventor, in tones of fury.

Evidently the foolish boy had allowed his interest to inveigle him into idle and dangerous experiments.

At the sound, Max lifted a pale face which upon the sight of his guardian turned a dull red. He approached Scanlon with reluctant steps.

"What have you done?" cried Scanlon, staring about him angrily. "Do you know what you've been playing with? There's enough juice running through this thing to electrocute you twice over."

"I'm sorry, Mr. Scanlon. I had a rather silly idea about all this when I looked over the equations, but I was afraid to say anything because you know so much more than I do. After you went away, I couldn't resist the temptation to try it out, though I didn't intend to go this far. I thought I'd have it apart again before you came back."

There was a silence that lasted a long time. When Scanlon spoke again, his voice was curiously mild, "Well, what have you done?"

"You won't be angry?"

"It's a little too late for that. You couldn't have made it much worse, anyway."

"Well, I noticed here in your equations," he extracted one sheet and then another and pointed, "that whenever the expression representing the space-distortion fields occurs, it is always referred to as a function of x^2 plus y^2 plus z^2 ". Since the fields, as far as I could see, were always referred to as constants, that would give you the equation of a sphere."

Scanlon nodded, "I noticed that, but it has nothing to do with the problem."

"Well, I thought it might indicate the necessary arrangement of the individual fields, so I disconnected the distorters and hooked them up again in a sphere."

The inventor's mouth fell open. The mysterious rearrangement of his device seemed clear now—and what was more, eminently sensible.

"Does it work?" he asked.

"I'm not quite sure. The parts haven't been made to fit this arrangement so that it's only a rough set-up at best. Then there's the constant error—"

"But does it work? Close the switch, damn it!" Scanlon was all fire and impatience once more.

"All right, stand back. I cut the power to one-tenth normal so we won't get more output than we can handle."

He closed the switch slowly, and at the moment of contact, a glowing ball of blue-white flame leaped into being from the recesses of the central quartz chamber. Scanlon screened his eyes automatically, and sought the output gauge. The needle was climbing steadily and did not stop until it was pressing the upper limit. The flame burned continuously, releasing no heat seemingly, though beside its light, more intensely brilliant than a magnesium flare, the electric lights faded into dingy yellowness.

Max opened the switch once more and the ball-of flame reddened and died, leaving the room comparatively dark and red. The output gauge sank to zero once more and Scanlon felt his knees give beneath him as he sprawled onto a chair.

He fastened his gaze on the flustered Tweenie and in that look there was respect and awe, and something more, too, for there was fear. Never before had he really realized that the Tweenie was not of Earth or Mars but a member of a race apart. He noticed the difference now, not in the comparatively minor physical changes, but in the profound and searching mental gulf that he only now comprehended.

"Atomic power!" he croaked hoarsely. "And solved by a boy, not yet twenty years old." Max's confusion was painful, "You did all the real work, Mr. Scanlon, years and years of it. I just happened to notice a little detail that you might have caught yourself the next day." His voice died before the fixed and steady stare of the inventor.

"Atomic power—the greatest achievement of man so far, and we actually have it, we two."

Both—guardian and ward—seemed awed at the grandeur and power of the thing they had created.

And in that moment—the age of Electricity died.

Jefferson Scanlon sucked at his pipe contentedly. Outside, the snow was falling and the chill of winter was in the air, but inside, in the comfortable warmth, Scanlon sat and smoked and smiled to himself. Across the way, Beulah, likewise quietly happy, hummed softly in time to clicking knitting needles, stopping only occasionally as her fingers flew through an unusually intricate portion of the pattern. In the corner next the window sat Max, occupied in his usual pastime of reading, and Scanlon reflected with faint surprise that of late Max had confined his reading to light novels.

Much had happened since that well-remembered day over a year ago. For one thing, Scanlon was now a world-famous and world-adored scientist, and it would have been strange had he not been sufficiently human to be proud of it. Secondly, and scarcely less important, atomic power was remaking the world.

Scanlon thanked all the powers that were, over and over again, for the fact that war was a thing of two centuries past, for otherwise atomic power would have been the final

ruination of civilization. As it was, the coalition of World Powers that now controlled the great force of Atomic Power proved it a real blessing and were introducing it into Man's life in the slow, gradual stages necessary to prevent economic upheaval. Already, interplanetary travel had been revolutionized.

From hazardous gambles, trips to Mars and Venus had become holiday jaunts to be negotiated in a third of the previous time, and trips to the outer planets were at last feasible.

Scanlon settled back further in his chair, and pondered once more upon the only fly in his wonderful pot of ointment Max had refused all credit; stormily and violently refused to have his name as much as mentioned. The injustice of it galled Scanlon, but aside from a vague mention of "capable assistants" he had said nothing; and the thought of it still made him feel an ace of a cad.

A sharp explosive noise brought him out of his reverie and he turned startled eyes towards Max, who had suddenly closed his book with a peevish slap.

"Hello," exclaimed Scanlon, "and what's wrong now?"

Max tossed the book aside and stood up, his underlip thrust out in a pout, "I'm lonely, that's all."

Scanlon's face fell, and he felt at an uncomfortable loss for words. "I guess I know that. Max," he said softly, at length.

"I'm sorry for you, but the conditions—are so—"

Max relented, and brightening up, placed an affectionate arm about his foster-father's shoulder, "I didn't mean it that way, you know. It's just—well, I can't say it but it's that—you get to wishing you had someone your own age to talk to—someone of your own kind."

Beulah looked up and bestowed a penetrating glance upon the young Tweenie but said nothing.

Scanlon considered, "You're right, son, in a way. A friend and companion is the best thing a fellow can have, and I'm afraid Beulah and I don't qualify in that respect. One of your own kind, as you say, would be the ideal solution, but that's a tough proposition." He rubbed his nose with one finger and gazed at the ceiling thoughtfully.

Max opened his mouth as if he were going to say something more, but changed his mind and turned pink for no evident reason. Then he muttered, barely loud enough for Scanlon to hear, "I'm being silly!" With an abrupt turn he marched out of the room, banging the door loudly as he left.

The older man gazed after him with undisguised surprise, "Well! What a funny way to act. What's got into him lately, anyway?"

Beulah halted the nimbly-leaping needles long enough to remark acidly, "Men are born fools and blind into the bargain."

"Is that so?" was the somewhat nettled response, "And do you know what's biting him?"

"I certainly do. It's as plain as that terrible tie you're wearing. I've seen it for months now. Poor fellow!"

Scanlon shook his head, "You're speaking in riddles, Beulah."

The housekeeper laid her knitting aside and glanced at the inventor wearily, "It's very simple. The boy is twenty. He needs company."

"But that's just what he said. Is that your marvelous penetration?"

"Good land, Jefferson. Has it been so long since you were twenty yourself? Do you mean to say that you honestly think he's referring to male company?"

"Oh," said Scanlon, and then brightening suddenly, "Oh!"

He giggled in an inane manner.

"Well, what are you going to do about it?"

"Why—why, nothing. What can be done?"

"That's a fine way to speak of our ward, when you're rich enough to buy five hundred orphan asylums from basement to roof and never miss the money. It should be the easiest thing in the world to find a likely-looking young lady Tweenie to keep him company."

Scanlon gazed at her, a look of intense horror on his face, "Are you serious, Beulah? Are you trying to suggest that I go shopping for a female Tweenie for Max? Why—why, what do I know about women—especially Tweenie women. I don't know his standards. I'm liable to pick one he'll consider an ugly hag."

"Don't raise silly objections, Jefferson. Outside of the hair, they're the same in looks as anyone else, and I'll leave it to you to pick a pretty one. There never was a bachelor old and crabbed enough not to be able to do that."

"No! I won't do it. Of all the horrible ideas—"

"Jefferson! You're his guardian. You owe it to him."

The words struck the inventor forcibly, "I owe it to him," he repeated. "You're right there, more right than you know."

He sighed, "I guess it's got to be done."

Scanlon shifted uneasily from one trembling foot to the other under the piercing stare of the vinegar-faced official, whose name-board proclaimed in large letters—Miss Martin, Superintendent.

"Sit down, sir," she said sourly. "What do you wish?"

Scanlon cleared his throat. He had lost count of the asylums visited up to now and the task was rapidly becoming too much for him. He made a mental vow that this would be the last—either they would have a Tweenie of the proper sex, age, and appearance or he would throw up the whole thing as a bad job.

"I have come to see," he began, in a carefully-prepared, but stammered speech, "if there are any Twee—Martian half-breeds in your asylum. It is—"

"We have three," interrupted the superintendent sharply.

"Any females?" asked Scanlon, eagerly.

"All females," she replied, and her eye glittered with disapproving suspicion.

"Oh, good. Do you mind if I see them. It is—"

Miss Martin's cold glance did not waver, "Pardon me, but before we go any further, I would like to know, whether you're thinking of adopting a half-breed."

"I would like to take out guardianship papers if I am suited.

Is that so very unusual?"

"It certainly is," was the prompt retort. "You understand that in any such case, we must first make a thorough investigation of the family's status, both financial and social. It is the opinion of the government that these creatures are better off under state supervision, and adoption would be a difficult matter."

"I know, madam, I know. I've had practical experience in this matter about fifteen months ago I believe I can give you satisfaction as to my financial and social status without much trouble. My name is Jefferson Scanlon—."

"Jefferson Scanlon!" her exclamation was half a scream. In a trice, her face expanded into a servile smile, "Why of course. I should have recognized you from the many pictures I've seen of you. How stupid of me. Pray do not trouble yourself with any further references. I'm sure that in your case," this with a particularly genial expression, "no red tape need be necessary."

She sounded a desk-bell furiously. "Bring down Madeline and the two little ones as soon as you can," she snapped at the frightened maid who answered. "Have them cleaned up and warn them to be on their best behavior."

With this, she turned to Scanlon once more, "It will not take long, Mr. Scanlon. It is really such a great honor to have you here with us, and I am so ashamed at my abrupt treatment of you earlier. At first I didn't recognize you, though I saw immediately that you were someone of importance."

If Scanlon had been upset by the superintendent's former harsh haughtiness, he was entirely unnerved by her effusive geniality. He wiped his profusely-perspiring brow time and time again, answering in incoherent monosyllables the vivacious questions put to him. It was just as he had come to the wild decision of taking to his heels and escaping from the she-dragon by flight that the maid announced the three Tweenies and saved the situation.

Scanlon surveyed the three half-breeds with interest and sudden satisfaction. Two were mere children, perhaps ten years of age, but the third, some eighteen years old, was eligible from every point of view.

Her slight form was lithe and graceful even in the quiet attitude of waiting that she had assumed, and Scanlon, "dried-up, dyed-in-the-wool bachelor" though he was, could not restrain a light nod of approval.

Her face was certainly what Beulah would call "likelylooking" and her eyes, now bent towards the floor in shy confusion, were of a deep blue, which seemed a great point to Scanlon.

Even her strange hair was beautiful. It was only moderately high, not nearly the size of Max's lordly male crest, and its silky-white sheen caught the sunbeams and sent them back in glistening highlights.

The two little ones grasped the skirt of their elder companion with tight grips and regarded the two adults in wide-eyed fright which increased as time passed.

"I believe. Miss Martin, that the young lady will do," remarked Scanlon. "She is exactly what I had in mind. Could you tell me how soon guardianship papers could be drawn up?"

"I could have them ready for you tomorrow, Mr. Scanlon. In an unusual case such as yours, I could easily make special arrangements."

"Thank you. I shall be back then—," he was interrupted by a loud snuffle. One of the little Tweenies could stand it no longer and had burst into tears, followed soon by the other.

"Madeline," cried Miss Martin to the eighteen-year-old.

"Please keep Rose and Blanche quiet. This is an abominable exhibition."

Scanlon intervened. It seemed to him that Madeline was rather pale and though she smiled and soothed the youngsters he was certain that there were tears in her eyes.

"Perhaps," he suggested, "the young lady has no wish to leave the institution. Of course, I wouldn't think of taking her on any but a purely voluntary basis."

Miss Martin smiled superciliously, "She won't make any trouble." She turned to the young girl, "You've heard of the great Jefferson Scanlon, haven't you?"

"Ye-es, Miss Martin," replied the girl, in a low voice.

"Let me handle this. Miss Martin," urged Scanlon. "Tell me, girl, would you really prefer to stay here?"

"Oh, no," she replied earnestly, "I would be very glad to leave, though," with an apprehensive glance at Miss Martin, "I have been very well treated here. But you see—what's to be done with the two little ones? I'm all they have, and if I left, they—they—"

She broke down and snatched them to her with a sudden, fierce grip, "I don't want to leave them, sir!" She kissed each softly, "Don't cry, children. I won't leave you. They won't take me away."

Scanlon swallowed with difficulty and groped for a handkerchief with which to blow his nose. Miss Martin gazed on with disapproving hauteur.

"Don't mind the silly thing, Mr. Scanlon," said she. "I believe I can have everything ready by tomorrow noon."

"Have ready guardianship papers for all three," was the gruff reply.

"What? All three? Are you serious?"

"Certainly. I can do it if I wish, can't I?" he shouted.

"Why, of course, but—"

Scanlon left precipitately, leaving both Madeline and Miss Martin petrified, the latter with utter stupefaction, the former in a sudden upsurge of happiness. Even the ten-year-olds sensed the change in affairs and subsided into occasional sobs.

Beulah's surprise, when she met them at the airport and saw three Tweenies where she had expected one, is not to be described. But, on the whole, the surprise was a pleasant one, for little Rose and Blanche took to the elderly housekeeper immediately. Their first greeting was to bestow great, moist kisses upon Beulah's lined cheeks at which she glowed with joy and kissed them in turn.

With Madeline she was enchanted, whispering to Scanlon that he knew a little more about such matters than he pretended.

"If she had decent hair," whispered Scanlon in reply, "I'd marry her myself. That I would," and he smiled in great self-satisfaction.

The arrival at home in mid-afternoon was the occasion of great excitement on the part of the two oldsters. Scanlon inveigled Max into accompanying him on a long walk together in the woods, and when the unsuspecting Max left, puzzled but willing, Beulah busied herself with setting the three newcomers at their ease.

They were shown over the house from top to bottom, the rooms assigned to them being indicated. Beulah prattled away continuously, joking and chaffing, until the Tweenies had lost all their shyness and felt as if they had known her forever.

Then, as the winter evening approached, she turned to Madeline rather abruptly and said, "It's getting late. Do you want to come downstairs with me and help prepare supper for the men?"

Madeline was taken aback, "The men. Is there, then, someone besides Mr. Scanlon?"

"Oh, yes. There's Max. You haven't seen him yet,"

"Is Max a relation of yours?"

"No, child. He's another of Mr. Scanlon's wards."

"Oh, I see." She blushed and her hand rose involuntarily to her hair.

Beulah saw in a moment the thoughts passing through her head and added in a softer voice, "Don't worry, dear. He won't mind your being a Tweenie. He'll be glad to see you."

It turned out, though, that "glad" was an entirely inadequate adjective when applied to Max's emotions at the first sight of Madeline.

He tramped into the house in advance of Scanlon, taking off his overcoat and stamping the snow off his shoes as he did so.

"Oh, boy," he cried at the half-frozen inventor who followed him in, "why you were so anxious to saunter about on a freezer like today I don't know." He sniffed the air appreciatively, "Ah, do I smell lamb chops?" and he made for the dining-room in double-quick time.

It was at the threshold that he stopped suddenly, and gasped for air as if in the last throes of suffocation. Scanlon dipped by and sat down.

"Come on," he said, enjoying the other's brick-red visage.

'Sit down. We have company today. This is Madeline and this s Rose and this is Blanche. And this," he turned to the seated Sirls and noted with satisfaction that Madeline's pink face was turning a fixed glance of confusion upon the plate before her, "is my ward, Max."

"How do you do," murmured Max, eyes like saucers, "I'm pleased to meet you."

Rose and Blanche shouted cheery greetings in reply but Madeline only raised her eyes fleetingly and then dropped them again.

The meal was a singularly quiet one. Max, though he had complained of a ravenous hunger all afternoon, allowed his chop and mashed potatoes to die of cold before him, while Madeline played with her food as if she did not know what it was there for. Scanlon and Beulah ate quietly and well, exchanging sly glances between bites.

Scanlon sneaked off after dinner, for he rightly felt that the more tactful touch of a woman was needed in these matters, and when Beulah joined him in his study some hours later, he saw at a glance that he had been correct.

"I've broken the ice," she said happily, "they're telling each other their life histories now and are getting along wonderfully. They're still afraid of each other, though, and insist on sitting at opposite ends of the room, but that'll wear off—and pretty quickly, too."

"It's a fine match, Beulah, eh?"

"A finer one I've never seen. And little Rose and Blanche are angels. I've just put them to bed."

There was a short silence, and then Beulah continued softly, "That was the only time you were right and I was wrong—that time you first brought Max into the house and I objected—but that one time makes up for everything else. You are a credit to your dear mother, Jefferson."

Scanlon nodded soberly, "I wish I could make all Tweenies on earth so happy. It would be such a simple thing. If we treated them like humans instead of like criminals and gave them homes built especially for them and calculated especially for their happiness—"

"Well, why don't you do it?" interrupted Beulah.

Scanlon turned a serious eye upon the old housekeeper, "That's exactly what I was leading up to." His voice lapsed into a dreamy murmur, "Just think. A town of Tweenies—run by them and for them—with its own governing officials and its own schools and its own public utilities. A little world within a world where the Tweenie can consider himself a human being—instead of a freak surrounded and looked down upon by endless multitudes of pure-bloods."

He reached for his pipe and filled it slowly, "The world owes a debt to one Tweenie which it can never repay—and I owe it to him as well. I'm going to do it. I'm going to create Tweenietown."

That night he did not go to sleep. The stars turned in the grand circles and paled at last. The grey of dawn came and grew, but still Scanlon sat unmoving—dreaming and planning.

At eighty, age sat lightly upon Jefferson Scanlon's head.

The spring was gone from his step, the sturdy straightness from his shoulders, but his robust health had not failed him, and his mind, beneath the shock of hair, now as white as any Tweenie's, still worked with undiminished vigor.

A happy life is not an aging one, and for forty years now, Scanlon had watched Tweenietown grow, and in the watching, had found happiness.

He could see it now stretched before him like a large, beautiful painting as he gazed out the window. A little gem of a town with a population of slightly more than a thousand, nestling amid three hundred square miles of fertile Ohio land.

Neat and sturdy houses, wide, clean streets, parks, theatres, schools, stores—a model town, bespeaking decades of intelligent effort and co-operation.

The door opened behind him and he recognized the soft step without needing to turn, "Is that you, Madeline?"

"Yes, father," for by no other title was he known to any inhabitant of Tweenietown. "Max is returning with Mr. Johanson."

"That's good," he gazed at Madeline tenderly. "We've seen Tweenietown grow since those days long ago, haven't we?"

Madeline nodded and sighed.

"Don't sigh, dear. It's been well worth the years we've given to it. If only Beulah had lived to see it now."

He shook his head as he thought of the old housekeeper, dead now a quarter of a century.

"Don't think such sad thoughts," admonished Madeline in her turn. "Here comes Mr. Johanson. Remember it's the fortieth anniversary and a happy day; not a sad one."

Charles B. Johanson was what is known as a "shrewd" man. That is, he was an intelligent, far-seeing person, comparatively well-versed in the sciences, but one who was wont to put these good qualities into practice only in order to advance his own interest. Consequently, he went far in politics and was the first appointee to the newly created Cabinet post of Science and Technology.

It was the first official act of his to visit the world's greatest scientist and inventor, Jefferson Scanlon, who, in his old age, still had no peer in the number of useful inventions turned over to the government every year. Tweenietown was a considerable surprise to him. It was known rather vaguely in the outside world that the town existed, and it was considered a hobby of the old scientist—a harmless eccentricity. Johanson found it a well-worked-out project of sinister connotations.

His attitude, however, when he entered Scanlon's room in company with his erstwhile guide. Max, was one of frank geniality, concealing well certain thoughts that swept through his mind.

"Ah, Johanson," greeted Scanlon, "you're back. What do you think of all this?" his arm made a wide sweep.

"It is surprising—something marvelous to behold," Johanson assured him.

Scanlon chuckled, "Glad to hear it. We have a population of 1154 now and growing every day. You've seen what we've done already but it's nothing to what we are going to do in the future—even after my death. However, there is something I wish to see done before I die and for that I'll need your help.

"And that is?" questioned the Secretary of Science and Technology guardedly.

"Just this. That you sponsor measures giving these Tweenies, these so long despised half-breeds, full equality,—political,— legal,—economic,—social,—with Terrestrials and Martians."

Johanson hesitated, "It would be difficult. There is a certain amount of perhaps understandable prejudice against them, and until we can convince Earth that the Tweenies deserve equality—" he shook his head doubtfully.

"Deserve equality!" exclaimed Scanlon, vehemently, "Why, they deserve more. I am moderate in my demands." At these words. Max, sitting quietly in a corner, looked up and bit his lip, but said nothing as Scanlon continued, "You don't know the true worth of these Tweenies. They combine the best of Earth and Mars. They possess the cold, analytical reasoning powers of the Martians together with the emotional drive and boundless energy of the Earthman. As far as intellect is concerned, they are your superior and mine, every one of them.

I ask only equality."

The Secretary smiled soothingly, "Your zeal misleads you perhaps, my dear Scanlon."

"It does not. Why do you suppose I turn out so many successful gadgets—like this gravitational shield I created a few years back. Do you think I could have done it without my Tweenie assistants? It was Max here," Max dropped his eyes before the sudden piercing gaze of the Cabinet member, "that put the final touch upon my discovery of atomic power itself."

Scanlon threw caution to the winds, as he grew excited, "Ask Professor Whitsun of Stanford and he'll tell you. He's a world authority on psychology and knows what he's talking about. He studied the Tweenie and he'll tell you that the Tweenie is the coming race of the Solar System, destined to take the supremacy away from us pure-bloods as inevitably as night follows day. Don't you think they deserve equality in that case?"

"Yes, I do think so,—definitely," replied Johanson. There was a strange glitter in his eyes, and a crooked smile upon his Ups, "This is of extreme importance, Scanlon. I shall attend to it immediately. So immediately, in fact, that I believe I had better leave in half an hour, to catch the 2:10 strato-car."

Johanson had scarcely left, when Max approached Scanlon and blurted out with no preamble at all, "There is something I have to show you, father—something you have not known about before."

Scanlon stared his surprise, "What do you mean?"

"Come with me, please, father. I shall explain." His grave expression was almost frightening. Madeline joined the two at the door, and at a sign from Max, seemed to comprehend the situation. She said nothing but her eyes grew sad and the lines in her forehead seemed to deepen.

In utter silence, the three entered the waiting Rocko-car and were sped across the town in the direction of the Hill o' the Woods. High over Lake Clare they shot to come down once more in the wooded patch at the foot of the hill.

A tall, burly Tweenie sprang to attention as the car landed, and started at the sight of Scanlon.

"Good afternoon, father," he whispered respectfully, and cast a questioning glance at Max as he did so. "Same to you, Emmanuel," replied Scanlon absently. He suddenly became aware that before him was a cleverly-camouflaged opening that led into the very hill itself.

Max beckoned him to follow and led the way into the opening which after a hundred feet opened into an enormous manmade cavern. Scanlon halted in utter amazement, for before him were three giant space-ships, gleaming silvery-white and equipped, as he could plainly see, with the latest atomic power.

"I'm sorry, father," said Max, "that all this was done without your knowledge. It is the only case of the sort in the history of Tweenietown." Scanlon scarcely seemed to hear, standing as if in a daze, and Max continued, "The center one is the flagship—the Jefferson Scanlon. The one to the right is the Beulah Goodkin and the one to the left the Madeline."

Scanlon snapped out of his bemusement, "But what does this all mean and why the secrecy?"

"These ships have been lying ready for five years now, fully fuelled and provisioned, ready for instant take-off. Tonight. we blast away the side of the hill and shoot for Venus —tonight. We have not told you till now, for we did not wish to disturb your peace of mind with a misfortune we knew long ago to be inevitable. We had thought that perhaps," his voice sank lower, "its fulfillment might have been postponed until after you were no longer with us."

"Speak out," cried Scanlon suddenly. "I want the full details. Why do you leave just as I feel sure I can obtain full equality for you?"

"Exactly," answered Max, mournfully. "Your words to Johanson swung the scale. As long as Earthmen and Martians merely thought us different and inferior, they despised us and tolerated us. You have told Johanson we were superior and would ultimately supplant Mankind. They have no alternative now but to hate us. There shall be no further toleration; of that I can assure you. We leave before the storm breaks."

The old man's eyes widened as the truth of the other's statements became apparent to him, "I see. I must get in touch with Johanson. Perhaps, we can together correct that terrible mistake." He clapped a hand to his forehead.

"Oh, Max," interposed Madeline, tearfully, "why don't you come to the point? We want you to come with us, father. In Venus, which is so sparsely settled, we can find a spot where we can develop unharmed for an unlimited time. We can establish our nation, free and untrammelled, powerful in our own right, no longer dependent on—"

Her voice died away and she gazed anxiously at Scanlon's face, now grown drawn and haggard. "No," he whispered, "no! My place is here with my own kind. Go, my children, and establish your nation. In the end, your descendants shall rule the System. But I—I shall stay here."

"Then I shall stay, too," insisted Max. "You are old and someone must care for you. I owe you my life a dozen times over."

Scanlon shook his head firmly, "I shall need no one. Dayton is not far. I shall be well taken care of there or anywhere else I go. You, Max, are needed by your race. You are their leader. Go!"

Scanlon wandered through the deserted streets of Tweenietown and tried to take a grip upon himself. It was hard. Yesterday, he had celebrated the fortieth anniversary of its founding—it had been at the peak of its prosperity. Today, it was a ghost town.

Yet, oddly enough, there was a spirit of exultation about him. His dream had shattered—but only to give way to a brighter dream. He had nourished foundlings and brought up a race in its youth and for that he was someday to be recognized as the founder of the superrace.

It was his creation that would someday rule the system.

Atomic power—gravity nullifiers—all faded into insignificance. This was his real gift to the Universe.

This, he decided, was how a God must feel.

THE END

As in "The Weapon Too Dreadful to Use," the story dealt with racial prejudice on an interplanetary scale. I kept coming back to this theme very frequently—something not surprising in a Jew growing up during the Hitler era.

Once again my naivete shows, since I assume not only an intelligent race on Mars, where such a thing is most unlikely even by 1939 evidence, but assume the Martians to be sufficiently like Earthmen to make interbreeding possible. (I can only shake my head wearily. I knew better in 1939; I really did. I just accepted science fictional clichés, that's all. Eventually, I stopped doing that.)

My treatment of atomic power was also primitive in the extreme, and I knew better than that, too, even though at the time I wrote the story, uranium fission had not been discovered. The Tweenie's mysterious reference to "a function of x " plus y " plus z " merely means that I had taken analytic geometry at Columbia not long before and was flaunting my knowledge of the equation for the sphere.

This was the first story in which I tried to introduce the romantic motif, however light. It had to be a failure. At the time of the writing of this story, I had still never had a date with a girl.

And yet the greatest embarrassment in a story simply littered with embarrassments was the following line in the seventh paragraph: ". . . For it, he had become a middle-aged man at thirty—the first flush of youth long gone—"

Well, I wrote it at nineteen. To me, the first flush of youth was long gone by the time one reached thirty. I know better now, of course, since more than thirty years later, I find that I am still in the first flush of youth.

There was some reason for self-congratulation in connection with "Half-Breed," however. My fourth published story, it was the longest to appear up to then. With a length of nine thousand words, it was listed on the table of contents as a "novelette," my first published story in that class.

My name also appeared on the cover of the magazine.

It was the first time that had ever happened.

Almost immediately after finishing "Half-Breed," I began "The Secret Sense," submitting it to John Campbell on June 21, 1939, and receiving it back on the twenty-eighth. Pohl could not place it either.

Toward the end of 1940, however, a pair of sister magazines, Cosmic Stories and Stirring Science Stories, were being planned, with Don Wollheim, a fellow Futurian, selected as editor. The magazines were starting on a microbudget, however, and the only way they could come into being was to get stories for nothing—at least for the initial issues. For the purpose, Wollheim appealed to the Futurians and they came through. The first issues consisted entirely (I think) of stories by Futurians, under their own names or pseudonyms.

I, too, was asked, and since by that time I was convinced I could sell "The Secret Sense" nowhere, I donated it to Wollheim, who promptly accepted it.

That was that, except that, at the time, yet another magazine, Comet Stories, was coming into existence, under the editorship of F. Orlin Tremaine, who had been Campbell's predecessor at Astounding.

I went to see Tremaine several times, since I thought I might sell him a story or two. On the second visit, on December 5, 1940, Tremaine spoke with some heat concerning the forthcoming birth of Wollheim's magazines.

While he himself was paying top rates, he said, Wollheim was getting stories for nothing and with these could put out magazines that would siphon readership from those magazines that paid. Any author who donated stories to Wollheim, and thus contributed to the destruction of competing magazines who paid, should be blacklisted in the field.

I listened with horror, knowing that I had donated a story for nothing. It was a story, to be sure, that I had felt to be worth nothing, but it had not occurred to me that I was undercutting other authors by setting up unfair competition.

I did not quite have the nerve to tell Tremaine I was one of the guilty ones, but as soon as I got home I wrote to Wollheim asking him to accept one of two alternatives: either he could run the story under a pseudonym so that my guilt would be hidden, or if he insisted on using my name he could pay me five dollars so that if the question ever arose I could honestly deny having given him the story for nothing.

Wollheim chose to use my name and sent me a check for five dollars, but did so with remarkably poor grace (and, to be sure, he was not, in those days, noted for any suavity of character). He accompanied the check with an angry letter that said, in part, that I was being paid an enormous word rate because it was only my name that had value and for that I was receiving \$2.50 a word. Perhaps he was correct.

If so, the word rate was indeed a record, one that I have not surpassed to this very day. On the other hand, the total payment also set a record. No other story I have written commanded so low a payment.

Years later, the well-known science fiction historian Sam Moskowitz wrote a short biography of me, which appeared in the April 1962 *Amazing*. In the course of the biography, he describes a version of the above events and mistakenly states that it was John Campbell who was angry at the donation of stories without pay and that it was he who threatened me with blacklisting.

Not so! Campbell had nothing to do with it, and, what's more, would have been incapable of making threats. If he had known in advance that I intended to donate a story for nothing to a competing magazine, he would have pointed out my stupidity to me in a perfectly friendly way and would have let it go at that.

As a matter of fact, while I tried to keep my guilt a secret from Tremaine, I had no intention of hiding it from Campbell. On my very next visit to him, on December 16, 1940, I confessed in full, and he shrugged it off.

Campbell, I imagine, was quite certain that no magazine that had to depend on free stories could last for long, since the only stories so available would have been rejected by everyone else. And he would be right. *Cosmic Stories* lasted only three issues, and *Stirring Science Stories* only four. "The Secret Sense" remained the only story of mine they published.

As for *Comet Stories*, that lasted five issues, and though Tremaine hesitated over a couple of my stories, he never bought one.

THE SECRET SENSE

Cosmic Stories, March 1941
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The lilting strains of a Strauss waltz filled the room. The music waxed and waned beneath the sensitive fingers of Lincoln Fields, and through half-closed eyes he could almost see whirling figures pirouetting about the waxed floor of some luxurious salon.

Music always affected him that way. It filled his mind with dreams of sheer beauty and transformed his room into a paradise of sound. His hands flickered over the piano in the last delicious combinations of tones and then slowed reluctantly to a halt.

He sighed and for a moment remained absolutely silent as if trying to extract the last essence of beauty from the dying echoes. Then he turned and smiled faintly at the other occupant of the room.

Garth Jan smiled in turn but said nothing. Garth had a great liking for Lincoln Fields, though little understanding.

They were worlds apart—literally—for Garth hailed from the giant underground cities of Mars while Fields was the product of sprawling Terrestrial New York.

"How was that. Garth, old fellow?" questioned Fields doubtfully.

Garth shook his head. He spoke in his precise, painstaking manner, "I listened attentively and can truly say that it was not unpleasant. There is a certain rhythm, a cadence of sorts, which, indeed, is rather soothing. But beautiful? No!"

There was pity in Fields' eyes—pity almost painful in its intensity. The Martian met the gaze and understood all that it meant, yet there was no answering spark of envy. His bony giant figure remained doubled up in a chair that was too small for him and one thin leg swung leisurely back and forth.

Fields lunged out of his seat impetuously and grasped his companion by the arm. "Here! Seat yourself on the bench."

Garth obeyed genially. "I see you want to carry out some little experiment."

"You've guessed it. I've read scientific works which tried to explain all about the difference in sense-equipment between Earthman and Martian, but I never could quite grasp it all."

He tapped the notes C and F in a single octave and glanced at the Martian inquiringly.

"If there's a difference," said Garth doubtfully, "it's a very slight one. If I were listening casually, I would certainly say you had hit the same note twice."

The Earthman marvelled. "How's this?" He tapped C and G.

"I can hear the difference this time."

"Well, I suppose all they say about your people is true. You poor fellows—to have such a crude sense of bearing. You don't know what you're missing." The Martian shrugged his shoulders fatalistically. "One misses nothing that one has never possessed."

Garth Jan broke the short silence that followed. "Do you realize that this period of history is the first in which two intelligent races have been able to communicate with each other? The comparison of sense equipment is highly interesting—and rather broadens one's views on life."

That's right," agreed the Earthman, "though we seem to have all the advantage of the comparison. You know a Terrestrial biologist stated last month that he was amazed that a race so poorly equipped in the matter of sense-perception could develop so high a civilization as yours."

"All is relative, Lincoln. What we have is sufficient for us."

Fields felt a growing frustration within him. "But if you only knew, Garth, if you only knew what you were missing.

"You've never seen the beauties of a sunset or of dancing fields of flowers. You can't admire the blue of the sky, the green of the grass, the yellow of ripe corn. To you the world consists of shades of dark and light." He shuddered at the thought "You can't smell a flower or appreciate its delicate perfume. You can't even enjoy such a simple thing as a good, hearty meal. You can't taste nor smell nor see color.

I pity you for your drab world."

"What you say is meaningless, Lincoln. Waste no pity on me, for I am as happy as you." He rose and reached for his cane—necessary in the greater gravitational field of Earth.

"You must not judge us with such easy superiority, you know." That seemed to be the galling aspect of the matter.

"We do not boast of certain accomplishments of our race of which you know nothing."

And then, as if heartily regretting his words, a wry grimace overspread his face, and he started for the door.

Fields sat puzzled and thoughtful for a moment, then jumped up and ran after the Martian, who was stumping his way towards the exit. He gripped Garth by the shoulder and insisted that he return.

"What did you mean by that last remark?"

The Martian turned his face away as if unable to face his questioner. "Forget it, Lincoln. That was just a moment of indiscretion when your unsolicited pity got on my nerves."

Fields gave him a sharp glance. "It's true, isn't it? It's logical that Martians possess senses Earthmen do not, but it passes the bounds of reason that your people should want to keep it secret."

"That is as it may be. But now that you've found me out through my own utter stupidity, you will perhaps agree to let it go no further?"

"Of course! I'll be as secret as the grave, though I'm darned if I can make anything of it. Tell me, of what nature is this secret sense of yours?"

Garth Jan shrugged listlessly. "How can I explain? Can you define color to me, who cannot even conceive it?"

"I'm not asking for a definition. Tell me its uses. Please," he gripped the other's shoulder, "you might as well. I have given my promise of secrecy."

The Martian sighed heavily. "It won't do you much good."

Would it satisfy you to know that if you were to show me two containers, each filled with a clear liquid, I could tell you at once whether either of the two were poisonous? Or, if you were to show me a copper wire, I could tell instantly whether an electric current were passing through it, even if it were as little as a thousandth of an ampere? Or I could tell you the temperature of any substance within three degrees of the true value even if you held it as much as five yards away? Or I could—well, I've said enough."

"Is that all?" demanded Fields, with a disappointed cry.

"What more do you wish?"

"All you've described is very useful—but where is the beauty in it? Has this strange sense of yours no value to the spirit as well as to the body?"

Garth Jan made an impatient movement. "Really, Lincoln, you talk foolishly. I have given you only that for which you asked—the uses I put this sense to. I certainly didn't attempt to explain its nature. Take your color sense. As far as I can see its only use is in making certain fine distinctions which I cannot. You can identify certain chemical solutions, for instance, by something you call color when I would be forced to run a chemical analysis. Where's the beauty in that?"

Fields opened his mouth to speak but the Martian motioned him testily into silence. "I know. You're going to babble foolishness about sunsets or something. But what do you know of beauty? Have you ever known what it was to witness the beauty of the naked copper wires when an AC current is turned on? Have you sensed the delicate loveliness of induced currents set up in a solenoid when a magnet is passed through it? Have you ever attended a Martian portwem?"

Garth Jan's eyes had grown misty with the thoughts he was conjuring up, and Fields stared in utter amazement. The shoe was on the other foot now and his sense of superiority left him of a sudden.

"Every race has its own attributes," he mumbled with a fatalism that had just a trace of hypocrisy in it, "but I 'see no reason why you should keep it such a blasted secret. We Earthmen have kept no secrets from your race."

"Don't accuse us of ingratitude," cried Garth Jan vehemently. According to the Martian code of ethics, ingratitude was the supreme vice, and at the insinuation of that Garth's caution left him. "We never act without reason, we Martians."

And certainly it is not for our own sake that we hide this magnificent ability."

The Earthman smiled mockingly. He was on the trail of something—he felt it in his bones—and the only way to get it out was to tease it out.

"No doubt there is some nobility behind it all. It is a strange attribute of your race that you can always find some altruistic motive for your actions."

Garth Jan bit his lip angrily. "You have no right to say that." For a moment he thought of pleading worry over Fields' future peace of mind as a reason for silence, but the latter's mocking reference to "altruism" had rendered that impossible. A feeling of anger crept over him gradually and that forced him to his decision.

There was no mistaking the note of frigid unfriendliness that entered his voice. "I'll explain by analogy." The Martian stared straight ahead of him as he spoke, eyes half-closed.

"You have told me that I live in a world that is composed merely of shades of light and dark. You try to describe a world of your own composed of infinite variety and beauty. I listen but care little concerning it. I have never known it and never can know it. One does not weep over the loss of what one has never owned.

"But—what if you were able to give me the ability to see color for five minutes? What if, for five minutes, I reveled in wonders undreamed of? What if, after those five minutes, I have to return it forever? Would those five minutes of paradise be worth a lifetime of regret afterwards—a lifetime of dissatisfaction because of my own shortcomings? Would it not have been the kinder act never to have told me of color in the first place and so have removed its ever-present temptation?"

Fields had risen to his feet during the last part of the Martian's speech and his eyes opened wide in a wild surmise.

"Do you mean an Earthman could possess the Martian sense if so desired?"

"For five minutes in a lifetime," Garth Jan's eyes grew dreamy, "and in those five minutes sense—"

He came to a confused halt and glared angrily at his companion, "You know more than is good for you. See that you don't forget your promise."

He rose hastily and hobbled away as quickly as he could, leaning heavily upon the cane. Lincoln Fields made no move to stop him. He merely sat there and thought.

The great height of the cavern shrouded the roof in misty obscurity in which, at fixed intervals, there floated luminescent globes of radite. The air, heated by this subterranean volcanic stratum, wafted past gently. Before Lincoln Fields stretched the wide, paved avenue of the principal city of Mars, fading away into the distance.

He clumped awkwardly up to the entrance of the home of Garth Jan, the six-inch-thick layer of lead attached to each shoe a nuisance unending. Though it was still better than the uncontrollable bounding Earth muscles brought about in this lighter gravity.

The Martian was surprised to see his friend of six months ago but not altogether joyful. Fields was not slow to notice this but he merely smiled to himself. The opening formalities passed, the conventional remarks were made, and the two seated themselves.

Fields crushed the cigarette in the ash-tray and sat upright suddenly serious. "I've come to ask for those five minutes you claim you can give me! May I have them?"

"Is that a rhetorical question? It certainly doesn't seem to require an answer." Garth's tone was openly contemptuous.

The Earthman considered the other thoughtfully. "Do you mind if I outline my position in a few words?"

The Martian smiled indifferently. "It won't make any difference," he said.

"I'll take my chance on that. The situation is this: I've been born and reared in the lap of luxury and have been most disgustingly spoiled. I've never yet had a reasonable desire that I have not been able to fulfill, and I don't know what it means not to get what I want. Do you see?"

There was no answer and he continued, "I have found my happiness in beautiful sights, beautiful words, and beautiful sounds. I have made a cult of beauty. In a word, I am an aesthete."

"Most interesting," the Martian's stony expression did not change a whit, "but what bearing has all this on the problem at hand?"

"Just this: You speak of a new form of beauty—a form unknown to me at present and entirely inconceivable even, but one which could be known if you so wished. The notion attracts me. It more than attracts me—it makes its demands of me. Again I remind you that when a notion begins to make demands of me, I yield—I always have."

"You are not the master in this case," reminded Garth Jan.

"It is crude of me to remind you of this, but you cannot force me, you know. Your words, in fact, are almost offensive in their implications."

"I am glad you said that, for it allows me to be crude in my turn without offending my conscience."

Garth Jan's only reply to this was a self-confident grimace.

"I make my demand of you," said Fields, slowly, "in the name of gratitude."

"Gratitude?" the Martian started violently.

Fields grinned broadly, "It's an appeal no honorable Martian can refuse—by your own ethics. You owe me gratitude, now, because it was through me you gained entrance into the houses of the greatest and most honorable men of Earth."

"I know that," Garth Jan flushed angrily. "You are impolite to remind me of it."

"I have no choice. You acknowledged the gratitude you owe me in actual words, back on Earth. I demand the chance to possess this mysterious sense you keep so secret—in the name of this acknowledged gratitude. Can you refuse now?"

"You know I can't," was the gloomy response. "I hesitated only for your own sake."

The Martian rose and held out his hand gravely, "You have me by the neck, Lincoln. It is done. Afterwards, though, I owe you nothing more. This will pay my debt of gratitude.

Agreed?"

"Agreed!" The two shook hands and Lincoln Fields continued in an entirely different tone. "We're still friends, though, aren't we? This little altercation won't spoil things?"

"I hope not. Come! Join me at the evening meal and we can discuss the time and place of your—er—five minutes."

Lincoln Fields tried hard to down the faint nervousness that filled him as he waited in Garth Jan's private "concert"-room.

He felt a sudden desire to laugh as the thought came to him that he felt exactly as he usually did in a dentist's waiting room.

He lit his tenth cigarette, puffed twice and threw it away, "You're doing this very elaborately, Garth."

The Martian shrugged, "You have only five minutes so I might as well see to it that they are put to the best possible use. You're going to 'hear' part of a portwem, which is to our sense what a great symphony (is that the word?) is to sound."

"Have we much longer to wait? The suspense, to be trite, is terrible."

"We're waiting for Novi Lon, who is to play the portwem, and for Done Vol. my private physician. They'll be along soon."

Fields wandered onto the low dais that occupied the center of the room and regarded the intricate mechanism thereupon with curious interest. The fore-part was encased in gleaming aluminum leaving exposed only seven tiers of shining black knobs above and five large white pedals below. Behind, however, it lay open, and within there ran crossings and recrossings of finer wires in incredibly complicated paths.

"A curious thing, this," remarked the Earthman.

The Martian joined him on the dais, "It's an expensive instrument. It cost me ten thousand Martian credits."

"How does it work?"

"Not so differently from a Terrestrial piano. Each of the upper knobs controls a different electric circuit. Singly and together an expert portwem player could, by manipulating the knobs, form any conceivable pattern of electric current. The pedals below control the strength of the current."

Fields nodded absently and ran his fingers over the knobs at random. Idly, he noticed the small galvanometer located just above the keys kick violently each time he depressed a knob. Aside from that, he sensed nothing.

"Is the instrument really playing?"

The Martian smiled, "Yes, it is. And a set of unbelievably atrocious discords too."

He took a seat before the instrument and with a murmured "Here's howl" his fingers skimmed rapidly and accurately over the gleaming buttons.

The sound of a reedy Martian voice crying out in strident accents broke in upon him, and Garth Jan ceased in sudden embarrassment. "This is Novi Lon," he said hastily to Fields, "As usual, he does not like my playing."

Fields rose to meet the newcomer. He was bent of shoulder and evidently of great age. A fine tracing of wrinkles, especially about eyes and mouth, covered his face.

"So this is the young Earthman," he cried, in strongly accented English. "I disapprove your rashness but sympathize with your desire to attend a portwem. It is a great pity you can own our sense for no more than five minutes. Without it no one can truly be said to live."

Garth Jan laughed, "He exaggerates, Lincoln. He's one of the greatest musicians of Mars, and thinks anyone doomed to damnation who would not rather attend a portwem than breathe." He hugged the older man warmly, "He was my teacher in my youth and many were the long hours in which he struggled to teach me the proper combination of circuits."

"And I have failed after all, you dunce," snapped the old Martian. "I heard your attempt at playing as I entered. You still have not learned the proper fortgass combination. You were desecrating the soul of the great Bar Damn. My pupil! Bah! It is a disgrace!"

The entrance of the third Martian, Done Vol, prevented Novi Lon from continuing his tirade. Garth, glad of the reprieve, approached the physician hastily.

"Is all ready?"

"Yes," growled Vol surily, "and a particularly uninteresting experiment this will be. We know all the results beforehand." His eyes fell upon the Earthman, whom he eyed contemptuously. "Is this the one who wishes to be inoculated?"

Lincoln Fields nodded eagerly and felt his throat and mouth go dry suddenly. He eyed the newcomer uncertainly and felt uneasy at the sight of a tiny bottle of clear liquid and a hypodermic which the physician had extracted from a case he was carrying.

"What are you going to do?" he demanded.

"He'll merely inoculate you. It'll take a second," Garth Jan assured him. "You see, the sense-organs in this case are several groups of cells in the cortex of the brain. They are activated by a hormone, a synthetic preparation of which is used to stimulate the dormant cells of the occasional Martian who is born—er—'blind.' You'll receive the same treatment."

"Oh!—then Earthmen possess those cortex cells?"

"In a very rudimentary state. The concentrated hormone will activate them, but only for five minutes. After that time, they are literally blown out as a result of their unwonted activity. After that, they can't be re-activated under any circumstances."

Done Vol completed his last-minute preparations and approached Fields. Without a word. Fields extended his right arm and the hypodermic plunged in.

With the operation completed, the Terrestrial waited a moment or two and then essayed a shaky laugh, "I don't feel any change."

"You won't for about ten minutes," explained Garth. - "It takes time. Just sit back and relax. Novi Lon has begun Bar Damn's 'Canals in the Desert'—it is my favorite—and when the hormone begins its work you will find yourself in the middle of things."

Now that the die was cast irrevocably. Fields found himself stonily calm. Novi Lon played furiously, and Garth Jan, at the Earthman's right, was already lost in the composition.

Even Done Vol, the fussy doctor, had forgotten his peevishness for the nonce.

Fields snickered under his breath. The Martians listened attentively but to him the room was devoid of sound and—almost—of all other sensation as well. What—no, it was

impossible, of course—but what if it were just an elaborate practical joke? He stirred uneasily and put the thought from his mind angrily.

The minutes passed; Novi Lon's fingers flew; Garth Jan's expression was one of unfeigned delight.

Then Lincoln Fields blinked his eyes rapidly. For a moment a nimbus of color seemed to surround the musician and his instrument. He couldn't identify it—but it was there. It grew and spread until the room was full of it. Other hues came to join it and still others. They wove and wavered; expanding and contracting; changing with lightning speed and yet staying the same. Intricate patterns of brilliant tints formed and faded, beating in silent bursts of color upon the young man's eyeballs.

Simultaneously, there came the impression of sound. From a whisper it rose into a glorious, ringing shout that wavered up and down the scale in quivering tremolos. He seemed to hear every instrument from fife to bass viol simultaneously, and yet, paradoxically, each rang in his ear in solitary clearness.

And together with this, there came the more subtle sensation of odor. From a suspicion, a mere trace, it waxed into a phantasmal field of flowers. Delicate spicy scents followed each other in ever stronger succession; in gentle wafts of pleasure.

Yet all this was nothing. Fields knew that. Somehow, he knew that what he saw, heard, and smelt were mere delusions—mirages of a brain that frantically attempted to interpret an entirely new conception in the old, familiar ways.

Gradually, the colors and the sounds and the scents died.

His brain was beginning to realize that that which beat upon it was something hitherto unexperienced. The effect of the hormone became stronger, and suddenly—in one burst—Fields realized what it was he sensed.

He didn't see it—nor hear it—nor smell it—nor taste it—nor feel it. He knew what it was but he couldn't think of the word for it. Slowly, he realized that there wasn't any word for it. Even more slowly, he realized that there wasn't even any concept for it.

Yet he knew what it was.

There beat upon his brain something that consisted of pure waves of enjoyment—something that lifted him out of himself and pitched him headlong into a universe unknown to him earlier. He was falling through an endless eternity of—something. It wasn't sound or sight but it was—something.

Something that enfolded him and hid his surroundings from him—that's what it was. It was endless and infinite in its variety, and with each crashing wave, he glimpsed a farther horizon, and the wonderful cloak of sensation became thicker—and softer—and more beautiful.

Then came the discord. Like a little crack at first—marring a perfect beauty. Then spreading and branching and growing wider, until, finally, it split apart thunderously—though without a sound.

Lincoln Fields, dazed and bewildered, found himself back in the concert room again.

He lurched to his feet and grasped Garth Jan by the arm violently, "Garth! Why did he stop? Tell him to continue! Tell him!"

Garth Jan's startled expression faded into pity, "He is still playing, Lincoln."

The Earthman's befuddled stare showed no signs of understanding. He gazed about him with unseeing eyes. Novi Lon's fingers sped across the keyboard as nimbly as ever; the expression on his face was as rapt as ever. Slowly, the truth seeped in, and the Earthman's empty eyes filled with horror.

He sat down, uttering one hoarse cry, and buried his head in his hands.

The five minutes had passed! There could be no return! Garth Jan was smiling—a smile of dreadful malice, "I had pitied you just a moment ago, Lincoln, but now I'm glad— glad! You forced this out of me—you made me do this. I hope you're satisfied, because I certainly am. For the rest of your life," his voice sank to a sibilant whisper, "you'll remember these five minutes and know what it is you're missing —what it is you can never have again. You are blind, Lincoln—blind!"

The Earthman raised a haggard face and grinned, but it was no more than a horrible baring of the teeth. It took every ounce of willpower he possessed to maintain an air of composure.

He did not trust himself to speak. With wavering step, he marched out of the room, head held high to the end.

And within, that tiny, bitter voice, repeating over and over again, "You entered a normal man! You leave blind—blind— BLIND."

THE END

The summer of 1939 was full of doubts and uncertainty for me.

In June I had graduated from Columbia and obtained my bachelor of science degree. So far, so good. However, my second round of attempts to enter medical school had failed, as the first had. To be sure, I hadn't really been anxious to go to medical school and I had tried only halfheartedly, but it still left me at loose ends. .

What did I do now? I did not wish to look for some nondescript job, even if these were to be found, so I had to continue with my schooling. I had been majoring in chemistry, so, failing medical school, the natural next step was to go for my degree of doctor of philosophy in that field.

The first question was whether I would be able to swing this financially. (It would have been the first question, even more so, if I had gotten into medical school.) College itself had been touch and go all four years, and my small writing income of about \$200 during my senior year had been a considerable help.

Naturally, I would have to continue writing and, just as naturally, my depression made it very difficult to write. I managed one story during that summer; it was called "Life Before Birth."

"Life Before Birth" was my first attempt at anything other than science fiction. It was in the allied field of fantasy (as imaginative as science fiction, but without the restriction of requiring scientific plausibility).

The reason for my attempting fantasy was that at the beginning of 1939, Street & Smith began the publication of a new magazine, *Unknown*, of which Campbell was editor.

Unknown caught my fancy at once. It featured stories of what are now called "adult fantasy," and the writing seemed to my nineteen-year-old self to be even more advanced and literate than that in *Astounding*. Of course I wanted desperately to place a story in this new and wonderful magazine.

"Life Before Birth" was an attempt in this direction, but aside from the mere fact that it was a fantasy, I remember nothing more about it. It was submitted to Campbell on July 11 and was back in my hands on the nineteenth. It never placed anywhere and no longer exists.

August was even worse. All Europe rang with the hideous possibility of war, and on September 1, World War II began with the German Invasion of Poland. I could do nothing during the crisis but listen to the radio. It was not till September 11 that I could settle down long enough to start another story, "The Brothers."

"The Brothers" was science fiction, and all I remember is that it was about two brothers, a good one and an evil one, and a scientific invention that one or the other was constructing. On October 5 I submitted it to Campbell, and on October 11 it was rejected. It, too, never placed and no longer exists.

So the summer had passed fruitlessly and now I had to face another problem. Columbia University was not in the least anxious to take me on as a graduate student. They felt I was going to use the position as a mere way of marking time till I could try once more to get into medical school.

I swore that this was not so, but my position was vulnerable because as a premedical student I had not been required to take a course in physical chemistry and had therefore not done so. Physical chemistry was, however, required for graduate work in chemistry.

I persisted, and finally the admissions board made the following suggestion: I would have to take a full year's selection of graduate courses, and, at the same time, I would have to take physical chemistry and get at least a B in that. If I failed to get the B, I was out on my ear and my tuition money would, of course, not be refunded.

One of the members of the board told me, some years later, that I was offered this in the belief that I would not accept a set of terms so loaded against me. However, since I had never had trouble with passing courses, it never occurred to me that a set of requirements that merely asked that I achieve certain grades, was loaded against me.

I agreed, and when at the end of the first semester there were only three A's in physical chemistry out of a class of sixty, and I was one of them, the probation was lifted.

By December I had gotten deeply enough into my course work to be quite certain I would fulfill all grade requirements.

The only uncertainty remaining was financial. I had to get back to writing.

On December 21 I began "Homo Sol" and completed it on January 1, 1940, the day before my twentieth birthday.

I submitted it on January 4, and on that day, in Campbell's office, I met Theodore Sturgeon and L. Ron Hubbard, two established members of Campbell's stable of writers. (Hubbard has since then become world famous, in a fashion, as the originator of the cults of Dianetics and Scientology.) There is no sign in my diary of any discouragement, but after a year and a half of assiduous efforts, I had failed to sell Campbell more than one story out of the eighteen I had by then written. He had rejected eight stories before buying "Trends," and he had rejected seven stories since. (Two stories, which I sold elsewhere, he never saw and had no chance to reject. Had he seen them he would certainly have rejected them.) One factor in the lack of discouragement was Campbell's unfailing interest. As long as he didn't get tired reading my stories and advising me about them so kindly, why should I get tired writing them? Then, too, my occasional sales to magazines other than Astounding (there had been six by then) and, especially, the opening up of a new and sympathetic market in the form of Pohl's magazines, helped keep my spirits up.

For "Homo Sol," my nineteenth story, there was no outright rejection. Again, Campbell asked for revisions. I had to revise it twice, but it was not to be another "Black Friar of the Flame." The second revision was satisfactory, and on April 17, 1940, I received my second check from Campbell (and, by that time, my seventh check, all told). What's more, it was for seventy-two dollars, the story being 7,200 words long, and was the largest check I had ever received for a story up to that time.

Oddly enough, the clearest thing I remember about that check is an incident that took place that evening in my father's candy store, where I still worked every day and where I was to continue working for two more years. A customer took offense at my neglecting to say "Thank you"

After his purchase—a crime I frequently committed because, very often, I was working without conscious attention but was concentrating deeply on the plot permutations that were sounding hollowly within the cavern of my skull.

The customer decided to scold me for my obvious inattention and apparent lack of industry. "My son," he said, "made fifty dollars through hard work last week. What do you do to earn a living?"

"I write," I said, "and I got this for a story today," and I held up the check for him to see.

It was a very satisfactory moment.

HOMO SOL

Astounding Science Fiction, September 1940
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The seven thousand and fifty-fourth session of the Galactic Congress sat in solemn conclave in the vast semicircular hall on Eon, second planet of Arcturus.

Slowly, the president delegate rose to his feet. His broad Arcturian countenance flushed slightly with excitement as he surveyed the surrounding delegates. His sense of the dramatic caused him to pause a moment or so before making the official announcement—for, after all, the entrance of a new planetary system into the great Galactic family is not a thing likely to happen twice in any one man's lifetime.

A dead silence prevailed during that pause. The two hundred and eighty-eight delegates—one from each of the two hundred and eighty-eight oxygen-atmosphere, water-chemistry worlds of the System—waited patiently for him to speak.

Beings of every manlike type and shape were there. Some were tall and pole-like, some broad and burly, some short and stumpy. There were those with long, wiry hair, those with scanty gray fuzz covering head and face, others with thick, blond curls piled high, and still others entirely bald. Some possessed long, hair-covered trumpets of ears, others had tympanum membranes flush with their temples. There were those present with large gazelle-like eyes of a deep-purple luminosity, others with tiny optics of a beady black. There was a delegate with green skin, one with an eight-inch proboscis and one with a vestigial tail. Internally, variation was almost infinite.

But all were alike in two things. They were all Humanoid. They all possessed intelligence.

The president delegate's voice boomed out then: "Delegates! The system of Sol has discovered the secret of interstellar travel and by that act became eligible for entrance into the Galactic Federation."

A storm of approving shouts arose from those present and the Arcturian raised a hand for silence.

"I have here," he continued, "the official report from Alpha Centauri, on whose fifth planet the Humanoids of Sol have landed. The report is entirely satisfactory and so the ban upon travel into and communication with the Solarian System is lifted. Sol is free, and open to the ships of the Federation.

Even now, there is in preparation an expedition to Sol, under the leadership of Joselin Arn of Alpha Centauri, to tender that System the formal invitation into the Federation."

He paused, and from two hundred and eighty-eight throats came the stentorian shout: "Hail, Homo Sol! Hail, Homo Sol! Hail! It was the traditional welcome of the Federation for all new worlds.

Tan Porus raised himself to his full height of five feet two—he was tall for a Rigellian—and his sharp, green eyes snapped with annoyance.

"There it is, Lo-fan. For six months that damned freak squid from Beta Draconis IV has stumped me."

Lo-fan stroked his forehead gently with one long finger, and one hairy ear twitched several times. He had traveled eighty-five light years to be here on Arcturus II with the greatest psychologist of the Federation—and, more specifically, to see this strange mollusk whose reactions had stumped the great Rigellian.

He was seeing it now: a puffy, dull-purple mass of soft flesh that writhed its tentacular form in placid unconcern through the huge tank of water that held it. With unruffled serenity, it fed on the green fronds of an underwater fern.

"Seems ordinary enough," said Lo-fan.

"Ha!" snorted Tan Porus. "Watch this."

He drew the curtain and plunged the room into darkness.

Only a dim blue light shone upon the tank, and in the murk the Draconian squid could barely be discerned.

"Here goes the stimulus," grunted Porus. The screen above his head burst into soft green light, focused directly upon the tank. It persisted a moment and gave way to a dull red and then almost at once to a brilliant yellow. For half a minute it shot raggedly through the spectrum and then, with a final glare of glowing white, a clear bell-like tone sounded.

And as the echoes of the note died away, a shudder passed over the squid's body. It relaxed and sank slowly to the bottom of the tank.

Porus pulled aside the curtain. "It's sound asleep," he growled. "Hasn't failed yet. Every specimen we've ever had drops as if shot the moment that note sounds."

"Asleep, eh? That's strange. Have you got the figures on the stimulus?"

"Certainly! Right here. The exact wave lengths of the lights required are listed, plus the length of duration of each light unit, plus the exact pitch of the sounded note at the end."

The other surveyed the figures dubiously. His forehead wrinkled and his ears rose in surprise. From an inner pocket, he drew forth a slide rule.

"What type nervous system has the animal?"

"Two-B. Plain, simple, ordinary Two-B. I've had the anatomists, physiologists, and ecologists check that until they were blue in the face. Two-B is all they get. Damn fools!"

Lo-fan said nothing, but pushed the center bar of the rule back and forth carefully. He stopped and peered closely, shrugged his shoulders, and reached for one of the huge volumes on the shelf above his head. He leafed through the pages and picked out numbers from among the close print. Again the slide rule.

Finally he stopped. "It doesn't make sense," he said helplessly.

"I know that! I've tried six times in six different ways to explain that reaction—and I failed each time. Even. if I rig up a system that will explain its going to sleep, I can't get it to explain the specificity of the stimulus."

"It's highly specific?" questioned Lo-fan, his voice reaching the higher registers.

"That's the worst part of it," shouted Tan Porus. He leaned forward and tapped the other on the knee. "If you shift the wave length of any of the light units by fifty angstroms either way—any one of them—it doesn't sleep. Shift the length of duration of a light unit two seconds either way—it doesn't sleep. Shift the pitch of the tone at the end an eighth of an octave either way—it doesn't sleep. But get the right combination, and it goes straight into a coma."

Lo-fan's ears were two hairy trumpets, stiffly erect. "Galaxy!" he whispered. "How did you ever stumble on the combination?"

"I didn't. It happened at Beta Draconis. Some hick college was putting its freshmen through a lab period on light-sound reactions of molluscoids—been doing it for years. Some student runs through his light-sound combinations and his blasted specimen goes to sleep. Naturally, he's scared out of his wits and brings it to the instructor. The instructor tries it again on another squid—it goes to sleep. They shift the combination— nothing happens. They go back to the original—it goes to sleep. After they fooled around with it long enough to know they couldn't make head or tail of it, they sent it to Arcturus and wished it on me. It's six months since I had a real night's sleep."

A musical note sounded and Porus turned impatiently.

"What is it?"

"Messenger from the president delegate of Congress, sir," came in metallic tones from the telecaster on his desk.

"Send him up."

The messenger stayed only long enough to hand Porus an impressively sealed envelope and to say in hearty tone: "Great news, sir. The system of Sol has qualified for entrance."

"So what?" snorted Porus beneath his breath as the other left "We all knew it was coming."

He ripped off the outer sheath of cello-fiber from the envelope and removed the sheaf of papers from within. He glanced through them and grimaced.

"Oh, Rigel!"

"What's wrong?" asked Lo-fan.

"Those politicians keep bothering me with the most inconsequential things. You'd think there wasn't another psychologist on Eron. Look! We've been expecting the Solarian System to solve the principle of the hyperatomo any century now.

They've finally done it and an expedition of theirs landed on Alpha Centauri. At once, there's a politicians' holiday! We must send an expedition of our own to ask them to join the Federation. And, of course, we must have a psychologist along to ask them in a nice way so as to be sure of getting the right reaction, because, to be sure, there isn't a man in the army that ever gets proper training in psychology."

Lo-fan nodded seriously. "I know, I know. We have the same trouble out our way. They don't need psychology until they get into trouble and then they come running."

"Well, it's a cinch I'm not going to Sol. This sleeping squid is too important to neglect. It's a routine job, anyway—this business of raking in new worlds; a Type A reaction that any sophomore can handle."

"Whom will you send?"

"I don't know. I've got several good juniors under me that can do this sort of thing with their eyes closed. I'll send one of them. And meanwhile, I'll be seeing you at the faculty meeting tomorrow, won't I?"

"You will—and hearing me, too. I'm making a speech on the finger-touch stimulus."

"Good! I've done work on it, so I'll be interested in hearing what you have to say. Till tomorrow, then."

Left alone, Porus turned once more to the official report on the Solarian System which the messenger had handed him. He leafed through it leisurely, without particular interest, and finally put it down with a sigh.

"Lor Haridin could do it," he muttered to himself. "He's a good kid—deserves a break."

He lifted his tiny bulk out of the chair and, with the report under his arm, left his office and trotted down the long corridor outside. As he stopped before a door at the far end, the automatic flash blazed up and a voice within called out to him to enter.

The Rigellian opened the door and poked his head inside.

"Busy, Haridin?"

Lor Haridin looked up and sprang to his feet at once.

"Great space, boss, no! I haven't had anything to do since I finished work on anger reactions. You've got something for me, maybe?"

"I have—if you think you're up to it. You've heard of the Solarian System, haven't you?"

"Sure! The visors are full of it. They've got interstellar travel, haven't they?"

"That's right. An expedition is leaving Alpha Centauri for Sol in a month. They'll need a psychologist to do the fine work, and I was thinking of sending you."

The young scientist reddened with delight to the very top of his hairless dome.

"Do you mean it, boss?"

"Why not? That is—if you think you can do it."

"Of course I can." Haridin drew himself up in offended hauteur. "Type A reaction! I can't miss."

"You'll have to learn their language, you know, and administer the stimulus in the Solarian tongue. It's not always an easy job."

Haridin shrugged. "I still can't miss. In a case like this, translation need only be seventy-five percent effective to get ninety-nine and six tenths percent of the desired result. That was one of the problems I had to solve on my qualifying exam. So you can't trip me up that way."

Porus laughed. "All right, Haridin, I know you can do it.

Clean up everything here at the university and sign up for indefinite leave. And if you can, Haridin, write some sort of paper on these Solarians. If it's any good, you might get senior status on the basis of it."

The junior psychologist frowned, "But, boss, that's old stuff. Humanoid reactions are as well known as . . . as— You can't write anything on them."

"There's always something if you look hard enough, Haridin. Nothing is well known; remember that. If you'll look at Sheet 25 of the report, for instance, you'll find an item concerning the care with which the Solarians armed themselves on leaving their ship."

The other turned to the proper page. "That's reasonable," said he. "An entirely normal reaction."

"Certainly. But they insisted on retaining their weapons throughout their stay, even when they were greeted and welcomed by fellow Humanoids. That's quite a perceptible deviation from the normal. Investigate it—it might be worth while."

"As you say, boss. Thanks a lot for the chance you're giving me. And say—how's the squid coming along?"

Porus wrinkled his nose. "My sixth try folded up and died yesterday. It's disgusting." And with that, he was gone.

Tan Porus of Rigel trembled with rage as he folded the handful of papers he held in two and tore them across. He plugged in the telecaster with a jerk.

"Get me Santins of the math department immediately," he snapped.

His green eyes shot fire at the placid figure that appeared on the visor almost at once. He shook his fist at the image.

"What on Eron's the idea of that analysis you sent me just now, you Betelgeusian slime worm?"

The image's eyebrows shot up in mild surprise. "Don't blame me, Porus. They were your equations, not mine. Where did you get them?"

"Never mind where I got them. That's the business of the psychology department."

"All right! And solving them is the business of the mathematics department. That's the seventh set of the damnedest sort of screwy equations I've ever seen. It was the worst yet.

You made at least seventeen assumptions which you had no right to make. It took us two weeks to straighten you out, and finally we boiled it down—"

Porus jumped as if stung. "I know what you boiled it down to. I just tore up the sheets. You take eighteen independent variables in twenty equations, representing two months of work, and solve them out at the bottom of the last, last page with that gem of oracular wisdom—'a' equals 'a.' All that work—and all I get is an identity."

"It's still not my fault, Porus. You argued in circles, and in mathematics that means an identity and there's nothing you can do about it." His lips twitched in a slow smile.

"What are you kicking about, anyway? 'A' does equal 'a,' doesn't it?"

"Shut up!" The telecaster went dead, and the psychologist closed his lips tightly and boiled inwardly. The light signal above the telecaster flashed to life again.

"What do you want now?"

It was the calm, impersonal voice of the receptionist below that answered him. "A messenger from the government, sir."

"Damn the government! Tell them I'm dead."

"It's important, sir. Lor Haridin has returned from Sol and wants to see you."

Porus frowned. "Sol? What Sol? Oh, I remember. Send him up, but tell him to make it snappy."

"Come in, Haridin," he said a little later, voice calmer, as the young Arcturian, a bit thinner, a bit more weary than he had been six months earlier when he left the Arcturian System, entered.

"Well, young man? Did you write the paper?"

The Arcturian gazed intently upon his fingernails. "No, sir!"

"Why not?" Porus' green eyes peered narrowly at the other.

"Don't tell me you've had trouble."

"Quite, a bit, boss." The words came with an effort. "The psychological board itself has sent for you after hearing my report. The fact of the matter is that the Solarian System has . . . has refused to join the Federation."

Tan Porus shot out of his chair like a jack-in-the-box and landed, purely by chance, on his feet.

"What!!"

Haridin nodded miserably and cleared his throat.

"Now, by the Great Dark Nebula," swore the Rigellian, distractedly, "if this isn't one sweet day! First, they tell me that 'a' equals 'a,' and then you come in and tell me you muffed a Type A reaction—muffed it completely!"

The junior psychologist fired up. "I didn't muff it. There's something wrong with the Solarians themselves. They're not normal. When I landed they went wild over us. There was a fantastic celebration—entirely unrestrained. Nothing was too good for us. I delivered the invitation before their parliament in their own language—a simple one which they call Esperanto. I'll stake my life that my translation was ninety-five percent effective."

"Well? And then?"

"I can't understand the rest, boss. First, there was a neutral reaction and I was a little surprised, and then"—he shuddered in retrospect—"in seven days—only seven days, boss—the entire planet had reversed itself completely. I couldn't follow their psychology, not by a hundred miles. I've brought home copies of their newspapers of the time in which they objected to joining with 'alien monstrosities' and refused to be 'ruled by inhumans of worlds parsecs away.' I ask you, does that make sense? "And that's only the beginning. It was light years worse than that. Why, good Galaxy, I went all the way into Type G reactions, trying to figure them out, and couldn't. In the end, we had to

leave. We were in actual physical danger from those . . . those Earthmen, as they call themselves."

Tan Porus chewed his lip a while. "Interesting! Have you your report with you?"

"No. The psychological board has it. They've been going over it with a microscope all day."

"And what do they say?"

The young Arcturian winced. "They don't say it openly, but they leave a strong impression of thinking the report an inaccurate one."

"Well, I'll decide about that after I've read it. Meanwhile, come with me to Parliamentary Hall and you can answer a few questions on the way."

Joselin Arn of Alpha Centauri rubbed stubbled jaws with his huge, six-fingered hand and peered from under beetling brows at the semicircle of diversified faces that stared down upon him. The psychological board was composed of psychologists of a score of worlds, and their united gaze was not the easiest thing in the world to withstand.

"We have been informed," began Friar Obel, head of the board and native of Vega, home of the green-skinned men, "that those sections of the report dealing with Sol's military state are your work."

Joselin Arn inclined his head in silent agreement.

"And you are prepared to confirm what you have stated here, in spite of its inherent improbability? You are no psychologist, you know."

"No! But I'm a soldier!" The Centaurian's jaws set stubbornly as his bass voice rumbled through the hall. "I don't know equations and I don't know graphs—but I do know spaceships. I've seen theirs and I've seen ours, and theirs are better. I've seen their first interstellar ship. Give them a hundred years and they'll have a better hyperatomos than we have. I've seen their weapons. They've got almost everything we have, at a stage in their history millennia before us. What they haven't got—they'll get, and soon. What they have got, they'll improve."

"I've seen their munitions plants. Ours are more advanced, but theirs are more efficient. I've seen their soldiers—and I'd rather fight with them than against them."

"I've said all that in the report. I say it again now."

His brusque sentences came to an end and Friar Obel waited for the murmur from the men about him to cease.

"And the rest of their science; medicine, chemistry, physics? What of them?"

"I'm not the best judge of those. You have the report there of those who know, however, and to the best of my knowledge I confirm them."

"And so these Solarians are true Humanoids?"

"By the circling worlds of Centauri, yes!"

The old scientist drew himself back in his chair with a peevish gesture and cast a rapid, frowning glance up and down the length of the table.

"Colleagues," he said, "we make little progress by rehashing this mess of impossibilities. We have a race of Humanoids of a superlatively technological turn; possessing at the same time an intrinsically unscientific belief in supernatural forces, an

incredibly childish predilection toward individuality, singly and in groups, and, worst of all, lack of sufficient vision to embrace a galaxy-wide culture."

He glared down upon the lowering Centaurian before him.

"Such a race must exist if we are to believe the report—and fundamental axioms of psychology must crumble. But I, for one, refuse to believe any such—to be vulgar about it—comet gas. This is plainly a case of mismanagement to be investigated by the proper authorities. I hope you all agree with me when I say that this report be consigned to the scrap heap and that a second expedition led by an expert in his line, not by an inexperienced junior psychologist or a soldier—"

The drone of the scientist's voice was buried suddenly in the crash of an iron fist against the table. Joselin Am, his huge bulk writhing in anger, lost his temper and gave vent to martial wrath.

"Now, by the writhing spawn of Templis, by the worms that crawl and the gnats that fly, by the cesspools and the plague spots, and by the hooded death itself, I won't allow this. Are you to sit there with your theories and your long-range wisdom and deny what I have seen with my eyes? Are my eyes"—and they flashed fire as he spoke—"to deny themselves because of a few wriggling marks your palsied hands trace on paper? "To the core of Centauri with these armchair wise men, say I—and the psychologists first of all. Blast these men who bury themselves in their books and their laboratories and are blind to what goes on in the living world outside. Psychology, is it? Rotten, putrid—"

A tap on his belt caused him to whirl, eyes staring, fists clenched. For a moment, he looked about vainly. Then, turning his gaze downward, he found himself looking into the enigmatic green eyes of a pygmy of a man, whose piercing stare seemed to drench his anger with ice water.

"I know you, Joselin Am," said Tan Porus slowly, picking his words carefully. "You're a brave man and a good soldier, but you don't like psychologists, I see. That is wrong of you, for it is on psychology that the political success of the Federation rests. Take it away and our Union crumbles, our great Federation melts away, the Galactic System is shattered." His voice descended into a soft, liquid croon. "You have sworn an oath to defend the System against all its enemies, Joselin Am—and you yourself have now become its greatest. You strike at its foundations. You dig at its roots. You poison it at its source. You are dishonored. You are disgraced. You are a traitor."

The Centaurian soldier shook his head helplessly. As Poms spoke, deep and bitter remorse filled him. Recollection of his words of a moment ago lay heavy on his conscience. When the psychologist finished, Am bent his head and wept. Tears ran down those lined, war-scarred cheeks, to which for forty years now they had been a stranger.

Porus spoke again, and this time his voice boomed like a thunderclap: "Away with your mewling whine, you coward."

Danger is at hand. Man the guns!"

Joselin Am snapped to attention; the sorrow that had filled him a bare second before was gone as if it had never existed.

The room rocked with laughter and the soldier grasped the situation. It had been Poms' way of punishing him. With his complete knowledge of the devious ins and outs of the Humanoid mind, he had only to push the proper button, and— The Centaurian bit his lip in embarrassment, but said nothing.

But Tan Poms, himself, did not laugh. To tease the soldier was one thing; to humiliate him, quite another. With a bound, he was on a chair and laid his small hand on the other's massive shoulder.

"No offense, my friend—a little lesson, that is all. Fight the sub-humanoids and the hostile environments of fifty worlds.

Dare space in a leaky rattletrap of a ship. Defy whatever dangers you wish. But never, never offend a psychologist. He might get angry in earnest the next time."

Arn bent his head back and laughed—a gigantic roar of mirth that shook the room with its earthquake-like lustiness.

"Your advice is well taken, psychologist. Bum me with an atomo, if I don't think you're right." He strode from the room with his shoulders still heaving with suppressed laughter.

Porus hopped off the chair and turned to face the board.

"This is an interesting race of Humanoids we have stumbled upon, colleagues."

"Ah," said Obel, dryly, "the great Poms feels bound to come to his pupil's defense. Your digestion seems to have improved, since you feel yourself capable of swallowing Haridin's report."

Haridin, standing, head bowed, in the corner, reddened angrily, but did not move.

Poms frowned, but his voice kept to its even tone. "I do, and the report, if properly analyzed, will give rise to a revolution in the science. It is a psychological gold mine; and Homo Sol, the find of the millennium."

"Be specific. Tan Porus," drawled someone. "Your tricks are all very well for a Centaurian blockhead, but we remain unimpressed."

The fiery little Rigellian emitted a gurgle of anger. He shook one tiny fist in the direction of the last speaker.

"I'll be more specific, Inar Tubal, you hairy space bug."

Prudence and anger waged a visible battle within him. "There is more to a Humanoid than you think—certainly far more than you mental cripples can understand. Just to show you what you don't know, you desiccated group of fossils, I'll undertake to show you a bit of psycho-technology that'll knock the guts right out of you. Panic, morons, panic! Worldwide panic!"

There was an awful silence. "Did you say world-wide panic?" stuttered Friar Obel, his green skin turning gray.

"Panic?"

"Yes, you parrot. Give me six months and fifty assistants and I'll show you a world of Humanoids in panic."

Obel attempted vainly to answer. His mouth worked in a heroic attempt to remain serious—and failed. As though by signal, the entire board dropped its dignity and leaned back in a single burst of laughter.

"I remember," gasped Inar Tubal of Sirius, his round face streaked with tears of pure joy, "a student of mine who once claimed to have discovered a stimulus that would induce world-wide panic. When I checked his results, I came across an exponent with a misplaced decimal point. He was only ten orders of magnitude out of the way. How many decimal points have you misplaced, Colleague Porus?"

"What of Kraut's Law, Porus, which says you can't panic more than five Humanoids at a time? Shall we pass a resolution repealing it? And maybe the atomic theory as well, while we're about it?" and Semper Gor of Capella cackled gleefully.

Porus climbed onto the table and snatched Obel's gavel.

"The next one who laughs is getting this over his empty head."

There was sudden silence.

"I'm taking fifty assistants," shouted the green-eyed Rigellian, "and Joselin Am is taking me to Sol. I want five of you to come with me—Inar Tubal, Semper Gor and any three others—so that I can watch their stupid faces when I've done what I said I would." He hefted the gavel, threateningly. "Well?"

Frian Obel gazed at the ceiling placidly. "All right, Porus. Tubal, Gor, Helvin, Prat, and Winson can go with you. At the end of the specified time, we'll witness world-wide panic which will be very gratifying—or we'll watch you eat your words, and how much more gratifying that would be." And with that, he chuckled very quietly to himself.

Tan Porus stared thoughtfully out the window. Terrapolis, capital city of Earth, sprawled beneath him to the very edge of the horizon. Its muted roar reached even to the half-mile height at which he stood.

There was something over that city, invisible and intangible but none the less real. Its presence was only too evident to the small psychologist. The choking, cloak of dank fear that spread over the metropolis beneath was one of his own weaving—a horrible cloak of dark uncertainty, that clutched with clammy fingers at the hearts of Mankind and stopped short—just short—of actual panic.

The roar of the city had voices in it, and the voices were tiny ones of fear.

The Rigellian turned away in disgust. "Hey, Haridin," he roared.

The young Arcturian turned away from the televisor. "Calling me, boss?"

"What do you think I'm doing? Talking to myself? What's the latest from Asia?"

"Nothing new. The stimuli just aren't strong enough. The yellow men seem to be more stolid of disposition than the white dominants of America and Europe. I've sent out orders not to increase the stimuli, though."

"No, they mustn't," agreed Porus. "We can't risk active panic." He ruminated in silence. "Listen, we're about through."

Tell them to hit a few of the big cities—they're more susceptible—and quit."

He turned to the window again. "Space, what a world— what a world! An entirely new branch of psychology has opened up—one we never dreamed of. Mob psychology, Haridin, mob psychology." He shook his head impressively.

"There's lots of suffering, though, boss," muttered the younger man. "This passive panic has completely paralyzed trade and commerce. The business life of the entire planet is stagnant. The poor government is helpless—they don't know what's wrong."

"They'll find out—when I'm ready. And, as for the suffering—well, I don't like it, either, but it's all a means to an end, a damned important end."

There followed a short silence, and then Porus' lips twitched into a nasty smile. "Those five nitwits returned from Europe yesterday, didn't they?"

Haridin smiled in turn and nodded vigorously, "And hopping sore! Your predictions have checked to the fifth decimal place. They're fit to be tied."

"Good! I'm only sorry I can't see Obel's face right now, after the last message I sent him. And, incidentally"—his voice dropped lower—"what's the latest on them?"

Haridin raised two fingers. "Two weeks, and they'll be here."

"Two weeks . . . two weeks," gurgled Porus jubilantly. He rose and made for the door. "I think I'll find my dear, dear colleagues and pass the time of day."

The five scientists of the board looked up from their notes and fell into an embarrassed silence as Porus entered.

The latter smiled impishly. "Notes satisfactory, gentlemen? Found some fifty or sixty fallacies in my fundamental assumptions, no doubt?"

Hybron Prat of Alpha Cepheus rumped the gray fuzz he called hair. "I don't trust the unholy tricks this crazy mathematical notation of yours plays."

The Rigellian emitted a short bark of laughter. "Invent a better, then. So far, it's done a good job of handling reactions, hasn't it?"

There was an unmusical chorus of throat-clearings but no definite answer.

"Hasn't it?" thundered Porus.

"Well, what if it has," returned Kim Winson, desperately.

"Where's your panic? All this is well and good. These Humanoids are cosmic freaks, but where's the big show you were going to put on? Until you break Kraut's Law, this entire exhibition of yours isn't worth a pinhead meteor."

"You're beaten, gentlemen, you're beaten," crowed the small master psychologist. "I've proven my point—this passive panic is as impossible according to classic psychology as the active form. You're trying to deny facts and save face now, by harping on a technicality. Go home; go home, gentlemen, and hide under the bed."

Psychologists are only human. They can analyze the motives that drive them, but they are the slave of those motives just as much as the commonest mortal of all. These galaxy-famous psychologists writhed under the lash of wounded pride and shattered vanity, and their blind stubbornness was the mechanical reaction due therefrom. They knew it was and they knew Porus knew it was—and that made it all the harder.

Inar Tubal stared angrily from red-rimmed eyes. "Active panic or nothing. Tan Porus. That's what you promised, and that's what we'll have. We want the letter of the

bond or, by space and time, we'll balk at any technicality. Active panic or we report failure!"

Porus swelled ominously and, with a tremendous effort, spoke quietly. "Be reasonable, gentlemen. We haven't the equipment to handle active panic. We've never come up against this superform they have here on Earth. What if it gets beyond control?" He shook his head violently.

"Isolate it, then," snarled Semper Gor. "Start it up and put it out. Make all the preparations you want, but do it!"

"If you can," grunted Hybron Prat.

But Tan Porus had his weak point. His brittle temper lay in splintered shards about him. His agile tongue blistered the atmosphere and inundated the sullen psychologist with wave after wave of concentrated profanity.

"Have your way, vacuumheads! Have your way and to outer space with you!" He was breathless with passion. "We'll set it off right here in Terrapolis as soon as all the men are back home. Only you'd all better get from under!"

And with one last parting snarl, he stalked from the room.

Tan Porus parted the curtains with a sweep of his hand, and the five psychologists facing him averted their eyes. The streets of Earth's capital were deserted of civilian population.

The ordered tramp of the military patrolling the highways of the city sounded like a dirge. The wintry sky hung low over a scene of strewn bodies—and silence; the silence that follows an orgy of wild destruction.

"It was touch and go for a few hours there, colleagues."

Porus' voice was tired. "If it had passed the city limits, we could never have stopped it."

"Horrible, horrible!" muttered Hybron Prat. "It was a scene a psychologist would have given his right arm to witness—and his life to forget."

"And these are Humanoids!" groaned Kim Winson.

Semper Gor rose to his feet in sudden decision. "Do you see the significance of this, Porus? These Earthmen are sheer uncontrolled atomite. They can't be handled. Were they twice the technological geniuses they are, they would be useless.

With their mob psychology, their mass panics, their superemotionalism, they simply won't fit into the Humanoid picture."

Porus raised an eyebrow. "Comet gas! Individually, we are as emotional as they are. They carry it into mass action and we don't; that's the only difference."

"And that's enough!" exclaimed Tubal. "We've made our decision, Porus. We made it last night, at the height of the . . . the . . . of it. The Solar System is to be left to itself. It is a plague spot and we want none of it. As far as the Galaxy is concerned. Homo Sol will be placed in strict quarantine. That is final!"

The Rigellian laughed softly. "For the Galaxy, it may be final. But for Homo Sol?"

Tubal shrugged. "They don't concern us."

Porus laughed again. "Say, Tubal. Just between the two of us, have you tried a time integration of Equation 128 followed by expansion with Karolean tensors?"

"No-o. I can't say I have."

"Well, then, just glance up and down these calculations and enjoy yourself."

The five scientists of the board grouped themselves about the sheets of paper Porus had handed them. Expressions changed from interest to bewilderment and then to something approaching panic.

Nam Helvin tore the sheets across with a spasmodic movement. "It's a lie," he screeched.

"We're a thousand years ahead of them now, and by that time we'll be advanced another two hundred years!" Tubal snapped. "They won't be able to do anything against the mass of the Galaxy's people."

Tan Porus laughed in a monotone, which is hard to do, but very unpleasant to hear. "You still don't believe mathematics.

That's in your behavior pattern, of course. All right, let's see if experts convince you—as they should, unless contact with these off-normal Humanoids has twisted you. Joselin—Joselin Am—come in here!"

The Centaurian commander came in, saluted automatically, and looked expectant.

"Can one of your ships defeat one of the Sol ships in battle, if necessary?"

Arn grinned sourly. "Not a chance, sir. These Humanoids break Kraut's Law in panic—and also in fighting. We have a corps of experts manning our ships; these people have a single crew that functions as a unit, without individuality.

They manifest a form of fighting—panic, I imagine, is the best word. Every individual on a ship becomes an organ of the ship. With us, as you know, that's impossible.

"Furthermore, this world's a mass of mad geniuses. They have, to my certain knowledge, taken no less than twenty-two interesting but useless gadgets they saw in the Thalsoon Museum when they visited us, turned 'em inside out, and produced from them some of the most unpleasant military devices I've seen. You know of Julmun Thill's gravitational line tracer? Used—rather ineffectively—for spotting ore deposits before the modern electric potential method came in? "They've turned it—somehow—into one of the deadliest automatic fire directors it's been my displeasure to see. It will automatically lay a gun or projector on a completely invisible target in space, air, water or rock, for that matter."

"We," said Tan Porus, gleefully, "have far greater fleets than they. We could overwhelm them, could we not?"

Joselin Am shook his head. "Defeat them now—probably.

It wouldn't be overwhelming, though, and I wouldn't bet on it too heavily. Certainly wouldn't invite it. The trouble is, in a military way, this collection of gadget maniacs invent things at a horrible rate. Technologically, they're as unstable as a wave in water; our civilization is more like a sanddune. I've seen their ground-car plants install a complete plant of machine tools for production of a new model of automobile—and rip it

out in six months because it's completely obsolete! "Now we've come in contact with their civilization briefly.

We've learned the methods of one new civilization to add to our previous two hundred and eighty-odd—a small percentage advantage. They've added one new civilization to their previous one—a one-hundred-percent advance!"

"How about," Porus asked gently, "our military position if we simply ignore them completely for two hundred years?"

Joselin Arn gave an explosive little laugh. "If we could—which means if they'd let us—I'd answer offhand and with assurance. They're all I'd care to tackle right now. Two hundred years of exploring the new tracks suggested by their brief contact with us and they'd be doing things I can't imagine. Wait two hundred years and there won't be a battle; there'll be an annexation."

Tan Porus bowed formally. "Thank you, Joselin Arn. That was the result of my mathematical work."

Joselin Arn saluted and left the room.

Turning to the five thoroughly paralyzed scientists, Porus went on: "And I hope these learned gentlemen still react in a vaguely Humanoid way. Are you convinced that it is not up to us to decide to end all intercourse with this race? We' may—but they won't! "Fools"—he spat out the word—"do you think I'm going to waste time arguing with you? I'm laying down the law, do you understand? Homo Sol shall enter the Federation. They are going to be trained into maturity in two hundred years.

And I'm not asking you; I'm telling you!" The Rigellian stared up at them truculently.

"Come with me!" he growled brusquely.

They followed in tame submission and entered Tan Porus' sleeping quarters. The little psychologist drew aside a curtain and revealed a life-size painting.

"Make anything of that?"

It was the portrait of an Earthman, but of such an Earthman as none of the psychologists had yet seen. Dignified and sternly handsome, with one hand stroking a regal beard, and the other holding the single flowing garment that clothed him, he seemed personified majesty.

"That's Zeus," said Porus. "The primitive Earthmen created him as the personification of storm and lightning." He whirled upon the bewildered five. "Does it remind you of anybody?"

"Homo Canopus?" ventured Helvin uncertainly.

For a moment, Porus' face relaxed in momentary gratification and then it hardened again. "Of course," he snapped.

"Why do you hesitate about it? That's Canopus to the life, down to the full yellow beard."

Then: "Here's something else." He drew another curtain.

The portrait was of a female, this time. Full-bosomed and wide-hipped she was. An ineffable smile graced her face and her hands seemed to caress the stalks of grain that sprang thickly about her feet.

"Demeter!" said Porus. "The personification of agricultural fertility. The idealized mother. Whom does that remind you of?"

There was no hesitation this time. Five voices rang out as one: "Homo Betelgeuse!"

Tan Porus smiled in delight. "There you have it Well?"

"Well?" said Tubal.

"Don't you see?" The smile faded. "Isn't it clear? Nitwit! If a hundred Zeuses and a hundred Demeters were to land on Earth as part of a 'trade mission,' and turned out to be trained psychologists—Now do you see?"

Semper Gor laughed suddenly. "Space, time, and little meteors. Of course! The Earthmen would be putty in the hands of their own personifications of storm and motherhood come to life. In two hundred years—why, in two hundred years, we could do anything."

"But this so-called trade mission of yours, Porus," interposed Prat. "How would you get Homo Sol to accept it in the first place?"

Porus cocked his head to one side. "Dear Colleague Prat," he murmured, "do you suppose that I created the passive panic just for the show—or just to gratify five woodenheads? This passive panic paralyzed industry, and the Terrestrial government is faced with revolution—another form of mob action that could use investigation. Offer them Galactic trade and eternal prosperity and do you think they'd jump at it? Has matter mass?"

The Rigellian cut short the excited babble that followed with an impatient gesture. "If you've nothing more to ask, gentlemen, let's begin our preparations to leave. Frankly, I'm tired of Earth, and, more than that, I'm blasted anxious to get back to that squid of mine."

He opened the door and shouted down the corridor: "Hey, Haridin! Tell Arn to have the ship ready in six hours. We're leaving."

"But . . . but—" The chorus of puzzled objections crystallized into sudden action as Semper Gor dashed at Porus and snatched him back as he was on the point of leaving. The little Rigellian struggled vainly in the other's powerful grasp.

"Let go!"

"We've endured enough, Porus," said Gor, "and now you'll just calm down and behave like a Humanoid. Whatever you say, we're not leaving until we're finished. We've got to arrange with the Terrestrial government concerning the trade mission. We've got to secure approval of the board. We've got to pick our psychologist. We've got to—"

Here Porus, with a sudden jerk, freed himself. "Do you suppose for one moment that I would wait for your precious board to start to begin to commence to- consider doing something about the situation in two or three decades? "

"Earth agreed to my terms unconditionally a month ago. The squad of Canopans and Betelgeusans set sail five months ago, and landed day before yesterday. It was only with their help that we managed to stop yesterday's panic—though you never suspected it. You probably thought you did it yourself. Today, gentlemen, they have the situation in full control and your services are no longer needed. We're going home."

THE END

"Homo Sol" has a plot of a sort that particularly appealed to Campbell. Although the human beings in the story are far behind the other intelligences of the Galaxy, it is clear that there is something special about them, that they have an unusual ability to move ahead very quickly, and that everyone else had better watch out for them.

Campbell liked stories in which human beings proved themselves superior to other intelligences, even when those others were further advanced technologically. It pleased him to have human beings shown to possess a unique spirit of daring, or a sense of humor, or a ruthless ability to kill when necessary, that always brought them victory over other intelligences, even against odds.

I sometimes got the uncomfortable notion however, that this attitude reflected Campbell's feelings on the smaller, Earth scale. He seemed to me to accept the natural superiority of Americans over non-Americans, and he seemed automatically to assume the picture of an American as one who was of northwest European origin.

I cannot say that Campbell was racist in any evil sense of the term. I cannot recall any act of his that could be construed as unkind, and certainly he never, not once, made me feel uncomfortable over the fact that I was Jewish.

Nevertheless, he did seem to take for granted, somehow, the stereotype of the Nordic white as the true representative of Man the Explorer, Man the Darer, Man the Victor, I argued with him strenuously on the subject, or as violently as I dared, and in years to come our relationship was to be as nearly strained as it could be (considering our mutual affection, and all that I owed him) over the civil rights issue. I was on the liberal side of the issue, he on the conservative, and our minds never met on that subject.

All this had an important bearing on my science fiction work. I did not like Campbell's attitude concerning humanity vis-a-vis other intelligences and it took two revisions of "Homo Sol" before Campbell could move me close enough to what he wanted. Even then, he inserted several paragraphs, here and there, without consulting me, in the final version.

I tried to avoid such a situation in future. One way out was to depart from the traditions of those writers who wove plots against the gigantic web of entire galaxies containing many intelligences—notably those of E. E. Smith and of Campbell himself. Instead, I began to think of stories involving a galaxy populated by human intelligences only.

This came to fruit, soon enough, in the "Foundation" series. Undoubtedly the Smith-Campbell view makes more sense. It is almost certain that among the hundreds of

billions of worlds in a large galaxy there ought to be hundreds or even thousands of different intelligent species.

That there should be only one, ourselves, as I postulated, is most unlikely.

Some science fiction critics (notably Sam Moskowitz) have given me credit for inventing the human-only galaxy, as though it were some kind of literary advance. Others may have thought privately (I have never heard it stated openly) that I had only human intelligences in my galaxy because I lacked the imagination to think up extraterrestrials.

But the fact is that I was only trying to avoid a collision with Campbell's views; I did not want to set up a situation in which I would be forced to face the alternatives of adopting Campbell's views when I found them repugnant and failing to sell a story (which I also found repugnant).

On March 25, 1940, the day I put through my final submission of "Homo Sol," I went on to visit Fred Pohl at his office. He told me that the response to "Half-Breed" had been such that he felt justified in asking for a sequel. It was the first time I had ever been requested to write a specific story with acceptance virtually guaranteed in advance.

I spent April and May working on the sequel, "Half-Breeds on Venus," and submitted it to Pohl on June 3. On June 14, he accepted it. The story was ten thousand words long, the longest I had ever sold up to that time. What's more, Pohl's magazines were doing so well that his budget had been increased and he was able to pay me five eighths of a cent a word for it—\$62.50.

It appeared in the issue of *Astonishing* that reached the stands on October 24, 1940, two years almost to a day since my first sale. This was a red-letter day for me, too, since it was the first time that the cover painting on a magazine was ever taken from one of my stories. I had "made the cover."

The title of the story and my name were on the cover in bold letters. It was a flattering indication that my name could be counted on to sell magazines by this time.

HALF-BREEDS ON VENUS

Astonishing Stories, December 1940
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The damp, somnolent atmosphere stirred violently and shrieked aside. The bare plateau shook three times as the heavy egg-shaped projectiles shot down from outer space. The sound of the landing reverberated from the mountains on one side to the lush forest on the other, and then all was silent again.

One by one, three doors clanged open, and human figures stepped out in hesitant single file. First slowly, and then with impatient turbulence, they set first foot upon the new world, until the space surrounding the ships was crowded.

A thousand pairs of eyes gazed upon the prospect and a thousand mouths chattered excitedly. And in the other-world wind, a thousand crests of foot-high white hair swayed gracefully.

The Tweenies had landed on Venus t Max Scanlon sighed wearily, "Here we are!"

He turned from the porthole and slumped into his own special arm-chair. "They're as happy as children—and I don't blame them. We've got a new world—one all for ourselves—and that's a great thing. But just the same, there are hard days ahead of us. I am almost afraid! It is a project so lightly embarked upon, but one so hard to carry out to completion."

A gentle arm stole about his shoulder and he grasped it tightly, smiling into the soft, blue eyes that met his. "But you're not afraid, are you, Madeline?"

"Certainly not!" And then her expression grew sadder, "If only father had come with us. You—you know that he meant more to us than to the others. We were the—the first he took under his wing, weren't we?"

There was a long silence after that as each fell into deep thought.

Max sighed, "I remember him that day forty years ago— old suit, pipe, everything. He took me in. Me, a despised half-breed! And—and he found you for me, Madeline!"

"I know," there were tears in her eyes. "But he's still with us, Max, and always will be—here, and there." Her hand crept first to her own heart and then to Max's.

"Hey, there, Dad, catch her, catch her!"

Max whirled at the sound of his elder son's voice, just in time to catch up the little bundle of flying arms and legs that catapulted into him.

He held her gravely up before him, "Shall I give you to your papa, Elsie? He wants you."

The little girl kicked her legs ecstatically. "No, no. I want you, grand-daddy. I want you to give me a piggy-back and come out with grandmamma to see how nice everything is."

Max turned to his son, and motioned him sternly away, "Depart, despised father, and let old grand-dad have a chance."

Arthur laughed and mopped a red face, "Keep her, for Heaven's sake. She's been leading me and the wife a merry chase outside. We had to drag her back by the dress to keep her from running off into the forest. Didn't we, Elsie?"

Elsie, thus appealed to, suddenly recalled a past grievance.

"Grand-daddy, tell him to let me see the pretty trees. He doesn't want me to." She wriggled from Max's grasp and ran to the porthole. "See them, grand-daddy, see them. It's all trees outside. It's not black anymore. I hated it when it was black, didn't you?"

Max leaned over and ruffled the child's soft, white hair gravely, "Yes, Elsie, I hated it when it was black. But it isn't black anymore, and it won't ever be black again. Now go run to grandmamma. She'll get some cake specially for you. Go ahead, run!"

He followed the departing forms of his wife and granddaughter with smiling eyes, and then, as they turned to his son, they became serious once more.

"Well, Arthur?"

"Well, dad, what now?"

"There's no time to waste, son. We've got to start building immediately—underground!"

Arthur snapped into an attentive attitude, "Underground!"

He frowned his dismay.

"I know, I know. I said nothing of this previously, but it's got to be done. At all costs we must vanish from the face of the System. There are Earthmen on Venus—purebloods.

There aren't many, it's true, but there are some. They mustn't find us—at least, not until we are prepared for whatever may follow. That will take years."

"But father, underground! To live like moles, hidden from light and air. I don't like that."

"Oh, nonsense. Don't overdramatize. We'll live on the surface—but the city; the power-stations, the food and water reserves, the laboratories—all that must be below and impregnable."

The old Tweenie gestured the subject away with impatience, "Forget that, anyway. I want to talk about something else—something we've discussed already."

Arthur's eyes hardened and he shifted his glance to the ceiling. Max rose and placed his hands upon his son's brawny shoulders.

"I'm past sixty, Arthur. How long I have yet to live, I don't know. In any case, the best of me belongs to the past and it is better that I yield the leadership to a younger, more vigorous person."

"Dad, that's sentimental bosh and you know it. There isn't one of us that's fit to wipe your shoes and no one is going to listen for a second to any plan of appointing a successor while you're still alive."

"I'm not going to ask them to listen. It's done—and you're the new leader."

The younger man shook his head firmly, "You can't make me serve against my will."

Max smiled whimsically, "I'm afraid you're dodging responsibility, son. You're leaving your poor old father to the strains and hardships of a job beyond his aged strength."

"Dad!" came the shocked retort. "That's not so. You know it isn't. You—"

"Then prove it. Look at it this way. Our race needs active leadership, and I can't supply it. I'll always be here—while I live—to advise you and help you as best I can, but from now on, you must take the initiative."

Arthur frowned and the words came from him reluctantly, "All right, then. I take the job of field commander. But remember, you're commander-in-chief."

"Good! And now let's celebrate the occasion." Max opened a cupboard and withdrew a box, from which he abstracted a pair of cigars. He sighed, "The supply of tobacco is down to the vanishing point and we won't have any more until we grow our own, but—we'll smoke to the new leader."

Blue smoke curled upwards and Max frowned through it at his son, "Where's Henry?"

Arthur grinned, "Dunno! I haven't seen him since we landed. I can tell you with whom he is, though."

Max grunted, "I know that, too."

"The kid's making hay while the sun shines. It won't be many years now. Dad, before you'll be spoiling a second set of grandchildren."

"If they're as good as the three of my first set, I only hope I live to see the day."

And father and son smiled affectionately at each other and listened in silence to the muted sound of happy laughter from the hundreds of Tweenies outside.

Henry Scanlon cocked his head to one side, and raised his hand for silence, "Do you hear running water, Irene?"

The girl at his side nodded, "Over in that direction."

"Let's go there, then. A river flashed by just before we landed and maybe that's it."

"All right, if you say so, but I think we ought to be getting back to the ships."

"What for?" Henry stopped and stared. "I should think you'd be glad to stretch your legs after weeks on a crowded ship."

"Well, it might be dangerous."

"Not here in the highlands, Irene. Venusian highlands are practically a second Earth. You can see this is forest and not jungle. Now if we were in the coastal regions—" He broke off short, as if he had just remembered something. "Besides, what's there to be afraid of? I'm with you, aren't I?" And he patted the Tonite gun at his hip.

Irene repressed a sudden smile and shot an arch glance at her strutting companion, "I'm quite aware that you're with me.

That's the danger."

Henry's chest deflated with an audible gasp. He frowned.

"Very funny—And I on my best behavior, too." He drifted away, brooded sulkily awhile, and then addressed the trees in a distant manner, "Which reminds me that tomorrow is Daphne's birthday. I've promised her a present."

"Get her a reducing belt," came the quick retort. "Fat thing!"

"Who's fat? Daphne? Oh—I wouldn't say so." He considered matters carefully, one thoughtful eye upon the young girl at his side. "Now my description of her would be—shall we say—'pleasingly plump,' or, maybe, 'comfortably upholstered.' "

"She's fat," Irene's voice was suddenly a hiss, and something very like a frown wrinkled her lovely face, "and her eyes are green." She swung on ahead, chin high, and superbly conscious of her own little figure.

Henry hastened his steps and caught up, "Of course, I prefer skinny girls any day.

Irene whirled on him and her little fists clenched, "I'm not skinny, you incredibly stupid ape."

"But Irene, who said I meant you?" His voice was solemn, but his eyes were laughing. The girl reddened to the ears and turned away, lower lip trembling. The smile faded from Henry's eyes and was replaced by a look of concern. His arm shot out hesitantly and slipped about her shoulder.

"Angry, Irene?"

The smile that lit her face of a sudden was as brilliant as the sparkling sheen of her silvery hair in the bright sun.

"No," she said.

Their eyes met and, for a moment, Henry hesitated—and found that he who hesitates is lost; for with a sudden twist and a smothered laugh, Irene was free once more.

Pointing through a break in the trees, she cried, "Look, a lake!" and was off at a run.

Henry scowled, muttered something under his breath, and ran after.

The scene was truly Earthly. A rapids-broken stream wound its way through banks of slender-trunked trees and then spread into a placid lake some miles in width. The brooding quiet was unbroken save by the muffled beat that issued from the throat-bags of the frilled lizards that nested in the upper reaches of the trees.

The two Tweenies—boy and girl—stood hand in hand upon the bank and drank in the beauty of the scene.

Then there was a muffled splash near by and Irene shrank into the encircling arms of her companion.

"What's the matter?"

"N—nothing. Something moved in the water, I think."

"Oh, imagination, Irene."

"No. I did see something. It came up and—oh, goodness, Henry, don't squeeze so tightly—"

She almost lost her balance as Henry suddenly dropped her altogether and jerked at his Tonite gun.

Immediately before them, a dripping green head lifted out of the water and regarded them out of wide-set, staring goggle-eyes. Its broad lipless mouth opened and closed rapidly, but not a sound issued forth.

Max Scanlon stared thoughtfully at the rugged foot-hills ahead and clasped his hands behind his back.

"You think so, do you?"

"Certainly, Dad," insisted Arthur, enthusiastically. "If we burrow under these piles of granite, all Earth couldn't get at us. It wouldn't take two months to form the entire cavern, with our unlimited power."

"Hmph! It will require care!"

"It will get it!"

"Mountainous regions are quake regions."

"We can rig up enough stat-rays to hold up all Venus, quakes or no quakes."

"Stat-rays eat up energy wholesale, and a breakdown that will leave us energyless would mean the end."

"We can hook up five separate power-houses,—as foolproof as we can make them. All five won't break down at once."

The old Tweenie smiled, "All right, son. I see you've got it planned thoroughly. Go ahead! Start whenever you want—and remember, it's all up to you."

"Good! Let's get back to the ships." They picked their way gingerly down the rocky, slope.

"You know, Arthur," said Max, stopping suddenly, "I've been thinking about those stat-beams."

"Yes?" Arthur offered his arm, and the two resumed their walk.

"It's occurred to me that if we could make them two-dimensional in extent and curve them, we'd have the perfect defense, as long as our energy lasted—a stat-field."

"You need four-dimensional radiation for that. Dad—nice to think about but can't be done."

"Oh, is that so? Well, listen to this—"

What Arthur was to listen to remained hidden, however—for that day at least. A piercing shout ahead jerked both their heads upward. Up towards them came the bounding form of Henry Scanlon, and following him, at a goodly distance and a much more leisurely pace, came Irene.

"Say, Dad, I had a devil of a time finding you. Where were you?"

"Right here, son. Where were you?"

"Oh, just around. Listen, Dad. You know those amphibians the explorers talk about as inhabiting the highland lakes of Venus, don't you? Well, we've located them, lots of them, a regular convoy of them. Haven't we, Irene?"

Irene paused to catch her breath and nodded her head, "They're the cutest things, Mr. Scanlon. All green." She wrinkled her nose laughingly.

Arthur and his father exchanged glances of doubt. The former shrugged. "Are you sure you haven't been seeing things? I remember once. Henry, when you sighted a meteor in space, scared us all to death, and then had it turn out to be your own reflection in the port glass."

Henry, painfully aware of Irene's snicker, thrust out a belligerent lower lip, "Say, Art, I guess you're looking for a shove in the face. And I'm old enough to give it to you, too."

"Whoa there, quiet down," came the peremptory voice of the elder Scanlon, "and you, Arthur, had better learn to respect your younger brother's dignity. Now here. Henry, all Arthur meant was that these amphibians are as shy as rabbits.

No one's ever caught more than a glimpse of them."

"Well, we have. Dad. Lots of them. I guess they were attracted by Irene. No one can resist her."

"I know you can't," and Arthur laughed loudly.

Henry stiffened once more, but his father stepped between.

"Grow up, you two. Let's go and see these amphibians."

"This is amazing," exclaimed Max Scanlon. "Why, they're as friendly as children. I can't understand it."

Arthur shook his head, "Neither can I, Dad. In fifty years, no explorer has ever gotten a good look at one, and here they are—thick as flies."

Henry was throwing pebbles into the lake. "Watch this, all of you."

A pebble curved its way into the water, and as it splashed six green forms turned a back somersault and slid smoothly below the surface. With no time for a breath between, one was up again and the pebble arced back to fall at Henry's feet.

The amphibians were crowding closer in ever increasing numbers now, approaching the very edge of the lake, where they grasped at the coarse reeds on the bank and stared goggle-eyed at the Tweenies. Their muscular webbed legs could be seen below the surface of the water, moving back and forth with lazy grace. Without cessation, the lipless mouths opened and closed in a queer, uneven rhythm.

"I think they're talking, Mr. Scanlon," said Irene, suddenly.

"It's quite possible," agreed the old Tweenie, thoughtfully.

"Their brain-cases are fairly large, and they may possess considerable intelligence. If their voice boxes and ears are tuned to sound waves of higher or lower range than our own, we would be unable to hear them—and that might very well explain their soundlessness."

"They're probably discussing us as busily as we are them," said Arthur.

"Yes, and wondering what sort of freaks we are," added Irene.

Henry said nothing. He was approaching the edge of the lake with cautious steps. The ground grew muddy beneath his feet, and the reeds thick. The group of amphibians

nearest turned anxious eyes toward him, and one or two loosened their hold and slipped silently away.

But the nearest held his ground. His wide mouth was clamped tight; his eyes were wary—but he did not move.

Henry, paused, hesitated, and then held out his hand, "Hi, ya, Phib!"

The "Phib" stared at the outstretched hand. Very cautiously, his own webbed forelimb stretched out and touched the Tweenie's fingers. With a jerk, they were drawn back, and the Phib's mouth worked in soundless excitement.

"Be careful," came Max's voice from behind. "You'll scare him that way. His skin is terribly sensitive and dry objects must irritate him. Dip your hand in the water."

Slowly, Henry obeyed. The Phib's muscles tensed to escape at the slightest sudden motion, but none came. Again the Tweenie's hand was held out, dripping wet this time.

For a long minute, nothing happened, as the Phib seemed to debate within itself the future course of action. And then, after two false starts and hasty withdrawals, fingers touched again.

"Ataphib," said Henry, and clasped the green hand in his own.

A single, startled jerk followed and then a lusty return of pressure to an extent that numbed the Tweenie's fingers. Evidently encouraged by the first Phib's example, his fellows were crowding close now, offering hosts of hands.

The other three Tweenies slushed up through the mud now, and offered wetted hands in their turn.

"That's funny," said Irene. "Every time I shake hands I seem to keep thinking of hair."

Max turned to her, "Hair?"

"Yes, ours. I get a picture of long, white hair, standing straight up and shining in the sun." Her hand rose unconsciously to her own smooth tresses.

"Say!" interrupted Henry suddenly, "I've been noticing that, too, now that you mention it. Only when I shake hands, though."

"How about you, Arthur?" asked Max.

Arthur nodded once, his eyebrows climbing.

Max smiled and pounded fist into palm. "Why, it's a primitive sort of telepathy—too weak to work without physical contact and even then capable of delivering only a few simple ideas."

"But why hair, dad?" asked Arthur.

"Maybe it's our hair that attracted them in the first place.

They've never seen anything like it and—and—well, who can explain their psychology?"

He was down on his knees suddenly, splashing water over his high crest of hair. There was a frothing of water and a surging of green bodies as the Phibs pressed closer. One green paw passed gently through the stiff white crest, followed by excited, if noiseless, chattering. Struggling amongst themselves for favored vantage-points, they

competed for the privilege of touching the hair until Max, for sheer weariness, was forced to rise again.

"They're probably our friends for life now," he said. "A pretty queer set of animals."

It was Irene, then, who noticed the group of Phibs? a hundred yards from shore. They paddled quietly, making no effort to approach closer, "Why don't they come?" she asked.

She turned to one of the foremost Phibs and pointed, making frantic gestures of dubious meaning. She received only solemn stares in return.

"That's not the way, Irene," admonished Max, gently. He held out his hand, grasped that of a willing Phib and stood motionless for a moment. When he loosed his grip, the Phib slid into the water and disappeared. In a moment, the laggard Phibs were approaching shore slowly.

"How did you do it?" gasped Irene.

"Telepathy! I held on tightly and pictured an isolated group of Phibs and a long hand stretching out over the water to shake theirs." He smiled gently, "They are quite intelligent, or they would not have understood so readily."

"Why, they're females," cried Arthur, in sudden breathless astonishment "By all that's holy,—they suckle their young!"

The newcomers were slenderer and lighter in color than the others. They advanced shyly, urged on by the bolder males and held out timid hands in greeting.

"Oh-h," Irene cried in sudden delight. "Look at this!"

She was down on her knees in the mud. arms outstretched to the nearest female. The other three watched in fascinated silence as the nervous she-Phib clasped its tiny armful closer to its breast.

But Irene's arms made little inviting gestures, "Please, please. It's so cute. I won't hurt him."

Whether the Phib mother understood is doubtful, but with a sudden motion, she held out a little green bundle of squirming life and deposited it in the waiting arms.

Irene rose, squealing with delight. Little webbed feet kicked aimlessly and round frightened eyes stared at her. The other three crowded close and watched it curiously.

"Its the dearest little thing, it is. Look at its funny little mouth. Do you want to hold it. Henry?"

Henry jumped backwards as if stung, "Not on your life! I'd probably drop it."

"Do you get any thought images, Irene?" asked Max, thoughtfully.

Irene considered and frowned her concentration, "No-o. It's too young, mayb—oh, yes! It's—it's—" She stopped, and tried to laugh. "It's hungry!"

She returned the little baby Phib to its mother, whose muscular arms clasped the little mite close. The tiny Phib swiveled its little green head to bend one last goggling look at the creature that had held it for an instant.

"Friendly creatures," said Max, "and intelligent. They can keep their lakes and rivers. We'll take the land and won't interfere with them."

A lone Tweenie stood on Scanlon Ridge and his field-glass pointed at the Divide ten miles up the hills. For five minutes, the glass did not waver and the Tweenie stood like some watchful statue made of the same rock as formed the mountains all about.

And then the field-glass lowered, and the Tweenie's face was a pale thin-lipped picture of gloom. He hastened down the slope to the guarded, hidden entrance to Venustown.

He shot past the guards without a word and descended into the lower levels where solid rock was still being puffed into nothingness and shaped at will by controlled blasts of super-energy.

Arthur Scanlon looked up and with a sudden premonition of disaster, gestured the Disintegrators to a halt.

"What's wrong, Sorrell?"

The Tweenie leant over and whispered a single word into Arthur's ear.

"Where?" Arthur's voice jerked out hoarsely.

"On the other side of the ridge. They're coming through the Divide now in our direction. I spotted the blaze of sun on metal and—" he held up his field-glass significantly.

"Good Lord!" Arthur nibbed his forehead distractedly and then turned to the anxiously-watching Tweenie at the controls of the Disinto. "Continue as planned! No change!"

He hurried up the levels to the entrance, and snapped out hurried orders, "Triple the guard immediately. No one but me or those with me, are to be permitted to leave. Send out men to round up any stragglers outside immediately and order them to keep within shelter and make no unnecessary sound."

Then, back again through the central avenue to his father's quarters.

Max Scanlon looked up from his calculations and his grave forehead smoothed out slowly.

"Hello, son. Is anything wrong? Another resistant stratum?"

"No, nothing like that." Arthur closed the door carefully and lowered his voice. "Earthmen!"

For a moment. Max made no movement. The expression on his face froze for an instant, and then, with a sudden exhalation, he slumped in his chair and the lines in his forehead deepened wearily.

"Settlers?"

"Looks so. Sorrell said women and children were among them. There were several hundred in all, equipped for a stay —and headed in this direction."

Max groaned, "Oh, the luck, the luck! All the vast empty spaces of Venus to choose and they come here. Come, let's get a firsthand look at this."

They came through the Divide in a long, snaky line. Hard-bitten pioneers with their pinched work-worn women and their carefree, half-barbarous, wilderness-bred children. The low, broad "Venus Vans" joggled clumsily over the untrodden ways, loaded down with amorphous masses of household necessities.

The leaders surveyed the prospect and one spoke in clipped, jerky syllables, "Almost through, Jem. We're out among the foothills now."

And the other replied slowly, "And there's good new growing-land ahead. We can stake out farms and settle down." He sighed, "It's been tough going this last month. I'm glad it's over!"

And from a ridge ahead—the last ridge before the valley—the Scanlons, father and son, unseen dots in the distance, watched the newcomers with heavy hearts.

'The one thing we could not prepare for—and it's happened."

Arthur spoke slowly and reluctantly, "They are few and unarmed. We can drive them out in an hour." With sudden fierceness, "Venus is ours!"

"Yes, we can drive them out in an hour—in ten minutes.

But they would return, in thousands, and armed. We're not ready to fight all Earth, Arthur."

The younger man bit his lip and words were muttered forth half in shame, "For the sake of the race. Father—we could kill them all."

"Never!" exclaimed Max, his old eyes flashing. "We will not be the first to strike. If we kill, we can expect no mercy from Earth; and we will deserve none,"

"But, father, what else? We can expect no mercy from Earth as it is. If we're spotted,—if they ever suspect our existence, our whole hegira becomes pointless and we lose out at the very beginning."

"I know. I know."

"We can't change now," continued Arthur, passionately.

"We've spent months preparing Venustown. How could we start over?"

"We can't," agreed Max, tonelessly. "To even attempt to move would mean sure discovery. We can only—"

"Live like moles after all. Hunted fugitives! Frightened refugees! Is that it?"

"Put it any way you like—but we must hide, Arthur, and bury ourselves."

"Until—?"

"Until I—or we—perfect a curved two-dimensional statbeam. Surrounded by an impermeable defense, we can come out into the open. It may take years; it may take one week. I don't know."

"And every day we run the risk of detection. Any day the swarms of purebloods can come down upon us and wipe us out. We've got to hang by a hair day after day, week after week, month after month—"

"We've got to." Max's mouth was clamped shut, and his eyes were a frosty blue. Slowly, they went back to Venustown.

Things were quiet in Venustown, and eyes were turned to the top-most level and the hidden exits. Out there was air and the sun and space—and Earthnaen.

They had settled several miles up the river-bed. Their rude houses were springing up. Surrounding land was being cleared.

Farms were being staked out. Planting was taking place.

And in the bowels of Venus, eleven hundred Tweenies shaped their home and waited for an old man to track down the elusive equations that would enable a stat-ray to spread in two dimensions and curve.

Irene brooded somberly as she sat upon the rocky ledge and stared ahead to where the dim gray light indicated the existence of an exit to the open. Her shapely legs swung gently back and forth and Henry Scanlon, at her side, fought desperately to keep his gaze focussed harmlessly upon air.

"You know what. Henry?"

"What?"

"I'll bet the Phibs could help us."

"Help us do what, Irene?"

"Help us get rid of the Earthmen."

Henry thought it over carefully, "What makes you think that?"

"Well, they're pretty clever—cleverer than we think. Their minds are altogether different, though, and maybe they could fix it. Besides—I've just got a feeling." She withdrew her hand suddenly, "You don't have to hold it. Henry."

Henry swallowed, "I—I thought you had a sort of unsteady seat there—might fall, you know."

"Oh!" Irene looked down the terrific three-foot drop.

"There's something in what you say. It does look pretty high here."

Henry decided he was in the presence of a hint, and acted accordingly. There was a moment's silence while he seriously considered the possibility of her feeling a bit chilly—but before he had quite decided that she probably was, she spoke again, "What I was going to say, Henry, was this. Why don't we go out and see the Phibs?"

"Dad would take my head off if I tried anything like that."

"It would be a lot of fun."

"Sure, but it's dangerous. We can't risk anyone seeing us."

Irene shrugged resignedly, "Well, if you're afraid, we'll say no more about it."

Henry gasped and reddened. He was off the ledge in a bound, "Who's afraid? When do you want to go?"

"Right now, Henry. Right this very minute." Her cheeks flushed with enthusiasm.

"All right then. Come on." He started off at a half-run, dragging her along.—And then a thought occurred to him and he stopped short.

He turned to her fiercely, "I'll show you if I'm afraid."

His arms were suddenly about her and her little cry of surprise was muffled effectively.

"Goodness," said Irene, when in a position to speak once more. "How thoroughly brutal!"

"Certainly. I'm a very well-known brute," gasped Henry, as he uncrossed his eyes and got rid of the swimming sensation in his head. "Now let's get to those Phibs; and remind me, when I'm president, to put up a memorial to the fellow who invented kissing."

Up through the rock-lined corridor, past the backs of outward-gazing sentries, out through the carefully camouflaged opening, and they were upon the surface.

The smudge of smoke on the southern horizon was grim evidence of the presence of man, and with that in mind, the two young Tweenies slithered through the underbrush into the forest and through the forest to the lake of the Phibs.

Whether in some strange way of their own the Phibs sensed the presence of friends, the two could not tell, but they had scarcely reached the banks when approaching dull-green smudges beneath water told of the creatures' coming.

A wide, goggle-eyed head broke the surface, and, in a second, bobbing frogheads dotted the lake.

Henry wet his hand and seized the friendly forelimb outstretched to him.

"Hi there, Phib."

The grinning mouth worked and made its soundless answer.

"Ask him about the Earthmen, Henry," urged Irene. Henry motioned impatiently.

"Wait a while. It takes time. I'm doing the best I can."

For two slow minutes, the two, Tweenie and Phib, remained motionless and stared into each other's eyes. And then the Phib broke away and, at some silent order, every lake-creature vanished, leaving the Tweenies alone.

Irene stared for a moment, nonplussed, "What happened?"

Henry shrugged, "I don't know. I pictured the Earthmen and he seemed to know who I meant. Then I pictured Earthmen fighting us and killing us—and he pictured a lot of us and only a few of them and another fight in which we killed them. But then I pictured us killing them and then a lot more of them coming—hordes and hordes—and killing us and then—"

But the girl was holding her hands to her tortured ears, "Oh, my goodness. No wonder the poor creature didn't understand. I wonder he didn't go crazy."

"Well, I did the best I could," was the gloomy response.

"This was all your nutty idea, anyway."

Irene got no further with her retort than the opening syllable, for in a moment the lake was crowded with Phibs once more. "They've come back," she said instead.

A Phib pushed forward and seized Henry's hand while the others crowded around in great excitement. There were several moments of silence and Irene fidgeted.

"Well?" she said.

"Quiet, please. I don't get it. Something about big animals, or monsters, or—" His voice trailed away, and the furrow between his eyes deepened into painful concentration.

He nodded, first abstractedly, then vigorously.

He broke away and seized Irene's hands. "I've got it—and it's the perfect solution. We can save Venustown all by ourselves, Irene, with the help of the Phibs—if you want to come to the Lowlands with me tomorrow. We can take along a pair of Tonite pistols and food supplies and if we follow the river, it oughtn't to take us more than two or three days there and the same time back. What do you say, Irene?"

Youth is not noted for forethought. Irene's hesitation was for effect only, "Well—maybe we shouldn't go ourselves, but —but I'll go—with you." There was the lightest accent on the last word.

Ten seconds later, the two were on their way back to Venustown, and Henry was wondering, if on the whole, it weren't better to put up two memorials to the fellow who invented kissing.

The nickering red-yellow of the fire sent back ruddy highlights from Henry's lordly crest of hair and cast shifting shadows upon his brooding face.

It was hot in the Lowlands, and the fire made it worse, yet Henry huddled close and kept an anxious eye upon the sleeping form of Irene on the other side. The teeming life of the Venusian jungle respected fire, and the flames spelt safety.

They were three days from the plateau now. The stream had become a lukewarm, slowly-moving river, the shores of which were covered with the green scum of algae. The pleasant forests had given way to the tangled, vine-looped growths of the jungle. The mingled sounds of life had grown in volume and increased to a noisy crescendo. The air became warmer and damper; the ground swampier; the surroundings more fantastically unfamiliar.

And yet there was no real danger—of that, Henry was convinced. Poisonous life was unknown on Venus, and as for the tough-skinned monsters that lorded the jungles, the fire at night and the Phibs during day would keep them away.

Twice the ear-splitting shriek of a Centosaur had sounded in the distance and twice the sound of crashing trees had caused the two Tweenies to draw together in fear. Both times, the monsters had moved away again. This was the third night out, and Henry stirred uneasily.

The Phibs seemed confident that before morning they could start their return trip, and somehow the thought of Venustown was rather attractive. Adventure and excitement are fine and with every passing hour the glory of his scintillating bravery grew in Irene's eyes—which was wonderful—but still Venustown and the friendly Highlands were nice to think about.

He threw himself on his stomach and gazed morosely into the fire, thinking of his twenty years of age—almost twenty years.

"Why, heck," he tore at the rank grass beneath. "It's about time I was thinking of getting married." And his eye strayed involuntarily to the sleeping form beyond the fire.

As if in response, there was a flickering of eyelids and a vague stare out of deep blue eyes.

Irene sat up and stretched.

"I can't sleep at all," she complained, brushing futilely at her white hair. "It's so hot" She stared at the fire distastefully.

Henry's good humor persisted. "You slept for hours—and snored like a trombone."

Irene's eyes snapped wide open. "I did not!" Then, with a voice vibrant with tragedy, "Did I?"

"No, of course not!" Henry howled his laughter, stopping only at the sudden, sharp contact between the toe of Irene's shoe and the pit of his own stomach. "Ouch," he said.

"Don't speak to me anymore. Mister Scanlon!" was the girl's frigid remark.

It was Henry's turn to look tragic. He rose in panicky dismay and took a single step towards the girl. And then he froze in his tracks at the ear-piercing shriek of a Centosaur. When he came to himself, he found his arms full of Irene.

Reddening, she disentangled herself, and then the Centosaurian shriek sounded again, from another direction,—and there she was, right back again.

Henry's face was pale, in spite of his fair armful. "I think the Phibs have snared the Centosaurs. Come with me and I'll ask them."

The Phibs were dim blotches in the grey dawn that was breaking. Rows and rows of strained, abstracted individuals were all that met the eye. Only one seemed to be unoccupied and when Henry rose from the handclasp, he said, "They've got three Centosaurs and that's all they can handle. We're starting back to the Highlands right now."

The rising sun found the party two miles up the river. The Tweenies, hugging the shore, cast wary eyes towards the bordering jungle. Through an occasional clearing, vast grey bulks could be made out. The noise of the reptilian shrieks was almost continuous.

"I'm sorry I brought you, Irene," said Henry. "I'm not so sure now that the Phibs can take care of the monsters."

Irene shook her head. "That's all right, Henry. I wanted to come. Only—I wish we had thought of letting the Phibs bring the beasts themselves. They don't need us."

"Yes, they do! If a Centosaur gets out of control, it will make straight for the Tweenies and they'd never get away."

"We've got the Tonite guns to kill the 'saur with if the worst comes to the worst—" His voice trailed away and he glanced at the lethal weapon in his hand and derived but cold comfort therefrom.

The first night was sleepless for both Tweenies. Somewhere, unseen in the blackness of the river, Phibs took shifts and their telepathic control over the tiny brains of the gigantic, twenty-legged Centosaurs maintained its tenuous hold. Off in the jungle, three hundred-ton monsters howled impatiently against the force that drove them up the river side against their will and raved impotently against the unseen barrier that prevented them from approaching the stream.

By the side of the fire, a pair of Tweenies, lost between mountainous flesh on one side and the fragile protection of a telepathic web on the other, gazed longingly towards the Highlands some forty miles off.

Progress was slow. As the Phibs tired, the Centosaurs grew balkier. But gradually, the air grew cooler. The rank jungle growth thinned out and the distance to Venustown shortened.

Henry greeted the first signs of familiar temperate-zone forest with a tremulous sigh of relief. Only Irene's presence prevented him from discarding his role of heroism.

He felt pitifully eager for their quixotic journey to be over, but he only said, "It's practically all over but the shouting.

And you can bet there'll be shouting, Irene. We'll be heroes, you and I."

Irene's attempt at enthusiasm was feeble. "I'm tired. Henry. Let's rest." She sank slowly to the ground, and Henry, after signalling the Phibs, joined her.

"How much longer, Henry?" Almost without volition, she found her head nestling wearily against his shoulder.

"One more day, Irene. Tomorrow this time, we'll be back."

He looked wretched, "You think we shouldn't have tried to do this ourselves, don't you?"

"Well, it seemed a good idea at the time."

"Yes, I know," said Henry. "I've noticed that I get lots of ideas that seem good at the time, but sometimes they turn sour." He shook his head philosophically, "I don't know why, but that's the way it is."

"All I know," said Irene, "is that I don't care if I never move another step in my life. I wouldn't get up now—"

Her voice died away as her beautiful blue eyes stared off towards the right. One of the Centosaurs stumbled into the waters of a small, tributary to the stream they were following.

Wallowing in the water, his huge serpentine body mounted on the ten stocky pairs of legs, glistened horribly. His ugly head weaved towards the sky and his terrifying call pierced the air.

A second joined him.

Irene was on her feet. "What are you waiting for. Henry.

Let's go! Hurry!"

Henry gripped his Tonite gun tightly and followed.

Arthur Scanlon gulped savagely at his fifth cup of black coffee and, with an effort, brought the Audiomitter into optical focus. His eyes, he decided, were becoming entirely too balky. He rubbed them into red-rimmed irritation and cast a glance over his shoulder at the restlessly sleeping figure on the couch.

He crept over to her, and adjusted the coverlet.

"Poor Mom," he whispered, and bent to kiss the pale Ups.

He turned to the Audiomitter and clenched a fist at it, "Wait till I get you, you crazy nut"

Madeline stirred, "Is it dark yet?"

"No," lied Arthur with feeble cheerfulness. "Hell call before sundown. Mom. You just sleep and let me take care of things. Dad's upstairs working on the stat-field and he says he's making progress. In a few days everything will be all right." He sat silently beside her and grasped her band tightly.

Her tired eyes closed once more. The signal light blinked on and, with a last look at his mother, he stepped out into the corridor, "Well!"

The waiting Tweenie saluted smartly, "John Barno wants to say that it looks as if we are in for a storm." He handed over an official report. Arthur glanced at it peevishly, "What of that? We've had plenty so far, haven't we? What do you expect of Venus?"

"This will be a particularly bad one, from all indications.

The barometer has fallen unprecedentedly. The ionic concentration of the upper atmosphere is at an unequalled maximum. The Beulah River has overflowed its banks and is rising rapidly."

The other frowned, "There's not an entrance to Venustown that isn't at least fifty yards above river level. As for rain—our drainage system is to be relied upon." He grimaced suddenly. "Go back and tell Bambo that it can storm for my part—for forty days and forty nights if it wants to. Maybe it will drive the Earthmen away."

He turned away, but the Tweenie held his ground, "Beg pardon sir, but that's not the worst. A scouting party today—"

Arthur whirled. "A scouting party? Who ordered one to be sent out?"

"Your father, sir. They were to make contact with the Phibs,—I don't know why."

"Well, go on."

"Sir, the Phibs could not be located."

And now, for the first time, Arthur was startled out of his savage ill-humor, "They were gone?"

The Tweenie nodded, "It is thought that they have sought shelter from the coming storm. It is that which causes Barno to fear the worst."

"They say rats desert a sinking ship," murmured Arthur.

He buried his head in trembling hands. "God! Everything at once! Everything at once!"

The darkening twilight hid the pall of blackness that lowered over the mountains ahead and emphasized the darting flashes of lightning that flickered on and off continuously.

Irene shivered, "It's getting sort of windy and chilly, isn't it?"

"The cold wind from the mountains. We're in for a storm, I guess," Henry assented absently. "I think the river is getting wider."

A short silence, and then, with sudden vivacity, "But look, Irene, only a few more miles to the lake and then we're practically at the Earth village. It's almost over."

Irene nodded, "I'm glad for all of us—and the Phibs, too."

She had reason for the last statement. The Phibs were swimming slowly now. An additional detachment had arrived the day before from upstream, but even with those reinforcements, progress had slowed to a walk. Unaccustomed cold was nipping the multi-legged reptiles and they yielded to superior mental force more and more reluctantly.

The first drops fell just after they had passed the lake.

Darkness had fallen, and in the blue glare of the lightning the trees about them were ghostly specters reaching swaying fingers towards the sky. A sudden flare in the distance marked the funeral pyre of a lightning-hit tree.

Henry paled. "Make for the clearing just ahead. At a time like this, trees are dangerous."

The clearing he spoke of composed the outskirts of the Earth village. The rough-hewn houses, crude and small against the fury of the elements, showed lights here and there that spoke of human occupancy. And as the first Centosaur stumbled out from between splintered trees, the storm suddenly burst in all its fury.

The two Tweenies huddled close. "It's up to the Phibs," screamed Henry, dimly heard above the wind and rain. "I hope they can do it."

The three monsters converged upon the houses ahead. They moved more rapidly as the Phibs called up every last bit of mental power.

Irene buried her wet head in Henry's equally wet shoulder, "I can't look! Those houses will go like matchsticks. Oh, the poor people!"

"No, Irene, no. They've stopped!"

The Centosaurs pawed vicious gouges out of the ground beneath and their screams rang shrill and clear above the noise of the storm. Startled Earthmen rushed from their cabins.

Caught unprepared—most having been roused from sleep—and faced with a Venusian storm and nightmarish Venusian monsters, there was no question of organized action. As they stood, carrying nothing but their clothes, they broke and ran.

There was the utmost confusion. One or two, with dim attempts at presence of mind, took wild, ineffectual pot-shots at the mountains of flesh before them—and then ran.

And when it seemed that all were gone, the giant reptiles surged forward once more and where once had been houses, there were left only mashed splinters.

"They'll never come back, Irene, they'll never come back."

Henry was breathless at the success of his plan. "We're heroes now, and—" His voice rose to a hoarse shriek, "Irene, get back! Make for the trees!"

The Centosaurian howls had taken on a deeper note. The nearest one reared onto his two hindmost pairs of legs and his great head, two hundred feet above ground, was silhouetted horribly against the lightning. With a rumbling thud, he came down on all feet again and made for the river—which under the lash of the storm was now a raging flood.

The Phibs had lost control! Henry's Tonite gun flashed into quick action as he shoved Irene away. She, however, backed away slowly and brought her own gun into line.

The ball of purple light that meant a hit blazed into being and the nearest Centosaur screamed in agony as its mighty tail threshed aside the surrounding trees. Blindly, the hole where once a leg had been gushing blood, it charged.

A second glare of purple and it was down with an earthshaking thud, its last shriek reaching a crescendo of shrill frightfulness.

But the other two monsters were crashing towards them.

They blundered blindly towards the source of the power that, had held them captive almost a week; driving violently with all the force of their mindless hate to the river. And in the path of the Juggernauts were the two Tweenies.

The boiling torrent was at their backs. The forest was a groaning wilderness of splintered trees and ear-splitting sound.

Then, suddenly, the reports of Tonite guns sounded from the distance. Purple glares—a flurry of threshing—spasmodic shrieking—and then a silence in which even the wind, as if overawed by recent events, held its peace momentarily.

Henry yelled his glee and performed an impromptu war dance. "They've come from Venustown, Irene," he shouted.

'They've got the Centosaurs and everything's finished! We've saved the Tweenies!"

It happened in a breath's time. Irene had dropped her gun and sobbed her relief. She was running to Henry and then she tripped—and the river had her.

"Henry!" The wind whipped the sound away.

For one dreadful moment. Henry found himself incapable of motion. He could only stare stupidly, unbelievably, at the spot where Irene had been, and then he was in the water. He plunged into the surrounding blackness desperately.

"Irene!" He caught his breath with difficulty. The current drove him on.

"Irene!" No sound but the wind. His efforts at swimming were futile. He couldn't even break surface for more than a second at a time, his lungs were bursting.

"Irene!" There was no answer. -Nothing but rushing water and darkness.

And then something touched him. He lashed out at it instinctively, but the grip tightened. He felt himself borne up into the air. His tortured lungs breathed in gasps. A grinning Phib face stared into his and after that there were nothing but confused impressions of cold, dark wetness.

He became aware of his surroundings by stages. First, that he was sitting on a blanket under the trees, with other blankets wrapped tightly about him. Then, he felt the warm radiation of the heat lamps upon him and the illumination of Atomo bulbs. People were crowding close and he noticed that it was no longer raining.

He stared about him hazily and then, "Irene!"

She was beside him, as wrapped up as he, and smiling feebly, "I'm all right, Henry. The Phibs dragged me back, too."

Madeline was bending over him and he swallowed the hot coffee placed to his lips. "The Phibs have told us of what you two have helped them do. We're all proud of you, son—you and Irene."

Max's smile transfigured his face into the picture of paternal pride, "The psychology you used was perfect. Venus is too vast and has too many friendly areas to expect Earthmen to return to places that have shown themselves to be infested with Centosaurs—not for a good long while. And when they do come back, we shall have our stat-field."

Arthur Scanlon hurried up out of the gloom. He thwacked Henry on the shoulder and then wrung Irene's hand. "Your guardian and I," he told her, "are fixing up a celebration for day after tomorrow, so get good and rested. It's going to be the greatest thing you ever saw."

Henry spoke lip, "Celebration, huh? Well, I'll tell you what you can do. After it's over, you can announce an engagement"

"An engagement?" Madeline sat up and looked interested.

"What do you mean?"

"An engagement—to be married," came the impatient answer. "I'm old enough, I suppose. Today proves it!"

Irene's eyes bent in furious concentration upon the grass, "With whom. Henry?"

"Huh? With you, of course. Gosh, who else could it be?"

"But you haven't asked me." The words were uttered slowly and with great firmness.

For a moment Henry flushed, and then his jaws grew grim, "Well, I'm not going to. I'm telling you! And what are you going to do about it?"

He leaned close to her and Max Scanlon chuckled and motioned the others away. On tip-toes, they left.

A dim shape hobbled into view and the two Tweenies separated in confusion. They had forgotten the others.

But it wasn't another Tweenie. "Why—why, it's a Phib!" cried Irene.

He limped his ungainly way across the wet grass, with the inexpert aid of his muscular arms. Approaching, he flopped wearily on his stomach and extended his forearms.

His purpose was plain. Irene and Henry grasped a hand apiece. There was silence a moment or two and the Phib's great eyes glinted solemnly in the light of the Atomo lamps.

Then there was a sudden squeal of embarrassment from Irene and shy laugh from Henry. Contact was broken.

"Did you get the same thing I did?" asked Henry.

Irene was red, "Yes, a long row of little baby Phibs, maybe fifteen—"

"Or twenty," said Henry.

"—with long white hair!"

THE END

The story, not surprisingly, reflects my personal situation at the time. I had gone to a boys' high school and to a boys' college. Now that I was in graduate school, however, the surroundings were, for the first time, coeducational.

In the fall of 1939, I discovered that a beautiful blond girl had the desk next to mine in the laboratory of my course in synthetic organic chemistry. Naturally I was attracted.

I persuaded her to go out with me on simple dates, the very first being on my twentieth birthday, when I took her to Radio City Music Hall. For five months, I mooned after her with feckless, romanticism.

At the end of the school year, though, she had earned her master of arts degree and, having decided not to go on for her doctorate, left school and took a job in Wilmington, Delaware, leaving me behind, woebegone and stricken.

I got over it, of course, but while she was still at school I wrote "Half-Breeds on Venus." Of all the stories I had yet written, it was the most heavily boy-and-girl. The heroine's name was Irene, which was the name of my pretty blond lab neighbor.

Merely having a few dates on the hand-holding level did not, however, perform the magic required to make me capable of handling passion in literature, and I continued to use girls sparingly in later stories—and a good thing, too, I think.

The success of "Half-Breeds on Venus" made the notion of writing sequels generally seem a good idea. A sequel to a successful story must, after all, be a reasonably sure sale.

So even while I was working on "Half-Breeds on Venus," I suggested to Campbell that I write a sequel to "Homo Sol."

Campbell's enthusiasm was moderate, but he was willing to look at such a sequel if I were to write it. I did write it as soon as "Half-Breeds on Venus" was done and called it "The Imaginary." Although it used one of the chief characters of "Homo Sol," the human-nonhuman confrontation was absent, which probably didn't help it as far as Campbell was concerned. I submitted it to him on June 11, and received it back—a rejection, sequel or no sequel—on June 19.

Pohl rejected it, too. Tremaine read it with more sympathy and was thinking of taking it for Comet, I heard, but that magazine ceased publication and the story was back on the market. Actually, I retired it, but two years later I sold it to Pohl's magazine after all—but at a time when Pohl was no longer editor.

But though I had my troubles and didn't click every time, or even right away, I did manage to make \$272 during my first year as a graduate student, and that was an enormous help.

THE IMAGINARY

Super Science Stories, November 1942
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The telecaster flashed its fitful signal, while Tan Porus sat by complacently. His sharp, green eyes glittered their triumph, and his tiny body was vibrant with excitement. Nothing could have better indicated the greatness of the occasion than his extraordinary position—Tan Porus had his feet on the desk! The 'caster glowed into life and a broad Arcturian countenance frowned fretfully out at the Rigellian psychologist.

"Do you have to drag me here straight from bed, Porus? It's the middle of the night!"

"It's broad daylight in this part of the world. Final. But I've got something to tell you that'll make you forget all about sleep."

Gar Final, editor of the J.G.P.—Journal of Galactic Psychology—allowed a look of alertness to cross his face. Whatever Tan Porus's faults—and Arcturus knew they were many—he had never issued a false alarm. If he said something great was in the air, it was not merely great—it was colossal! It was quite evident that Porus was enjoying himself.

"Final," he said, "the next article I send to your rag is going to be the greatest thing you've ever printed."

Final was impressed. "Do you really mean what you say?" he asked idiotically.

"What kind of a stupid question is that? Of course I do."

Listen—" There followed a dramatic silence, while the tenseness on Final's face reached painful proportions. Then came Porus's husky whisper—"I've solved the problem of the squid!"

Of course the reaction was exactly what Porus had expected. There was a blow-up at the other end, and for thirty interesting seconds the Rigellian was surprised to learn that the staid and respectable Final had a blistering vocabulary.

Porus's squid was a by-word throughout the galaxy. For two years now, he had been fussing over an obscure Draconian animal that persisted in going to sleep when it wasn't supposed to. He had set up equations and torn them down with a regularity that had become a standing joke with every psychologist in the Federation—and none had explained the unusual reaction. Now Final had been dragged from bed to be told that the solution had been reached—and that was all.

Final ripped out a concluding phrase that all but put the 'caster out of commission.

Porus waited for the storm to pass and then said calmly, "But do you know how I solved it?"

The other's answer was an indistinct mumble.

The Rigellian began speaking rapidly. All traces of amusement had left his face and, after a few sentences, all traces of anger left Final's.

The Arcturian's expression became one of wide-eyed interest. "No?" he gasped. "Yes!"

When Porus had finished. Final raced madly to put in rush calls to the printers to delay publication of the coming issue of the J.G.P. for two weeks. Puro Santins, head of the math department of the University of Arcturus, gazed long and steady at his Sirian colleague.

"No, no, you're wrong! His equations were legitimate. I checked them myself."

"Mathematically, yes," retorted the round-faced Sirian. "But psychologically they had no meaning."

Santins slapped his high forehead. "Meaning! Listen to the mathematician talk. Great space, man, what have mathematics to do with meaning? Mathematics is a tool and as long as it can be manipulated to give proper answers and to make correct predictions, actual meaning has no significance. I'll say this for Tan Porus—most psychologists don't know enough mathematics to handle a slide-rule efficiently, but he knows his stuff."

The other nodded doubtfully, "I guess so. I guess so. But using imaginary quantities in psychological equations stretches my faith in science just a little bit. Square root of minus one!"

He shuddered. . .

The seniors' lounge in Psychology Hall was crowded and a-buzz with activity. The rumor of Porus's solution to the now-classic problem of the squid had spread fast, and conversation touched on nothing else.

At the center of the thickest group was Lor Haridin. He was young, with but newly acquired Senior status. But as Porus's assistant he was, under present conditions, master of the situation.

"Look, fellows—just exactly what it's all about I don't know. That's the old man's secret. All I can tell you is that I've got the general idea as to how he solved it."

The others squeezed closer. "I hear he had to make up a new mathematical notation for the squid," said one, "like that time we had trouble with the humanoids of Sol."

Lor Haridin shook his head. "Worse! What made him think of it, I can't imagine. It was either a brainstorm or a nightmare, but anyway he introduced imaginary quantities—the square root of minus one."

There was an awful silence and then someone said, "I don't believe it!"

"Fact!" was the complacent reply.

"But it doesn't make sense. What can the square root of minus one represent, psychologically speaking? Why, that would mean—" he was doing rapid calculation in his head, as were most of the others—"that the neural synapses were hooked up in neither more nor less than four dimensions!"

"Sure," broke in another. "I suppose that if you stimulate the squid today, it will react yesterday. That's what an imaginary would mean. Comet gas! That's what I say."

"That's why you're not the man Tan Porus is," said Haridin.

"Do you suppose he cares how many imaginaries there are in the intermediate steps if they all square out into minus one in the final solution. All he's interested in is that they give him the proper sign in the answer—an answer which will explain that sleep business. As for its physical significance, what matter? Mathematics is only a tool, anyway."

The others considered silently and marveled.

Tan Porus sat in his stateroom aboard the newest and most luxurious interstellar liner and gazed at the young man before him happily. He was in amazing good humor and, for perhaps the first time in his life, did not mind being interviewed by the keen, efficient employees of the Ether Press.

The Ethereporter on his side wondered in silence at the affability of the scientist. From bitter experience, he had found out that scientists, as a whole, detested reporters—and that psychologists, in particular, thought it fun to practice a bit of applied psych on them and to induce killingly amusing—to others—reactions.

He remembered the time that the old fellow from Canopus had convinced him that arboreal life was the greatest good. It had taken twenty men to drag him down from the tree-tops and an expert psychologist to bring him back to normal.

But here was the greatest of them all. Tan Porus, actually answering questions like a normal human being.

"What I would like to know now, Professor," said the reporter, "is just what this imaginary quantity is all about. That is," he interposed hastily, "not the mathematics of it—we'll take your word on that—but just a general idea that the ordinary humanoid can picture. For instance, I've heard that the squid has a four-dimensional mind."

Porus groaned, "Oh, Rigel! Four-dimensional poppycock! To tell the honest truth, that imaginary I used—which seems to have caught the popular fancy—probably indicates nothing more than some abnormality in the squid's nervous system, but just what, I don't know. Certainly, to the gross methods of ecology and micro-physiology, nothing unusual has been found. No doubt, the answer would lie in the atomic physics of the creature's brain, but there I have no hope." There was a trace of disdain in his voice. "The atomic physicists are too far behind the psychologists to expect them to catch up at this late date."

The reporter bore down furiously on his stylus. The next day's headline was clear in his mind: Noted Psychologist Blasts Atomic Physicists! Also, the headline of the day after: Indignant Physicists Denounce Noted Psychologist! Scientific feuds were great stuff for the Ether Press, particularly that between psychologists and physicists, who, it was well known, hated each other's guts.

The reporter glanced up brightly. "Say, Professor, the humanoids of the galaxy are very interested, you know, in the private lives of you scientists. I hope you don't mind if I ask you a few questions about your trip home to Rigel IV."

"Go ahead," said Porus, genially. "Tell them it's the first time I'm getting home in two years. I'm sort of looking forward to it. Arcturus is just a bit too yellow for my eyes and the furniture you have here is too big."

"It's true, isn't it, that you have a wife at home?"

Porus coughed. "Hmm, yes. Sweetest little woman in the galaxy. I'm looking forward to seeing her, too. Put that down."

The reporter put it down. "How is it you didn't bring her to Arcturus with you?"

Some of the geniality left the Rigellian's face. "I like to be alone when I work. Women are all right—in their place. Besides, my idea of a vacation is one by myself. Don't put that down."

The reporter didn't put it down. He gazed at the other's little form with open admiration. "Say, Prof, how did you ever get her to stay home, though? I wish you'd tell me the secret"

Then, with a wealth of feeling he added, "I could use it!", Porus laughed. "I tell you, son. When you're an ace psychologist, you're master in your own home!"

He motioned the interview to an end and then suddenly grasped the other by the arm. His green eyes were piercingly sharp. "And listen, son, that last remark doesn't go into the story, you know."

The reporter paled and backed away. "No, sir; no sir! We've got a little saying in our profession that goes: 'Never monkey around with a psychologist, or he'll make a monkey of you.'"

"Good! I can do it literally, you know, if I have to."

The young press employee ducked out hastily after that, wiped the cold perspiration from his brow and left with his story. For a moment, towards the last, he had felt himself hanging on the ragged edge. He made a mental note to refuse all future interviews with psychologists—unless they raised his pay.

Tens of billions of miles out, the pure white orb of Rigel had reached Porus's eyes, and something in his heart uplifted him.

Type B reaction—nostalgia; conditioned reflex through association of Rigel with happy scenes of youth— Words, phrases, equations spun through his keen brain, but he was happy in spite of them. And in a little while, the human triumphed over the psychologist and Porus abandoned analysis for the superior joy of uncritical happiness.

He sat up past the middle of the sleep period two nights before the landing to catch first glimpse of Hanlon, fourth planet of Rigel, his home world. Some place on that world, on the shores of a quiet sea, was a little two-story house. A little house—not those giant structures fit only for Arcturians and other hulking humanoids.

It was the summer season now and the houses would be bathed in the pearly light of Rigel, and after the harsh yellow-red of Arcturus, how restful that would be.

And—he almost shouted in his joy—the very first night he was going to insist on gorging himself with broiled tryptex.

He hadn't tasted it for two years, and his wife was the best hand at tryptex in the system.

He winced a little at the thought of his wife. It had been a dirty trick, getting her to stay home the last two years, but it had had to be done. He glanced over the papers before him once more. There was just a little nervousness in his fingers as they shuffled the sheets. He had spent a full day in calculating her reactions at first seeing him after two years' absence and they were not pleasant. Nina Porus was a woman of untamed emotions, and he would have to work quickly and efficiently.

He spotted her quickly in the crowd. He smiled. It was nice to see her, even if his equations did predict long and serious storms. He ran over his initial speech once more and made a last-minute change.

And then she saw him. She waved frantically and broke from the forefront of the crowd. She was on Tan Porus before he was aware of it and, in the grip of her affectionate embrace, he went limp with surprise.

That wasn't the reaction to be expected at all! Something was wrong! She was leading him dexterously through the crowd of reporters to the waiting stratocar, talking rapidly along the way.

"Tan Porus, I thought I'd never live to see you again. It's so good to have you with me again; you have absolutely no idea. Everything here at home is just fine, of course, but it isn't quite the same without you."

Porus's green eyes were glazed. This speech was entirely uncharacteristic of Nina. To the sensitive ears of a psychologist, it sounded little short of the ravings of a maniac. He had not even the presence of mind to grunt at proper intervals.

Frozen mutely in his seat, he watched the ground rush downwards and heard the air shriek backwards as they headed for their little house by the sea.

Nina Porus prattled on gaily—the one normal aspect of her conversation being her ability to uphold both ends of a dialogue with smooth efficiency.

"And, of course, dear, I've fixed up an entire tryptex, broiled to a turn, garnished with sarnees. And, oh yes, about that affair last year with that new planet—Earth, do you call it? I was so proud of you when I heard about it. I said—"

And so on and on, until her voice degenerated into a meaningless conglomeration of sounds.

Where were her tears? Where were the reproaches, the threats, the impassioned self-pity? Tan Porus roused himself to one great effort at dinner. He stared at the steaming dish of tryptex before him with an odd lack of appetite and said, "This reminds me of the time at Arcturus when I dined with the President Delegate—"

He went into details, dilating on the gayety and abandon of the affair, waxing lyrical over his own enjoyment of it, stressing, almost unsubtly, the fact that he had not missed his wife, and finally, in one last wild burst of desperation, mentioning casually the presence of a surprising number of Rigellian females in the Arcturian system.

And through it all, his wife sat smiling. "Wonderful, darling," she'd say. "I'm so glad you enjoyed yourself. Eat your tryptex."

But Porus did not eat his tryptex. The mere thought of food nauseated him. With one lingering stare of dismay at his wife, he arose with what dignity he could muster and left for the privacy of his room.

He tore up the equations furiously and hurled himself into a chair. He seethed with anger, for evidently something had gone wrong with Nina. Terribly wrong! Even interest in another man—and for just a moment that had occurred to him as a possible explanation—would not cause such a revolution in character.

He tore at his hair. There was some hidden factor more startling than that—but what it was he had no idea. At that moment Tan Porus would have given the sum total of his worldly possessions to have his wife enter and make one—just one—attempt to snatch his scalp off, as of old.

And below, in the dining room, Nina Porus allowed a crafty gleam to enter her eye.

Haridin put down his pen and said, "Come in!"

The door opened, and his friend, Eblo Ranin, entered, brushed off a corner of the desk and sat down.

"Haridin, I've got an idea." His voice was uncommonly like a guilty whisper.

Haridin gazed at him suspiciously.

"Like the time," he said, "you set up the booby trap for old man Obel?"

Ranin shuddered. He had spent two days hiding in the ventilator shaft after that brilliant piece of work. "No, this is legitimate. Listen, Porus left you in charge of the squid, didn't he?"

"Oh, I see what you're getting at. It's no go. I can feed the squid, but that's all. If I as much as clapped my hands at it to induce a color-change tropism, the boss would throw a fit."

"To space with him! He's parsecs away, anyway." Ranin drew forth a two-month old copy of the J.G.P. and folded the cover back. "Have you been following Livell's experiments at Procyon U.? You know—magnetic fields applied with and without ultra-violet radiation."

"Out of my field," grunted Haridin. "I've beard of it, but that's all. What about it?"

"Well, it's a type E reaction which gives, believe it or not, a strong Fimbal Effect in practically every case, especially in the higher invertebrates."

"Hmm!"

"Now, if we could try it on this squid, we could—"

"No, no, no, no!" Haridin shook his head violently. "Porus would break me. Great stars and little meteors, how he would break me!"

"Listen, you nut—Porus can't tell you what to do with the squid. It's Friar Obel that has final say. He's head of the Psychological Board, not Porus. All you have to do is to apply for his permission and you'll get it. Just between us, since that Homo Sol affair last year, he can't stand the sight of Porus anyway."

Haridin weakened. "You ask him."

Ranin coughed. "No. On the whole, perhaps I'd better not."

He's sort of got a suspicion that I set that booby trap, and I'd rather keep out of his way."

"Hmm. Well—all right!"

Lor Haridin looked as if he had not slept well for a week—which shows that sometimes appearances are not deceiving.

Eblo Ranin regarded him with patient kindness and sighed.

"Look! Will you please sit down? Santin said he would have the final results in today, didn't he?"

"I know, I know, but it's humiliating. I spent seven years on higher math. And now I make a stupid mistake and can't even find it!"

"Maybe it's not there to find."

"Don't be silly. The answer is just impossible. It must be impossible. It must be." His high forehead creased. "Oh, I don't know what to think."

He continued his concentrated attempt to wear out the nap of the rug beneath and mused bitterly. Suddenly he sat down.

"It's those time integrals. You can't work with them, I tell you. You look 'em up in a table, taking half an hour to find the proper entry, and they give you seventeen possible answers. You have to pick the one that makes sense, and—Arcturus help me!—either they all do, or none do! Run up against eight of them, as we do in this problem, and we've got enough permutations to last us the rest of our life. Wrong answer! It's a wonder I lived through it at all."

The look he gave the fat volume of Helo's Tables of Time Integrals did not sear the binding, to Ranin's great surprise.

The signal light flashed, and Haridin leaped to the door.

He snatched the package from the messenger's hand and ripped open the wrappings frantically.

He turned to the last page and stared at Santin's final note: Your calculations are correct. Congratulations—and won't this knock Porus's head right off his shoulders! Better get in touch with him at once.

Ranin read it over the other's shoulder, and for one long minute the two gazed at each other.

"I was right," whispered Haridin, eyes bulging. "We've found something in which the imaginary doesn't square out."

"We've got a predicted reaction which includes an imaginary quantity!"

The other swallowed and brushed aside his stupefaction with an effort. "How do you interpret it?"

"Great space! How in the galaxy should I know? We've got to get Porus, that's all."

Ranin snapped his fingers and grabbed the other by the shoulders. "Oh, no, we won't. This is our big chance. If we can carry this through, we're made for life." He shuttered in his excitement. "Arcturus! Any psychologist would sell his life twice over to have our opportunity right now."

The Draconian squid crawled placidly about, unawed by the huge solenoid that surrounded its tank. The mass of tangled wires, the current leads, the mercury-vapor lamp up above meant nothing to it. It nibbled contentedly at the fronds of the sea fern about it, and was at peace with the world.

Not so the two young psychologists. Eblo Ranin scurried through the complicated set-up in a last-minute effort at checking everything. Lor Haridin helped him in intervals between nail-biting.

"Everything's set," said Ranin, and swabbed wearily at his damp brow. "Let her shoot!"

The mercury-vapor lamp went on and Haridin pulled the window curtains together. In the cold red-less light, two green-tinted faces watched the squid closely. It stirred restlessly, its warm pink changing to a dull black in the mercury light "Turn on the juice," said Haridin hoarsely.

There was a soft click, and that was all.

"No reaction?" questioned Ranin, half to himself. And then he held his breath as the other bent closer, "Something's happening to the squid. It seems to glow a bit—or is it my eyes?"

The glow became perceptible and then seemed to detach itself from the body of the animal and take on a spherical shape of itself. Long minutes passed.

"It's emitting some sort of radiation, field, force—whatever you want to call it—and there seems to be expansion with time."

There was no answer, and none was expected. Again they waited and watched.

And then Ranin emitted a muffled cry and grasped Haridin's elbow tightly.

"Crackling comets, what's it doing?"

The globular glowing sphere of whatever it was had thrust out a pseudopod. A gleaming little projection touched the swaying branch of the sea-fern, and where it touched the leaves turned brown and withered! "Shut off the current!"

The current clicked off; the mercury-vapor lamp went out; the shades were parted and the two stared at each other nervously.

"What was it?"

Haridin shook his head. "I don't know. It was something definitely insane. I never saw anything like it"

"You never saw an imaginary in a reaction equation before, either, did you? As a matter of fact, I don't think that expanding field was any known form of energy at—"

His breath came out in one long whistling exhalation and he retreated slowly from the tank containing the squid. The mollusc was motionless, but around it half the fern. in the tank hung sere and withered.

Haridin gasped. He pulled the shades and in the gloom, the globe of glowing haze bulked through half the tank. Little curving tentacles of light reached toward the remaining fern and one pulsing thread extended through the glass and was creeping along the table.

That fright in Ranin's voice rendered it a cracked, scarcely understood sound.

"It's a lag reaction. Didn't you test it by Wilbon's Theorem?"

"How could I?" The other's heart pumped madly and his dry lips fought to form words. "Wilbon's Theorem didn't make sense with an imaginary in the equation. I let it go."

Ranin sped into action with feverish energy. He left the room and was back in a moment with a tiny, squealing, squirrel-like animal from his own lab. He dropped it in the path of the thread of light stealing along the table, and held it there with a yard rule.

The glowing thread wavered, seemed to sense the presence of life in some horribly blind way, and lunged towards it. The little rodent squealed once, a high-pitched shriek of infinite torture, and went limp. In two seconds it was a shriveled, shrunken travesty of its former self.

Ranin swore and dropped the rule with a sudden yell, for the thread, of light—a bit brighter, a bit thicker—began creeping up the wood toward him.

"Here," said Haridin, "let's end this!" He yanked a drawer open and withdrew the chromium-plated Tonite gun within. Its sharp thin beam of purple light lunged forward towards the squid and exploded in blazing, soundless fury against the edge of the sphere of force. The psychologist shot again and again, and then compressed the trigger to form one continuous purple stream of destruction that ceased only when power failed.

And the glowing sphere remained unharmed. It engulfed the entire tank. The ferns were brown masses of death.

"Get the Board," yelled Ranin. "It's beyond us entirely!"

There was no confusion—humanoids in the mass are simply not subject to panic, if you don't count the half-genius, half-humanoid inhabitants of the planets of Sol—and the evacuation of the University grounds was carried out smoothly.

"One fool," said old Mir Deana, ace physicist of Arcturus II, "can ask more questions than a thousand wise men can answer." He fingered his scraggly beard and his button nose sniffed loudly in disdain.

"What do you mean by that?" questioned Friar Obel sharply. His green Vegan skin darkened angrily.

"Just that, by analogy, one cosmic fool of a psychologist can make a bigger mess than a thousand physicists can clear up."

Obel drew in his breath dangerously. He had his own opinion of Haridin and Ranin, but no lame-brain physicist could—The plump figure of Qual Wynn, university president, came charging down upon them. He was out of breath and spoke between puffs.

"I've gotten in touch with the Galactic Congress and they're arranging for evacuation of all Eron, if necessary." His voice became pleading. "Isn't there anything that can be done?" Mir Deana sighed, "Nothing—yet! All we know is this: the squid is emitting some sort of pseudo-living radiatory field which is not electromagnetic in character. Its advance cannot be stopped by anything we have yet tried, material or vacuum.

None of our weapons affect it, for within the field the ordinary attributes of space-time apparently don't hold."

The president shook a worried head. "Bad, bad! You've sent for Porus, though?" He sounded as though we were clutching at a last straw.

"Yes," scowled Friar Obel. "He's the only one that really knows that squid. If he can't help us, no one can." He stared off toward the gleaming white of the university buildings, where the grass over half the campus was brown stubble and the trees blasted ruins.

"Do you think," said the president, turning to Deana once more, "that the field can span interplanetary space?"

"Sizzling novae, I don't know what to think!" Deana exploded, and he turned pettishly away.

There was a thick silence of utter gloom.

Brilliant coruscations of color overhead. He didn't hear a sound of the melodious tones that filled the auditorium.

He knew only one thing—that he had been talked into attending a concert. Concerts above all were anathema to him, and in twenty years of married life he had steered clear of them with a skill and ease that only the greatest psychologist of them all could have shown. And now— He was startled out of his stupor by the sudden discordant sounds that arose from the rear.

There was a rush of ushers to the exit where the disturbance originated, a waving of protesting uniformed arms and then a strident voice: "I am here on urgent business direct from the Galactic Congress on Eron, Arcturus. Is Tan Poms in the audience?"

Tan Porus was out of his seat with a bound. Any excuse to leave the auditorium was nothing short of heaven-sent.

He ripped open the communication handed him by the messenger and devoured its contents. At the second sentence, his elation left him. When he was finished, he raised a face in which only his darting green eyes seemed alive.

"How soon can we leave?"

"The ship is waiting now."

"Come, then."

He took one step forward and stopped. There was a hand on his elbow.

"Where are you going?" asked Nina Porus. There was hidden steel in her voice.

Tan Porus felt stifled for a moment. He foresaw what would happen. "Darling, I must go to Eron immediately. The fate of a world, of the whole galaxy perhaps, is at stake. You don't know how important it is. I tell you—"

"All right, go! And I'll go with you."

The psychologist bowed his head.

"Yes, dear!" he said. He sighed.

The psychological board hemmed and hawed as one man and then stared dubiously at the large-scale graph before them.

"Frankly, gentlemen," said Tan Porus, "I don't feel too certain about it myself, but—well, you've all seen my results, and checked them too. And it is the only stimulus that will yield a canceling reaction."

Frian Obel fingered his chin nervously. "Yes, the mathematics is clear. Increase in hydrogen-ion activity past pH3 would set up a Demane's Integral and that— But listen, Porus, we're not dealing with space-time. The math might not hold —perhaps nothing will hold."

"It's our only chance. If we were dealing with normal spacetime, we could just dump in enough acid to kill the blasted squid or fry it with a Tonite. As it is, we have no choice but to take our chances with—"

Loud voices interrupted him. "Let me through, I say! I don't care if there are ten conferences going on!"

The door swung open and Qual Wynn's portly figure made its entrance. He spied Porus and bore down upon him. "Porus, I tell you I'm going crazy. Parliament is holding me, as university president, responsible for all this, and now Deana says that—" He sputtered into silence and Mir Deana, standing composedly behind him, took up the tale.

"The field now covers better than one thousand square miles and its rate of increase is growing steadily. There seems to be no doubt now that it can span interplanetary space if it wishes to do so—interstellar as well, if given the time."

"You hear that? You hear that?" Wynn was fairly dancing in his anxiety. "Can't you do something? The galaxy is doomed, I tell you, doomed!"

"Oh, keep your tunic on," groaned Porus, "and let us handle this." He turned to Deana. "Didn't your physicist stooges conduct some clumsy investigations as to the speed of penetration of the field through various substances?"

Deana nodded stiffly.

"Penetration varies, in general, inversely with density.

Osmium, iridium and platinum are the best. Lead and gold are fair."

"Good! That checks! What I'll need then is an osmium-plated suit with a lead-glass helmet. And make both plating and helmet good and thick."

Qual Wynn stared horrified. "Osmium plating! Osmium! By the great nebula, think of the expense."

"I'm thinking," said Porus frostily..

"But they'll charge it to the university; they'll—" He recovered with difficulty as the somber stares of the assembled psychologists fastened themselves upon him. "When do you need it?" he muttered weakly.

"You're really going, yourself?"

"Why not?" asked Porus, clambering out of the suit.

Mir Deana said, "The lead-glass headpiece will hold off the field not longer than an hour and you'll probably be getting partial penetration in much shorter time. I don't know if you can do it."

"I'll worry about that." He paused, and then continued uncertainly. "I'll be ready in a few minutes. I'd like to speak to my wife first—alone."

The interview was a short one. It was one of the very few occasions that Tan Poms forgot that he was a psychologist, and spoke as his heart moved him, without stopping to consider the natural reaction of the one spoken to.

One thing he did know—by instinct rather than thought— and that was that his wife would not break down or go sentimental on him; and there he was right. It was only in the last few seconds that her eyes fell and her voice quavered. She tugged a handkerchief from her wide sleeve and hurried from the room.

The psychologist stared after her and then stooped to pick up the thin book that had fallen as she had removed the handkerchief. Without looking at it, he placed it in the inner pocket of his tunic.

He smiled crookedly. "A talisman!" he said.

Tan Porus's gleaming one-man cruiser whistled into the "death field." The clammy sensation of desolation impressed itself upon him at once.

He shrugged. "Imagination! Mustn't get nervy now."

There was the vaguest glitter—a sparkle that was felt rather than seen—in the air about him. And then it invaded the ship itself, and, looking up, the Rigellian saw the five Eronian ricebirds he had brought with him lying dead on the floor of their cage, huddled masses of bedraggled feathers.

"The 'death field' is in," he whispered. It had penetrated the steel hull of the cruiser.

The cruiser bumped to a rather unskillful landing on the broad university athletic field, and Tan Porus, an incongruous figure in the bulky osmium suit, stepped out. He surveyed his depressing surroundings. From the brown stubble underfoot to the glimmering haze that hid the normal blue of the sky, all seemed—dead.

He entered Psychology Hall.

His lab was dark; the shades were still drawn. He parted them and studied the squid's tank. The water replenisher was still working, for the tank was full. However, that was the only normal thing about it. Only a few dark-brown, ragged strands of rot were left of what had once been sea-fern. The squid itself lay inertly upon the floor of the tank.

Tan Porus sighed. He felt tired and numbed. His mind was hazy and unclear. For long minutes he stared about him unseeingly.

Then, with an effort, he raised the bottle he held and glanced at the label—12 molar hydrochloric acid.

He mumbled vaguely to himself. "Two hundred cc. Just dump the whole thing in. That'll force the pH down—if only hydrogen ion activity means something here."

He was fumbling with the glass stopper, and—suddenly— laughing. He had felt exactly like this the one and only time he had ever been drunk.

He shook the gathering cobwebs from his brain. "Only got a few minutes to do—to do what? I don't know—something anyway. Dump this thing in. Dump it in. Dump! Dump! Dumpety-dump!" He was mumbling a silly popular song to himself as the acid gurgled its way into the open tank.

Tan Porus felt pleased with himself and he laughed. He stirred the water with his mailed fist and laughed some more.

He was still singing that song.

And then he became aware of a subtle change in environment. He fumbled for it and stopped singing. And then it hit him with the suddenness of a downpour of cold water. The glitter in the atmosphere had gone! With a sudden motion, he unclasped the helmet and cast it off. He drew in long breaths of air, a bit musty, but unkillling.

He had acidified the water of the tank, and destroyed the field at its source. Chalk up another victory for the pure mathematics of psychology! He stepped out of his osmium suit and stretched. The pressure on his chest reminded him of something. Withdrawing the booklet his wife had dropped, he said, "The talisman came through!" and smiled indulgently at his own whimsy.

The smile froze as he saw for the first time the title upon the book.

The tide was Intermediate Course in Applied Psychology— Volume 5.

It was as if something large and heavy had suddenly fallen onto Porus's head and driven understanding into it. Nina had been boning up on applied psych for two -whole years.

This was the missing factor. He could allow for it. He would have to use triple time integrals, but— He threw the communicator switch and waited for contact. "Hello! This is Poms! Come on in, all of you! The death field is gone! I've beaten the squid." He broke contact and added triumphantly, "—and my wife!"

Strangely enough—or, perhaps, not so strangely—it was the latter feat that pleased him more.

THE END

The chief interest to me in "The Imaginary" is that it foreshadows the "psychohistory" that was to play such a big role in the "Foundation" series. It was in this story and in its predecessor, "Homo Sol," that for the first time I treated psychology as a mathematically refined science.

It was about time that I made another stab at Unknown, and I did so with a story called "The Oak," which, as I recall, was something about an oak tree that served as an oracle and delivered ambiguous statements. I submitted it to Campbell on July 16, 1940, and it was promptly rejected.

One of the bad things about writing for Unknown was that the magazine was one of a kind. If Unknown rejected a story, there was no place else to submit it. It was possible to try Weird Tales, a magazine that was older than any science fiction magazine, but it dealt with old-fashioned, creaky horror tales and paid very little to boot. I wasn't really interested in trying to get into it. (And besides, they rejected both "Life Before Birth" and "The Oak" when I submitted them.) Still, July 29, 1940, was a turning point in my career, although, of course, I had no way of telling it. I had up to that point written twenty-two stories in twenty-five months.

Of these I had sold (or was to sell) thirteen, while nine never sold at all and no longer exist. The record wasn't abysmal but neither was it great—let's call it mediocre.

However, as it happened, except for two short-short stories that were special cases, I never again wrote a science fiction story I could not sell. I had found the range.

But not Campbell's range particularly. In August I wrote "Heredity," which I submitted to Campbell on August 15, and which he rejected two weeks later. Fortunately, Pohl snapped it up at once.

HEREDITY

Astonishing Stories, April 1941
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Dr. Stefansson fondled the thick sheaf of typewritten papers that lay before him, "It's all here, Harvey—twenty-five years of work."

Mild-mannered Professor Harvey puffed idly at his pipe, "Well, your part is over—and Markey's, too, on Ganymede.

It's up to the twins, themselves, now."

A short ruminative silence, and then Dr. Stefansson stirred uneasily, "Are you going to break the news to Alien soon?"

The other nodded quietly, "It will have to be done before we get to Mars, and the sooner the better." He paused, then added in a tightened voice, "I wonder how it feels to find out after twenty-five years that one has a twin brother whom one has never seen. It must be a damned shock."

"How did George take it?"

"Didn't believe it at first, and I don't blame him. Markey had to work like a horse to convince him it wasn't a hoax. I suppose I'll have as hard a job with Alien." He knocked the dottle from his pipe and shook his head.

"I have half a mind to go to Mars just to see those two get together," remarked Dr. Stefansson wistfully.

"You'll do no such thing, Stef. This experiment's taken too long and means too much to have you rum it by any such fool move."

"I know, I know! Heredity versus environment! Perhaps at last the definite answer." He spoke half to himself, as if repeating an old, familiar formula, "Two identical twins, separated at birth; one brought up on old, civilized Earth, the other on pioneer Ganymede. Then, on their twenty-fifth birthday brought together for the first time on Mars—God! I wish Carter had lived to see the end of it They're his children."

'Too bad!—But we're alive, and the twins. To carry the experiment to its end will be our tribute to him."

There is no way of telling, at first seeing the Martian branch of Medicinal Products, Inc., that it is surrounded by anything but desert. You can't see the vast underground caverns where the native fungi of Mars are artificially nurtured into huge blooming fields. The intricate transportation system that connects all parts of the square miles of fields to the central building is invisible. The irrigation system; the air-purifiers; the drainage pipes, are all hidden.

And what one sees is the broad squat red-brick building and Martian desert, rusty and dry, all about That had been all George Carter had seen upon arriving via rocket-taxi, but him, at least, appearances had not deceived.

It would have been strange had it done so, for his life on Ganymede had been oriented in its every phase towards eventual general managership of that very concern. He knew every square inch of the caverns below as well as if he had been born and raised in them himself.

And now he sat in Professor Lemuel Harvey's small office and allowed just the slightest trace of uneasiness to cross his impassive countenance. His ice-blue eyes sought those of Professor Harvey.

"This—this twin brother o' mine. He'll be here soon?"

Professor Harvey nodded, "He's on his way over right now."

George Carter uncrossed his knees. His expression was almost wistful, "He looks a lot like me, d'ya rackon?"

"Quite a lot You're identical twins, you know."

"Hmm! Rackon so! Wish I'd known him all the time—on Gannyl" He frowned. "He's lived on Airth all's life, huh?"

An expression of interest crossed Professor Harvey's face.

He said briskly, "You dislike Earthmen?"

"No, not exactly," came the immediate answer. "It's just the Airthmen are tanderfeet. All of 'm I know are."

Harvey stifled a grin, and conversation languished.

The door-signal snapped Harvey out of his reverie and George Carter out of his chair at the same instant. The professor pressed the desk-button and the door opened.

The figure on the threshold crossed into the room and then stopped. The twin brothers faced each other.

It was a tense, breathless moment, and Professor Harvey sank into his soft chair, put his finger-tips together and watched keenly.

The two stood stiffly erect, ten feet apart, neither making a move to lessen the distance. They made a curious contrast—a contrast all the more marked because of the vast similarity between the two.

Eyes of frozen blue gazed deep into eyes of frozen blue.

Each saw a long, straight nose over full, red lips pressed firmly together. The high cheekbones were as prominent in one as in the other, the jutting, angular chin as square. There was even the same, odd half-cock of one eyebrow in twin expressions of absorbed, part-quizzical interest.

But with the face, all resemblance ended. Alien Carter's clothes bore the New York stamp on every square inch. From his loose blouse, past his dark purple knee breeches, salmon-colored cellulite stockings, down to the glistening sandals on his feet, he stood a living embodiment of latest Terrestrial fashion.

For a fleeting moment, George Carter was conscious of a feeling of ungainliness as he stood there in his tight-sleeved, close-necked shirt of Ganymedan linen. His

unbuttoned vest and his voluminous trousers with their ends tucked into high-laced, heavy-soled boots were clumsy and provincial. Even he felt it—for just a moment From his sleeve-pocket Alien removed a cigarette case—it was the first move either of the brothers had made—opened it, withdrew a slender cylinder of paper-covered tobacco that spontaneously glowed into life at the first puff.

George hesitated a fraction of a second and his subsequent action was almost one of defiance. His hand plunged into his inner vest pocket and drew therefrom the green, shriveled form of a cigar made of Ganymedan greenleaf. A match flared into flame upon his thumbnail and for a long moment, he matched, puff for puff, the cigarette of his brother.

And then Allen laughed—a queer, high-pitched laugh, "Your eyes are a little closer together, I think."

"Rackon 'tis, maybe. Y'r hair's fixed sort o' different."

There was faint disapproval in his voice. Alien's hand went self-consciously to his long, light-brown hair, carefully curled at the ends, while his eyes flickered over the carelessly-bound queue into which the other's equally long hair was drawn.

"I suppose we'll have to get used to each other. —I'm willing to try." The Earth twin was advancing now, hand outstretched.

George smiled, "Y' bet. 'At goes here, too."

The hands met and gripped.

"Y'r name's All'n, huh?" said George.

"And yours is George, isn't it?" answered Alien.

And then for a long while they said nothing more. They just looked—and smiled as they strove to bridge the twenty-five year gap that separated them.

George Carter's impersonal gaze swept over the carpet of low-growing purple blooms that stretched in plot-path bordered squares into the misty distance of the caverns. The newspapers and feature writers might rhapsodize over the "Fungus Gold" of Mars—about the purified extracts, in yields of ounces to acres of blooms, that had become indispensable to the medical profession of the System. Opiates, purified vitamins, a new vegetable specific against pneumonia—the blooms were worth their weight in gold, almost.

But they were merely blooms to George Carter—blooms to be forced to full growth, harvested, baled, and shipped to the Aresopolis labs hundreds of miles away.

He cut his little ground car to half-speed and leant furiously out the window, "Hi y' mudcat there. Y' with the dairty face. Watch what y'r doing—keep the domned water in the channel."

He drew back and the ground car leapt ahead once more.

The Ganymedan muttered viciously to himself, "These domned men about here are wairse than useless. So many machines t' do their wairk for 'm they give their brains a pairmenent vacation, I rackon."

The ground car came to a halt and he clambered out. Picking his way between the fungus plots, he approached the clustered group of men about the spider-armed machine in the plotway ahead.

"Well, here I am. What is 't, All'n?"

Alien's head bobbed up from behind the other side of the machine. He waved at the men about him, "Stop it for a second!" and leaped toward his twin.

"George, it works. It's slow and clumsy, but it works. We can improve it now that we've got the fundamentals down. And in no time at all, we'll be able to—"

"Now wait a while, All'n. On Ganny, we go slow. Y' live long, that way. What y' got there?"

Alien paused and swabbed at his forehead. His face shone with grease, sweat, and excitement. "I've been working on this thing ever since I finished college. It's a modification of something we have on Earth—but it's no end improved. It's a mechanical bloom picker."

He had fished a much-folded square of heavy paper from his pocket and talked steadily as he spread it on the plotway before them, "Up to now, bloom-picking has been the bottleneck of production, to say nothing of the 15 to 20% loss due to picking under- and over-ripe blooms. After all, human eyes are only human eyes, and the blooms—Here, look!"

The paper was spread flat and Alien squatted before it George leaned over his shoulder, with frowning watchfulness.

"You see. It's a combination of fluoroscope and photoelectric cell. The ripeness of the bloom can be told by the state of the spores within. This machine is adjusted so that the proper circuit is tripped upon the impingement of just that combination of light and dark formed by ripe spores within the bloom. On the other hand, this second circuit—but look, it's easier to show you."

He was up again, brimming with enthusiasm. With a jump, he was in the low seat behind the picker and had pulled the lever.

Ponderously, the picker turned towards the blooms and its "eye" travelled sideways six inches above the ground. As it passed each fungus bloom, a long spidery arm shot out, lopping it cleanly half an inch from the ground and depositing it neatly in the downward sloping slide beneath. A pile of blooms formed behind the machine.

"We can hook on a binder, too, later on. Do you notice those blooms it doesn't touch? Those are unripe. Just wait till it comes to an over-ripe one and see what it does."

He yelled in triumph a moment later when a bloom was torn out and dropped on the spot.

He stopped the machine, "You see? In a month, perhaps, we can actually start putting it to work in the fields."

George Carter gazed sourly upon his twin, "Take more 'n a month, I rackon. It'll take foraver, more likely."

"What do you mean, forever. It just has to be sped up—"

"I don't care if 't just has t' be painted pairple. 'Tisn't going t' appear on my fields."

"Your fields?"

"Yup, mine," was the cool response. "I've got veto pow'r here same as you have. Y' can't do anything 'thout my say-so —and y' won't get it f'r this. In fact, I want y' t' clear that thing out o' here, altogether. Got no use f'r 't."

Alien dismounted and faced his brother, "You agreed to let me have this plot to experiment on, veto-free, and I'm holding you to that agreement."

"All right, then. But keep y'r domned machine out o' the rest o' the fields."

The Earthman approached the other slowly. There was a dangerous look in his eyes. "Look, George, I don't like your attitude—and I don't like the way you're using your veto power. I don't know what you're used to running on Ganymede, but you're in the big time now, and there are a lot of provincial notions you'll have to get out of your head."

"Not unless I want to. And if y' want t' have 't out with me, we'd better go t' y'r office. Spatting before the men 'd be bad for discipline."

The trip back to Central was made in ominous silence.

George whistled softly to himself while Alien folded his arms and stared with ostentatious indifference at the narrow, twisting plotway ahead. The silence persisted as they entered the Earthman's office. Alien gestured shortly towards a chair and the Ganymedan took it without a word. He brought out his ever-present green-leaf cigar and waited for the other to speak.

Alien hunched forward upon the edge of his seat and leaned both elbows on his desk. He began with a rush.

"There's lots to this situation, George, that's a mystery to me. I don't know why they brought up you on Ganymede and me on Earth, and I don't know why they never let us know of each other, or made us co-managers now with veto power over one another—but I do know that the situation is rapidly growing intolerable.

"This corporation needs modernization, and you know that.

Yet you've been wielding that veto-power over every trifling advance I've tried to initiate. I don't know just what your viewpoint is, but I've a suspicion that you think you're still living on Ganymede. If you're still in the sticks,—I'm warning you—get out of them fast. I'm from Earth, and this corporation is going to be run with Earth efficiency and Earth organization. Do you understand?"

George puffed odorous tobacco at the ceiling before answering, but when he did, his eyes came down sharply, and there was a cutting edge to his voice.

"Airth, is it? Airth efficiency, no less? Well, All'n, I like ye.

I can't help it y'r so much like me, that disliking y' would be like disliking myself, I rackon. I hate t' say this, but y'r upbringing's all wrong."

His voice became sternly accusatory, "Y'r an Airthman. Well, look at y'. Airthman's but half a man at best, and naturally y' lean on machines. But d' y' suppose I want the corporation to be run by machines—just machines? What're the men t' do?"

'The men run the machines," came the clipped, angry response.

The Ganymedan rose, and a fist slammed down on the desk, "The machines run the men, and y' know it. Fairst, y' use them; then y' depend on them; and finally y'r slaves t' them. Over on y'r pracious Airth, it was machines, machines, machines—and as a result, what are y"! I'll tell y'. Half a man!"

He drew himself up, "I still like y'. I like y' enough t' wish y'd lived on Gannie with me. By Jupe 'n' domn, 't would have made a man o' y'."

"Finished?" said Alien.

"Rackon sol"

"Then I'll tell you something. There's nothing wrong with you that a life time on a decent planet wouldn't have fixed. As it is, however, you belong on Ganymede. I'd advise you to go back there."

George spoke very softly, "Y'r not thinking o' taking a punch at me, are y'?"

"No. I couldn't fight a mirror image of myself, but if your face were only a little different, I would enjoy splashing it about the premises a bit."

"Think y' could do it—an Airthman like you? Here, sit down. We're both getting a bit too excited, I rackon. Nothing!! be settled this way."

He sat down once more, puffed vainly at his dead cigar, and tossed it into the incinerator chute in disgust.

"Where's y'r water?" he grunted.

Alien grinned with sudden delight, "Would you object to having a machine supply it?"

"Machine? What d' y' mean?" The Ganymedan gazed about him suspiciously.

"Watch! I had this installed a week ago." He touched a button on his desk and a low click sounded below. There was the sound of pouring water for a second or so and then a circular metal disk beside the Earthman's right hand slid aside and a cup of water lifted up from below.

"Take it," said Alien.

George lifted it gingerly and drank it down. He tossed the empty cup down the incinerator shaft, then stared long and thoughtfully at his brother, "May I see this water feeder o' y'rs?"

"Surely. It's just under the desk. Here, I'll make room for you."

The Ganymedan crawled underneath while Alien watched uncertainly. A brawny hand was thrust out suddenly and a muffled voice said, "Hand me a screwdriver."

"Here! What are you going to do?"

"Nothing. Nothing 't all. Just want t' investigate this contraption."

The screw-driver was handed down and for a few minutes there was no other sound than an occasional soft scraping of metal on metal. Finally, George withdrew a flushed face and adjusted his wrinkled collar with satisfaction.

"Which button do I press for the water?"

Alien gestured and the button was pressed. The gurgling of water sounded. The Earthman stared in mystification from his desk to his brother and back again. And then he became aware of a moistness about his feet.

He jumped, looked downwards, and squawked in dismay, "Why, damn you, what have you done?" A snaky stream of water wriggled blindly out from under the desk and the pouring sound of water still continued.

George made leisurely for the door, "Just short-caircuited it. Here's y'r screw-driver; fix 't up again." And just before he slammed the door, "So much f'r y'r pracious machines. They go wrong at the wrong times."

The sounder was buzzily insistent and Alien Carter opened one eye peevishly. It was still dark.

With a sigh, he lifted one arm to the head of his bed and put the Audiomitter into commission.

The treble voice of Amos Wells of the night shift squawked excitedly at him. Alien's eyes snapped open and he sat up.

"You're crazy!" But he was plunging into his breeches even as he spoke. In ten seconds, he was careening up the steps three at a time. He shot into the main office just behind the charging figure of his twin brother.

The place was crowded;—its occupants in a jitter.

Alien brushed his long hair out of his eyes, "Turn on the turret searchlight!"

"It's on," said someone helplessly.

The Earthman rushed to the window and looked out. The yellow beam reached dimly out a few feet and ended in a muddy murkiness. He pulled at the window and it lifted upwards grittily a few inches. There was a whistle of wind and a tornado of coughing from within the room. Alien slammed it down again and his hands went at once to his tear-filled eyes.

George spoke between sneezes, "We're not located in the sandstorm zone. This can't be one."

"It is," asserted Wells in a squeak. "It's the worst I've ever seen. Started full blast from scratch just like that. It caught me flat-footed. By the time I closed off all exits to above, it was too late."

"Too late!" Alien withdrew his attention from his sand-filled eyes and snapped out the words, "Too late for what?"

"Too late for our rolling stock. Our rockets got it worst of all. There isn't one that hasn't its propulsives clogged with sand. And that goes for our irrigation pumps and the ventilating system. The generators below are safe but everything else will have to be taken apart and put together again. We're stalled for a week at least. Maybe more."

There was a short, pregnant silence, and then Alien said, "Take charge. Wells. Put the men on double shift and tackle the irrigation pumps first. They've got to be in working order inside of twenty-four hours, or half the crop will dry up and die on us. Here—wait, I'll go with you."

He turned to leave, but his first footstep froze in midair at the sight of Michael Anders, communications officer, rushing up the stairs.

"What's the matter?"

Anders spoke between gasps, "The damned planet's gone crazy. There's been the biggest quake in history with its center not ten miles from Aresopolis."

There was a chorus of "What?" and a ragged follow-up of blistering imprecations. Men crowded in anxiously;—many had relatives and wives in the Martian metropolis.

Anders went on breathlessly, "It came all of a sudden.

Aresopolis is in ruins and fires have started. There aren't any details but the transmitter at our Aresopolis labs went dead five minutes ago."

There was a Babel of comment. The news spread out into the furthest recesses of Central, and excitement waxed to dangerously panicky proportions. Alien raised his voice to a shout.

"Quiet, everyone. There's nothing we can do about Aresopolis. We've got our own troubles. This freak storm is connected with the quake some way—and that's what we have to take care of. Everyone back to his work now—and work fast.

They'll be needing us at Aresopolis damned soon." He turned to Anders, "You! Get back to that receiver and don't knock off until you've gotten in touch with Aresopolis again. Coming with me, George?"

"No, rackon not," was the response. "Y' tend t' y'r machines. I'll go down with Anders."

Dawn was breaking, a dusky, lightless dawn, when Alien Carter returned to Central. He was weary—weary in mind and body—and looked it. He entered the radio room.

"Things are a mess. If—"

There was a "Shhh" and George waved frantically. Alien fell silent. Anders bent over the receiver, turning tiny dials with nervous fingers.

Anders looked up, "It's no use, Mr. Carter. Can't get them."

"All right. Stay here and keep y'r ears open. Let me know if anything turns up."

He walked out, hooking an arm underneath his brother's and dragging the latter out.

"When c'n we get out the next shipment, All'n?"

"Not for at least a week. We haven't a thing that'll either roll or fly for days, and it will be even longer before we can start harvesting again."

"Have we any supplies on hand now?"

"A few tons of assorted blooms—mainly the red-purples. The Earth shipment last Tuesday took off almost everything."

George fell into a reverie.

His brother waited a moment and said sharply, "Well, what's on your' mind? What's the news from Aresopolis?"

"Domned bad! The quake's leveled three-fourths o' Aresopolis and the rest's pretty much gutted with fire, I rackon.

There 're fifty thousand that'll have t' camp out nights.—That's no fun in Martian autumn weather with the Airth gravity system broken down."

Alien whistled, "Pneumonia!"

"And common colds and influenza and any o' half doz'n diseases t' say nothing o' people bairnt. —Old Vincent is raising cain."

"Wants blooms?"

"He's only got a two-day supply on hand. He's got t' have more."

Both, were speaking quietly, almost with indifference, with the vast understatement that is all that makes great crises bearable.

There was a pause and then George spoke again, "What's the best we c'n do?"

"Not under a week—not if we kill ourselves to do it. If they could send over a ship as soon as the storm dies down, we might be able to send what we have as a temporary supply until we can get over with the rest."

"Silly even t' think o' that. The Aresopolis port is just ruins.

They haven't a ship t' their names."

Again silence. Then Alien spoke in a low, tense voice.

"What are you waiting for? What's that look on your face for?"

"I'm waiting fr y' t' admit y'r domned machines have failed y' in the fairest emairgency we've had t' meet."

"Admitted," snarled the Earthman.

"Good! And now its up t' me t' show y' what human ingenuity can do." He handed a sheet of paper to his brother, "There's a copy of the message I sent Vincent."

Alien looked long at his brother and slowly read the pencilled scribbling.

"Will deliver all we have on hand in thirty-six hours. Hope it will keep you going the few days until we can get a real shipment out. Things are a little rough out here."

"How are you going to do it?" demanded Alien, upon finishing.

"I'm trying to show y'," answered George, and Alien realized for the first time that they had left Central and were out in the caverns.

George led the way for five minutes and stopped before an object bulking blackly in the dimness. He turned on the section lights and said, "Sand truck!"

The sand truck was not an imposing object. With the low driving car in front and the three squat, open-topped freightcars behind, it presented a picture of obsolete decrepitude.

Fifteen years ago, it had been relegated to the dust-heap by the sand-sleds and rocket-freights.

The Ganymedan was speaking, "Checked it an hour ago, m'self, and 'tis still in wairking order. It has shielded bearings, air conditioning unit f'r the driving car, and an intairnal combustion engine."

The other looked up sharply. There was an expression of distaste on his face. "You mean it burns chemical fuel."

"Yup! Gas'line. That's why I like it. Reminds me o' Ganymede. On Gannie, I had a gas engine that—"

"But wait a while. We haven't any of that gasoline."

"No, rackon not. But we got lots o' liquid hydrocarbons round the place. How about Solvent D? That's mostly octane."

We've got tanks o' it."

Alien said, "That's so;—but the truck holds only two."

"I know it. I'm one."

"And I'm the other."

George grunted, "I rackond y'd say that—but this isn't going t' be a push-button machine job. Rackon y'r up t' it,—Airthman?"

"I reckon I am—Gannie."

The sun had been up some two hours before the sandtruck's engine whirred into life, but outside, the murk had become, if anything, thicker.

The main driveway within the caverns was ahum with activity. Grotesque figures with eyes peering through the thick glass of improvised air-helmets stepped back as the truck's broad, sand-adapted wheels began their slow turn. The three cars behind had been piled high with purple blooms, canvas covers had been thrown over them and bound down tightly,—and now the signal was given to open the doors.

The lever was jerked downwards and the double doors separated with sand-clogged protests. Through a gray whirl of inblown sand, the truck made its way outwards, and behind it sand-coated figures brushed at their air-helmets and closed the doors again.

George Carter, inured by long Ganymedan custom, met the sudden gravity change as they left the protective Gravitor fields of the caverns, with a single long-drawn breath. His hands held steady upon the wheels. His Terrestrial brother, however, was in far different condition. The hard nauseating knot into which his stomach tied itself loosened only very gradually, and it was a long time before his irregular stertorous breathing approached anything like normality again.

And throughout, the Earthman was conscious of the other's side-long glance and of just a trace of a smile about the other's lips.

It was enough to keep the slightest moan from issuing forth, though his abdominal muscles cramped and icy perspiration bathed his face.

The miles clicked off slowly, but the illusion of motionlessness was almost as complete as that in space. The surroundings were gray—uniform, monotonous and unvarying. The noise of the engine was a harsh purr and the clicking of the air-purifier behind like a drowsy tick. Occasionally, there was an especially strong gust of wind, and a patter of sand dashed against the window with a million tiny, separate pings.

George kept his eye strictly upon the compass before him.

The silence was almost oppressive.

And then the Ganyrnedan swivelled his head, and growled, "What's wrong with the domned vent'lator?"

Alien squeezed upward, head against the low top, and then turned back, pale-faced, "It's stopped."

"It'll be hours 'fore the storm's over. Ye've got t' have air till then. Crawl in back there and start it again." His voice was flat and final.

"Here," he said, as the other crawled over his shoulder into the back of the car. "Here's the tool-kit. Y'v got 'bout twenty minutes 'fore the air gets too foul t' breathe. 'Tis pretty bad now."

The clouds of sand hemmed in closer and the dim yellow light above George's head dispelled only partially the darkness within.

There was the sound of scrambling from behind him and then Alien's voice, "Damn this rope. What's it doing here?"

There was a hammering and then a disgusted curse.

"This thing is choked with rust."

"Anything else wrong?" called out the Ganymedan.

"Don't know. Wait till I clear it out." More hammering and an almost continuous harsh, scraping sound followed.

Alien backed into his seat once more. His face dripped rusty perspiration and a swab with the back of an equally damp, rust-covered hand did it no good.

"The pump is leaking like a punctured kettle, now that the rust's been knocked loose. I've got it going at top speed, but the only thing between it and a total breakdown is a prayer."

"Start praying," said George, bruskiy. "Pray for a button to push."

The Earthman frowned, and stared ahead in sullen silence.

At four in the afternoon, the Ganymedan drawled, "Air's beginning t' thin out, looks like."

Alien snapped to alertness. The air was foul and humid within. The ventilator behind swished sibilantly between each click and the clicks were spacing themselves further apart. It wouldn't hold out much longer now.

"How much ground have we covered?"

" 'Bout a thaird o' the distance," was the reply. "How 'r y' holding out?"

"Well enough," Alien snapped back. He retired once more into his shell. Night came and the first brilliant stars of a Martian night peeped out when with a last futile and long-sustained swi-i-i-s-s-sh, the ventilator died.

"Domn!" said George. "I can't breathe this soup any longer, anyway. Open the windows."

The keenly cold Martian wind swept in and with it the last traces of sand. George coughed as he pulled his woolen cap over his ears and turned on the heaters.

"Y' can still taste the grit."

Alien looked wistfully up into the skies, "There's Earth— with the moon hanging right onto her tail."

"Airth?" repeated George with fine contempt. His finger pointed horizonwards, "There's good old Jupe for y'."

And throwing back his head, he sang in a full throated baritone: "When the golden orb o' Jove Shines down from the skies above, Then my spirit longs to go To that happy land I know, Back t' good, old Ganyme-e-e-e-edee."

The last note quavered and broke, and quavered and broke again and still again in an ever increasing rapidity of tempo until its vibrating ululation pierced the air about ear-shatteringly.

Alien stared at his brother wide-eyed, "How did you do that?"

George grinned, "That's the Gannie quaver. Didn't y' ever hear it before?"

The Earthman shook his head, "I've head of it, but that's all."

The other became a bit more cordial, "Well, o' course y' can only do it in a thin atmosphere. Y' should hear me on Gannie. I c'd shake y' right off y'r chair when I'm going good. Here! Wait till I gulp down some coffee, and then I'll sing y' vairse twenty-four o' the 'Ballad o' Ganymede.' "

He took a deep breath: "There's a fair-haired maid I love Standing in the light o' Jove And she's waiting there for me-e-e-e-e.

Then—"

Alien grasped him by the arm and shook him. The Ganymedan choked into silence.

"What's the matter?" he asked sharply.

"There was a thumping sound on the roof just a second ago. There's something up there."

George stared upwards, "Grab the wheel. I'll go up."

Alien shook his head, "I'm going myself. I wouldn't trust myself running this primitive contraption."

He was out on the running board the next instant.

"Keep her going," he shouted, and threw one foot up onto the roof.

He froze in that position when he became aware of two yellow slits of eyes staring hard into his. It took not more than a second for him to realize that he was face to face with a keazel, a situation which for discomfort is about on a par with the discovery of a rattlesnake in one's bed back on Earth.

There was little time for mental comparisons of his position with Earth predicaments, however, for the keazel lunged forward, its poisonous fangs agleam in the starlight.

Alien ducked desperately and lost his grip. He hit the sand with a slow-motion thud and the cold, scaly body of the Martian reptile was upon him.

The Earthman's reaction was almost instinctive. His hand shot out and clamped down hard upon the creature's narrow muzzle.

In that position, beast and man stiffened into breathless statuary. The man was trembling and within him his heart pounded away with hard rapidity. He scarcely dared move. In the unaccustomed Martian gravity, he found he could not judge movements of his limbs. Muscles knotted almost of their own accord and legs swung when they ought not to.

He tried to lie still—and think.

The keazel squirmed, and from its lips, clamped shut by Earth muscles, issued a tremulous whine. Alien's hand grew slick with perspiration and he could feel the beast's muzzle turn a bit within his palm. He clamped harder, panic-stricken.

Physically, the keazel was no match for an Earthman, even a tired, frightened, gravity-unaccustomed Earthman—but one bite, anywhere, was all that was needed.

The keazel jerked suddenly; its back humped and its legs threshed. Alien held on with both hands and could not let go.

He had neither gun nor knife. There was no rock on the level desert sands to crack its skull against. The sand-truck had long since disappeared into the Martian night, and he was alone—alone with a keazel.

In desperation, he twisted. The keazel's head bent. He could hear its breath whistling forth harshly—and again there was that low whine. Alien writhed above it and clamped knees down upon its cold, scaly abdomen. He twisted the head, further and further.

The keazel fought desperately, but Alien's Earthly biceps maintained their hold. He could almost sense the beast's agony in the last stages, when he called up all his strength,—something snapped. And the beast lay still.

He rose to his feet, half-sobbing. The Martian night wind knifed into him and the perspiration froze on his body. He was alone in the desert.

Reaction set in. There was an intense buzzing in his ears. He found it difficult to stand. The wind was biting—but somehow he didn't feel it any more. The buzzing in his ears resolved itself into a voice—a voice calling weirdly through the Martian wind.

"All'n, where are y'? Domn y', y' tanderfoot, where are y'? All'n! All'n!"

New life swept into the Earthman. He tossed the keazel's carcass onto his shoulders and staggered on towards the voice.

"Here I am, G—Gannie. Right here."

He stumbled blindly into his brother's arms.

George began harshly, "Y' blasted Airthman, can't y' even keep y'r footing on a sand truck moving at ten miles per? Y' might've—"

His voice died away in a semi-gurgle.

Alien said tiredly, "There was a keazel on the roof. He knocked me off. Here, put it somewhere. There's a hundred dollar bonus for every keazel skin brought in to Aresopolis."

He had no clear recollection of anything for the next half hour. When things straightened out, he was in the truck again with the taste of warm coffee in his mouth. The engine was rumbling once more and the pleasant warmth of the heaters surrounded him.

George sat next to him silently, eyes fixed on the desert ahead. But once in a while, he cleared his throat and shot a lightning glance at his brother. There was a queer look in his eyes.

Alien said, "Listen, I've got to keep awake,—and you look half dead yourself—so how about teaching me that 'Gannie quaver' of yours. That's bound to wake the dead."

The Ganymedan stared even harder and then said gruffly, "Sure, watch m' Adam's apple while I do 't again."

The sun was half-way to zenith when they reached the canal.

An hour before dawn there had come the crackling sound of hoarfrost beneath the heavy wheels and that signified the end of the desert area and the approach of the canal oasis.

With the rising of the sun, the crackling disappeared and the softening mud underneath slowed the sand-adapted truck. The pathetic clumps of gray-green scrub that dotted the flat landscape were the first variant to eternal red sand since the two had started on their journey.

And then Alien had leaned forward and grasped his brother by the arm, "Look, there's the canal itself right ahead."

The "canal"—a small tributary of the mighty Jefferson Canal—contained a mere trickle of water at this season of the year. A dirty winding line of dampness, it was, and little more.

Surrounding it on both sides were the boggy areas of black mud that were to fill up into a rushing ice-cold current an Earth-year hence.

The sand-truck nosed gingerly down the gentle slope, weaving a tortuous path among the sparsely-strewn boulders brought down by the spring's torrents and left there as the sinking waters receded.

It slopped through the mud and splashed clumsily through the puddles. It jounced noisily over rocks, muddied itself past the hubs as it made its way through the murky mid-stream channel and then settled itself for the upward pull out.

And then, with a suddenness that tossed the two drivers out of their seats, it sideslipped, made one futile effort to proceed onwards, and thereafter refused to budge.

The brothers scrambled out and surveyed the situation.

George swore lustily, voice more thickly accented than ever.

"B' Jupe 'n' down, we're in a pickled situation f'r fair. Tis wallowing in the mud there like a blasted pig."

Alien shoved his hair back wearily, "Well, don't stand there looking at it. We're still a hundred miles or better from Aresopolis. We've got to get it out of there."

"Sure, but how?" His imprecations dropped to sibilant breathings as he reached into the truck for the coil of rope in the back. He looked at it doubtfully.

"Y' get in here, All'n, and when I pull, press down with y'r foot on that pedal."

He was tying the rope to the front axle even as he spoke.

He played it out behind him as he slogged out through ankle-deep mud, and stretched it taut.

"All right, now, give!" he yelled. His face turned purple with effort as his back muscles ridged. Alien, within the car, pressed the indicated pedal to the floor, heard a loud roar from the engine and a spinning whir from the back wheels.

The truck heaved once, and then sank back.

" 'Tis no use," George called. "I can't get a footing. If the ground were dry, I c'd do it."

"If the ground were dry, we wouldn't be stuck," retorted Alien. "Here, give me that rope." "D' y' think y' can do it, if I can't?" came the enraged cry, but the other had already left the car.

Alien had spied the large, deep-bedded boulder from the truck, and it was with relief that he found it to be within reaching distance of the rope. He pulled it taut and tossed its free end about the boulder. Knotting it clumsily, he pulled, and it held.

His brother leaned out of the car window, as he made his way, back, with one lumped Ganymedan fist agitating the air.

"Hi, y' nitwit. What're y' doing? D' y' expect that overgrown rock t' pull us out?"

"Shut up," yelled back Alien, "and feed her the gas when I pull."

He paused midway between boulder and truck and seized the rope.

"Give!" he shouted in his turn, and with a sudden jerk pulled the rope towards him with both hands.

The truck moved; its wheels caught hold. For a moment it hesitated with the engine blasting ahead full speed, and George's hands trembling upon the wheel. And then it went over. And almost simultaneously, the boulder at the other end of the taut rope lifted out of the mud with a liquid smacking sound and went over on its side.

Alien slipped the noose off it and ran for the truck.

"Keep her going," he shouted, and hopped onto the running board, rope trailing.

"How did y' do that?" asked George, eyes round with awe.

"I haven't got the energy to explain it now. When we get to Aresopolis and after we've had a good sleep, I'll draw the triangle of forces for you, and show you what happened. No muscles were involved. Don't look at me as if I were Hercules."

George withdrew his gaze with an effort, "Triangle o' forces, is it? I never heard o' it, but if that's what it c'n do, education's a great thing."

"Comet-gas I Is any coffee left?" He stared at the last thermos-bottle, shook it near his ear dolefully, and said, "Oh, well, let's practice the quaver. It's almost as good and I've practically got it perfected."

He yawned prodigiously, "Will we make it by nightfall?"

"Maybe!"

The canal was behind them now.

The reddening sun was lowering itself slowly behind the Southern Range. The Southern Range is one of the two "mountain chains" left on Mars. It is a region of hills; ancient, time-worn, eroded hills behind which lies Aresopolis.

It possesses the only scenery worth mentioning on all Mars and also the golden attribute of being able, through the updrafts along its sides, to suck an occasional ram out of the desiccated Martian atmosphere.

Ordinarily, perhaps, a pair from Earth and Ganymede might have idled through this picturesque area, but this was definitely not the case with the Carter twins.

Eyes, puffed for lack of sleep, glistened once more at the sight of hills on the horizons. Bodies, almost broken for sheer weariness, tensed once more when they rose against the sky.

And the truck leaped ahead,—for just behind the hills lay Aresopolis. The road they travelled was no longer a rule-edge straight one, guided by the compass, over table-top-flat land. It followed narrow, twisting trails over rocky ground.

They had reached Twin Peaks, then, when there was a sudden sputter from the motor, a few halting coughs and then silence.

Alien sat up and there was weariness and utter disgust in his voice, "What's wrong with this everlastingly-to-be-damned machine now?"

His brother shrugged, "Nothing that I haven't been expecting for the last hour. We're out o' gas. Doesn't matter at all. We're at Twin Peaks—only ten miles fr'm the city. We c'n get there in an hour, and then they c'n send men out here for the blooms."

"Ten miles in an hour!" protested Alien. "You're crazy."

His face suddenly twisted at an agonizing thought, "My God! We can't do it under three hours and it's almost night. No one can last that long in a Martian night. George, we're—"

George was pulling him out of the car by main force, "By Jupe 'n' domn, All'n, don't let the tenderfoot show through now. We c'n do it in an hour, I tell y'. Didn't y' ever try running under sub-normal gravity? It's like flying. Look at me."

He was off, skimming the ground closely, and proceeding in ground-covering leaps that shrank him to a speck up the mountain side in a moment.

He waved, and his voice came thinly, "Come on!"

Alien started,—and sprawled at the third wide stride, arms nailing and legs straddled wide. The Ganymedan's laughter drifted down in heartless gusts. Alien rose angrily and dusted himself. At an ordinary walk, he made his way upwards.

"Don't get sore, All'n," said George. "It's just a knack, and I've had practice on Gannie. Just pretend y'r running along a feather bed. Run rhythmically—a sort o' very slow rhythm— and run close t' the ground; don't leap high. Like this. Watch me!"

The Earthman tried it, eyes on his brother. His first few uncertain strides became surer and longer. His legs stretched and his arms swung as he matched his brother, step for step.

George shouted encouragement and speeded his pace, "Keep lower t' the ground, All'n. Don't leap 'fore y'r toes hit the ground."

Alien's eyes shone and, for the moment, weariness was forgotten, "This is great; It is like flying—or like springs on your shoes."

"Y' ought t' have lived on Gannie with me. We've got special fields f'r subgravity races. An expairt racer c'n do forty miles an hour at times—and I c'n do thirty-five myself.—O' course, the gravity there's a bit lower than here on Mars."

Long hair streamed backwards in the wind and skin reddened at the bitter cold air that blew past. The ruddy patches of sunlight travelled higher and higher up the slopes, lingered briefly upon the very summits and went out altogether. The short Martian twilight started upon its rapidly darkening career. The Evening Star—Earth—was already glimmering brightly, its attendant moon somewhat closer than the night previous.

The passing minutes went unheeded by Alien. He was too absorbed by the wonderful new sensation of sub-gravity running, to do anything more than follow his brother. Even the increasing chilliness scarcely registered upon his consciousness.

It was George, then, upon whose countenance a tiny, puckered uneasiness grew into a vast, panicky frown.

"Hi, All'n, hold up!" he called. Leaning backward, he brought himself to a short, hopping halt full of grace and ease.

Alien tried to do likewise, broke his rhythm, and went forward upon his face. He rose with loud reproaches.

The Ganymedan turned a deaf ear to them. His gaze was sombre in the dusk, "D'y' know where we are, All'n?"

Alien felt a cold constriction about his windpipe as he stared about him quickly. Things looked different in semidarkness, but they looked more different than they ought. It was impossible for things to be so different.

"We should've sighted Old Baldy by now, shouldn't we have?" he quavered.

"We sh'd've sighted him long ago," came the hard answer.

"'Tis that domned quake. Landslides must've changed the trails. The peaks themselves must've been screwed up—" His voice was thin-edged, "Alien, 't isn't any use making believe.

We're dead lost."

For a moment, they stood silently—uncertainly. The sky was purple and the hills retreated into the night. Alien licked blue-chilled lips with a dry tongue.

"We can't be but a few miles away. We're bound to stumble on the city if we look."

"Consider the situation, Airthman," came the savage, shouted answer, "'Tis night, Martian night. The temperature's down past zero and plummeting every minute. We haven't any time t' look;—we've got t' go straight there. If we're not there in half an hour, we're not going t' get there at all."

Alien knew that well, and mention of the cold increased his consciousness of it. He spoke through chattering teeth as he drew his heavy, fur-lined coat closer about him.

"We might build a fire!" The suggestion was a half-hearted one, muttered indistinctly, and fallen upon immediately by the other.

"With what?" George was beside himself with sheer disappointment and frustration. "We've pulled through this far, and now we'll prob'ly freeze t' death within a mile o' the city.

C'mon keep running. It's a hundred-t'-one chance."

But Alien pulled him back. There was a feverish glint in the Earthman's eye, "Bonfires!" he said irrelevantly. "It's a possibility. Want to take a chance that might do the trick?"

"Nothin' else t' do," growled the other. "But hurry. Every minute I—"

"Then run with the wind—and keep going."

"Why?"

"Never mind why. Do what I say—run with the wind!"

There was no false optimism in Alien as he bounded through the dark, stumbling over loose stones, sliding down declivities,—always with the wind at his back. George ran at his side, a vague, formless blotch in the night.

The cold was growing more bitter, but it was not quite as bitter as the freezing pang of apprehension gnawing at the Earthman's vitals.

Death is unpleasant! And then they topped the rise, and from George's throat came a loud "B' Jupe 'n' domn!" of triumph.

The ground before them, as far as the eye could see, was dotted by bonfires. Shattered Aresopolis lay ahead, its homeless inhabitants making the night bearable by the simple agency of burning wood.

And on the hilly slopes, two weary figures slapped each other on the backs, laughed wildly, and pressed half-frozen, stubbly cheeks together for sheer, unadulterated joy.

They were there at last! The Aresopolis lab, on the very outskirts of the city, was one of the few structures still standing. Within, by makeshift light, haggard chemists were distilling the last drops of extract.

Without, the city's police-force remnants were clearing desperate way for the precious flasks and vials as they were distributed to the various emergency medical centers set up in various regions of the bonfire-pocked ruins that were once the Martian metropolis.

Old Hal Vincent supervised the process and his faded eyes ever and again peered anxiously into the hills beyond, watching hopefully but doubtfully for the promised cargo of blooms.

And then two figures reeled out of the darkness and collapsed to halt before him.

Chill anxiety clamped down upon him, "The blooms! Where are they? Have you got them?"

"At Twin Peaks," gasped Alien. "A ton of them and better in a sand-truck. Send for them."

A group of police ground-cars set off before he had finished, and Vincent exclaimed bewilderedly, "A sand-truck? Why didn't you send it in a ship? What's wrong with you out there, anyway? Earthquake—"

He received no direct answer. George had stumbled towards the nearest bonfire with a beatific expression on his worn face.

"Ahhh, 'tis warm!" Slowly, he folded and dropped, asleep before he hit the ground.

Alien coughed gaspingly, "Huh! The Gannie tenderfoot! Couldn't—ulp—take it!" And the ground came up and hit him in the face.

Alien woke with the evening sun in his eyes and the odor of frying bacon in his nostrils. George shoved the frying pan towards him and said between gigantic, wolfing mouthfuls, "Help yourself."

He pointed to the empty sand-truck outside the labs, "They got the stuff all right."

Alien fell to, quietly. George wiped his lips with the back of his hand and said, "Say, All'n, how 'd y' find the city? T've been sitting here trying t' figure it all out"

"It was the bonfires," came the muffled answer. "It was the only way they could get heat, and fires over square miles of land create a whole section of heated air, which rises, causing the cold surrounding air of the hills to sweep in." He suited his words with appropriate gestures. "The wind in the hills was heading for the city to replace warm air and we followed the wind. —Sort of a natural compass, pointing to where we wanted to go."

George was silent, kicking with embarrassed vigor at the ashes of the bonfire of the night before.

"Lis'n, All'n, I've had y' a'wrong. Y' were an Airthman tanderfoot t' me till—" He paused, drew a deep breath and exploded with, "Well, by Jupe n' domn, y'r my twin brother and I'm proud o' it All Airth c'dn't drown out the Carter blood in y'." The Earthman opened his mouth to reply but his brother clamped one palm over it, "Y' keep quiet, till I'm finished.

After we get back, y' can fix up that mechanical picker or anything else y' want. I drop my veto. If Airth and machines c'n tairn out y'r kind o' man, they're all right. But just the same," there was a trace of wistfulness in his voice, "y' got 't"

"Admit that everytime the machines broke down—from irrigation-trucks and rocket-ships to ventilators and sand-trucks— t'was men who had t' pull through in spite o' all that Mars could do."

Alien wrenched his face from out behind the restraining palm.

"The machines do their best," he said, but not too vehemently.

"Sure, but that's all they can do. When the emairgency comes, a man's got t' do a damn lot better than his .best or he's a goner."

The other paused, nodded, and gripped the other's hand with sudden fierceness, "Oh, we're not so different. Earth and Ganymede are plastered thinly over the outside of us, but inside—"

He caught himself.

"Come on, let's give out with that old Gannie quaver."

And from the two fraternal throats tore forth a shrieking eldritch yell such as the thin, cold Martian air had seldom before carried.

THE END

I got the cover again with "Heredity."

In connection with that story, I remember best a comment I received from a young fellow named Scott Feldman (who was then still in his teens but who was later, as Scott Meredith, to become one of the most important literary agents in the business). He disapproved of the story because I introduced two characters at the start who disappeared from the story and were never heard of again.

Once that was pointed out to me, it seemed to me that this was indeed a major flaw, and I wondered why neither Campbell nor Pohl had specifically pointed it out. I never quite had the courage to ask, however.

But it did cause me to look at my stories more closely thereafter, and to realize again that writing isn't all inspiration and free flow. You do have to ask yourself pretty mechanical questions, such as, "What do I do with this character now that I've taken the trouble to make use of him?"

By the time Campbell was rejecting, and Pohl accepting "Heredity," I was writing "History." The same thing happened. I submitted it to Campbell on September 13. It was rejected, and, eventually, Pohl took it.

HISTORY

Super Science Stories, March 1941
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Ullen's lank arm pushed the stylus carefully and painstakingly across the paper; his near-sighted eyes blinked through thick lenses. The signal light flashed twice before he answered.

He turned a page, and called out, "Is dat you, Johnnie? Come in, please."

He smiled gently, his thin, Martian face alight with pleasure.

"Sit down, Johnnie—but first lower de window-shade. De glare of your great Eard sun is annoying. Ah, dat's good, and sid down and be very, very quiet for just a little while, because I am busy."

John Brewster shifted a pile of ill-stacked papers and seated himself. He blew the dust from the edges of an open book in the next chair and looked reproachfully on the Martian historian.

"Are you still poking around these musty old things? Don't you get tired?"

"Please, Johnnie," Ullen did not look up, "you will lose de page. Dat book dere is William Stewart's 'Hitlerian Era' and it is very hard to read. So many words he uses which he doesn't explain."

His expression as it focussed upon Johnnie was one of frowning petulance, "Never do dey explain deir terms. It is so unscientific. On Mars, before we even start, we say, 'Dis is a list of all definitions of terms to be used.' How oderwise can people talk sensibly? Hmp! You crazy Eardmen."

"Oh, nuts, Ullen—forget it. Why don't you look at me.

Don't you even notice anything?"

The Martian sighed, removed his glasses, cleaned them thoughtfully, and carefully replaced them. He stared impersonally at Johnnie, "Well, I think it is new clothes you are wearing. Is it not so?"

"New clothes! Is that all you can say, Ullen? This is a uniform. I'm a member of the Home Defense." He rose to his feet, a picture of boyish exuberance.

"What is dis 'Home Defense'?" asked Ullen languidly.

Johnnie gulped and sat down helplessly, "You know, I really think you haven't heard that Earth and Venus have been at war for the last week. I'll bet money you haven't."

"I've been busy." He frowned and pursed his thin, bloodless lips, "On Mars, dere is no war—at least, dere isn't any more. Once, we used to fight, but dat was long ago. Once we were scientists, too, and dat was long ago. Now, dere are only a few of us—and

we do not fight Dere is no happiness dat way." He seemed to shake himself, and spoke more briskly, "Tell me, Johnnie, do you know where it is I can find what it means, dis 'national honor?' It holds me back. I can't go fuder unless I can understand it."

Johnnie rose to his full height and glittered in the spotless green of the Terrestrial Service. He laughed with fond indulgence, "You're hopeless, Ullen,—you old coot. Aren't you going to wish me luck? I'm hitting space tomorrow."

"Oh, is dere danger?"

There was a squawk of laughter, "Danger? What do you think?"

"Well, den, to seek danger—it is foolish. Why do you do it?"

"You wouldn't understand, Ullen. Just wish me luck and say you hope I come through whole."

"Cer-tain-ly! .I don't want anyone to die." He slipped his hand into the strong fist held out to him. "Take care of yourself, Johnnie—and wait, before you go, bring me Stewart's book. Everything is so heavy here on Eard. Heavy, heavy,— and de words have no definitions."

He sighed, and was back at his books as Johnnie slipped quietly out of the room.

"Dese barbarous people," he muttered sleepily to himself.

"War! Dey dink dat by killing—" His voice died away and merged into a slurred mumble as his eyes followed creeping finger across the page.

" 'From the very moment of the union of the Anglo-Saxon world into a single governmental entity and even as far back as the spring of 1941, it was evident that the doom of—' "

"Dese crazy Eardmen!"

Ullen leaned heavily upon his crutches on the steps of the University library and one thin hand shielded his watering eyes from the terrible Earthly sun.

The sky was blue, cloudless,—undisturbed. Yet somewhere up above, beyond the planet's airy blanket, steel-sided ships were veering and sparkling in vicious combat. And down upon the city were falling the tiny "Drops of Death," the highly radioactive bombs that noiselessly and inexorably ate out a fifteen foot crater wherever they fell.

The city's population was herding into the shelters and burying themselves inside the deep-set leaden cells. Upstaring, silent, anxious, they streamed past Ullen. Uniformed guards invested some sort of order into the gigantic flight, steering the stragglers and speeding the laggards.

The air was filled with barked orders.

"Hit the shelter, Pop, Better get going. You can't stand there, you know."

Ullen turned to the guard who addressed him and slowly brought his wandering thoughts to bear upon the situation.

"I am sorry, Eardman—but I cannot move very fast on your huge world." He tapped one crutch upon the marble flags beneath- "Dings are so heavy. If I were to crowd in wid de rest, I would be crushed."

He smiled gently down from his lank height, and the guard rubbed a stubbly chin, "All right, pop, I can fix that. It is tough on you Marsies at that—Here, hold those crutches up out of the way."

With a heave, he cradled the Martian, "Hold your legs" close to my body, because we're going to travel fast."

His bulky figure pressed through the line of Earthmen.

Ullen shut his eyes as the rapid motion under supernormal gravity stirred his stomach into rebellion. He opened them once again in the dim recesses of the low-ceilinged shelter.

The guard set him down carefully and adjusted the crutches beneath Ullen's armpits, "O.K. Pop. Take care of yourself."

Ullen took in his surroundings and hobbled to one of the low benches at the near end of the shelter. From behind him came the sombre clang of the thick, leaden door.

The Martian historian fished a worn tablet from his pocket and scribbled slow notes. He disregarded the excited babble that arose about him and the scraps of heated talk that filled the air thickly.

And then he scratched at his furrowed forehead with the stub end of his pencil, meeting the staring eyes of the man sitting next to him. He smiled abstractedly and returned to his notes.

"You're a Martian, aren't you?" His neighbor spoke in quick, squeaky tones. "I don't like foreigners much, but I've got nothing special against Marsies. These Veenies, now, they—"

Ullen's soft tones interrupted him. "Hate is all wrong, I dink. Dis war is a great annoyance—a great one. It interferes wid my work and you Eardmen ought to stop it. Is it not so?"

"You can bet your hide we're going to stop it," came the emphatic reply. "We're going to bash their planet inside out—and the dirty Veenies with it."

"You mean attack deir cities like dis?" The Martian blinked owlishly in thought, "You dink dat would be best?"

"Damn it, yes. It—"

"But look." Ullen placed a skeleton finger in one palm and continued in gentle argument. "Would it not be easier to get de ships demselves by de fall-apart weapon?—Don't you dink so? Or is it dat de Venus people, dey have de screens?"

"What weapon, did you say?"

Ullen ruminated carefully, "I suppose dat isn't de name you call it by—but I don't know about weapons, anyway. We call it on Mars de 'skellingbeg' and dat means in English 'fallapart weapon.' Now you know?"

There was no direct answer unless a vague under-breath mutter could be called one. The Earthman pushed away from his companion and stared at the opposite wall in a fidget.

Ullen sensed the rebuff and shrugged one shoulder wearily, "It is not dat I care much about de whole ding. It is only dat de war is a big bodder. It should be ended." He sighed, "But I don't care!"

His fingers had just begun manipulating the pencil once more in its travels across the open tablet on his lap, when he looked up again.

"Tell me, please, what is de name of dat country where Hitler died. Your Eard names, dey are so complicated sometimes. I dink it begins wid an M."

His neighbor ripped him open with a stare and walked away. Ullen's eyes followed him with a puzzled frown.

And then the all-clear signal sounded.

"Oh, yes," said Ullen. "Madagascar I Such a silly name!"

Johnnie Brewster's uniform was war-worn now; a bit more wrinkled about the neck and shoulders, a trace more worn at knees and elbows.

Ullen ran his finger along the angry scar that ran the length of Johnnie's right forearm, "It hurts no more, Johnnie?"

"Nuts! A scratch! I got the Veenie that did that. He's chasing dreams in the moon now."

"You were in de hospital long, Johnnie?"

"A week!" He lit a cigarette, pushed some of the mess off the Martian's desk and seated himself. "I've spent the rest of the time with my family, though I did get around to visiting you, you see."

He leaned over and poked an affectionate hand at the Martian's leathery cheek, "Aren't you going to say you're glad to see me?"

Ullen removed his glasses and peered at the Earthman, "Why, Johnnie, are you so uncertain dat I am glad to see you, dat you require I should say it in words?" He paused, "I'll make a note of dat. You silly Eardmen must always be telling each oder dese simple dings—and den you don't believe it anyway. On Mars—"

He was rubbing his glasses methodically, as he spoke, and now he replaced them, "Johnnie, don't you Eardmen have de 'fall-apart' weapon? I met a person once in de raid shelter and he didn't know what I was talking about."

Johnnie frowned, "I don't either, for that matter. Why do you ask?"

"Because it seems strange dat you should have to fight so hard dese Venus men, when dey don't seem to have de screens to stop it wid. Johnnie, I want de war should be over."

It makes me all de time stop my work to go to a shelter."

"Hold on, now, Ullen. Don't sputter. What is this 'fall-apart' weapon? A disintegrator? What do you know about it?"

"I? I know noddin' about it at all. I dought you knew— dat's why I asked. Back on Mars, in our histories, dey talk about using dat kind of weapon in our old wars. But we don't know noddin' about weapons any more. Anyway, dey're so silly, because de oder side always dinks of someding which protects against it, and den everyding is de same as

always.— Johnnie, do you suppose you could go down to de desk and ask for a copy of Higginboddam's 'Beginnings of Space Travel?'"

The Earthman clenched his fists and shook them impotently, "Ullen, you damned Martian pedant—don't you understand that this is important? Earth is at war! War! War! War!"

"Well, den, stop de war." There was irritation in Ullen's voice. "Dere is no peace and quiet anywheres on Eard. I wish I had dis library—Johnnie, be careful. Please, what are you doing? You're hurting me."

"I'm sorry, Ullen, but you've got to come with me. We're going to see about this." Johnny had the feebly protesting Martian wedged into the wheel-chair and was off with a rush, before he had finished the sentence.

A rocket-taxi was at the bottom of the Library steps, and together chauffeur and Spaceman lifted the chair inside. With a comet-tail of smoke, they were off.

Ullen moaned softly at the acceleration, but Johnnie ignored him. "Washington in twenty minutes, fellow," he said to the driver, "and ignore the signal beams."

The starched secretary spoke in a frozen monotone, "Admiral Korsakoff will see you now."

Johnnie wheeled and stamped out the last cigarette butt. He shot a hasty glance at his watch and grunted.

At the motion of the wheel-chair, Ullen roused himself out of a troubled sleep. He adjusted his glasses, "Did dey let us in finally, Johnnie?"

"Shhh!"

Ullen's impersonal stare swept over the rich furnishings of the room, the huge maps of Earth and Venus on the wall, the imposing desk in the center. It lingered upon the pudgy, bearded figure behind this desk and then came to rest upon the lanky, sandy-haired man at his side.

The Martian attempted to rise from the chair in sudden eagerness, "Aren't you Dr. Doming? I saw you last year at Princeton. You remember me, don't you? Dey gave me at dat time, my honorary degree."

Dr. Thorning had advanced and shook hands vigorously, "Certainly. You spoke then on Martian historical methods, didn't you?"

"Oh, you remember. I'm glad! But dis is a great opportunity for me, meeting you. Tell me, as a scientist, what would be your opinion of my deory dat de social insecurity of de Hitlerian Era was de direct cause for de lag—"

Dr. Thoming smiled, "I'll discuss it with you later, Dr.

Ullen. Right now, Admiral Korsakoff wants information from you, with which we hope to end the war."

"Exactly," Korsakoff spoke in clipped tones as he met Ullen's mild gaze. "Although a Martian, I presume you favor the victory of the principles of freedom and justice over the foul practices of Venusian tyranny."

Ullen stared uncertainly, "Dat sounds familiar—but I don't dink about it much. You mean, maybe, de war should end?"

"With victory, yes."

"Oh, 'victory,' dat is just a silly word. History proves dat a war decided on military superiority only lays de groundwork for future wars of retaliation and revenge. I refer you to a very good essay on de subject by a James Calkins. It was published all de way back in 2050."

"My dear sir!"

Ullen raised his voice in bland indifference to Johnnie's urgent whisperings. "Now to end de war—really end it—you should say to de plain people of Venus, 'It is unnecessary to fight. Let us just talk!'"

There was the slam of fist on desk and a muttered oath of frightful import. "For God's sakes, Thoming, get what you want out of him. I give you five minutes."

Thoming stifled his chuckle, "Dr. Ullen, we want you to tell us what you know about the disintegrator."

"Disintegrator?" Ullen put a puzzled finger to his cheek.

"The one you told Lieutenant Brewster of."

"Ummmm— Oh! You mean de 'fall-apart' weapon. I don't know noddin' about it. De Martian historians mention it some times, but none of dem know about it—de technical side, dat is."

The sandy-haired physicist nodded patiently, "I know, I know. But what do they say? What kind of a weapon is it?"

"Well, de way dey talk about it, it makes de metals to fall to pieces. What is it you call de ding dat holds metals togedder now?"

"Infra-molecular forces?"

Ullen frowned and then spoke thoughtfully, "Maybe. I forgot what de Martian word is—except dat it's long. Anyway, dis weapon, it makes dis force dat holds de metals togedder not to exist anymore and it all falls apart in a powder.

But it only works on de dree metals, Iron, cobalt, and—uh—de odder one!"

"Nickel," prompted Johnnie, softly.

"Yes, yes, nickel!"

Thorning's eyes glittered, "Aha, the ferromagnetic elements.

There's an oscillating magnetic field mixed up in this, or I'm a Veenie. How about it, Ullen?"

The Martian sighed, "Such crazy Eard words.—Let's see now, most of what I know about de weapon is from de work of Hogel Beg. It was—I'm pretty sure—in his "Cultural and Social History of de Dird Empire." It was a huge work in twenty-four volumes, but I always dought it was radder mediocre. His technique in de presentation of—"

"Please," said Thoming, "the weapon—"

"Oh, yes, dat!" He hitched himself higher in his chair and grimaced with the effort. "He talks about electricity and it goes back and ford very fast—very fast, and its pressure—"

He paused hopelessly, and regarded the scowling visage of the bearded Admiral naively, "I dink de word is pressure, but I don't know, because it is hard to translate. De Martian word is 'cranstard.' Does dat help?"

"I think you mean 'potential,' Dr. Ullen!" Thoming sighed audibly.

"Well, if you say so. Anyway, dis 'potential' changes also very fast and de two changes are synchronized somehow along wid magnetism dat—uh—shifts and dat's all I know about it."

He smiled uncertainly, "I would like to go back now. It would be all right now, wouldn't it?"

The Admiral vouchsafed no answer, "Do you make anything out of that mess. Doctor?"

"Damned little," admitted the physicist, "but it gives me a lead or two. We might try getting hold of this Beg's book, but there's not much hope. It will simply repeat what we've just heard. Dr. Ullen, are there any scientific works on your planet?"

The Martian saddened, "No, Dr. Doming, dey were all destroyed during de Kalynian reaction. On Mars, we doroughly disbelieve in science. History has shown dat it comes from science no happiness." He turned to the young Earthman at his side, "Johnnie, let us go now, please."

Korsakoff dismissed the two with a wave of the hand.

Ullen bent carefully over the closely-typed manuscript and inserted a word. He glanced up brightly at Johnnie Brewster, who shook his head and placed a hand on the Martian's arm.

His brow furrowed more deeply.

Ullen," he said harshly, "you're in trouble."

"Eh? I? In trouble? Why, Johnnie, dat is not so. My book is coming along famously. De whole first volume, it is completed and, but for a bit of polishing, is ready for de printers."

"Ullen, if you can't give the government definite information on the disintegrator, I won't answer for the consequences."

"But I told all I knew—"

"It won't do. Ifs not enough. You've got to remember more, Ullen, you've got to."

"But knowledge where dere is none is impossible to have— dat is an axiom." Ullen sat upright in his seat, propping himself on a crutch.

"I know it," Johnnie's mouth twisted in misery, "but you've got to understand."

"The Venusians have control of space; our Asteroid garrisons have been wiped out, and last week Phobos and Deimos fell. Communications between Earth and Luna are broken and God knows how long the Lunar squadron can hold out."

Earth itself is scarcely secure and their bombings are becoming more serious—Oh, Ullen, don't you understand?"

The Martian's look of confusion deepened, "Eard is losing?"

"God, yes!"

"Den give up. Dat is de logical ding to do. Why did you start at aU—you stupid Eardmen."

Johnnie ground his teeth, "But if we have the disintegrator, we won't lose."

Ullen shrugged, "Oh, Johnnie, it gets wearisome to listen to de same old story. You Eardmen have one-track minds. Look, wouldn't it make you feel better to have me read you some of my manuscript? It would do your intellect good."

"All right, Ullen, you've asked for it, and here's everything right out. If you don't tell Thoming what he wants to know, you're going to be arrested and tried for treason."

There was a short silence, and then a confused stutter, "T— treason. You mean dat I betray—" The historian removed his glasses and wiped them with shaking hand, "It's not true.

You're trying to frighten me."

"Oh, no, I'm not. Korsakoff thinks you know more than you're telling. He's sure that you're either holding out for a price or, more likely, that you've sold out to the Veenies."

"But Doming—"

"Thoming isn't any too secure himself. He has his own skin to think of. Earth governments in moments of stress are not famous for being reasonable." There were sudden tears in his eyes, "Ullen, there must be something you can do. It's not only you—it's for Earth."

Ullen's breathing whistled harshly, "Dey tink I would sell my scientific knowledge. Is dat de kind of insult dey pay my sense of eddies; my scientific integrity?" His voice was thick with fury and for the first time since Johnnie knew him, he lapsed into guttural Martian. "For dat, I say not a word," he finished. "Let dem put me in prison or shoot me, but dis insult I cannot forget."

There was no mistaking the firmness in his eyes, and Johnnie's shoulders sagged. The Earthman didn't move at the glare of the signal light.

"Answer de light, Johnnie," said the Martian, softly. "Dey are coming for me."

In a moment, the room was crowded with green uniforms.

Dr. Thoming and the two with him were the only ones present in civilian clothes.

Ullen struggled to his feet, "Gentlemen, say noddin'. I have heard dat it is dought dat I am selling what I know— selling for money." He spat the words. "It is a ding never before said of me—a ding-F-bave not deserved. If you wish you can imprison me immediately, but I shall say noddin' more— nor have anyding funder to do wid de Eard government."

A green-garbed official stepped forward immediately, but Dr. Thoming waved him back.

"Whoa, there. Dr. Ullen," he said jovially, "don't jump too soon. I've just come to ask if there isn't a single additional fact that you remember. Anything, no matter how insignificant—"

There was stony silence. Ullen leant heavily on his crutches but remained stolidly erect.

Dr. Thoming seated himself imperturbably upon the historian's desk, picked up the high stack of type-written pages, "Ah, is this the manuscript young Brewster was telling me about." He gazed at it curiously, "Well, of course, you realize that your attitude will force the government to confiscate all this."

"Eh?" Ullen's stern expression melted into dismay. His crutch slipped and he dropped heavily into his seat.

The physicist warded off the other's feeble clutch, "Keep your hands off. Dr. Ullen, I'm taking care of this." He leafed through the pages with a rustling noise. "You see, if you are arrested for treason, your writings become subversive."

"Subversive!" Ullen's voice was hoarse, "Dr. Doming, you don't know what you are saying. It is my—my great labor."

His voice caught huskily, "Please, Dr. Doming, give me my manuscript."

The other held it just beyond the Martian's shaking fingers.

"Tell—" he said.

"But I don't know!"

The sweat stood out on the historian's pale face. His voice came thickly. "Time! Give me time! But let me dink—and don't, please don't harm dis manuscript"

The other's fingers sank painfully into Ullen's shoulder, "So help me, I burn your manuscript in five minutes, if—"

"Wait, I'll tell you. Somewhere—I don't know where—it was said dat in de weapon dey used a special metal for some of de wiring. I don't know what metal, but water spoiled it and had to be kept away—also air. It—"

"Holy jumping Jupiter," came the sudden shout from one of Thorning's companions. "Chief, don't you remember Aspartier's work on sodium wiring in argon atmosphere five years ago—"

Dr. Thoming's eyes were deep with thought, "Wait—wait— wait—Damn! It was staring us in the face—"

"I know," shrieked Ullen suddenly. "It was in Karisto. He was discussing de fall of Gallonie and dat was one of de minor causes—de lack of dat metal—and den he mentioned—"

He was talking to an empty room, and for a while he was silent in puzzled astonishment.

And then, "My manuscript!" He salvaged it from where it lay scattered over the floor, hobbling painfully about, smoothing each wrinkled sheet with care.

"De barbarians—to treat a great scientific work so!"

Ullen opened still another drawer and scrabbled through its contents. He closed it and looked about peevishly, "Johnnie, where did I put dat bibliography? Did you see it?"

He look toward the window, "Johnnie!"

Johnnie Brewster said, "Wait a while, Ullen. Here they come now."

The streets below were a burst of color. In a long, stiffly moving line the Green of the Navy paraded down the avenue, -the air above them snow-thick with confetti, hail-thick with ticker-tape. The roar of the crowd was dull, muted.

"Ah, de foolish people," mused Ullen. "Dey were happy just like dis when de war started and dere was a parade just like dis—and now anodder one. Silly!" He stumped back to his chair.

Johnnie followed, "The government is naming a new museum after you, isn't it?"

"Yes," was the dry reply. He peered helplessly about under the desk, "De Ullen War Museum—and it will be filled wid ancient weapons, from stone knife to anti-aircraft gun. Dat is your queer Eard sense of de fitness of dings. Where in dunderation is dat bibliography?"

"Here," said Johnnie, withdrawing the document from Ullen's vest pocket. "Our victory was due to your weapon, ancient to you, so it is fit in a way."

"Victory! Sure! Until Venus rearms and reprepares and refights for revenge. All history shows—but never mind. It is useless, dis talk." He settled himself deeply in his chair, "Here, let me show you a real victory. Let me read you some of de first volume of my work. It's already in print, you know."

Johnnie laughed, "Go ahead, Ullen. Right now I'm even willing to listen to you read your entire twelve volumes— word for word."

And Ullen smiled gently. "It would be good for your intellect," he said.

THE END

"History," you will notice, mentions Hitler's end. It was written in the first days of September 1940, when Hitler seemed at the very peak of his success. France was defeated and occupied and Britain was at bay and seemed unlikely to survive. —Still, I had no doubt as to his ultimate defeat. I did not visualize his ending in suicide, however. I thought that like Napoleon and the Kaiser, he would end his life in exile. Madagascar was the place I picked.

Also mentioned in the story are "the tiny 'Drops of Death,' the highly-publicized radioactive bombs that noiselessly and inexorably ate out a fifteen-foot crater wherever they fell."

By the time I wrote the story, uranium fission had been discovered and announced. I had not yet heard of it, however, and I was unaware that reality was about to outstrip my prized science fictional imagination.

"History" was the 24th story I had written in hope of possible publication. Of those 24, thirteen had been published by early 1941 and two others were to be published in 1942. Nine were doomed to extinction.

The nine which were extinct were of no loss to anybody, I think, and the remaining fifteen may have been interesting enough in their way but lacked, I suspect, the mark of greatness. The only one of these first 24 stories which proved memorable was "Robbie," to which I refer on page 157 but which is not included in this book. And "Robbie" deserves notice not because of what it was, but because of what it led to, and that could scarcely be foreseen in 1941.

Since the estimable people at Fawcett have, out of considerations of space, divided this book into two volumes and are ending the first volume here, it turns out that we are at a point in my career at which no one could as yet point to young Isaac (still only 20) as a shining example of greatness to come.

I was even humble about it. To those who know me only in these latter days of my self-assurance, it may be hard to believe but if anyone had shaken my shoulder back in 1941 and said, "Hey, Isaac, how do you rate yourself as a science fiction writer?" I would have answered, defensively, "Well, I'm trying."

So please don't leave me at this point, folks. There is Fawcett's second volume coming which will take up the story at this point and you can follow me on through the remaining years, in which I kept on trying.

BUY JUPITER AND OTHER STORIES

1975

To all the editors, whose careers

at one time or another,

have intersected my own-

good fellows, every one.

In THE EARLY ASIMOV I mentioned the fact that there were eleven stories that I had never succeeded in selling. What's more, said I in that book, all eleven stories no longer existed and must remain forever in limbo.

However, Boston University collects all my papers with an assiduity and determination worthy of a far better cause, and when they first began to do so back in 1966, I handed them piles and piles of manuscript material I didn't look through.

Some eager young fan did, though. Boston University apparently allows the inspection of its literary collections for research purposes, and this young fan, representing himself as a literary historian, I suppose, got access to my files. He came across the faded manuscript of Big Game, a thousand-word short-short which I had listed in THE EARLY ASIMOV as the eleventh and last of my lost rejections.

Having read THE EARLY ASIMOV, the fan recognized the value of the find. He promptly had it reproduced and sent me a copy. And I promptly saw to it that it got into print. It appeared in BEFORE THE GOLDEN AGE.

When I read the manuscript of Big Game, however, I discovered that, in a way, it had never been lost. I had salvaged it. Back in early 1950, Robert W. Lowndes, then publishing several science fiction magazines for Columbia Publications, and reveling in the science fiction boom of the period, asked me for a story. I must have remembered Big Game, written eight years earlier, for I produced DAY OF THE HUNTERS, which was an expanded version of the earlier story, and Had published it in the November 1950 issue of Future Combined with Science Fiction Stories.

DAY OF THE HUNTERS

It began the same night it ended. It wasn't much. It just bothered me; it still bothers me.

You see, Joe Bloch, Ray Manning, and I were squatting around our favorite table in the corner bar with an evening on our hands and a mess of chatter to throw it away with. That's the beginning.

Joe Bloch started it by talking about the atomic bomb, and what he thought ought to be done with it, and how who would have thought it five years ago. And I said lots of guys thought it five years ago and wrote stories about it and it was going to be tough on them trying to keep ahead of the newspapers now. Which led to a general palaver on how lots of screwy things might come true and a lot of for-instances were thrown about.

Ray said he heard from somebody that some big-shot scientist had sent a block of lead back in time for about two seconds or two minutes or two thousandths of a second - he didn't know which. He said the scientist wasn't saying anything to anybody because he didn't think anyone would believe him.

So I asked, pretty sarcastic, how he came to know about it. - Ray may have lots of friends but I have the same lot and none of them know any big-shot scientists. But he said never mind how he heard, take it or leave it.

And then there wasn't anything to do but talk about time machines, and how supposing you went back and killed your own grandfather or why didn't somebody from the future come back and tell us who was going to win the next war, or if there was going to be a next war, or if there'd be anywhere on Earth you could live after it, regardless of who wins.

Ray thought just knowing the winner in the seventh race while the sixth was being run would be something.

But Joe decided different. He said, "The trouble with you guys is you got wars and races on the mind. Me, I got curiosity. Know what I'd do if I had a time machine?"

So right away we wanted to know, all ready to give him the old snicker whatever it was.

He said, "If I had one, I'd go back in time about a couple or five or fifty million years and find out what happened to the dinosaurs."

Which was too bad for Joe, because Ray and I both thought there was just about no sense to that at all. Ray said who cared about a lot of dinosaurs and I said the only thing they were good for was to make a mess of skeletons for guys who were dopy enough to wear out the floors in museums; and it was a good thing they did get out of the way to make room for human beings. Of course Joe said that with some human beings he knew, and he gives us a hard look, we should've stuck to dinosaurs, but we pay no attention to that.

"You dumb squirts can laugh and make like you know something, but that's because you don't ever have any imagination," he says. "Those dinosaurs were big stuff. Millions of all kinds - big as houses, and dumb as houses, too - all over the place. And then, all of a sudden, like that," and he snaps his fingers, "there aren't any anymore."

How come, we wanted to know.

But he was just finishing a beer and waving at Charlie for another with a coin to prove he wanted to pay for it and he just shrugged his shoulders. "I don't know. That's what I'd find out, though."

That's all. That would have finished it. I would've said something and Ray would've made a crack, and we all would've had another beer and maybe swapped some talk about the weather and the Brooklyn Dodgers and then said so long, and never think of dinosaurs again.

Only we didn't, and now I never have anything on my mind but dinosaurs, and I feel sick.

Because the rummy at the next table looks up and hollers, "Hey!"

We hadn't seen him. As a general rule, we don't go around looking at rummies we don't know in bars. I got plenty to do keeping track of the rummies I do know. This fellow had a bottle before him that was half empty, and a glass in his hand that was half full.

He said, "Hey," and we all looked at him, and Ray said, "Ask him what he wants, Joe."

Joe was nearest. He tipped his chair backward and said, "What do you want?"

The rummy said, "Did I hear you gentlemen mention dinosaurs?"

He was just a little weavy, and his eyes looked like they were bleeding, and you could only tell his shirt was once white by guessing, but it must've been the way he talked. It didn't sound rummy, if you know what I mean.

Anyway, Joe sort of eased up and said, "Sure. Something you want to know?"

He sort of smiled at us. It was a funny smile; it started at the mouth and ended just before it touched the eyes. He said, "Did you want to build a time machine and go back to find out what happened to the dinosaurs?"

I could see Joe was figuring that some kind of confidence game was coming up. I was figuring the same thing. Joe said, "Why? You aiming to offer to build one for me?"

The rummy showed a mess of teeth and said. "No, sir. I could but I won't. You know why? Because I built a time machine for myself a couple of years ago and went back to the Mesozoic Era and found out what happened to the dinosaurs."

Later on, I looked up how to spell "Mesozoic," which is why I got it right. in case you're wondering, and I found out that the Mesozoic Era is when all the dinosaurs were doing whatever dinosaurs do. But of course at the time this is just so much double-talk to me, and mostly I was thinking we had a lunatic talking to us. Joe claimed afterward that he knew about this Mesozoic thing, but he'll have to talk lots longer and louder before Ray and I believe him.

But that did it just the same. We said to the rummy to come over to our table. I guess I figured we could listen to him for a while and maybe get some of the bottle, and

the others must have figured the same. But he held his bottle tight in his right hand when he sat down and that's where he kept it. it. [sic]

Ray said, "Where'd you build a time machine?"

"At Midwestern University. My daughter and I worked on it together."

He sounded like a college guy at that.

I said, "Where is it now? In your pocket?"

He didn't blink; he never jumped at us no matter how wise we cracked. Just kept talking to himself out loud, as if the whiskey had limbered up his tongue and he didn't care if we stayed or not.

He said, "I broke it up. Didn't want it. Had enough of it."

We didn't believe him. We didn't believe him worth a darn. You better get that straight. It stands to reason, because if a guy invented a time machine, he could clean up millions - he could clean up all the money in the world, just knowing what would happen to the stock market and the races and elections. He wouldn't throw a11 that away, I don't care what reasons he had. - Besides, none of us were going to believe in time travel anyway, because what if you did kill your own grandfather.

Well, never mind.

Joe said, "Yeah, you broke it up. Sure you did. What's your name?"

But he didn't answer that one, ever. We asked him a few more times, and then we ended up calling him "Professor."

He finished off his glass and filled it again very slow. He didn't offer us any, and we all sucked at our beers.

So I said, "Well, go ahead. What happened to the dinosaurs?"

But he didn't tell us right away. He stared right at the middle of the table and talked to it.

"I don't know how many times Carol sent me back - just a few minutes or hours - before I made the big jump. I didn't care about the dinosaurs; I just wanted to see how far the machine would take me on the supply of power I had available. I suppose it was dangerous, but is life so wonderful? The war was on them - One more life?"

He sort of coddled his glass as if he was thinking about things in general, then he seemed to skip a part in his mind and keep right on going.

"It was sunny," he said, "sunny and bright; dry and hard. There were no swamps, no ferns. None of the accoutrements of the Cretaceous we associate with dinosaurs," - anyway, I think that's what he said. I didn't always catch the big words, so later on I'll just stick in what I can remember. I checked all the spellings, and I must say that for all the liquor he put away, he pronounced them without stutters.

That's maybe what bothered us. He sounded so familiar with everything, and it all just rolled off his tongue like nothing.

He went on, "It was a late age, certainly the Cretaceous. The dinosaurs were already on the way out - all except those little ones, with their metal belts and their guns."

I guess Joe practically dropped his nose into the beer altogether. He skidded halfway around the glass, when the professor let loose that statement sort of sad-like.

Joe sounded mad. "What little ones, with whose metal belts and which guns?"

The professor looked at him for just a second and then let his eyes slide back to nowhere. "THC were little reptiles, standing four feet high. They stood on their hind legs with a thick tail behind, and they had little forearms with fingers. Around their waists were strapped wide metal belts, and from these hung guns. - And they weren't guns that shot pellets either; they were energy projectors."

"They were what!" I asked. "Say, when was this? Millions of years ago?"

"That's right," he said. "They were reptiles. They had scales and no eyelids and they probably laid eggs. But they used energy guns. There were five of them. They were on me as soon as I got out of the machine. There must have been millions of them all over Earth - millions. Scattered all over. They must have been the Lords of Creation then."

I guess it was then that Ray thought he had him, because he developed that wise look in his eyes that makes you feel like conking him with an empty beer mug, because a full one would waste beer. He said, "Look, P'fessor, millions of them, huh? Aren't there guys who don't do anything but find old bones and mess around with them till they figure out what some dinosaur looked like. The museums are full of these here skeletons, aren't they? Well, where's there one with a metal belt on him. If there were millions, what's become of them? Where are the hones?"

The professor sighed. It was a real, sad sigh. Maybe he realized for the first time he was just speaking to three guys in overalls in a barroom. Or maybe he didn't care.

He said, "You don't find many fossils. Think how many animals lived on Earth altogether. Think how many billions and trillions. And then think how few fossils we find. - And these lizards were intelligent. Remember that. They're not going to get caught in snow drifts or mud, or fall into lava, except by big accident. Think how few fossil men there are - even of these subintelligent apemen of a million years ago."

He looked at his half-full glass and turned it round and round.

He said, "What would fossils show anyway? Metal belts rust away and leave nothing. Those little lizards were warm-blooded. I know that, but you couldn't prove it from petrified bones. What the devil? A million years from now could you tell what New York looks like from a human skeleton? Could you tell a human from a gorilla by the bones and figure out which one built an atomic bomb and which one ate bananas in a zoo?"

"Hey," said Joe, plenty objecting, "any simple bum can tell a gorilla skeleton from a man's. A man's got a larger brain. Any fool can tell which one was intelligent."

"Really?" The professor laughed to himself, as if all this was so simple and obvious, it was just a crying shame to waste time on it. "You judge everything from the type of brain human beings have managed to develop. Evolution has different ways of doing things. Birds fly one way; bats Ay another way. Life has plenty of tricks for everything. - How much of your brain do you think you use. About a fifth. That's what the psychologists say. As far as they know, as far as anybody knows, eighty per cent of your brain has no use at all. Everybody just works on way-low gear, except maybe a few in history. Leonardo da Vinci, for instance. Archimedes, Aristotle, Gauss, Galois, Einstein -"

I never heard of any of them except Einstein, but I didn't let on. He mentioned a few more, but I've put in all I can remember. Then he said, "Those little reptiles had tiny brains, maybe quarter-size, maybe even less, but they used it all - every bit of it. Their bones might not show it, but they were intelligent; intelligent as humans. And they were boss of all Earth."

And then Joe came up with something that was really good. For a while I was sure that he had the professor and I was awfully glad he came out with it. He said, "Look, P'fessor, if those lizards were so damned hot, why didn't they leave something behind? Where are their cities and their buildings and all the sort of stuff we keep finding of the cavemen, stone knives and things. Hell, if human beings got the heck off of Earth, think of the stuff we'd leave behind us. You couldn't walk a mile without falling over a city. And roads and things."

But the professor just couldn't be stopped. He wasn't even shaken up. He just came right back with, "You're still judging other forms of life by human standards. We build cities and roads and airports and the rest that goes with us - but they didn't. They were built on a different plan. Their whole way of life was different from the ground up. They didn't live in cities. They didn't have our kind of art. I'm not sure what they did have because it was so alien I couldn't grasp it - except for their guns. Those would be the same. Funny, isn't it. - For all I know, maybe we stumble over their relics every day and don't even know that's what they are."

I was pretty sick of it by that time. You just couldn't get him. The cuter you'd be, the cuter he'd be.

I said, "Look here. How do you know so much about those things? What did you do; live with them? Or did they speak English? Or maybe you speak lizard talk. Give us a few words of lizard talk."

I guess I was getting mad, too. You know how it is. A guy tells you something you don't believe because it's all cockeyed, and you can't get him to admit he's lying.

But the professor wasn't mad. He was just filling the glass again, very slowly. "No," he said, "I didn't talk and they didn't talk. They just looked at me with their cold, hard, staring eyes - snake's eyes - and I knew what they were thinking, and I could see that they knew what I was thinking. Don't ask me how it happened. It just did. Everything. I knew that they were out on a hunting expedition and I knew they weren't going to let me go."

And we stopped asking questions. We just looked at him, then Ray said, "What happened? How did you get away?"

"That was easy. An animal scurried past on the hilltop. It was long - maybe ten feet - and narrow and ran close to the ground. The lizards got excited. I could feel the excitement in waves. It was as if they forgot about me in a single hot flash of blood lust - and off they went. I got back in the machine, returned, and broke it up."

It was the flattest sort of ending you ever heard. Joe made a noise in his throat. "Well, what happened to the dinosaurs?"

"Oh, you don't see? I thought it was plain enough. - It was those little intelligent lizards that did it. They were hunters - by instinct and by choice. It was their hobby in life. It wasn't for food; it was for fun."

"And they just wiped out all the dinosaurs on the Earth?"

"All that lived at the time, anyway; all the contemporary species. Don't you think it's possible? How long did it take us to wipe out bison herds by the hundred million? What happened to the dodo in a few years? Supposing we really put our minds to it, how long would the lions and the tigers and the giraffes last? Why, by the time I saw those lizards there wasn't any big game left - no reptile more than fifteen feet maybe. All gone. Those little demons were chasing the little, scurrying ones, and probably crying their hearts out for the good old days."

And we all kept quiet and looked at our empty beer bottles and thought about it. All those dinosaurs - big as houses - killed by little lizards with guns. Killed for fun.

Then Joe leaned over and put his hand on the professor's shoulder, easylike, and shook it. He said, "Hey, P'fessor, but if that's so, what happened to the little lizards with the guns? Huh? - Did you ever go back to find out?"

The professor looked up with the kind of look in his eyes that he'd have if he were lost.

"You still don't see! It was already beginning to happen to them. I saw it in their eyes. They were running out of big game- the fun was going nut of it. So what did you expect them to do? They turned to other game - the biggest and most dangerous of all - and really had fun. They hunted that game to the end."

"What game?" asked Ray. He didn't get it, but Joe and I did.

"Themselves," said the professor in a loud voice. "They finished off all the others and began on themselves - till not one was left."

And again we stopped and thought about those dinosaurs - big as houses - all finished off by little lizards with guns. Then we thought about the little lizards and how they had to keep the guns going even when there was nothing to use them on but themselves.

Joe said, "Poor dumb lizards."

"Yeah," said Ray, "poor crackpot lizards."

And then what happened really scared us. Because the professor jumped up with eyes that looked as if they were trying to climb right out of their sockets and leap at us. He shouted, "You damned fools. Why do you sit there slobbering over reptiles dead a hundred million years. That was the first intelligence on Earth and that's how it ended. That's done. But we're the second intelligence - and how the devil do you think we're going to end?"

He pushed the chair over and headed for the door. But then he stood there just before leaving altogether and said: "Poor dumb humanity! Go ahead and cry about that."

AUTHOR'S COMMENT

The story, alas, seems to have a moral, and, in fact, ends by pounding that moral over the reader's head. That is bad. Straightforward preaching spoils the effectiveness of a story. If you can't resist the impulse to improve your fellow human beings, do it subtly.

Occasionally I overflow and forget this good maxim. DAY OF THE HUNTERS was written not long after the Soviet Union had exploded its first fission bomb. It had been bad enough till then, knowing that the United States might be tempted to use fission bombs if sufficiently irritated (as in 1945). Now, for the first time, the possibility of a real nuclear war, one in which both sides used fission bombs, had arisen.

We've grown used to that situation now and scarcely think of it, but in 1950 there were many who thought a nuclear war was inevitable, and in short order, too. I was pretty bitter about that - and the bitterness shows in the story. (Mankind's suicide seems now, a quarter century after DAY OF THE HUNTERS was written, to be more likely than ever, but for different reasons.)

DAY OF THE HUNTERS is also told in the framework of a conversation, by the way. This one takes place in a bar. Wodehouse's stories about Mulliner, the stories set in Gavagan's Bar by L. Sprague de Camp and Fletcher Pratt, and Clarke's stories about the White Hart were all set in bars, and I'd read them all and loved them.

It was inevitable, therefore, that someday I would tell a story in the form of a bar conversation. The only trouble is that I don't drink and have hardly ever sat in a bar, so I probably have it all wrong.

My stay in Boston quickly proved to be no barrier to my literary career. (In fact, nothing since my concentration on my doctoral research in 1947 has proved to be a barrier.)

After two months in a small sublet apartment (of slum quality) very close to the school, we moved to the suburbs - if you want to call it that. Neither my wife nor I could drive a car when we came to Boston so we had to find a place on the bus lines. We got one in the rather impoverished town of Somerville - an attic apartment of primitive sort that was unbelievably hot in the summer.

There I wrote my second novel, THE STARS, LIKE DUST (Doubleday, 1951), and while there a small, one-man publishing firm, Gnome Press, put out a collection of my positronic robot stories, I, ROBOT, in 1950, and the first portion of my Foundation stories as FOUNDATION in 1951. (Gnome Press did not do well with these books or with FOUNDATION AND EMPIRE and SECOND FOUNDATION, which they published in 1951 and 1952. To my great relief, therefore, Doubleday, playing the role of White Knight on my behalf, pressured Gnome Press into relinquishing these books in 1962. Doubleday handled them thereafter and succeeded in earning (and is still continuing to earn) very substantial sums out of all of them for myself and for themselves.)

In 1950 I learned to drive an automobile, and in 1951 we even had a son, rather to our surprise. After nine years of marriage we had rather come to the opinion that we were doomed to be childless. Late in 1950, however, it turned out that the explanation to some

rather puzzling physiological manifestations was that my wife was pregnant. The first person to tell me that that must be so, I remember, was Evelyn Gold (she was then Mrs. Horace Gold). I laughed and said, "No, no," but it was yes, yes, and David was born on August 20, 1951.

Having thus become prolific in books and having made a start in the direction of automobiles and offspring, I was ready for anything and began to accept all kinds of assignments.

Among the many science fiction magazines of the early 1950s, for instance, there was one called Marvel Science Fiction. It was the reincarnation of an earlier Marvel that had published nine issues between 1938 and 1941. The earlier magazine had specialized in stories that accented sex in a rather heavy-handed and foolish manner. (In a very indirect way this eventually led to my writing a story called Playboy and the Slime God which appeared in the March 1961 Amazing stories and was then included in my collection NIGHTFALL AND OTHER STORIES under the much better title What Is This Thing Called Love?)

After Marvel was revived in 1950 (it lasted only for another half-dozen issues) I was asked for a story. I might have recalled the unsavory history of the magazine and refused to supply one, but I thought of a story I couldn't resist writing because, as all who know me are aware, I am an incorrigible punster. (I once asked a girl named Dawn if she had ever used one of those penny weighing machines on a trip to Florida she was telling me about. She said, "No. Why?" and I said because there was a song written about it. She said, "What are you talking about?" and I said, "Haven't you heard 'Weigh Dawn Upon the Swanee river'?" and she chased me for five blocks before I got away.)

The story was SHAH GUIDO G. and it appeared in the November 1951 issue of Marvel.

SHAH GUIDO G.

Once every year Philo Plat returned to the scene of his crime. It was a form of penance. On each anniversary he climbed the barren crest and gazed along the miles of smashed metal, concrete, and bones.

The area was desolate. The metal crumplings were still stainless and unruined, their jagged teeth raised in futile anger. Somewhere among it all were the skeletons of the thousands who had died, of all ages and both sexes. Their skully sightlessness, for all he knew, was turning empty, curse-torn eye holes at him.

The stench had long since gone from the desert, and the lizards held their lairs untroubled. No man approached the fenced-off burial ground where what remained of bodies lay in the gashed crater carved out in that final fall.

Only Plat came. He returned year after year and always, as though to ward off so many Evil Eyes, he took his gold medal with him. It hung suspended bravely from his neck as he stood on the crest. On it was inscribed simply, "To the Liberator!"

This time, Fulton was with him. Fulton had been a Lower One once in the days before the crash; the days when there had been Higher Ones and Lower Ones.

Fulton said, "I am amazed you insist on coming here, Philo."

Plat said, "I must. You know the sound of the crash was heard for hundreds of miles; seismographs registered it around the world. My ship was almost directly above it; the shock vibrations caught me and flung me miles. Yet all I can remember of sound is that one composite scream as Atlantis began its fall."

"It had to be done."

"Words," sighed Plat. "There were babies and guiltless ones."

"No one is guiltless."

"Nor am I. Ought I to have been the executioner?"

"Someone had to be." Fulton was firm. "Consider the world now, twenty-five years later. Democracy re-established, education once more universal, culture available for the masses, and science once more advancing. Two expeditions have already landed on Mars."

"I know. I know. But that, too, was a culture. THC called it Atlantis because it was an island that ruled the world. It was an island in the sky, not the sea. It was a city and a world all at once, Fulton. You never saw its crystal covering and its gorgeous buildings. It was a single jewel carved of stone and metal. It was a dream."

"It was concentrated happiness distilled out of the little supply distributed to billions of ordinary folk who lived on the Surface."

"Yes, you are right. Yes, it had to be. But it might have been so different, Fulton. You know," he seated himself on the hard rock, crossed his arms upon his knees and cradled his chin in them, "I think, sometimes, of how it must have been in the old days, when there were nations and wars upon the Earth. I think of how much a miracle it must

have seemed to the peoples when the United Nations first became a real world government, and what Atlantis must have meant to them.

"It was a capital city that governed Earth but was not of it. It was a black disc in the air, capable of appearing anywhere on Earth at any height; belonging to no one nation, but to all the planet; the product of no one nation's ingenuity but the first great achievement of all the race - and then, what it became!"

Fulton said, "Shall we go? We'll want to get back to the ship before dark."

Plat went on, "In a way. I suppose it was inevitable. The human race never did invent an institution that didn't end as a cancer. Probably in prehistoric times, the medicine man who began as the repository of tribal wisdom ended as the last bar to tribal advance. In ancient Rome, the citizen army -"

Fulton was letting him speak - patiently. It was a queer echo of the past. And there had been other eyes upon him in those days, patiently waiting, while he talked.

"- the citizen army that defended the Romans against all comers from Veli to Carthage, became the professional Praetorian Guard that sold the Imperium and levied tribute on all the Empire. The Turks developed the Janissaries as their invincible advance guard against Europe and the Sultan ended as a slave of his Janissary slaves. The barons of medieval Europe protected the serfs against the Northmen and the Magyars, then remained six hundred years longer as a parasite aristocracy that contributed nothing."

Plat became aware of the patient eyes and said, "Don't you understand me?"

One of the bolder technicians said, "With your kind permission, Higher One, we must needs be at work."

"Yes, I suppose you must."

The technician felt sorry. This Higher One was queer, but he meant well. Though he spoke a deal of nonsense, he inquired after their families, told them they were fine fellows, and that their work made them better than the Higher Ones.

So he explained, "You see, there is another shipment of granite and steel for the new theater and we will have to shift the energy distribution. It is becoming very hard to do that. The Higher Ones will not listen."

"Now that's what I mean. You should make them listen."

But they just stared at him, and at that moment an idea crawled gently into Plat's unconscious mind.

Leo Spinney waited for him on the crystal level. He was Plat's age but taller and much more handsome. Plat's face was thin, his eyes were china-blue, and he never smiled. Spinney was straight-nosed with brown eyes that seemed to laugh continuously.

Spinney called, "We'll miss the game."

"I don't want to go, Leo. Please."

Spinney said, "With the technicians again? Why do you waste your time?"

Plat said, "They work. I respect them. What right have we to idle?"

"Ought I to ask questions of the world as it is when it suits me so well?"

"If you do not, someone will ask questions for you someday."

"That will be someday, not this day. And, frankly, you had better come. The Sekjen has noticed that you are never present at the games and he doesn't like it. Personally, I think people have been telling him of your talks to the technicians and your visits to the Surface. He might even think you consort with Lower Ones."

Spinney laughed heartily, but Plat said nothing. It would not hurt them if they consorted with Lower Ones a bit more, learned something of their thinking. Atlantis had its guns and its battalions of Waves. It might learn someday that that was not enough. Not enough to save the Sekjen.

The Sekjen! Plat wanted to spit. The full title was "Secretary-General of the United Nations." Two centuries before it had been an elective office; an honorable one. Now a man like Guido Garsthavastra could fill it because he could prove he was the son of his equally worthless father.

"Guido G." was what the Lower Ones on the Surface called him. And usually, with bitterness, "Shah Guido G.," because "Shah" had been the title of a line of despotic oriental kings. The Lower Ones knew him for what he was. Plat wanted to tell Spinney that, but it wasn't time yet.

The real games were held in the upper stratosphere, a hundred miles above Atlantis, though the Sky-Island was itself twenty miles above sea-level. The huge amphitheater was filled and the radiant globe in its center held all eyes. Each tiny one-man cruiser high above was represented by its own particular glowing symbol in the color that belonged to the fleet of which it was part. The little sparks reproduced in exact miniature the motions of the ships.

The game was starting as Plat and Spinney took their seats. The little dots were already flashing toward one another. skimming and missing, veering.

A large scoreboard blazoned the progress of the battle in conventional symbology that Plat did not understand. There was confused cheering for either fleet and for particular ships.

High up under a canopy was the Sekjen, the Shah Guido G. of the Lower Ones. Plat could barely see him but he could make out clearly the smaller replica of the game globe that was there for his private use.

Plat was watching the game for the first time. He understood none of the finer points and wondered at the reason for the particular shouts. Yet he understood that the dots were ships and that the streaks of light that licked out from them on frequent occasions represented energy beams which, one hundred miles above, were as real as flaring atoms could make them. Each time a dot streaked, there was a clamor in the audience that died in a great moan as a target dot veered and escaped.

And then there was a general yell and the audience, men and women up to the Sekjen himself clambered to its feet. One of the shining dots had been hit and was going down - spiraling, spiraling. A hundred miles above, a real ship was doing the same; plunging down into the thickening air that would heat and consume its specially designed magnesium alloy shell to harmless powdery ash before it could reach the surface of the Earth.

Plat turned away. "I'm leaving, Spinney."

Spinney was marking his scorecard and saying, "That's five ships the Greens have lost this week. We've got to have more." He was on his feet, calling wildly, "Another one!"

The audience was taking up the shout, chanting it.

Plat said, "A man died in that ship."

"You bet. One of the Green's hest too. Damn good thing."

"Do you realize that a man died."

"They're only Lower Ones. What's bothering you?"

Plat made his slow way out among the rows of people. A few looked at him and whispered. Most had eyes for nothing but the game globe. There was perfume all about him and in the distance, occasionally heard amid the shouts, there was a faint wash of gentle music. As he passed through a main exit, a yell trembled the air behind him.

Plat fought the nausea grimly.

He walked two miles, then stopped.

Steel girders were swaying at the end of diamagnetic beams and the coarse sound of orders yelled in Lower accents filled the air.

There was always building going on upon Atlantis. Two hundred years ago, when Atlantis had been the genuine seat of government, its lines had been straight, its spaces broad. But now it was much more than that. It was the Xanadu pleasure dome that Coleridge spoke of.

The crystal roof had been lifted upward and outward many times in the last two centuries. Each time it had been thickened so that Atlantis might more safely climb higher; more safely withstand the possible blows of meteoric pebbles not yet entirely burnt by the thin wisps of air.

And as Atlantis became more useless and more attractive, more and more of the Higher Ones left their estates and factories in the hands of managers and foremen and took up permanent residence on the Sky-Island. All built larger, higher, more elaborately.

And here was still another structure.

Waves were standing by in stolid, duty-ridden obedience. The name applied to the females - if, Plat thought sourly, they could be called that - was taken from the Early English of the days when Earth was divided into nations. There, too, conversion and degeneration had obtained. The old Waves had done paper work behind the lines. These creatures, still called Waves, were front-line soldiers.

It made sense, Plat knew. Properly trained, women were more single-minded, more fanatic, less given to doubts and remorse than ever men could be.

They always had Waves present at the scene of any building, because the building was done by Lower Ones, and Lower Ones on Atlantis had to be guarded. Just as those on the Surface had to be cowed. In the last fifty years alone, the long-range atomic artillery that studded the underside of Atlantis had been doubled and tripled.

He watched the girder come softly down, two men yelling directions to each other as it settled in place. Soon there would be no further room for new buildings on Atlantis.

The idea that had nudged his unconscious mind earlier in the day gently touched his conscious mind.

Plat's nostrils flared.

Plat's nose twitched at the smell of oil and machinery. More than most of the perfume-spoiled Higher Ones, he was used to odors of all sorts. He had been on the Surface and smelled the pungence of its growing fields and the fumes of its cities.

He said to the technician, "I am seriously thinking of building a new house and would like your advice as to the best possible location."

The technician was amazed and electrified. "Thank you, Higher One. It has become so difficult to arrange the available power."

"It is why I come to you."

They talked at length, Plat asked a great many questions and when he returned to crystal level his mind was a maze of speculation. Two days passed in an agony of doubt. Then he remembered the shining dot, spiraling and spiraling, and the young, wondering eyes upon his own as Spinnev said, "They're only Lower Ones."

He made up his mind and applied for audience with the Sekjen.

The Sekjen's drawling voice accentuated the boredom he did not care to hide. He said. "The Plats are of good family, yet you amuse yourself with technicians. I am told you speak to them as equals. I hope that it will not become necessary to remind you that your estates on the Surface require your care."

That would have meant exile from Atlantis, of course.

Plat said, "It is necessary to watch the technicians, Sire. They are of Lower extraction."

The Sekjen frowned. "Our Wave Commander has her job she takes care of such matters."

"She docs her best, I have no doubt, Sire, but I have made friends with the technicians. They are not safe. Would I have any other reason to soil my hands with them, but the safety of Atlantis."

The Sekjen listened. First, doubtfully; then, with fear on his soft face. He said, "I shall have them in custody -"

"Softly, Sire," said Plat. "We cannot do without them meanwhile, since none of us can man the guns and the antigravs. It would be better to give them no opportunity for rebellion. In two weeks the new theater will be dedicated with games and feasting."

"And what do they intend then?"

"I am not yet certain, Sire. But I know enough to recommend that a division of Waves be brought to Atlantis. Secretly, of course, and at the last minute so that it will be too late for the rebels to change any plans they have made. They will have to drop them altogether, and the proper moment, once lost, may never be regained. Thereafter, I will learn more. If necessary, we will train new men. It would be a pity, Sire, to tell anyone of

this in advance. If the technicians learn our countermeasures prematurely, matters may go badly."

The Sekjen, with his jeweled hand to his chin, mused - and believed.

Shah Guido G., thought Philo Plat. In history, you'll go down as Shah Guido G.

Philo Plat watched the gaiety from a distance. Atlantis's central squares were crawling black with people. That was good. He himself had managed to get away only with difficulty. And none too soon, since the Wave Division had already cross-hatched the sky with their ships.

They were maneuvering edgily now, adjusting themselves into final position over Atlantis's huge, raised air field, which was well able to take their ships all at once.

The cruisers were descending now vertically, in parade formation. Plat looked quickly toward the city proper. The populace had grown quieter as they watched the unscheduled demonstration, and it seemed to him that he had never seen so many Higher Ones upon the Sky-Island at one time. For a moment, a last misgiving arose. There was still time for a warning.

And even as he thought that he knew that there wasn't. The cruisers were dropping speedily. He would have to go hurry if he were himself to escape in his own little craft. He wondered sickly, even as he grasped the controls, whether his friends on the Surface had received his yesterday's warning, or would believe it if they had received it. If they could not act quickly the Higher Ones would yet recover from the first blow, devastating though it was.

He was in the air when the Waves landed, seven thousand five hundred tear-drop ships covering the airfield like a descending net. Plat drove his ship upward, watching -

And Atlantis went dark. It was like a candle over which a mighty hand was suddenly cupped. One moment it blazed the night into brilliance for fifty miles around; the next it was black against blackness.

To Plat the thousands of screams blended into one thin, lost shriek of fear. He Red, and the shock vibrations of Atlantis's crash to Earth caught his ship and hurled it far.

He never stopped hearing that scream.

Fulton was staring at Plat. He said, "Have you ever told this to anyone?"

Plat shook his head.

Fulton's mind went back a quarter century, too. "We got your message, of course. It was hard to believe, as you expected. Many feared a trap even after report of the Fall arrived. But - well, it's history. The Higher Ones that remained, those on the Surface, were demoralized and before they could recover, they were done.

"But tell me," he turned to Plat with sudden, hard curiosity. "What was it you did! We've always assumed you sabotaged the power stations."

"I know. The truth is so much less romantic, Fulton. The world would prefer to believe its myth. Let it."

"May I have the truth?"

"If you will. As I told you, the Higher Ones built and built to saturation. The antigrav energy beams had to support a weight in buildings, guns, and enclosing shell

that doubled and tripled as the years went on. Any requests the technicians might have made for newer or bigger motors were turned down, since the Higher Ones would rather have the room and money for their mansions and there was always enough power for the moment.

"The technicians, as I said, had already reached the stage where they were disturbed at the construction of single buildings. I questioned them and found exactly how little margin of safety remained. They were waiting only for the completion of the new theater to make a new request. They did not realize, however, that, at my suggestion, Atlantis would be called upon to support the sudden additional burden of a division of Wave cavalry in their ships. Seven thousand five hundred ships, fully rigged!

"When the Waves landed, by then almost two thousand tons, the antigrav power supply was overloaded. The motors failed and Atlantis was only a vast rock, ten miles above the ground. What could such a rock do but fall."

Plat arose. Together they turned back toward their ship.

Fulton laughed harshly. "You know, there is a fatality in names."

"What do you mean?"

"Why, that once more in history Atlantis sank beneath the Waves."

AUTHOR'S COMMENT

Now that you've read the story, you'll notice that the whole thing is for the purpose of that final lousy pun, right? In fact, one person came up to me and, in tones of deep disgust, said, "Why, SHAH GUIDO G. is nothing but a shaggy-dog story."

"Right," I said, "and if you divide the title into two parts instead of three, you get SHAHGUI DOG, so don't you think I know it?"

In other words, the title is a pun, too.

With David on his way, we obviously couldn't remain in that impossible Somerville apartment. Since I could now drive a car, we were no longer bound to the bus lines and could look farther afield. In the spring of 1951 we moved into an apartment in Waltham, Massachusetts, therefore. It was a great improvement over the earlier apartment, though it, too, was pretty hot in the summer.

There were two very small built-in bookcases in the living room of the apartment and I began using that for a collection of my own books in chronological order. I got up to seventeen books while I was in that apartment. When my biochemistry textbook came out in 1952 I placed it with the rest in its proper order. It received no preferential treatment. I saw no way in which a scientific textbook could lay claim to greater respectability than a science fiction novel.

If I had ambitions, in fact, it was not toward respectability. I kept wanting to write funny material.

Humor is a funny thing, however -

All right, humor is a peculiar thing, if you have a prejudice against a witty play on words. There is no way of being almost funny or mildly funny or fairly funny or tolerably funny. You are either funny or not funny and there is nothing in between. And usually it is the writer who thinks he is funny and the reader who thinks he isn't.

Naturally, then, humor isn't something a man should lightly undertake; especially in the early days of his career when he has not yet learned to handle his tools. - And yet almost every beginning writer tries his hand at humor, convinced that it is an easy thing to do.

I was no exception. By the time I had written and submitted four stories, and had, as yet, sold none, I already felt it was time to write a funny story. I did. It was Ring Around the Sun, something I actually managed to sell and which was eventually included in THE EARLY ASIMOV.

I didn't think it was successfully funny even at the time it was written. Nor did I think several other funny stories I tried my hand at, such as Christmas on Ganymede (also in THE EARLY ASIMOV) and Robot AL-76 Goes Astray (included in THE REST OF THE ROBOTS, Doubleday, 1964) were really funny.

It wasn't till 1952 that (in my own mind only; I say nothing about yours) I succeeded. I wrote two stories, BUTTON, BUTTON and THE MONKEY'S FINGER, in which I definitely thought I had managed to do it right. I was giggling all the way through each one, and I managed to unload both on Startling Stories, where they appeared in successive issues, BUTTON, BUTTON in the January 1953 issue and THE MONKEY'S FINGER in the February 1953 issue.

And, Gentle Reader, if you don't think they're funny, do your best not to tell me so. Leave me to my illusions.

BUTTON, BUTTON

It was the tuxedo that fooled me and for two seconds I didn't recognize him. To me, he was just a possible client, the first that had whiffed my way in a week - and he looked beautiful.

Even wearing a tuxedo at 9:45 A.M. he looked beautiful. Six inches of bony wrist and ten inches of knobby hand continued on where his sleeve left off; the top of his socks and the bottom of his trousers did not quite join forces; still he looked beautiful.

Then I looked at his face and it wasn't a client at all. It was my uncle Otto. Beauty ended. As usual, my uncle Otto's face looked like that of a bloodhound that had just been kicked in the rump by his best friend.

I wasn't very original in my reaction. I said, "Uncle Otto!"

You'd know him too, if you saw that face. When he was featured on the cover of Time about five years ago (it was either '57 or '58), 204 readers by count wrote in to say that they would never forget that face. Most added comments concerning nightmares. If you want my uncle Otto's full name, it's Otto Schlemmelmayer. But don't jump to conclusions. He's my mother's brother. My own name is Smith.

He said, "Harry, my boy," and groaned.

Interesting, but not enlightening. I said, "Why the tuxedo?"

He said, "It's rented."

"All right. But why do you wear it in the morning?"

"Is it morning already?" He stared vaguely about him, then went to the window and looked out.

That's my uncle Otto Schlemmelmayer. I assured him it was morning and with an effort he deduced that he must have been walking the city streets all night.

He took a handful of fingers away from his forehead to say, "But I was so upset, Harry. At the banquet -"

The fingers waved about for a minute and then folded into a quart of fist that came down and pounded holes in my desk top. "But it's the end. From now on I do things my own way."

My uncle Otto had been saying that since the business of the "Schlemmelmayer Effect" first started up. Maybe that surprises you. Maybe you think it was the Schlemmelmayer Effect that made my uncle Otto famous. Well, it's all how you look at it.

He discovered the Effect back in 1952 and the chances are that you know as much about it as I do. In a nutshell, he devised a germanium relay of such a nature as to respond to thoughtwaves, or anyway to the electromagnetic fields of the brain cells. He worked for years to build such a delay into a flute, so that it would play music under the pressure of nothing but thought. It was his love, his life, it was to revolutionize music. Everyone would be able to play; no skill necessary - only thought.

Then, five years ago, this young fellow at Consolidated Arms, Stephen Wheland, modified the Schlemmelmayer Effect and reversed it. He devised a field of supersonic waves that could activate the brain via a germanium relay, fry it, and kill a rat at twenty feet. Also, they found out later, men.

After that, Wheland got a bonus of ten thousand dollars and a promotion, while the major stockholders of Consolidated Arms proceeded to make millions when the government bought the patents and placed its orders.

My uncle Otto? He made the cover of Time.

After that, everyone who was close to him, say within a few miles, knew he had a grievance. Some thought it was the fact that he had received no money; others, that his great discovery had been made an instrument of war and killing.

Nuts! It was his flute! That was the real tack on the chair of his life. Poor Uncle Otto. He loved his flute. He carried it with him always, ready to demonstrate. It reposed in its special case on the back of his chair when he ate, and at the head of his bed when he slept. Sunday mornings in the university physics laboratories were made hideous by the sounds of my uncle Otto's flute, under imperfect mental control, flatting its way through some tearful German folk song.

The trouble was that no manufacturer would touch it. As soon as its existence was unveiled, the musicians' union threatened to silence every demiquaver in the land; the various entertainment industries called their lobbyists to attention and marked them off in brigades for instant action; and even old Pietro Faranini stuck his baton behind his ear and made fervent statements to the newspapers about the impending death of art.

Uncle Otto never recovered.

He was saying, "Yesterday were my final hopes. Consolidated informs me they will in my honor a banquet give. Who knows, I say to myself. Maybe they will my flute buy." Under stress, my uncle Otto's word order tends to shift from English to Germanic.

The picture intrigued me.

"What an idea," I said. "A thousand giant flutes secreted in key spots in enemy territories blaring out singing commercials just flat enough to -"

"Quiet! Quiet!" My uncle Otto brought down the flat of his hand on my desk like a pistol shot, and the plastic calendar jumped in fright and fell down dead. "From you also mockery? Where is your respect?"

"I'm sorry, Uncle Otto."

"Then listen. I attended the banquet and they made speeches about the Schlemmelmayer Effect and how it harnessed the power of mind. Then when I thought they would announce they would my flute buy, they give me this!"

He took out what looked like a two-thousand-dollar gold piece and threw it at me. I ducked.

Had it hit the window, it would have gone through and brained a pedestrian, but it hit the wall. I picked it up. You could tell by the weight that it was only gold plated. On one side it said: "The Elias Hancroft Sudford Award" in big letters, and "to Dr. Otto Schlemmelmayer for his contributions to science" in small letters. On the other side was a

profile, obviously not of my uncle Otto. In fact, it didn't look like any breed of dog; more like a pig.

"That," said my uncle Otto, "is Elias Bancroft Sudford, chairman of Consolidated Arms!"

He went on, "So when I saw that was all, I got up and very politely said: 'Gentlemen, dead drop!' and walked out."

"Then you walked the streets all night." I filled in for him, "and came here without even changing your clothes. You're still in your tuxedo."

My uncle Otto stretched out an arm and looked at its covering. "A tuxedo?" he said.

"A tuxedo!" I said.

His long, jowled cheeks turned blotchy red and he roared, "I come here on something of first-rate importance and you insist on about nothing but tuxedos talking. My own nephew!"

I let the fire burn out. My uncle Otto is the brilliant one in the family, so except for trying to keep him from falling into sewers and walking out of windows, we morons try not to bother him.

I said, "And what can I do for you, Uncle?"

I tried to make it sound businesslike; I tried to introduce the lawyer-client relationship.

He waited impressively and said, "I need money."

He had come to the wrong place. I said, "Uncle, right now I don't have -"

"Not from you," he said.

I felt better.

He said, "There is a new Schlemmelmayer Effect; a better one. This one I do not in scientific journals publish. My big mouth shut I keep. It entirely my own is." He was leading a phantom orchestra with his bony fist as he spoke.

"From this new Effect," he went on, "I will make money and my own flute factory open."

"Good," I said, thinking of the factory and lying.

"But I don't know how."

"Bad," I said. thinking of the factory and lying.

"The trouble is my mind is brilliant. I can conceive concepts beyond ordinary people. Only, Harry, I can't conceive ways of making money. It's a talent I do not have."

"Bad," I said, not lying at all.

"So I come to you as a lawyer."

I sniggered a little deprecating snigger.

"I come to you," he went on, "to make you help me with your crooked, lying, sneaking, dishonest lawyer's brain."

I filed the remark, mentally, under unexpected compliments and said, "I love you, too, Uncle Otto."

He must have sensed the sarcasm because he turned purple with rage and yelled, "Don't be touchy. Be like me, patient, understanding, and easygoing, lumphead. Who says anything about you as a man? As a man, you are an honest dunderkopf, but as a lawyer, you have to be a crook. Everyone knows that."

I sighed. The Bar Association warned me there would be days like this.

"What's your new Effect, Uncle Otto?" I asked.

He said, "I can reach back into Time and bring things out of the past."

I acted quickly. With my left hand I snatched my watch out of the lower left vest pocket and consulted it with all the anxiety I could work up. With my right hand I reached for the telephone.

"Well, Uncle," I said heartily, "I just remembered an extremely important appointment I'm already hours late for. Always glad to see you. And now, I'm afraid I must say good-bye. Yes, sir, seeing you has been a pleasure, a real pleasure. Well, good-bye. Yes, sir -"

I failed to lift the telephone out of its cradle. I was pulling up all right, but my uncle Otto's hand was on mine and pushing down. It was no contest. Have I said my uncle Otto was once on the Heidelberg wrestling team in '32?

He took hold of my elbow gently (for him) and I was standing. It was a great saving of muscular effort (for me).

"Let's" he said, "to my laboratory go."

He to his laboratory went. And since I had neither the knife nor the inclination to cut my left arm off at the shoulder, I to his laboratory went also. . . .

My uncle Otto's laboratory is down a corridor and around a corner in one of the university buildings. Ever since the Schlemmelmayer Effect had turned out to be a big thing, he had been relieved of all course work and left entirely to himself. His laboratory looked it.

I said, "Don't you keep the door locked anymore?"

He looked at me slyly, his huge nose wrinkling into a sniff. "It is locked. With a Schlemmelmayer relay, it's locked. I think a word - and the door opens. Without it, nobody can get in. Not even the president of the university. Not even the janitor."

I got a little excited, "Great guns, Uncle Otto. A thought-lock could bring you -"

"Hah! I should sell the patent for someone else rich to get? After last night? Never. In a while, I will myself rich become."

One thing about my uncle Otto. He's not one of these fellows you have to argue and argue with before you can get him to see the light. You know in advance he'll never see the light.

So I changed the subject. I said, "And the time machine?"

My uncle Otto is a foot taller than I am, thirty pounds heavier, and strong as an ox. When he puts his hands around my throat and shakes, I have to confine my own part in the conflict to turning blue.

I turned blue accordingly.

He said. "Ssh!"

I got the idea.

He let go and said, "Nobody knows about Project X." He repeated, heavily, "Project X. You understand?"

I nodded. I couldn't speak anyway with a larynx that was only slowly healing.

He said, "I do not ask you to take my word for it. I will for you a demonstration make."

I tried to stay near the door.

He said, "Do you have a piece of paper with your own handwriting on it?"

I fumbled in my inner jacket pocket. I had notes for a possible brief for a possible client on some possible future day.

Uncle Otto said, "Don't show it to me. Just tear it up. In little pieces tear it up and in this beaker the fragments put."

I tore it into one hundred and twenty-eight pieces.

He considered them thoughtfully and began adjusting knobs on a - well, on a machine. It had a thick opal-glass slab attached to it that looked like a dentist's tray.

There was a wait. He kept adjusting.

Then he said, "Aha!" and I made a sort of queer sound that doesn't translate into letters.

About two inches above the glass tray there was what seemed to be a fuzzy piece of paper. It came into focus while I watched and - oh, well, why make a big thing out of it? It was my notes. My handwriting. Perfectly legible. Perfectly legitimate.

"Is it all right to touch it?" I was a little hoarse, partly out of astonishment and partly because of my uncle Otto's gentle ways of enforcing secrecy.

"You can't," he said, and passed his hand through it. The paper remained behind, untouched. He said, "It's only an image at one focus of a four-dimensional paraboloid. The other focus is at a point in time before you tore it up."

I put my hand through it, too. I didn't feel a thing.

"Now watch," he said. He turned a knob on the machine and the image of the paper vanished. Then he took out a pinch of paper from the pile of scrap, dropped them in an ashtray, and set a match to it. He flushed the ash down the sink. He turned a knob again and the paper appeared, but with a difference. Ragged patches in it were missing.

"The burned pieces?" I asked.

"Exactly. The machine must trace in time along the hypervectors of the molecules on which it is focused. If certain molecules are in the air dispersed - pff-f-ft!"

I had an idea. "Suppose you just had the ash of a document."

"Only those molecules would be traced back."

"But they'd be so well distributed," I pointed out, "that you could get a hazy picture of the entire document."

"Hmm. Maybe."

The idea became more exciting. "Well, then, look, Uncle Otto. Do you know how much police departments would pay for a machine like this. It would be a boon to the legal -"

I stopped. I didn't like the way he was stiffening. I said, politely, "You were saying, Uncle?"

He was remarkably calm about it. He spoke in scarcely more than a shout. "Once and for all, nephew. All my inventions I will myself from now on develop. First I must some initial capital obtain. Capital from some source other than my ideas selling. After that, I will for my flutes a factory to manufacture open. That comes first. Afterward, afterward, with my profits I can time-vector machinery manufacture. But first my flutes. Before anything, my flutes. Last night, I so swore.

"Through selfishness of a few the world of great music is being deprived. Shall my name in history as a murderer go down? Shall the Schlemmelmayer Effect a way to fry men's brains be? Or shall it beautiful music to mind bring? Great, wonderful, enduring music?"

He had a hand raised oracularly and the other behind his back. The windows gave out a shrill hum as they vibrated to his words.

I said quickly, "Uncle Otto, they'll hear you."

"Then stop shouting," he retorted.

"But look," I protested, "how do you plan to get your initial capital, if you won't exploit this machinery?"

"I haven't told you. I can make an image real. What if the image is valuable?"

That did sound good. "You mean, like some lost document, manuscript, first edition - things like that?"

"Well, no. There's a catch. Two catches. Three catches."

I waited for him to stop counting, but three seemed the limit. "What are they?" I asked.

He said, "First, I must have the object in the present to focus on or I can't locate it in the past."

"You mean you can't get anything that doesn't exist right now where you can see it?"

"Yes."

"In that case, catches two and three are purely academic. But what are they, anyway?"

"I can only remove about a gram of material from the past."

A gram! A thirtieth of an ounce!

"What's the matter? Not enough power?"

My uncle Otto said impatiently, "It's an inverse exponential relationship. All the power in the universe more than maybe two grams couldn't bring."

This left things cloudy. I said, "The third catch?"

"Well." He hesitated. "The further the two foci separated are, the more flexible the bond. It must a certain length be before into the present it can be drawn. In other words, I must at least one hundred fifty years into the past go."

"I see," I said (not that I really did). "Let's summarize."

I tried to sound like a lawyer. "You want to bring something from the past out of which you can coin a little capital. It's got to be something that exists and which you can see, so it can't be a lost object of historical or archaeological value. It's got to weigh less than a thirtieth of an ounce, so it can't be the Kullinan diamond or anything like that. It's got to be at least one hundred and fifty years old, so it can't be a rare stamp."

"Exactly," said my uncle Otto. "You've got it."

"Got what?" I thought two seconds. "Can't think of a thing," I said. "Well, good-bye, Uncle Otto."

I didn't think it would work, but I tried to go.

It didn't work. My uncle Otto's hands came down on my shoulders and I was standing tiptoe on an inch of air.

"You'll wrinkle my jacket, Uncle Otto."

"Harold," he said. "As a lawyer to a client, you owe me more than a quick good-bye."

"I didn't take a retainer," I managed to gargle. My shirt collar was beginning to fit very tightly about my neck. I tried to swallow and the top button pinged off.

He reasoned, "Between relatives a retainer is a formality. As a client and as an uncle, you owe me absolute loyalty. And besides, if you do not help me out I will tie your legs behind your neck and dribble you like a basketball."

Well, as a lawyer, I am always susceptible to logic. I said, "I give up. I surrender. You win."

He let me drop. And then - this is the part that seems most unbelievable to me when I look back at it all - I got an idea.

It was a whale of an idea. A piperoo. The one in a lifetime that everyone gets once in a lifetime.

I didn't tell Uncle Otto the whole thing at the time. I wanted a few days to think about it. But I told him what to do. I told him he would have to go to Washington. It wasn't easy to argue him into it, but, on the other hand, if you know my uncle Otto, there are ways.

I found two ten-dollar bills lurking pitifully in my wallet and gave them to him.

I said, "I'll make out a check for the train fare and you can keep the two tens if it turns out I'm being dishonest with you."

He considered. "A fool to risk twenty dollars for nothing you aren't," he admitted. He was right, too. . . .

He was back in two days and pronounced the object focused. After all, it was on public view. It's in a nitrogen-filled, air-tight case, but my uncle Otto said that didn't matter. And back in the laboratory, four hundred miles away. the focusing remained accurate. My uncle Otto assured me of that, too.

I said, "Two things, Uncle Otto, before we do anything."

"What? What? What?" He went on at greater length, "What? What? What? What?"

I gathered he was growing anxious. I said, "Are you sure that if we bring into the present a piece of something out of the past, that piece won't disappear out of the object as it now exists?"

My uncle Otto cracked his large knuckles and said, "We are creating new matter, not stealing old. Why else should we enormous energy need?"

I passed on to the second point. "What about my fee?" You may not believe this, but I hadn't mentioned money till then. My uncle Otto hadn't either, but then, that follows.

His mouth stretched in a bad imitation of an affectionate smile. "A fee?"

"Ten per cent of the take," I explained, "is what I'll need."

His jowls drooped. "But how much is the take?"

"Maybe a hundred thousand dollars. That would leave you ninety."

"Ninety thousand - Himmel! Then why do we wait?"

He leaped at his machine and in half a minute the space above the dentist's tray was agleam with an image of parchment.

It was covered with neat script, closely spaced, looking like an entry for an old-fashioned penmanship prize. At the bottom of the sheet there were names: one large one and fifty-five small ones.

Funny thing! I choked up. I had seen many reproductions, but this was the real thing. The real Declaration of Independence!

I said, "I'll be damned. You did it."

"And the hundred thousand?" asked my uncle Otto, getting to the point.

Now was the time to explain. "You see, Uncle, at the bottom of the document there are signatures. These are the names of great Americans, fathers of their country, whom we all reverence. Anything about them is of interest to all true Americans."

"All right," grumbled my uncle Otto, "I will accompany you by playing the 'Stars and Stripes Forever' on my flute."

I laughed quickly to show that I took that remark as a joke. The alternative to a joke would not bear thinking of. Have you ever heard my uncle Otto playing the "Stars and Stripes Forever" on his flute?

I said, "But one of these signers, from the state of Georgia, died in 1777, the year after he signed the Declaration. He didn't have much behind him and so authentic examples of his signature was about the most valuable in the world. His name was Button Gwinnett."

"And how does this help us cash in?" asked my uncle Otto, his mind still fixed grimly on the eternal verities of the universe.

"Here," I said, simply, "is an authentic, real-life signature of Button Gwinnett, right on the Declaration of Independence."

My uncle Otto was stunned into absolute silence, and to bring absolute silence out of my uncle Otto, he's really got to be stunned!

I said, "Now you see him right here on the extreme left of the signature space along with the two other signers for Georgia, Lyman Hall and George Walton. You'll

notice they crowded their names although there's plenty of room above and below. In fact, the capital G of Gwinnett runs down into practical contact with Hall's name. So we won't try to separate them. We'll get them all. Can you handle that?"

Have you ever seen a bloodhound that looked happy? Well, my uncle Otto managed it.

A spot of brighter light centered about the names of the three Georgian signers.

My uncle Otto said, a little breathlessly, "I have this never tried before."

"What!" I screamed. Now he told me.

"It would have too much energy required. I did not wish the university to inquire what was in here going on. But don't worry! My mathematics cannot wrong be."

I prayed silently that his mathematics not wrong were.

The light grew brighter and there was a humming that filled the laboratory with raucous noise. My uncle Otto turned a knob, then another, then a third.

Do you remember the time a few weeks back when all of upper Manhattan and the Bronx were without electricity for twelve hours because of the damndest overload cut-off in the main power house? I won't say we did that, because I am in no mood to be sued for damages. But I will say this: The electricity went off when my uncle Otto turned the third knob.

Inside the lab, all the lights went nut and I found my self on the floor with a terrific ringing in my ears. My uncle Otto was sprawled across me.

We worked each other to our feet and my uncle Otto found a flashlight.

He howled his anguish. "Fused. Fused. My machine in ruins is. It has to destruction devoted been."

"But the signatures?" I yelled at him. "Did you get them?"

He stopped in mid-cry. "I haven't looked."

He looked, and I closed my eyes. The disappearance of a hundred thousand dollars is not an easy thing to watch.

He cried, "Ah, ha!" and I opened my eyes quickly. He had a square of parchment in his hand some two inches on a side. It had three signatures on it and the top one was that of Rutton Gwinnett.

Now, mind you, the signature was absolutely genuine. It was no fake. There wasn't an atom of fraud about the whole transaction. I want that understood. Lying on my uncle Otto's broad hand was a signature indited with the Georgian hand of Rutton Gwinnett himself on the authentic parchment of the honest-to-God, real-life Declaration of Independence.

It was decided that my uncle Otto would travel down to Washington with the parchment scrap. I was unsatisfactory for the purpose. I was a lawyer. I would be expected to know too much. He was merely a scientific genius, and wasn't expected to know anything. Besides, who could suspect Dr. Otto Schlemmelmayer of anything but the most transparent honesty.

We spent a week arranging our story. I bought a book for the occasion, an old history of colonial Georgia, in a secondhand shop. My uncle Otto was to take it with him

and claim that he had found a document among its leaves; a letter to the Continental Congress in the name of the state of Georgia. He shrugged his shoulders at it and held it out over a Bunsen flame. Why should a physicist be interested in letters? Then he became aware of the peculiar odor it gave off as it burned and the slowness with which it was consumed. He beat out the flames but saved only the piece with the signatures. He looked at it and the name Button Gwinnett had stirred a slight fiber of memory.

He had the story cold. I burnt the edges of the parchment so that the lowest name, that of George Walton, was slightly singed.

"It will make it more realistic," I explained. "Of course, a signature, without a letter above it, loses value, but here we have three signatures, all signers.

My uncle Otto was thoughtful. "And if they compare the signatures with those on the Declaration and notice it is all even microscopically the same, won't they fraud suspect?"

Certainly. But what can they do? The parchment is authentic. The ink is authentic. The signatures are authentic. They'll have to concede that. No matter how they suspect something queer, they can't prove anything. Can they conceive of reaching through time for it? In fact, I hope they do try to make a fuss about it. The publicity will boost the price."

The last phrase made my uncle Otto laugh.

The next day he took the train to Washington with visions of flutes in his head. Long flutes, short flutes, bass flutes, flute tremolos, massive flutes, micro flutes, flutes for the individual and flutes for the orchestra. A world of flutes for mind-drawn music.

"Remember," his last words were, "the machine I have no money to rebuild. This must work."

And I said, "Uncle Otto, it can't miss."

Ha!

He was back in a week. I had made long-distance calls each day and each day he told me they were investigating.

Investigating.

Well, wouldn't you investigate? But what good would it do them?

I was at the station waiting for him. He was expressionless. I didn't dare ask anything in public. I wanted to say, "Well, yes or no?" but I thought, let him speak.

I took him to my office. I offered him a cigar and a drink. I hid my hands under the desk but that only made the desk shake too, so I put them in my pocket and shook all over.

He said, "They investigated."

"Sure! I told you they would. Ha, ha, ha! Ha, ha?"

My uncle Otto took a slow drag at the cigar. He said, "The man at the Bureau of Documents came to me and said, 'Professor Schlemmelmayer,' he said, 'you are the victim of a clever fraud.' I said, 'So? And how can it a fraud be? The signature a forgery is?' So he answered, 'It certainly doesn't look like a forgery, but it must be!' 'And why must it be?' I asked."

My uncle Otto put down his cigar, put down his drink, and leaned across the desk toward me. He had me so in suspense, I leaned forward toward him, so in a way I deserved everything I got.

"Exactly," I babbled, "why must it be? They can't prove a thing wrong with it, because it's genuine. Why must it be a fraud, eh? Why"

My uncle Otto's voice was terrifyingly saccharine. He said, "We got the parchment from the past?"

"Yes. Yes. You know we did."

"Over a hundred fifty years in the past. You said -"

"And a hundred fifty years ago the parchment on which the Declaration of Independence was written pretty new was. No?"

I was beginning to get it, but not fast enough.

My uncle Otto's voice switched gears and became a dull, throbbing roar, "And if Button Gwinnett in 1777 died, you Godforsaken dunderlump, how can an authentic signature of his on a new piece of parchment be found?"

After that it was just a case of the whole world rushing backward and forward about me.

I expect to be on my feet soon. I still ache, but the doctors tell me no bones were broken.

Still, my uncle Otto didn't have to make me swallow the damned parchment.

AUTHOR'S COMMENT

If I had hoped to be recognized as a master of humor as a result of these stories, I think I failed.

L. Sprague de Camp, one of the most successful writers of humorous science fiction and fantasy, had this to say about me in his science Fiction Handbook (Hermitage House, 1953), which, as you see, appeared not long after these (in my opinion) successful forays into humor:

"Asimov is a stoutish, youngish-looking man with wavy brown hair, blue eyes, and a bouncing, jovial, effervescent manner, esteemed among his friends for his generous, warm-hearted nature. Extremely sociable, articulate, and witty, he is a perfect toastmaster. This vein of oral humor contrasts with the sobriety of his stories."

Sobriety!

On the other hand, twelve[sic] years later, Groff Conklin included BUTTON, BUTTON, in his anthology 13 Above the Night (Dell, 1965) and he said, in part, "When the Good Doctor. . . decides to take a day off and be funny, he can be very funny indeed. . . ."

Now, although Groff and Sprague were both very dear friends of mine (Groff is now dead, alas), there is no question but that in this particular case I think Groff shows good taste and Sprague is nowhere.

Incidentally, before I pass on I had better explain that "generous, warm-hearted nature" crack by Sprague, which may puzzle those who know me as a vicious, rotten brute.

Sprague's prejudice in my favor is, I think, all based on a single incident.

It was back in 1942, when Sprague and I were working at the Philadelphia Navy Yard. It was wartime and we needed badges to get in. Anyone who forgot his badge had to buck the bureaucracy for an hour to get a temporary, was docked an hour's pay, and had the heinous misdeed entered on his record.

As we walked up to the gate on this particular day Sprague turned a pastel shade of green and said. "I forgot my badge!" He was up for a lieutenancy in the Navy and he was afraid that even a slight flaw in his civilian record might have an adverse effect on the whole thing.

Well, I wasn't up for anything at all, and I was so used to being sent to the principal's office during my school days that being yelled at by the authorities had no terrors for me.

So I handed him my badge and said, "Go in, Sprague, and pin this on your lapel. They'll never look at it." He went in, and they didn't, and I reported myself as having forgotten my badge and took my lumps.

Sprague has never forgotten. To this day, he goes around telling people what a great guy I am, despite the fact that everyone just stares at him in disbelief. That one impulsive action has given rise to a lifetime of fervent pro-Asimov propaganda. Cast your bread upon the waters-

But, let's move onward.

THE MONKEY'S FINGER

"Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes," said Marmie Tallinn, in sixteen different inflections and pitches, while the Adam's apple in his long neck bobbed convulsively. He was a science fiction writer.

"No," said Lemuel Hoskins, staring stonily through his steel-rimmed glasses. He was a science fiction editor.

"Then you won't accept a scientific test. You won't listen to me. I'm outvoted, eh?" Marmie lifted himself on his toes, dropped down, repeated the process a few times, and breathed heavily. His dark hair was matted into tufts, where fingers had clutched.

"One to sixteen," said Hoskins.

"Look," said Marmie, "what makes you always right? What makes me always wrong?"

"Marmie, face it. We're each judged in our own way. If magazine circulation were to drop, I'd be a flop. I'd be out on my ear. The president of Space Publishers would ask no questions, believe me. He would just look at the figures. But circulation doesn't go down; it's going up. That makes me a good editor. And as for you-when editors accept you, you're a talent. When they reject you, you're a bum. At the moment, you are a bum."

"There are other editors, you know. You're not the only one." Marmie held up his hands, fingers outspread. "Can you count? That's how many science fiction magazines on the market would gladly take a Tallinn yarn, sight unseen."

"Gesundheit," said Hoskins.

"Look," Marmie's voice sweetened, "you wanted two changes, right? You wanted an introductory scene with the battle in space. Well, I gave that to you. It's right here." He waved the manuscript under Hoskin's nose and Hoskin moved away as though at a bad smell.

"But you also wanted the scene on the spaceship's hull cut into with a flashback into the interior," went on Marmie, "and that you can't get. If I make that change, I ruin an ending which, as it stands, has pathos and depth and feeling."

Editor Hoskins sat back in his chair and appealed to his secretary, who throughout had been quietly typing. She was used to these scenes.

Hoskins said, "You hear that, Miss Kane? He talks of pathos, depth, and feeling. What does a writer know about such things? Look, if you insert the flashback, you increase the Suspense; you tighten the story; you make it more valid."

"How do I make it more valid?" cried Marmie in anguish. "You mean to say that having a bunch of fellows in a spaceship start talking politics and sociology when they're liable to be blown up makes it more valid? Oh, my God."

"There's nothing else you can do. If you wait till the climax is past and then discuss your politics and sociology, the reader will go to sleep on you."

"But I'm trying to tell you that you're wrong and I can prove it. What's the use of talking when I've arranged a scientific experiment-"

"What scientific experiment?" Hoskins appealed to his secretary again. "How do you like that, Miss Kane. He thinks he's one of his own characters."

"It so happens I know a scientist."

"Who?"

"Dr. Arndt Torgesson, professor of psychodynamics at Columbia."

"Never heard of him."

"I suppose that means a lot," said Marmie, with contempt. "You never heard of him. You never heard of Einstein until your writers started mentioning him in their stories."

"Very humorous. A yuk. What about this Torgesson?"

"He's worked out a system for determining scientifically the value of a piece of writing. It's a tremendous piece of work. It's-it's-"

"And it's secret?"

"Certainly it's secret. He's not a science fiction professor. In science fiction, when a man thinks up a theory, he announces it to the newspapers right away. In real life, that's not done. A scientist spends years on experimentation sometimes before going into print. Publishing is a serious thing."

"Then how do you know about it? Just a question."

"It so happens that Dr. Torgesson is a fan of mine. He happens to like my stories. He happens to think I'm the best fantasy writer in the business."

"And he shows you his work?"

"That's right. I was counting on you being stubborn about this yam and I've asked him to run an experiment for us. He said he would do it if we don't talk about it. He said it would be an interesting experiment. He said-"

"What's so secret about it?"

"Well-" Marmie hesitated. "Look, suppose I told you he had a monkey that could type Hamlet out of its head."

Hoskins stared at Marmie in alarm. "What are you working up here, a practical joke?" He turned to Miss Kane. "When a writer writes science fiction for ten years he just isn't safe without a personal cage."

Miss Kane maintained a steady typing speed.

Marmie said, "You heard me; a common monkey, even funnier-looking than the average editor. I made an appointment for this afternoon. Are you coming with me or not?"

"Of course not. You think I'd abandon a stack of manuscripts this high"-and he indicated his larynx with a cutting motion of the hand-"for your stupid jokes? You think I'll play straight man for you?"

"If this is in any way a joke, Hoskins, I'll stand you dinner in any restaurant you name. Miss Kane's the witness."

Hoskins sat back in his chair. "You'll buy me dinner? You, Marmaduke Tallinn, New York's most widely known tapeworm-on-credit, are going to pick up a check?"

Marmie winced, not at the reference to his agility in overlooking a dinner check, but at the mention of his name in all its horrible trysyllabicity. He said, "I repeat. Dinner on me wherever you want and whatever you want. Steaks, mushrooms, breast of guinea hen, Martian alligator, anything."

Hoskins stood up and plucked his hat from the top of the filing cabinet.

"For a chance," he said, "to see you unfold some of the old-style, large-size dollar bills you've been keeping in the false heel of your left shoe since nineteen-two-eight, I'd walk to Boston. . . ."

Dr. Torgesson was honored. He shook Hoskins's hand warmly and said, "I've been reading Space Yarns ever since I came to this country, Mr. Hoskins. It is an excellent magazine. I am particularly fond of Mr. Tallinn's stories."

"You hear?" asked Marmie. "I hear. Marmie says you have a monkey with talent, Professor."

"Yes," Torgesson said, "but of course this must be confidential. I am not yet ready to publish, and premature publicity could be my professional ruin."

"This is strictly under the editorial hat, Professor."

"Good, good. Sit down, gentlemen, sit down." He paced the floor before them.

"What have you told Mr. Hoskins about my work, Marmie?"

"Not a thing, Professor."

"So. Well, Mr. Hoskins, as the editor of a science fiction magazine, I don't have to ask you if you know anything about cybernetics."

Hoskins allowed a glance of concentrated intellect to ooze out past his steel-rims. He said, "Ah, yes. Computing machines-M.I.T.-Norbert Weiner-" He mumbled some more.

"Yes. Yes." Torgesson paced faster. "Then you must know that chess-playing computers have been constructed on cybernetic principles. The rules of chess moves and the object of the game are built into its circuits. Given any position on the chess board, the machine can then compute all possible moves together with their consequence and choose that one which offers the highest probability of winning the game. It can even be made to take the temperament of its opponent into account."

"Ah, yes," said Hoskins, stroking his chin profoundly.

Torgesson said, "Now imagine a similar situation in which a computing machine can be given a fragment of a literary work to which the computer can then add words from its stock of the entire vocabulary such that the greatest literary values are served. Naturally, the machine would have to be taught the significance of the various keys of a typewriter. Of course, such a computer would have to be much, much more complex than any chess player."

Hoskins stirred restlessly. "The monkey, Professor. Marmie mentioned a monkey."

"But that is what I am coming to," said Torgesson. "Naturally, no machine built is sufficiently complex. But the human brain-ah. The human brain is itself a computing

machine. Of course, I couldn't use a human brain. The law, unfortunately, would not permit me. But even a monkey's brain, properly managed, can do more than any machine ever constructed by man. Wait! I'll go get little Rollo."

He left the room. Hoskins waited a moment, then looked cautiously at Marmie. He said, "Oh, brother!"

Marmie said, "What's the matter?"

"What's the matter? The man's a phony. Tell me, Marmie, where did you hire this faker?"

Marmie was outraged. "Faker? This is a genuine professor's office in Fayerweather Hall, Columbia. You recognize Columbia, I hope. You saw the statue of Alma Mater on 116th Street. I pointed out Eisenhower's office."

"Sure, but-"

"And this is Dr. Torgesson's office. Look at the dust." He blew at a textbook and stirred up clouds of it. "The dust alone shows it's the real thing. And look at the title of the book; Psychodynamics of Human Behavior, by Professor Arndt Rolf Torgesson."

"Granted, Marmie, granted. There is a Torgesson and this is his office. How you knew the real guy was on vacation and how you managed to get the use of his office, I don't know. But are you trying to tell me that this comic with his monkeys and computers is the real thing? Hah!"

"With a suspicious nature like yours, I can only assume you had a very miserable, rejected type of childhood."

"Just the result of experience with writers, Marmie. I have my restaurant all picked out and this will cost you a pretty penny."

Marmie snorted, "This won't cost me even the ugliest penny you ever paid me. Quiet, he's coming back."

With the professor, and clinging to his neck, was a very melancholy capuchin monkey.

"This," said Torgesson, "is little Rollo. Say hello, Rollo."

The monkey tugged at his forelock.

The professor said, "He's tired, I'm afraid. Now, I have a piece of his manuscript right here."

He put the monkey down and let it cling to his finger while he brought out two sheets of paper from his jacket pocket and handed them to Hoskins.

Hoskins read, " 'To be or not to be; that is the question: Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune, or to take arms against a host of troubles, and by opposing end them? To die: to sleep; No more: and, by a sleep to say we-' "

He looked up. "Little Rollo typed this?"

"Not exactly. It's a copy of what he typed."

"Oh, a copy. Well, little Rollo doesn't know his Shakespeare. It's 'to take arms against a sea of troubles.' "

Torgesson nodded. "You are quite correct, Mr. Hoskins. Shakespeare did write 'sea.' But you see that's a mixed metaphor. You don't fight a sea with arms. You fight a host or army with arms. Rollo chose the monosyllable and typed 'host.' It's one of Shakespeare's rare mistakes."

Hoskins said, "Let's see him type."

"Surely." The professor trundled out a typewriter on a little table. A wire trailed from it. He explained, "It is necessary to use an electric typewriter as otherwise the physical effort would be too great. It is also necessary to wire little Rollo to this transformer."

He did so, using as leads two electrodes that protruded an eighth of an inch through the fur on the little creature's skull.

"Rollo," he said, "was subjected to a very delicate brain operation in which a nest of wires were connected to various regions of his brain. We can short his voluntary activities and, in effect, use his brain simply as a computer. I'm afraid the details would be—"

"Let's see him type," said Hoskins. "What would you like?"

Hoskins thought rapidly. "Does he know Chesterton's 'Lepanto'?"

"He knows nothing by heart. His writing is purely computation. Now, you simply recite a little of the piece so that he will be able to estimate the mood and compute the consequences of the first words."

Hoskins nodded, inflated his chest, and thundered, "White founts falling in the courts of the sun, and the Soldan of Byzantium is smiling as they run. There is laughter like the fountains in that face of all men feared; it stirs the forest darkness, the darkness of his beard: it curls the blood-red crescent, the crescent of his lips; for the inmost sea of all the world is shaken by his ships—"

"That's enough." said Torgesson. There was silence as they waited. The monkey regarded the typewriter solemnly.

Torgesson said, "The process takes time, of course. Little Rollo has to take into account the romanticism of the poem, the slightly archaic flavor; the strong sing-song rhythm, and so on."

And then a black little finger reached out and touched a key. It was a t.

"He doesn't capitalize," said the scientist, "or punctuate, and his spacing isn't very reliable. That's why I usually retype his work when he's finished."

Little Rollo touched an h, then an e and a y. Then, after a longish pause, he tapped the space bar.

"They," said Hoskins. The words typed themselves out: "they have dared the white republics up the capes of Italy they have dashed the Adriatic round the lion of the sea; and the pope has throw n his arms a broad for agony and loss and called the kings of chrissndom for sords about the cross."

"My God!" said Hoskins.

"That's the way the piece goes then?" asked Torgesson. "For the love of Petel!" said Hoskins.

"If it is, then Chesterton must have done a good, consistent job."

"Holy smokes!" said Hoskins.

"You see," said Marmie, massaging Hoskins's shoulder, "you see, you see, you see. You see," he added.

"I'll be damned," said Hoskins.

"Now look," said Marmie, rubbing his hair till it rose in clusters like a cockatoo's chest, "let's get to business. Let's tackle my story."

"Well but-"

"It will not be beyond little Rollo's capacity," Torgesson assured him. "I frequently read little Rollo parts of some of the better science fiction, including some of Marmie's tales. It's amazing how some of the yarns are improved."

"It's not that," said Hoskins. "Any monkey can write better SF than some of the hacks we've got. But the Tallinn story is thirteen thousand words long. It'll take forever for the monk to type it."

"Not at all, Mr. Hoskins, not at all. I shall read the story to him, and at the crucial point we will let him continue."

Hoskins folded his arms. "Then shoot. I'm ready."

"I," said Marmie, "am more than ready." And he folded his arms.

Little Rollo sat there, a furry little bundle of cataleptic misery, while Dr. Torgesson's soft voice rose and fell in cadence with a spaceship battle and the subsequent struggles of Earthmen captives to recapture their lost ship.

One of the characters made his way out to the spaceship hull, and Dr. Torgesson followed the flamboyant events in mild rapture. He read:

". . . Stalny froze in the silence of the eternal stars. His aching knee tore at his consciousness as he waited for the monsters to hear the thud and-"

Marmie yanked desperately at Dr. Torgesson's sleeve. Torgesson looked up and disconnected little Rollo.

"That's it," said Marmie. "You see, Professor, it's just about here that Hoskins is getting his sticky little fingers into the works. I continue the scene outside the spaceship till Stalny wins out and the ship is back in Earth hands. Then I go into explanations. Hoskins wants me to break that outside scene, get back inside, halt the action for two thousand words, then get back out again. Ever hear such crud?"

"Suppose we let the monk decide," said Hoskins.

Dr. Torgesson turned little Rollo on, and a black shriveled finger reached hesitantly out to the typewriter. Hoskins and Marmie leaned forward simultaneously, their heads coming softly together just over little Rollo's brooding body. The typewriter punched out the letter t.

"T," encouraged Marmie, nodding. "T," agreed Hoskins.

The typewriter made an a, then went on at a more rapid rate: "take action stalnee waited in helpless hor ror forair locks toyawn and suited laroos to emerge relentlessly-"

"Word for word," said Marmie in raptures. "He certainly has your gooey style."

"The readers like it."

"They wouldn't if their average mental age wasn't-" Hoskins stopped.

"Go on," said Marmie, "say it. Say it. Say their IQ is that of a twelve-year-old child and I'll quote you in every fan magazine in the country."

"Gentlemen," said Torgesson, "gentlemen. You'll disturb little Rollo."

They turned to the typewriter, which was still tapping steadily: "-the stars whelled in ther mightie orb its as stalnees earthbound senses insisted the rotating ship stood still."

The typewriter carriage whipped back to begin a new line. Marmie held his breath. Here, if anywhere, would come-

And the little finger moved out and made: *

Hoskins yelled, "Asterisk!"

"Marmie muttered, " Asterisk." Torgesson said, " Asterisk?"

A line of nine more asterisks followed.

"That's all, brother," said Hoskins. He explained quickly to the staring Torgesson, "With Marmie, it's a habit to use a line of asterisks when he wants to indicate a radical shift of scene. And a radical shift of scene is exactly what I wanted."

The typewriter started a new paragraph: "within the ship-"

"Turn it off, Professor," said Marmie.

Hoskins rubbed his hands. "When do I get the revision Marmie?"

Marmie said coolly, "What revision?"

"You said the monk's version."

"I sure did. It's what I brought you here to see. That little Rollo is a machine; a cold, brutal, logical machine."

"Well?"

"And the point is that a good writer is not a machine. He doesn't write with his mind, but with his heart. His heart." Marmie pounded his chest.

Hoskins groaned. "What are you doing to me, Marmie? If you give me that heart-and-soul-of-a-writer routine, I'll just be forced to turn sick right here and right now. Let's keep all this on the usual I'll-write-anything-for-money basis."

Marmie said, "Just listen to me for a minute. Little Rollo corrected Shakespeare. You pointed that out for yourself. Little Rollo wanted Shakespeare to say, 'host of troubles,' and he was right from his machine standpoint. A 'sea of troubles' under the circumstances is a mixed metaphor. But don't you suppose Shakespeare knew that, too? Shakespeare just happened to know when to break the rules, that's all. Little Rollo is a machine that can't break the rules, but a good writer can, and must. 'Sea of troubles' is more impressive; it has roll and power. The hell with the mixed metaphor.

"Now, when you tell me to shift the scene, you're following mechanical rules on maintaining suspense, so of course little Rollo agrees with you. But I know that I must break the rules to maintain the profound emotional impact of the ending as I see it. Otherwise I have a mechanical product that a computer can turn out."

Hoskins said, "But-"

"Go on," said Marmie, "vote for the mechanical. Say that little Rollo is all the editor you'll ever be."

Hoskins said, with a quiver in his throat, " All right, Marmie, I'll take the story as is. No, don't give it to me; mail it. I've got to find a bar, if you don't mind."

He forced his hat down on his head and turned to leave. Torgesson called after him. "Don't tell anyone about little Rollo, please."

The parting answer floated back over a slamming door, "Do you think I'm crazy? . . ."

Marmie rubbed his hands ecstatically when he was sure Hoskins was gone.

"Brains, that's what it was," he said, and probed one finger as deeply into his temple as it would go. "This sale I enjoyed. This sale, Professor, is worth all the rest I've ever made. All the rest of them together." He collapsed joyfully on the nearest chair.

Torgesson lifted little Rollo to his shoulder. He said mildly, "But, Marmaduke, what would you have done if little Rollo had typed your version instead?"

A took of grievance passed momentarily over Marmie's face. "Well, damn it," he said, "that's what I thought it was going to do."

AUTHOR'S COMMENT

IN THE MONKEY'S FINGER, by the way, the writer and editor were modeled on a real pair, arguing over a real story in a real way.

The story involved was C-Chute, which had appeared in the October 1951 Galaxy (after the argument) and which was eventually included in my book NIGHTFALL AND OTHER STORIES. I was the writer, of course, and Horace Gold was the editor.

Though the argument and the story are authentic, the people are caricatured. I am nothing at all like the writer in the story and Horace is certainly nothing at all like the editor in the story. Horace has his own peculiarities which are far more interesting than the ones I made' up for fictional purposes, and so have I-but never mind that.

Of all the stories I have written that have appeared once and then never again, this next is the one I talk about most. I have discussed it in dozens of talks and mentioned it in print occasionally, for a very good reason which I'll come to later.

In April 1953 I was in Chicago. I'm not much of a traveler and that was the first time I was ever in Chicago (and I have returned since then only once) .I was there to attend an American Chemical Society convention at which I was supposed to present a small paper. That was little fun, so I thought I would liven things up by going to Evanston, a northern suburb, and visiting the offices of Universe Science Fiction.

This magazine was then edited by Bea Mahaffey, an extraordinarily good-looking young woman. (The way I usually put it is that science fiction writers voted her, two years running, the editor to whom they would most like to submit.)

When I arrived in the office on April 7, 1953, Bea greeted me with great glee and at once asked why I had not brought a story for her with me.

"You want a story?" I said, basking in her beauty. "I'll write you a story. Bring me a typewriter."

Actually, I was just trying to impress her, hoping that she would throw herself into my arms in a spasm of wild adoration. She didn't. She brought me a typewriter.

I had to come through. Since the task of climbing Mount Everest was much in the news those days (men had been trying to scale it for thirty years and the seventh attempt to do so had just failed) I thought rapidly and wrote EVEREST .

Bea read it, liked it, and offered me thirty dollars, which I accepted with alacrity. I promptly spent half of it on a fancy dinner for the two of us, and labored-with so much success to be charming, debonair, and suave that the waitress said to me, longingly, that she wished her son-in-law were like me.

That seemed hopeful and with a light heart I took Bea home to her apartment. I am not sure what I had in mind, but if I did have anything in mind that was not completely proper (surely not!) I was foiled. Bea managed to get into that apartment, leaving me standing in the hallway, without my ever having seen the door open.

EVEREST

In 1952 they were about ready to give up trying to climb Mount Everest. It was the photographs that kept them going.

As photographs go, they weren't much; fuzzy, streaked, and with just dark blobs against the white to be interested in. But those dark blobs were living creatures. The men swore to it.

I said, "What the hell, they've been talking about creatures skidding along the Everest glaciers for forty years. It's about time we did something about it."

Jimmy Robbins (pardon me, James Abram Robbins) was the one who pushed me into that position. He was always nuts on mountain climbing, you see. He was the one who knew all about how the Tibetans wouldn't go near Everest because it was the mountain of the gods. He could quote me every mysterious manlike footprint ever reported in the ice twenty-five thousand feet up; he knew by heart every tall story about the spindly white creatures, speeding along the crags just over the last heart-breaking camp which the climbers had managed to establish.

It's good to have one enthusiastic creature of the sort at Planetary Survey headquarters.

The last photographs put bite into his words, though. After all, you might just barely think they were men.

Jimmy said, "Look, boss, the point isn't that they're there, the point is that they move fast. Look at that figure. It's blurred."

"The camera might have moved."

"The crag here is sharp enough. And the men swear it was running. Imagine the metabolism it must have to run at that oxygen pressure. Look, boss, would you have believed in deep-sea fish if you'd never heard of them? You have fish which are looking for new niches in environment which they can exploit, so they go deeper and deeper into the abyss until one day they find they can't return.

They've adapted so thoroughly they can live only under tons of pressure."

"Well-"

"Damn it, can't you reverse the picture? Creatures can be forced up a mountain, can't they? They can learn to stick it out in thinner air and colder temperatures. They can live on moss or on occasional birds, just as the deep-sea fish in the last analysis live on the upper fauna that slowly go filtering down. Then, someday, they find they can't go down again. I don't even say they're men. They can be chamois or mountain goats or badgers or anything."

I said stubbornly, "The witnesses said they were vaguely manlike, and the reported footprints are certainly manlike."

"Or bearlike," said Jimmy. "You can't tell."

So that's when I said, "It's about time we did something about it."

Jimmy shrugged and said, "They've been trying to climb Mount Everest for forty years." And he shook his head.

"For gossake," I said. "All you mountain climbers are nuts. That's for sure. You're not interested in getting to the top. You're just interested in getting to the top in a certain way. It's about time we stopped fooling around with picks, ropes, camps, and all the paraphernalia of the Gentlemen's Club that sends suckers up the slopes every five years or so."

"What are you getting at?"

"They invented the airplane in 1903, you know?"

"You mean fly over Mount Everest!" He said it the way an English lord would say, "Shoot a fox!" or an angler would say, "Use worms!"

"Yes," I said, "fly over Mount Everest and let someone down on the top. Why not?"

"He won't live long. The fellow you let down, I mean."

"Why not?" I asked again. "You drop supplies and oxygen tanks, and the fellow wears a spacesuit. Naturally."

It took time to get the Air Force to listen and to agree to send a plane and by that time Jimmy Robbins had swiveled his mind to the point where he volunteered to be the one to land on Everest's peak. "After all," he said in a half whisper, "I'd be the first man ever to stand there."

That's the beginning of the story. The story itself can be told very simply, and in far fewer words.

The plane waited two weeks during the best part of the year (as far as Everest was concerned, that is) for a siege of only moderately nasty flying weather, then took off. They made it. The pilot reported by radio to a listening group exactly what the top of Mount Everest looked like when seen from above and then he described exactly how Jimmy Robbins looked as his parachute got smaller and smaller.

Then another blizzard broke and the plane barely made it back to base and it was another two weeks before the weather was bearable again.

And all that time Jimmy was on the roof of the world by himself and I hated myself for a murderer.

The plane went back up two weeks later to see if they could spot his body. I don't know what good it would have done if they had, but that's the human race for you. How many dead in the last war? Who can count that high? But money or anything else is no object to the saving of one life, or even the recovering of one body.

They didn't find his body, but they did find a smoke signal; curling up in the thin air and whipping away in the gusts. They let down a grapple and Jimmy came up, still in his spacesuit, looking like hell, but definitely alive.

The p.s. to the story involves my visit to the hospital last week to see him. He was recovering very slowly. The doctors said shock, they said exhaustion, but Jimmy's eyes said a lot more.

I said, "How about it, Jimmy, you haven't talked to the reporters, you haven't talked to the government. All right How about talking to me?"

"I've got nothing to say," he whispered. "Sure you have," I said. "You lived on top of Mount Everest during a two-week blizzard. You didn't do that by yourself, not with all the supplies we dumped along with you. Who helped you, Jimmy boy?"

I guess he knew there was no use trying to bluff. Or maybe he was anxious to get it off his mind.

He said, "They're intelligent, boss. They compressed air for me. They set up a little power pack to keep me warm. They set up the smoke signal when they spotted the airplane coming back."

"I see." I didn't want to rush him. "It's like we thought. They've adapted to Everest life. They can't come down the slopes."

"No, they can't. And we can't go up the slopes. Even if the weather didn't stop us, they would!"

"They sound like kindly creatures, so why should they object? They helped you."

"They have nothing against us. They spoke to me, you know. Telepathy."

I frowned. "Well, then."

"But they don't intend to be interfered with. They're watching us, boss. They've got to. We've got atomic power. We're about to have rocket ships. They're worried about us. And Everest is the only place they can watch us from!"

I frowned deeper. He was sweating and his hands were shaking.

I said, "Easy, boy. Take it easy. What on Earth are these creatures?"

And he said, "What do you suppose would be so adapted to thin air and subzero cold that Everest would be the only livable place on earth to them. That's the whole point. They're nothing at all on Earth. They're Martians."

And that's it.

AUTHOR'S COMMENT

And now let me explain the reason I frequently discuss EVEREST. Naturally, I did not actually believe that there were Martians on Mount Everest or that anything would long delay the eventual conquest of the mountain. I just thought that people would have the decency to refrain from climbing it until the story was published.

But no! On May 29, 1953, less than two months after I had written and sold EVEREST, Edmund Hillary and Tenzing Norgay stood upon Everest's highest point and saw neither Martians nor Abominable Snowmen.

Of course, Universe might have sacrificed thirty dollars and left the story unpublished; or I might have offered to buy back the story. Neither of us made the gesture and EVEREST appeared in the December 1953 issue of Universe.

Since I am frequently called on to discuss the future of man, I can't help using EVEREST to point out what an expert futurist I am. After all, I predicted that Mount Everest would never be climbed, five months after it was climbed.

Nowadays it is quite fashionable to publish anthologies of original science fiction stories, and I rather disapprove of this. It drains off some of the stories and readers that might otherwise go to the magazines. I don't want that to happen. I think that magazines are essential to science fiction.

Is my feeling born of mere nostalgia? Does it arise out of the memory of what science fiction magazines meant to me in my childhood and of how they gave me my start as a writer? In part, yes, I suppose; but in part it is the result of an honest feeling that they do play a vital role.

Where can a young writer get a start? Magazines, appearing six or twelve times a year, simply must have stories. An anthology can delay publication till the desired stories come in; a magazine cannot. Driven by unswervable deadlines, a magazine must accept an occasional substandard story, and an occasional young writer gets a start while he is still perhaps of only marginal quality. That was how I got my start, in fact.

It means, to be sure, that the reader is subjected to an occasional amateurish story in the magazine, but the amateur writer who wrote it gets enough encouragement to continue working and to become (just possibly) a great writer.

When the anthologies of original science fiction first appeared, however, they were novelties. I never really thought they would come to much, and had no feeling of contributing to an impending doom when I wrote for them. In fact, since they paid better than the magazines usually did, I felt good about writing for them.

The first of the breed was *New Tales of Space and Time*, edited by Raymond J. Healy (Henry Holt, 1951), and for it I wrote *In a Good Cause*-a story that was eventually included in *NIGHTFALL AND OTHER STORIES*.

A few years later, August Derleth was editing an anthology of originals, and for it I wrote *THE PAUSE*.

THE PAUSE

The white powder was confined within a thin-walled, transparent capsule. The capsule was heat-sealed into a double strip of parafilm. Along that strip of parafilm were other capsules at six-inch intervals.

The strip moved. Each capsule in the course of events rested for one minute on a metal jaw immediately beneath a mica window. On another portion of the face of the radiation counter a number clicked out upon an unrolling cylinder of paper. The capsule moved on; the next took its place.

The number printed at 1:45 P.M. was 308. A minute later 256 appeared. A minute later, 391. A minute later, 477. A minute later, 202. A minute later, 251. A minute later, 000. A minute later, 000. A minute later, 000. A minute later, 000.

Shortly after 2 P.M. Mr. Alexander Johannison passed by the counter and the corner of one eye stubbed itself over the row of figures. Two steps past the counter he stopped and returned.

He ran the paper cylinder backward, then restored its position and said, "Nuts!"

He said it with vehemence. He was tall and thin, with big-knuckled hands, sandy hair, and light eyebrows. He looked tired and, at the moment, perplexed.

Gene Damelli wandered his way with the same easy carelessness he brought to all his actions. He was dark, hairy, and on the short side. His nose had once been broken and it made him look curiously unlike the popular conception of the nuclear physicist.

Damelli said, "My damned Geiger won't pick up a thing, and I'm not in the mood to go over the wiring. Got a cigarette?"

Johannison held out a pack. "What about the others in the building?"

"I haven't tried them, but I guess they haven't all gone."

"Why not? My counter isn't registering either."

"No kidding. You see? All the money invested, too. It doesn't mean a thing. Let's step out for a Coke."

Johannison said with greater vehemence than he intended, "No! I'm going to see George Duke. I want to see his machine. If it's off-"

Damelli tagged along. "It won't be off, Alex. Don't be an ass."

George Duke listened to Johannison and watched him disapprovingly over rimless glasses. He was an old-young man with little hair and less patience.

He said, "I'm busy."

"Too busy to tell me if your rig is working, for heaven's sake?"

Duke stood up. "Oh, hell, when does a man have time to work around here?" His slide rule fell with a thud over a scattering of ruled paper as he rounded his desk.

He stepped to a cluttered lab table and lifted the heavy gray leaden top from a heavier gray leaden container. He reached in with a two-foot-long pair of tongs, and took out a small silvery cylinder.

Duke said grimly, "Stay where you are."

Johannison didn't need the advice. He kept his distance. He had not been exposed to any abnormal dosage of radioactivity over the past month but there was no sense getting any closer than necessary to "hot" cobalt.

Still using the tongs, and with arms held well away from his body, Duke brought the shining bit of metal that contained the concentrated radioactivity up to the window of his counter. At two feet, the counter should have chattered its head off. It didn't.

Duke said, "Guk!" and let the cobalt container drop. He scrabbled madly for it and lifted it against the window again. Closer.

There was no sound. The dots of light on the scaler did, not show. Numbers did not step up and up.

Johannison said, "Not even background noise." Damelli said, "Holy jumping Jupiter!"

Duke put the cobalt tube back into its leaden sheath, as gingerly as ever, and stood there, glaring.

Johannison burst into Bill Everard's office, with Damelli at his heels. He spoke for excited minutes, his bony hands knuckly white on Everard's shiny desk. Everard listened, his smooth, fresh-shaven cheeks turning pink and his plump neck bulging out a bit over his stiff, white collar.

Everard looked at Damelli and pointed a questioning thumb at Johannison. Damelli shrugged, bringing his hands forward, palms upward, and corrugating his forehead.

Everard said, "I don't see how they can all go wrong."

"They have, that's all," insisted Johannison. "They all went dead at about two o'clock. That's over an hour ago now and none of them is back in order. Even George Duke can't do anything about it. I'm telling you, it isn't the counters."

"You're saying it is."

"I'm saying they're not working. But that's not their fault. There's nothing for them to work on."

"What do you mean?"

"I mean there isn't any radioactivity in this place. In this whole building. Nowhere."

"I don't believe you."

"Listen, if a hot cobalt cartridge won't start up a counter, maybe there's something wrong with every counter we try. But when that same cartridge won't discharge a gold-leaf electroscope and when it won't even fog a photographic film, then there's something wrong with the cartridge."

"All right," said Everard, "so it's a dud. Somebody made a mistake and never filled it."

"The same cartridge was working this morning, but never mind that. Maybe cartridges can get switched somehow. But I got that hunk of pitchblende from our display box on the fourth floor and that doesn't register either. You're not going to tell me that someone forgot to put the uranium in it."

Everard rubbed his ear. "What do you think, Damelli?"

Damelli shook his head. "I don't know, boss. Wish I did."

Johannison said, "It's not the time for thinking. It's a time for doing. You've got to call Washington."

"What about?" asked Everard. "About the A-bomb supply."

"What?"

"That might be the answer, boss. Look, someone has figured out a way to stop radioactivity, all of it. It might be blanketing the country, the whole U.S.A. If that's being done, it can only be to put our A-bombs out of commission. They don't know where we keep them, so they have to blank out the nation. And if that's right, it means an attack is due. Any minute, maybe. Use the phone, boss!"

Everard's hand reached for the phone. His eyes and Johannison's met and locked.

He said into the mouthpiece, "An outside call, please."

It was five minutes to four. Everard put down the phone.

"Was that the commissioner?" asked Johannison.

"Yes," said Everard. He was frowning.

"All right. What did he say?"

"Son,'" said Everard, "he said to me, 'What A-bombs?'"

Johannison looked bewildered. "What the devil does he mean, 'What A-bombs?' I know! They've already found out they've got duds on their hands, and they won't talk. Not even to us. Now what?"

"Now nothing," said Everard. He sat back in his chair and glowered at the physicist. "Alex, I know the kind of strain you're under; so I'm not going to blow up about this. What bothers me is, how did you get me started on this nonsense?"

Johannison paled. "This isn't nonsense. Did the commissioner say it was?"

"He said I was a fool, and so I am. What the devil do you mean coming here with your stories about A-bombs? What are A-bombs? I never heard of them."

"You never heard of atom bombs? What is this? A gag?"

"I never heard of them. It sounds like something from a comic strip."

Johannison turned to Damelli, whose olive complexion had seemed to deepen with worry. "Tell him, Gene."

Damelli shook his head. "Leave me out of this."

"All right." Johannison leaned forward, looking at the line of books in the shelves about Everard's head. "I don't know what this is all about, but I can go along with it. Where's Glasstone?"

"Right there," said Everard.

"No. Not the Textbook of Physical Chemistry. I want his Sourcebook on Atomic Energy."

"Never heard of it."

"What are you talking about? It's been here in your shelf since I've been here."

"Never heard of it," said Everard stubbornly.

"I suppose you haven't heard of Kamen's Radioactive Tracers in Biology either?"

"No."

Johannison shouted, "All right. Let's use Glasstone's Textbook then. It will do."

He brought down the thick book and flipped the pages. First once, then a second time. He frowned and looked at the copyright page. It said: Third Edition, 1956. He went through the first two chapters page by page. It was there, atomic structure, quantum numbers, electrons and their shells, transition series-but no radioactivity, nothing about that.

He turned to the table of elements on the inside front cover. It took him only a few seconds to see that there were only eighty-one listed, the eighty-one nonradioactive ones.

Johannison's throat felt brickly-dry. He said huskily to Everard, "I suppose you never heard of uranium."

"What's that?" asked Everard coldly. "A trade name?" Desperately, Johannison dropped Glasstone and reached for the Handbook of Chemistry and Physics. He used the index. He looked up radioactive series, uranium, plutonium, isotopes. He found only the last. With fumbling, jittery fingers he turned to the table of isotopes. Just a glance. Only the stable isotopes were listed.

He said pleadingly, "All right. I give up. Enough's enough. You've set up a bunch of fake books just to get a rise out of me, haven't you?" He tried to smile.

Everard stiffened. "Don't be a fool, Johannison. You'd better go home. See a doctor."

"There's nothing wrong with me."

"You may not think so, but there is. You need a vacation, so take one. Damelli, do me a favor. Get him into a cab and see that he gets home."

Johannison stood irresolute. Suddenly he screamed, "Then what are all the counters in this place for? What do they do?"

"I don't know what you mean by counters. If you mean computers, they're here to solve our problems for us."

Johannison pointed to a plaque on the wall. "All right, then. See those initials. A! E! C! Atomic! Energy! Commission!" He spaced the words, staccato.

Everard pointed in turn. "Air! Experimental! Commission! Get him home, Damelli."

Johannison turned to Damelli when they reached the sidewalk. Urgently he whispered, "Listen, Gene, don't be a setup for that guy. Everard's sold out. They got to him some way. Imagine them setting up the faked books and trying to make me think I'm crazy."

"You heard him. He never heard of A-bombs. Uranium's a trade name. How can he be all right?"

"If it comes to that, I never heard of A-bombs or uranium."

He lifted a finger. "Taxi!" It whizzed by.

Johannison got rid of the gagging sensation. "Gene! You were there when the counters quit. You were there when the pitchblende went dead. You came with me to Everard to get the thing straightened out."

"If you want the straight truth, Alex, you said you had something to discuss with the boss and you asked me to come along, and that's all I know about it. Nothing went wrong as far as I know, and what the devil would we be doing with this pitchblende? We don't use any tar in the place. -Taxi!"

A cab drew up to the curb.

Damelli opened the door, motioned Johannison in. Johannison entered, then, with red-eyed fury, fumed, snatched the door out of Damelli's hand, slammed it closed, and shouted an address at the cab driver. He leaned out the window as the cab pulled away, leaving Damelli stranded and staring.

Johannison cried, "Tell Everard it won't work. I'm wise to all of you."

He fell back into the upholstery, exhausted. He was sure Damelli had heard the address he gave. Would they get to the FBI first with some story about a nervous breakdown? Would they take Everard's word against his? They couldn't deny the stopping of the radioactivity. They couldn't deny the faked books.

But what was the good of it? An enemy attack was on its way and men like Everard and Damelli-How rotten with treason was the country?

He stiffened suddenly. "Driver!" he cried. Then louder, "Driver!"

The man at the wheel did not turn around. The traffic passed smoothly by them.

Johannison tried to struggle up from his seat, but his head was swimming.

"Driver!" he muttered. This wasn't the way to the FBI. He was being taken home. But how did the driver know where he lived?

A planted driver, of course. He could scarcely see and there was a roaring in his ears.

Lord, what organization! There was no use fighting! He blacked out!

He was moving up the walk toward the small, two-story, brick-fronted house in which Mercedes and he lived. He didn't remember getting out of the cab.

He fumed. There was no taxicab in sight. Automatically, he felt for his wallet and keys. They were there. Nothing had been touched.

Mercedes was at the door, waiting. She didn't seem surprised at his return. He looked at his watch quickly. It was nearly an hour before his usual homecoming.

He said, "Mercy, we've got to get out of here and-"

She said huskily, "I know all about it, Alex. Come in." She looked like heaven to him. Straight hair, a little on the blond side, parted in the middle and drawn into a horse tail; wide-set blue eyes with that slight Oriental tilt, full lips, and little ears set close to the head. Johannison's eyes devoured her.

But he could see she was doing her best to repress a certain tension.

He said, "Did Everard call you? Or Damelli?" She said, "We have a visitor."

He thought, They've got to her.

He might snatch her out of the doorway. They would run, try to make it to safety. But how could they? The visitor would be standing in the shadows of the hallway. It would be a sinister man, he imagined, with a thick, brutal voice, and foreign accent, standing there with a hand in his jacket pocket and a bulge there that was bigger than his hand.

Numbly he stepped inside.

"In the living room," said Mercedes. A smile flashed momentarily across her face. "I think it's all right."

The visitor was standing. He had an unreal look about him, the unreality of perfection. His face and body were flawless and carefully devoid of individuality. He might have stepped off a billboard.

His voice had the cultured and unimpassioned sound of the professional radio announcer. It was entirely free of accent.

He said, "It was quite troublesome getting you home, Dr. Johannison."

Johannison said, "Whatever it is, whatever you want, I'm not cooperating."

Mercedes broke in. "No, Alex, you don't understand. We've been talking. He says all radioactivity has been stopped."

"Yes, it has, and how I wish this collar-ad could tell me how it was done! Look here, you, are you an American?"

"You still don't understand, Alex," said his wife. "It's stopped all over the world. This man isn't from anywhere on Earth. Don't look at me like that, Alex. It's true. I know it's true. Look at him."

The visitor smiled. It was a perfect smile. He said, "This body in which I appear is carefully built up according to specification, but it is only matter. It's under complete control." He held out a hand and the skin vanished. The muscles, the straight tendons, and crooked veins were exposed. The walls of the veins disappeared and blood flowed smoothly without the necessity of containment. All dissolved to the appearance of smooth gray bone. That went also.

Then all reappeared.

Johannison muttered, "Hypnotism!"

"Not at all," said the visitor, calmly.

Johannison said, "Where are you from?"

The visitor said, "That's hard to explain. Does it matter?"

"I've got to understand what's going on," cried Johannison. "Can't you see that?"

"Yes, I can. It's why I'm here. At this moment I am speaking to a hundred and more of your people all over your planet. In different bodies, of course, since different segments of your people have different preferences and standards as far as bodily appearance is concerned!"

Fleeting, Johannison wondered if he was mad after all. He said, "Are you from Mars? Any place like that? Are you taking over? Is this war?"

"You see," said the visitor, "that sort of attitude is what we're trying to correct. Your people are sick, Dr. Johannison, very sick. For tens of thousands of your years we have known that your particular species has great possibilities. It has been a great disappointment to us that your development has taken a pathological pathway. Definitely pathological." He shook his head.

Mercedes interrupted, "He told me before you came that he was trying to cure us."

"Who asked him?" muttered Johannison. The visitor only smiled. He said, "I was assigned the job a long time ago, but such illnesses are always hard to treat. For one thing, there is the difficulty in communication."

"We're communicating," said Johannison stubbornly. "Yes. In a manner of speaking, we are. I'm using your concepts, your code system. It's quite inadequate. I couldn't even explain to you the true nature of the disaster of your species. By your concepts, the closest approach I can make is that it is a disease of the spirit."

"Huh."

"It's a kind of social ailment that is very ticklish to handle. That's why I've hesitated for so long to attempt a direct cure. It would be sad if, through accident, so gifted a potentiality as that of your race were lost to us. What I've tried to do for millennia has been to work indirectly through the few individuals in each generation who had natural immunity to the disease. Philosophers, moralists, warriors, and politicians. All those who had a glimpse of world brotherhood. All those who-

"All right. You failed. Let it go at that. Now suppose you tell me about your people, not mine."

"What can I tell you that you would understand?"

"Where are you from? Begin with that."

"You have no proper concept. I'm not from anywhere in the yard."

"What yard?"

"In the universe, I mean. I'm from outside the universe."

Mercedes interrupted again, leaning forward. "Alex, don't you see what he means? Suppose you landed on the New Guinea coast and talked to some natives through television somehow. I mean to natives who had never seen or heard of anyone outside their tribe. Could you explain how television worked or how it made it possible for you to speak to many men in many places at once? Could you explain that the image wasn't you yourself but merely an illusion that you could make disappear and reappear? You couldn't even explain where you came from if all the universe they knew was their own island."

"Well, then, we're savages to him. Is that it?" demanded Johannison.

The visitor said, "Your wife is being metaphorical. Let me finish. I can no longer try to encourage your society to cure itself. The disease has progressed too far. I am going to have to alter the temperamental makeup of the race."

"How?"

"There are neither words nor concepts to explain that either. You must see that our control of physical matter is extensive. It was quite simple to stop all radioactivity. It was a little more difficult to see to it that all things, including books, now suited a world in which radioactivity did not exist. It was still more difficult, and took more time, to wipe out all thought of radioactivity from the minds of men. Right now, uranium does not exist on Earth. No one ever heard of it."

"I have," said Johannison. "How about you, Mercy?"

"I remember, too," said Mercedes.

"You two are omitted for a reason," said the visitor, "as are over a hundred others, men and women, all over the world."

"No radioactivity," muttered Johannison. "Forever?"

"For five of your years," said the visitor. "It is a pause, nothing more. Merely a pause, or call it a period of anesthesia, so that I can operate on the species without the interim danger of atomic war. In five years the phenomenon of radioactivity will return, together with all the uranium and thorium that currently do not exist. The knowledge will not return, however. That is where you will come in. You and the others like you. You will re-educate the world gradually."

"That's quite a job. It took fifty years to get us to this point. Even allowing for less the second time, why not simply restore knowledge? You can do that, can't you?"

"The operation," said the visitor, "will be a serious one. It will take anywhere up to a decade to make certain there are no complications. So we want re-education slowly, on purpose."

Johannison said, "How do we know when the time comes? I mean when the operation's over."

The visitor smiled. "When the time comes, you will know. Be assured of that."

"Well, it's a hell of a thing, waiting five years for a gong to ring in your head. What if it never comes? What if your operation isn't successful?"

The visitor said seriously, "Let us hope that it is."

"But if it isn't? Can't you clear our minds temporarily, too? Can't you let us live normally till it's time?"

"No. I'm sorry. I need your minds untouched. If the operation is a failure, if the cure does not work out, I will need a small reservoir of normal, untouched minds out of which to bring about the growth of a new population on this planet on whom a new variety of cure may be attempted. At all costs, your species must be preserved. It is valuable to us. It is why I am spending so much time trying to explain the situation to you. If I had left you as you were an hour ago, five days, let alone five years, would have completely ruined you."

And without another word he disappeared.

Mercedes went through the motions of preparing supper and they sat at the table almost as though it had been any other day.

Johannison said, "Is it true? Is it all real?"

"I saw it, too," said Mercedes. "I heard it."

"I went through my own books. They're all changed. When this-pause is over, we'll be working strictly from memory, all of us who are left. We'll have to build instruments again. It will take a long time to get it across to those who won't remember." Suddenly he was angry, "And what for, I want to know. What for?"

"Alex," Mercedes began timidly, "he may have been on Earth before and spoken to people. He's lived for thousands and thousands of years. Do you suppose he's what we've been thinking of for so long as-as-"

Johannison looked at her. "As God? Is that what you're trying to say? How should I know? All I know is that his people, whatever they are, are infinitely more advanced than we, and that he's curing us of a disease."

Mercedes said, "Then I think of him as a doctor or what's equivalent to it in his society."

"A doctor? All he kept saying was that the difficulty of communication was the big problem. What kind of a doctor can't communicate with his patients? A vet! An animal doctor!"

He pushed his plate away.

His wife said, "Even so. If he brings an end to war-

"Why should he want to? What are we to him? We're animals. We are animals to him. Literally. He as much as said so. When I asked him where he was from, he said he didn't come from the 'yard' at all. Get it? The barnyard. Then he changed it to the 'universe.' He didn't come from the 'universe' at all. His difficulty in communication gave him away. He used the concept for what our universe was to him rather than what it was to us. So the universe is a barnyard and we're-horses, chickens, sheep. Take your choice."

Mercedes said softly, "'The Lord is my Shepherd. I shall not want. . .'"

"Stop it, Mercy. That's a metaphor; this is reality. If he's a shepherd, then we're sheep with a queer, unnatural desire, and ability, to kill one another. Why stop us?"

"He said-

"I know what he said. He said we have great potentialities. We're very valuable. Right?"

"Yes."

"But what are the potentialities and values of sheep to a shepherd? The sheep wouldn't have any idea. They couldn't. Maybe if they knew why they were coddled so, they'd prefer to live their own lives. They'd take their own chances with wolves or with themselves."

Mercedes looked at him helplessly.

Johannison cried, "It's what I keep asking myself now. Where are we going? Where are we going? Do sheep know? Do we know? Can we know?"

They sat staring at their plates, not eating.

Outside, there was the noise of traffic and the calling of children at play. Night was falling and gradually it grew dark.

AUTHOR'S COMMENT

One memory I have concerning THE PAUSE reinforces my constant delight that I am at the writing end of things and am not part of any other facet of the literary game.

I was in the offices of Farrar, Straus & Young at a time when the anthology was in the early stage of production and the woman who was the in-house editor was agonizing

over the title of the anthology. It was supposed to be *In Time To Come*, but she thought that lacked something and was wondering about alternatives.

"What do you think, Dr. Asimov?" she asked and looked at me pleadingly. (People often think I have the answers, when sometimes I don't even have the questions.)

I thought desperately and said, "Leave out the first word and make it *Time to Come*. That strengthens the concept 'time' and makes the title seem more science-fictional."

She cried out at once, "Just the thing," and *Time to Come* was indeed the title of the anthology when it appeared.

Well, did the change in title improve sales? How would they ever know? How could they be sure it didn't actually hurt sales?

I'm very glad I'm not an editor.

While all this writing was going on, my professional labors at the medical school were doing very well. In 1951 I had been promoted to assistant professor of biochemistry, and I now had the professorial status to add to my doctorate. This double dose of title didn't seem to add to my dignity in the least, however. I continued to have a "bouncing, jovial, effervescent manner," as Sprague would say, and I still do to this day, as anyone who meets me will testify, despite the fact that my "wavy brown hair," while still wavy, is longer and less brown than it used to be.

All that effervescing made it possible for me to get along very well with the students, but perhaps not always so well with a few of the faculty members. Fortunately, everyone was quite aware that I was a science fiction writer. It helped! It seemed to reconcile them to the fact that I was an eccentric and they thereupon forgave me a great deal.

As for myself, I made no attempt to conceal the fact. Some people in the more staid callings use pseudonyms when they succumb to the temptation to write what they fear is trash. Since I never thought of science fiction as trash, and since I was writing and selling long before I had become a faculty member, I had no choice but to use my own peculiar name on my stories.

Nor did I intend to get the school itself into anything that would hurt its dignity.

I had sold my first book, *PEBBLE IN THE SKY*, some six weeks before I had accepted the job at the medical school. What I did not know was that Doubleday was going to exploit my new professional position in connection with the book. It was only when I saw the book jacket, toward the end of 1949, that I saw what was to be on the back cover.

Along with a very good likeness of myself at the age of twenty-five (which breaks my heart now when I look at it) there was a final sentence, which read: "Dr. Asimov lives in Boston, where he is engaged in cancer research at Boston University School of Medicine."

I thought about that for quite a while, then decided to do the straightforward thing. I asked to see Dean James Faulkner, and I put it to him frankly. I was a science fiction writer, I said, and had been for years. My first book was coming out under my own

name, and my association with the medical school would be mentioned. Did he want my resignation?

The dean, a Boston Brahmin with a sense of humor, said, "Is it a good book?"

Cautiously, I said, "The publishers think so."

And he said, "In that case the medical school will be glad to be identified with it."

That took care of that and never, in my stay at the medical school, did I get into trouble over my science fiction. In fact, it occurred to some of the people at the school to put me to use. In October 1954 the people running the Boston University Graduate Journal asked me for a few hundred words of science fiction with which to liven up one of their issues. I obliged with LET'S NOT, which then appeared in the December 1954 issue.

LET'S NOT

Professor Charles Kittredge ran in long, unsteady strides. He was in time to bat the glass from the lips of Associate Professor Heber Vandermeer. It was almost like an exercise in slow motion.

Vandermeer, whose absorption had apparently been such that he had not heard the thud of Kittredge's approach, looked at once startled and ashamed. His glance sank to the smashed glass and the puddling liquid that surrounded it.

"Potassium cyanide. I'd kept a bit, when we left. Just my case. . . "

"How would that have helped? And it's one glass gone, too. Now it's got to be cleaned up. . . .No, I'll do it."

Kittredge found a precious fragment of cardboard to scoop up the glass fragments and an even more precious scrap of cloth to soak up the poisonous fluid. He left to discard the glass and, regretfully, the cardboard and cloth into one of the chutes that would puff them to the surface, a half mile up.

He returned to find Vandermeer sitting on the cot, eyes fixed glassily on the wall. The physicist's hair had turned quite white and he had lost weight, of course. There were no fat men in the Refuge. Kittredge, who had been long, thin, and gray to begin with, had, in contrast, scarcely changed.

Vandermeer said, "Remember the old days, Kitt."

"I try not to."

"It's the only pleasure left," said Vandermeer. "Schools were schools. There were classes, equipment, students, air, light, and people. People."

"A school's a school as long as there is one teacher and one student."

"You're almost right," mourned Vandermeer. "There are two teachers. You, chemistry. I, physics. The two of us, everything else we can get out of the books. And one graduate student. He'll be the first man ever to get his Ph.D. down here. Quite a distinction. Poor Jones."

Kittredge put his hands behind his back to keep them steady. "There are twenty other youngsters who will live to be graduate students someday."

Vandermeer looked up. His face was gray. "What do we teach them meanwhile? History? How man discovered what makes hydrogen go boom and was happy as a lark while it went boom and boom and boom? Geography? We can describe how the winds blew the shining dust everywhere and the water currents carried the dissolved isotopes to all the deeps and shallows of the ocean."

Kittredge found it very hard. He and Vandermeer were the only qualified scientists who got away in time. The responsibility of the existence of a hundred men, women, and children was theirs as they hid from the dangers and rigors of the surface and from the terror Man had created here in this bubble of life half a mile below the planet's crust.

Desperately, he tried to put nerve into Vandermeer. He said, as forcefully as he could, "You know what we must teach them. We must keep science alive so that someday we can repopulate the Earth. Make a new start."

Vandermeer did not answer that. He turned his face to the wall.

Kittredge said, "Why not? Even radioactivity doesn't last forever. Let it take a thousand years, five thousand. Someday the radiation level on Earth's surface will drop to bearable amounts."

"Someday."

"Of course. Someday. Don't you see that what we have here is the most important school in the history of man? If we succeed, you and I, our descendants will have open sky and free-running water again. They'll even have," and he smiled wryly, "graduate schools such as those we remember."

Vandermeer said. "I don't believe any of it. At first, when it seemed better than dying, I would have believed anything. But now, it just doesn't make sense. So we'll teach them all we know, down here, and then we die. . . down here."

"But before long I ones will be teaching with us, and then there'll be others. The youngsters who hardly remember the old ways will become teachers, and then the youngsters who were born here will teach. This will be the critical point. Once the native-born are in charge, there will be no memories to destroy morale. This will be their life and they will have a goal to strive for, something to fight for. . . a whole world to win once more. If, Van, if we keep alive the knowledge of physical science on the graduate level. You understand why, don't you?"

"Of course I understand," said Vandermeer irritably, "but that doesn't make it possible."

"Giving up will make it impossible. That's for sure."

"Well. I'll try," said Vandermeer in a whisper.

So Kittredge moved to his own cot and closed his eyes and wished desperately that he might be standing in his protective suit on the planet's surface. Just for a little while. Just for a little while. He would stand beside the shell of the ship that had been dismantled and cannibalized to create the bubble of life here below. Then he could rouse his own courage just after sunset by looking up and seeing; once more, just once more as it gleamed through the thin, cold atmosphere of Mars, the bright, dead evening star that was Earth.

AUTHOR'S COMMENT

Some people accuse me of getting every last bit of mileage out of everything I write. It's not a deliberate policy of mine, actually, but I must admit that the mileage does seem to mount up. Even as long ago as 1954 it was happening.

I had written LET'S NOT for my school, and, of course, I was not paid for it and didn't expect to be. Shortly thereafter, though, Martin Greenberg of Gnome Press asked

me for an introduction for a new anthology he was planning, All A bout the Future, which was slated for publication in 1955.

I did not really like to refuse because I liked Martin Greenberg, even though he was years behind in his royalty payments. On the other hand, I did not wish to reward him with more material, so I compromised.

"How about a little story instead?" I said, and offered him LET'S NOT. He ran it as one of the introductions (the other, a more conventional one, was by Robert A. Heinlein) and, wonder of wonders, paid me ten dollars.

In that same year another turning point was hitting me. (Odd how many turning points there are in one's life, and how difficult it is to recognize them when they come.)

I had been writing nonfiction to a small extent ever since the days of my doctoral dissertation. There were scientific papers dealing with my research, for instance. These were not many, because I was not long in finding out that I was not really an enthusiastic researcher. Then, too, writing the papers was a dreadful chore, since scientific writing is abhorrently stylized and places a premium on poor quality.

The textbook was more enjoyable but in writing it I had been constantly hampered and tied down because of my two collaborators-wonderful men, both, but with styles different from my own. My frustration led me to a desire to write a biochemistry book on my own, not for medical students but for the general public. I looked upon it as only a dream, however, for I could not really see past my own science fiction.

However, my collaborator, Bill Boyd, had written a popular book on genetics, Genetics and the Races of Man (Little-Brown, 1950), and in 1953 there came from New York one Henry Schuman, owner of a small publishing house named after himself. He tried to persuade Bill to write a book for him but Bill was busy and, being a kindhearted soul, tried to let Mr. Schuman down easily by introducing him to me, with the suggestion that he get me to write a book.

Of course, I agreed and wrote the book promptly. When publication time rolled around, however, Henry Schuman had sold his firm to another small firm, Abelard. When my book appeared, then, it was THE CHEMICALS OF LIFE (Abelard-Schuman, 1954) .

It was the first nonfiction book that ever appeared with my name on it and no other; the first nonfiction book I ever wrote for the general public.

What's more, it had turned out to be a very easy task, much easier than my science fiction. I took only ten weeks to write the book, never spending more than an hour or two a day on it, and it was intense fun. I instantly began to think of other, similar nonfiction books I could do, and that began a course of action that was to fill my life-though I did not have any inkling at the time that this would happen.

That same year, too, it began to look as though a second offspring was on its way. This one also caught us by surprise and created a serious problem.

When we had first moved into our Waltham apartment, in the spring of 1951, there were just the two of us. We slept in one bedroom, and the other bedroom was the office. My book THE CURRENTS OF SPACE (Doubleday, 1952) was written in that second bedroom.

After David was born and grew large enough to need a room of his own, he got the second bedroom and my office was moved into the master bedroom, and that's where *THE CAVES OF STEEL* (Doubleday, 1953) was written.

Then, on February 19, 1955, my daughter, Robyn Joan, was born, and I moved into the corridor in anticipation. It was the only place left to me. The fourth of my Lucky Start novels was begun on the very day she was brought home from the hospital. It was *LUCKY STARR AND THE BIG SUN OF MERCURY* (Doubleday, 1956) and it was dedicated "To Robyn Joan, who did her best to interfere."

The interfering was entirely too efficient. With a child in each bedroom and me in the corridor it was bad enough, but eventually Robyn Joan would be large enough to need a room of her own, so we made up our mind to look for a house.

That was traumatic. I had never lived in a house. For all my thirty-five years of life, I had lived in a series of rented apartments. What had to be, however, had to be. In January 1956 we found a house in Newton, Massachusetts, just west of Boston, and on March 12, 1956, we moved in.

On March 16, 1956, Boston had one of its worst blizzards in memory, and three feet of snow fell. Having never had to shovel snow before, I found myself starting with a lulu in a deep, broad driveway. I had barely dug myself out when, on March 20, 1956, a second blizzard struck and four more feet fell.

The melting snow packed against the outer walls of the house found its way past the wood and into the basement and we had a small flood. -Heavens, how we wished ourselves back in the apartment.

But we survived that, and then came a graver worry for me at least. My life had changed so radically, what with two children, a house, and a mortgage, that I began to wonder if I would still be able to write. (My novel *THE NAKED SUN*, Doubleday, 1957, had been finished two days before the move.) You know, one gets such a feeling that a writer is a delicate plant who must be carefully nurtured or he will wither, that any traumatic change in one's way of life is bound to give the feeling of all the blossoms being lopped off.

What with the blizzards and the snow-shoveling and the basement pumping and everything else, I didn't get a chance to try to write for a while.

But then Bob Lowndes asked me to do a story for *Future*, and in June 1956 I began my first writing job in the new house. It was the first heat wave of the season but the basement was cool, so I set up my typewriter there in the unique luxury of being able to feel cool in a heat wave.

There was no trouble. I could still write. I turned out *EACH AN EXPLORER* and it appeared in issue #30 of *Future* (the issues of this magazine were so irregular at this time that it was not felt safe to put a month-designation on the issues).

EACH AN EXPLORER

Herman Chouns was a man of hunches. Sometimes he was right; sometimes he was wrong-about fifty-fifty. Still, considering that one has the whole universe of possibilities from which to pull a right answer, fifty-fifty begins to look pretty good.

Chouns wasn't always as pleased with the matter as might be expected. It put too much of a strain on him. People would huddle around a problem, making nothing of it, then turn to him and say, "What do you think, Chouns? Turn on the old intuition."

And if he came up with something that fizzled, the responsibility for that was made clearly his.

His job, as field explorer, rather made things worse. "Think that planet's worth a closer look?" they would say. "What do you think, Chouns?"

So it was a relief to draw a two-man spot for a change (meaning that the next trip would be to some low-priority place, and the pressure would be off) and, on top of it, to get Allen Smith as partner.

Smith was as matter-of-fact as his name. He said to Chouns the first day out, "The thing about you is that the memory files in your brain are on extraspecial can. Faced with a problem, you remember enough little things that maybe the rest of us don't come up with to make a decision. Calling it a hunch just makes it mysterious, and it isn't."

He rubbed his hair slickly back as he said that. He had light hair that lay down like a skull cap.

Chouns, whose hair was very unruly, and whose nose was snub and a bit off-center, said softly (as was his way), "I think maybe it's telepathy."

"What!"

"Nuts!" said Smith, with loud derision (as was his way). "Scientists have been tracking psionics for a thousand years and gotten nowhere. There's no such thing: no precognition; no telekinesis; no clairvoyance; and no telepathy."

"I admit that, but consider this. If I get a picture of what each of a group of people are thinking-even though I might not be aware of what was happening-I could integrate the information and come up with an answer. I would know more than any single individual in the group, so I could make a better judgment than the others-sometimes."

"Do you have any evidence at all for that?" Chouns turned his mild brown eyes on the other. "Just a hunch."

They got along well. Chouns welcomed the other's refreshing practicality, and Smith patronized the other's speculations. They often disagreed but never quarreled,

Even when they reached their objective, which was a globular cluster that had never felt the energy thrusts of a human-designed nuclear reactor before, increasing tension did not worsen matters.

Smith said, "Wonder what they do with all this data back on Earth. Seems a waste sometimes."

Chouns said, "Earth is just beginning to spread out. No telling how far humanity will move out into the galaxy, given a million years or so. All the data we can get on any world will come in handy someday,"

"You sound like a recruiting manual for the Exploration Teams, Think there'll be anything interesting in that thing?" He indicated the visiplat on which the no-longer distant cluster was centered like spilled talcum powder.

"Maybe. I've got a hunch-" Chouns stopped, gulped, blinked once or twice, and then smiled weakly.

Smith snorted, "Let's get a fix on the nearest stargroups and make a random pass through the thickest of it. One gets you ten, we find a McKomin ratio under 0.2,"

"You'll lose," murmured Chouns. He felt the quick stir of excitement that always came when new worlds were about to be spread beneath them. It was a most contagious feeling, and it caught hundreds of youngsters each year. Youngsters, such as he had been once, flocked to the Teams, eager to see the worlds their descendants someday would call their own, each an explorer-

They got their fix (made their first close-quarters hyperspatial jump into the cluster, and began scanning stars for planetary systems. The computers did their work; the information files grew steadily, and all proceeded in satisfactory routine-until at system 23, shortly after completion of the jump, the ship's hyperatomic motors failed.

Chouns muttered, "Funny. The analyzers don't say what's wrong."

He was right. The needles wavered erratically, never stopping once for a reasonable length of time, so that no diagnosis was indicated. And, as a consequence, no repairs could be carried through.

"Never saw anything like it," growled Smith. "We'll have to shut everything off and diagnose manually."

"We might as well do it comfortably," said Chouns, who was already at the telescopes. "Nothing's wrong with the ordinary spacedrive, and there are two decent planets in this system."

"Oh? How decent and which ones?"

"The first and second out of four: Both water-oxygen. The first is a bit warmer and larger than Earth; the second a bit colder and smaller. Fair enough?"

"Life?"

"Both. Vegetation, anyway." Smith grunted. There was nothing in that to surprise anyone; vegetation occurred more often than not on water-oxygen worlds. And, unlike animal life, vegetation could be seen telescopically-or, more precisely, spectroscopically. Only four photochemical pigments had ever been found in any plant form, and each could be detected by the nature of the light it reflected.

Chouns said, "Vegetation on both planets is chlorophyll type, no less. It'll be just like Earth; real homey."

Smith said, "Which is closer?"

"Number two, and we're on our way. I have a feeling it's going to be a nice planet."

"I'll judge that by the instruments, if you don't mind," said Smith.

But this seemed to be one of Chouns's correct hunches.

The planet was a tame one with an intricate ocean network that insured a climate of small temperature range. The mountain ranges were low and rounded, and the distribution of vegetation indicated high and widespread fertility.

Chouns was at the controls for the actual landing.

Smith grew impatient. "What are you picking and choosing for? One place is like another."

"I'm looking for a bare spot, " said Chouns. "No use burning up an acre of plant life."

"What if you do?"

"What if I don't?" said Chouns, and found his bare spot.

It was only then, after landing, that they realized a small part of what they had tumbled into.

"Jumping space-warps," said Smith.

Chouns felt stunned. Animal life was much rarer than vegetation, and even the glimmerings of intelligence were far rarer still; yet here, not half a mile away from landing point, was a clustering of low, thatched huts that were obviously the product of a primitive intelligence.

"Careful, " said Smith dazedly.

"I don't think there's any harm," said Chouns. He stepped out onto the surface of the planet with firm confidence; Smith followed.

Chouns controlled his excitement with difficulty. "This is terrific. No one's ever reported anything better than caves or woven tree-branches before."

"I hope they're harmless."

"It's too peaceful for them to be anything else. Smell the air."

Coming down to landing, the terrain-to all points of horizon, except where a low range of hills broke the even line-had been colored a soothing pale pink, dappled against the chlorophyll green. At closer quarters the pale pink broke up into individual flowers, fragile and fragrant. Only the areas in the immediate neighborhood of the huts were amber with something that looked like a cereal grain.

Creatures were emerging from the huts, moving closer to the ship with a kind of hesitating trust. They had four legs and a sloping body which stood three feet high at the shoulders. Their heads were set firmly on those shoulders, with bulging eyes (Chouns counted six) set in a circle and capable of the most disconcertingly independent motion. (That makes up for the immovability of the head, thought Chouns.)

Each animal had a tail that forked at the end, forming two sturdy fibrils that each animal held high. The fibrils maintained a rapid tremor that gave them a hazy, blurred look.

"Come on," said Chouns. "They won't hurt us; I'm sure of it."

The animals surrounded the men at a cautious distance. Their tails made a modulated humming noise.

"They might communicate that way," said Chouns. " And I think it's obvious they're vegetarians." He pointed toward one of the huts, where a small member of the species sat on its haunches, plucking at the amber grain with his tails, and flickering an ear of it through his mouth like a man sucking a series of maraschino cherries off a toothpick.

"Human beings eat lettuce," said Smith, "but that doesn't prove anything."

More of the tailed creatures emerged, hovered about the men for a moment, then vanished off into the pink and green.

"Vegetarians," said Chouns firmly. "Look at the way they cultivate the main crop."

The main crop, as Chouns called it, consisted of a coronet of soft green spikes, close to the ground. Out of the center of the coronet grew a hairy stem which, at two-inch intervals, shot out fleshy, veined buds that almost pulsated, they seemed so "Vitaly alive. The stem ended at the tip with the pale pink blossoms that, except for the color, were the most Earthly thing about the plants.

The plants were laid out in rows and files with geometric precision. The soil about each was well loosened and powdered with a foreign substance that could be nothing but fertilizer. Narrow passageways, just wide enough for an animal to pass along, crisscrossed the field, and each passageway was lined with narrow sluiceways, obviously for water.

The animals were spread through the fields now, working diligently, heads bent. Only a few remained in the neighborhood of the two men.

Chouns nodded. "They're good farmers."

"Not bad," agreed Smith. He walked briskly toward the nearest of the pale pink blooms and reached for one; but six inches short of it he was stopped by the sound of tail vibrations keening to shrillness, and by the actual touch of a tail upon his arm. The touch was delicate but firm, interposing itself between Smith and the plants.

Smith fell back. "What in Space--" He had half reached for his blaster when Chouns said, "No cause for excitement; take it easy."

Half a dozen of the creatures were now gathering about the two, offering stalks of grain humbly and gently, some using their tails, some nudging it forward with their muzzles.

Chouns said, "They're friendly enough. Picking a bloom might be against their customs; the plants probably have to be treated according to rigid rules. Any culture that has agriculture probably has fertility rites, and Lord knows what that involves. The rules governing the cultivation of the plants must be strict, or there wouldn't be those accurate measured rows. . . . Space, won't they sit up back home when they hear this?"

The tail humming shot up in pitch again, and the creatures near them fell back. Another member of the species was emerging from a larger hut in the center of the group.

"The chief, I suppose," muttered Chouns. The new one advanced slowly, tail high, each fibril encircling a small black object. At a distance of five feet its tail arched forward.

"He's giving it to us," said Smith in astonishment, "and Chouns, for God's sake, look at it."

Chouns was doing so, feverishly. He choked out, "They're Gamow hyperspatial sighters. Those are ten-thousand-dollar instruments."

Smith emerged from the ship again, after an hour within. He shouted from the ramp in high excitement, "They work. They're perfect. We're rich."

Chouns called back, "I've been checking through their huts. I can't find any more."

"Don't sneeze at just two. Good Lord, these are as negotiable as a handful of cash."

But Chouns still looked about, arms akimbo, exasperated. Three of the tailed creatures had dogged him from hut to hut-patiently, never interfering, but remaining always between him and the geometrically cultivated pale pink blossoms. Now they stared multiply at him.

Smith said, "It's the latest model, too. Look here." He pointed to the raised lettering which said Model X-20. Gamow Products. Warsaw. European Sector.

Chouns glanced at it and said impatiently, "What interests me is getting more. I know there are more Gamow sighters somewhere, I want them." His cheeks were flushed and his breathing heavy.

The sun was setting; the temperature dropped below the comfortable point. Smith sneezed twice, then Chouns.

"We'll catch pneumonia," snuffled Smith.

"I've got to make them understand," said Chouns stubbornly. He had eaten hastily through a can of pork sausage, had gulped down a can of coffee, and was ready to try again.

He held the sighter high. "More," he said, "more," making encircling movements with his arms. He pointed to one sighter, then to the other, then to the imaginary additional ones lined up before him. "More."

Then, as the last of the sun dipped below the horizon, a vast hum arose from all parts of the field as every creature in sight ducked its head, lifted its forked tail, and vibrated it into screaming invisibility in the twilight.

"What in Space," muttered Smith uneasily. "Hey, look at the blooms!" He sneezed again.

The pale pink flowers were shriveling visibly. Chouns shouted to make himself heard above the hum, "It may be a reaction to sunset. You know, the blooms close at night. The noise may be a religious observance of the fact."

A soft flick of a tail across his wrist attracted Chouns's instant attention. The tail he had felt belonged to the nearest creature; and now it was raised to the sky, toward a bright object low on the western horizon. The tail bent downward to point to the sighter, then up again to the star.

Chouns said excitedly, "Of course-the inner planet; the other habitable one. These must have come from there." Then, reminded by the thought, he cried in sudden shock, "Hey, Smith, the hyperatomic motors are still out."

Smith looked shocked, as though he had forgotten, too; then he mumbled, "Meant to tell you-they're alright."

"You fixed them?"

"Never touched them. But when I was testing the sighters I used the hyperatomics and they worked. I didn't pay any attention at the time; I forgot there was anything wrong. Anyway, they worked."

"Then let's go," said Chouns at once. The thought of sleep never occurred to him.

Neither one slept through the six-hour trip. They remained at the controls in an almost drug-fed passion. Once again they chose a bare spot on which to land.

It was hot with an afternoon subtropical heat; and a broad, muddy river moved placidly by them. The near bank was of hardened mud, riddled with large cavities.

The two men stepped out onto planetary surface and Smith cried hoarsely, "Chouns, look at that!"

Chouns shook off the other's grasping hand. He said, "The same plants! I'll be damned."

There was no mistaking the pale pink blossoms, the stalk with its veined buds, and the coronet of spikes below. Again there was the geometric spacing, the careful planting and fertilization, the irrigation canals.

Smith said, "We haven't made a mistake and circled-"

"Oh, look at the sun; it's twice the diameter it was before. And look there."

Out of the nearest burrows in the river bank smoothly tan and sinuous objects, as limbless as snakes, emerged. They were a foot in diameter, ten feet in length. The two ends were equally featureless, equally blunt. Midway along their upper portions were bulges. All the bulges, as though on signal, grew before their eyes to fat ovals, split in two to form lipless, gaping mouths that opened and closed with a sound like a forest of dry sticks clapping together.

Then, just as on the outer planet, once their curiosities were satisfied and their fears calmed, most of the creatures drifted away toward the carefully cultivated field of plants.

Smith sneezed. The force of expelled breath against the sleeve of his jacket raised a powdering of dust.

He stared at that with amazement, then slapped himself and said, "Damn it, I'm dusty." The dust rose like a pale pink fog. "You, too," he added, slapping Chouns.

Both men sneezed with abandon.

"Picked it up on the other planet, I suppose," said Chouns.

"We can work up an allergy."

"Impossible." Chouns held up one of the sighters and shouted at the snake-things, "Do you have any of these?"

For a while there was nothing in answer but the splashing of water, as some of the snake things slid into the river and emerged with silvery clusters of water life, which they tucked beneath their bodies toward some hidden mouth.

But then one snake-thing, longer than the others, came thrusting along the ground, one blunt end raised questingly some two inches, weaving blindly side to side. The bulb in its center swelled gently at first, then alarmingly, splitting in two with an audible pop. There, nestling within the two halves, were two more sighters, the duplicates of the first two.

Chouns said ecstatically, "Lord in heaven, isn't that beautiful?"

He stepped hastily forward, reaching out for the objects. The swelling that held them thinned and lengthened, forming what were almost tentacles. They reached out toward him.

Chouns was laughing. They were Gamow sighters all right; duplicates, absolute duplicates, of the first two. Chouns fondled them.

Smith was shouting, "Don't you hear me? Chouns, damn it, listen to me."

Chouns said, "What?" He was dimly aware that Smith had been yelling at him for over a minute.

"Look at the flowers, Chouns."

They were closing, as had those on the other planet, and among the rows the snake-things reared upward, balancing on one end and swaying with a queer, broken rhythm. Only the blunt ends of them were visible above the pale pink.

Smith said, "You can't say they're closing up because of nightfall. It's broad day."

Chouns shrugged. "Different planet, different plant. Come on! We've only got two sighters here; there must be more."

"Chouns, let's go home." Smith firmed his legs into two stubborn pillars and the grip he held on Chouns's collar tightened.

Chouns's reddened face turned back toward him indignantly. "What are you doing?"

"I'm getting ready to knock you out if you don't come back with me at once, into the ship."

For a moment Chouns stood irresolute; then a certain wildness about him faded, a certain slackening took place, and he said, "All right."

They were halfway out of the starcluster. Smith said, "How are you?"

Chouns sat up in his bunk and rumbled his hair. "Normal, I guess; sane again. How long have I been sleeping?"

"Twelve hours."

"What about you?"

"I've catnapped." Smith turned ostentatiously to the instruments and made some minor adjustments. He said self-consciously, "Do you know what happened back there on those planets?"

Chouns said slowly, "Do you?"

"I think so."

"Oh? May I hear?"

Smith said, "It was the same plant on both planets. You'll grant that?"

"I most certainly do."

"It was transplanted from one planet to the other, somehow. It grows on both planets perfectly well; but occasionally-to maintain vigor, I imagine-there must be crossfertilization, the two strains mingling. That sort of thing happens on Earth often enough."

"Crossfertilization for vigor? Yes."

"But we were the agents that arranged for the mingling. We landed on one planet and were coated with pollen. Remember the blooms closing? That must have been just after they released their pollen; and that's what was making us sneeze, too. Then we landed on the other planet and knocked the pollen off our clothes. A new hybrid strain will start up. We were just a pair of two-legged bees, Chouns, doing our duty by the flowers."

Chouns smiled tentatively. "An inglorious role, in a way."

"Hen, that's not it. Don't you see the danger? Don't you see why we have to get back home fast?"

"Why?"

"Because organisms don't adapt themselves to nothing. Those plants seem to be adapted to interplanetary fertilization. We even got paid off, the way bees are; not with nectar, but with Gamow sightings."

"Well?"

"Well, you can't have interplanetary fertilization unless something or someone is there to do the job. We did it this time, but we were the first humans ever to enter the cluster. So, before this, it must be nonhumans who did it; maybe the same nonhumans who transplanted the blooms in the first place. That means that somewhere in this cluster there is an intelligent race of beings; intelligent enough for space travel. And Earth must know about that."

Slowly Chouns shook his head. Smith frowned. "You find flaws somewhere in the reasoning?"

Chouns put his head between his own palms and looked miserable. "Let's say you've missed almost everything."

"What have I missed?" demanded Smith angrily.

"Your crossfertilization theory is good, as far as it goes, but you haven't considered a few points. When we approached that stellar system our hyperatomic motor went out of order in a way the automatic controls could neither diagnose nor correct. After we landed we made no effort to adjust them. We forgot about them, in fact; and when you handled them later you found they were in perfect order, and were so unimpressed by that that you didn't even mention it to me for another few hours."

"Take something else: How conveniently we chose landing spots near a grouping of animal life on both planets. Just luck? And our incredible confidence in the good will of the creatures. We never even bothered checking atmospheres for trace poisons before exposing ourselves."

"And what bothers me most of all is that I went completely crazy over the Gamow sighters. Why? They're valuable, yes, but not that valuable-and I don't generally go overboard for a quick buck."

Smith had kept an uneasy silence during all that. Now he said, "I don't see that any of that adds up to anything."

"Get off it, Smith; you know better than that. Isn't it obvious to you that we were under mental control from the outside?"

Smith's mouth twisted and caught halfway between derision and doubt. "Are you on the psionic kick again?"

"Yes; facts are facts. I told you that my hunches might be a form of rudimentary telepathy."

"Is that a fact, too? You didn't think so a couple of days ago."

"I think so now. Look, I'm a better receiver than you, and I was more strongly affected. Now that it's over, I understand more about what happened because I received more. Understand?"

"No," said Smith harshly.

"Then listen further. You said yourself the (Gamow sighters were the nectar that bribed us into pollination. You said that."

"All right."

"Well, then, where did they come from? They were Earth products; we even read the manufacturer's name and model on them, letter by letter. Yet, if no human beings have ever been in the cluster, where did the sighters come from? Neither one of us worried about that, then; and you don't seem to worry about it even now."

"Well-"

"What did you do with the sighters after we got on board ship, Smith? You took them from me; I remember that."

"I put them in the safe," said Smith defensively. "Have you touched them since?"

"No."

"Have I?"

"Not as far as I know."

"You have my word I didn't. Then why not open the safe now?"

Smith stepped slowly to the safe. It was keyed to his fingerprints, and it opened. Without looking he reached in. His expression altered and with a sharp cry he first stared at the contents, then scrabbled them out.

He held four rocks of assorted color, each of them roughly rectangular.

"They used our own emotions to drive us," said Chouns softly, as though insinuating the words into the other's stubborn skull one at a time. "They made us think the hyperatomics were wrong so we could land on one of the planets; it didn't matter which, I suppose. They made us think we had precision instruments in our hand after we landed on one so we would race to the other."

"Who are 'they'?" groaned Smith. "The tails or the snakes? Or both?"

"Neither," said Chouns. "It was the plants."

"The plants? The flowers?"

"Certainly. We saw two different sets of animals tending the same species of plant. Being animals ourselves, we assumed the animals were the masters. But why should we assume that? It was the plants that were being taken care of."

"We cultivate plants on Earth, too, Chouns."

"But we eat those plants," said Chouns.

"And maybe those creatures eat their plants, too."

"Let's say I know they don't," said Chouns. "They maneuvered us well enough. Remember how careful I was to find a bare spot on which to land."

"I felt no such urge."

"You weren't at the controls; they weren't worried about you. Then, too, remember that we never noticed the pollen, though we were covered with it-not till we were safely on the second planet. Then we dusted the pollen off, on order."

"I never heard anything so impossible."

"Why is it impossible? We don't associate intelligence with plants, because plants have no nervous systems; but these might have. Remember the fleshy buds on the stems? Also, plants aren't free-moving; but they don't have to be if they develop psionic powers and can make use of free-moving animals. They get cared for, fertilized, irrigated, pollinated, and so on. The animals tend them with single-minded devotion and are happy over it because the plants make them feel happy."

"I'm sorry for you," said Smith in a monotone. "If you try to tell this story back on Earth, I'm sorry for you."

"I have no illusions," muttered Chouns, "yet-what can I do but try to warn Earth. You see what they do to animals."

"They make slaves of them, according to you."

"Worse than that. Either the tailed creatures or the snake-things, or both, must have been civilized enough to have developed space travel once; otherwise the plants couldn't be on both planets. But once the plants developed psionic powers (a mutant strain, perhaps), that came to an end. Animals at the atomic stage are dangerous. So they were made to forget; they were reduced to what they are. -Damn it, Smith, those plants are the most dangerous things in the universe. Earth must be informed about them, because some other Earthmen may be entering that cluster."

Smith laughed. "You know, you're completely off base. If those plants really had us under control, why would they let us get away to warn the others?"

Chouns paused. "I don't know." Smith's good humor was restored. He said, "For a minute you had me going, I don't mind telling you."

Chouns rubbed his skull violently. Why were they let go? And for that matter, why did he feel this horrible urgency to warn Earth about a matter with which Earthmen would not come into contact for millennia perhaps?

He thought desperately and something came glimmering. He fumbled for it, but it drifted away. For a moment he thought desperately that it was as though the thought had been pushed away: but then that feeling, too, left.

He knew only that the ship had to remain at full thrust, that they had to hurry.

So, after uncounted years, the proper conditions had come about again. The protospores from two planetary strains of the mother plant met and mingled, sifting together into the clothes and hair and ship of the new animals. Almost at once the hybrid spores formed; the hybrid spores that alone had all the capacity and potentiality of adapting themselves to a new planet.

The spores waited quietly, now, on the ship which, with the last impulse of the mother plant upon the minds of the creatures aboard, was hurtling them at top thrust toward a new and ripe world where free-moving creatures would tend their needs.

The spores waited with the patience of the plant (the all-conquering patience no animal can ever know) for their arrival on a new world-each, in its own tiny way, an explorer-

AUTHOR'S COMMENT

The stories in this book have not been much anthologized. That is the very reason I have chosen them, and it was one of the points Doubleday urged on me. EACH AN EXPLORER has, however, been anthologized twice, once by Judith Merrill in 1957 and once by Vic Ghidalia in 1973.

That still isn't much, though. Some of my stories tend to appear many times. A little story I wrote called THE FUN THEY HAD has appeared, to date, at least forty-two times since it was first published, in 1951, and is currently in press for eight more appearances. It may have appeared in other places, too, but I only have forty-two in my library.

You can find the story, if you wish, in my book EARTH IS ROOM ENOUGH (Doubleday, 1957). That's one of the forty-two places.

Editors are always trying to think up gimmicks. Sometimes I am the victim.

On November 14, 1956, I was in the office of Infinity Science Fiction, talking to the editor, Larry Shaw. We got along well together, he and I, (I mustn't make that sound exceptional. I get along with nearly everyone) and I often dropped in to see him when I visited New York.

That day he had an idea. He was to give me the title for a story-the least inspirational title he could think of-and I was to write a short-short, on the spot, based on that title. Then he would give the same title to two other writers and they would do the same.

I asked, cautiously, what the title was, and he said, "Blank."

"Blank?" I said.

"Blank," he said.

So I thought a little and wrote the following story, with the title of BLANK! (with an exclamation point).

Randall Garrett wrote a story entitled Blank? with a question mark, and Harlan Ellison wrote one called Blank with no punctuation at all.

BLANK!

"Presumably," said August Pointdexter, "there is such a thing as overweening pride. The Greeks called it hubris, and considered it to be defiance of the gods, to be followed always by ate, or retribution." He rubbed his pale blue eyes uneasily.

"Very pretty," said Dr. Edward Barron impatiently. "Has that any connection with what I said?" His forehead was high and had horizontal creases in it that cut in sharply when he raised his eyebrows in contempt.

"Every connection," said Pointdexter. "To construct a time machine is itself a challenge to fate. You make it worse by your flat confidence. How can you be sure that your time-travel machine will operate through all of time without the possibility of paradox?"

Barron said, "I didn't know you were superstitious. The simple fact is that a time machine is a machine like any other machine, no more and no less sacrilegious. Mathematically, it is analogous to an elevator moving up and down its shaft. What danger of retribution lies in that?"

Pointdexter said energetically, "An elevator doesn't involve paradoxes. You can't move from the fifth floor to the fourth and kill your grandfather as a child."

Dr. Barron shook his head in agonized impatience. "I was waiting for that. For exactly that. Why couldn't you suggest that I would meet myself or that I would change history by telling McClellan that Stonewall Jackson was going to make a flank march on Washington, or anything else? Now I'm asking you point blank. Will you come into the machine with me?"

Pointdexter hesitated. "I . . . I don't think so."

"Why do you make things difficult? I've explained already that time is invariant. If I go into the past it will be because I've already been there. Anything I decided to do and proceed to do. I will have already done in the past all along, so I'll be changing nothing and no paradoxes will result. If I decided to kill my grandfather as a baby, and did it I would not be here. But I am here. Therefore I did not kill my grandfather. No matter how I try to kill him and plan to kill him, the fact is I didn't kill him and so I won't kill him. Nothing would change that. Do you understand what I'm explaining?"

"I understand what you say, but are you right?"

"Of course I'm right. For God's sake, why couldn't you have been a mathematician instead of a machinist with a college education?" In his impatience, Barron could scarcely hide his contempt. "Look, this machine is only possible because certain mathematical relationships between space and time hold true. You understand that, don't you, even if you don't follow the details of the mathematics? The machine exists, so the mathematical relations I worked out have some correspondence in reality. Right? You've seen me send rabbits a week into the future. You've seen them appear out of nothing. You've watched

me send a rabbit a week into the past one week after it appeared. And they were unharmed."

"All right. I admit all that."

"Then will you believe me if I tell you that the equations upon which this machine is based assume that time is composed of particles that exist in an unchanging order; that time is invariant. If the order of the particles could be changed in any way-any way at all-the equations would be invalid and this machine wouldn't work; this particular method of time travel would be impossible."

Pointdexter rubbed his eyes again and looked thoughtful. "I wish I knew mathematics."

Barron said, "Just consider the facts. You tried to send the rabbit two weeks into the past when it had arrived only one week in the past. That would have created a paradox, wouldn't it? But what happened? The indicator stuck at one week and wouldn't budge. You couldn't create a paradox. Will you come?"

Pointdexter shuddered at the edge of the abyss of agreement and drew back. He said, "No."

Barron said, "I wouldn't ask you to help if I could do this alone, but you know it takes two men to operate the machine for intervals of more than a month. I need someone to control the Standards so that we can return with precision. And you're the one I want to use. We share the-the glory of this thing now. Do you want to thin it out, but in a third person? Time enough for that after we've established ourselves as the first time travelers in history. Good Lord, man, don't you want to see where we'll be a hundred years from now, or a thousand; don't you want to see Napoleon, or Jesus, for that matter? We'll be like-like"-Barron seemed carried away-"like gods."

"Exactly," mumbled Pointdexter. "Hubris. Time travel isn't godlike enough to risk being stranded out of my own time."

"Hubris. Stranded. You keep making up fears. We're just moving along the particles of time like an elevator along the floors of a building. Time travel is actually safer because an elevator cable can break, whereas in the time machine there'll be no gravity to pun us down destructively. Nothing wrong can possibly happen. I guarantee it," said Barron, tapping his chest with the middle finger of his right hand. "I guarantee it."

"Hubris," muttered Pointdexter, but fell into the abyss of agreement nevertheless, overborne at last.

Together they entered the machine.

Pointdexter did not understand the controls in the sense Barron did, for he was no mathematician, but he knew how they were supposed to be handled.

Barron was at one set, the Propulsions. They supplied the drive that forced the machine along the time axis. Pointdexter was at the Standards that kept the point of origin fixed so that the machine could move back to the original starting point at any time.

Pointdexter's teeth chattered as the first motion made itself felt in his stomach, Like an elevator's motion it was, but not quite, It was something more subtle, yet very real. He said, "What if-"

Barron snapped out, "Nothing can go wrong. Please!" And at once there was a jar and Pointdexter fell heavily against the wall.

Barron said, "What the devil!"

"What happened?" demanded Pointdexter breathlessly. "I don't know, but it doesn't matter. We're only twenty-two hours into the future. Let's step out and check."

The door of the machine slid into its recessed panel and the breath went out of Pointdexter's body in a panting whoosh. He said, "There's nothing there."

Nothing. No matter. No light. Blank!

Pointdexter screamed. "The Earth moved. We forgot that. In twenty-two hours, it moved thousands of miles through space, traveling around the sun."

"No," said Barron faintly, "I didn't forget that. The machine is designed to follow the time path of Earth wherever that leads. Besides, even if Earth moved, where is the sun? Where are the stars?"

Barron went back to the controls. Nothing budged. Nothing worked. The door would no longer slide shut. Blank!

Pointdexter found it getting difficult to breathe, difficult to move. With effort he said, "What's wrong, then?"

Barron moved slowly toward the center of the machine. He said painfully, "The particles of time. I think we happened to stall. . . between two. . . particles."

Pointdexter tried to clench a fist but couldn't. "Don't understand."

"Like an elevator. Like an elevator." He could no longer sound the words, but only move his lips to shape them. "Like an elevator, after all. . . stuck between the floors."

Pointdexter could not even move his lips. He thought: Nothing can proceed in nontime. All motion is suspended, all consciousness, all everything. There was an inertia about themselves that had carried them along in time for a minute or so, like a body leaning forward when an automobile comes to a sudden halt-but it was dying fast.

The light within the machine dimmed and went out. Sensation and awareness chilled into nothing.

One last thought, one final, feeble, mental sigh: Hubris, ate!

Then thought stopped, too.

Stasis! Nothing! For all eternity, where even eternity was meaningless, there would only be-blank!

AUTHOR'S COMMENT

All three Blanks were published in the June 1957 issue of Infinity and the idea of the gimmick, I suppose, was to let the reader compare them and note how three different imaginations took off from a single, nondescript title.

Perhaps you wish you could have all three stories here, so that you could make the comparison yourself. Well, you can't.

In the first place, I'd have to get permissions from Randall and from Harlan and I don't want to have to go through that, In the second place, you underestimate my self-centered nature. I don't want their stories included with mine!

Then, too, I must explain that I always dismantle magazines with my stories in them, because I just can't manage to keep intact those magazines containing my stories. There are too many magazines and not enough room. I take out my own particular stories and bind them into volumes for future reference (as in the preparation of this book). Actually, I am running out of room for the volumes.

Anyway, when it came to dismantling the June 1957 Infinity I abstracted only BLANK! and discarded Blank? and Blank.

Or, perhaps, you don't underestimate my self-centered nature and expect me as a matter of course, to do that sort of thing.

Back in the middle 1950s, when some of the less affluent science fiction magazines (not that any of them were really affluent) asked me for a story, it was my practice to request the rates that Astounding and Galaxy paid if any magazine expected a story written especially for them. They would do so, quite confident that if I said a story was written especially for them, it was, and that it had not been slipped out of the bottom of the barrel. (There are times when having a reputation as being too dumb to be crooked comes in handy.)

The corollary of that, of course, is that if a story of mine is ever rejected by Editor A, it is incumbent upon me to tell this to Editor B when I offer it anew. In the first place, a rejection of a story with my name on it must give rise to thoughts such as "Wow! This story must be a stinker!" and it's only fair to give the second editor a chance to agree. Secondly, even if the second editor accepts the story he need not feel called upon to pay me more than his own standard fees. It meant an occasional loss of a few dollars but it made me more comfortable inside my wizened little soul.

Anyway, DOES A BEE CARE? was written in October 1956, after I had discussed it with Robert P. Mills, of Fantasy and Science Fiction, who had taken over the editorship of a new sister magazine of F & SF, which was to be called Venture Science Fiction.

I guess the execution fell short of the promise, because Mills rejected it and it was deemed unworthy both for Venture and for F & SF. So I passed it on to If: Worlds of Science Fiction with the word of the rejection and I got less than top rates for it. It appeared in the June 1957 issue.

Now the sad part is that I can never tell what there is about a story that makes the difference between acceptance and rejection, or which editor, the rejecting one or the accepting one, is correct. That's why I'm not an editor and never intend to be.

But you can judge for yourself.

DOES A BEE CARE?

The ship began as a metal skeleton. Slowly a shining skin was layered on without and odd-shaped vitals were crammed within.

Thornton Hammer, of all the individuals (but one) involved in the growth, did the least physically. Perhaps that was why he was most highly regarded. He handled the mathematical symbols that formed the basis for lines on drafting paper, which, in turn, formed the basis for the fitting together of the various masses and different forms of energy that went into the ship.

Hammer watched now through close-fitting spectacles somberly. Their lenses caught the light of the fluorescent tubes above and sent them out again as highlights. Theodore Lengyel, representing Personnel of the corporation that was footing the bill for the project, stood beside him and said, as he pointed with a rigid, stabbing finger:

"There he is. That's the man." Hammer peered. "You mean Kane?"

"The fellow in the green overalls, holding a wrench."

"That's Kane. Now what is this you've got against him?"

"I want to know what he does. The man's an idiot." Lengyel had a round, plump face and his jowls quivered a bit.

Hammer turned to look at the other, his spare body assuming an air of displeasure along every inch. "Have you been bothering him?"

"Bothering him? I've been talking to him. It's my job to talk to the men, to get their viewpoints, to get information out of which I can build campaigns for improved morale."

"How does Kane disturb that?"

"He's insolent. I asked him how it felt to be working on a ship that would reach the moon. I talked a little about the ship being a pathway to the stars. Perhaps I made a little speech about it, built it up a bit, when he turned away in the rudest possible manner. I called him back and said, 'Where are you going?' And he said, 'I get tired of that kind of talk. I'm going out to look at the stars.'"

Hammer nodded. "All right. Kane likes to look at the stars."

"It was daytime. The man's an idiot. I've been watching him since and he doesn't do any work."

"I know that."

"Then why is he kept on?"

Hammer said with a sudden, tight fierceness, "Because I want him around. Because he's my luck."

"You luck?" faltered Lengyel. "What the hell does that mean?"

"It means that when he's around I think better. When he passes me, holding his damned wrench, I get ideas. It's happened three times. I don't explain it; I'm not interested in explaining it. It's happened. He stays."

"You're joking."

"No, I'm not. Now leave me alone."

Kane stood there in his green overalls, holding his wrench.

Dimly he was aware that the ship was almost ready. It was not designed to carry a man, but there was space for a man. He knew that the way he knew a lot of things; like keeping out of the way of most people most of the time; like carrying a wrench until people grew used to him carrying a wrench and stopped noticing it. Protective coloration consisted of little things, really-like carrying the wrench.

He was full of drives he did not fully understand, like looking at the stars. At first, many years back, he had just looked at the stars with a vague ache. Then, slowly, his attention had centered itself on a certain region of the sky, then to a certain pinpointed spot. He didn't know why that certain spot. There were no stars in that spot. There was nothing to see.

That spot was high in the night sky in the late spring and in the summer months and he sometimes spent most of the night watching the spot until it sank toward the southwestern horizon. At other times in the year he would stare at the spot during the day.

There was some thought in connection with that spot which he couldn't quite crystallize. It had grown stronger, come nearer to the surface as the years passed, and it was almost bursting for expression now. But still it had not quite come clear.

Kane shifted restlessly and approached the ship. It was almost complete, almost whole. Everything fitted just so. Almost.

For within it, far forward, was a hole a little larger than a man; and leading to that hole was a pathway a little wider than a man. Tomorrow that pathway would be filled with the last of the vitals, and before that was done the hole had to be filled, too. But not with anything they planned.

Kane moved still closer and no one paid any attention to him. They were used to him.

There was a metal ladder that had to be climbed and a catwalk that had to be moved along to enter the last opening. He knew where the opening was as exactly as if he had built the ship with his own hands. He climbed the ladder and moved along the catwalk. There was no one there at the mo-

He was wrong. One man.

That one said sharply, "What are you doing here?" Kane straightened and his vague eyes stared at the speaker. He lifted his wrench and brought it down on the speaker's head lightly. The man who was struck (and who had made no effort to ward off the blow) dropped, partly from the effect of the blow.

Kane let him lie there, without concern. The man would not remain unconscious for long, but long enough to allow Kane to wriggle into the hole. When the man revived he would recall nothing about Kane or about the fact of his own unconsciousness. There would simply be five minutes taken out of his life that he would never find and never miss.

It was dark in the hole and, of course, there was no ventilation, but Kane paid no attention to that. With the sureness of instinct, he clambered upward toward the hold that

would receive him, then lay there, panting, fitting the cavity neatly, as though it were a womb.

In two hours they would begin inserting the last of the vitals, close the passage, and leave Kane there, unknowingly. Kane would be the sole bit of flesh and blood in a thing of metal and ceramics and fuel.

Kane was not afraid of being prematurely discovered. No one in the project knew the hole was there. The design didn't call for it. The mechanics and construction men weren't aware of having put it in.

Kane had arranged that entirely by himself. He didn't know how he had arranged it but he knew he had. He could watch his own influence without knowing how it was exerted. Take the man Hammer, for instance, the leader of the project and the most clearly influenced. Of all the indistinct figures about Kane, he was the least indistinct. Kane would be very aware of him at times, when he passed near him in his slow and hazy journeys about the grounds. It was all that was necessary-passing near him.

Kane recalled it had been so before, particularly with theoreticians. When Lise Meitner decided to test for barium among the products of the neutron bombardment of uranium, Kane had been there, an unnoticed plodder along a corridor nearby.

He had been picking up leaves and trash in a park in 1904 when the young Einstein had passed by, pondering. Einstein's steps had quickened with the impact of sudden thought. Kane felt it like an electric shock.

But he didn't know how it was done. Does a spider know architectural theory when it begins to construct its first web?

It went further back. The day the young Newton had stared at the moon with the dawn of a certain thought, Kane had been there. And further back still.

The panorama of New Mexico, ordinarily deserted, was alive With human ants crawling about the metal shaft lancing upward. This one was different from all the similar structures that had preceded it.

This would go free of Earth more nearly than any other. It would reach out and circle the moon before falling back. It would be crammed with instruments that would photograph the moon and measure its heat emissions, probe for radioactivity, and test by microwave for chemical structure. It would, by automation, do almost everything that could be expected of a manned vehicle. And it would learn enough to make certain that the next ship sent out would be a manned vehicle.

Except that, in a way, this first one was a manned vehicle after all.

There were representatives of various governments, of various industries, of various social and economic groupings. There were television cameras and feature writers.

Those who could not be there watched in their homes and heard numbers counted backward in painstaking monotone in the manner grown traditional in a mere three decades.

At zero the reaction motors came to life and ponderously the ship lifted.

Kane heard the noise of the rushing gases, as though from a distance, and felt the gathering acceleration press against him.

He detached his mind, lifting it up and outward, freeing it from direct connection with his body in order that he might be unaware of the pain and discomfort.

Dizzily, he knew his long journey was nearly over. He would no longer have to maneuver carefully to avoid having people realize he was immortal. He would no longer have to fade into the background, no longer wander eternally from place to place, changing names and personality, manipulating minds.

It had not been perfect, of course. The myths of the Wandering Jew and the Flying Dutchman had arisen, but he was still here. He had not been disturbed.

He could see his spot in the sky. Through the mass and solidity of the ship he could see it. Or not "see" really. He didn't have the proper word.

He knew there was a proper word, though. He could not say how he knew a fraction of the things he knew, except that as the centuries had passed he had gradually grown to know them with a sureness that required no reason.

He had begun as an ovum (or as something for which "ovum" was the nearest word he knew), deposited on Earth before the first cities had been built by the wandering hunting creatures since called "men." Earth had been chosen carefully by his progenitor. Not every world would do.

What world would? What was the criterion? That he still didn't know.

Does an ichneumon wasp study ornithology before it finds the one species of spider that will do for her eggs, and stings it just so in order that it may remain alive?

The ovum spilt him forth at length and he took the shape of a man and lived among men and protected himself against men. And his one purpose was to arrange to have men travel along a path that would end with a ship and within the ship a hole and within the hole, himself.

It had taken eight thousand years of slow striving and stumbling.

The spot in the sky became sharper now as the ship moved out of the atmosphere. That was the key that opened his mind. That was the piece that completed the puzzle.

Stars blinked within that spot that could not be seen by a man's eye unaided. One in particular shone brilliantly and Kane yearned toward it. The expression that had been building within him for so long burst out now.

"Home," he whispered.

He knew? Does a salmon study cartography to find the headwaters of the fresh-water stream in which years before it had been born?

The final step was taken in the slow maturing that had taken eight thousand years, and Kane was no longer larval, but adult.

The adult Kane fled from the human flesh that had protected the larva, and fled the ship, too. It hastened onward, at inconceivable speeds, toward home, from which someday it, too, might set off on wanderings through space to fertilize some planet with its ovum.

It sped through Space, giving no thought to the ship carrying an empty chrysalis. It gave no thought to the fact that it had driven a whole world toward technology and space

travel in order only that the thing that had been Kane might mature and reach its fulfillment.

Does a bee care what has happened to a flower when the bee has done and gone its way?

AUTHOR'S COMMENT

Going through DOES A BEE CARE? makes me think of the many editors with whom I have dealt, and with the way in which they sometimes vanish into limbo.

There had been editors whom, for a period of time, I saw frequently, and with whom I felt quite close. Then, for one reason or another, they left their positions and vanished out of my ken. I haven't seen Horace Gold for many years, for instance-and I haven't seen James L. Quinn, who bought DOES A BEE CARE? and a few other stories of mine.

He had a southern accent, I remember, and was a delightful person-and now I don't know where he is or even if he is still alive.

The next story, SILLY ASSES, is one that I had better say very little about or the commentary will be longer than the story. I wrote it on July 29, 1957, and it was rejected by two different magazines before Bob Lowndes kindly made a home for it. It appeared in the February 1958 issue of Future.

SILLY ASSES

Naron of the long-lived Rigellian race was the fourth of his line to keep the galactic records.

He had the large book which contained the list of the numerous races throughout the galaxies that had developed intelligence, and the much smaller book that listed those races that had reached maturity and had qualified for the Galactic Federation. In the first book, a number of those listed were crossed out; those that, for one reason or another, had failed. Misfortune, biochemical or biophysical shortcomings, social maladjustment took their toll. In the smaller book, however, no member listed had yet blanked out.

And now Naron, large and incredibly ancient, looked up as a messenger approached.

"Naron," said the messenger. "Great One!"

"Well, well, what is it? Less ceremony."

"Another group of organisms has attained maturity."

"Excellent. Excellent. They are coming up quickly now. Scarcely a year passes without a new one. And who are these?"

The messenger gave the code number of the galaxy and the coordinates of the world within it.

"Ah, yes," said Naron. "I know the world." And in flowing script he noted it in the first book and transferred its name into the second, using, as was customary, the name by which the planet was known to the largest fraction of its populace. He wrote: Earth.

He said, "These new creatures have set a record. No other group has passed from intelligence to maturity so quickly. No mistake, I hope."

"None, sir," said the messenger. "They have attained to thermonuclear power, have they?"

"Yes. sir."

"Well, that's the criterion." Naron chuckled. "And soon their ships will probe out and contact the Federation."

"Actually, Great One," said the messenger, reluctantly, "the Observers tell us they have not yet penetrated space."

Naron was astonished. "Not at all? Not even a space station?"

"Not yet, sir."

"But if they have thermonuclear power, where then do they conduct their tests and detonations?"

"On their own planet, sir."

Naron rose to his full twenty feet of height and thundered, "On their own planet?"

"Yes, sir."

Slowly Naron drew out his stylus and passed a line through the latest addition in the smaller book. It was an unprecedented act, but, then, Naron was very wise and could see the inevitable as well as anyone in the galaxy.

"Silly asses," he muttered.

AUTHOR'S COMMENT

This is another story with a moral, I'm afraid. But, you see, the nuclear danger had escalated when both the United States and the Soviet Union developed the fusion H-bomb, and I was bitter again.

As 1957 ended another turning point was upon me. It came about in this wise:

When Walker, Boyd, and I wrote our textbook we all spent school time freely on it (though naturally much of the work overflowed into evenings and weekends). It was a scholarly endeavor and part of our job.

When I wrote THE CHEMICALS OF LIFE I felt that that, too, was a scholarly endeavor, and worked on it during school hours without any qualms. I worked on other books of the sort during school hours, too. (I must stress again that I never worked on science fiction during school hours). By the end of 1957 I had in this fashion written seven nonfiction books for the general public.

Meanwhile, though, James Faulkner, the sympathetic dean, and Burnham S. Walker, the sympathetic department head, had resigned their positions and there had come replacements who viewed me without sympathy.

Dean Faulkner's replacement did not approve of my activities, and he had a point, I suppose. In my eagerness to write nonfiction I had completely abandoned research, and he thought it was research on which the school's reputation depended. To an extent that is true, but it is not always true, and in my case it wasn't.

We had a conference and I presented my view in a frank and straightforward manner, as my unworldly father had always taught me to do.

"Sir," I said, "as a writer I am outstanding and my work will reflect luster on the school. As a researcher, however, I am merely competent, and if there is one thing Boston University School of Medicine does not need, it is another merely competent researcher."

I suppose [sic] I might have been more diplomatic, for that seemed to end the discussion. I was taken off the payroll and the spring semester of 1958 was the last in which I taught regular classes, after nine years at that game.

It didn't bother me very much. Concerning the school salary I cared nothing. Even after two pay raises it only came to sixty-five hundred dollars a year, and my writing earned me considerably more than that already.

Nor did I worry about losing the chance to do research; I had abandoned that already. As for teaching, my nonfiction books (and even my science fiction) were forms of teaching that satisfied me with their great variety far more than teaching a limited subject matter could. I didn't even fear missing the personal interaction of lecturing, since from

1950 onward I had been establishing myself as a professional lecturer and was beginning to earn respectable fees in that manner.

However, it was the new dean's intention to deprive me of my title, too, and kick me out of the school altogether. That I would not allow. I maintained that I had earned tenure, for I had become an associate professor in 1955, and could not be deprived of the title without cause. The fight went on for two years and I won. I retained the title, and I still retain the title right now. I am still associate professor of biochemistry at Boston University School of Medicine.

What's more, the school is now happy about it. My adversary retired at last and has since died. (He wasn't really a bad fellow; we just didn't see eye to eye.) And lest I give a false impression, let me state emphatically that, except for that one period involving just one or two people, the school, and everyone in it, has always treated me with perfect kindness.

I still do not teach and am not on the payroll, but that is my own choice. I have been asked to come back in one way or another a number of times, but have explained why I cannot. I do give lectures at school when requested, and on May 19, 1974, I gave the commencement address at the medical school-so all is well, you see.

Nevertheless, when I found I had time on my hands, with no classes to take care of and no commuting to do, I found that my impulse was to put that extra time into nonfiction, with which I had fallen completely and helplessly and hopelessly in love.

Remember, too, that on October 4, 1957, Sputnik I had gone into orbit, and in the excitement that followed I grew very fervent concerning the importance of writing science for the layman. What's more, the publishers were now fiercely interested in it as well, and in no time at all I found I had been hounded into so many projects that it became difficult and even impossible to find time to work on major science fiction projects, and, alas, it has continued so to the present day.

Mind you, I didn't quit science fiction altogether. No year has passed that hasn't seen me write something, even if only a couple of short pieces. On January 14, 1958, as I was getting ready to start my last semester and before the full impact of my decision had struck home, I wrote the following story for Bob Mills and his (alas) short-lived Venture. It appeared in the May 1958 issue.

BUY JUPITER

He was a simulacron, of course, but so cleverly contrived that the human beings dealing with him had long since given up thinking of the real energy-entities, waiting in white-hot blaze in their field-enclosure "ship" miles from Earth.

The simulacron, with a majestic golden beard and deep brown, wide-set eyes, said gently, "We understand your hesitations and suspicions, and we can only continue to assure you we mean you no harm. We have, I think, presented you with proof that we inhabit the coronal haloes of O-spectra stars; that your own sun is too weak for us; while your planets are of solid matter and therefore completely and eternally alien to us."

The Terrestrial Negotiator (who was Secretary of Science and, by common consent, had been placed in charge of negotiations with the aliens) said, "But you have admitted we are now on one of your chief trade routes."

"Now that our new world of Kimmonoshek has developed new fields of protonic fluid, yes."

The Secretary said, "Well, here on Earth, positions on trade routes can gain military importance out of proportion to their intrinsic value. I can only repeat, then, that to gain our confidence you must tell us exactly why you need Jupiter."

And as always, when that question or a form of it was asked, the simulacron looked pained. "Secrecy is important. If the Lamberj people--"

"Exactly," said the Secretary. "To us it sounds like war. You and what you call the Lamberj people--"

The simulacron said hurriedly, "But we are offering you a most generous return. You have only colonized the inner planets of your system and we are not interested in those. We ask for the world you call Jupiter, which, I understand, your people can never expect to live on, or even land on. Its size" (he laughed indulgently) "is too much for you."

The Secretary, who disliked the air of condescension, said stiffly, "The Jovian satellites are practical sites for colonization, however, and we intend to colonize them shortly."

"But the satellites will not be disturbed in any way. They are yours in every sense of the word. We ask only Jupiter itself, a completely useless world to you, and for that the return we offer is generous. Surely you realize that we could take your Jupiter, if we wished, without your permission. It is only that we prefer payment and a legal treaty. It will prevent disputes in the future. As you see, I'm being completely frank."

The Secretary said stubbornly, "Why do you need Jupiter?"

"The Lamberj--"

"Are you at war with the Lamberj?"

"It's not quite--"

"Because you see that if it is war and you establish some sort of fortified base on Jupiter, the Lamberj may, quite properly, resent that, and retaliate against us for granting you permission. We cannot allow ourselves to be involved in such a situation."

"Nor would I ask you to be involved. My word that no harm would come to you. Surely" (he kept coming back to it) "the return is generous. Enough power boxes each year to supply your world with a full year of power requirement."

The Secretary said, "On the understanding that future increases in power consumption will be met."

"Up to a figure five times the present total. Yes."

"Well, then, as I have said, I am a high official of the government and have been given considerable powers to deal with you-but not infinite power. I, myself, am inclined to trust you, but I could not accept your terms without understanding exactly why you want Jupiter. If the explanation is plausible and convincing, I could perhaps persuade our government and, through them, our people, to make the agreement. If I tried to make an agreement without such an explanation, I would simply be forced out of office and Earth would refuse to honor the agreement. You could then, as you say, take Jupiter by force, but you would be in illegal possession and you have said you don't wish that."

The simulacron clicked its tongue impatiently. "I cannot continue forever in this petty bickering. The Lamberj-" Again he stopped, then said, "Have I your word of honor that this is all not a device inspired by the Lamberj people to delay us until-"

"My word of honor," said the Secretary.

The Secretary of Science emerged, mopping his forehead and looking ten years younger. He said softly, "I told him his people could have it as soon as I obtained the President's formal approval. I don't think he'll object, or Congress, either. Good Lord, gentlemen, think of it; free power at our fingertips in return for a planet we could never use in any case."

The Secretary of Defense, growing purplish with objection, said, "But we had agreed that only a Mizzarett-Lamberj war could explain their need for Jupiter. Under those circumstances, and comparing their military potential with ours, a strict neutrality is essential."

"But there is no war, sir," said the Secretary of Science. "The simulacron presented an alternate explanation of their need for Jupiter so rational and plausible that I accepted at once. I think the President will agree with me, and you gentlemen, too, when you understand. In fact, I have here their plans for the new Jupiter, as it will soon appear."

The others rose from their seats, clamoring. "A new Jupiter?" gasped the Secretary of Defense.

"Not so different from the old, gentlemen," said the Secretary of Science. "Here are the sketches provided in form suitable for observation by matter beings such as ourselves."

He laid them down. The familiar banded planet was there before them on one of the sketches: yellow, pale green, and light brown with curled white streaks here and there

and all against the speckled velvet background of space. But across the bands were streaks of blackness as velvet as the background, arranged in a curious pattern.

"That," said the Secretary of Science, "is the day side of the planet. The night side is shown in this sketch." (There, Jupiter was a thin crescent enclosing darkness, and within that darkness were the same thin streaks arranged in similar pattern, but in a phosphorescent glowing orange this time.)

"The marks," said the Secretary of Science, "are a purely optical phenomenon, I am told, which will not rotate with the planet, but will remain static in its atmospheric fringe."

"But what is it?" asked the Secretary of Commerce. "You see," said the Secretary of Science, "our solar system is now on one of their major trade routes. As many as seven of their ships pass within a few hundred million miles of the system in a single day, and each ship has the major planets under telescopic observation as they pass. Tourist curiosity, you know. Solid planets of any size are a marvel to them."

"What has that to do with these marks?"

"That is one form of their writing. Translated, those marks read: 'Use Mizzarett Ergone Vertices For Health and Glowing Heat.'"

"You mean Jupiter is to be an advertising billboard?" exploded the Secretary of Defense.

"Right. The Lamberj people, it seems, produce a competing ergone tablet, which accounts for the Mizzarett anxiety to establish full legal ownership of Jupiter-in case of Lamberj lawsuits. Fortunately, the Mizzarett are novices at the advertising game, it appears."

"Why do you say that?" asked the Secretary of the Interior.

"Why, they neglected to set up a series of options on the other planets. The Jupiter billboard will be advertising our system, as well as their own project. And when the competing Lamberj people come storming in to check on the Mizzarett title to Jupiter, we will have Saturn to sell to them. With its rings. As we will be easily able to explain to them, the rings will make Saturn much the better spectacle."

"And therefore," said the Secretary of the Treasury, suddenly beaming, "worth a much better price."

And they all suddenly looked very cheerful.

AUTHOR'S COMMENT

BUY JUPITER was not my original title for the story. I am usually indignant when an editor changes the title I have given a story, and change it back when it appears in one of my own collections and then mutter about it in the commentary. -But not this time.

I called the story *It Pays*, an utterly undistinguished title. Bob Mills, without even consulting me, quietly changed it to BUY JUPITER and I fell in love with that as soon as the change came to my attention. To a punster like myself, it is the perfect title for the

story-so perfect that I have given it to this entire collection, which, as you know, is BUY JUPITER AND OTHER STORIES.

Bob Mills gets the credit.

During those early years in which, with a certain amount of uneasy horror, I was watching my science fiction writing begin to fall off, I would occasionally get into a state of blue funk.

Could it be that I could no longer write science fiction at all? Suppose I wanted to write science fiction-could I?

I was driving down to Marshfield, Massachusetts, on July 23, 1958, to begin a three-week vacation which I dreaded (I dread all vacations) .I deliberately set about thinking up a plot to keep my mind off that vacation and to see if I could. A STATUE FOR FATHER was the result. I sold it to a new magazine, Satellite Science Fiction, and it appeared in the February 1959 issue.

A STATUE FOR FATHER

First time? Really? But of course you have heard of it. Yes, I was sure you had.

If you're really interested in the discovery, believe me, I'll be delighted to tell you. It's a story I've always liked to tell, but not many people give me the chance. I've even been advised to keep the story under wraps. It interferes with the legends growing up about my father.

Still, I think the truth is valuable. There's a moral to it. A man can spend his life devoting his energies solely to the satisfaction of his own curiosity and then, quite accidentally, without ever intending anything of the sort, find himself a benefactor of humanity.

Dad was just a theoretical physicist, devoted to the investigation of time travel. I don't think he ever gave a thought to what time travel might mean to Homo sapiens. He was just curious about the mathematical relationships that governed the universe, you see.

Hungry? All the better. I imagine it will take nearly half an hour. They will do it properly for an official such as yourself. It's a matter of pride.

To begin with, Dad was poor as only a university professor can be poor. Eventually, though, he became wealthy. In the last years before his death he was fabulously rich, and as for myself and my children and grandchildren-well, you can see for yourself.

They've put up statues to him, too. The oldest is on the hillside right here where the discovery was made. You can just see it out the window. Yes. Can you make out the inscription? Well, we're standing at a bad angle. No matter.

By the time Dad got into time-travel research the whole problem had been given up by most physicists as a bad job. It had begun with a splash when the Chrono-funnels were first set up.

Actually, they're not much to see. They're completely irrational and uncontrollable. What you see is distorted and wavery, two feet across at the most, and it vanishes quickly. Trying to focus on the past is like trying to focus on a feather caught in a hurricane that has gone mad.

They tried poking grapples into the past but that was just as unpredictable. Sometimes it was carried off successfully for a few seconds with one man leaning hard against the grapple. But more often a pile driver couldn't push it through. Nothing was ever obtained out of the past until-Well, I'll get to that.

After fifty years of no progress, physicists just lost interest. The operational technique seemed a complete blind alley; a dead end. I can't honestly say I blame them as I look back on it. Some of them even tried to show that the funnels didn't actually expose the past, but there had been too many sightings of living animals through the funnels-animals now extinct.

Anyway, when time travel was almost forgotten, Dad stepped in. He talked the government into giving him a grant to set up a Chrono-funnel of his own, and tackled the matter all over again.

I helped him in those days. I was fresh out of college, with my own doctorate in physics.

However, our combined efforts ran into bad trouble after a year or so. Dad had difficulty in getting his grant renewed. Industry wasn't interested and the university decided he was besmirching their reputation by being so single-minded in investigating a dead field. The dean of the graduate school, who understood only the financial end of scholarship, began by hinting that he switch to more lucrative fields and ended by forcing him out.

Of course, the dean-still alive and still counting grant-dollars when Dad died-probably felt quite foolish, I imagine, when Dad left the school a million dollars free and clear in his will, with a codicil canceling the bequest on the ground that the dean lacked vision. But that was merely posthumous revenge. For years before that I don't wish to dictate, but please don't have any more of the breadsticks. The clear soup, eaten slowly to prevent a too-sharp appetite, will do.

Anyway, we managed somehow. Dad kept the equipment we had bought with the grant money, moved it out of the university and set it up here.

Those first years on our own were brutal, and I kept urging him to give up. He never would. He was indomitable, always managing to find a thousand dollars somewhere when we needed it.

Life went on, but he allowed nothing to interfere with his research. Mother died; Dad mourned and returned to his task. I married, had a son, then a daughter, couldn't always be at his side. He carried on without me. He broke his leg and worked with the cast impeding him for months.

So I give him an the credit. I helped, of course. I did consulting work on the side and carried on negotiation with Washington. But he was the life and soul of the project.

Despite an that, we weren't getting anywhere. An the money we managed to scrounge might just as well have been poured into one of the Chrono-funnels-not that it would have passed through.

After an, we never once managed to get a grapple through a funnel. We came near on only one occasion. We had the grapple about two inches out the other end when focus changed. It snapped off clean and somewhere in the Mesozoic there is a man-made piece of steel rod rusting on a riverbank.

Then one day, the crucial day, the focus held for ten long minutes-something for which the odds were less than one in a trillion. Lord, the frenzies of excitement we experienced as we set up the cameras. We could see living creatures just the other side of the funnel, moving energetically.

Then, to top it off, the Chrono-funnel grew permeable, until you might have sworn there was nothing but air between the past and ourselves. The low permeability must

have been connected with the long holding of focus, but we've never been able to prove that it did.

Of course, we had no grapple handy, wouldn't you know. But the low permeability was clear enough because something just fen through, moving from the Then into the Now. Thunderstruck, acting simply on blind instinct, I reached forward and caught it.

At that moment we lost focus, but it no longer left us embittered and despairing. We were both staring in wild surmise at what I held. It was a mass of caked and dried mud, shaved off clean where it had struck the borders of the Chrono-funnel, and on the mud cake were fourteen eggs about the size of duck eggs.

I said, "Dinosaur eggs? Do you suppose they really are?"

Dad said, "Maybe. We can't tell for sure."

"Unless we hatch them," I said in sudden, almost uncontrollable excitement. I put them down as though they were platinum. They felt warm with the heat of the primeval sun. I said, "Dad, if we hatch them, we'll have creatures that have been extinct for over a hundred million years. It will be the first case of something actually brought out of the past. If we announce this-

I was thinking of the grants we could get, of the publicity, of all that it would mean to Dad. I was seeing the look of consternation on the dean's face.

But Dad took a different view of the matter. He said firmly. "Not a word, son. If this gets out, we'll have twenty research teams on the trail of the Chrono-funnels, cutting off my advance. No, once I've solved the riddle of the funnels, you can make all the announcements you want. Until then-we keep silent. Son, don't look like that. I'll have the answer in a year. I'm sure of it.

I was a little less confident, but those eggs, I felt convinced, would arm us with all the proof we'd need. I set up a large oven at bloodheat; I circulated air and moisture. I rigged up an alarm that would sound at the first signs of motion within the eggs.

They hatched at 3 A.M. nineteen days later, and there they were-fourteen wee kangaroos with greenish scales, clawed hindlegs, plump little thighs, and thin, whiplash tails.

I thought at first they were tyrannosauri, but they were too small for that species of dinosaur. Months passed, and I could see they weren't going to grow any larger than moderate-sized dogs.

Dad seemed disappointed, but I held on, hoping he would let me use them for publicity. One died before maturity and one was killed in a scuffle. But the other twelve survived-five males and seven females. I fed them on chopped carrots, boiled eggs, and milk, and grew quite fond of them. They were fearfully stupid and yet gentle. And they were truly beautiful. Their scales, oh, well, it's silly to describe them. Those original publicity pictures have made their rounds. Though, come to think of it, I don't know about Mars-Oh, there, too. Well, good.

But it took a long time for the pictures to make an impression on the public, let alone a sight of the creatures in the flesh. Dad remained intransigent. A year passed, two,

and finally three. We had no luck whatsoever with the Chrono-funnels. The one break was not repeated, and still Dad would not give in.

Five of our females laid eggs and soon I had over fifty of the creatures on my hands.

"What shall we do with them?" I demanded. "Kill them off," he said.

Well, I couldn't do that, of course. Henri, is it almost ready? Good.

We had reached the end of our resources when it happened. No more money was available. I had tried everywhere, and met with consistent rebuffs. I was even glad because it seemed to me that Dad would have to give in now. But with a chin that was firm and indomitably set, he coolly set up another experiment.

I swear to you that if the accident had not happened the truth would have eluded us forever. Humanity would have been deprived of one of its greatest boons.

It happens that way sometimes. Perkin spots a purple tinge in his gunk and comes up with aniline dyes. Remsen puts a contaminated finger to his lips and discovers saccharin. Goodyear drops a mixture on the stove and finds the secret of vulcanization.

With us, it was a half-grown dinosaur wandering into the main research lab. They had become so numerous I hadn't been able to keep track of them.

The dinosaur stepped right across two contact points which happened to be open just at the point where the plaque immortalizing the event is now located. I'm convinced that such a happenstance couldn't occur again in a thousand years. There was a blinding flash, a blistering short circuit, and the Chrono-funnel which had just been set up vanished in a rainbow of sparks.

Even at the moment, really, we didn't know exactly what we had. All we knew was that the creature had short-circuited and perhaps destroyed two hundred thousand dollars worth of equipment and that we were completely ruined financially. All we had to show for it was one thoroughly roasted dinosaur. We were slightly scorched ourselves, but the dinosaur got the full concentration of field energies. We could smell it. The air was saturated with its aroma. Dad and I looked at each other in amazement. I picked it up gingerly in a pair of tongs. It was black and charred on the outside, but the burnt scales crumbled away at a touch, carrying the skin with it. Under the char was white, firm flesh that resembled chicken.

I couldn't resist tasting it, and it resembled chicken about the way Jupiter resembles an asteroid.

Believe me or not, with our scientific work reduced to rubble about us, we sat there in seventh heaven and devoured dinosaur. Parts were burnt, parts were nearly raw. It hadn't been dressed. But we didn't stop until we had picked the bones clean.

Finally I said, "Dad, we've got to raise them gloriously and systematically for food purposes."

Dad had to agree. We were completely broke.

I got a loan from the bank by inviting the president to dinner and feeding him dinosaur.

It has never failed to work. No one who has once tasted what we now call "dinachicken" can rest content with ordinary fare. A meal without dinachicken is a meal we choke down to keep body and soul together. Only dinachicken is food.

Our family still owns the only herd of dinachickens in existence and we are the only suppliers for the worldwide chain of restaurants-this is the first and oldest-which has grown up about it.

Poor Dad! He was never happy, except for those unique moments when he was actually eating dinachicken. He continued working on the Chrono-funnels and so did twenty other research teams which, as he had predicted would happen, jumped in. Nothing ever came of any of it, though, to this day. Nothing except dinachicken.

Ah, Pierre, thank you. A superlative job. Now, sir, if you will allow me to carve. No salt, now, and just a trace of the sauce. That's right. . . .Ah, that is precisely the expression I always see on the face of a man who experiences his first taste of the delight.

A grateful humanity contributed fifty thousand dollars to have the statue on the hillside put up, but even that tribute failed to make Dad happy.

All he could see was the inscription: The Man Who Gave Dinachicken to the World.

You see, to his dying day, he wanted only one thing, to find the secret of time travel. For all that he was a benefactor of humanity, he died with his curiosity unsatisfied.

AUTHOR'S COMMENT

My original title had been Benefactor of Humanity, which I thought carried a fine flavor of irony, and I chafed when Leo Margulies of Satellite changed that title. When The Saturday Evening Post asked permission to reprint the story (and it appeared in the March-April 1973 issue of that magazine) I made it a condition that they restore the original title. But then, when I saw my own title in print, I thought about it and decided that Leo's title was better. So it appears here as A STATUE FOR FATHER again.

Bob Mills, by the way, whom I mentioned in connection with BUY JUPITER, was a very close friend of mine when he was working with F & SF and with Venture. He is not one of those with whom I have lost contact, either. He has sold his soul to the devil and is now an agent, but we see each other now and then and are as friendly as ever.

It was Bob who contributed to my switch to nonfiction, too. Since I hated writing research pieces, I began, in 1953, to write imaginative pieces on chemistry for the Journal of Chemical Education. I had done about half a dozen before it occurred to me that I was getting nothing for them and was not reaching my audience.

I began writing nonfiction articles for the science fiction magazines, therefore; articles that gave me far more scope and far more variety than any scholarly journal could. The first of these was Hemoglobin and the Universe, which appeared in the February 1955 Astounding.

In September 1957, however, Bob Mills called me up and asked if I would do a regular science article for Venture. I agreed with alacrity and the first of these, Fecundity Limited, appeared in the January 1958 Venture. Alas, Venture lasted only a very few more issues before folding, but I was then asked to do the same column for F & SF. The first of these was Dust of Ages, which appeared in the November 1958 issue of that magazine.

The F & SF series lasted and flourished. The request had been for a fifteen-hundred-word column at first and that was the length of all those in Venture and the first in F & SF. The request came quickly to raise the wordage to four thousand and, beginning with Catching Up With Newton, in the December 1958 issue of F & SF, they were the longer length.

The F & SF series has been amazingly successful. My two hundredth article in the series appeared in the June 1975 issue of F & SF. So far I have not missed an issue, and it may be the longest series of items by one author (other than the editor) ever to have appeared in a science fiction magazine. These articles are periodically collected by Doubleday into books of essays, of which at this time of writing there have been eleven.

Most important of all, though, is the fun I get out of these monthly articles. To this day I get more pleasure out of them than out of any other Writing assignment I get. I am constantly anywhere from one to two months ahead of deadline, because I can't wait, but the editors don't seem to mind.

In a way it was Bob Mills who helped establish my present article-writing style, one of intense informality that has managed to leak across into my fiction collections too (as this book bears witness). While I wrote that column for him he constantly referred to me as "the God Doctor," while I called him "the Kindly Editor," and we had fun kidding each other in the footnotes till he resigned his post. (No, that was not cause-and-effect.)

Anyway, the articles helped confirm me in my nonfiction and made it even harder to get to fiction. Bob, you must understand, did not approve of my not writing fiction. Sometimes he suggested plots for stories in an attempt to lure me into writing, and sometimes I liked his suggestions. For instance, one of his suggestions ended as UNTO THE FOURTH GENERATION, which appeared in the April 1959 issue of F & SF and was then included in NIGHTFALL AND OTHER STORIES. That story is one of my personal favorites.

I thought he had suggested another winner when I wrote up one of his ideas in RAIN, RAIN, GO AWAY. I wrote it on November 1, 1958, submitted to him on November 2, and had it rejected on November 3. Kindly Editor, indeed!

Eventually I found a home for it, though, and it appeared in the September 1959 issue of Fantastic Universe Science Fiction.

RAIN, RAIN, GO AWAY

"There she is again," said Lillian Wright as she adjusted the venetian blinds carefully. "There she is, George."

"There who is?" asked her husband, trying to get satisfactory contrast on the TV so that he might settle down to the ball game.

"Mrs. Sakkaro," she said, and then, to forestall her husband's inevitable "Who's that?" added hastily, "The new neighbors, for goodness sake."

"Oh."

"Sunbathing. Always sunbathing. I wonder where her boy is. He's usually out on a nice day like this, standing in that tremendous yard of theirs and throwing the ball against the house. Did you ever see him, George?"

"I've heard him. It's a version of the Chinese water torture. Bang on the wall, bill on the ground, smack in the hand. Bang, bill, smack, bang, bill-"

"He's a nice boy, quiet and well-behaved. I wish Tommie would make friends with him. He's the right age, too, just about ten, I should say."

"I didn't know Tommie was backward about making friends."

"Well, it's hard with the Sakkaros, They keep so to themselves. I don't even know what Mr. Sakkaro does."

"Why should you? It's not really anyone's business what he does."

"It's odd that I never see him go to work."

"No one ever sees me go to work."

"You stay home and write. What does he do."

"I dare say Mrs. Sakkaro knows what Mr. Sakkaro does and is all upset because she doesn't know' what I do,"

"Oh, George." Lillian retreated from the window and glanced with distaste at the television. (Schoendienst was at bat.) "I think we should make an effort; the neighborhood should."

"What kind of an effort?" George was comfortable on the couch now, with a king-size Coke in his hand, freshly opened and frosted with moisture.

"To get to know them."

"Well, didn't you, when she first moved in? You said you called."

"I said hello but, well, she'd just moved in and the house was still upset, so that's all it could be, just hello. It's been two months now and it's still nothing more than hello, sometimes. -She's so odd."

"Is she?"

"She's always looking at the sky; I've seen her do it a hundred times and she's never been out when it's the least bit cloudy. Once, when the boy was out playing, she called to him to come in, shouting that it was going to rain. I happened to hear her and I

thought, Good Lord, wouldn't you know and me with a wash on the line, so I hurried out and, you know, it was broad sunlight. Oh, there were some clouds, but nothing, really."

"Did it rain, eventually?"

"Of course not. I just had to run out in the yard for nothing."

George was lost amid a couple of base hits and a most embarrassing bobble that meant a run. When the excitement was over and the pitcher was trying to regain his composure, George called out after Lillian, who was vanishing into the kitchen, "Well, since they're from Arizona, I dare say they don't know rainclouds from any other kind."

Lillian came back into the living room with a patter of high heels. "From where?"

"From Arizona, according to Tommie."

"How did Tommie know?"

"He talked to their boy, in between ball chucks, I guess, and he told Tommie they came from Arizona and then the boy was called in. At least, Tommie says it might have been Arizona, or maybe Alabama or some place like that. You know Tommie and his nontotal recall. But if they're that nervous about the weather, I guess it's Arizona and they don't know what to make of a good rainy climate like ours."

"But why didn't you ever tell me?"

"Because Tommie only told me this morning and because I thought he must have told you already and, to tell the absolute truth, because I thought you could just manage to drag out a normal existence even if you never found out. Wow-"

The ball went sailing into the right field stands and that was that for the pitcher.

Lillian went back to the venetian blinds and said, "I'll simply just have to make her acquaintance. She looks very nice. -Oh, Lord, look at that, George."

George was looking at nothing but the TV.

Lillian said, "I know she's staring at that cloud. And now she'll be going in. Honestly."

George was out two days later on a reference search in the library and came home with a load of books. Lillian greeted him jubilantly.

She said, "Now, you're not doing anything tomorrow."

"That sounds like a statement, not a question."

"It is a statement. We're going out With the Sakkaros to Murphy's Park."

"With-"

"With the next-door neighbors, George. Haw can you never remember the name?"

"I'm gifted. How did it happen?"

"I just went up to their house this morning and rang the bell."

"That easy?"

"It wasn't easy. It was hard. I stood there, jittering, with my finger on the doorbell, till I thought that ringing the bell would be easier than having the door open and being caught standing there like a fool."

"And she didn't kick you out?"

"No. She was sweet as she could be. Invited me in, knew who I was, said she was so glad I had come to visit. Yau know."

"And you suggested we go to Murphy's Park."

"Yes. I thought if I suggested something that would let the children have fun, it would be easier for her to go along with it. She wouldn't want to spoil a chance for her boy."

"A mother's psychology."

"But you should see her home."

"Ah. You had a reason for all this. It comes out. You wanted the Cook's tour. But, please, spare me the color scheme details. I'm not interested in the bedspreads, and the size of the closets is a topic with which I can dispense."

It was the secret of their happy marriage that Lillian paid no attention to George. She went into the color scheme details, was most meticulous about the bedspreads, and gave him an inch-by-inch description of closet-size.

"And clean? I have never seen any place so spotless."

"If you get to know her, then, she'll be setting you impossible standards and you'll have to drop her in self-defense."

"Her kitchen," said Lillian, ignoring him, "was so spanking clean you just couldn't believe she ever used it. I asked for a drink of water and she held the glass underneath the tap and poured slowly so that not one drop fell in the sink itself. It wasn't affectation. She did it so casually that I just knew she always did it that way. And when she gave me the glass she held it with a clean napkin. Just hospital-sanitary."

"She must be a lot of trouble to herself. Did she agree to come with us right off?"

"Well-not right off. She called to her husband about what the weather forecast was, and he said that the newspapers all said it would be fair tomorrow but that he was waiting for the latest report on the radio."

"All the newspapers said so, eh?"

"Of course, they all just print the official weather forecast, so they would all agree. But I think they do subscribe to all the newspapers. At least I've watched the bundle the newsboy leaves-"

"There isn't much you miss, is there?"

"Anyway," said Lillian severely, "she called up the weather bureau and had them tell her the latest and she called it out to her husband and they said they'd go, except they said they'd phone us if there were any unexpected changes in the weather."

"All right. Then we'll go."

The Sakkaros were young and pleasant, dark and handsome. In fact, as they came down the long walk from their home to where the Wright automobile was parked, George leaned toward his wife and breathed into her ear, "So he's the reason."

"I wish he were," said Lillian. "Is that a handbag he's carrying?"

"Pocket-radio. To listen to weather forecasts, I bet." The Sakkaros came running after them, waving, something which turned out to be an aneroid barometer, and all three got into the back seat. Conversation was turned on and lasted, with neat give-and-take on impersonal subjects, to Murphy's Park.

The Sakkaro boy was so polite and reasonable that even Tommie Wright, wedged between his parents in the front seat, was subdued by example into a semblance of civilization. Lillian couldn't recall when she had spent so serenely pleasant a drive.

She was not the least disturbed by the fact that, barely to be heard under the flow of the conversation, Mr. Sakkaro's small radio was on, and she never actually saw him put it occasionally to his ear.

It was a beautiful day at Murphy's Park; hot and dry without being too hot; and with a cheerfully bright sun in a blue, blue sky. Even Mr. Sakkaro, though he inspected every quarter of the heavens with a careful eye and then stared piercingly at the barometer, seemed to have no fault to find.

Lillian ushered the two boys to the amusement section and bought enough tickets to allow one ride for each on every variety of centrifugal thrill that the park offered.

"Please," she had said to a protesting Mrs. Sakkaro, "let this be my treat. I'll let you have your turn next time."

When she returned, George was alone. "Where-" she began.

"Just down there at the refreshment stand. I told them I'd wait here for you and we would join them." He sounded gloomy.

"Anything wrong?"

"No, not really, except that I think he must be independently wealthy."

"What?"

"I don't know what he does for a living. I hinted-"

"Now who's curious?"

"I was doing it for you. He said he's just a student of human nature."

"How philosophical. That would explain all those newspapers."

"Yes, but with a handsome, wealthy man next door, it looks as though I'll have impossible standards set for me, too."

"Don't be silly."

"And he doesn't come from Arizona."

"He doesn't?"

"I said I heard he was from Arizona. He looked so surprised, it was obvious he didn't. Then he laughed and asked if he had an Arizona accent."

Lillian said thoughtfully, "He has some kind of accent, you know. There are lots of Spanish-ancestry people in the Southwest, so he could still be from Arizona. Sakkaro could be a Spanish name."

"Sounds Japanese to me. -Come on, they're waving. Oh, good Lord, look what they've bought."

The Sakkaros were each holding three sticks of cotton candy, huge swirls of pink foam consisting of threads of sugar dried out of frothy syrup that had been whipped about in a warm vessel. It melted sweetly in the mouth and left one feeling sticky.

The Sakkaros held one out to each Wright, and out of politeness the Wrights accepted.

They went down the midway, tried their hand at darts, at the kind of poker game where balls were rolled into holes, at knocking wooden cylinders off pedestals. They took pictures of themselves and recorded their voices and tested the strength of their handgrips.

Eventually they collected the youngsters, who had been reduced to a satisfactorily breathless state of roiled-up insides, and the Sakkaros ushered theirs off instantly to the refreshment stand. Tommie hinted the extent of his pleasure at the possible purchase of a hot-dog and George tossed him a quarter. He ran off, too.

"Frankly," said George, "I prefer to stay here. If I see them biting away at another cotton candy stick I'll turn green and sicken on the spot. If they haven't had a dozen apiece, I'll eat a dozen myself."

"I know, and they're buying a handful for the child now."

"I offered to stand Sakkaro a hamburger and he just looked grim and shook his head. Not that a hamburger's much, but after enough cotton candy, it ought to be a feast."

"I know. I offered her an orange drink and the way she jumped when she said no, you'd think I'd thrown it in her face. -Still, I suppose they've never been to a place like this before and they'll need time to adjust to the novelty. They'll fill up on cotton candy and then never eat it again for ten years."

"Well, maybe." They strolled toward the Sakkaros. "You know, Lil, it's clouding up."

Mr. Sakkaro had the radio to his ear and was looking anxiously toward the west.

"Uh-oh," said George, "he's seen it. One gets you fifty, he'll want to go home."

All three Sakkaros were upon him, polite but insistent. They were sorry, they had had a wonderful time, a marvelous time, the Wrights would have to be their guests as soon as it could be managed, but now, really, they had to go home. It looked stormy. Mrs. Sakkaro wailed that all the forecasts had been for fair weather.

George tried to console them. "It's hard to predict a local thunderstorm, but even if it were to come, and it mightn't, it wouldn't last more than half an hour on the outside."

At which comment, the Sakkaro youngster seemed on the verge of tears, and Mrs. Sakkaro's hand, holding a handkerchief, trembled visibly.

"Let's go home," said George in resignation.

The drive back seemed to stretch interminably. There was no conversation to speak of. Mr. Sakkaro's radio was quite loud now as he switched from station to station, catching a weather report every time. They were mentioning "local thundershowers" now.

The Sakkaro youngster piped up that the barometer was falling, and Mrs. Sakkaro, chin in the palm of her hand, stared dolefully at the sky and asked if George could not drive faster, please.

"It does look rather threatening, doesn't it?" said Lillian in a polite attempt to share their guests' attitude. But then George heard her mutter, "Honestly!" under her breath.

A wind had sprung up, driving the dust of the weeks-dry road before it, when they entered the street on which they lived, and the leaves rustled ominously. Lightning flickered.

George said, "You'll be indoors in two minutes, friends. We'll make it."

He pulled up at the gate that opened onto the Sakkaro's spacious front yard and got out of the car to open the back door. He thought he felt a drop. They were just in time.

The Sakkaros tumbled out, faces drawn with tension, muttering thanks, and started off toward their long front walk at a dead run.

"Honestly," began Lillian, "you would think they were-"

The heavens opened and the rain came down in giant drops as though some celestial dam had suddenly burst. The top of their car was pounded with a hundred drum sticks, and halfway to their front door the Sakkaros stopped and looked despairingly upward.

Their faces blurred as the rain hit; blurred and shrank and ran together. All three shriveled, collapsing within their clothes, which sank down into three sticky-wet heaps.

And while the Wrights sat there, transfixed with horror, Lillian found herself unable to stop the completion of her remark: "-made of sugar and afraid they would melt. "

AUTHOR'S COMMENT

My book *THE EARLY ASIMOV* did sufficiently well for Doubleday to decide to do other, similar books by other writers who have been writing long enough to have had an early period of some worth. The next book in the series is *THE EARLY DEL REY* (Doubleday, 1975) by my good old friend Lester del Rey.

Lester doesn't have his book filled with autobiographical minutiae, as I do, but has meant his book to be a more sober device for describing his views on how to write science fiction.

I would cheerfully do the same except that I don't know how to write science fiction, or anything else. What I do, I do by blind instinct.

However, something does occasionally occur to me, and one little tiny rule comes up in connection with *RAIN, RAIN, GO AWAY*. If you're going to write a story, avoid contemporary references. They date a story and they have no staying power. The story mentions Schoendienst as having been at bat during a baseball game. Well, who the heck was Schoendienst? Do you remember? Does the name have meaning to you a decade and a half later?

And if it does, is there any point in reminding the reader that the story is a decade and a half old? -Of course, I spend pages telling you how old my stories are and everything else about them, but that's different. You're all friends of mine.

The drift to nonfiction continued. In the spring of 1959 Leon Svirsky of Basic Books, Inc., persuaded me to do a large book to be called *THE INTELLIGENT MAN'S GUIDE TO*

SCIENCE, which was published in 1960. It was my first real success in the nonfiction field. It got numerous favorable reviews, and my annual income suddenly doubled.

I wasn't doing it all primarily for money, you understand, but my family was growing and I wasn't going to throw money away, either. So there was again that much less urge to return to fiction.

Frederic Pohl, who had succeeded Horace Gold as editor of *Galaxy*, tried to lure a story out of me in March 1965 by sending me a cover painting he intended to run, and asked me to write a story about it. "You have the cover!" he said, "so it will be easy."

No, it wasn't. I looked at the cover, which featured a large, sad, space-helmeted face, with several crude crosses in the background, and with a space helmet balanced on each cross. I could make nothing of it. I would have told Fred this, but he was an old friend, and I didn't want to break his heart with the knowledge that there was something I couldn't do. So I made a supreme effort and wrote the following, which appeared in the August 1965 *Galaxy*.

FOUNDING FATHER

The original combination of catastrophes had taken place five years ago-five revolutions of this planet, HC12549d by the charts, and nameless otherwise. Six-plus revolutions of Earth, but who was counting-anymore?

If the men back home knew, they might say it was a heroic fight, an epic of the Galactic Corps; five men against a hostile world, holding their bitter own for five (or six-plus) years. And now they were dying, the battle lost after all. Three were in final coma, a fourth had his yellow-tinged eyeballs still open, and a fifth was yet on his feet.

But it was no question of heroism at all. It had been five men fighting off boredom and despair and maintaining their metallic bubble of livability only for the most unheroic reason that there was nothing else to do while life remained.

If any of them felt stimulated by the battle, he never mentioned it. After the first year they stopped talking of rescue, and after the second a moratorium descended on the word "Earth."

But one word remained always present. If unspoken it had to be found in their thoughts: "ammonia."

It had come first while the landing was being scratched out, against all odds, on limping motors and in a battered space can.

You allow for bad breaks, of course; you expect a certain number-but one at a time. A stellar flare fries out the hypercircuits-that can be repaired, given time. A meteorite disaligns the feeder valves-they can be straightened, given time. A trajectory is miscalculated under tension and a momentarily unbearable acceleration tears out the Jump-antennae and dulls the senses of every man on board-but antennae can be replaced and senses will recover, given time.

The chances are one in countless many that all three will happen at once; and still less that they will all happen during a particularly tricky landing when the one necessary currency for the correction of all errors, time, is the one thing that is most lacking.

The Cruiser John hit that one chance in countless many, and it made a final landing, for it would never lift off a planetary surface again.

That it had landed essentially intact was itself a near miracle. The five were given life for some years at least. Beyond that, only the blundering arrival of another ship could help, but no one expected that. They had had their life's share of coincidences, they knew, and all had been bad.

That was that. And the key word was "ammonia." With the surface spiraling upward, and death (mercifully quick) facing them at considerably better than even odds, Chou somehow had time to note the absorption spectrograph, which was registering raggedly.

"Ammonia," he cried out. The others heard but there was no time to pay attention. There was only the wrenching fight against a quick death for the sake of a slow one.

When they landed finally, on sandy ground with sparse bluish (bluish?) vegetation; reedy grass; stunted treelike objects with blue bark and no leaves; no sign of animal life; and with a greenish (greenish?) cloud-streaked sky above-the word came back to haunt them.

"Ammonia?" said Petersen heavily. Chou said, "Four per cent."

"Impossible," said Petersen. But it wasn't. The books didn't say impossible. What the Galactic Corps had discovered was that a planet of a certain mass and volume and a certain temperature was an ocean planet and had one of two atmospheres: nitrogen/oxygen or nitrogen/carbon dioxide. In the former case, life was advanced; in the latter, it was primitive.

No one checked beyond mass, volume, and temperature any longer. One took the atmosphere (one or the other of them) for granted. But the books didn't say it had to be so; just that it always was so. Other atmospheres were thermodynamically possible, but extremely unlikely, so they weren't found in actual practice.

Until now. The men of the Cruiser John had found one and were bathed for the rest of such life as they could eke out by a nitrogen/carbon dioxide/ammonia atmosphere.

The men converted their ship into an underground bubble of Earth-type surroundings. They could not lift off the surface, nor could they drive a communicating beam through hyperspace, but all else was salvageable. To make up for inefficiencies in the cycling system, they could even tap the planet's own water and air supply, within limits; provided, of course, they subtracted the ammonia.

They organized exploring parties since their suits were in excellent condition and it passed the time. The planet was harmless; no animal life; sparse plant life everywhere. Blue, always blue; ammoniated chlorophyll; ammoniated protein.

They set up laboratories, analyzed the plant components, studied microscopic sections, compiled vast volumes of findings. They tried growing native plants in ammonia-free atmosphere and failed. They made themselves into geologists and studied the planet's crust; astronomers, and studied the spectrum of the planet's sun.

Barrore would say sometimes, "Eventually, the Corps will reach this planet again and we'll leave a legacy of knowledge for them. It's a unique planet after all. There might not be another Earth-type with ammonia in all the Milky Way."

"Great," said Sandropoulos bitterly. "What luck for us."

Sandropoulos worked out the thermodynamics of the situation. "A metastable system," he said. "The ammonia disappears steadily through geochemical oxidation that forms nitrogen; the plants utilize nitrogen and re-form ammonia, adapting themselves to the presence of ammonia. If the rate of plant formation of ammonia dropped two per cent, a declining spiral would set in. Plant life would wither, reducing the ammonia still further, and so on."

"You mean if we killed enough plant life," said Vlassov, "we could wipe out the ammonia."

"If we had air sleds and wide-angle blasters, and a year to work in, we might," said Sandropoulos, "but we haven't and there's a better way. If we could get our own plants going, the formation of oxygen through photosynthesis would increase the rate of ammonia oxidation. Even a small localized rise would lower the ammonia in the region, stimulate Earth-plant growth further and inhibit the native growth, drop the ammonia further, and so on."

They became gardeners through all the growing season. That was, after all, routine for the Galactic Corps. Life on Earth-type planets was usually of the water/protein type, but variation was infinite and other-world food was rarely nourishing and even more rarely palatable. One had to try Earth plants of different sorts. It often happened (not always, but often) that some types of Earth plants would overrun and drown out the native flora. With the native flora held down, other Earth plants could take root.

Dozens of planets had been converted into new Earths in this fashion. In the process Earthly plants developed hundreds of hardy varieties that flourished under extreme conditions. -All the better with which to seed the next planet.

The ammonia would kill any Earth plant, but the seeds at the disposal of the Cruiser John were not true Earth plants but otherworld mutations of these plants. They fought hard but not well enough. Some varieties grew in a feeble, sickly manner and then died.

At that they did better than did microscopic life. The planet's bacterioids were far more flourishing than was the planet's straggly blue plant life. The native micro-organisms drowned out any attempt at competition from Earth samples. The attempt to seed the alien soil with Earthtype bacterial flora in order to aid the Earth plants failed.

Vlassov shook his head. "It wouldn't do anyway. If our bacteria survived, it would only be by adapting to the presence of ammonia."

Sandropoulos said, "Bacteria won't help us. We need the plants; they carry the oxygen-manufacturing systems."

"We could make some ourselves," said Petersen. "We could electrolyze water."

"How long will our equipment last? If we could only get our plants going, it would be like electrolyzing water forever, little by little, but year after year, till the planet gave up."

Barr0re said, "Let's treat the soil then. It's rotten with ammonium salts. We'll bake the salts out and replace the ammonia-free soil."

"And what about the atmosphere?" asked Chou. "In ammonia-free soil, they may catch hold despite the atmosphere. They almost make it as is."

They worked like longshoremen, but with no real end in view. None really thought it would work, and there was no future for themselves, personally, even if it did work. But working passed the days.

The next growing season, they had their ammonia-free soil, but Earth plants still grew only feebly. They even placed domes over several shoots and pumped ammonia-free air within. It helped slightly but not enough. They adjusted the chemical composition of the soil in every possible fashion. There was no reward.

The feeble shoots produced their tiny whiffs of oxygen, but not enough to topple the ammonia atmosphere off its narrow base.

"One more push," said Sandropoulos, "one more. We're rocking it; we're rocking it; but we can't knock it over."

Their tools and equipment blunted and wore out with time and the future closed in steadily. Each month there was less room for maneuver.

When the end came at last it was with almost gratifying suddenness. There was no name to place on the weakness and vertigo. No one actually suspected direct ammonia poisoning. Still, they were living off the algal growths of what had once been ship-hydroponics for years, and the growths were themselves aberrant with possible ammonia contamination.

It could have been the workings of some native microorganism which might finally have learned to feed off them. It might even have been an Earthly microorganism, mutated under the conditions of a strange world.

So three died at last, and did so, circumstances be praised, painlessly. They were glad to go, and leave the useless fight.

Chou said in a voiceless whisper, "It's foolish to lose so badly."

Petersen, alone of the five to be on his feet (was he immune, whatever it was?) turned a grieving face toward his only living companion. "Don't die," he said, "don't leave me alone."

Chou tried to smile. "I have no choice. -But you can follow us old-friend. Why fight? The tools are gone and there is no way of winning now, if there ever was."

Even now, Petersen fought off final despair by concentrating on the fight against the atmosphere. But his mind was weary, his heart worn-out, and when Chou died the next hour he was left with four corpses to work with.

He stared at the bodies, counting over the memories, stretching them back (now that he was alone and dared wail) to Earth itself, which he had last seen on a visit nearly eleven years before.

He would have to bury the bodies. He would break off the bluish branches of the native leafless trees and build crosses of them. He would hang the space helmet of each man on top and prop the oxygen cylinders below. Empty cylinders to symbolize the lost fight.

A foolish sentiment for men who could no longer care, and for future eyes that might never see.

But he was doing it for himself, to show respect for his friends, and respect for himself, too, for he was not the kind of man to leave his friends untended in death while he himself could stand.

Besides-

Besides? He sat in weary thought for some moments. While he was still alive he would fight with such tools as were left. He would bury his friends.

He buried each in a spot of ammonia-free soil they had so laboriously built up: buried them without shroud and without clothing; leaving them naked in the hostile

ground for the slow decomposition that would come with their own micro-organisms before those, too, died with the inevitable invasion of the native bacterioids.

Petersen placed each cross, with its helmet and oxygen cylinders, propped each with rocks, then turned away, grim and sad-eyed, to return to the buried ship that he now inhabited alone.

He worked each day and eventually the symptoms came for him, too. He struggled into his spacesuit and came to the surface for what he knew would be one last time.

He fell to his knees on the garden plots. The Earth plants were green. They had lived longer than ever before. They looked healthy, even vigorous.

They had patched the soil, babied the atmosphere, and now Petersen had used the last tool, the only one remaining at his disposal, and he had given them fertilizer as well.

Out of the slowly corrupting flesh of the Earthmen came the nutrients that supplied the final push. Out of the Earth plants came the oxygen that would beat back the ammonia and push the planet out of the unaccountable niche into which it had stuck.

If Earthmen ever came again (when? a million years hence?) they would find a nitrogen/oxygen atmosphere and a limited flora strangely reminiscent of Earth's.

The crosses would rot and decay; the metal, rust and decompose. The bones might fossilize and remain to give a hint as to what happened. Their own records, sealed away, might be found.

But none of that mattered. If nothing at all was ever found, the planet itself, the whole planet, would be their monument.

And Petersen lay down to die amid their victory.

AUTHOR'S COMMENT

Fred Pohl changes titles more frequently than most editors do, and in some cases drove me to distraction by doing so. In this case, though, my own title was *The Last Tool*, and once again the editorial change was for the better, so I kept *FOUNDING FATHER*. (I hate when Fred changes me for the better, but he won't stop.)

By 1967 it had been ten years since I had switched to nonfiction, and ten years since I had sold anything to John Campbell.

John was just rounding out his third decade as editor of *Astounding*. As the 1960s opened, however, he changed its name to *Analog*, and I had never had any fiction in the magazine in its new incarnation.

So I wrote *EXILE TO HELL* and sent it in to John. He took it, thank goodness, and it was a great pleasure to appear in the pages of the magazine again, in the May 1968 issue, even if it was just a short-short.

EXILE TO HELL

"The Russians," said Dowling, in his precise voice, "used to send prisoners to Siberia in the days before space travel had become common. The French used Devil's Island for the purpose. The British sailed them off to Australia."

He considered the chessboard carefully and his hand hesitated briefly over the bishop.

Parkinson, at the other side of the chess board, watched the pattern of the pieces absently. Chess was, of course, the professional game of computer programmers, but, under the circumstances, he lacked enthusiasm. By rights, he felt with some annoyance, Dowling should have been even worse off; he was programming the prosecution's case.

There was, of course, a tendency for the programmer to take over some of the imagined characteristics of the computer-the unemotionality, the imperviousness to anything but logic. Dowling reflected that in his precise hair-part and in the restrained elegance of his clothing.

Parkinson, who preferred to program the defense in the law cases in which he was involved, also preferred to be deliberately careless in the minor aspects of his costume.

He said, "You mean exile is a well-established punishment and therefore not particularly cruel."

"No, it is particularly cruel, but also it is well-established, and nowadays it has become the perfect deterrent."

Dowling moved the bishop and did not look upward. Parkinson, quite involuntarily, did.

Of course, he couldn't see anything. They were indoors, in the comfortable modern world tailored to human needs, carefully protected against the raw environment. Out there, the night would be bright with its illumination.

When had he last seen it? Not for a long time. It occurred to him to wonder what phase it was in right now.

Full? Gleaming? Or was it in its crescent phase? Was it a bright fingernail of light low in the sky?

By rights it should be a lovely sight. Once it had been. But that had been centuries ago, before space travel had become common and cheap, and before the surroundings all about them had grown sophisticated and controlled. Now the lovely light in the sky had become a new and more horrible Devil's Island hung in space.

-No one even used its name any longer, out of sheer distaste. It was "It." Or it was less than that, just a silent, upward movement-of the head.

Parkinson said, "You might have allowed me to program the case against exile generally."

"Why? It couldn't have affected the result."

"Not this one, Dowling. But it might have affected future cases. Future punishments might be commuted to the death sentence."

"For someone guilty of equipment damage? You're dreaming."

"It was an act of blind anger. There was intent to harm a human being, granted; but there was no intent to harm equipment. "

"Nothing; it means nothing. Lack of intent is no excuse in such cases. You know that."

"It should be an excuse. That's my point; the one I wanted to make." Parkinson advanced a pawn now, to cover his knight. Dowling considered. "You're trying to hang onto the queen's attack, Parkinson, and I'm not going to let you. -Let's see, now." And while he pondered he said, "These are not primitive times, Parkinson. We live in a crowded world with no margin for error. As small a thing as a blown-out consistor could endanger a sizable fraction of our population. When anger endangers and subverts a power line, it's a serious thing."

"I don't question that-"

"You seemed to be doing so, when you were constructing the defense program."

"I was not. Look, when Jenkins' laser beam cut through the Field-warp, I myself was as close to death as anyone. A quarter hour's additional delay would have meant my end, too, and I'm completely aware of that. My point is only that exile is not the proper punishment!"

He tapped his finger on the chessboard for emphasis, and Dowling caught the queen before it went over. "Adjusting, not moving," he mumbled.

Dowling's eyes went from piece to piece and he continued to hesitate. "You're wrong, Parkinson. It is the proper punishment, because there's nothing worse and that matches a crime than which there is nothing worse. Look, we all feel our absolute dependence on a complicated and rather fragile technology. A breakdown might kill us all, and it doesn't matter whether the breakdown is 1 deliberate, accidental, or caused by incompetence. Human beings demand the maximum punishment for any such deed as the only way they can feel secure. Mere death is I not sufficient deterrent."

"Yes, it is. No one wants to die."

"They want to live in exile up there even less. That's why we've only had one such case in the last ten years, and only one exile. -There, do something about that!" I And Dowling nudged his queen's rook one space to the right.

A light flashed. Parkinson was on his feet at once. "The programming is finished. The computer will have its verdict now."

Dowling looked up phlegmatically, "You've no doubt about what the verdict will be, have you? -Keep the board standing. We'll finish afterward."

Parkinson was quite certain he would lack the heart to continue the game. He hurried down the corridor to the courtroom, light and quick on his feet, as always.

Shortly after he and Dowling had entered, the judge took his seat, and then in came Jenkins, flanked by two guards.

Jenkins looked haggard, but stoical. Ever since the blind rage had overcome him and he had accidentally thrown a sector into unpowered darkness while striking out at a fellow worker, he must have known the inevitable consequence of this worst of all crimes. It helps to have no illusions.

Parkinson was not stoical. He dared not look squarely at Jenkins. He could not have done so without wondering, painfully, as to what might be going through Jenkins' mind at that moment. Was he absorbing, through every sense, all the perfections of familiar comfort before being thrust forever into the luminous Hell that rode the night sky?

Was he savoring the clean and pleasant air in his nostrils, the soft lights, the equable temperature, the pure water on call, the secure surroundings designed to cradle humanity in tame comfort?

While up there-

The judge pressed a contact and the computer's decision was converted into the warm, unmannered sound of a standardized human voice.

"A weighing of all pertinent information in the light of the law of the land and of all relevant precedents leads to the conclusion that Anthony Jenkins is guilty on all counts of the crime of equipment damage and is subject to the maximum penalty."

There were only six people in the courtroom itself, but the entire population was listening by television, of course.

The judge spoke in prescribed phraseology. "The defendant will be taken from here to the nearest spaceport and, on the first available transportation, be removed from this world and sent into exile for the term of his natural life."

Jenkins seemed to shrink within himself, but he said no word.

Parkinson shivered. How many, he wondered, would now feel the enormity of such a punishment for any crime? How long before there would be enough humanity among men to wipe out forever the punishment of exile?

Could anyone really think of Jenkins up there in space, without flinching? Could they think, and endure the thought, of a fellow man thrown for all his life among the strange, unfriendly, vicious population of a world of unbearable heat by day and frigid cold by night; of a world where the sky was a harsh blue and the ground a harsher, clashing green; where the dusty air moved raucously and the viscous sea heaved eternally?

And the gravity, that heavy-heavy-heavy-eternal-pull!

Who could bear the horror of condemning someone, for whatever reason, to leave the friendly home of the I Moon for that Hell in the sky-the Earth?

AUTHOR'S COMMENT

Considering what John Campbell means to me, I hate to point out any editorial bad points he had-but he was a terrible blurb writer. In those little editorial comments at

the beginning of a story, comments that are supposed to lure you into reading it, he all too often gave away the point of the story, when the writer was doing his best to conceal the point till the proper moment.

Here is John's blurb for EXILE TO HELL: "Hell is, of course, the worst imaginable place you least want to be forced to experience. It's an attitude about a place-Fiji for an Eskimo, Baffin Island for a Polynesian. . . ." If you read the blurb first and then read my story, EXILE TO HELL will have the impact of a strand of wet spaghetti.

As the drought of science fiction intensified, it became important to me not to allow any item to go to waste.

A friend of mine, Ed Berkeley, ran a little periodical devoted to computers and automation. (It was even called COMPUTERS AND AUTOMATION, as I recall.) In 1959 he asked me to do a little story for him, for friendship's sake, and since I always have trouble fighting off anything put to me in that fashion, I wrote KEY ITEM for him and he paid me a dollar for it. -But then he never printed it.

Eight years passed and I finally said to him, "Hey, Ed, I what happened to my story KEY ITEM?" and he told me he had decided not to publish science fiction.

"Give it back, then," I said, and he said, "Oh, can you Use it?"

Yes, I could use it. I sent it in to F & SF and they took it and ran it in the July 1968 issue of that magazine.

KEY ITEM

Jack Weaver came out of the vitals of Multivac looking utterly worn and disgusted. From the stool, where the other maintained his own stolid watch, Todd Nemerson said, "Nothing?"

"Nothing," said Weaver. "Nothing, nothing, nothing. No one can find anything wrong with it."

"Except that it won't work, you mean."

"You're no help sitting there!"

"I'm thinking."

"Thinking!" Weaver showed a canine at one side of his mouth.

Nemerson stirred impatiently on his stool. "Why not? There are six teams of computer technologists roaming around in the corridors of Multivac. They haven't come up with anything in three days. Can't you spare one person to think?"

"It's not a matter of thinking. We've got to look. Somewhere a relay is stuck."

"It's not that simple, Jack!"

"Who says it's simple. You know how many million relays we have there?"

"That doesn't matter. If it were just a relay, Multivac would have alternate circuits, devices for locating the flaw, and facilities to repair or replace the ailing part. The trouble is, Multivac won't only not answer the original question, it won't tell us what's wrong with it. -And meanwhile, there'll be panic in every city if we don't do something. The world's economy depends on Multivac, and everyone knows that."

"I know it, too. But what's there to do?"

"I told you, think. There must be something we're missing completely. Look, Jack, there isn't a computer bigwig in a hundred years who hasn't devoted himself to making Multivac more complicated. It can do so much now-hell, it can even talk and listen. It's practically as complex as the human brain. We can't understand the human brain, so why should we understand Multivac?"

"Aw, come on. Next you'll be saying Multivac is human."

"Why not?" Nemerson grew absorbed and seemed to sink into himself. "Now that you mention it, why not? Could we tell if Multivac passed the thin dividing line where it stopped being a machine and started being human? Is there a dividing line, for that matter? If the brain is just more complex than Multivac, and we keep making Multivac more complex, isn't there a point where. . . " He mumbled down into silence.

Weaver said impatiently, "What are you driving at? Suppose Multivac were human. How would that help us find out why it isn't working?"

"For a human reason, maybe. Suppose you were asked the most probable price of wheat next summer and didn't answer. Why wouldn't you answer?"

"Because I wouldn't know. But Multivac would know! We've given it all the factors. It can analyze futures in weather, politics, and economics. We know it can. It's done it before."

"All right. Suppose I asked the question and you knew the answer but didn't tell me. Why not?"

Weaver snarled, "Because I had a brain tumor. Because I had been knocked out. Because I was drunk. Damn it, because my machinery was out of order. That's just what we're trying to find out about Multivac. We're looking for the place where its machinery is out of order, for the key item."

"Only you haven't found it." Nemerson got off his stool. "Listen, ask me the question Multivac stalled on."

"How? Shall I run the tape through you?"

"Come on, Jack. Give me the talk that goes along with it. You do talk to Multivac, don't you?"

"I've got to. Therapy."

Nemerson nodded. "Yes, that's the story. Therapy. That's the official story. We talk to it in order to pretend it's a human being so that we don't get neurotic over having a machine know so much more than we do. We turn a frightening metal monster into a protective father image."

"If you want to put it that way."

"Well, it's wrong and you know it. A computer as complex as Multivac must talk and listen to be efficient. Just putting in and taking out coded dots isn't sufficient. At a certain level of complexity, Multivac must be made to seem human because, by God, it is human. Come on, Jack, ask me the question. I want to see my reaction to it."

Jack Weaver flushed. "This is silly."

"Come on, will you?"

It was a measure of Weaver's depression and desperation that he acceded. Half sullenly, he pretended to be feeding the program into Multivac, speaking as he did so in his usual manner. He commented on the latest information concerning farm unrest, talked about the new equations describing jet-stream contortions, lectured on the solar constant.

He began stiffly enough, but warmed to this task out of long habit, and when the last of the program was slammed home, he almost closed contact with a physical snap at Todd Nemerson's waist.

He ended briskly, "All right, now. Work that out and give us the answer pronto."

For a moment, having done, Jack Weaver stood there, nostrils flaring, as though he was feeling once more the excitement of throwing into action the most gigantic and glorious machine ever put together by the mind and hands of man.

Then he remembered and muttered, "All right. That's it."

Nemerson said, "At least I know now why I wouldn't answer, so let's try that on Multivac. Look, clear Multivac; make sure the investigators have their paws off it. Then run the program into it and let me do the talking. Just once."

Weaver shrugged and turned to Multivac's control wall, filled with its somber, unwinking dials and lights. Slowly he cleared it. One by one he ordered the teams away.

Then, with a deep breath, he began once more feeding the program into Multivac. It was the twelfth time all told, the dozenth time. Somewhere a distant news commentator would spread the word that they were trying again. All over the world a Multivac-dependent people would be holding its collective breath.

Nemerson talked as Weaver fed the data silently. He talked diffidently, trying to remember what it was that Weaver had said, but waiting for the moment when the key item might be added.

Weaver was done and now a note of tension was in Nemerson's voice. He said, "All right, now, Multivac. Work that out and give us the answer." He paused and added the key item. He said "Please!"

And all over Multivac, the valves and relays went joyously to work. After all, a machine has feelings-when it isn't a machine anymore.

AUTHOR'S COMMENT

The story didn't stop at F & SF, by the way.

The Saturday Evening Post had died in 1966, shortly after serializing my novel FANTASTIC VOYAGE (Houghton Mifflin, 1966), though I don't think there was any connection. It came back to life, however, and its editors were interested in some of my stories. They reprinted A STATUE FOR FATHER, and they also did KEY ITEM, under the title The Computer That Went On Strike, in their spring 1972 issue.

The slick magazines were interested in science fiction now. It was not only The Saturday Evening Post that was after me for stories. Boys' Life was, too. They sent me a painting hoping it would inspire a story, and I tried. I turned out THE PROPER STUDY, which appeared in the September 1968 issue of Boys' Life.

THE PROPER STUDY

"The demonstration is ready," said Oscar Harding softly, half to himself, when the phone rang to say that the general was on his way upstairs.

Ben Fife, Harding's young associate, pushed his fists deep into the pockets of his laboratory jacket. "We won't get anywhere," he said. "The general doesn't change his mind." He looked sideways at the older man's sharp profile, his pinched cheeks, his thinning gray hair. Harding might be a wizard with electronic equipment, but he couldn't seem to grasp the kind of man the general was.

And Harding said mildly, "Oh, you can never tell."

The general knocked once on the door, but it was for I show only. He walked in quickly, without waiting for a response. Two soldiers took up their position in the corridor, one on each side of the door. They faced outward, rifles ready.

General Gruenwald said crisply, "Professor Harding!" He nodded briefly in Fife's direction and then, for a moment, studied the remaining individual in the room. That was a blank-faced man who sat apart in a straight-backed chair, half-obscured by surrounding equipment.

Everything about the general was crisp; his walk, the way he held his spine, the way he spoke. He was an straight lines and angles, adhering rigidly at all points to the etiquette of the born soldier. .

"Won't you sit down, General," murmured Harding. "Thank you. It's good of you to come; I've been trying to see you for some time. I appreciate the fact you're a busy man."

"Since I am busy," said the general, "let us get to the point."

"As near the point as I can, sir. I assume you know about our project here. You know about the Neurophotoscope."

"Your top-secret project? Of course. My scientific aides keep me abreast of it as best they can. I won't object to some further clarification. What is it you want?"

The suddenness of the question made Harding blink. Then he said, "To be brief-declassification. I want the world to know that-"

"Why do you want them to know anything?"

"Neurophotoscopy is an important problem, sir, and enormously complex. I would like all scientists of all nationalities working on it."

"No, no. That's been gone over many times. The discovery is ours and we keep it."

"It will remain a very small discovery if it remains ours. Let me explain once more."

The general looked at his watch. "It will be quite useless."

"I have a new subject. A new demonstration. As long as you've come here at all, General, won't you listen for just a little while? I'll omit scientific detail as much as possible and say only that the varying electric potentials of brain cells can be recorded as tiny, irregular waves."

"Electroencephalograms. Yes, I know. We've had them for a century. And I know what you do with it."

"Uh-yes." Harding grew more earnest. "The brain waves by themselves carry their information too compactly. They give us the whole complex of changes from a hundred billion brain cells at once. My discovery was of a practical method for converting them to colored patterns."

"With your Neurophotoscope," said the general, pointing. "You see, I recognize the machine." Every campaign ribbon and medal on his chest lay in its proper place to within the millimeter.

"Yes. The 'scope produces color effects, real images that seem to fill the air and change very rapidly. They can be photographed and they're beautiful."

"I have seen photographs," the general said coldly. "Have you seen the real thing, in action?"

"Once or twice. You were there at the time."

"Oh, yes." The professor was disconcerted. He said, "But you haven't seen this man; our new subject." He pointed briefly to the man in the chair, a man with a sharp chin, a long nose, no sign of hair on his skull, and still that vacant look in his eye.

"Who is he?" asked the general.

"The only name we use for him is Steve. He is mentally retarded but produces the most intense patterns we have yet found. Why this should be we don't know. Whether it has something to do with his mental-"

"Do you intend to show me what he does?" broke in the general.

"If you will watch, General." Harding nodded at Fife, who went into action at once.

The subject, as always, watched Fife with mild interest, doing as he was told and making no resistance. The light plastic helmet fitted snugly over his shaved cranium and each of the complicated electrodes was adjusted properly. Fife tried to work smoothly under the unusual tension of the occasion. He was in agony lest the general look at his watch again, and leave.

He stepped away, panting. "Shall I activate it now, Professor Harding?"

"Yes. Now." Fife closed a contact gently and at once the air above Steve's head seemed filled with brightening color. Circles appeared and circles within circles, turning, whirling, and splitting apart.

Fife felt a clear sensation of uneasiness but pushed it away impatiently. That was the subject's emotion-Steve's-not his own. The general must have felt it too, for he shifted in his chair and cleared his throat loudly.

Harding said casually, "The patterns contain no more information than the brain waves, really, but are much more easily studied and analyzed. It is like putting germs under a strong microscope. Nothing new is added, but what is there can be seen more easily."

Steve was growing steadily more uneasy. Fife could sense it was the harsh and unsympathetic presence of the general that was the cause. Although Steve did not

change his position or give any outward sign of fear, the colors in the patterns his mind created grew harsher, and within the outer circles there were clashing interlocks.

The general raised his hand as though to push the flickering lights away. He said, "What about all this, Professor?"

"With Steve, we can jump ahead even faster than we have been. Already we have learned more in the two years since I devised the first 'scope than in the fifty years before that. With Steve, and with others like him, perhaps, and with the help of the scientists of the world-

"I have been told you can use this to reach minds," said the general sharply.

"Reach minds?" Harding thought a moment. "You mean telepathy? That's quite exaggerated. Minds are too different for that. The fine details of your way of thinking are not like mine or like anyone else's, and raw brain patterns won't match. We have to translate thoughts into words, a much cruder form of communication, and even then it is hard enough for human beings to make contact."

"I don't mean telepathy! I mean emotion! If the subject feels anger, the receiver can be made to experience anger. Right?"

"In a manner of speaking."

The general was clearly agitated. "Those things-right there-" His finger jabbed toward the patterns, which were whirling most unpleasantly now. "They can be used for emotion control. With these, broadcast on television, whole populations can be emotionally manipulated. Can we allow such power to fall into the wrong hands?"

"If it were such power," said Harding mildly, "there would be no right hands."

Fife frowned. That was a dangerous remark. Every once in a while Harding seemed to forget that the old days of democracy were gone.

But the general let it go. He said, "I didn't know you had this thing so far advanced. I didn't know you had this-Steve. You get others like that. Meanwhile, the army is taking this over. Completely!"

"Wait, General, just ten seconds." Harding turned to Fife. "Give Steve his book, will you, Ben?"

Fife did so with alacrity. The book was one of the new Kaleido-volumes that told their stories by means of colored photographs that slowly twisted and changed once the book was opened. It was a kind of animated cartoon in hard-covers and Steve smiled as he reached out eagerly for it.

Almost at once the colored patterns that clustered above his plastic helmet changed in nature. They slowed their turning and the colors softened. The patterns within the circle grew less discordant.

Fife sighed his relief and let warmth and relaxation sweep over him.

Harding said, "General, don't let the possibility of emotion control alarm you. The 'scope offers less possibility for that than you think. Surely there are men whose emotions can be manipulated, but the 'scope isn't necessary for them. They react mindlessly to catch words, music, uniforms, almost anything. Hitler once controlled Germany without

even television, and Napoleon controlled France without even radio or mass-circulation newspapers. The 'scope offers nothing new."

"I don't believe that," muttered the general, but he had grown thoughtful again.

Steve stared earnestly at the Kaleido-volume, and the patterns over his head had almost stilled into warmly colored and intricately detailed circles that pulsed their pleasure.

Harding's voice was almost coaxing. "There are always the people who resist conformity; who don't go along; and they are the important ones of society. They won't go along with colored patterns any more than with any other form of persuasion. So why worry about the useless bogey of emotion control? Let us instead see the Neurophotoscope as the first instrument through which mental function can be truly analyzed. That's what should concern us above all. The proper study of mankind is man, as Alexander Pope once said, and what is man but his brain?"

The general remained silent.

"If we can solve the manner of the brain's workings," went on Harding, "and learn at last what makes a man a man, we are on our way to understanding ourselves, and nothing more difficult-or more worthwhile-faces us. And how can this be done by just one man, by one laboratory? How can it be done in secrecy and fear? The whole world of science must cooperate. -General, declassify the project! Throw it open to all men!"

Slowly the general nodded. "I think you're right after all."

"I have the proper document. If you'll sign it and key it with your fingerprint; if you use your two guards outside as witnesses; if you alert the Executive Board by closed video; if you-"

It was all done. Before Fife's astonished eyes it was all done.

When the general was gone, the Neurophotoscope dismantled, and Steve taken back to his quarters, Fife finally overcame his amazement long enough to speak.

"How could he have been persuaded so easily, Professor Harding? You've explained your point of view at length in a dozen reports and it never helped a bit."

"I've never presented it in this room, with the Neurophotoscope working," said Harding. "I've never had anyone as intensely projective as Steve before. Many people can withstand emotion control, as I said, but some people cannot withstand it. Those who have a tendency to conform are easily led to agree with others. I took the gamble that any man who feels comfortable in uniform and who lives by the military book is liable to be swayed, no matter how powerful he imagines himself to be."

"You mean-Steve-"

"Of course, I let the general feel the uneasiness first, then you handed Steve the Kaleido-volume and the air filled with happiness. You felt it, didn't you?"

"Yes. Certainly."

"It was my guess the general couldn't resist that happiness so suddenly following the unease, and he didn't. Anything would have sounded good at that moment. "

"But he'll get over it, won't he?"

"Eventually, I suppose, but so what? The key progress reports concerning Neurophotoscropy are being sent out right now to news media all over the world. The general might suppress it here in this country, but surely not elsewhere. -No, he will have to make the best of it. Mankind can begin its proper study in earnest, at last."

AUTHOR'S COMMENT

The painting was simply a crudely done head surrounded by a series of aimless psychedelic designs. It meant nothing to me and I had a terrible time thinking up THE PROPER STUDY. Foul Anderson also wrote a story based on the same painting and probably had no trouble at all.

The two stories appeared in the same issue and I suppose it might be interesting to compare the stories and try to get an idea of the different workings of Poul's brain-and mine-but, as in the case of BLANK!, I didn't save the other story. Besides, I don't want you to compare brains. Poul is awfully bright and you might come to me with some hard truths I'd rather not face.

In early 1970 IBM Magazine came to me with a quote from J. B. Priestley which went as follows: "Between midnight and dawn, when sleep will not come and all the old wounds begin to ache, I often have a nightmare vision of a future world in which there are billions of people, all numbered and registered, with not a gleam of genius anywhere, not an original mind, a rich personality, on the whole packed globe."

The editor of the magazine asked me to write a story based on the quote, and I did the job in late April and mailed it in. The story was 2430 A.D., and in it I took I Priestley's quotation seriously and tried to describe the world of his nightmares.

And IBM Magazine sent it back. They said they didn't want a story that backed the quotation; they wanted one I that refuted the quotation. Well, they had never said so.

Under ordinary circumstances I might have been very indignant and might have written a rather scathing letter. However, these were hard times for me and there was another turning point, and a very sad one, coming up in my life.

My marriage had been limping for some years and it finally broke down. On July 3, 1970, with our twenty-eighth anniversary nearly upon US, I moved out and went to New York. I took a two-room hotel suite that I was to use as an office for nearly five years.

You can't make a change like that without all kinds of worries, miseries, and guilts. And among them all, I being what I am, one of my worries, as I sat in the two rooms in a strange environment, with my reference library still undelivered, (As long as I was a fiction writer I needed very little in the way of a library and could write anywhere. One of the less pleasant aspects of my switch to nonfiction was that I gradually built up an enormous reference library which nails me to the ground) was whether I would still be able to write.

I remembered my story 2430 A.D., which ordinarily I might have abandoned in indignation. Now, just to see if I could do it, I began another story, on July 8, 1970, five

days after my move, one which would refute Priestley's quotation. I called it THE GREATEST ASSET.

I sent it to IBM Magazine, and you'll never believe me but after reading my second story they decided to take my first one after all. It was utterly confusing. Was my second story so bad that it made the first look good? Or had they changed their mind before I had written the second story and had they not gotten round to telling me? I suspect the latter. Anyway, 2430 A.D. was published in the October 1970 issue of IBM Magazine.

Between midnight and dawn, when sleep will not come and all the old wounds begin to ache, I often have a nightmare vision of a future world in which there are billions of people, all numbered and registered, with not a gleam of genius anywhere, not an original mind, a rich personality, on the whole packed globe.

-J.B. Priestly.

"He'll talk to us," said Alvarez when the other stepped out the door.

"Good," said Bunting. "Social pressure is bound to get to him eventually. An odd character. How he escaped genetic adjustment I'll never know. -But you do the talking. He irritates me past tact."

Together they swung down the corridor along the Executive Trail, which was, as always, sparsely occupied. They might have taken the Moving Strips, but there were only two miles to go and Alvarez enjoyed walking, so Bunting didn't insist.

Alvarez was tall and rather thin, with the kind of athletic figure one would expect of a person who cherished the muscular activities; who routinely used the stairs and rampways, for instance, almost to the edge of being considered an unsettling character himself. Bunting, softer and rounder, avoided even the sunlamps, and was quite pale.

Bunting said dolefully, "I hope the two of us will be enough."

"I should think so. We want to keep it in our sector, if we can."

"Yes! You know, I keep thinking-why does it have to be our sector? Fifty million square miles of seven-hundred-level living space, and it has to be in our apartment bloc."

"Rather a distinction, in a grisly kind of way," said Alvarez.

Bunting snorted.

"And a little to our credit," Alvarez added softly, "if we settle the matter. We reach peak. We reach end. We reach goal. All mankind. And we do it."

Bunting brightened. He said, "You think they'll look at it that way?"

"Let's see to it that they do."

Their footsteps were muted against the plastic-knit crushed rock underfoot. They passed crosscorridors and saw the endless crowds on the Moving Strips in the middle distance. There was a fugitive whiff of plankton in its varieties. Once, almost by instinct, they could tell that up above, far above, was one of the giant conduits leading in from the sea. And by symmetry they knew there would be another conduit, just as large, far below, leading out to sea.

Their destination was a dwelling room set well back from the corridor, but one that seemed different from the thousands they had passed. There was about it an intangible and disconcerting note of space, for on either side, for hundreds of feet, the wall was blank. And there was something in the air.

"Smell it?" muttered Bunting.

"I've smelled it before," said Alvarez. "Inhuman."

"Literally!" said Bunting. "He won't expect us to look at them, will he?"

"If he does, it's easy enough to refuse." They signaled, then waited in silence while the hum of infinite life sounded all around them in utterly disregarded manner, for it was always there.

The door opened. Cranwitz was waiting. He looked sullen. He wore the same clothes they all did; light, simple, gray. On him, though, they seemed rumpled. He seemed rumpled, his hair too long, his eyes bloodshot and shifting uneasily.

"May we enter?" asked Alvarez with cold courtesy.

Cranwitz stood to one side.

The odor was stronger inside. Cranwitz closed the door behind them and they sat down. Cranwitz remained standing and said nothing.

Alvarez said, "I must ask you, in my capacity as Sector Representative, with Bunting here as Vice-Representative, whether you are now ready to comply with social necessity."

Cranwitz seemed to be thinking. When he finally spoke his deep voice was choked and he had to clear his throat. "I don't want to," he said. "I don't have to. There is a contract with the government of long-standing. My family has always had the right-

"We know all this and there's no question of force involved," said Bunting irritably. "We're asking you to accede voluntarily."

Alvarez touched the other's knee lightly. "You understand the situation is not what it was in your father's time; or even, really, what it was last year?"

Cranwitz's long jaw quivered slightly. "I don't see that. The birth rate has dropped this year by the amount computerized, and everything else has changed correspondingly. That goes on from year to year. Why should this I year be different?"

His voice somehow did not carry conviction. Alvarez was sure he did know why this year was different, and he said softly, "This year we've reached the goal. The birth rate now exactly matches the death rate; the population level is now exactly steady; construction is now confined to replacement entirely; and the sea farms are in a steady state. Only you stand between all mankind and perfection. . .

"Because of a few mice?"

"Because of a few mice. And other creatures. Guinea pigs. Rabbits. Some kinds of birds and lizards. I haven't taken a census-

"But they're the only ones left in all the world. What harm do they do?"

"What good?" demanded Bunting.

Cranwitz said, "The good of being there to look at. There was once a time when-

Alvarez had heard that before. He said, with as much sympathy as he could pump into his voice (and, to his surprise, with a certain amount of real sympathy, too), "I know. There was once a time! Centuries ago! There were vast numbers of life forms like those you care for. And millions of years before that there were dinosaurs. But we have microfilms of everything. No man need go ignorant of them."

"How can you compare microfilms with the real thing?" asked Cranwitz.

Bunting's lips quirked. "The microfilms don't smell."

"The zoo was much larger once," said Cranwitz. "Year by year we've had to get rid of so many. All the large animals. All the carnivores. The trees. There's nothing left but small plants, tiny creatures. Let them be."

Alvarez said, "What is there to do with them? No one wants to see them. Mankind is against you."

"Social pressure-"

"We couldn't persuade people against real resistance. People don't want to see these life distortions. They're sickening; they really are. What's there to do with them?" Alvarez's voice was insinuating.

Cranwitz sat down now. A certain feverishness heightened the color in his cheeks. "I've been thinking. Someday we'll reach out. Mankind will colonize other worlds. He'll want animals. He'll want other species in these new, empty worlds. He'll start a new ecology of variety. He'll. . . "

His words faded under the hostile stare of the other two.

Bunting said, "What other worlds are we going to colonize?"

"We reached the moon in 1969," said Cranwitz.

"Sure, and we established a colony, and we abandoned it. There's no world in all the solar system capable of supporting human life without prohibitive engineering."

Cranwitz said, "There are worlds circling other stars. Earthlike worlds by the hundred of millions. There must be."

Alvarez shook his head. "Out of reach. We have finally exploited Earth and filled it with the human species. We have made our choice, and it is Earth. There is no margin for the kind of effort needed to build a starship capable of crossing light-years of space. - Have you been immersing yourself in twentieth-century history?"

"It wasn't the last century of the open world," said Cranwitz.

"So it was," said Alvarez dryly. "I hope you haven't over-romanticized it. I've studied its madness, too. The world was empty then, only a few billions, and they thought it was crowded-and with 'good reason. They spent more than half their substance on war and preparations of war, ran their economy without forethought, wasted and poisoned at will, let pure chance govern the genetic pool, and tolerated the deviants-from-norm of all descriptions. Of course, they dreaded what they called the population explosion, and dreamed of reaching other worlds as a kind of escape. So would we under those conditions.

"I needn't tell you the combination of events and of scientific advances that changed everything, but just let me remind you briefly in case you are trying to forget. There was the establishment of a world government, the development of fusion power, and the growth of the art of genetic engineering; With planetary peace, plentiful energy, and a placid humanity men could multiply peacefully, and science kept up with the multiplication.

"It was known in advance exactly how many men the Earth could support. So many calories of sunlight reached the Earth, and, using that, only so many tons of carbon dioxide could be fixed by green plants each year, and only so many tons of animal life

could be supported by those plants. The Earth could support two trillion tons of animal life-

Cranwitz finally broke in, "And why shouldn't all two trillion tons be human?"

"Exactly."

"Even if it meant killing off all other animal life?"

"That's the way of evolution." said Bunting angrily. "The fit survive."

Alvarez touched the other's knee again. "Bunting is right, Cranwitz," he said gently. "The toleosts replaced the placoderms, who had replaced the trilobites. The reptiles replaced the amphibians and were in turn replaced by the mammals. Now, at last, evolution has reached its peak. Earth bears its mighty population of fifteen trillion human beings-

"But how?" demanded Cranwitz. "They live in one vast building over all the face of the dry land, with no plants and no animals beside, except what I have right here. And all the uninhabited ocean has become a plankton soup; no life but plankton. We harvest it endlessly to feed our people; and as endlessly we restore organic matter to feed the plankton."

"We live very well," said Alvarez. "There is no war; there is no crime. Our births are regulated; our deaths are peaceful. Our infants are genetically adjusted and on Earth there are now twenty billion tons of normal brain; the largest conceivable quantity of the most complex conceivable matter in the universe."

"And all that weight of brain doing what?"

Bunting heaved an audible sigh of exasperation but Alvarez, still calm, said, "My good friend, you confuse the journey with the destination. Perhaps it comes from living with your animals. When the Earth was in process of development, it was necessary for life to experiment and take chances. It was even worthwhile to be wasteful. The Earth was empty then. It had infinite room and evolution had to experiment with ten million species or more-till it found the species.

"Even after mankind came, it had to learn the way. While it was learning, it had to take chances, attempt the impossible, be foolish or mad. -But mankind has come home, now. Men have filled the planet and need only to enjoy perfection."

Alvarez paused to let that sink in, then said, "We want it, Cranwitz. The whole world wants perfection. It is in our generation that perfection has been reached, and we want the distinction of having reached it. Your animals are in the way ."

Cranwitz shook his head stubbornly. "They take up so little room; consume so little energy. If all were wiped out, you might have room for what? For twenty-five more human beings? Twenty-five in fifteen trillion?"

Bunting said, "Twenty-five human beings represent another seventy-five pounds of human brain. With what measure can you evaluate seventy-five pounds of human brain?"

"But you already have billions of tons of it."

"I know," said Alvarez, "but the difference between perfection and not-quite-perfection is that between life and not-quite-life. We are so close now. All Earth is prepared to celebrate this year of 2430 AD. This is the year when the computer tens us

that the planet is fun at last; the goal is achieved; all the striving of evolution crowned. Shall we fan short by twenty-five-even out of fifteen trillion. It is such a tiny, tiny flaw, but it is a flaw.

"Think, Cranwitz! Earth has been waiting for five billion years to be fulfilled. Must we wait longer? We cannot and will not force you, but if you yield voluntarily you will be a hero to everyone."

Bunting said, "Yes. In all future time men will say that Cranwitz acted and with that one single act perfection was reached."

And Cranwitz said, imitating the other's tone of voice, "And men will say that Alvarez and Bunting persuaded him to do so."

"If we succeed!" said Alvarez with no audible annoyance. "But tell me, Cranwitz, can you hold out against the enlightened will of fifteen trillion people forever? Whatever your motives-and I recognize that in your own way I you are an idealist-can you withhold that last bit of perfection from so many?"

Cranwitz looked down in silence and Alvarez's hand waved gently in Bunting's direction and Bunting said not a word. The silence remained unbroken while slow minutes crept by.

Then Cranwitz whispered, "Can I have one more day with my animals?"

"And then?"

"And then-I won't stand between mankind and perfection."

And Alvarez said, "I'll let the world know. You will be honored." And he and Bunting left.

Over the vast continental buildings some five trillion human beings placidly slept; some two trillion human beings placidly ate; half a trillion carefully made love. Other trillions talked without heat, or tended the computers quietly, or ran the vehicles, or studied the machinery, or organized the microfilm libraries, or amused their fellows. Trillions went to sleep; trillions woke up; and the routine never varied.

The machinery worked, tested itself, repaired itself. The plankton soup of the planetary ocean basked under the sun and the cells divided, and divided, and divided, while dredges endlessly scooped them up and dried them and by the millions of tons transferred them to conveyors and conduits that brought them to every corner of the endless buildings.

And in every corner of the buildings human wastes were gathered and irradiated and dried, and human corpses were ground and treated and dried and endlessly the residue was brought back to the ocean. And for hours, while all this was going on, as it had gone on for decades, and might be doomed to go on for millennia, Cranwitz fed his little creatures a last time, stroked his guinea pig, lifted a tortoise to gaze into its uncomprehending eye, felt a blade of living grass between his fingers.

He counted them over, all of them-the last living things on Earth that were neither humans nor food for humans-and then he seared the soil in which the plants grew and killed them. He flooded the cages and rooms in which the animals moved with appropriate vapors, and they moved no more and soon they lived no more.

The last of them was gone and now between mankind and perfection there was only Cranwitz, whose thoughts still rebelliously departed from the norm. But for Cranwitz there were also the vapors, and he didn't want to live.

And, after that, there was really perfection, for over all the Earth, through all its fifteen trillion inhabitants and over all its twenty billion tons of human brain, there was (with Cranwitz gone) not one unsettling thought, not one unusual idea, to disturb the universal placidity that meant that the exquisite nothingness of uniformity had at last been achieved.

AUTHOR'S COMMENT

Even though 2430 A.D. was published, and had been paid for very generously indeed, it left my neurotic fears unallayed. That story, which had been accepted, was written I while I still lived in Newton. The one which had not been taken was written in New York.

So I took THE GREATEST ASSET to John Campbell (we were now in the same city again for the first time in twenty-one years) and told him the story of IBM Magazine. I said I was handing him the one that they had rejected, but I wouldn't if he would scorn to look at a story under those conditions.

Good old John shrugged and said, "One editor doesn't necessarily agree with another."

He read the story and bought it. I hadn't told him about my crazy worry about being unable to write in New York, because I was ashamed of it and John was still the great man before whom I feared to show myself in my role as jackass. Still, by taking that story he had added one more favor to the many, many, he had done for me.

(And in case you're worried, I might as well tell you that my years in New York have so far been even more prolific than the Newton years were. I stayed 57 months in my two-room office and in that period of time published 57 books.)

NOTE: The population of Earth In 1970 Is estimated to be 3.68 billion. The present rate of increase doubles that population every 35 years. If this present rate of Increase can be maintained for 460 years then in the year 2430 A.D. the weight of human flesh and blood will be equal to the total weight of animal life now present on Earth. To that extent, the story above is not fiction.

THE GREATEST ASSET

The Earth was one large park. It had been tamed utterly. Lou Tansonias saw it expand under his eyes as he watched somberly from the Lunar Shuttle. His prominent nose split his lean face into inconsiderable halves and each looked sad always-but this time in accurate reflection of his mood.

He had never been away so long-almost a month-and he anticipated a none-too-pleasant acclimation period once Earth's large gravity made its grip fiercely evident.

But that was for later. That was not the sadness of now as he watched Earth grow larger.

As long as the planet was far enough to be a circle of white spirals, glistening in the sun that shone over the ship's shoulders, it had its primeval beauty. When the occasional patches of pastel browns and greens peeped through the clouds, it might still have been the planet it was at any time since three hundred million years before, when life had first stretched out of the sea arid moved over the dry land to fill the valleys with green.

It was lower, lower-when the ship sank down-that the tameness began to show.

There was no wilderness anywhere. Lou had never seen Earthly wilderness; he had only read of it, or seen it in old films.

The forests stood in rank and file, with each tree carefully ticketed by species and position. The crops grew in their fields in orderly rotation, with intermittent and automated fertilization and weeding. The few domestic animals that still existed were numbered and Lou wryly suspected that the blades of grass were as well.

Animals were so rarely seen as to be a sensation when glimpsed. Even the insects had faded, and none of the large animals existed anywhere outside the slowly dwindling number of zoos.

The very cats had become few in number, for it was much more patriotic to keep a hamster, if one had to have a pet at all.

Correction! Only Earth's nonhuman animal population had diminished. Its mass of animal life was as great as ever, but most of it, about three fourths of its total, was one species only-Homo sapiens. And, despite everything the Terrestrial Bureau of Ecology could do (or said it could do), that fraction very slowly increased from year to year.

Lou thought of that, as he always did, with a towering sense of loss. The human presence was unobtrusive, to be sure. There was no sign of it from where the shuttle made its final orbits about the planet; and, Lou knew, there would be no sign of it even when they sank much lower.

The sprawling cities of the chaotic pre-Planetary days were gone. The old highways could be traced from the air by the imprint they still left on the vegetation, but they were invisible from close quarters. Individual men themselves rarely troubled the surface, but

they were there, underground. All mankind was, in all its billions, with the factories, the food-processing plants, the energies, the vacu-tunnels.

The tame world lived on solar energy and was free of strife, and to Lou it was hateful in consequence.

Yet at the moment he could almost forget, for, after months of failure, he was going to see Adrastus, himself. It had meant the pulling of every available string.

Ino Adrastus was the Secretary General of Ecology. It was not an elective office; it was little-known. It was simply the most important post on Earth, for it controlled everything.

Jan Marley said exactly that, as he sat there, with a sleepy look of absent-minded dishevelment that made one think he would have been fat if the human diet were so uncontrolled as to allow of fatness.

He said, "For my-money this is the most important post on Earth, and no one seems to know it. I want to write it up."

Adrastus shrugged. His stocky figure, with its shock of hair, once a light brown and now a brown-flecked gray, his faded blue eyes nested in darkened surrounding tissues, finely wrinkled, had been an unobtrusive part of the administrative scene for a generation. He had been Secretary-General of Ecology ever since the regional ecological councils had been combined into the Terrestrial Bureau. Those who knew of him at all found it impossible to think of ecology without him.

He said, "The truth is I hardly ever make a decision truly my own. The directives I sign aren't mine, really. I sign them because it would be psychologically uncomfortable to have computers sign them. But, you know, it's only the computers that can do the work.

"The Bureau ingests an incredible quantity of data each day; data forwarded to it from every part of the globe and dealing not only with human births, deaths, population shifts, production, and consumption, but with all the tangible changes in the plant and animal population as well, to say nothing of the measured state of the major segments of the environment-air, sea, and soil. The information is taken apart, absorbed, and assimilated into crossfiled memory indices of staggering complexity, and from that memory comes answers to the questions we ask."

Marley said, with a shrewd, sidelong glance, "Answers to all questions?"

Adrastus smiled. "We learn not to bother to ask questions that have no answer."

"And the result," said Marley, "is ecological balance."

"Right, but a special ecological balance. All through the planet's history, the balance has been maintained, but always at the cost of catastrophe. After temporary imbalance, the balance is restored by famine, epidemic, drastic climatic change. We maintain it now without catastrophe by daily shifts and changes, by never allowing imbalance to accumulate dangerously."

Marley said, "There's what you once said-'Man's greatest asset is a balanced ecology.'"

"So they tell me I said."

"It's there on the wall behind you."

"Only the first three words," said Adrastus dryly.

There it was on a long Shimmer-plast, the words winking and alive: MAN'S GREATEST ASSET. . .

"You don't have to complete the statement."

"What else can I tell you?"

"Can I spend some time with you and watch you at your work?"

"You'll watch a glorified clerk."

"I don't think so. Do you have appointments at which I may be present?"

"One appointment today; a young fellow named Tansonias; one of our Moon-men. You can sit in."

"Moon-men? You mean-"

"Yes, from the lunar laboratories. Thank heaven for the moon. Otherwise all their experimentation would take place on Earth, and we have enough trouble containing the ecology as it is."

"You mean like nuclear experiments and radiational pollution?"

"I mean many things."

Lou Tansonias's expression was a mixture of barely suppressed excitement and barely suppressed apprehension. "I'm glad to have this chance to see you, Mr. Secretary," he said breathlessly, puffing against Earth's gravity.

"I'm sorry we couldn't make it sooner," said Adrastus smoothly. "I have excellent reports concerning your work. The other gentleman present is Jan Marley, a science writer, and he need not concern us."

Lou glanced at the writer briefly and nodded, then turned eagerly to Adrastus. "Mr. Secretary-"

"Sit down," said Adrastus.

Lou did so, with the trace of clumsiness to be expected of one acclimating himself to Earth, and with an air, somehow, that to pause long enough to sit was a waste of time. He said, "Mr. Secretary, I am appealing to you personally concerning my Project Application Num-"

"I know it."

"You've read it, sir?"

"No, I haven't, but the computers have. It's been rejected."

"Yes! But I appeal from the computers to you."

Adrastus smiled and shook his head. "That's a difficult appeal for me. I don't know from where I could gather the courage to override the computer."

"But you must," said the young man earnestly. "My field is genetic engineering."

"Yes, I know."

"And genetic engineering," said Lou, running over the interruption, "is the handmaiden of medicine and it shouldn't be so. Not entirely, anyway."

"Odd that you think so. You have your medical degree, and you have done impressive work in medical genetics. I have been told that in two years time your work may lead to the full suppression of diabetes mellitus for good."

"Yes, but I don't care. I don't want to carry that through. Let someone else do it. Curing diabetes is just a detail and it will merely mean that the death rate will go down slightly and produce just a bit more pressure in the direction of population increase. I'm not interested in achieving that."

"You don't value human life?"

"Not infinitely. There are too many people on Earth."

"I know that some think so."

"You're one of them, Mr. Secretary. You have written articles saying so. And it's obvious to any thinking man-to you more than anyone-what it's doing. Over-population means discomfort, and to reduce the discomfort private choice must disappear. Crowd enough people into a field and the only way they can all sit down is for all to sit down at the same time. Make a mob dense enough and they can move from one point to another quickly only by marching in formation. That is what men are becoming; a blindly marching mob knowing nothing about where it is going or why."

"How long have you rehearsed this speech, Mr. Tansonia?"

Lou flushed slightly. "And the other life forms are decreasing in numbers of species and individuals, except for the plants we eat. The ecology gets simpler every year."

"It stays balanced."

"But it loses color and variety and we don't even know how good the balance is. We accept the balance only because it's all we have."

"What would you do?"

"Ask the computer that rejected my proposal. I want to initiate a program for genetic engineering on a wide variety of species from worms to mammals. I want to create new variety out of the dwindling material at hand before it dwindles out altogether."

"For what purpose?"

"To set up artificial ecologies. To set up ecologies based on plants and animals not like anything on Earth."

"What would you gain?"

"I don't know. If I knew exactly what I would gain there would be no need to do research. But I know what we ought to gain. We ought to learn more about what makes an ecology tick. So far, we've only taken what nature has handed us and then ruined it and broken it down and made do with the gutted remains. Why not build something up and study that?"

"You mean build it blindly? At random?"

"We don't know enough to do it any other way. Genetic engineering has the random mutation as its basic driving force. Applied to medicine, this randomness must be minimized at all costs, since a specific effect is sought. I want to take the random component of genetic engineering and make use of it."

Adrastus frowned for a moment. " And how are you going to set up an ecology that's meaningful? Won't it interact with the ecology that already exists, and possibly unbalance it? That is something we can't afford."

"I don't mean to carry out the experiments on Earth," said Lou. "Of course not."

"On the moon?"

"Not on the moon, either. -On the asteroids. I've thought of that since my proposal was fed to the computer which spit it out. Maybe this will make a difference. How about small asteroids, hollowed-out; one per ecology? Assign a certain number of asteroids for the purpose. Have them properly engineered; outfit them with energy sources and transducers; seed them with collections of life forms which might form a closed ecology. See what happens. If it doesn't work, try to figure out why and subtract an item, or, more likely, add an item, or change the proportions. We'll develop a science of applied ecology, or, if you prefer, a science of ecological engineering; a science one step up in complexity and significance beyond genetic engineering."

"But the good of it, you can't say."

"The specific good, of course not. But how can it avoid some good? It will increase knowledge in the very field we need it most." He pointed to the shimmering lettering behind Adrastus. "You said it yourself, 'Man's greatest asset is a balanced ecology.' I'm offering you a way of doing basic research in experimental ecology; something that has never been done before."

"How many asteroids will you want?" Lou hesitated. "Ten?" he said with rising inflection. "As a beginning."

"Take five," said Adrastus, drawing the report toward himself and scribbling quickly on its face, canceling out the computer's decision.

Afterward, Marley said, "Can you sit there and tell me that you're a glorified clerk now? You cancel the computer and hand out five asteroids. Like that."

"The Congress will have to give its approval. I'm sure it will."

"Then you think this young man's suggestion is really a good one."

"No, I don't. It won't work. Despite his enthusiasm, the matter is so complicated that it will surely take far more men than can possibly be made available for far more years than that young man will live to carry it through to any worthwhile point."

"Are you sure?"

"The computer says so. It's why his project was rejected."

"Then why did you cancel the computer's decision?"

"Because I, and the government in general, are here in order to preserve something far more important than the ecology."

Marley leaned forward. "I don't get it."

"Because you misquoted what I said so long ago. Because everyone misquotes it. Because I spoke two sentences and they were telescoped into one and I have never been able to force them apart again. Presumably, the human race is unwilling to accept my remarks as I made them."

"You mean you didn't say 'Man's greatest asset is a balanced ecology'?"

"Of course not. I said, 'Man's greatest need is a balanced ecology.'"

"But on your Shimmer-plast you say, 'Man's greatest asset-'"

"That begins the second sentence, which men refuse to quote, but which I never forget-'Man's greatest asset is the unsettled mind.' I haven't overruled the computer for the sake of our ecology. We only need that to live. I overruled it to save a valuable mind and keep it at work, an unsettled mind. We need that for man to be man-which is more important than merely to live."

Marley rose. "I suspect, Mr. Secretary, you wanted me here for this interview. It's this thesis you want me to publicize, isn't it?"

"Let's say," said Adrastus, "that I'm seizing the chance to get my remarks correctly quoted."

AUTHOR'S COMMENT

Alas, that was my last sale to John. The check arrived on August 18, 1970, and less than a year later he was dead.

When the story appeared in the January 1972 issue of *Analog* my good and gentle friend, Ben Bova, was editor of the magazine. It isn't possible to fill John Campbell's shoes, but Ben is filling his own very successfully.

The next story was written as the result of a comedy of errors. In January 1971, as a result of a complicated set of circumstances, I promised Bob Silverberg that I would write a short story for an anthology of originals he was preparing. (You may be surprised that I don't explain the complicated set of circumstances, since I am such a blabbermouth, but Bob finds my version a little on the offensive side, so we'll let it go)

I wrote the short story but it turned out not to be a short story. To my enormous surprise, I wrote a novel, *THE GODS THEMSELVES* (Doubleday, 1972), my first science fiction novel in fifteen years (if you don't count *FANTASTIC VOYAGE*, which wasn't entirely mine).

It wasn't a bad novel at all, since it won the Hugo and the Nebula, and showed the science fiction world that the old man still had it. Nevertheless, it put me in a hole since there was the short story I had promised Bob. I wrote another, therefore, *TAKE A MATCH*, and it appeared in Bob's anthology *New Dimensions II* (Doubleday, 1972).

TAKE A MATCH

Space was black; black an around in every direction. There was nothing to be seen; not a star.

It was not because there were no stars-

Actually the thought that there might be no stars, literally no stars, had chilled Per Hanson's vitals. It was the old nightmare that rested just barely subliminally beneath the skin of every deep-spacer's brain.

When you took the Jump through the tachyon-universe, how sure were you where you would emerge? The timing and quantity of the energy input might be as tightly controlled as you liked, and your Fusionist might be the best in space, but the uncertainty principle reigned supreme and there was always the chance, even the inevitability of a random miss.

And by way of tachyons, a paper-thin miss might be a thousand light-years.

What, then, if you landed nowhere; or at least so distant from anywhere that nothing could possibly ever, guide you to knowledge of your own position and nothing, therefore, could guide you back to anywhere?

Impossible, said the pundits. There was no place in the universe from which the quasars could not be seen, and from those alone you could position yourself. Besides, the chance that in the course of ordinary Jumps mere chance would take you outside the galaxy was only one in about ten million, and to the distance of, say, the Andromeda galaxy or Maffei 1, perhaps one in a quadrillion.

Forget it, said the pundits.

So when a ship comes out of its Jump, and returns from the weird paradoxes of the faster-than-light tachyons to the healthy we-know-it-all of an the tardyons from protons down to protons up, there must be stars to be seen. If they are not seen nevertheless, you are in a dust cloud; it is the only explanation. There are smoggy areas in the galaxy, or in any spiral galaxy, as once there were on Earth, when it was the sole home of humanity, rather than the carefully preserved, weather-controlled, life-preserve museum-piece it now was.

Hanson was tall and gloomy; his skin was leathery; and what he didn't know about the hyperships that ploughed the length and breadth of the galaxy and immediately neighboring regions-always barring the Fusionists' mysteries-was yet to be worked out. He was alone, now, in the Captain's Corner, as he liked to be. He had at hand all that was needed to be connected with any man or woman on board, and with the results of any device and instrument, and it pleased him to be the unseen presence.

-Though now nothing pleased him. He closed contact and said, "What else, Strauss?"

"We're in an open cluster," said Strauss's voice. (Hanson did not turn on the visual attachment; it would have meant revealing his own face and he preferred his look of sick worry to be held private.)

"At least," Strauss continued, "it seems to be an open cluster, from the level of radiation we can get in the far infrared and microwave regions. The trouble is we just can't pinpoint the positions well enough to locate ourselves. Not a hope."

"Nothing in visible light?"

"Nothing at all; or in the near-infrared, either. The dust cloud is as thick as soup."

"How big is it?"

"No way of telling."

"Can you estimate the distance to the nearest edge?"

"Not even to an order of magnitude. It might be a light-week. It might be ten light-years. Absolutely no way of telling."

"Have you talked to Viluekis?"

Strauss said briefly, "Yes!"

"What does he say?"

"Not much. He's sulking. He's taking it as a personal insult, of course."

"Of course." Hanson sighed noiselessly. Fusionists were as childish as children and because theirs was the romantic role in deep space, they were indulged. He said, "I suppose you told him that this sort of thing is unpredictable and could happen at any time."

"I did. And he said, as you can guess-'Not to Viluekis.' "

"Except that it did, of course. Well, I can't speak to him. Nothing I say will mean anything at all except that I'm trying to pull rank and then we'll get nothing further out of him. -He won't start the scoop?"

"He says he can't. He says it will be damaged."

"How can you damage a magnetic field!"

Strauss grunted. "Don't say that to him. He'll tell you there's more to a fusion tube than a magnetic field and then say you're trying to downgrade him."

"Yes, I know. -Well, look, put everyone and everything on the cloud. There must be some way to make some sort of guess as to the direction and distance of the nearest edge." He broke connection.

Hanson frowned into the middle distance, then.

Nearest edge! It was doubtful if at the ship's speed (relative to the surrounding matter) they dared expend the energy required for radical alteration of course.

They had moved into the Jump at half-light speed relative to the galactic nucleus in the tardyon-universe, and they emerged from the Jump at (of course) the same speed. There always seemed an element of risk in that. After all, suppose you found yourself, on the return, in the near neighborhood of a star and heading toward it at half-light speed.

The theoreticians denied the possibility. To get dangerously close to a massive body by way of a Jump was not reasonably to be expected. So said the pundits. Gravitational forces were involved in the Jump and for the transition from tardyon to

tachyon and back to tardyon those forces were repulsive in nature. In fact, it was the random effect of a net gravitational force that could never be worked out in complete detail that accounted for a good deal of the uncertainty in the Jump.

Besides, they would say, trust to the Fusionist's instinct. A good Fusionist never goes wrong.

Except that this Fusionist had Jumped them into a cloud.

-Oh, that! It happens all the time. It doesn't matter. Do you know how thin most clouds are. You won't even know you're in one.

(Not this cloud, O Pundit.)

-In fact, clouds are good for you. The scoops don't have to work so long or so hard to keep fusion going and energy storing.

(Not this cloud, O Pundit.)

-Well, then, rely on the Fusionist to think of a way out.

(But if there was no way out?)

Hanson shied away from that last thought. He tried hard not to think it. -But how do you not think a thought that is the loudest thing in your head?

Henry Strauss, ship's astronomer, was himself in a mood of deep depression. If what had taken place were undiluted catastrophe, it might be accepted. No one on the hyperships could entirely close his eyes to the possibility of catastrophe. You were prepared for that, or you tried to be. -Though it was worse for the passengers, of course.

But when the catastrophe involved something that you would give your eye-teeth to observe and study, and when you find that the professional find of a lifetime was precisely what was killing you-

He sighed heavily.

He was a stout man, with tinted contact lenses that gave a spurious brightness and color to eyes that would otherwise have precisely matched a colorless personality.

There was nothing the captain could do. He knew that. The captain might be autocrat of all the rest of the ship, but a Fusionist was a Jaw to himself, and always had been. Even to the passengers (he thought with some disgust) the Fusionist is the emperor of the spaceways and everyone beside dwindles to impotence.

It was a matter of supply and demand. The computers might calculate the exact quantity and timing of the energy input and the exact place and direction (if "direction" had any meaning in the transition from tardyon to tachyon), but the margin of error was huge and only a talented Fusionist could lower it. What it was that gave a Fusionist his talent, no one knew-they were born, not made. But Fusionists knew they had the talent and there was never one that didn't trade on that.

Viluekis wasn't bad as Fusionists went-though they never went far. He and Strauss were at least on speaking terms, even though Viluekis had effortlessly collected the prettiest passenger on board after Strauss had seen her first. (That was somehow part of the Imperial rights of the Fusionists en route.)

Strauss contacted Anton Viluekis. It took time for it to go through and when it did, Viluekis looked irritated in a rumpled, sad-eyed way.

"How's the tube?" asked Strauss gently. "I think I shut it down in time. I've gone over it and I don't see any damage. Now," he looked down at himself, "I've got to clean up."

"At least it isn't harmed."

"But we can't use it "

"We might use it, Vil," said Strauss in an insinuating voice. "We can't say what will happen out there. If the tube were damaged, it wouldn't matter what happened out there, but, as it is, if the cloud cleans up-

"If-if-if-I'll tell you an 'if.' If you stupid astronomers had known this cloud was here, I might have avoided it."

That was flatly irrelevant, and Strauss did not rise to the bait. He said, "It might clear up."

"What's the analysis?"

"Not good, Vil. It's the thickest hydroxyl cloud that's ever been observed. There is nowhere in the galaxy, as far as I know, a place where hydroxyl has been concentrated so densely."

" And no hydrogen?"

"Some hydrogen, of course. About five per cent"

"Not enough," said Viluekis curtly. "There's something else there besides hydroxyl. There's something that gave me more trouble than hydroxyl could. Did you locate it?"

"Oh, yes. Formaldehyde. There's more formaldehyde than hydrogen. Do you realize what it means, Vil? Some process has concentrated oxygen and carbon in space in unheard-of amounts; enough to use up the hydrogen over a volume of cubic light-years, perhaps. There isn't anything I know or can imagine which would account for such a thing."

"What are you trying to say, Strauss? Are you telling me that this is the only cloud of this type in space and I am stupid enough to land in it?"

"I'm not saying that, Vil. I only say what you hear me say and you haven't heard me say that. But, Vil, to get out we're depending on you. I can't call for help because I can't aim a hyperbeam without knowing where we are: I can't find out where we are because I can't pinpoint any stars-

"And I can't use the fusion tube, so why am I the villain? You can't do your job, either, so why is the Fusionist always the villain." Viluekis was simmering. "It's up to you, Strauss, up to you. Tell me where to cruise the ship to find hydrogen. Tell me where the edge of the cloud is. -Or to hell with the edge of the cloud; find me the edge of the hydroxyl-formaldehyde business."

"I wish I could," said Strauss, "but so far I can't detect anything but hydroxyl and formaldehyde as far as I can probe."

"We can't fuse that stuff."

"I know."

"Well," said Viluekis violently, "this is an example of why it's wrong for the government to try to legislate supersafety instead of leaving it to the judgment of the Fusionist on the spot. If we had the capacity for the Double-Jump, there'd be no trouble."

Strauss knew perfectly well what Viluekis meant. There was always the tendency to save time by making two Jumps in rapid succession, but if one Jump involved certain unavoidable uncertainties, two in succession greatly multiplied those uncertainties, and even the best Fusionist couldn't do much. The multiplied error almost invariably greatly lengthened the total time of the trip.

It was a strict rule of hypernavigation that one full day of cruising between Jumps was necessary-three full days was preferable. That gave time enough to prepare the next Jump with all due caution. To avoid breaking that rule, each Jump was made under conditions that left insufficient energy supply for a second. For at least some time, the scoops had to gather and compress hydrogen, fuse it, and store the energy, building up to Jump-ignition. And it usually took at least a day to store enough to allow a Jump.

Strauss said, "How far short in energy are you, Vil?"

"Not much. This much." Viluekis held his thumb and forefinger apart by a quarter of an inch. "It's enough, though."

"Too bad," said Strauss flatly. The energy supply was recorded and could be inspected, but even so, Fusionists had been known to organize the records in such a way as to leave themselves some leeway for that second Jump.

"Are you sure?" he said. "Suppose you throw in the emergency generators, turn off all the lights-"

"And the air circulation and the appliances and the hydroponics apparatus. I know. I know. I figured that all in and we don't quite make it. -There's your stupid Double-Jump safety regulation."

Strauss still managed to keep his temper. He knew-everyone knew-that it had been the Fusionist Brotherhood that had been the driving force behind that regulation. A Double-Jump, sometimes insisted on by the captain, much more often than not made the Fusionist look bad. -But then, there was at least one advantage. With an obligatory cruise between every Jump, there ought to be at least a week before the passengers grew restless and suspicious, and in that week something might happen. So far, it was not quite a day.

He said, "Are you sure you can't do something with your system; filter out some of the impurities?"

"Filter them out! They're not impurities; they're the whole thing. Hydrogen is the impurity here. Listen, I'll need half a billion degrees to fuse carbon and oxygen atoms; probably a full billion. It can't be done and I'm not going to try. If I try something and it doesn't work, it's my fault, and I won't stand for that. It's up to you to get me to the hydrogen and you do it. You just cruise this ship to the hydrogen. I don't care how long it takes."

Strauss said, "We can't go faster than we're going now, considering the density of the medium, Vil. And at halflight speed we might have to cruise for two years-maybe twenty years"

"Well, you think of a way out. Or the captain."

Strauss broke contact in despair. There was just no way of carrying on a rational conversation with a Fusionist. He'd heard the theory advanced (and perfectly seriously) that repeated Jumps affected the brain. In the Jump, every tardyon in ordinary matter had to be turned into an equivalent tachyon and then back again to the original tardyon. If the double conversion was imperfect in even the tiniest way, surely the effect would show up first in the brain, which was by far the most complex piece of matter ever to make the transition. Of course, no ill effects had ever been demonstrated experimentally, and no class of hypership officers seemed to deteriorate with time past what could be attributed to simple aging. But perhaps whatever it was in the Fusionists' brains that made them Fusionists and allowed them to go, by sheer intuition, beyond the best of computers might be particularly complex and therefore particularly vulnerable.

Nuts! There was nothing to it! Fusionists were merely spoiled!

He hesitated. Ought he to try to reach Cheryl? She could smooth matters if anyone could, and once old Vil-baby was properly dandled, he might think of a way to put the fusion tubes into operation-hydroxyl or not.

Did he really believe Viluekis could, under any circumstances? Or was he trying to avoid the thought of cruising for years? To be sure, hyperships were prepared for such an eventuality, in principle, but the eventuality had never come to pass and the crews-and still less the passengers-were surely not prepared for it.

But if he did talk to Cheryl, what could he say that wouldn't sound like an order for seduction? It was only one day so far and he was not yet ready to pimp for a Fusionist.

Wait! Awhile, anyway!

Viluekis frowned. He felt a little better having bathed and he was pleased that he had been firm with Strauss. Not a bad fellow, Strauss, but like all of them ("them," the captain, the crew, the passengers, all the stupid non-Fusionists in the universe) he wanted to shed responsibility. Put it all on the Fusionist. It was an old, old song, and he was one Fusionist who wouldn't take it.

That talk about cruising for years was just a way of trying to frighten him. If they really put their minds to it, they could work out the limits of the cloud and somewhere there had to be a nearer edge. It was too much to ask that they had landed in the precise center. Of course, if they had landed near one edge and were heading for the other-

Viluekis rose and stretched. He was tall and his eyebrows hung over his eyes like canopies.

Suppose it did take years. No hypership had ever cruised for years. The longest cruise had been eighty-eight days and thirteen hours, when one of them had managed to find itself in an unfavorable position with respect to a diffuse star and had to recede at speeds that built up to over 0.9 light before it was reasonably able to Jump.

They had survived and that was a quarter-year cruise. Of course, twenty years.

But that was impossible.

The signal light flashed three times before he was fully aware of it. If that was the captain coming to see him personally, he would leave at a rather more rapid rate than he had come.

"Anton!"

The voice was soft, urgent, and part of his annoyance seeped away. He allowed the door to recede into its socket and Cheryl came in. The door closed again behind her.

She was about twenty-five, with green eyes, a firm chin, dull red hair, and a magnificent figure that did not hide its light under a bushel.

She said, "Anton. Is there something wrong?"

Viluekis was not caught so entirely by surprise as to admit any such thing. Even a Fusionist knew better than to reveal anything prematurely to a passenger. "Not at all. What makes you think so?"

"One of the other passengers says so. A man named Martand."

"Martand? What does he know about it?" Then, suspiciously, "And what are you doing listening to some fool passenger? What does he look like?"

Cheryl smiled wanly. "Just someone who struck up a conversation in the lounge. He must be nearly sixty years old, and quite harmless, though I imagine he would like not to be. But that's not the point. There are no stars in view. Anyone can see that, and Martand said it was significant."

"Did he? We're just passing through a cloud. There are lots of clouds in the galaxy and hyperships pass through them all the time."

"Yes, but Martand says you can usually see some stars even in a cloud."

"What does he know about it?" Viluekis repeated. "Is he an old hand at deep space?"

"No-o," admitted Cheryl. "Actually, it's his first trip, I think. But he seems to know a lot."

"I'll bet. Listen, you go to him and tell him to shut up. He can be put in solitary for this. And don't you repeat stories like that, either."

Cheryl put her head to one side. "Frankly, Anton, you sound as though there were trouble. This Martand-Louis Martand is his name-is an interesting fellow. He's a schoolteacher-eighth grade general science."

"A grade-school teacher! Good Lord, Cheryl-"

"But you ought to listen to him. He says that teaching children is one of the few professions where you have to know a little bit about everything because kids ask questions and can spot phonies."

"Well, then, maybe your specialty should be spotting phonies, too. Now, Cheryl, you go and tell him to shut up, or I will."

"All right. But first-is it true that we're going through a hydroxyl cloud and the fusion tube is shut down?"

Viluekis's mouth opened, then shut again. It was quite a while before he said, "Who told you that?"

"Martand. I'll go now."

"No," said Viluekis sharply. "Wait awhile. How many others has Martand been telling all this?"

"Nobody. He said he doesn't want to spread panic. I was there when he was thinking about it, I suppose, and I guess he couldn't resist saying something."

"Does he know you know me?"

Cheryl's forehead furrowed slightly. "I think I mentioned something about it."

Viluekis snorted, "Don't you suppose that this crazy old man you've picked up is bound to try to show you how great he is. It's me he's trying to impress through you."

"Nothing of the sort," said Cheryl. "In fact, he specifically said I wasn't to tell you anything."

"Knowing, of course, that you'd come to me at once."

"Why should he want me to do that?"

"To show me up. Do you know what it's like being a Fusionist? To have everyone resenting you, against you, because you're so needed, because you-"

Cheryl said, "But what's any of that got to do with it? If Martand's all wrong, how would that show you up? And if he's right-Is he right, Anton?"

"Well, exactly what did he say?"

"I'm not sure I can remember it all, of course," Cheryl said thoughtfully. "It was after we came out of the Jump, actually quite a few hours after. By that time all anyone was talking about was that there were no stars in view. In the lounge everyone was saying there ought to be another Jump soon because what was the good of deep-space travel without a view. Of course, we knew we had to cruise at least a day. Then Martand came in, saw me, and came over to speak to me. -I think he rather likes me."

"I think I rather don't like him," said Viluekis grimly. "Go on."

"I said to him that it was pretty dreary without a view and he said it would stay that way for a while, and he sounded worried. Naturally I asked why he said such a thing and he said it was because the fusion tube had been turned off."

"Who told him that?" demanded Viluekis.

He said there was a low hum that you could hear in one of the men's rooms that you couldn't hear anymore. And he said there was a place in the closet of the game room where the chess sets were kept where the wall felt warm because of the fusion tube and that place was not warm now."

"Is that all the evidence he has?"

-Cheryl ignored that and went on, "He said there were no stars visible because we were in a dust cloud and the fusion tubes must have stopped because there was no hydrogen to speak of in it. He said there probably wouldn't be enough energy to spark another Jump and that if we looked for hydrogen we might have to cruise years to get out of the cloud."

Viluekis's frown became ferocious. "He's panic-mongering. Do you know what that-"

"He's not. He told me not to tell anyone because he said it would create panic and that besides it wouldn't happen. He only told me because he had just figured it out and was all excited about it and had to talk to someone, but he said there was an easy way out and that the Fusionist would know what to do so that there was no need to worry at all. -But you're the Fusionist, so it seemed to me I had to ask whether he was really right about the cloud and whether you had really taken care of it."

Viluekis said, "This grade-school teacher of yours knows nothing about anything. Just stay away from him. -Uh, did he say what his so-called easy way out was?"

"No. Should I have asked him?"

"No! Why should you have asked him? What would he know about it? But then again- All right, ask him. I'm curious what the idiot has in mind. Ask him."

Cheryl nodded. "I can do that. But are we in trouble?" Viluekis said shortly. "Suppose you leave that to me.

We're not in trouble till I say we're in trouble."

He looked for a long time at the closed door after she had left, both angry and uneasy. What was this Louis Martand-this grade-school teacher-doing with his lucky guesses?

If it finally came about that an extended cruise was necessary, the passengers would have to have it broken to them carefully, or none of them would survive. With Martand shouting it to all who would listen-

Almost savagely Viluekis clicked shut the combination that would bring him the captain.

Martand was slim and of neat appearance. His lips seemed forever on the verge of a smile, though his face and bearing were marked by a polite gravity; an almost expectant gravity, as though he was forever waiting for the person with him to say something truly important.

Cheryl said to him, "I spoke to Mr. Viluekis. -He's the Fusionist, you know. I told him what you said."

Martand looked shocked and shook his head. "I'm afraid you shouldn't have done that!"

"He did seem displeased."

"Of course. Fusionists are very special people and they don't like to have outsiders-"

"I could see that. But he insisted there was nothing to worry about."

"Of course not," said Martand, taking her hand and patting it in a consoling gesture, but then continuing to hold it. "I told you there was an easy way out. He's probably setting it up now. Still, I suppose it could be awhile before he thinks of it."

"Thinks of what?" Then, warmly, "Why shouldn't he think of it, if you have?"

"But he's a specialist, you see, my dear young lady. Specialists think in their speciality and have a hard time getting out of it. As for myself, I don't dare fall into ruts. When I set up a class demonstration I've got to improvise most of the time. I have never

yet been at a school where proton micropiles have been available, and I've had to work up a kerosene thermoelectric generator when we're off on field trips."

"What's kerosene?" asked Cheryl.

Martand laughed. He seemed delighted. "You see? People forget. Kerosene is a kind of flammable liquid. A still-more-primitive source of energy that I have many times had to use was a wood fire which you start by friction. Did you ever come across one of those? You take a match-"

Cheryl was looking blank and Martand went on indulgently, "Well, it doesn't matter. I'm just trying to get across the notion that your Fusionist will have to think of something more primitive than fusion and that will take him a while. As for me, I'm used to working with primitive methods. -For instance, do you know what's out there?"

He gestured at the viewing port, which was utterly featureless; so featureless that the lounge was virtually depopulated for lack of a view.

"A cloud; a dust cloud."

"Ah, but what kind? The one thing that's always to be found everywhere is hydrogen. It's the original stuff of the universe and hyperships depend on it. No ship can carry enough fuel to make repeated Jumps or to accelerate to near-light-speed and back repeatedly. We have to scoop the fuel out of space."

"You know, I've always wondered about that. I thought outer space was empty!"

"Nearly empty, my dear, and 'nearly' is as good as a feast. When you travel at a hundred thousand miles a second, you can scoop up and compress quite a bit of hydrogen, even when there's only a few atoms per cubic centimeter. And small amounts of hydrogen, fusing steadily, provide all the energy we need. In clouds the hydrogen is usually even thicker, but impurities may cause trouble, as in this one."

"How can you tell this one has impurities?"

"Why else would Mr. Viluekis have shut down the fusion tube. Next to hydrogen, the most common elements in the universe are helium, oxygen, and carbon. If the fusion pumps have stopped, that means there's a shortage of fuel, which is hydrogen, and a presence of something that will damage the complex fusion system. This can't be helium, which is harmless. It is possibly hydroxyl groups, an oxygen-hydrogen combination. Do you understand?"

"I think so," said Cheryl. "I had general science in college, and some of it is coming back. The dust is really hydroxyl groups attached to solid dust grains."

"Or actually free in the gaseous state, too. Even hydroxyl is not too dangerous to the fusion system, in moderation, but carbon compounds are. Formaldehyde is most - likely and I should imagine with a ratio of about one of those to four hydroxyls. Do you see now?"

"No, I don't," said Cheryl flatly.

"Such compounds won't fuse. If you heat them to a few hundred million degrees, they break down into single atoms and the concentration of oxygen and carbon will simply damage the system. But why not take them in at ordinary temperatures. Hydroxyl will combine with formaldehyde, after compression, in a chemical reaction that will cause

no harm to the system. At least, I'm sure a good Fusionist could modify the system to handle a chemical reaction at room temperature. The energy of the reaction can be stored and, after a while, there will be enough to make a Jump possible."

Cheryl said, "I don't see that at all. Chemical reactions produce hardly any energy, compared to fusion."

"You're quite right, dear. But we don't need much. The previous Jump has left us with insufficient energy for an immediate second Jump-that's regulations. But I'll bet your friend, the Fusionist, saw to it that as little energy as possible was lacking. Fusionists usually do that. The little extra required to reach ignition can be collected from ordinary chemical reactions. Then, once a Jump takes us out of the cloud, cruising for a week or so will refill our energy tanks and we can continue without harm. Of course-" Martand raised his eyebrows and shrugged.

"Yes?"

"Of course," said Martand, "if for any reason Mr. Viluekis should delay, there may be trouble. Every day we spend before Jumping uses up energy in the ordinary life of the ship, and after a while chemical reactions won't supply the energy required to reach Jump-ignition. I hope he doesn't wait long."

"Well, why don't you tell him? Now."

Martand shook his head. "Tell a Fusionist? I couldn't do that, dear."

"Then I will."

"Oh, no. He's sure to think of it himself. In fact, I'll make a bet with you, my dear. You tell him exactly what I said and say that I told you he had already thought of it himself and that the fusion tube was in operation. And, of course, if I win-"

Martand smiled.

Cheryl smiled, too. "I'll see," she said.

Martand looked after her thoughtfully as she hastened away, his thoughts not entirely on Viluekis's possible reaction.

He was not surprised when a ship's guard appeared from almost nowhere and said, "Please come with me, Mr. Martand."

Martand said quietly. "Thank you for letting me finish. I was afraid you wouldn't."

Something more than six hours passed before Martand was allowed to see the captain. His imprisonment (which was what he considered it) was one of isolation, but was not onerous; and the captain, when he did see him, looked tired and not particularly hostile.

Hanson said, "It was reported to me that you were spreading rumors designed to create panic among the passengers. That is a serious charge."

"I spoke to one passenger only, sir; and for a purpose."

"So we realize. We put you under surveillance at once and I have a report, a rather full one, of the conversation you had with Miss Cheryl Winter. It was the second conversation on the subject."

"Yes, sir."

"Apparently you intended the meat of the conversation to be passed on to Mr. Viluekis."

"Yes, sir."

"You did not consider going to Mr. Viluekis personally?"

"I doubt that he would have listened, sir."

"Or to me."

"You might have listened, but how would you pass on the information to Mr. Viluekis? You might then have had to use Miss Winter yourself. Fusionists have their peculiarities."

The captain nodded abstractedly. "What was it you expected to happen when Miss Winter passed on the information to Mr. Viluekis?"

"My hope, sir," said Martand, "was that he would be less defensive with Miss Winter than with anyone else; that he would feel less threatened. I was hoping that he would laugh and say the idea was a simple one that had occurred to him long before, and that, indeed, the scoops were already working, with the intent of promoting the chemical reaction. Then, when he got rid of Miss Winter, and I imagine he would do that quickly, he would start the scoops and report his action to you, sir, omitting any reference to myself or Miss Winter."

"You did not think he might dismiss the whole notion as unworkable?"

"There was that chance, but it didn't happen."

"How do you know?"

"Because half an hour after I was placed in detention, sir, the lights in the room in which I was kept dimmed perceptibly and did not brighten again. I assumed that energy expenditure in the ship was being cut to the bone, and assumed further that Viluekis was throwing everything into the pot so that the chemical reaction would supply enough for ignition."

The captain frowned. "What made you so sure you could manipulate Mr. Viluekis? Surely you have never dealt with Fusionists, have you?"

"Ah, but I teach the eighth-grade, captain. I have dealt with other children."

For a moment the captain's expression remained wooden. And then slowly it relaxed into a smile. "I like you, Mr. Martand," he said, "but it won't help you. Your expectations did come to pass; as nearly as I can tell, exactly as you had hoped. But do you understand what followed?"

"I will, if you tell me."

"Mr. Viluekis had to evaluate your suggestion and decide, at once, whether it was practical. He had to make a number of careful adjustments to the system to allow chemical reactions without knocking out the possibility of future fusion. He had to determine the maximum safe rate of reaction; the amount of stored energy to save; the point at which ignition might safely be attempted; the kind and nature of the Jump. It all had to be done quickly and no one else but a Fusionist could have done it. In fact, not every Fusionist could have done it; Mr. Viluekis is exceptional even for a Fusionist. Do you see?"

"Quite well." The captain looked at the timepiece on the wall and activated his viewport. It was black, as it had been now for the better part of two days. "Mr. Viluekis has informed me of the time at which he will attempt Jump-ignition. He thinks it will work and I am confident in his judgment."

"If he misses," said Martand somberly, "we may find ourselves in the same position as before, but stripped of energy."

"I realize that," said Hanson, "and since you might feel a certain responsibility over having placed the idea in the Fusionist's mind, I thought you might want to wait through the few moments of suspense ahead of us."

Both men were silent now, watching the screen, while first seconds, then minutes, moved past. Hanson had not mentioned the exact deadline and Martand had no way of telling how imminent it was or whether it had passed. He could only shift his glance, occasionally and momentarily, to the captain's face, which maintained a studied expressionlessness.

And then came that queer internal wrench that disappeared almost at once, like a tic in the abdominal wall. They had Jumped.

"Stars!" said Hanson in a whisper of deep satisfaction. The viewport had burst into a riot of them, and at that moment Martand could recall no sweeter sight in all his life.

"And on the second," said Hanson. "A beautiful job. We're energy-stripped now, but we'll be full again in anywhere from one to three weeks, and during that time the passengers will have their view."

Martand felt too weak with relief to speak.

The captain turned to him. "Now, Mr. Martand. Your idea had merit. One could argue that it saved the ship and everyone on it. One could also argue that Mr. Viluekis was sure to think of it himself soon enough. But there will be no argument about it at all, for under no conditions can your part in this be known. Mr. Viluekis did the job and it was a great one of pure virtuosity even after we take into account the fact that you may have sparked it. He will be commended for it and receive great honors. You will receive nothing."

Martand was silent for a moment. Then he said, "I understand. A Fusionist is indispensable and I am of no account. If Mr. Viluekis's pride is hurt in the slightest, he may become useless to you, and you can't afford to lose him. For myself-well, be it as you wish. Good day, Captain."

"Not quite," said the captain. "We can't trust you."

"I won't say anything."

"You may not intend to, but things happen. We can't take the chance. For the remainder of the flight you will be under house arrest."

Martand frowned. "For what? I saved you and your damned ship-and your Fusionist."

"For exactly that. For saving it. That's the way it works out."

"Where's the justice?"

Slowly the captain shook his head. "It's a rare commodity, I admit, and sometimes too expensive to afford. You can't even go back to your room. You will be seeing no one in what remains of the trip."

Martand rubbed the side of his chin with one finger. "Surely you don't mean that literally, Captain."

"I'm afraid I do."

"But there is another who might talk-accidentally and without meaning to. You had better place Miss Winter under house arrest, too."

"And double the injustice?"

"Misery loves company," said Martand.

And the captain smiled. "Perhaps you're right," he said.

AUTHOR'S COMMENT

Writer-friends come and go, too, alas. After I moved to New York, I frequently saw a number of writers whom, while I was in Boston, I had seen only occasionally. Lester del Rey and Robert Silverberg are examples. But then in 1972 Bob moved to California and I lost him again.

I had a chance to do one last thing for John Campbell, by the way. It occurred to Harry Harrison to do an anthology of stories of the kind that John Campbell had made famous by the authors he had made famous. Naturally, I was one of the authors, and in March 1972 I offered to do another "thiotimeline" article.

I had done three in my time and they had made a considerable stir. The first was The Endochronic Properties of Resublimated Thiotimeline and it had appeared in the March 1948, *Astounding* under circumstances described in THE EARLY ASIMOV (where the article was reprinted) .

The second was The Micropsychiatric Applications of Thiotimeline, which appeared in the December 1953 *Astounding*. It, along with the first, was included in my collection ONLY A TRILLION (Abelard-Schuman, 1957).

The third was Thiotimeline and the Space Age, which appeared in the September 1960 *Analog* and was included in my book OPUS 100 (Houghton Mifflin, 1969).

Now I wrote a fourth, a quarter century after the first, and it was THIOTIMOLINE TO THE STARS.

THIOTIMOLINE TO THE STARS

"Same speech, I suppose," said Ensign Feet wearily.

"Why not?" said Lieutenant Frohorov, closing his eyes and carefully sitting down on the small of his back. "He's given it for fifteen years, once to each graduating class of the Astronautic Academy."

"Word for word, I'll bet," said Feet, who had heard it the year before for the first time.

"As far as I can tell. -What a pompous bore! Oh, for a pin that would puncture pretension."

But the class was filing in now, uniformed and expectant, marching forward, breaking into rows with precision, each man and woman moving to his or her assigned seat to the rhythm of a subdued drumbeat, and then all sitting down to one loud boom.

At that moment Admiral Vernon entered and walked stiffly to the podium.

"Graduating class of '22, welcome! Your school days are over. Your education will now begin.

"You have learned all there is to know about the classic theory of space flight. You have been filled to overflowing with astrophysics and celestial relativistic mechanics. But you have not been told about thiotimoline.

"That's for a very good reason. Telling you about it in class will do you no good. You will have to learn to fly with thiotimoline. It is thiotimoline and that alone that will take you to the stars. With all your book learning, you may still never learn to handle thiotimoline. If so, there will yet be many posts you can fill in the astronautic way of life. Being a pilot will not, however, be one of them.

"I will start you off on this, your graduation day, with the only lecture you will get on the subject. After this, your dealings with thiotimoline will be in flight and we will find out quickly whether you have any talent for it at all."

The admiral paused, and seemed to be looking from face to face as though he was trying to assay each man's talent to begin with. Then he barked:

"Thiotimoline! First mentioned in 1948, according to legend, by Azimuth or, possibly, Asymptote, who may, very likely, never have existed. There is no record of the original article supposed to have been written by him; merely vague references to it, none earlier than the twenty-first century.

"Serious study began with Almirante, who either discovered thiotimoline, or rediscovered it, if the Azimuth/Asymptote tale is accepted. Almirante worked out the theory of hyperstercic hindrance and showed that the molecule of thiotimoline is so distorted that one bond is forced into extension through the temporal dimension into the past; and another into the future.

"Because of the future-extension, thiotimoline can interact with an event that has not yet taken place. It can, for instance, to use the classic example, dissolve in water approximately one second before the water is added.

"Thiotimoline is, of course, a very simple compound, comparatively. It has, indeed, the simplest molecule capable of displaying endochronic properties-that is, the past-future extension. While this makes possible certain unique devices, the true applications of endochronicity had to await the development of more complicated molecules; polymers that combined endochronicity with firm structure.

"Pellagrini was the first to form endochronic resins and plastics, and, twenty years later, Cudahy demonstrated the technique for binding endochronic plastics to metal. It became possible to make large objects endochronic-entire spaceships, for instance.

"Now let us consider what happens when a large structure is endochronic. I will describe it qualitatively only; it is all that is necessary. The theoreticians have it all worked out mathematically, but I have never known a physics-johnny yet who could pilot a starship. Let them handle the theory, then, and you handle the ship.

"The small thiotimoline molecule is extraordinarily sensitive to the probabilistic states of the future. If you are certain you are going to add the water, it will dissolve before the water is added. If there is even the slightest doubt in your mind as to whether you will add the water, the thiotimoline will not dissolve until you actually add it.

"The larger the molecule possessing endochronicity, the less sensitive it is to the presence of doubt. It will dissolve, swell, change its electrical properties, or in some way interact with water, even if you are almost certain you may not add the water. But then what if you don't, in actual fact, add the water? The answer is simple. The endochronic structure will move into the future in search of water; not finding it, it will continue to move into the future.

"The effect is very much that of the donkey following the carrot fixed to a stick and held two feet in front of the donkey's nose; except that the endochronic structure is not as smart as the donkey, and never gets tired.

"If an entire ship is endochronic-that is, if endochronic groupings are fixed to the hull at frequent intervals-it is easy to set up a device that will deliver water to key spots in the structure, and yet so arrange that device that although it is always apparently on the point of delivering the water, it never actually does.

"In that case, the endochronic groupings move forward in time, carrying all the ship with it and all the objects on board the ship, including its personnel.

"Of course, there are no absolutes. The ship is moving forward in time relative to the universe; and this is precisely the same as saying that the universe is moving backward in time relative to the ship. The rate at which the ship is moving forward, or the universe is moving backward, in time, can be adjusted with great delicacy by the necessary modification of the device for adding water. The proper way of doing this can be taught, after a fashion; but it can be applied perfectly only by inborn talent. That is what we will find out about you all; whether you have that talent."

Again he paused and appraised them. Then he went on, amid perfect silence:

"But what good is it all? Let's consider starflights and review some of the things you have learned in school.

"Stars are incredibly far apart and to travel from one to another, considering the light-speed limit on velocity, takes years; centuries; millennia. One way of doing it is to set up a huge ship with a closed ecology; a tiny, self-contained universe. A group of people will set out and the tenth generation thereafter reaches a distant star. No one man makes the journey, and even if the ship eventually returns home, many centuries may have passed.

"To take the original crew to the stars in their own lifetime, freezing techniques may keep them in suspended animation for virtually all the trip. But freezing is a very uncertain procedure, and even if the crew survives and returns home, they will find that many centuries have passed on Earth.

"To take the original crew to the stars in their own lifetime, without freezing them, it is only necessary to accelerate to near-light velocities. Subjective time slows, and it will seem to the crew that it will have taken them only months to make the trip. But time travels at the normal rate for the rest of the universe, and when the crew returns they will find that although they, themselves, have aged and experienced no more than two months of time, perhaps, the Earth itself will have experienced many centuries.

"In every case, star travel involves enormous duration of time on Earth, even if not to the crew. One must return to Earth, if one returns at all, far into the Earth's future, and this means interstellar travel is not psychologically practical.

"But- But, graduates-

He peered piercingly at them and said in a low, tense voice, "If we use an endochronic ship, we can match the time-dilatation effect exactly with the endochronic effect. While the ship travels through space at enormous velocity, and experiences a large slowdown in rate of experienced time, the endochronic effect is moving the universe back in time with respect to the ship. Properly handled, when the ship returns to Earth, with the crew having experienced, say, only two months of duration, the entire universe will have likewise experienced only two months' duration. At last, interstellar travel became practical.

"But only if very delicately handled.

"If the endochronic effect lags a little behind the time dilatation effect, the ship will return after two months to find an Earth four months older. This is not much, perhaps; it can be lived with, you might think; but not so. The crew members are out of phase. They feel everything about them to have aged two months with respect to themselves. Worse yet, the general population feels that the crew members are two months younger than they ought to be. It creates hard feelings and discomforts.

"Similarly, if the endochronic effect races a little ahead of the time-dilatation effect, the ship may return after two months to find an Earth that has not experienced any time duration at all. The ship returns, just as it is rising into the sky. The hard feelings and discomforts will still exist.

"No, graduates, no interstellar flight will be considered successful in this star fleet unless the duration to the crew and the duration to Earth match minute for minute. A sixty-second deviation is a sloppy job that will gain you no merit. A hundred-twenty-second deviation will not be tolerated.

"I know, graduates, very well what questions are going through your minds. They went through mine when I graduated. Do we not in the endochronic ship have the equivalent of a time machine? Can we not, by proper adjustment of our endochronic device, deliberately travel a century into the future, make our observations, then travel a century into the past to return to our starting point? Or vice versa, can we not travel a century into the past and then back into the future to the starting point? Or a thousand years, or a billion? Could we not witness the Earth being born, life evolving, the sun dying?

"Graduates, the mathematical-johnnies tell us that this sort of thing creates paradoxes and requires too much energy to be practical. But I tell you the hen with paradoxes. We can't do it for a very simple reason. The endochronic properties are unstable. Molecules that are puckered into the time dimension are sensitive indeed. Relatively small effects will cause them to undergo chemical changes that will allow unpuckering. Even if there are no effects at all, random vibrations will produce the changes that will unpucker them.

"In short, an endochronic ship will slowly go isochronic and become ordinary matter without temporal extension. Modern technology has reduced the rate of unpuckering enormously and may reduce it further still, but nothing we do, theory tells us, will ever create a truly stable endochronic molecule.

"This means that your starship has only a limited life as a starship. It must get back to Earth while its endochronicity still holds, and that endochronicity must be restored before the next trip.

"Now, then, what happens if you return out-of-time? If you are not very nearly in your own time, you will have no assurance that the state of the technology will be such as to enable you to re-endochronicize your ship. You may be lucky if you are in the future; you will certainly be unlucky in the past. If, through carelessness on your part, or simply through lack of talent, you come back a substantial distance into the past, you will be certain to be stuck there because there will be no way of treating your ship in such a fashion as to bring it back into what will then be your future.

"And I want you to understand, graduates," here he slapped one hand against the other, as though to emphasize his words, "there is no time in the past where a civilized astronautic officer would care to spend his life. You might, for instance, be stranded in sixth-century France or, worse still, twentieth-century America.

"Refrain, then, from any temptation to experiment with time.

"Let us now pass on to one more point which may not have been more than hinted at in your formal school days, but which is something you will be experiencing.

"You may wonder how it is that a relatively few endochronic atomic bonds placed here and there among matter which is overwhelmingly isochronic can drag an with it. Why

should one endochronic bond, racing toward water, drag with it a quadrillion atoms with isochronic, bonds? We feel this should not happen, because of our lifelong experience with inertia.

"There is, however, no inertia in the movement toward past or future. If one part of an object moves toward the past or future, the rest of the object does so as well, and at precisely the same speed. There is no mass-factor at all. That is why it is as easy for the entire universe to move backward in time as for this single ship to move forward-and at the same rate.

"But there is even more to it than that. The time-dilatation effect is the result of your acceleration with respect to the universe generally. You learned that in grade school, when you took up elementary relativistic physics. It is part of the inertial effect of acceleration.

"But by using the endochronic effect, we wipe out the time-dilatation effect. If we wipe out the time-dilatation effect, then we are, so to speak, wiping out that which produces it. In short, when the endochronic effect exactly balances the time-dilatation effect, the inertial effect of acceleration is canceled out.

"You cannot cancel out one inertial effect without canceling them all. Inertia is therefore wiped out altogether and you can accelerate at any rate without feeling it. Once the endochronic effect is well-adjusted, you can accelerate from rest relative to Earth, to 186,000 miles per second relative to Earth in anywhere from a few hours to a few minutes. The more talented and skillful you are at handling the endochronic effect, the more rapidly you can accelerate.

"You are experiencing that now, gentlemen. It seems to you that you are sitting in an auditorium on the surface of the planet Earth, and I'm sure that none of you has had any reason or occasion to doubt the truth of that impression. But it's wrong just the same.

"You are in an auditorium, I admit, but it is not on the surface of the planet, Earth; not anymore. You-I-all of us-are in a large starship, which took off the moment I began this speech and which accelerated at an enormous rate. We reached the outskirts of the solar system while I've been talking, and we are now returning.

"At no time have any of you felt any acceleration, either through change in speed, change in direction of travel, or both, and therefore you have all assumed that you have remained at rest with respect to the surface of the Earth.

"Not at all, graduates. You have been out in space all the time I was talking, and have passed, according to calculations, within two million miles of the planet Saturn."

He seemed grimly pleased at the distinct stir in the audience.

"You needn't worry, graduates. Since we experience no inertial effects, we experience no gravitational effects either (the two are essentially the same), so that our course has not been affected by Saturn. We will be back on Earth's surface any moment now. As a special treat we will be coming down in the United Nations Port in Lincoln, Nebraska, and you will all be free to enjoy the pleasures of the metropolis for the weekend.

"Incidentally, the mere fact that we have experienced no inertial effects at all shows how well the endochronic effect matched the time-dilatation. Had there been any mismatch, even a small one, you would have felt the effects of acceleration-another reason for making no effort to experiment with time.

"Remember, graduates, a sixty-second mismatch is sloppy and a hundred-twenty-second mismatch is intolerable. We are about to land now; Lieutenant Prohorov, will you take over in the conning tower and oversee the actual landing?"

Prohorov said briskly, "Yes, sir," and went up the ladder in the rear of the assembly hall, where he had been sitting.

Admiral Vernon smiled. "You will all keep your seats. We are exactly on course. My ships are always exactly on course."

But then Prohorov descended again and came running up the aisle to the admiral. He reached him and spoke in a whisper. "Admiral, if this is Lincoln, Nebraska, something is wrong. All I can see are Indians; hordes of Indians. Indians in Nebraska, now, Admiral?"

Admiral Vernon turned pale and made a rattling sound in his throat. He crumpled and collapsed, while the graduating class rose to its feet uncertainly. Ensign Peet had followed Prohorov onto the platform and had caught his words and now stood there thunderstruck.

Prohorov raised his arms. "All's well, ladies and gentlemen. Take it easy. The admiral has just had a momentary attack of vertigo. It happens on landing, sometimes, to older men."

Peet whispered harshly, "But we're stuck in the past, Prohorov."

Prohorov raised his eyebrows. "Of course not. You didn't feel any inertial effects, did you? We can't even be an hour off. If the admiral had any brains to go with his uniform, he would have realized it, too. He had just said it, for God's sake."

"Then why did you say there was something wrong? Why did you say there are Indians out there?"

"Because there was and there are. When Admiral Sap comes to, he won't be able to do a thing to me. We didn't land in Lincoln, Nebraska, so there was something wrong all right. And as for the Indians-well, if I read the traffic signs correctly, we've come down on the outskirts of Calcutta."

AUTHOR'S COMMENT

Harry Harrison's anthology, in which THIoTIMOLINE TO THE STARS appeared, was called simply Astounding. It had been Harry's aim to make it one last issue of that magazine. Not Analog now, but Astounding.

There is nothing wrong with Analog, but to us old-timers no name change can possibly replace Astounding in our hearts.

In the spring of 1973 The Saturday Evening Post, having reprinted a couple of my short pieces, asked me to write an original piece for them. On May 3, 1973, caught in the

grip of inspiration, I wrote LIGHT VERSE in one quick session at the typewriter and scarcely had to change a word in preparing final copy. It appeared in the September-October 1973 issue of The Saturday Evening Post.

LIGHT VERSE

The very last person anyone would expect to be a murderer was Mrs. Avis Lardner. Widow of the great astronaut-martyr, she was a philanthropist, an art collector, a hostess extraordinary, and, everyone agreed, an artistic genius. But above all, she was the gentlest and kindest human being one could imagine.

Her husband, William J. Lardner, died, as we all know, of the effects of radiation from a solar flare, after he had deliberately remained in space so that a passenger vessel might make it safely to Space Station 5.

Mrs. Lardner had received a generous pension for that, and she had then invested wisely and well. By late middle age she was very wealthy.

Her house was a showplace, a veritable museum, containing a small but extremely select collection of extraordinarily beautiful jeweled objects. From a dozen different cultures she had obtained relics of almost every conceivable artifact that could be embedded with jewels and made to serve the aristocracy of that culture. She had one of the first jeweled wristwatches manufactured in America, a jeweled dagger from Cambodia, a jeweled pair of spectacles from Italy, and so on almost endlessly.

All was open for inspection. The artifacts were not insured, and there were no ordinary security provisions. There was no need for anything conventional, for Mrs. Lardner maintained a large staff of robot servants, all of whom could be relied on to guard every item with imperturbable concentration, irreproachable honesty, and irrevocable efficiency.

Everyone knew the existence of those robots and there is no record of any attempt at theft, ever.

And then, of course, there was her light-sculpture. How Mrs. Lardner discovered her own genius at the art, no guest at her many lavish entertainments could guess. On each occasion, however, when her house was thrown open to guests, a new symphony of light shone throughout the rooms; three-dimensional curves and solids in melting color, some pure and some fusing in startling, crystalline effects that bathed every guest in wonder and somehow always adjusted itself so as to make Mrs. Lardner's blue-white hair and soft, unlined face gently beautiful.

It was for the light-sculpture more than anything else that the guests came. It was never the same twice, and never failed to explore new experimental avenues of art. Many people who could afford light-consoles prepared light-sculptures for amusement, but no one could approach Mrs. Lardner's expertise. Not even those who considered themselves professional artists.

She herself was charmingly modest about it. "No, no," she would protest when someone waxed lyrical. "I wouldn't call it 'poetry in light.' That's far too kind. At most, I would say it was mere 'light verse.'" And everyone smiled at her gentle wit.

Though she was often asked, she would never create light-sculpture for any occasion but her own parties. "That would be commercialization," she said.

She had no objection, however, to the preparation of elaborate holograms of her sculptures so that they might be made permanent and reproduced in museums of art all over the world. Nor was there ever a charge for any use that might be made of her light-sculptures.

"I couldn't ask a penny," she said, spreading her arms wide. "It's free to all. After all, I have no further use for it myself." It was true. She never used the same light-sculpture twice.

When the holograms were taken, she was cooperation itself. Watching benignly at every step, she was always ready to order her robot servants to help. "Please, Courtney," she would say, "would you be so kind as to adjust the step ladder?"

It was her fashion. She always addressed her robots with the most formal courtesy.

Once, years before, she had been almost scolded by a government functionary from the Bureau of Robots and Mechanical Men. "You can't do that," he said severely. "It interferes with their efficiency. They are constructed to follow orders, and the more clearly you give those orders, the more efficiently they follow them. When you ask with elaborate politeness, it is difficult for them to understand that an order is being given. They react more slowly."

Mrs. Lardner lifted her aristocratic head. "I do not ask for speed and efficiency," she said. "I ask goodwill. My robots love me."

The government functionary might have explained that robots cannot love, but he withered under her hurt but gentle glance.

It was notorious that Mrs. Lardner never even returned a robot to the factory for adjustment. Their positronic brains are enormously complex, and once in ten times or so the adjustment is not perfect as it leaves the factory. Sometimes the error does not show up for a period of time, but whenever it does, U. S. Robots and Mechanical Men, Inc., always makes the adjustment free of charge.

Mrs. Lardner shook her head. "Once a robot is in my house," she said, "and has performed his duties, any minor eccentricities must be borne with. I will not have him manhandled."

It was the worse thing possible to try to explain that a robot was but a machine. She would say very stiffly, "Nothing that is as intelligent as a robot can ever be but a machine. I treat them as people."

And that was that!

She kept even Max, although he was almost helpless. He could scarcely understand what was expected of him. Mrs. Lardner denied that strenuously, however. "Not at all," she would say firmly. "He can take hats and coats and store them very well, indeed. He can hold objects for me. He can do many things."

"But why not have him adjusted?" asked a friend, once.

"Oh, I couldn't. He's himself. He's very lovable, you know. After all, a positronic brain is so complex that no one can ever tell in just what way it's off. If he were made

perfectly normal there would be no way to adjust him back to the lovability he now has. I won't give that up."

"But if he's maladjusted," said the friend, looking at Max nervously, "might he not be dangerous?"

"Never," laughed Mrs. Lardner. "I've had him for years. He's completely harmless and quite a dear."

Actually he looked like all the other robots, smooth, metallic, vaguely human but expressionless.

To the gentle Mrs. Lardner, however, they were all individual, all sweet, all lovable. It was the kind of woman she was.

How could she commit murder?

The very last person anyone would expect to be murdered would be John Semper Travis. Introverted and gentle, he was in the world but not of it. He had that peculiar mathematical turn of mind that made it possible for him to work out in his mind the complicated tapestry of the myriad positronic brain-paths in a robot's mind.

He was chief engineer of U.S. Robots and Mechanical Men, Inc.

But he was also an enthusiastic amateur in light-sculpture. He had written a book on the subject, trying to show that the type of mathematics he used in working out positronic brain-paths might be modified into a guide to the production of aesthetic light-sculpture.

His attempt at putting theory into practice was a dismal failure, however. The sculptures he himself produced, following his mathematical principles, were stodgy, mechanical, and uninteresting.

It was the only reason for unhappiness in his quiet, introverted, and secure life, and yet it was reason enough for him to be very unhappy indeed. He knew his theories were right, yet he could not make them work. If he could but produce one great piece of light-sculpture-

Naturally, he knew of Mrs. Lardner's light-sculpture. She was universally hailed as a genius, yet Travis knew she could not understand even the simplest aspect of robotic mathematics. He had corresponded with her but she consistently refused to explain her methods, and he wondered if she had any at all. Might it not be mere intuition? -but even intuition might be reduced to mathematics. Finally he managed to receive an invitation to one of her parties. He simply had to see her.

Mr. Travis arrived rather late. He had made one last attempt at a piece of light-sculpture and had failed dismally.

He greeted Mrs. Lardner with a kind of puzzled respect and said, "That was a peculiar robot who took my hat and coat."

"That is Max," said Mrs. Lardner.

"He is quite maladjusted, and he's a fairly old model. How is it you did not return it to the factory?"

"Oh, no," said Mrs. Lardner. "It would be too much trouble."

"None at all, Mrs. Lardner," said Travis. "You would be surprised how simple a task it was. Since I am with U. S. Robots, I took the liberty of adjusting him myself. It took no time and you'll find he is now in perfect working order."

A queer change came over Mrs. Lardner's face. Fury found a place on it for the first time in her gentle life, and it was as though the lines did not know how to form.

"You adjusted him?" she shrieked. "But it was he who created my light-sculptures. It was the maladjustment, the maladjustment, which you can never restore, that-that-"

It was really unfortunate that she had been showing her collection at the time and that the jeweled dagger from Cambodia was on the marble tabletop before her.

Travis's face was also distorted. "You mean if I had studied his uniquely maladjusted positronic brain-paths I might have learned-"

She lunged with the knife too quickly for anyone to stop her and he did not try to dodge. Some said he came to meet it-as though he wanted to die.

AUTHOR'S COMMENT

In sending the story to The Saturday Evening Post I was anxious to make it clear that I had not sent them an old story. I explained rather emphatically that "I have written it today."

In doing this I had forgotten the prejudice many people have against any story that is written quickly. There is the legend that a good story must be written and rewritten and must take days and days of agony for each pain-wracked paragraph. I think writers spread that piece of embroidery to collect public sympathy for themselves.

Anyway, I don't write slowly, but editors who don't have much experience with me don't realize it. I got a letter from the Post people raving about the story and expressing the utmost astonishment that I had managed to write it in one day. I kept quiet and said nothing.

However, I can tell you because you're my friends. From the moment of sitting down at the typewriter to the moment of placing the envelope in the mailbox, it did not take me one day. It took me two and a half hours. But don't tell the Post.

What, then, is left to tell you to bring you up to date?

Well, on November 30, 1973, I married a second time. My wife is Janet Jeppson. She is a psychiatrist, a writer, and a wonderful woman, in order of increasing importance. She has published a science fiction novel of her own, THE SECOND EXPERIMENT (Houghton Mufflin, 1974) and received final word of the acceptance of that novel on November 30, 1973, half an hour after we had been married. It was a big day.

I, for one, wish that her professional career left her a little more time for writing. Then we could perhaps work up a man-and-wife collection someday.

THE COMPLETE STORIES

1990

INTRODUCTION

I have been writing short stories for fifty-one years and I haven't yet quit. In addition to the hundreds of short stories I have published, there are at least a dozen in press waiting to be published, and two stories written and not yet submitted. So I have by no means retired.

There is, however, no way one can publish short stories for this length of time without understanding that the time left to him is limited. In the words of the song: "Forevermore is shorter than before."

It is time, therefore, for Doubleday to pull the strings together and get all my fiction-short stories and novels, too-into a definitive form and in uniform bindings, both in hard and soft covers.

It may sound conceited of me to say so (I am frequently accused of being conceited), but my fiction generally has been popular from the start and has continued to be well received through the years. To locate any one story, however, that you no longer have and wish you did, or to find one you have heard about but have missed is no easy task. My stories appeared originally in any one of many magazines, the original issues of which are all but unobtainable. They then appeared in any of a multiplicity of anthologies and collections, copies of which are almost as unobtainable.

It is Doubleday's intention to make this multivolume collection definitive and uniform in the hope that the science fiction public, the mystery public (for my many mysteries will also be collected), and libraries as well will seize upon them ravenously and clear their book shelves to make room for Isaac Asimov: The Complete Stories.

We begin in this volume with two of my early collections from the 1950s, *Earth Is Room Enough* and *Nine Tomorrows*.

The former includes such favorites of mine as "Franchise," which deals with the ultimate election day; "Living Space," which gives every family a world of its own; "The Fun They Had," my most anthologized story; "Jokester," whose ending I bet you don't anticipate if you've never read the story before; and "Dreaming Is a Private Thing," concerning which Robert A. Heinlein accused me of making money out of my own neuroses.

Nine Tomorrows, the personal favorite of all my collections, contains not one story I don't consider to be excellent examples of my productions of the 1950s. In particular, there is "The Last Question," which, of all the stories I have written, is my absolute favorite.

Then there is "The Ugly Little Boy," my third-favorite story. My tales tend to be cerebral, but I count on this one to bring about a tear or two. (To find out which is the second-favorite of my stories, you'll have to read successive volumes of this collection.) "The Feeling of Power" is another frequently anthologized piece and is rather prophetic, considering it was written before anyone was thinking of pocket computers. "All the Troubles of the World" is a suspense story and "The Dying Night" is a mystery based, alas, on an astronomical "fact" now known to be quite mistaken.

Then there is a later collection included here, *Nightfall and Other Stories*, which features "Nightfall," a story that many readers and the Science Fiction Writers of America have voted the best science fiction story ever written (I don't think so, but it would be impolite to argue). Other favorites of mine are " 'Breeds There a Man . . . ? ' ", which is rather chilling; "Sally," which expresses my feelings about automobiles; "Strikebreaker," which I consider much underappreciated; and "Eyes Do More than See," a short heartstring wrencher.

There'll be more volumes, but begin by reading this one. You will make an old man very happy, you know.

-ISAAC ASIMOV

New York City

March 1990

ABOUT THE AUTHOR

Isaac Asimov was born in the Soviet Union to his great surprise. He moved quickly to correct the situation. When his parents emigrated to the United States, Isaac (three years old at the time) stowed away in their baggage. He has been an American citizen since the age of eight.

Brought up in Brooklyn, and educated in its public schools, he eventually found his way to Columbia University and, over the protests of the school administration, managed to annex a series of degrees in chemistry, up to and including a Ph.D. He then infiltrated Boston University and climbed the academic ladder, ignoring all cries of outrage, until he found himself Professor of Biochemistry.

Meanwhile, at the age of nine, he found the love of his life (in the inanimate sense) when he discovered his first science-fiction magazine. By the time he was eleven, he began to write stories, and at eighteen, he actually worked up the nerve to submit one. It was rejected. After four long months of tribulation and suffering, he sold his first story and, thereafter, he never looked back.

In 1941, when he was twenty-one years old, he wrote the classic short story "Nightfall" and his future was assured. Shortly before that he had begun writing his robot stories, and shortly after that he had begun his Foundation series.

What was left except quantity? At the present time, he has published over 440 books, distributed through every major division of the Dewey system of library

classification, and shows no signs of slowing up. He remains as youthful, as lively, and as lovable as ever, and grows more handsome with each year. You can be sure that this is so since he has written this little essay himself and his devotion to absolute objectivity is notorious.

He is married to Janet Jeppson, psychiatrist and writer, has two children by a previous marriage, and lives in New York City.

THE DEAD PAST

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Arnold Potterley, Ph.D., was a Professor of Ancient History. That, in itself, was not dangerous. What changed the world beyond all dreams was the fact that he looked like a Professor of Ancient History.

Thaddeus Araman, Department Head of the Division of Chronoscopy, might have taken proper action if Dr. Potterley had been owner .of a large, square chin, flashing eyes, aquiline nose and broad shoulders.

As it was, Thaddeus Araman found himself staring over his desk at a mild-mannered individual, whose faded blue eyes looked at him wistfully from either side of a low-bridged button nose; whose small, neatly dressed figure seemed stamped "milk-and-water" from thinning brown hair to the neatly brushed shoes that completed a conservative middle-class costume.

Araman said pleasantly, "And now what can I do for you, Dr. Potterley?"

Dr. Potterley said in a soft voice that went well with the rest of him, "Mr. Araman, I came to you because you're top man in chronoscopy."

Araman smiled. "Not exactly. Above me is the World Commissioner of Research and above him is the Secretary-General of the United Nations. And above both of them, of course, are the sovereign peoples of Earth."

Dr. Potterley shook his head. "They're not interested in chronoscopy. I've come to you, sir, because for two years I have been trying to obtain permission to do some time viewing-chronoscopy, that is-in connection with my researches on ancient Carthage. I can't obtain such permission. My research grants are all proper. There is no irregularity in any of my intellectual endeavors and yet-"

"I'm sure there is no question of irregularity," said Araman soothingly. He flipped the thin reproduction sheets in the folder to which Potterley's name had been attached. They had been produced by Multivac, whose vast analogical mind kept all the department records. When this was over, the sheets could be destroyed, then reproduced on demand in a matter of minutes.

And while Araman turned the pages, Dr. Potterley's voice continued in a soft monotone.

The historian was saying, "I must explain that my problem is quite an important one. Carthage was ancient commercialism brought to its zenith. Pre-Roman Carthage was the nearest ancient analogue to pre-atomic America, at least insofar as its attachment to trade, commerce and business in general was concerned. They were the most daring seamen and explorers before the Vikings; much better at it than the overrated Greeks.

"To know Carthage would be very rewarding, yet the only knowledge we have of it is derived from the writings of its bitter enemies, the Greeks and Romans. Carthage itself never wrote in its own defense or, if it did, the books did not survive. As a result, the Carthaginians have been one of the favorite sets of villains of history and perhaps unjustly so. Time viewing may set the record straight."

He said much more.

Araman said, still turning the reproduction sheets before him, "You must realize, Dr. Potterley, that chronoscopy, or time viewing, if you prefer, is a difficult process."

Dr. Potterley, who had been interrupted, frowned and said, "I am asking for only certain selected views at times and places I would indicate."

Araman sighed. "Even a few views, even one . . . It is an unbelievably delicate art. There is the question of focus, getting the proper scene in view and holding it. There is the synchronization of sound, which calls for completely independent circuits."

"Surely my problem is important enough to justify considerable effort."

"Yes, sir. Undoubtedly," said Araman at once. To deny the importance of someone's research problem would be unforgivably bad manners. "But you must understand how long-drawn-out even the simplest view is. And there is a long waiting line for the chronoscope and an even longer waiting line for the use of Multivac which guides us in our use of the controls."

Potterley stirred unhappily. "But can nothing be done? For two years-"

"A matter of priority, sir. I'm sorry. . . Cigarette?"

The historian started back at the suggestion, eyes suddenly widening as he stared at the pack thrust out toward him. Araman looked surprised, withdrew the pack, made a motion as though to take a cigarette for himself and thought better of it.

Potterley drew a sigh of unfeigned relief as the pack was put out of sight.

He said, "Is there any way of reviewing matters, putting me as far forward as possible. I don't know how to explain-"

Araman smiled. Some had offered money under similar circumstances which, of course, had gotten them nowhere, either. He said, "The decisions on priority are computer-processed. I could in no way alter those decisions arbitrarily."

Potterley rose stiffly to his feet. He stood five and a half feet tall. "Then, good day, sir."

"Good day, Dr. Potterley. And my sincerest regrets."

He offered his hand and Potterley touched it briefly.

The historian left, and a touch of the buzzer brought Araman's secretary into the room. He handed her the folder.

"These," he said, "may be disposed of."

Alone again, he smiled bitterly. Another item in his quarter-century's service to the human race. Service through negation.

At least this fellow had been easy to dispose of. Sometimes academic pressure had to be applied and even withdrawal of grants.

Five minutes later, he had forgotten Dr. Potterley. Nor, thinking back on it later, could he remember feeling any premonition of danger.

During the first year of his frustration, Arnold Potterley had experienced only that frustration. During the second year, though, his frustration gave birth to an idea that first frightened and then fascinated him. Two things stopped him from trying to translate the idea into action, and neither barrier was the undoubted fact that his notion was a grossly unethical one.

The first was merely the continuing hope that the government would finally give its permission and make it unnecessary for him to do anything more. That hope had perished finally in the interview with Araman just completed.

The second barrier had been not a hope at all but a dreary realization of his own incapacity. He was not a physicist and he knew no physicists from whom he might obtain help. The Department of Physics at the university consisted of men well stocked with grants and well immersed in specialty. At best, they would not listen to him. At worst, they would report him for intellectual anarchy and even his basic Carthaginian grant might easily be withdrawn.

That he could not risk. And yet chronoscopy was the only way to carry on his work. Without it, he would be no worse off if his grant were lost.

The first hint that the second barrier might be overcome had come a week earlier than his interview with Araman, and it had gone unrecognized at the time. It had been at one of the faculty teas. Potterley attended these sessions unfailingly because he conceived attendance to be a duty, and he took his duties seriously. Once there, however, he conceived it to be no responsibility of his to make light conversation or new friends. He sipped abstemiously at a drink or two, exchanged a polite word with the dean or such department heads as happened to be present, bestowed a narrow smile on others and finally left early.

Ordinarily, he would have paid no attention, at that most recent tea, to a young man standing quietly, even diffidently, in one corner. He would never have dreamed of speaking to him. Yet a tangle of circumstance persuaded him this once to behave in a way contrary to his nature.

That morning at breakfast, Mrs. Potterley had announced somberly that once again she had dreamed of Laurel; but this time a Laurel grown up, yet retaining the three-year-old face that stamped her as their child. Potterley had let her talk. There had been a time when he fought her too frequent preoccupation with the past and death. Laurel would not come back to them, either through dreams or through talk. Yet if it appeased Caroline Potterley-let her dream and talk.

But when Potterley went to school that morning, he found himself for once affected by Caroline's inanities. Laurel grown up! She had died nearly twenty years ago; their only child, then and ever. In all that time, when he thought of her, it was as a three-year-old.

Now he thought: But if she were alive now, she wouldn't be three, she'd be nearly twenty-three.

Helplessly, he found himself trying to think of Laurel as growing progressively older; as finally becoming twenty-three. He did not quite succeed.

Yet he tried. Laurel using make-up. Laurel going out with boys. Laurel- getting married!

So it was that when he saw the young man hovering at the outskirts of the coldly circulating group of faculty men, it occurred to him quixotically that, for all he knew, a youngster just such as this might have married Laurel. That youngster himself, perhaps. . .

Laurel might have met him, here at the university, or some evening when he might be invited to dinner at the Potterleys'. They might grow interested in one another. Laurel would surely have been pretty and this youngster looked well. He was dark in coloring, with a lean intent face and an easy carriage.

The tenuous daydream snapped, yet Potterley found himself staring foolishly at the young man, not as a strange face but as a possible son-in-law in the might-have-been. He found himself threading his way toward the man. It was almost a form of autohypnotism.

He put out his hand. "I am Arnold Potterley of the History Department. You're new here, I think?"

The youngster looked faintly astonished and fumbled with his drink, shifting it to his left hand in order to shake with his right. "Jonas Foster is my name, sir. I'm a new instructor in physics. I'm just starting this semester."

Potterley nodded. "I wish you a happy stay here and great success."

That was the end of it, then. Potterley had come uneasily to his senses, found himself embarrassed and moved off. He stared back over his shoulder once, but the illusion of relationship had gone. Reality was quite real once more and he was angry with himself for having fallen prey to his wife's foolish talk about Laurel.

But a week later, even while Araman was talking, the thought of that young man had come back to him. An instructor in physics. A new instructor. Had he been deaf at the time? Was there a short circuit between ear and brain? Or was it an automatic self-censorship because of the impending interview with the Head of Chronoscopy?

But the interview failed, and it was the thought of the young man with whom he had exchanged two sentences that prevented Potterley from elaborating his pleas for consideration. He was almost anxious to get away.

And in the autogiro express back to the university, he could almost wish he were superstitious. He could then console himself with the thought that the casual meaningless meeting had really been directed by a knowing and purposeful Fate.

Jonas Foster was not new to academic life. The long and rickety struggle for the doctorate would make anyone a veteran. Additional work as a postdoctorate teaching fellow acted as a booster shot.

But now he was Instructor Jonas Foster. Professorial dignity lay ahead. And he now found himself in a new sort of relationship toward other professors.

For one thing, they would be voting on future promotions. For another, he was in no position to tell so early in the game which particular member of the faculty might or might not have the ear of the dean or even of the university president. He did not fancy

himself as a campus politician and was sure he would make a poor one, yet there was no point in kicking his own rear into blisters just to prove that to himself.

So Foster listened to this mild-mannered historian who, in some vague way, seemed nevertheless to radiate tension, and did not shut him up abruptly and toss him out. Certainly that was his first impulse.

He remembered Potterley well enough. Potterley had approached him at that tea (which had been a grizzly affair). The fellow had spoken two sentences to him stiffly, somehow glassy-eyed, had then come to himself with a visible start and hurried off.

It had amused Foster at the time, but now . . .

Potterley might have been deliberately trying to make his acquaintance, or, rather, to impress his own personality on Foster as that of a queer sort of duck, eccentric but harmless. He might now be probing Foster's views, searching for unsettling opinions. Surely, they ought to have done so before granting him his appointment. Still . . .

Potterley might be serious, might honestly not realize what he was doing.

Or he might realize quite well what he was doing; he might be nothing more or less than a dangerous rascal.

Foster mumbled, "Well, now-" to gain time, and fished out a package of cigarettes, intending to offer one to Potterley and to light it and one for himself very slowly.

But Potterley said at once, "Please, Dr. Foster. No cigarettes."

Foster looked startled. "I'm sorry, sir."

"No. The regrets are mine. I cannot stand the odor. An idiosyncrasy. I'm sorry."

He was positively pale. Foster put away the cigarettes.

Foster, feeling the absence of the cigarette, took the easy way out. "I'm flattered that you ask my advice and all that, Dr. Potterley, but I'm not a neutrinics man. I can't very well do anything professional in that direction. Even stating an opinion would be out of line, and, frankly, I'd prefer that you didn't go into any particulars."

The historian's prim face set hard. "What do you mean, you're not a neutrinics man? You're not anything yet. You haven't received any grant, have you?"

"This is only my first semester."

"I know that. I imagine you haven't even applied for any grant yet."

Foster half-smiled. In three months at the university, he had not succeeded in putting his initial requests for research grants into good enough shape to pass on to a professional science writer, let alone to the Research Commission.

(His Department Head, fortunately, took it quite well. "Take your time now, Foster," he said, "and get your thoughts well organized. Make sure you know your path and where it will lead, for, once you receive a grant, your specialization will be formally recognized and, for better or for worse, it will be yours for the rest of your career." The advice was trite enough, but triteness has often the merit of truth, and Foster recognized that.)

Foster said, "By education and inclination, Dr. Potterley, I'm a hyperop-tics man with a gravities minor. It's how I described myself in applying for this position. It may not

be my official specialization yet, but it's going to be. It can't be anything else. As for neutrinics, I never even studied the subject."

"Why not?" demanded Potterley at once.

Foster stared. It was the kind of rude curiosity about another man's professional status that was always irritating. He said, with the edge of his own politeness just a trifle blunted, "A course in neutrinics wasn't given at my university."

"Good Lord, where did you go?"

"M.I.T.," said Foster quietly.

"And they don't teach neutrinics?"

"No, they don't." Foster felt himself flush and was moved to a defense.

"It's a highly specialized subject with no great value. Chronoscopy, perhaps, has some value, but it is the only practical application and that's a dead end."

The historian stared at him earnestly. "Tell me this. Do you know where I can find a neutrinics man?"

"No, I don't," said Foster bluntly.

"Well, then, do you know a school which teaches neutrinics?"

"No, I don't."

Potterley smiled tightly and without humor.

Foster resented that smile, found he detected insult in it and grew sufficiently annoyed to say, "I would like to point out, sir, that you're stepping out of line."

"What?"

"I'm saying that, as a historian, your interest in any sort of physics, your professional interest, is-" He paused, unable to bring himself quite to say the word.

"Unethical?"

"That's the word, Dr. Potterley."

"My researches have driven me to it," said Potterley in an intense whisper.

"The Research Commission is the place to go. If they permit-"

"I have gone to them and have received no satisfaction."

"Then obviously you must abandon this." Foster knew he was sounding stuffily virtuous, but he wasn't going to let this man lure him into an expression of intellectual anarchy. It was too early in his career to take stupid risks.

Apparently, though, the remark had its effect on Potterley. Without any warning, the man exploded into a rapid-fire verbal storm of irresponsibility.

Scholars, he said, could be free only if they could freely follow their own free-swinging curiosity. Research, he said, forced into a predesigned pattern by the powers that held the purse strings became slavish and had to stagnate. No man, he said, had the right to dictate the intellectual interests of another.

Foster listened to all of it with disbelief. None of it was strange to him. He had heard college boys talk so in order to shock their professors and he had once or twice amused himself in that fashion, too. Anyone who studied the history of science knew that many men had once thought so.

Yet it seemed strange to Foster, almost against nature, that a modern man of science could advance such nonsense. No one would advocate running a factory by allowing each individual worker to do whatever pleased him at the moment, or of running a ship according to the casual and conflicting notions of each individual crewman. It would be taken for granted that some sort of centralized supervisory agency must exist in each case. Why should direction and order benefit a factory and a ship but not scientific research?

People might say that the human mind was somehow qualitatively different from a ship or factory but the history of intellectual endeavor proved the opposite.

When science was young and the intricacies of all or most of the known was within the grasp of an individual mind, there was no need for direction, perhaps. Blind wandering over the uncharted tracts of ignorance could lead to wonderful finds by accident.

But as knowledge grew, more and more data had to be absorbed before worthwhile journeys into ignorance could be organized. Men had to specialize. The researcher needed the resources of a library he himself could not gather, then of instruments he himself could not afford. More and more, the individual researcher gave way to the research team and the research institution.

The funds necessary for research grew greater as tools grew more numerous. What college was so small today as not to require at least one nuclear micro-reactor and at least one three-stage computer?

Centuries before, private individuals could no longer subsidize research. By 1940, only the government, large industries and large universities or research institutions could properly subsidize basic research.

By 1960, even the largest universities depended entirely upon government grants, while research institutions could not exist without tax concessions and public subscriptions. By 2000, the industrial combines had become a branch of the world government and, thereafter, the financing of research and therefore its direction naturally became centralized under a department of the government.

It all worked itself out naturally and well. Every branch of science was fitted neatly to the needs of the public, and the various branches of science were coordinated decently. The material advance of the last half-century was argument enough for the fact that science was not falling into stagnation.

Foster tried to say a very little of this and was waved aside impatiently by Potterley who said, "You are parroting official propaganda. You're sitting in the middle of an example that's squarely against the official view. Can you believe that?"

"Frankly, no."

"Well, why do you say time viewing is a dead end? Why is neutrinics unimportant? You say it is. You say it categorically. Yet you've never studied it. You claim complete ignorance of the subject. It's not even given in your school-"

"Isn't the mere fact that it isn't given proof enough?"

"Oh, I see. It's not given because it's unimportant. And it's unimportant because it's not given. Are you satisfied with that reasoning?"

Foster felt a growing confusion. "It's in the books."

"That's all. The books say neutrínics is unimportant. Your professors tell you so because they read it in the books. The books say so because professors write them. Who says it from personal experience and knowledge? Who does research in it? Do you know of anyone?"

Foster said, "I don't see that we're getting anywhere, Dr. Potterley. I have work to do-"

"One minute. I just want you to try this on. See how it sounds to you. I say the government is actively suppressing basic research in neutrínics and chronoscopy. They're suppressing application of chronoscopy."

"Oh, no."

"Why not? They could do it. There's your centrally directed research. If they refuse grants for research in any portion of science, that portion dies. They've killed neutrínics. They can do it and have done it."

"But why?"

"I don't know why. I want you to find out. I'd do it myself if I knew enough. I came to you because you're a young fellow with a brand-new education. Have your intellectual arteries hardened already? Is there no curiosity in you? Don't you want to know? Don't you want answers?"

The historian was peering intently into Foster's face. Their noses were only inches apart, and Foster was so lost that he did not think to draw back.

He should, by rights, have ordered Potterley out. If necessary, he should have thrown Potterley out.

It was not respect for age and position that stopped him. It was certainly not that Potterley's arguments had convinced him. Rather, it was a small point of college pride.

Why didn't M.I.T. give a course in neutrínics? For that matter, now that he came to think of it, he doubted that there was a single book on neutrínics in the library. He could never recall having seen one.

He stopped to think about that.

And that was ruin.

Caroline Potterley had once been an attractive woman. There were occasions, such as dinners or university functions, when, by considerable effort, remnants of the attraction could be salvaged.

On ordinary occasions, she sagged. It was the word she applied to herself in moments of self-aborrence. She had grown plumper with the years, but the flaccidity about her was not a matter of fat entirely. It was as though her muscles had given up and grown limp so that she shuffled when she walked, while her eyes grew baggy and her cheeks jowly. Even her graying hair seemed tired rather than merely stringy. Its straightness seemed to be the result of a supine surrender to gravity, nothing else.

Caroline Potterley looked at herself in the mirror and admitted this was one of her bad days. She knew the reason, too.

It had been the dream of Laurel. The strange one, with Laurel grown up. She had been wretched ever since.

Still, she was sorry she had mentioned it to Arnold. He didn't say anything; he never did any more; but it was bad for him. He was particularly withdrawn for days afterward. It might have been that he was getting ready for that important conference with the big government official (he kept saying he expected no success), but it might also have been her dream.

It was better in the old days when he would cry sharply at her, "Let the dead past go, Caroline! Talk won't bring her back, and dreams won't either."

It had been bad for both of them. Horribly bad. She had been away from home and had lived in guilt ever since. If she had stayed at home, if she had not gone on an unnecessary shopping expedition, there would have been two of them available. One would have succeeded in saving Laurel.

Poor Arnold had not managed. Heaven knew he tried. He had nearly died himself. He had come out of the burning house, staggering in agony, blistered, choking, half-blinded, with the dead Laurel in his arms.

The nightmare of that lived on, never lifting entirely.

Arnold slowly grew a shell about himself afterward. He cultivated a low-voiced mildness through which nothing broke, no lightning struck. He grew puritanical and even abandoned his minor vices, his cigarettes, his penchant for an occasional profane exclamation. He obtained his grant for the preparation of a new history of Carthage and subordinated everything to that.

She tried to help him. She hunted up his references, typed his notes and microfilmed them. Then that ended suddenly.

She ran from the desk suddenly one evening, reaching the bathroom in bare time and retching abominably. Her husband followed her in confusion and concern.

"Caroline, what's wrong?"

It took a drop of brandy to bring her around. She said, "Is it true? What they did?"

"Who did?"

"The Carthaginians."

He stared at her and she got it out by indirection. She couldn't say it right out.

The Carthaginians, it seemed, worshiped Moloch, in the form of a hollow, brazen idol with a furnace in its belly. At times of national crisis, the priests and the people gathered, and infants, after the proper ceremonies and invocations, were dexterously hurled, alive, into the flames.

They were given sweetmeats just before the crucial moment, in order that the efficacy of the sacrifice not be ruined by displeasing cries of panic. The drums rolled just after the moment, to drown out the few seconds of infant shrieking. The parents were present, presumably gratified, for the sacrifice was pleasing to the gods. . .

Arnold Potterley frowned darkly. Vicious lies, he told her, on the part of Carthage's enemies. He should have warned her. After all, such propagandistic lies were not uncommon. According to the Greeks, the ancient Hebrews worshiped an ass's head in their Holy of Holies. According to the Romans, the primitive Christians were haters of all men who sacrificed pagan children in the catacombs.

"Then they didn't do it?" asked Caroline.

"I'm sure they didn't. The primitive Phoenicians may have. Human sacrifice is commonplace in primitive cultures. But Carthage in her great days was not a primitive culture. Human sacrifice often gives way to symbolic actions such as circumcision. The Greeks and Romans might have mistaken some Carthaginian symbolism for the original full rite, either out of ignorance or out of malice."

"Are you sure?"

"I can't be sure yet, Caroline, but when I've got enough evidence, I'll apply for permission to use chronoscopy, which will settle the matter once and for all."

"Chronoscopy?"

"Time viewing. We can focus on ancient Carthage at some time of crisis, the landing of Scipio Africanus in 202 B.C., for instance, and see with our own eyes exactly what happens. And you'll see, I'll be right."

He patted her and smiled encouragingly, but she dreamed of Laurel every night for two weeks thereafter and she never helped him with his Carthage project again. Nor did he ever ask her to.

But now she was bracing herself for his coming. He had called her after arriving back in town, told her he had seen the government man and that it had gone as expected. That meant failure, and yet the little telltale sign of depression had been absent from his voice and his features had appeared quite composed in the teleview. He had another errand to take care of, he said, before coming home.

It meant he would be late, but that didn't matter. Neither one of them was particular about eating hours or cared when packages were taken out of the freezer or even which packages or when the self-warming mechanism was activated.

When he did arrive, he surprised her. There was nothing untoward about him in any obvious way. He kissed her dutifully and smiled, took off his hat and asked if all had been well while he was gone. It was all almost perfectly normal. Almost.

She had learned to detect small things, though, and his pace in all this was a trifle hurried. Enough to show her accustomed eye that he was under tension.

She said, "Has something happened?"

He said, "We're going to have a dinner guest night after next, Caroline. You don't mind?"

"Well, no. Is it anyone I know?"

"No. A young instructor. A newcomer. I've spoken to him." He suddenly whirled toward her and seized her arms at the elbow, held them a moment, then dropped them in confusion as though disconcerted at having shown emotion.

He said, "I almost didn't get through to him. Imagine that. Terrible, terrible, the way we have all bent to the yoke; the affection we have for the harness about us."

Mrs. Potterley wasn't sure she understood, but for a year she had been watching him grow quietly more rebellious; little by little more daring in his criticism of the government. She said, "You haven't spoken foolishly to him, have you?"

"What do you mean, foolishly? He'll be doing some neutrinics for me."

"Neutrinics" was trisyllabic nonsense to Mrs. Potterley, but she knew it had nothing to do with history. She said faintly, "Arnold, I don't like you to do that. You'll lose your position. It's--"

"It's intellectual anarchy, my dear," he said. "That's the phrase you want. Very well. I am an anarchist. If the government will not allow me to push my researches, I will push them on my own. And when I show the way, others will follow. . . And if they don't, it makes no difference. It's Carthage that counts and human knowledge, not you and I."

"But you don't know this young man. What if he is an agent for the Commission of Research."

"Not likely and I'll take that chance." He made a fist of his right hand and rubbed it gently against the palm of his left. "He's on my side now. I'm sure of it. He can't help but be. I can recognize intellectual curiosity when I see it in a man's eyes and face and attitude, and it's a fatal disease for a tame scientist. Even today it takes time to beat it out of a man and the young ones are vulnerable. . . Oh, why stop at anything? Why not build our own chronoscope and tell the government to go to--"

He stopped abruptly, shook his head and turned away.

"I hope everything will be all right," said Mrs. Potterley, feeling helplessly certain that everything would not be, and frightened, in advance, for her husband's professorial status and the security of their old age.

It was she alone, of them all, who had a violent presentiment of trouble. Quite the wrong trouble, of course.

Jonas Foster was nearly half an hour late in arriving at the Potterleys' off-campus house. Up to that very evening, he had not quite decided he would go. Then, at the last moment, he found he could not bring himself to commit the social enormity of breaking a dinner appointment an hour before the appointed time. That, and the nagging of curiosity.

The dinner itself passed interminably. Foster ate without appetite. Mrs. Potterley sat in distant absent-mindedness, emerging out of it only once to ask if he were married and to make a deprecating sound at the news that he was not. Dr. Potterley himself asked neutrally after his professional history and nodded his head primly.

It was as staid, stodgy-boring, actually-as anything could be.

Foster thought: He seems so harmless.

Foster had spent the last two days reading up on Dr. Potterley. Very casually, of course, almost sneakily. He wasn't particularly anxious to be seen in the Social Science Library. To be sure, history was one of those borderline affairs and historical works were frequently read for amusement or edification by the general public.

Still, a physicist wasn't quite the "general public." Let Foster take to reading histories and he would be considered queer, sure as relativity, and after a while the Head of the Department would wonder if his new instructor were really "the man for the job."

So he had been cautious. He sat in the more secluded alcoves and kept his head bent when he slipped in and out at odd hours.

Dr. Potterley, it turned out, had written three books and some dozen articles on the ancient Mediterranean worlds, and the later articles (all in "Historical Reviews") had all dealt with pre-Roman Carthage from a sympathetic viewpoint.

That, at least, checked with Potterley's story and had soothed Foster's suspicions somewhat. . . And yet Foster felt that it would have been much wiser, much safer, to have scotched the matter at the beginning.

A scientist shouldn't be too curious, he thought in bitter dissatisfaction with himself. It's a dangerous trait.

After dinner, he was ushered into Potterley's study and he was brought up sharply at the threshold. The walls were simply lined with books.

Not merely films. There were films, of course, but these were far outnumbered by the books-print on paper. He wouldn't have thought so many books would exist in usable condition.

That bothered Foster. Why should anyone want to keep so many books at home? Surely all were available in the university library, or, at the very worst, at the Library of Congress, if one wished to take the minor trouble of checking out a microfilm.

There was an element of secrecy involved in a home library. It breathed of intellectual anarchy. That last thought, oddly, calmed Foster. He would rather Potterley be an authentic anarchist than a play-acting agent provocateur.

And now the hours began to pass quickly and astonishingly.

"You see," Potterley said, in a clear, unflurried voice, "it was a matter of finding, if possible, anyone who had ever used chronoscopy in his work. Naturally, I couldn't ask baldly, since that would be unauthorized research."

"Yes," said Foster dryly. He was a little surprised such a small consideration would stop the man.

"I used indirect methods-"

He had. Foster was amazed at the volume of correspondence dealing with small disputed points of ancient Mediterranean culture which somehow managed to elicit the casual remark over and over again: "Of course, having never made use of chronoscopy-" or, "Pending approval of my request for chronoscopic data, which appear unlikely at the moment-"

"Now these aren't blind questionings," said Potterley. "There's a monthly booklet put out by the Institute for Chronoscopy in which items concerning the past as determined by time viewing are printed. Just one or two items.

"What impressed me first was the triviality of most of the items, their insipidity. Why should such researches get priority over my work? So I wrote to people who would be most likely to do research in the directions described in the booklet. Uniformly, as I

have shown you, they did not make use of the chronoscope. Now let's go over it point by point."

At last Foster, his head swimming with Potterley's meticulously gathered details, asked, "But why?"

"I don't know why," said Potterley, "but I have a theory. The original invention of the chronoscope was by Sterbinski-you see, I know that much -and it was well publicized. But then the government took over the instrument and decided to suppress further research in the matter or any use of the machine. But then, people might be curious as to why it wasn't being used. Curiosity is such a vice, Dr. Foster."

Yes, agreed the physicist to himself.

"Imagine the effectiveness, then," Potterley went on, "of pretending that the chronoscope was being used. It would then be not a mystery, but a commonplace. It would no longer be a fitting object for legitimate curiosity or an attractive one for illicit curiosity."

"You were curious," pointed out Foster.

Potterley looked a trifle restless. "It was different in my case," he said angrily. "I have something that must be done, and I wouldn't submit to the ridiculous way in which they kept putting me off."

A bit paranoid, too, thought Foster gloomily.

Yet he had ended up with something, paranoid or not. Foster could no longer deny that something peculiar was going on in the matter of neutrinos.

But what was Potterley after? That still bothered Foster. If Potterley didn't intend this as a test of Foster's ethics, what did he want?

Foster put it to himself logically. If an intellectual anarchist with a touch of paranoia wanted to use a chronoscope and was convinced that the powers-that-be were deliberately standing in his way, what would he do?

Supposing it were I, he thought. What would I do?

He said slowly, "Maybe the chronoscope doesn't exist at all?"

Potterley started. There was almost a crack in his general calmness. For an instant, Foster found himself catching a glimpse of something not at all calm.

But the historian kept his balance and said, "Oh, no, there must be a chronoscope."

"Why? Have you seen it? Have I? Maybe that's the explanation of everything. Maybe they're not deliberately holding out on a chronoscope they've got. Maybe they haven't got it in the first place."

"But Sterbinski lived. He built a chronoscope. That much is a fact."

"The books say so," said Foster coldly.

"Now listen." Potterley actually reached over and snatched at Foster's jacket sleeve. "I need the chronoscope. I must have it. Don't tell me it doesn't exist. What we're going to do is find out enough about neutrinos to be able to-"

Potterley drew himself up short.

Foster drew his sleeve away. He needed no ending to that sentence. He supplied it himself. He said, "Build one of our own?"

Potterley looked sour as though he would rather not have said it point-blank. Nevertheless, he said, "Why not?"

"Because that's out of the question," said Foster. "If what I've read is correct, then it took Sterbinski twenty years to build his machine and several millions in composite grants. Do you think you and I can duplicate that illegally? Suppose we had the time, which we haven't, and suppose I could learn enough out of books, which I doubt, where would we get the money ' and equipment? The chronoscope is supposed to fill a five-story building, for Heaven's sake."

"Then you won't help me?"

"Well, I'll tell you what. I have one way in which I may be able to find out something-

"What is that?" asked Potterley at once.

"Never mind. That's not important. But I may be able to find out enough to tell you whether the government is deliberately suppressing research by chronoscope. I may confirm the evidence you already have or I may be able to prove that your evidence is misleading. I don't know what good it will do you in either case, but it's as far as I can go. It's my limit."

Potterley watched the young man go finally. He was angry with himself. Why had he allowed himself to grow so careless as to permit the fellow to guess that he was thinking in terms of a chronoscope of his own. That was premature.

But then why did the young fool have to suppose that a chronoscope might not exist at all?

It had to exist. It had to. What was the use of saying it didn't?

And why couldn't a second one be built? Science had advanced in the fifty years since Sterbinski. All that was needed was knowledge.

Let the youngster gather knowledge. Let him think a small gathering would be his limit. Having taken the path to anarchy, there would be no limit. If the boy were not driven onward by something in himself, the first steps would be error enough to force the rest. Potterley was quite certain he would not hesitate to use blackmail.

Potterley waved a last good-by and looked up. It was beginning to rain.

Certainly! Blackmail if necessary, but he would not be stopped.

Foster steered his car across the bleak outskirts of town and scarcely noticed the rain.

He was a fool, he told himself, but he couldn't leave things as they were. He had to know. He damned his streak of undisciplined curiosity, but he had to know.

But he would go no further than Uncle Ralph. He swore mightily to himself that it would stop there. In that way, there would be no evidence against him, no real evidence. Uncle Ralph would be discreet.

In a way, he was secretly ashamed of Uncle Ralph. He hadn't mentioned him to Potterley partly out of caution and partly because he did not wish to witness the lifted

eyebrow, the inevitable half-smile. Professional science writers, however useful, were a little outside the pale, fit only for patronizing contempt. The fact that, as a class, they made more money than did research scientists only made matters worse, of course.

Still, there were times when a science writer in the family could be a convenience. Not being really educated, they did not have to specialize. Consequently, a good science writer knew practically everything. . . And Uncle Ralph was one of the best.

Ralph Nimmo had no college degree and was rather proud of it. "A degree," he once said to Jonas Foster, when both were considerably younger, "is a first step down a ruinous highway. You don't want to waste it so you go on to graduate work and doctoral research. You end up a thoroughgoing ignoramus on everything in the world except for one subdivisional sliver of nothing.

"On the other hand, if you guard your mind carefully and keep it blank of any clutter of information till maturity is reached, filling it only with intelligence and training it only in clear thinking, you then have a powerful instrument at your disposal and you can become a science writer."

Nimmo received his first assignment at the age of twenty-five, after he had completed his apprenticeship and been out in the field for less than three months. It came in the shape of a clotted manuscript whose language would impart no glimmering of understanding to any reader, however qualified, without careful study and some inspired guesswork. Nimmo took it apart and put it together again (after five long and exasperating interviews with the authors, who were biophysicists), making the language taut and meaningful and smoothing the style to a pleasant gloss.

"Why not?" he would say tolerantly to his nephew, who countered his strictures on degrees by berating him with his readiness to hang on the fringes of science. "The fringe is important. Your scientists can't write. Why should they be expected to? They aren't expected to be grand masters at chess or virtuosos at the violin, so why expect them to know how to put words together? Why not leave that for specialists, too?"

"Good Lord, Jonas, read your literature of a hundred years ago. Discount the fact that the science is out of date and that some of the expressions are out of date. Just try to read it and make sense out of it. It's just jaw-cracking, amateurish. Pages are published uselessly; whole articles which are either non-comprehensible or both."

"But you don't get recognition, Uncle Ralph," protested young Foster, who was getting ready to start his college career and was rather starry-eyed about it. "You could be a terrific researcher."

"I get recognition," said Nimmo. "Don't think for a minute I don't. Sure, a biochemist or a stratometeorologist won't give me the time of day, but they pay me well enough. Just find out what happens when some first-class ; chemist finds the Commission has cut his year's allowance for science writing. He'll fight harder for enough funds to afford me, or someone like me, than to get a recording ionograph."

He grinned broadly and Foster grinned back. Actually, he was proud of his paunchy, round-faced, stub-fingered uncle, whose vanity made him brush his fringe of

hair futlery over the desert on his pate and made him dress like an unmade haystack because such negligence was his trademark. Ashamed, but proud, too.

And now Foster entered his uncle's cluttered apartment in no mood at all for grinning. He was nine years older now and so was Uncle Ralph. For nine more years, papers in every branch of science had come to him for polishing and a little of each had crept into his capacious mind.

Nimmo was eating seedless grapes, popping them into his mouth one at a time. He tossed a bunch to Foster who caught them by a hair, then bent to retrieve individual grapes that had torn loose and fallen to the floor.

"Let them be. Don't bother," said Nimmo carelessly. "Someone comes in here to clean once a week. What's up? Having trouble with your grant application write-up?"

"I haven't really got into that yet."

"You haven't? Get a move on, boy. Are you waiting for me to offer to do the final arrangement?"

"I couldn't afford you, Uncle."

"Aw, come on. It's all in the family. Grant me all popular publication rights and no cash need change hands."

Foster nodded. "If you're serious, it's a deal."

"It's a deal."

It was a gamble, of course, but Foster knew enough of Nimmo's science writing to realize it could pay off. Some dramatic discovery of public interest on primitive man or on a new surgical technique, or on any branch of spationautics could mean a very cash-attracting article in any of the mass media of communication.

It was Nimmo, for instance, who had written up, for scientific consumption, the series of papers by Bryce and co-workers that elucidated the fine structure of two cancer viruses, for which job he asked the picayune payment of fifteen hundred dollars, provided popular publication rights were included. He then wrote up, exclusively, the same work in semidramatic form for use in trimensional video for a twenty-thousand-dollar advance plus rental royalties that were still coming in after five years.

Foster said bluntly, "What do you know about neutrinics, Uncle?"

"Neutrینics?" Nimmo's small eyes looked surprised. "Are you working in that? I thought it was pseudo-gravitic optics."

"It is p.g.o. I just happen to be asking about neutrینics."

"That's a devil of a thing to be doing. You're stepping out of line. You know that, don't you?"

"I don't expect you to call the Commission because I'm a little curious about things."

"Maybe I should before you get into trouble. Curiosity is an occupational danger with scientists. I've watched it work. One of them will be moving quietly along on a problem, then curiosity leads him up a strange creek. Next thing you know they've done so little on their proper problem, they can't justify for a project renewal. I've seen more-

"All I want to know," said Foster patiently, "is what's been passing through your hands lately on neutrinics."

Nimmo leaned back, chewing at a grape thoughtfully. "Nothing. Nothing ever. I don't recall ever getting a paper on neutrinics."

"What!" Foster was openly astonished. "Then who does get the work?"

"Now that you ask," said Nimmo, "I don't know. Don't recall anyone talking about it at the annual conventions. I don't think much work is being done there."

"Why not?"

"Hey, there, don't bark. I'm not doing anything. My guess would be-

Foster was exasperated. "Don't you know?"

"Hmph. I'll tell you what I know about neutrinics. It concerns the applications of neutrino movements and the forces involved-

"Sure. Sure. Just as electronics deals with the applications of electron movements and the forces involved, and pseudo-gravities deals with the applications of artificial gravitational fields. I didn't come to you for that. Is that all you know?"

"And," said Nimmo with equanimity, "neutrینics is the basis of time viewing and that is all I know."

Foster slouched back in his chair and massaged one lean cheek with great intensity. He felt angrily dissatisfied. Without formulating it explicitly in his own mind, he had felt sure, somehow, that Nimmo would come up with some late reports, bring up interesting facets of modern neutrینics, send him back to Potterley able to say that the elderly historian was mistaken, that his data was misleading, his deductions mistaken.

Then he could have returned to his proper work.

But now . . .

He told himself angrily: So they're not doing much work in the field. Does that make it deliberate suppression? What if neutrینics is a sterile discipline? Maybe it is. I don't know. Potterley doesn't. Why waste the intellectual resources of humanity on nothing? Or the work might be secret for some legitimate reason. It might be . . .

The trouble was, he had to know. He couldn't leave things as they were now. He couldn't!

He said, "Is there a text on neutrینics, Uncle Ralph? I mean a clear and simple one. An elementary one."

Nimmo thought, his plump cheeks puffing out with a series of sighs. "You ask the damnedest questions. The only one I ever heard of was Sterbinski and somebody. I've never seen it, but I viewed something about it once. . . Sterbinski and LaMarr, that's it."

"Is that the Sterbinski who invented the chronoscope?"

"I think so. Proves the book ought to be good."

"Is there a recent edition? Sterbinski died thirty years ago."

Nimmo shrugged and said nothing.

"Can you find out?"

They sat in silence for a moment, while Nimmo shifted his bulk to the creaking tune of the chair he sat on. Then the science writer said, "Are you going to tell me what this is all about?"

"I can't. Will you help me anyway, Uncle Ralph? Will you get me a copy of the text?"

"Well, you've taught me all I know on pseudo-gravities. I should be grateful. Tell you what-I'll help you on one condition."

"Which is?"

The older man was suddenly very grave. "That you be careful, Jonas. You're obviously way out of line whatever you're doing. Don't blow up your career just because you're curious about something you haven't been assigned to and which is none of your business. Understand?"

Foster nodded, but he hardly heard. He was thinking furiously.

A full week later, Ralph Nimmo eased his rotund figure into Jonas Foster's on-campus two-room combination and said, in a hoarse whisper, "I've got something."

"What?" Foster was immediately eager.

"A copy of Sterbinski and LaMarr." He produced it, or rather a corner of it, from his ample topcoat.

Foster almost automatically eyed door and windows to make sure they were closed and shaded respectively, then held out his hand.

The film case was flaking with age, and when he cracked it the film was faded and growing brittle. He said sharply, "Is this all?"

"Gratitude, my boy, gratitude!" Nimmo sat down with a grunt, and reached into a pocket for an apple.

"Oh, I'm grateful, but it's so old."

"And lucky to get it at that. I tried to get a film run from the Congressional Library. No go. The book was restricted."

"Then how did you get this?"

"Stole it." He was biting crunchingly around the core. "New York Public."

"What?"

"Simple enough. I had access to the stacks, naturally. So I stepped over a chained railing when no one was around, dug this up, and walked out with it. They're very trusting out there. Meanwhile, they won't miss it in years. . . Only you'd better not let anyone see it on you, nephew."

Foster stared at the film as though it were literally hot.

Nimmo discarded the core and reached for a second apple. "Funny thing, now. There's nothing more recent in the whole field of neutrinics. Not a monograph, not a paper, not a progress note. Nothing since the chronoscope."

"Uh-huh," said Foster absently.

Foster worked evenings in the Potterley home. He could not trust his own on-campus rooms for the purpose. The evening work grew more real to him than his own grant applications. Sometimes he worried about it but then that stopped, too.

His work consisted, at first, simply in viewing and reviewing the text film. Later it consisted in thinking (sometimes while a section of the book ran itself off through the pocket projector, disregarded).

Sometimes Potterley would come down to watch, to sit with prim, eager eyes, as though he expected thought processes to solidify and become visible in all their convolutions. He interfered in only two ways. He did not allow Foster to smoke and sometimes he talked.

It wasn't conversation talk, never that. Rather it was a low-voiced monologue with which, it seemed, he scarcely expected to command attention. It was much more as though he were relieving a pressure within himself.

Carthage! Always Carthage!

Carthage, the New York of the ancient Mediterranean. Carthage, commercial empire and queen of the seas. Carthage, all that Syracuse and Alexandria pretended to be. Carthage, maligned by her enemies and inarticulate in her own defense.

She had been defeated once by Rome and then driven out of Sicily and Sardinia, but came back to more than recoup her losses by new dominions in Spain, and raised up Hannibal to give the Romans sixteen years of terror.

In the end, she lost again a second time, reconciled herself to fate and built again with broken tools a limping life in shrunken territory, succeeding so well that jealous Rome deliberately forced a third war. And then Carthage, with nothing but bare hands and tenacity, built weapons and forced Rome into a two-year war that ended only with complete destruction of the city, the inhabitants throwing themselves into their flaming houses rather than surrender.

"Could people fight so for a city and a way of life as bad as the ancient writers painted it? Hannibal was a better general than any Roman and his soldiers were absolutely faithful to him. Even his bitterest enemies praised him. There was a Carthaginian. It is fashionable to say that he was an atypical Carthaginian, better than the others, a diamond placed in garbage. But then why was he so faithful to Carthage, even to his death after years of exile? They talk of Moloch-

Foster didn't always listen but sometimes he couldn't help himself and he shuddered and turned sick at the bloody tale of child sacrifice.

But Potterley went on earnestly, "Just the same, it isn't true. It's a twenty-five-hundred-year-old canard started by the Greeks and Romans. They had their own slaves, their crucifixions and torture, their gladiatorial contests. They weren't holy. The Moloch story is what later ages would have called war propaganda, the big lie. I can prove it was a lie. I can prove it and, by Heaven, I will-I will-

He would mumble that promise over and over again in his earnestness.

Mrs. Potterley visited him also, but less frequently, usually on Tuesdays and Thursdays when Dr. Potterley himself had an evening course to take care of and was not present.

She would sit quietly, scarcely talking, face slack and doughy, eyes blank, her whole attitude distant and withdrawn.

The first time, Foster tried, uneasily, to suggest that she leave.

She said tonelessly, "Do I disturb you?"

"No, of course not," lied Foster restlessly. "It's just that-that-" He couldn't complete the sentence.

She nodded, as though accepting an invitation to stay. Then she opened a cloth bag she had brought with her and took out a quire of vitron sheets which she proceeded to weave together by rapid, delicate movements of a pair of slender, tetra-faceted depolarizers, whose battery-fed wires made her look as though she were holding a large spider.

One evening, she said softly, "My daughter, Laurel, is your age."

Foster started, as much at the sudden unexpected sound of speech as at the words. He said, "I didn't know you had a daughter, Mrs. Potterley."

"She died. Years ago."

The vitron grew under the deft manipulations into the uneven shape of some garment Foster could not yet identify. There was nothing left for him to do but mutter inanely, "I'm sorry."

Mrs. Potterley sighed. "I dream about her often." She raised her blue, distant eyes to him.

Foster winced and looked away.

Another evening she asked, pulling at one of the vitron sheets to loosen its gentle clinging to her dress, "What is time viewing anyway?"

That remark broke into a particularly involved chain of thought, and Foster said snappishly, "Dr. Potterley can explain."

"He's tried to. Oh, my, yes. But I think he's a little impatient with me. He calls it chronoscopy most of the time. Do you actually see things in the past, like the trimensionals? Or does it just make little dot patterns like the computer you use?"

Foster stared at his hand computer with distaste. It worked well enough, but every operation had to be manually controlled and the answers were obtained in code. Now if he could use the school computer . . . Well, why dream, he felt conspicuous enough, as it was, carrying a hand computer under his arm every evening as he left his office.

He said, "I've never seen the chronoscope myself, but I'm under the impression that you actually see pictures and hear sound."

"You can hear people talk, too?"

"I think so." Then, half in desperation, "Look here, Mrs. Potterley, this must be awfully dull for you. I realize you don't like to leave a guest all to himself, but really, Mrs. Potterley, you mustn't feel compelled-"

"I don't feel compelled," she said. "I'm sitting here, waiting."

"Waiting? For what?"

She said composedly, "I listened to you that first evening. The time you first spoke to Arnold. I listened at the door."

He said, "You did?"

"I know I shouldn't have, but I was awfully worried about Arnold. I had a notion he was going to do something he oughtn't and I wanted to hear what. And then when I heard-" She paused, bending close over the vitron and peering at it.

"Heard what, Mrs. Potterley?"

"That you wouldn't build a chronoscope."

"Well, of course not."

"I thought maybe you might change your mind."

Foster glared at her. "Do you mean you're coming down here hoping I'll build a chronoscope, waiting for me to build one?"

"I hope you do, Dr. Foster. Oh, I hope you do."

It was as though, all at once, a fuzzy veil had fallen off her face, leaving all her features clear and sharp, putting color into her cheeks, life into her eyes, the vibrations of something approaching excitement into her voice.

"Wouldn't it be wonderful," she whispered, "to have one? People of the past could live again. Pharaohs and kings and-just people. I hope you build one, Dr. Foster. I really-hope-"

She choked, it seemed, on the intensity of her own words and let the vitron sheets slip off her lap. She rose and ran up the basement stairs, while Foster's eyes followed her awkwardly fleeing body with astonishment and distress.

It cut deeper into Foster's nights and left him sleepless and painfully stiff with thought. It was almost a mental indigestion.

His grant requests went limping in, finally, to Ralph Nimmo. He scarcely had any hope for them. He thought numbly: They won't be approved.

If they weren't, of course, it would create a scandal in the department and probably mean his appointment at the university would not be renewed, come the end of the academic year.

He scarcely worried. It was the neutrino, the neutrino, only the neutrino. Its trail curved and veered sharply and led him breathlessly along uncharted pathways that even Sterbinski and LaMarr did not follow.

He called Nimmo. "Uncle Ralph, I need a few things. I'm calling from off the campus."

Nimmo's face in the video plate was jovial, but his voice was sharp. He said, "What you need is a course in communication. I'm having a hell of a time pulling your application into one intelligible piece. If that's what you're calling about-"

Foster shook his head impatiently. "That's not what I'm calling about. I need these." He scribbled quickly on a piece of paper and held it up before the receiver.

Nimmo yipped. "Hey, how many tricks do you think I can wangle?"

"You can get them, Uncle. You know you can."

Nimmo reread the list of items with silent motions of his plump lips and looked grave.

"What happens when you put those things together?" he asked. Foster shook his head. "You'll have exclusive popular publication rights to whatever turns up, the way it's always been. But please don't ask any questions now."

"I can't do miracles, you know."

"Do this one. You've got to. You're a science writer, not a research man. You don't have to account for anything. You've got friends and connections.

They can look the other way, can't they, to get a break from you next publication time?"

"Your faith, nephew, is touching. I'll try."

Nimmo succeeded. The material and equipment were brought over late one evening in a private touring car. Nimmo and Foster lugged it in with the grunting of men unused to manual labor.

Potterley stood at the entrance of the basement after Nimmo had left. He asked softly, "What's this for?"

Foster brushed the hair off his forehead and gently massaged a sprained wrist. He said, "I want to conduct a few simple experiments."

"Really?" The historian's eyes glittered with excitement.

Foster felt exploited. He felt as though he were being led along a dangerous highway by the pull of pinching fingers on his nose; as though he could see the ruin clearly that lay in wait at the end of the path, yet walked eagerly and determinedly. Worst of all, he felt the compelling grip on his nose to be his own.

It was Potterley who began it, Potterley who stood there now, gloating; but the compulsion was his own.

Foster said sourly, "I'll be wanting privacy now, Potterley. I can't have you and your wife running down here and annoying me."

He thought: If that offends him, let him kick me out. Let him put an end to this.

In his heart, though, he did not think being evicted would stop anything.

But it did not come to that. Potterley was showing no signs of offense. His mild gaze was unchanged. He said, "Of course, Dr. Foster, of course. All the privacy you wish."

Foster watched him go. He was left still marching along the highway, perversely glad of it and hating himself for being glad.

He took to sleeping over on a cot in Potterley's basement and spending his weekends there entirely.

During that period, preliminary word came through that his grants (as doctored by Nimmo) had been approved. The Department Head brought the word and congratulated him.

Foster stared back distantly and mumbled, "Good. I'm glad," with so little conviction that the other frowned and turned away without another word.

Foster gave the matter no further thought. It was a minor point, worth no notice. He was planning something that really counted, a climactic test for that evening.

One evening, a second and third and then, haggard and half beside himself with excitement, he called in Potterley.

Potterley came down the stairs and looked about at the homemade gadgetry. He said, in his soft voice, "The electric bills are quite high. I don't mind the expense, but the City may ask questions. Can anything be done?"

It was a warm evening, but Potterley wore a tight collar and a semijacket. Foster, who was in his undershirt, lifted bleary eyes and said shakily, "It won't be for much longer, Dr. Potterley. I've called you down to tell you something. A chronoscope can be built. A small one, of course, but it can be built."

Potterley seized the railing. His body sagged. He managed a whisper. "Can it be built here?"

"Here in the basement," said Foster wearily.

"Good Lord. You said-

"I know what I said," cried Foster impatiently. "I said it couldn't be done. I didn't know anything then. Even Sterbinski didn't know anything."

Potterley shook his head. "Are you sure? You're not mistaken, Dr. Foster? I couldn't endure it if-

Foster said, "I'm not mistaken. Damn it, sir, if just theory had been enough, we could have had a time viewer over a hundred years ago, when the neutrino was first postulated. The trouble was, the original investigators considered it only a mysterious particle without mass or charge that could not be detected. It was just something to even up the bookkeeping and save the law of conservation of mass energy."

He wasn't sure Potterley knew what he was talking about. He didn't care. He needed a breather. He had to get some of this out of his clotting thoughts. . . And he needed background for what he would have to tell Potterley next.

He went on. "It was Sterbinski who first discovered that the neutrino broke through the space-time cross-sectional barrier, that it traveled through time as well as through space. It was Sterbinski who first devised a method for stopping neutrinos. He invented a neutrino recorder and learned how to interpret the pattern of the neutrino stream. Naturally, the stream had been affected and deflected by all the matter it had passed through in its passage through time, and the deflections could be analyzed and converted into the images of the matter that had done the deflecting. Time viewing was possible. Even air vibrations could be detected in this way and converted into sound."

Potterley was definitely not listening. He said, "Yes. Yes. But when can you build a chronoscope?"

Foster said urgently, "Let me finish. Everything depends on the method used to detect and analyze the neutrino stream. Sterbinski's method was difficult and roundabout. It required mountains of energy. But I've studied pseudo-gravities, Dr. Potterley, the science of artificial gravitational fields. I've specialized in the behavior of light in such fields. It's a new science. Sterbinski knew nothing of it. If he had, he would have seen- anyone would have- a much better and more efficient method of detecting neutrinos using a pseudo-gravitic field. If I had known more neutrinsics to begin with, I would have seen it at once."

Potterley brightened a bit. "I knew it," he said. "Even if they stop research in neutrinoics there is no way the government can be sure that discoveries in other segments of science won't reflect knowledge on neutrinoics. So much for the value of centralized direction of science. I thought this long ago, Dr. Foster, before you ever came to work here."

"I congratulate you on that," said Foster, "but there's one thing-

"Oh, never mind all this. Answer me. Please. When can you build a chronoscope?"

"I'm trying to tell you something, Dr. Potterley. A chronoscope won't do you any good." (This is it, Foster thought.)

Slowly, Potterley descended the stairs. He stood facing Foster. "What do you mean? Why won't it help me?"

"You won't see Carthage. It's what I've got to tell you. It's what I've been leading up to. You can never see Carthage."

Potterley shook his head slightly. "Oh, no, you're wrong. If you have the chronoscope, just focus it properly-

"No, Dr. Potterley. It's not a question of focus. There are random factors affecting the neutrino stream, as they affect all subatomic particles. What we call the uncertainty principle. When the stream is recorded and interpreted, the random factor comes out as fuzziness, or 'noise' as the communications boys speak of it. The further back in time you penetrate, the more pronounced the fuzziness, the greater the noise. After a while, the noise drowns out the picture. Do you understand?"

"More power," said Potterley in a dead kind of voice.

"That won't help. When the noise blurs out detail, magnifying detail magnifies the noise, too. You can't see anything in a sun-burned film by enlarging it, can you? Get this through your head, now. The physical nature of the universe sets limits. The random thermal motions of air molecules set limits to how weak a sound can be detected by any instrument. The length of a light wave or of an electron wave sets limits to the size of objects that can be seen by any instrument. It works that way in chronoscopy, too. You can only time view so far."

"How far? How far?"

Foster took a deep breath. "A century and a quarter. That's the most."

"But the monthly bulletin the Commission puts out deals with ancient history almost entirely." The historian laughed shakily. "You must be wrong. The government has data as far back as 3000 B.C."

"When did you switch to believing them?" demanded Foster, scornfully. "You began this business by proving they were lying; that no historian had made use of the chronoscope. Don't you see why now? No historian, except one interested in contemporary history, could. No chronoscope can possibly see back in time further than 1920 under any conditions."

"You're wrong. You don't know everything," said Potterley.

"The truth won't bend itself to your convenience either. Face it. The government's part in this is to perpetuate a hoax."

"Why?"

"I don't know why."

Potterley's snubby nose was twitching. His eyes were bulging. He pleaded, "It's only theory, Dr. Foster. Build a chronoscope. Build one and try."

Foster caught Potterley's shoulders in a sudden, fierce grip. "Do you think I haven't? Do you think I would tell you this before I had checked it every way I knew? I have built one. It's all around you. Look!"

He ran to the switches at the power leads. He flicked them on, one by one. He turned a resistor, adjusted other knobs, put out the cellar lights. "Wait. Let it warm up."

There was a small glow near the center of one wall. Potterley was gibbering incoherently, but Foster only cried again, "Look!"

The light sharpened and brightened, broke up into a light-and-dark pattern. Men and women! Fuzzy. Features blurred. Arms and legs mere streaks. An old-fashioned ground car, unclear but recognizable as one of the kind that had once used gasoline-powered internal-combustion engines, sped by.

Foster said, "Mid-twentieth century, somewhere. I can't hook up an audio yet so this is soundless. Eventually, we can add sound. Anyway, mid-twentieth is almost as far back as you can go. Believe me, that's the best focusing that can be done."

Potterley said, "Build a larger machine, a stronger one. Improve your circuits."

"You can't lick the Uncertainty Principle, man, any more than you can live on the sun. There are physical limits to what can be done."

"You're lying. I won't believe you. I-"

A new voice sounded, raised shrilly to make itself heard.

"Arnold! Dr. Foster!"

, The young physicist turned at once. Dr. Potterley froze for a long moment, then said, without turning, "What is it, Caroline? Leave us."

"No!" Mrs. Potterley descended the stairs. "I heard. I couldn't help hearing. Do you have a time viewer here, Dr. Foster? Here in the basement?"

"Yes, I do, Mrs. Potterley. A kind of time viewer. Not a good one. I can't get sound yet and the picture is darned blurry, but it works."

Mrs. Potterley clasped her hands and held them tightly against her breast. "How wonderful. How wonderful."

"It's not at all wonderful," snapped Potterley. "The young fool can't reach further back than-"

"Now, look," began Foster in exasperation. . .

"Please!" cried Mrs. Potterley. "Listen to me. Arnold, don't you see that as long as we can use it for twenty years back, we can see Laurel once again? What do we care about Carthage and ancient times? It's Laurel we can see."

She'll be alive for us again. Leave the machine here, Dr. Foster. Show us how to work it."

Foster stared at her then at her husband. Dr. Potterley's face had gone white. Though his voice stayed low and even, its calmness was somehow gone. He said, "You're a fool!"

Caroline said weakly, "Arnold!"

"You're a fool, I say. What will you see? The past. The dead past. Will Laurel do one thing she did not do? Will you see one thing you haven't seen? Will you live three years over and over again, watching a baby who'll never grow up no matter how you watch?"

His voice came near to cracking, but held. He stopped closer to her, seized her shoulder and shook her roughly. "Do you know what will happen to you if you do that? They'll come to take you away because you'll go mad. Yes, mad. Do you want mental treatment? Do you want to be shut up, to undergo the psychic probe?"

Mrs. Potterley tore away. There was no trace of softness or vagueness about her. She had twisted into a virago. "I want to see my child, Arnold. She's in that machine and I want her."

"She's not in the machine. An image is. Can't you understand? An image! Something that's not real!"

"I want my child. Do you hear me?" She flew at him, screaming, fists beating. "I want my child."

The historian retreated at the fury of the assault, crying out. Foster moved to step between, when Mrs. Potterley dropped, sobbing wildly, to the floor.

Potterley turned, eyes desperately seeking. With a sudden heave, he snatched at a Lando-rod, tearing it from its support, and whirling away before Foster, numbed by all that was taking place, could move to stop him.

"Stand back!" gasped Potterley, "or I'll kill you. I swear it."

He swung with force, and Foster jumped back.

Potterley turned with fury on every part of the structure in the cellar, and Foster, after the first crash of glass, watched dazedly.

Potterley spent his rage and then he was standing quietly amid shards and splinters, with a broken Lando-rod in his hand. He said to Foster in a whisper, "Now get out of here! Never come back! If any of this cost you anything, send me a bill and I'll pay for it. I'll pay double."

Foster shrugged, picked up his shirt and moved up the basement stairs. He could hear Mrs. Potterley sobbing loudly, and, as he turned at the head of the stairs for a last look, he saw Dr. Potterley bending over her, his face convulsed with sorrow.

Two days later, with the school day drawing to a close, and Foster looking wearily about to see if there were any data on his newly approved projects that he wished to take home, Dr. Potterley appeared once more. He was standing at the open door of Foster's office.

The historian was neatly dressed as ever. He lifted his hand in a gesture that was too vague to be a greeting, too abortive to be a plea. Foster stared stonily.

Potterley said, "I waited till five, till you were . . . May I come in?"

Foster nodded.

Potterley said, "I suppose I ought to apologize for my behavior. I was dreadfully disappointed; not quite master of myself. Still, it was inexcusable."

"I accept your apology," said Foster. "Is that all?"

"My wife called you, I think."

"Yes, she has."

"She has been quite hysterical. She told me she had but I couldn't be quite sure-"

"Could you tell me-would you be so kind as to tell me what she wanted?"

"She wanted a chronoscope. She said she had some money of her own. She was willing to pay."

"Did you-make any commitments?"

"I said I wasn't in the manufacturing business."

"Good," breathed Potterley, his chest expanding with a sigh of relief. "Please don't take any calls from her. She's not-quite-"

"Look, Dr. Potterfey," said Foster, "I'm not getting into any domestic quarrels, but you'd better be prepared for something. Chronoscopes can be built by anybody. Given a few simple parts that can be bought through some etherics sales center, it can be built in the home workshop. The video part, anyway."

"But no one else will think of it beside you, will they? No one has."

"I don't intend to keep it secret."

"But you can't publish. It's illegal research."

"That doesn't matter any more, Dr. Potterley. If I lose my grants, I lose them. If the university is displeased, I'll resign. It just doesn't matter."

"But you can't do that!"

"Till now," said Foster, "you didn't mind my risking loss of grants and position. Why do you turn so tender about it now? Now let me explain something to you. When you first came to me, I believed in organized and directed research; the situation as it existed, in other words. I considered you an intellectual anarchist, Dr. Potterley, and dangerous. But, for one reason or another, I've been an anarchist myself for months now and I have achieved great things.

"Those things have been achieved not because I am a brilliant scientist. Not at all. It was just that scientific research had been directed from above and holes were left that could be filled in by anyone who looked in the right direction. And anyone might have if the government hadn't actively tried to prevent it.

"Now understand me. I still believe directed research can be useful. I'm not in favor of a retreat to total anarchy. But there must be a middle ground. Directed research can retain flexibility. A scientist must be allowed to follow his curiosity, at least in his spare time."

Potterley sat down. He said ingratiatingly, "Let's discuss this, Foster. I appreciate your idealism. You're young. You want the moon. But you can't destroy yourself through fancy notions of what research must consist of. I got you into this. I am responsible and I

blame myself bitterly. I was acting emotionally. My interest in Carthage blinded me and I was a damned fool."

Foster broke in. "You mean you've changed completely in two days? Carthage is nothing? Government suppression of research is nothing?"

"Even a damned fool like myself can learn, Foster. My wife taught me something. I understand the reason for government suppression of neutrinics now. I didn't two days ago. And, understanding, I approve. You saw the way my wife reacted to the news of a chronoscope in the basement. I had envisioned a chronoscope used for research purposes. All she could see was the personal pleasure of returning neurotically to a personal past, a dead past. The pure researcher, Foster, is in the minority. People like my wife would outweigh us.

"For the government to encourage chronoscopy would have meant that everyone's past would be visible. The government officers would be subjected to blackmail and improper pressure, since who on Earth has a past that is absolutely clean? Organized government might become impossible."

Foster licked his lips. "Maybe. Maybe the government has some justification in its own eyes. Still, there's an important principle involved here. Who knows what other scientific advances are being stymied because scientists are being stifled into walking a narrow path? If the chronoscope becomes the terror of a few politicians, it's a price that must be paid. The public must realize that science must be free and there is no more dramatic way of doing it than to publish my discovery, one way or another, legally or illegally."

Potterley's brow was damp with perspiration, but his voice remained even. "Oh, not just a few politicians, Dr. Foster. Don't think that. It would be my terror, too. My wife would spend her time living with our dead daughter. She would retreat further from reality. She would go mad living the same scenes over and over. And not just my terror. There would be others like her. Children searching for their dead parents or their own youth. We'll have a whole world living in the past. Midsummer madness."

Foster said, "Moral judgments can't stand in the way. There isn't one advance at any time in history that mankind hasn't had the ingenuity to pervert. Mankind must also have the ingenuity to prevent. As for the chronoscope, your delvers into the dead past will get tired soon enough. They'll catch their loved parents in some of the things their loved parents did and they'll lose their enthusiasm for it all. But all this is trivial. With me, it's a matter of important principle."

Potterley said, "Hang your principle. Can't you understand men and women as well as principle? Don't you understand that my wife will live through the fire that killed our baby? She won't be able to help herself. I know her. She'll follow through each step, trying to prevent it. She'll live it over and over again, hoping each time that it won't happen. How many times do you want to kill Laurel?" A huskiness had crept into his voice.

A thought crossed Foster's mind. "What are you really afraid she'll find out, Dr. Potterley? What happened the night of the fire?"

The historian's hands went up quickly to cover his face and they shook with his dry sobs. Foster turned away and stared uncomfortably out the window.

Potterley said after a while, "It's a long time since I've had to think of it. Caroline was away. I was baby-sitting. I went into the baby's bedroom midevening to see if she had kicked off the bedclothes. I had my cigarette with me . . . I smoked in those days. I must have stubbed it out before putting it in the ashtray on the chest of drawers. I was always careful. The baby was all right. I returned to the living room and fell asleep before the video. I awoke, choking, surrounded by fire. I don't know how it started."

"But you think it may have been the cigarette, is that it?" said Foster. "A cigarette which, for once, you forgot to stub out?"

"I don't know. I tried to save her, but she was dead in my arms when I got out."

"You never told your wife about the cigarette, I suppose."

Potterley shook his head. "But I've lived with it."

"Only now, with a chronoscope, she'll find out. Maybe it wasn't the cigarette. Maybe you did stub it out. Isn't that possible?"

The scant tears had dried on Potterley's face. The redness had subsided. He said, "I can't take the chance. . . But it's not just myself, Foster. The past has its terrors for most people. Don't loose those terrors on the human race."

Foster paced the floor. Somehow, this explained the reason for Potterley's rabid, irrational desire to boost the Carthaginians, deify them, most of all disprove the story of their fiery sacrifices to Moloch. By freeing them of the guilt of infanticide by fire, he symbolically freed himself of the same guilt.

So the same fire that had driven him on to causing the construction of a chronoscope was now driving him on to the destruction.

Foster looked sadly at the older man. "I see your position, Dr. Potterley, but this goes above personal feelings. I've got to smash this throttling hold on the throat of science."

Potterley said, savagely, "You mean you want the fame and wealth that goes with such a discovery."

"I don't know about the wealth, but that, too, I suppose. I'm no more than human."

"You won't suppress your knowledge?"

"Not under any circumstances."

"Well, then-" and the historian got to his feet and stood for a moment, glaring.

Foster had an odd moment of terror. The man was older than he, smaller, feebler, and he didn't look armed. Still . . .

Foster said, "If you're thinking of killing me or anything insane like that, I've got the information in a safety-deposit vault where the proper people will find it in case of my disappearance or death."

Potterley said, "Don't be a fool," and stalked out.

Foster closed the door, locked it and sat down to think. He felt silly. He had no information in any safety-deposit vault, of course. Such a melodramatic action would not have occurred to him ordinarily. But now it had.

Feeling even sillier, he spent an hour writing out the equations of the application of pseudo-gravitic optics to neutrino recording, and some diagrams for the engineering details of construction. He sealed it in an envelope and scrawled Ralph Nimmo's name over the outside.

He spent a rather restless night and the next morning, on the way to school, dropped the envelope off at the bank, with appropriate instructions to an official, who made him sign a paper permitting the box to be opened after his death.

He called Nimmo to tell him of the existence of the envelope, refusing querulously to say anything about its contents.

He had never felt so ridiculously self-conscious as at that moment.

That night and the next, Foster spent in only fitful sleep, finding himself face to face with the highly practical problem of the publication of data unethically obtained.

The Proceedings of the Society for Pseudo-Gravities, which was the journal with which he was best acquainted, would certainly not touch any paper that did not include the magic footnote: "The work described in this paper was made possible by Grant No. so-and-so from the Commission of Research of the United Nations."

Nor, doubly so, would the Journal of Physics.

There were always the minor journals who might overlook the nature of the article for the sake of the sensation, but that would require a little financial negotiation on which he hesitated to embark. It might, on the whole, be better to pay the cost of publishing a small pamphlet for general distribution among scholars. In that case, he would even be able to dispense with the services of a science writer, sacrificing polish for speed. He would have to find a reliable printer. Uncle Ralph might know one.

He walked down the corridor to his office and wondered anxiously if perhaps he ought to waste no further time, give himself no further chance to lapse into indecision and take the risk of calling Ralph from his office phone. He was so absorbed in his own heavy thoughts that he did not notice that his room was occupied until he turned from the clothes closet and approached his desk.

Dr. Potterley was there and a man whom Foster did not recognize.

Foster stared at them. "What's this?"

Potterley said, "I'm sorry, but I had to stop you."

Foster continued staring. "What are you talking about?"

The stranger said, "Let me introduce myself." He had large teeth, a little uneven, and they showed prominently when he smiled. "I am Thaddeus Araman, Department Head of the Division of Chronoscopy. I am here to see you concerning information brought to me by Professor Arnold Potterley and confirmed by our own sources—"

Potterley said breathlessly, "I took all the blame, Dr. Foster. I explained that it was I who persuaded you against your will into unethical practices. I have offered to accept full

responsibility and punishment. I don't wish you harmed in any way. It's just that chronoscopy must not be permitted!"

Araman nodded. "He has taken the blame as he says, Dr. Foster, but this thing is out of his hands now."

Foster said, "So? What are you going to do? Blackball me from all consideration for research grants?"

"That is in my power," said Araman.

"Order the university to discharge me?"

"That, too, is in my power."

"All right, go ahead. Consider it done. I'll leave my office now, with you. I can send for my books later. If you insist, I'll leave my books. Is that all?"

"Not quite," said Araman. "You must engage to do no further research in chronoscopy, to publish none of your findings in chronoscopy and, of course, to build no chronoscope. You will remain under surveillance indefinitely to make sure you keep that promise."

"Supposing I refuse to promise? What can you do? Doing research out of my field may be unethical, but it isn't a criminal offense."

"In the case of chronoscopy, my young friend," said Araman patiently, "it is a criminal offense. If necessary, you will be put in jail and kept there."

"Why?" shouted Foster. "What's magic about chronoscopy?"

Araman said, "That's the way it is. We cannot allow further developments in the field. My own job is, primarily, to make sure of that, and I intend to do my job. Unfortunately, I had no knowledge, nor did anyone in the department, that the optics of pseudo-gravity fields had such immediate application to chronoscopy. Score one for general ignorance, but henceforward research will be steered properly in that respect, too."

Foster said, "That won't help. Something else may apply that neither you nor I dream of. All science hangs together. It's one piece. If you want to stop one part, you've got to stop it all."

"No doubt that is true," said Araman, "in theory. On the practical side, however, we have managed quite well to hold chronoscopy down to the original Sterbinski level for fifty years. Having caught you in time, Dr. Foster, we hope to continue doing so indefinitely. And we wouldn't have come this close to disaster, either, if I had accepted Dr. Potterley at something more than face value."

He turned toward the historian and lifted his eyebrows in a kind of humorous self-deprecation. "I'm afraid, sir, that I dismissed you as a history professor and no more on the occasion of our first interview. Had I done my job properly and checked on you, this would not have happened."

Foster said abruptly, "Is anyone allowed to use the government chronoscope?"

"No one outside our division under any pretext. I say that since it is obvious to me that you have already guessed as much. I warn you, though, that any repetition of that fact will be a criminal, not an ethical, offense."

"And your chronoscope doesn't go back more than a hundred twenty-five years or so, does it?"

"It doesn't."

"Then your bulletin with its stories of time viewing ancient times is a hoax?"

Araman said coolly, "With the knowledge you now have, it is obvious you know that for a certainty. However, I confirm your remark. The monthly bulletin is a hoax."

"In that case," said Foster, "I will not promise to suppress my knowledge of chronoscopy. If you wish to arrest me, go ahead. My defense at the trial will be enough to destroy the vicious card house of directed research and bring it tumbling down. Directing research is one thing; suppressing it and depriving mankind of its benefits is quite another."

Araman said, "Oh, let's get something straight, Dr. Foster. If you do not co-operate, you will go to jail directly. You will not see a lawyer, you will not be charged, you will not have a trial. You will simply stay in jail."

"Oh, no," said Foster, "you're bluffing. This is not the twentieth century, you know."

There was a stir outside the office, the clatter of feet, a high-pitched shout that Foster was sure he recognized. The door crashed open, the lock splintering, and three intertwined figures stumbled in.

As they did so, one of the men raised a blaster and brought its butt down hard on the skull of another.

There was a whoosh of expiring air, and the one whose head was struck went limp.

"Uncle Ralph!" cried Foster.

Araman frowned. "Put him down in that chair," he ordered, "and get some water."

Ralph Nimmo, rubbing his head with a gingerly sort of disgust, said, "There was no need to get rough, Araman."

Araman said, "The guard should have been rough sooner and kept you out of here, Nimmo. You'd have been better off."

"You know each other?" asked Foster.

"I've had dealings with the man," said Nimmo, still rubbing. "If he's here in your office, nephew, you're in trouble."

"And you, too," said Araman angrily. "I know Dr. Foster consulted you on neutrino literature."

Nimmo corrugated his forehead, then straightened it with a wince as though the action had brought pain. "So?" he said. "What else do you know about me?"

"We will know everything about you soon enough. Meanwhile, that one item is enough to implicate you. What are you doing here?"

"My dear Dr. Araman," said Nimmo, some of his jauntiness restored, "day before yesterday, my jackass of a nephew called me. He had placed some mysterious information-"

"Don't tell him! Don't say anything!" cried Foster.

Araman glanced at him coldly. "We know all about it, Dr. Foster. The safety-deposit box has been opened and its contents removed."

"But how can you know-" Foster's voice died away in a kind of furious frustration.

"Anyway," said Nimmo, "I decided the net must be closing around him and, after I took care of a few items, I came down to tell him to get off this thing he's doing. It's not worth his career."

"Does that mean you know what he's doing?" asked Araman.

"He never told me," said Nimmo, "but I'm a science writer with a hell of a lot of experience. I know which side of an atom is electronified. The boy, Foster, specializes in pseudo-gravitic optics and coached me on the stuff himself. He got me to get him a textbook on neutrinsics and I kind of ship-viewed it myself before handing it over. I can put the two together. He asked me to get him certain pieces of physical equipment, and that was evidence, too. Stop me if I'm wrong, but my nephew has built a semiportable, low-power chronoscope. Yes, or-yes?"

"Yes." Araman reached thoughtfully for a cigarette and paid no attention to Dr. Potterley (watching silently, as though all were a dream) who shied away, gasping, from the white cylinder. "Another mistake for me. I ought to resign. I should have put tabs on you, too, Nimmo, instead of concentrating too hard on Potterley and Foster. I didn't have much time of course and you've ended up safely here, but that doesn't excuse me. You're under arrest, Nimmo."

"What for?" demanded the science writer.

"Unauthorized research."

"I wasn't doing any. I can't, not being a registered scientist. And even if I did, it's not a criminal offense."

Foster said savagely, "No use, Uncle Ralph. This bureaucrat is making his own laws."

"Like what?" demanded Nimmo.

"Like life imprisonment without trial."

"Nuts," said Nimmo. "This isn't the twentieth cen-"

"I tried that," said Foster. "It doesn't bother him."

"Well, nuts," shouted Nimmo. "Look here, Araman. My nephew and I have relatives who haven't lost touch with us, you know. The professor has some also, I imagine. You can't just make us disappear. There'll be questions and a scandal. This isn't the twentieth century. So if you're trying to scare us, it isn't working."

The cigarette snapped between Araman's fingers and he tossed it away violently. He said, "Damn it, I don't know what to do. It's never been like this before. . . Look! You three fools know nothing of what you're trying to do. You understand nothing. Will you listen to me?"

"Oh, we'll listen," said Nimmo grimly.

(Foster sat silently, eyes angry, lips compressed. Potterley's hands writhed like two intertwined snakes.)

Araman said, "The past to you is the dead past. If any of you have discussed the matter, it's dollars to nickels you've used that phrase. The dead past. If you knew how many times I've heard those three words, you'd choke on them, too."

"When people think of the past, they think of it as dead, far away and gone, long ago. We encourage them to think so. When we report time viewing, we always talk of views centuries in the past, even though you gentlemen know seeing more than a century or so is impossible. People accept it. The past means Greece, Rome, Carthage, Egypt, the Stone Age. The deader the better."

"Now you three know a century or a little more is the limit, so what does the past mean to you? Your youth. Your first girl. Your dead mother. Twenty years ago. Thirty years ago. Fifty years ago. The deader the better. . . But when does the past really begin?"

He paused in anger. The others stared at him and Nimmo stirred uneasily.

"Well," said Araman, "when did it begin? A year ago? Five minutes ago? One second ago? Isn't it obvious that the past begins an instant ago? The dead past is just another name for the living present. What if you focus the chronoscope in the past of one-hundredth of a second ago? Aren't you watching the present? Does it begin to sink in?"

Nimmo said, "Damnation."

"Damnation," mimicked Araman. "After Potterley came to me with his story night before last, how do you suppose I checked up on both of you? I did it with the chronoscope, spotting key moments to the very instant of the present."

"And that's how you knew about the safety-deposit box?" said Foster.

"And every other important fact. Now what do you suppose would happen if we let news of a home chronoscope get out? People might start out by watching their youth, their parents and so on, but it wouldn't be long before they'd catch on to the possibilities. The housewife will forget her poor, dead mother and take to watching her neighbor at home and her husband at the office. The businessman will watch his competitor; the employer his employee."

"There will be no such thing as privacy. The party line, the prying eye behind the curtain will be nothing compared to it. The video stars will be closely watched at all times by everyone. Every man his own peeping Tom and there'll be no getting away from the watcher. Even darkness will be no escape because chronoscopy can be adjusted to the infrared and human figures can be seen by their own body heat. The figures will be fuzzy, of course, and the surroundings will be dark, but that will make the titillation of it all the greater, perhaps. . . Hmp, the men in charge of the machine now experiment sometimes in spite of the regulations against it."

Nimmo seemed sick. "You can always forbid private manufacture-"

Araman turned on him fiercely. "You can, but do you expect it to do good? Can you legislate successfully against drinking, smoking, adultery or gossiping over the back fence? And this mixture of nosiness and prurience will have a worse grip on humanity than any of those. Good Lord, in a thousand years of trying we haven't even been able to wipe

out the heroin traffic and you talk about legislating against a device for watching anyone you please at any time you please that can be built in a home workshop."

Foster said suddenly, "I won't publish."

Potterley burst out, half in sobs, "None of us will talk. I regret-"

Nimmo broke in. "You said you didn't tab me on the chronoscope, Araman."

"No time," said Araman wearily. "Things don't move any faster on the chronoscope than in real life. You can't speed it up like the film in a book viewer. We spent a full twenty-four hours trying to catch the important moments during the last six months of Potterley and Foster. There was no time for anything else and it was enough."

"It wasn't," said Nimmo.

"What are you talking about?" There was a sudden infinite alarm on Araman's face.

"I told you my nephew, Jonas, had called me to say he had put important information in a safety-deposit box. He acted as though he were in trouble. He's my nephew. I had to try to get him off the spot. It took a while, then I came here to tell him what I had done. I told you when I got here, just after your man conked me that I had taken care of a few items."

"What? For Heaven's sake-"

"Just this: I sent the details of the portable chronoscope off to half a dozen of my regular publicity outlets."

Not a word. Not a sound. Not a breath. They were all past any demonstration.

"Don't stare like that," cried Nimmo. "Don't you see my point? I had popular publication rights. Jonas will admit that. I knew he couldn't publish scientifically in any legal way. I was sure he was planning to publish illegally and was preparing the safety-deposit box for that reason, I thought if I put through the details prematurely, all the responsibility would be mine. His career would be saved. And if I were deprived of my science-writing license as a result, my exclusive possession of the chronometric data would set me up for life. Jonas would be angry, I expected that, but I could explain the motive and we would split the take fifty-fifty. . . Don't stare at me like that. How did I know-"

"Nobody knew anything," said Araman bitterly, "but you all just took it for granted that the government was stupidly bureaucratic, vicious, tyrannical, given to suppressing research for the hell of it. It never occurred to any of you that we were trying to protect mankind as best we could."

"Don't sit there talking," wailed Potterley. "Get the names of the people who were told-"

"Too late," said Nimmo, shrugging. "They've had better than a day. There's been time for the word to spread. My outfits will have called any number of physicists to check my data before going on with it and they'll call one another to pass on the news. Once scientists put neutrinos and pseudo-gravities together, home chronoscopy becomes obvious. Before the week is out, five hundred people will know how to build a small chronoscope and how will you catch them all?" His plum cheeks sagged. "I suppose there's no way of putting the mushroom cloud back into that nice, shiny uranium sphere."

Araman stood up. "We'll try, Potterley, but I agree with Nimmo. It's too late. What kind of a world we'll have from now on, I don't know, I can't tell, but the world we know has been destroyed completely. Until now, every custom, every habit, every tiniest way of life has always taken a certain amount of privacy for granted, but that's all gone now."

He saluted each of the three with elaborate formality.

"You have created a new world among the three of you. I congratulate you. Happy goldfish bowl to you, to me, to everyone, and may each of you fry in hell forever. Arrest rescinded."

THE FOUNDATION OF S.E SUCCESS

(WITH APOLOGIES TO W. S. GILBERT)

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If you ask me how to shine in the science-fiction line as a pro of luster bright, I say, practice up the lingo of the sciences, by jingo (never mind if not quite right). You must talk of Space and Galaxies and tesseractic fallacies in slick and mystic style, Though the fans won't understand it, they will all the same demand it with a softly hopeful smile.

And all the fans will say, As you walk your spatial way, If that young man indulges in flights through all the Galaxy, Why, what a most imaginative type of man that type of man must be.

So success is not a mystery, just brush up on your history, and borrow day by day. Take an Empire that was Roman and you'll find it is at home in all the starry Milky Way. With a drive that's hyperspatial, through the parsecs you will race, you'll find that plotting is a breeze, With a tiny bit of cribbin' from the works of Edward Gibbon and that Greek, Thucydides.

And all the fans will say, As you walk your thoughtful way, If that young man involves himself in authentic history, Why, what a very learned kind of high IQ, his high IQ must be.

Then eschew all thoughts of passion of a man-and-woman fashion from your hero's thoughtful mind. He must spend his time on politics, and thinking up his shady tricks, and outside that he's blind. It's enough he's had a mother, other females are a bother, though they're jeweled and glistery. They will just distract his dreaming and his necessary scheming with that psychohistory.

And all the fans will say As you walk your narrow way, If all his yarns restrict themselves to masculinity, Why, what a most particularly pure young man that pure young man must be.

FRANCHISE

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Linda, age ten, was the only one of the family who seemed to enjoy being awake.

Norman Muller could hear her now through his own drugged, unhealthy coma. (He had finally managed to fall asleep an hour earlier but even then it was more like exhaustion than sleep.)

She was at his bedside now, shaking him. "Daddy, Daddy, wake up. Wake up!"

He suppressed a groan. "All right, Linda."

"But, Daddy, there's more policemen around than any time! Police cars and everything!"

Norman Muller gave up and rose Wearily to his elbows. The day was beginning. It was faintly stirring toward dawn outside, the germ of a miserable gray that looked about as miserably gray as he felt. He could hear Sarah, his wife, shuffling about breakfast duties in the kitchen. His father-in-law, Matthew, was hawking strenuously in the bathroom. No doubt Agent Handley was ready and waiting for him.

This was the day.

Election Day!

To begin with, it had been like every other year. Maybe a little worse, because it was a presidential year, but no worse than other presidential years if it came to that.

The politicians spoke about the gub-reat electorate and the vast electronic intelligence that was its servant. The press analyzed the situation with industrial computers (the New York Times and the St. Louis Post-Dispatch had their own computers) and were full of little hints as to what would be forthcoming. Commentators and columnists pinpointed the crucial state and county in happy contradiction to one another.

The first hint that it would not be like every other year was when Sarah Muller said to her husband on the evening of October 4 (with Election Day exactly a month off), "Cantwell Johnson says that Indiana will be the state this year. He's the fourth one. Just think, our state this time."

Matthew Hortenweiler took his fleshy face from behind the paper, stared dourly at his daughter and growled, "Those fellows are paid to tell lies. Don't listen to them."

"Four of them, Father," said Sarah mildly. "They all say Indiana."

"Indiana is a key state, Matthew," said Norman, just as mildly, "on account of the Hawkins-Smith Act and this mess in Indianapolis. It-"

Matthew twisted his old face alarmingly and rasped out, "No one says Bloomington or Monroe County, do they?"

"Well-" said Norman.

Linda, whose little pointed-chinned face had been shifting from one speaker to the next, said pipingly, "You going to be voting this year, Daddy?"

Norman smiled gently and said, "I don't think so, dear."

But this was in the gradually growing excitement of an October in a presidential election year and Sarah had led a quiet life with dreams for her companions. She said longingly, "Wouldn't that be wonderful, though?"

"If I voted?" Norman Muller had a small blond mustache that had given him a debonair quality in the young Sarah's eyes, but which, with gradual graying, had declined merely to lack of distinction. His forehead bore deepening lines born of uncertainty and, in general, he had never seduced his clerkly soul with the thought that he was either born great or would under any circumstances achieve greatness. He had a wife, a job and a little girl, and except under extraordinary conditions of elation or depression was inclined to consider that to be an adequate bargain struck with life.

So he was a little embarrassed and more than a little uneasy at the direction his wife's thoughts were taking. "Actually, my dear," he said, "there are two hundred million people in the country, and, with odds like that, I don't think we ought to waste our time wondering about it."

His wife said, "Why, Norman, it's no such thing like two hundred million and you know it. In the first place, only people between twenty and sixty are eligible and it's always men, so that puts it down to maybe fifty million to one. Then, if it's really Indiana-

"Then it's about one and a quarter million to one. You wouldn't want me to bet in a horse race against those odds, now, would you? Let's have supper."

Matthew muttered from behind his newspaper, "Damned foolishness."

Linda asked again, "You going to be voting this year, Daddy?"

Norman shook his head and they all adjourned to the dining room.

By October 20, Sarah's excitement was rising rapidly. Over the coffee, she announced that Mrs. Schultz, having a cousin who was the secretary of an Assemblyman, said that all the "smart money" was on Indiana.

"She says President Villers is even going to make a speech at Indianapolis."

Norman Muller, who had had a hard day at the store, nudged the statement with a raising of eyebrows and let it go at that.

Matthew Hortenweiler, who was chronically dissatisfied with Washington, said, "If Villers makes a speech in Indiana, that means he thinks Multivac will pick Arizona. He wouldn't have the guts to go closer, the mush-head."

Sarah, who ignored her father whenever she could decently do so, said, "I don't know why they don't announce the state as soon as they can, and then the county and so on. Then the people who were eliminated could relax."

"If they did anything like that," pointed out Norman, "the politicians would follow the announcements like vultures. By the time it was narrowed down to a township, you'd have a Congressman or two at every street corner."

Matthew narrowed his eyes and brushed angrily at his sparse, gray hair. "They're vultures, anyhow. Listen-

Sarah murmured, "Now, Father-"

Matthew's voice rumbled over her protest without as much as a stumble or hitch. "Listen, I was around when they set up Multivac. It would end partisan politics, they said. No more voters' money wasted on campaigns. No more grinning nobodies high-pressured and advertising-campaigned into Congress or the White House. So what happens. More campaigning than ever, only now they do it blind. They'll send guys to Indiana on account of the Hawkins-Smith Act and other guys to California in case it's the Joe Hammer situation that turns out crucial. I say, wipe out all that nonsense. Back to the good old-"

Linda asked suddenly, "Don't you want Daddy to vote this year, Grandpa?"

Matthew glared at the young girl. "Never you mind, now." He turned back to Norman and Sarah. "There was a time I voted. Marched right up to the polling booth, stuck my fist on the levers and voted. There was nothing to it. I just said: This fellow's my man and I'm voting for him. That's the way it should be."

Linda said excitedly, "You voted, Grandpa? You really did?"

Sarah leaned forward quickly to quiet what might easily become an incongruous story drifting about the neighborhood, "It's nothing, Linda. Grandpa doesn't really mean voted. Everyone did that kind of voting, your grandpa, too, but it wasn't really voting."

Matthew roared, "It wasn't when I was a little boy. I was twenty-two and I voted for Langley and it was real voting. My vote didn't count for much, maybe, but it was as good as anyone else's. Anyone else's. And no Multivac to-"

Norman interposed, "All right, Linda, time for bed. And stop asking questions about voting. When you grow up, you'll understand all about it."

He kissed her with antiseptic gentleness and she moved reluctantly out of range under maternal prodding and a promise that she might watch the bedside video till 9:15, if she was prompt about the bathing ritual.

Linda said, "Grandpa," and stood with her chin down and her hands behind her back until his newspaper lowered itself to the point where shaggy eyebrows and eyes, nested in fine wrinkles, showed themselves. It was Friday, October 31.

He said, "Yes?"

Linda came closer and put both her forearms on one of the old man's knees so that he had to discard his newspaper altogether.

She said, "Grandpa, did you really once vote?"

He said, "You heard me say I did, didn't you? Do you think I tell fibs?"

"N-no, but Mamma says everybody voted then."

"So they did."

"But how could they? How could everybody vote?"

Matthew stared at her solemnly, then lifted her and put her on his knee.

He even moderated the tonal qualities of his voice. He said, "You see, Linda, till about forty years ago, everybody always voted. Say we wanted to decide who was to be the new President of the United States. The Democrats and Republicans would both nominate someone, and everybody would say who they wanted. When Election Day was

over, they would count how many people wanted the Democrat and how many wanted the Republican. Whoever had more votes was elected. You see?"

Linda nodded and said, "How did all the people know who to vote for? Did Multivac tell them?"

Matthew's eyebrows hunched down and he looked severe. "They just used their own judgment, girl."

She edged away from him, and he lowered his voice again, "I'm not angry at you, Linda. But, you see, sometimes it took all night to count what everyone said and people were impatient. So they invented special machines which could look at the first few votes and compare them with the votes from the same places in previous years. That way the machine could compute how the total vote would be and who would be elected. You see?"

She nodded. "Like Multivac."

"The first computers were much smaller than Multivac. But the machines grew bigger and they could tell how the election would go from fewer and fewer votes. Then, at last, they built Multivac and it can tell from just 1 one voter."

Linda smiled at having reached a familiar part of the story and said, ("That's nice."

Matthew frowned and said, "No, it's not nice. I don't want a machine telling me how I would have voted just because some joker in Milwaukee says he's against higher tariffs. Maybe I want to vote cockeyed just for the pleasure of it. Maybe I don't want to vote. Maybe-

(But Linda had wriggled from his knee and was beating a retreat.

She met her mother at the door. Her mother, who was still wearing her coat and had not even had time to remove her hat, said breathlessly, "Run, along, Linda. Don't get in Mother's way."

Then she said to Matthew, as she lifted her hat from her head and patted her hair back into place, "I've been at Agatha's."

Matthew stared at her censoriously and did not even dignify that piece of information with a grunt as he groped for his newspaper. Sarah said, as she unbuttoned her coat, "Guess what she said?"

Matthew flattened out his newspaper for reading purposes with a sharp crackle and said, "Don't much care."

Sarah said, "Now, Father-" But she had no time for anger. The news I had to be told and Matthew was the only recipient handy, so she went on, "Agatha's Joe is a policeman, you know, and he says a whole truckload of secret service men came into Bloomington last night."

"They're not after me."

"Don't you see, Father? Secret service agents, and it's almost election time. In Bloomington."

"Maybe they're after a bank robber."

"There hasn't been a bank robbery in town in ages. . . Father, you're hopeless."
She stalked away.

Nor did Norman Muller receive the news with noticeably greater excitement.

"Now, Sarah, how did Agatha's Joe know they were secret service agents?" he asked calmly. "They wouldn't go around with identification cards pasted on their foreheads."

But by next evening, with November a day old, she could say triumphantly, "It's just everyone in Bloomington that's waiting for someone local to be the voter. The Bloomington News as much as said so on video."

Norman stirred uneasily. He couldn't deny it, and his heart was sinking. If Bloomington was really to be hit by Multivac's lightning, it would mean newspapermen, video shows, tourists, all sorts of-strange upsets. Norman liked the quiet routine of his life, and the distant stir of politics was getting uncomfortably close.

He said, "It's all rumor. Nothing more."

"You wait and see, then. You just wait and see."

As things turned out, there was very little time to wait, for the doorbell rang insistently, and when Norman Muller opened it and said, "Yes?" a tall, grave-faced man said, "Are you Norman Muller?"

Norman said, "Yes," again, but in a strange dying voice. It was not difficult to see from the stranger's bearing that he was one carrying authority, and the nature of his errand suddenly became as inevitably obvious as it had, until the moment before, been unthinkable impossible.

The man presented credentials, stepped into the house, closed the door behind him and said ritualistically, "Mr. Norman Muller, it is necessary for me to inform you on the behalf of the President of the United States that you have been chosen to represent the American electorate on Tuesday, November 4, 2008."

Norman Muller managed, with difficulty, to walk unaided to his chair. He sat there, white-faced and almost insensible, while Sarah brought water, slapped his hands in panic and moaned to her husband between clenched teeth, "Don't be sick, Norman. Don't be sick. They'll pick someone else."

When Norman could manage to talk, he whispered, "I'm sorry, sir."

The secret service agent had removed his coat, unbuttoned his jacket and was sitting at ease on the couch.

"It's all right," he said, and the mark of officialdom seemed to have vanished with the formal announcement and leave him simply a large and rather friendly man. "This is the sixth time I've made the announcement and I've seen all kinds of reactions. Not one of them was the kind you see on the video. You know what I mean? A holy, dedicated look, and a character who says, 'It will be a great privilege to serve my country.' That sort of stuff." The agent laughed comfortingly.

Sarah's accompanying laugh held a trace of shrill hysteria.

The agent said, "Now you're going to have me with you for a while. My name is Phil Handley. I'd appreciate it if you call me Phil. Mr. Muller can't leave the house any more till Election Day. You'll have to inform the department store that he's sick, Mrs.

Muller. You can go about your business for a while, but you'll have to agree not to say a word about this. Right, Mrs. Muller?"

Sarah nodded vigorously. "No, sir. Not a word."

"All right. But, Mrs. Muller," Handley looked grave, "we're not kidding now. Go out only if you must and you'll be followed when you do. I'm sorry but that's the way we must operate."

"Followed?"

"It won't be obvious. Don't worry. And it's only for two days till the formal announcement to the nation is made. Your daughter-

"She's in bed," said Sarah hastily.

"Good. She'll have to be told I'm a relative or friend staying with the family. If she does find out the truth, she'll have to be kept in the house. Your father had better stay in the house in any case."

"He won't like that," said Sarah.

"Can't be helped. Now, since you have no others living with you-

"You know all about us apparently," whispered Norman.

"Quite a bit," agreed Handley. "In any case, those are all my instructions to you for the moment. I'll try to cooperate as much as I can and be as little of a nuisance as possible. The government will pay for my maintenance so I won't be an expense to you. I'll be relieved each night by someone who will sit up in this room, so there will be no problem about sleeping accommodations. Now, Mr. Muller-

"Sir?"

"You can call me Phil," said the agent again. "The purpose of the two-day preliminary before formal announcement is to get you used to your position. We prefer to have you face Multivac in as normal a state of mind as possible. Just relax and try to feel this is all in a day's work. Okay?"

"Okay," said Norman, and then shook his head violently. "But I don't want the responsibility. Why me?"

"All right," said Handley, "let's get that straight to begin with. Multivac weighs all sorts of known factors, billions of them. One factor isn't known, though, and won't be known for a long time. That's the reaction pattern of the human mind. All Americans are subjected to the molding pressure of what other Americans do and say, to the things that are done to him and the things he does to others. Any American can be brought to Multivac to have the bent of his mind surveyed. From that the bent of all other minds in the country can be estimated. Some Americans are better for the purpose than others at some given time, depending upon the happenings of that year. Multivac picked you as most representative this year. Not the smartest, or the strongest, or the luckiest, but just the most representative. Now we don't question Multivac, do we?"

"Couldn't it make a mistake?" asked Norman.

Sarah, who listened impatiently, interrupted to say, "Don't listen to him sir. He's just nervous, you know. Actually, he's very well read and he always follows politics very closely."

Handley said, "Multivac makes the decisions, Mrs. Muller. It picked your husband."

"But does it know everything?" insisted Norman wildly. "Couldn't it have made a mistake?"

"Yes, it can. There's no point in not being frank. In 1993, a selected Voter died of a stroke two hours before it was time for him to be notified. Multivac didn't predict that; it couldn't. A Voter might be mentally unstable, morally unsuitable, or, for that matter, disloyal. Multivac can't know everything about everybody until he's fed all the data there is. That's why alternate selections are always held in readiness. I don't think we'll be using one this time. You're in good health, Mr. Muller, and you've been carefully investigated. You qualify."

Norman buried his face in his hands and sat motionless.

"By tomorrow morning, sir," said Sarah, "he'll be perfectly all right. He just has to get used to it, that's all."

"Of course," said Handley.

In the privacy of their bedchamber, Sarah Muller expressed herself in other and stronger fashion. The burden of her lecture was, "So get hold of yourself, Norman. You're trying to throw away the chance of a lifetime."

Norman whispered desperately, "It frightens me, Sarah. The whole thing."

"For goodness' sake, why? What's there to it but answering a question or two?"

"The responsibility is too great. I couldn't face it."

"What responsibility? There isn't any. Multivac picked you. It's Multivac's responsibility. Everyone knows that."

Norman sat up in bed in a sudden excess of rebellion and anguish. "Everyone is supposed to know that. But they don't. They--"

"Lower your voice," hissed Sarah icily. "They'll hear you downtown."

"They don't," said Norman, declining quickly to a whisper. "When they talk about the Ridgely administration of 1988, do they say he won them over with pie-in-the-sky promises and racist baloney? No! They talk about the 'goddam MacComber vote,' as though Humphrey MacComber was the only man who had anything to do with it because he faced Multivac. I've said it myself-only now I think the poor guy was just a truck farmer who didn't ask to be picked. Why was it his fault more than anyone else's? Now his name is a curse."

"You're just being childish," said Sarah.

"I'm being sensible. I tell you, Sarah, I won't accept. They can't make me vote if I don't want to. I'll say I'm sick. I'll say--"

But Sarah had had enough. "Now you listen to me," she whispered in a cold fury. "You don't have only yourself to think about. You know what it means to be Voter of the Year. A presidential year at that. It means publicity and fame and, maybe, buckets of money--"

"And then I go back to being a clerk."

"You will not. You'll have a branch managership at the least if you have any brains at all, and you will have, because I'll tell you what to do. You control the kind of publicity

if you play your cards right, and you can force Kennel! Stores, Inc., into a tight contract and an escalator clause in connection with your salary and a decent pension plan."

"That's not the point in being Voter, Sarah."

"That will be your point. If you don't owe anything to yourself or to me -I'm not asking for myself-you owe something to Linda." Norman groaned. "Well, don't you?" snapped Sarah. "Yes, dear," murmured Norman.

On November 3, the official announcement was made and it was too late for Norman to back out even if he had been able to find the courage to make the attempt.

Their house was sealed off. Secret service agents made their appearance in the open, blocking off all approach.

At first the telephone rang incessantly, but Philip Handley with an engagingly apologetic smile took all calls. Eventually, the exchange shunted all calls directly to the police station.

Norman imagined that, in that way, he was spared not only the bubbling (and envious?) congratulations of friends, but also the egregious pressure of salesmen scenting a prospect and the designing smoothness of politicians from all over the nation. . . Perhaps even death threats from the inevitable cranks.

Newspapers were forbidden to enter the house now in order to keep out weighted pressures, and television was gently but firmly disconnected, over Linda's loud protests.

Matthew growled and stayed in his room; Linda, after the first flurry of excitement, sulked and whined because she could not leave the house; Sarah divided her time between preparation of meals for the present and plans for the future; and Norman's depression lived and fed upon itself.

And the morning of Tuesday, November 4, 2008, came at last, and it was . Election Day.

It was early breakfast, but only Norman Muller ate, and that mechanically. Even a shower and shave had not succeeded in either restoring him to reality or removing his own conviction that he was as grimy without as he felt grimy within.

Handley's friendly voice did its best to shed some normality over the gray and unfriendly dawn. (The weather prediction had been for a cloudy day with prospects of rain before noon.)

Handley said, "We'll keep this house insulated till Mr. Muller is back, but after that we'll be off your necks." The secret service agent was in full uniform now, including sidearms in heavily braced holsters.

"You've been no trouble at all, Mr. Handley," simpered Sarah.

Norman drank through two cups of black coffee, wiped his lips with a napkin, stood up and said haggardly, "I'm ready."

Handley stood up, too. "Very well, sir. And thank you, Mrs. Muller, for your very kind hospitality."

The armored car purred down empty streets. They were empty even for that hour of the morning.

Handley indicated that and said, "They always shift traffic away from the line of drive ever since the attempted bombing that nearly ruined the Leverett Election of '92."

When the car stopped, Norman was helped out by the always polite Handley into an underground drive whose walls were lined with soldiers at attention.

He was led into a brightly lit room, in which three white-uniformed men greeted him smilingly.

Norman said sharply, "But this is the hospital."

"There's no significance to that," said Handley at once. "It's just that the hospital has the necessary facilities."

"Well, what do I do?"

Handley nodded. One of the three men in white advanced and said, "I'll take over now, agent."

Handley saluted in an offhand manner and left the room.

The man in white said, "Won't you sit down, Mr. Muller? I'm John Paulson, Senior Computer. These are Samson Levine and Peter Dorogobuzh, my assistants."

Norman shook hands numbly all about. Paulson was a man of middle height with a soft face that seemed used to smiling and a very obvious toupee. He wore plastic-rimmed glasses of an old-fashioned cut, and he lit a cigarette as he talked. (Norman refused his offer of one.)

Paulson said, "In the first place, Mr. Muller, I want you to know we are in no hurry. We want you to stay with us all day if necessary, just so that you get used to your surroundings and get over any thought you might have that there is anything unusual in this, anything clinical, if you know what I mean."

"It's all right," said Norman. "I'd just as soon this were over."

"I understand your feelings. Still, we want you to know exactly what's going on. In the first place, Multivac isn't here."

"It isn't?" Somehow through all his depression, he had still looked forward to seeing Multivac. They said it was half a mile long and three stories high, that fifty technicians walked the corridors within its structure continuously. It was one of the wonders of the world.

Paulson smiled. "No. It's not portable, you know. It's located underground, in fact, and very few people know exactly where. You can understand that, since it is our greatest natural resource. Believe me, elections aren't the only things it's used for."

Norman thought he was being deliberately chatty and found himself intrigued all the same. "I thought I'd see it. I'd like to."

"I'm sure of that. But it takes a presidential order and even then it has to be countersigned by Security. However, we are plugged into Multivac right here by beam transmission. What Multivac says can be interpreted here and what we say is beamed directly to Multivac, so in a sense we're in its presence."

Norman looked about. The machines within the room were all meaningless to him.

"Now let me explain, Mr. Muller," Paulson went on. "Multivac already has most of the information it needs to decide all the elections, national, state and local. It needs only

to check certain imponderable attitudes of mind and it will use you for that. We can't predict what questions it will ask, but they may not make much sense to you, or even to us. It may ask you how you feel about garbage disposal in your town; whether you favor central incinerators. It might ask you whether you have a doctor of your own or whether you make use of National Medicine, Inc. Do you understand?"

"Yes, sir."

"Whatever it asks, you answer in your own words in any way you please. If you feel you must explain quite a bit, do so. Talk an hour, if necessary."

"Yes, sir."

"Now, one more thing. We will have to make use of some simple devices which will automatically record your blood pressure, heartbeat, skin conductivity and brain-wave pattern while you speak. The machinery will seem formidable, but it's all absolutely painless. You won't even know it's going on."

The other two technicians were already busying themselves with smooth-gleaming apparatus on oiled wheels.

Norman said, "Is that to check on whether I'm lying or not?"

"Not at all, Mr. Muller. There's no question of lying. It's only a matter of emotional intensity. If the machine asks you your opinion of your child's school, you may say, 'I think it is overcrowded.' Those are only words. From the way your brain and heart and hormones and sweat glands work, Multivac can judge exactly how intensely you feel about the matter. It will understand your feelings better than you yourself."

"I never heard of this," said Norman.

"No, I'm sure you didn't. Most of the details of Multivac's workings are top secret. For instance, when you leave, you will be asked to sign a paper swearing that you will never reveal the nature of the questions you were asked, the nature of your responses, what was done, or how it was done. The less is known about the Multivac, the less chance of attempted outside pressures upon the men who service it." He smiled grimly. "Our lives are hard enough as it is."

Norman nodded. "I understand."

"And now would you like anything to eat or drink?"

"No. Nothing right now."

"Do you have any questions?"

Norman shook his head.

"Then you tell us when you're ready."

"I'm ready right now."

"You're certain?"

"Quite."

Paulson nodded, and raised his hand in a gesture to the others. They advanced with their frightening equipment, and Norman Muller felt his breath come a little quicker as he watched.

The ordeal lasted nearly three hours, with one short break for coffee and an embarrassing session with a chamber pot. During all this time, Norman Muller remained encased in machinery. He was bone-weary at the close.

He thought sardonically that his promise to reveal nothing of what had passed would be an easy one to keep. Already the questions were a hazy mishmash in his mind.

Somehow he had thought Multivac would speak in a sepulchral, superhuman voice, resonant and echoing, but that, after all, was just an idea he had from seeing too many television shows, he now decided. The truth was distressingly undramatic. The questions were slips of a kind of metallic foil patterned with numerous punctures. A second machine converted the pattern into words and Paulson read the words to Norman, then gave him the question and let him read it for himself.

Norman's answers were taken down by a recording machine, played back to Norman for confirmation, with emendations and added remarks also taken down. All that was fed into a pattern-making instrument and that, in turn, was radiated to Multivac.

The one question Norman could remember at the moment was an incongruously gossipy: "What do you think of the price of eggs?"

Now it was over, and gently they removed the electrodes from various portions of his body, unwrapped the pulsating band from his upper arm, moved the machinery away.

He stood up, drew a deep, shuddering breath and said, "Is that all? Am I through?"

"Not quite." Paulson hurried to him, smiling in reassuring fashion. "We'll have to ask you to stay another hour."

"Why?" asked Norman sharply.

"It will take that long for Multivac to weave its new data into the trillions of items it has. Thousands of elections are concerned, you know. It's very complicated. And it may be that an odd contest here or there, a comptroller-ship in Phoenix, Arizona, or some council seat in Wilkesboro, North Carolina, may be in doubt. In that case, Multivac may be compelled to ask you a deciding question or two."

"No," said Norman. "I won't go through this again."

"It probably won't happen," Paulson said soothingly. "It rarely does. But, just in case, you'll have to stay." A touch of steel, just a touch, entered his voice. "You have no choice, you know. You must."

Norman sat down wearily. He shrugged.

Paulson said, "We can't let you read a newspaper, but if you'd care for a murder mystery, or if you'd like to play chess, or if there's anything we can do for you to help pass the time, I wish you'd mention it."

"It's all right. I'll just wait."

They ushered him into a small room just next to the one in which he had been questioned. He let himself sink into a plastic-covered armchair and closed his eyes.

As well as he could, he must wait out this final hour.

He sat perfectly still and slowly the tension left him. His breathing grew less ragged and he could clasp his hands without being quite so conscious of the trembling of his fingers.

Maybe there would be no questions. Maybe it was all over.

If it were over, then the next thing would be torchlight processions and invitations to speak at all sorts of functions. The Voter of the Year!

He, Norman Muller, ordinary clerk of a small department store in Bloomington, Indiana, who had neither been born great nor achieved greatness would be in the extraordinary position of having had greatness thrust upon him.

The historians would speak soberly of the Muller Election of 2008. That would be its name, the Muller Election.

The publicity, the better job, the flash flood of money that interested Sarah so much, occupied only a corner of his mind. It would all be welcome, of course. He couldn't refuse it. But at the moment something else was beginning to concern him.

A latent patriotism was stirring. After all, he was representing the entire electorate. He was the focal point for them. He was, in his own person, for this one day, all of America!

The door opened, snapping him to open-eyed attention. For a moment, his stomach constricted. Not more questions!

But Paulson was smiling. "That will be all, Mr. Muller."

"No more questions, sir?"

"None needed. Everything was quite clear-cut. You will be escorted back to your home and then you will be a private citizen once more. Or as much so as the public will allow."

"Thank you. Thank you." Norman flushed and said, "I wonder-who was elected?"

Paulson shook his head. "That will have to wait for the official announcement. The rules are quite strict. We can't even tell you. You understand."

"Of course. Yes." Norman felt embarrassed.

"Secret service will have the necessary papers for you to sign."

"Yes." Suddenly, Norman Muller felt proud. It was on him now in full strength. He was proud.

In this imperfect world, the sovereign citizens of the first and greatest Electronic Democracy had, through Norman Muller (through him!) exercised once again its free, untrammelled franchise.

GIMMICKS THREE

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(Original title: "The Brazen Locked Room.")

"Come, come," said Shapur quite politely, considering that he was a demon. "You are wasting my time. And your own, too, I might add, since you have only half an hour left." And his tail twitched.

"It's not dematerialization?" asked Isidore Wellby thoughtfully.

"I have already said it is not," said Shapur.

For the hundredth time, Wellby looked at the unbroken bronze that surrounded him on all sides. The demon had taken unholy pleasure (what other kind indeed?) in pointing out that the floor, ceiling and four walls were featureless, two-foot-thick slabs of bronze, welded seamlessly together.

It was the ultimate locked room and Wellby had but another half hour to get out, while the demon watched with an expression of gathering anticipation.

It has been ten years previously (to the day, naturally) that Isidore Wellby had signed up.

"We pay you in advance," said Shapur persuasively. "Ten years of anything you want, within reason, and then you're a demon. You're one of us, with a new name of demonic potency, and many privileges beside. You'll hardly know you're damned. And if you don't sign, you may end up in the fire, anyway, just in the ordinary course of things. You never know. . . Here, look at me. I'm not doing too badly. I signed up, had my ten years and here I am. Not bad."

"Why so anxious for me to sign then, if I might be damned anyway?" asked Wellby.

"It's not so easy to recruit hell's cadre," said the demon, with a frank shrug that made the faint odor of sulfur dioxide in the air a trifle stronger. "Everyone wishes to gamble on ending in Heaven. It's a poor gamble, but there it is. I think you're too sensible for that. But meanwhile we have more damned souls than we know what to do with and a growing shortage at the administrative end."

Wellby, having just left the army and finding himself with nothing much to show for it but a limp and a farewell letter from a girl he somehow still loved, pricked his finger, and signed.

Of course, he read the small print first. A certain amount of demonic power would be deposited to his account upon signature in blood. He would not know in detail how one manipulated those powers, or even the nature of all of them, but he would nevertheless find his wishes fulfilled in such a way that they would seem to have come about through perfectly normal mechanisms.

Naturally, no wish might be fulfilled which would interfere with the higher aims and purposes of human history. Wellby had raised his eyebrows at that.

Shapur coughed. "A precaution imposed upon us by-uh-Above. You are reasonable. The limitation won't interfere with you."

Wellby said, "There seems to be a catch clause, too."

"A kind of one, yes. After all, we have to check your aptitude for the position. It states, as you see, that you will be required to perform a task for us at the conclusion of your ten years, one your demonic powers will make it quite possible for you to do. We can't tell you the nature of the task now, but you will have ten years to study the nature of your powers. Look upon the whole thing as an entrance qualification."

"And if I don't pass the test, what then?"

"In that case," said the demon, "you will be only an ordinary damned soul after all." And because he was a demon, his eyes glowed smokily at the thought and his clawed fingers twitched as though he felt them already deep in the other's vitals. But he added suavely, "Come, now, the test will be a simple one. We would rather have you as cadre than as just another chore on our hands."

Wellby, with sad thoughts of his unattainable loved one, cared little enough at that moment for what would happen after ten years and he signed.

Yet the ten years passed quickly enough. Isidore Wellby was always reasonable, as the demon had predicted, and things worked well. Wellby accepted a position and because he was always at the right spot at the right time and always said the right thing to the right man, he was quickly promoted to a position of great authority.

Investments he made invariably paid off and, what was more gratifying still, his girl came back to him most sincerely repentant and most satisfactorily adoring.

His marriage was a happy one and was blessed with four children, two boys and two girls, all bright and reasonably well behaved. At the end of ten years, he was at the height of his authority, reputation and wealth, while his wife, if anything, had grown more beautiful as she had matured.

And ten years (to the day, naturally) after the making of the compact, he woke to find himself, not in his bedroom, but in a horrible bronze chamber of the most appalling solidity, with no company other than an eager demon.

"You have only to get out, and you will be one of us," said Shapur. "It can be done fairly and logically by using your demonic powers, provided you know exactly what it is you're doing. You should, by now."

"My wife and children will be very disturbed at my disappearance," said Wellby with the beginning of regrets.

"They will find your dead body," said the demon consolingly. "You will seem to have died of a heart attack and you will have a beautiful funeral. The minister will consign you to Heaven and we will not disillusion him or those who listen to him. Now, come, Wellby, you have till noon."

Wellby, having unconsciously steeled himself for this moment for ten years, was less panic-stricken than he might have been. He looked about speculatively. "Is this room perfectly enclosed? No trick openings?"

"No openings anywhere in the walls, floor or ceiling," said the demon, with a professional delight in his handiwork. "Or at the boundaries of any of those surfaces, for that matter. Are you giving up?"

"No, no. Just give me time."

Wellby thought very hard. There seemed no sign of closeness in the room. There was even a feeling of moving air. The air might be entering the room by dematerializing across the walls. Perhaps the demon had entered by dematerialization and perhaps Wellby himself might leave in that manner. He asked.

The demon grinned. "Dematerialization is not one of your powers. Nor did I myself use it in entering."

"You're sure now?"

"The room is my own creation," said the demon smugly, "and especially constructed for you."

"And you entered from outside?"

"I did."

"With reasonably demonic powers which I possess, too?"

"Exactly. Come, let us be precise. You cannot move through matter but you can move in any dimension by a mere effort of will. You can move up, down, right, left, obliquely and so on, but you cannot move through matter in any way."

Wellby kept on thinking, and Shapur kept on pointing out the utter immovable solidity of the bronze walls, floor and ceiling; their unbroken ultimacy.

It seemed obvious to Wellby that Shapur, however much he might believe in the necessity for recruiting cadre, was barely restraining his demonic delight at possibly having an ordinary damned soul to amuse himself with.

"At least," said Wellby, with a sorrowful attempt at philosophy, "I'll have ten happy years to look back on. Surely that's a consolation, even for a damned soul in hell."

"Not at all," said the demon. "Hell would not be hell, if you were allowed consolations. Everything anyone gains on Earth by pacts with the devil, as in your case (or my own, for that matter), is exactly what one might have gained without such a pact if one had worked industriously and in full trust in-uh-Above. That is what makes all such bargains so truly demonic." And the demon laughed with a kind of cheerful howl.

Wellby said indignantly, "You mean my wife would have returned to me even if I had never signed your contract."

"She might have," said Shapur. "Whatever happens is the will of-uh- Above, you know. We ourselves can do nothing to alter that."

The chagrin of that moment must have sharpened Wellby's wits for it was then that he vanished, leaving the room empty, except for a surprised demon. And surprise turned to absolute fury when the demon looked at the contract with Wellby which he had, until that moment, been holding in his hand for final action, one way or the other.

It was ten years (to the day, naturally) after Isidore Wellby had signed his pact with Shapur, that the demon entered Wellby's office and said, most angrily, "Look here-

Wellby looked up from his work, astonished. "Who are you?"

"You know very well who I am," said Shapur.

"Not at all," said Wellby.

The demon looked sharply at the man. "I see you are telling the truth, but I can't make out the details." He promptly flooded Wellby's mind with the events of the last ten years.

Wellby said, "Oh, yes. I can explain, of course, but are you sure we will not be interrupted?"

"We won't be," said the demon grimly.

"I sat in that closed bronze room," said Wellby, "and-

"Never mind that," said the demon hastily. "I want to know-

"Please. Let me tell this my way."

The demon clamped his jaws and fairly exuded sulfur dioxide till Wellby coughed and looked pained.

Wellby said, "If you'll move off a bit. Thank you. . . Now I sat in that closed bronze room and remembered how you kept stressing the absolute unbrokenness of the four walls, the floor and the ceiling. I wondered: why did you specify? What else was there beside walls, floor and ceiling. You had defined a completely enclosed three-dimensional space.

"And that was it: three-dimensional. The room was not closed in the fourth dimension. It did not exist indefinitely in the past. You said you had created it for me. So if one traveled into the past, one would find oneself at a point in time, eventually, when the room did not exist and then one would be out of the room.

"What's more, you had said I could move in any dimension, and time may certainly be viewed as a dimension. In any case, as soon as I decided to move toward the past, I found myself living backward at a tremendous rate and suddenly there was no bronze around me anywhere."

Shapur cried in anguish, "I can guess all that. You couldn't have escaped any other way. It's this contract of yours that I'm concerned about. If you're not an ordinary damned soul, very well, it's part of the game. But you must be at least one of us, one of the cadre; it's what you were paid for, and if I don't deliver you down below, I will be in enormous trouble."

Wellby shrugged his shoulders. "I'm sorry for you, of course, but I can't help you. You must have created the bronze room immediately after I placed my signature on the paper, for when I burst out of the room, I found myself just at the point in time at which I was making the bargain with you. There you were again; there I was; you were pushing the contract toward me, together with a stylus with which I might prick my finger. To be sure, as I had moved back in time, my memory of what was becoming the future faded out, but not, apparently, quite entirely. As you pushed the contract at me, I felt uneasy. I

didn't quite remember the future, but I felt uneasy. So I didn't sign. I turned you down flat."

Shapur ground his teeth. "I might have known. If probability patterns affected demons, I would have shifted with you into this new if-world. As it is, all I can say is that you have lost the ten happy years we paid you with. That is one consolation. And we'll get you in the end. That is another."

"Well, now," said Wellby, "are there consolations in hell? Through the ten years I have now lived, I knew nothing of what I might have obtained. But now that you've put the memory of the ten-years-that-might-have-been into my mind, I recall that, in the bronze room, you told me that demonic agreements could give nothing that could not be obtained by industry and trust in Above. I have been industrious and I have trusted."

Wellby's eyes fell upon the photograph of his beautiful wife and four beautiful children, then traveled about the tasteful luxuriance of his office. "And I may even escape hell altogether. That, too, is beyond your power to decide."

And the demon, with a horrible shriek, vanished forever.

KID STUFF

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The first pang of nausea had passed and Jan Prentiss said, "Damn it, you're an insect."

It was a statement of fact, not an insult, and the thing that sat on Prentiss' desk said, "Of course."

It was about a foot long, very thin, and in shape a farfetched and miniature caricature of a human being. Its stalky arms and legs originated in pairs from the upper portion of its body. The legs were longer and thicker than the arms. They extended the length of the body, then bent forward at the knee.

The creature sat upon those knees and, when it did so, the stub of its fuzzy abdomen just cleared Prentiss' desk.

There was plenty of time for Prentiss to absorb these details. The object had no objection to being stared at. It seemed to welcome it, in fact, as though it were used to exciting admiration.

"What are you?" Prentiss did not feel completely rational. Five minutes ago, he had been seated at his typewriter, working leisurely on the story he had promised Horace W. Browne for last month's issue of Farfetched Fantasy Fiction. He had been in a perfectly usual frame of mind. He had felt quite fine; quite sane.

And then a block of air immediately to the right of the typewriter had shimmered, clouded over and condensed into the little horror that dangled its black and shiny feet over the edge of the desk.

Prentiss wondered in a detached sort of way that he bothered talking to it. This was the first time his profession had so crudely affected his dreams. It must be a dream, he told himself.

"I'm an Avalonian," said the being. "I'm from Avalon, in other words." It's tiny face ended in a mandibular mouth. Two swaying three-inch antennae rose from a spot above either eye, while the eyes themselves gleamed richly in their many-faceted fashion. There was no sign of nostrils.

Naturally not, thought Prentiss wildly. It has to breathe through vents in its abdomen. It must be talking with its abdomen then. Or using telepathy.

"Avalon?" he said stupidly. He thought: Avalon? The land of the fay in King Arthur's time?

"Certainly," said the creature, answering the thought smoothly. "I'm an elf."

"Oh, no!" Prentiss put his hands to his face, took them away and found the elf still there, its feet thumping against the top drawer. Prentiss was not a drinking man, or a nervous one. In fact, he was considered a very prosaic sort of person by his neighbors. He

had a comfortable paunch, a reasonable but not excessive amount of hair on his head, an amiable wife and an active ten-year-old son. His neighbors were, of course, kept ignorant of the fact that he paid off the mortgage on his house by writing fantasies of one sort or another.

Till now, however, this secret vice had never affected his psyche. To be sure, his wife had shaken her head over his addiction many times. It was her standard opinion that he was wasting, even perverting, his talents.

"Who on Earth reads these things?" she would say. "All that stuff about demons and gnomes and wishing rings and elves. All that kid stuff, if you want my frank opinion."

"You're quite wrong," Prentiss would reply stiffly. "Modern fantasies are very sophisticated and mature treatments of folk motifs. Behind the facade of glib unreality there frequently lie trenchant comments on the world of today. Fantasy in modern style is, above all, adult fare."

Blanche shrugged. She had heard him speak at conventions so these comments weren't new to her.

"Besides," he would add, "fantasies pay the mortgage, don't they?"

"Maybe so," she would reply, "but it would be nice if you'd switch to mysteries. At least you'd get quarter-reprint sales out of those and we could "even tell the neighbors what you do for a living."

Prentiss groaned in spirit. Blanche could come in now at any time and find him talking to himself (it was too real for a dream; it might be a hallucination). After that he would have to write mysteries for a living-or take to work.

"You're quite wrong," said the elf. "This is neither a dream nor a hallucination."

"Then why don't you go away?" asked Prentiss.

"I intend to. This is scarcely my idea of a place to live. And you're coming with me."

"I am not. What the hell do you think you are, telling me what I'm going to do?"

"If you think that's a respectful way to speak to a representative of an older culture, I can't say much for your upbringing."

"You're not an older culture-" He wanted to add: You're just a figment of my imagination; but he had been a writer too long to be able to bring himself to commit the cliché.

"We insects," said the elf freezingly, "existed half a billion years before the first mammal was invented. We watched the dinosaurs come in and we watched them go out. As for you man-things-strictly newcomers."

For the first time, Prentiss noted that, from the spot on the elf's body where its limbs sprouted, a third vestigial pair existed as well. It increased the insecticity of the object and Prentiss' sense of indignation grew.

He said, "You needn't waste your company on social inferiors."

"I wouldn't," said the elf, "believe me. But necessity drives, you know. It's a rather complicated story but when you hear it, you'll want to help."

Prentiss said uneasily, "Look, I don't have much time. Blanche-my wife will be in here any time. She'll be upset."

"She won't be here," said the elf. "I've set up a block in her mind."

"What!"

"Quite harmless, I assure you. But, after all, we can't afford to be disturbed, can we?"

Prentiss sat back in his chair, dazed and unhappy.

The elf said, "We elves began our association with you man-things immediately after the last ice age began. It had been a miserable time for us, as you can imagine. We couldn't wear animal carcasses or live in holes as your uncouth ancestors did. It took incredible stores of psychic energy to keep warm."

"Incredible stores of what?"

"Psychic energy. You know nothing at all about it. Your mind is too coarse to grasp the concept. Please don't interrupt."

The elf continued, "Necessity drove us to experiment with your people's brains. They were crude, but large. The cells were inefficient, almost worthless, but there were a vast number of them. We could use those brains as a concentrating device, a type of psychic lens, and increase the available energy which our own minds could tap. We survived the ice age handily and without having to retreat to the tropics as in previous such eras.

"Of course, we were spoiled. When warmth returned, we didn't abandon the man-things. We used them to increase our standard of living generally. We could travel faster, eat better, do more, and we lost our old, simple, virtuous way of life forever. Then, too, there was milk."

"Milk?" said Prentiss. "I don't see the connection."

"A divine liquid. I only tasted it once in my life. But elfin classic poetry speaks of it in superlatives. In the old days, men always supplied us plentifully. Why mammals of all things should be blessed with it and insects not is a complete mystery. . . How unfortunate it is that the men-things got out of hand."

"They did?"

"Two hundred years ago."

"Good for us."

"Don't be narrow-minded," said the elf stiffly. "It was a useful association for all parties until you man-things learned to handle physical energies in quantity. It was just the sort of gross thing your minds are capable of."

"What was wrong with it?"

"It's hard to explain. It was all very well for us to light up our nightly revels with fireflies brightened by use of two manpower of psychic energy. But then you men-creatures installed electric lights. Our antennal reception is good for miles, but then you invented telegraphs, telephones and radios. Our kobolds mined ore with much greater efficiency than man-things do, until man-things invented dynamite. Do you see?"

"No."

"Surely you don't expect sensitive and superior creatures such as the elves to watch a group of hairy mammals outdo them. It wouldn't be so bad if we could imitate the electronic development ourselves, but our psychic energies were insufficient for the purpose. Well, we retreated from reality. We sulked, pined and drooped. Call it an inferiority complex, if you will, but from two centuries ago onward, we slowly abandoned mankind and retreated to such centers as Avalon."

Prentiss thought furiously. "Let's get this straight. You can handle minds?"

"Certainly."

"You can make me think you're invisible? Hypnotically, I mean?"

"A crude term, but yes."

"And when you appeared just now, you did it by lifting a kind of mental block. Is that it?"

"To answer your thoughts, rather than your words: You are not sleeping; you are not mad; and I am not supernatural."

"I was just making sure. I take it, then, you can read my mind."

"Of course. It is a rather dirty and unrewarding sort of labor, but I can do it when I must. Your name is Prentiss and you write imaginative fiction. You have one larva who is at a place of instruction. I know a great deal about you."

Prentiss winced. "And just where is Avalon?"

"You won't find it." The elf clacked his mandibles together two or three times.

"Don't speculate on the possibility of warning the authorities. You'll find yourself in a madhouse. Avalon, in case you think the knowledge will help you, is in the middle of the Atlantic and quite invisible, you know. After the steamboat was invented, you man-things got to moving about so unreasonably that we had to cloak the whole island with a psychic shield.

"Of course, incidents will take place. Once a huge, barbaric vessel hit us dead center and it took all the psychic energy of the entire population to give the island the appearance of an iceberg. The Titanic, I believe, was the name printed on the vessel. And nowadays there are planes flying overhead all the time and sometimes there are crashes. We picked up cases of canned milk once. That's when I tasted it."

Prentiss said, "Well, then, damn it, why aren't you still on Avalon? Why did you leave?"

"I was ordered to leave," said the elf angrily. "The fools."

"Oh?"

"You know how it is when you're a little different. I'm not like the rest of them and the poor tradition-ridden fools resented it. They were jealous. That's the best explanation. Jealous!"

"How are you different?"

"Hand me that light bulb," said the elf. "Oh, just unscrew it. You don't need a reading lamp in the daytime."

With a quiver of repulsion, Prentiss did as he was told and passed the object into the little hands of the elf. Carefully, the elf, with fingers so thin and wiry that they looked like tendrils, touched the bottom and side of the brass base.

Feebly the filament in the bulb reddened.

"Good God," said Prentiss.

"That," said the elf proudly, "is my great talent. I told you that we elves couldn't adapt psychic energy to electronics. Well, I can! I'm not just an ordinary elf. I'm a mutant! A super-elf! I'm the next stage in elfin evolution. This light is due just to the activity of my own mind, you know. Now watch when I use yours as a focus."

As he said that, the bulb's filament grew white hot and painful to look at, while a vague and not unpleasant tickling sensation entered Prentiss' skull.

The lamp went out and the elf put the bulb on the desk behind the typewriter.

"I haven't tried," said the elf proudly, "but I suspect I can fission uranium too."

"But look here, lighting a bulb takes energy. You can't just hold it-"

"I've told you about psychic energy. Great Oberon, man-thing, try to understand."

Prentiss felt increasingly uneasy; he said cautiously, "What do you intend doing with this gift of yours?"

"Go back to Avalon, of course. I should let those fools go to their doom, but an elf does have a certain patriotism, even if he is a coleopteron."

"A what?"

"We elves are not all of a species, you know. I'm of beetle descent. See?"

He rose to his feet and, standing on the desk, turned his back to Prentiss. What had seemed merely a shining black cuticle suddenly split and lifted. From underneath, two filmy, veined wings fluttered out.

"Oh, you can fly," said Prentiss.

"You're very foolish," said the elf contemptuously, "not to realize I'm too large for flight. But they are attractive, aren't they? How do you like the iridescence? The lepidoptera have disgusting wings in comparison. They're gaudy and indelicate. What's more they're always sticking out."

"The lepidoptera?" Prentiss felt hopelessly confused.

"The butterfly clans. They're the proud ones. They were always letting humans see them so they could be admired. Very petty minds in a way. And that's why your legends always give fairies butterfly wings instead of beetle wings which are much more diaphanously beautiful. We'll give the lepidoptera what for when we get back, you and I."

"Now hold on-"

"Must think," said the elf, swaying back and forth in what looked like elfin ecstasy, "our nightly revels on the fairy green will be a blaze of sparkling light from curlicues of neon tubing. We can cut loose the swarms of wasps we've got hitched to our flying wagons and install internal-combustion motors instead. We can stop this business of curling up on leaves when it's time to sleep and build factories to manufacture decent mattresses. I tell you, we'll live. . . And the rest of them will eat dirt for having ordered me out."

"But I can't go with you," bleated Prentiss. "I have responsibilities. I have a wife and kid. You wouldn't take a man away from his-his larva, would you?"

"I'm not cruel," said the elf. He turned his eyes full on Prentiss. "I have an elfin soul. Still, what choice have I? I must have a man-brain for focusing purposes or I will accomplish nothing; and not all man-brains are suitable."

"Why not?"

"Great Oberon, creature. A man-brain isn't a passive thing of wood and stone. It must co-operate in order to be useful. And it can only co-operate by being fully aware of our own elfin ability to manipulate it. I can use your brain, for instance, but your wife's would be useless to me. It would take her years to understand who and what I am."

Prentiss said, "This is a damned insult. Are you telling me I believe in fairies? I'll have you know I'm a complete rationalist."

"Are you? When I first revealed myself to you, you had a few feeble thoughts about dreams and hallucinations but you talked to me, you accepted me. Your wife would have screamed and gone into hysterics."

Prentiss was silent. He could think of no answer.

"That's the trouble," said the elf despondently. "Practically all you humans have forgotten about us since we left you. Your minds have closed; grown useless. To be sure, your larvae believe in your legends about the 'little folk,' but their brains are undeveloped and useful only for simple processes. When they mature, they lose belief. Frankly, I don't know what I would do if it weren't for you fantasy writers."

"What do you mean we fantasy writers?"

"You are the few remaining adults who believe in the insect folk. You, Prentiss, most of all. You've been a fantasy writer for twenty years."

"You're mad. I don't believe the things I write."

"You have to. You can't help it. I mean, while you're actually writing, you take the subject matter seriously. After a while your mind is just naturally cultivated into usefulness. . . But why argue. I have used you. You saw the light bulb brighten. So you see you must come with me."

"But I won't." Prentiss set his limbs stubbornly. "Can you make me against my will?"

"I could, but I might damage you, and I wouldn't want that. Suppose we say this. If you don't agree to come, I could focus a current of high-voltage electricity through your wife. It would be a revolting thing to have to do, but I understand your own people execute enemies of the state in that fashion, so that you would probably find the punishment less horrible than I do. I wouldn't want to seem brutal even to a man-thing."

Prentiss grew conscious of the perspiration matting the short hairs on his temple.

"Wait," he said, "don't do anything like that. Let's talk it over."

The elf shot out his filmy wings, fluttered them and returned them to their case. "Talk, talk, talk. It's tiring. Surely you have milk in the house. You're not a very thoughtful host or you would have offered me refreshment before this."

Prentiss tried to bury the thought that came to him, to push it as far below the outer skin of his mind as he could. He said casually, "I have something better than milk. Here, I'll get it for you."

"Stay where you are. Call to your wife. She'll bring it."

"But I don't want her to see you. It would frighten her."

The elf said, "You need feel no concern. I'll handle her so that she won't be the least disturbed."

Prentiss lifted an arm.

The elf said, "Any attack you make on me will be far slower than the bolt of electricity that will strike your wife."

Prentiss' arm dropped. He stepped to the door of his study.

"Blanche!" he called down the stairs.

Blanche was just visible in the living room, sitting woodenly in the armchair near the bookcase. She seemed to be asleep, open-eyed.

Prentiss turned to the elf. "Something's wrong with her."

"She's just in a state of sedation. She'll hear you. Tell her what to do."

"Blanche!" he called again. "Bring the container of eggnog and a small glass, will you?"

With no sign of animation other than that of bare movement, Blanche rose and disappeared from view.

"What is eggnog?" asked the elf.

Prentiss attempted enthusiasm. "It is a compound of milk, sugar and eggs beaten to a delightful consistency. Milk alone is poor stuff compared to it."

Blanche entered with the eggnog. Her pretty face was expressionless. Her eyes turned toward the elf but lightened with no realization of the significance of the sight.

"Here, Jan," she said, and sat down in the old, leather-covered chair by the window, hands falling loosely to her lap.

Prentiss watched her uneasily for a moment. "Are you going to keep her here?"

"She'll be easier to control. . . Well, aren't you going to offer me the eggnog?"

"Oh, sure. Here!"

He poured the thick white liquid into the cocktail glass. He had prepared five milk bottles of it two nights before for the boys of the New York Fantasy Association and it had been mixed with a lavish hand, since fantasy writers notoriously like it so.

The elf's antennae trembled violently.

"A heavenly aroma," he muttered.

He wrapped the ends of his thin arms about the stem of the small glass and lifted it to his mouth. The liquid's level sank. When half was gone, he put it down and sighed, "Oh, the loss to my people. What a creation! What a thing to exist! Our histories tell us that in ancient days an occasional lucky sprite managed to take the place of a man-larva at birth so that he might draw off the liquid fresh-made. I wonder if even those ever experienced anything like this."

Prentiss said with a touch of professional interest, "That's the idea behind this business of changelings, is it?"

"Of course. The female man-creature has a great gift. Why not take advantage of it?" The elf turned his eyes upon the rise and fall of Blanche's bosom and sighed again.

Prentiss said (not too eager, now; don't give it away), "Go ahead. Drink all you want."

He, too, watched Blanche, waiting for signs of restoring animation, waiting for the beginnings of breakdown in the elf's control.

The elf said, "When is your larva returning from its place of instruction? I need him."

"Soon, soon," said Prentiss nervously. He looked at his wristwatch. Actually, Jan, Junior, would be back, yelling for a slab of cake and milk, in something like fifteen minutes.

"Fill 'er up," he said urgently. "Fill 'er up."

The elf sipped gaily. He said, "Once the larva arrives, you can go."

"Go?"

"Only to the library. You'll have to get volumes on electronics. I'll need the details on how to build television, telephones, all that. I'll need to have rules on wiring, instructions for constructing vacuum tubes. Details, Prentiss, details! We have tremendous tasks ahead of us. Oil drilling, gasoline refining, motors, scientific agriculture. We'll build a new Avalon, you and I. A technical one. A scientific fairyland. We will create a new world."

"Great!" said Prentiss. "Here, don't neglect your drink."

"You see. You are catching fire with the idea," said the elf. "And you will be rewarded. You will have a dozen female man-things to yourself."

Prentiss looked at Blanche automatically. No signs of hearing, but who could tell? He said, "I'd have no use for female man-to-for women, I mean."

"Come now," said the elf censoriously, "be truthful. You men-things are well known to our folk as lecherous, bestial creatures. Mothers frightened their young for generations by threatening them with men-things. . . Young, ah!" He lifted the glass of eggnog in the air and said, "To my own young," and drained it.

"Fill 'er up," said Prentiss at once. "Fill 'er up."

The elf did so. He said, "I'll have lots of children. I'll pick out the best of the coleoptresses and breed my line. I'll continue the mutation. Right now I'm the only one, but when we have a dozen or fifty, I'll interbreed them and develop the race of the super-elf. A race of electro-ulp-electronic marvels and infinite future. . . . If I could only drink more. Nectar! The original nectar!"

There was the sudden noise of a door being flung open and a young voice calling, "Mom! Hey, Mom!"

The elf, his glossy eyes a little dimmed, said, "Then we'll begin to take over the men-things. A few believe already; the rest we will-urp-teach. It will be the old days, but better; a more efficient elfhood, a tighter union."

Jan, Junior's, voice was closer and tinged with impatience. "Hey, Mom! Ain't you home?"

Prentiss felt his eyes popping with tension. Blanche sat rigid. The elf's speech was slightly thick, his balance a little unsteady. If Prentiss were going to risk it, now, now was the time.

"Sit back," said the elf peremptorily. "You're being foolish. I knew there was alcohol in the eggnog from the moment you thought your ridiculous scheme. You men-things are very shift-y. We elves have many proverbs about you. Fortunately, alcohol has little effect upon us. Now if you had tried catnip with just a touch of honey in it . . . Ah, here is the larva. How are you, little man-thing?"

The elf sat there, the goblet of eggnog halfway to his mandibles, while Jan, Junior, stood in the doorway. Jan, Junior's, ten-year-old face was moderately smeared with dirt, his hair was immoderately matted and there was a look of the utmost surprise in his gray eyes. His battered schoolbooks swayed from the end of the strap he held in his hand.

He said, "Pop! What's the matter with Mom? And-and what's that?"

The elf said to Prentiss, "Hurry to the library. No time must be lost. You know the books I need." All trace of incipient drunkenness had left the creature and Prentiss' morale broke. The creature had been playing with him.

Prentiss got up to go.

The elf said, "And nothing human; nothing sneaky; no tricks. Your wife is still a hostage. I can use the larva's mind to kill her; it's good enough for that. I wouldn't want to do it. I'm a member of the Elfitarian Ethical Society and we advocate considerate treatment of mammals so you may rely on my noble principles if you do as I say."

Prentiss felt a strong compulsion to leave flooding him. He stumbled toward the door.

Jan, Junior, cried, "Pop, it can talk! He says he'll kill Mom! Hey, don't go away!"

Prentiss was already out of the room, when he heard the elf say, "Don't stare at me, larva. I will not harm your mother if you do exactly as I say. I am an elf, a fairy. You know what a fairy is, of course."

And Prentiss was at the front door when he heard Jan, Junior's, treble raised in wild shouting, followed by scream after scream in Blanche's shuddering soprano.

The strong, though invisible, elastic that was drawing Prentiss out the house snapped and vanished. He fell backward, righted himself and darted back up the stairs.

Blanche, fairly saturated with quivering life, was backed into a corner, her arms about a weeping Jan, Junior.

On the desk was a collapsed black carapace, covering a nasty smear of pulpiness from which colorless liquid dripped.

Jan, Junior, was sobbing hysterically, "I hit it. I hit it with my school-books. It was hurting Mom."

An hour passed and Prentiss felt the world of normality pouring back into the interstices left behind by the creature from Avalon. The elf itself was already ash in the

incinerator behind the house and the only remnant of its existence was the damp stain at the foot of his desk.

Blanche was still sickly pale. They talked in whispers.

Prentiss said, "How's Jan, Junior?"

"He's watching television."

"Is he all right?"

"Oh, he's all right, but I'll be having nightmares for weeks."

"I know. So will I unless we can get it out of our minds. I don't think there'll ever be another of those-things here."

Blanche said, "I can't explain how awful it was. I kept hearing every word he said, even when I was down in the living room."

"It was telepathy, you see."

"I just couldn't move. Then, after you left, I could begin to stir a bit. I tried to scream but all I could do was moan and whimper. Then Jan, Junior, smashed him and all at once I was free. I don't understand how it happened."

Prentiss felt a certain gloomy satisfaction. "I think I know. I was under his control because I accepted the truth of his existence. He held you in check through me. When I left the room, increasing distance made it harder to use my mind as a psychic lens and you could begin moving. By the time I reached the front door, the elf thought it was time to switch from my mind to Jan, Junior's. That was his mistake."

"In what way?" asked Blanche.

"He assumed that all children believe in fairies, but he was wrong. Here in America today children don't believe in fairies. They never hear of them. They believe in Tom Corbett, in Hopalong Cassidy, in Dick Tracy, in Howdy Doody, in Superman and a dozen other things, but not in fairies.

"The elf just never realized the sudden cultural changes brought about by comic books and television, and when he tried to grab Jan, Junior's mind, he couldn't. Before he could recover his psychic balance, Jan, Junior, was on top of him in a swinging panic because he thought you were being hurt and it was all over.

"It's like I've always said, Blanche. The ancient folk motifs of legend survive only in the modern fantasy magazine, and modern fantasy is purely adult fare. Do you finally see my point?"

Blanche said humbly, "Yes, dear."

Prentiss put his hands in his pockets and grinned slowly. "You know, Blanche, next time I see Walt Rae, I think I'll just drop a hint that I write the stuff. Time the neighbors knew, I think."

Jan, Junior, holding an enormous slice of buttered bread, wandered into his father's study in search of the dimming memory. Pop kept slapping him on the back and Mom kept putting bread and cake in his hands and he was forgetting why. There had been this big old thing on the desk that could talk . . .

It had all happened so quickly that it got mixed up in his mind.

He shrugged his shoulders and, in the late afternoon sunlight, looked at the partly typewritten sheet in his father's typewriter, then at the small pile of paper resting on the desk.

He read a while, curled his lip and muttered, "Gee whiz. Fairies again. Always kid stuff!" and wandered off.

THE WATERY PLACE

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We're never going to have space travel. What's more, no extraterrestrials will ever land on Earth-at least, any more.

I'm not just being a pessimist. As a matter of fact, space travel is possible; extraterrestrials have landed. I know that. Space ships are crisscrossing space among a million worlds, probably, but we'll never join them. I know that, too. All on account of a ridiculous error.

I'll explain.

It was actually Bart Cameron's error and you'll have to understand about Bart Cameron. He's the sheriff at Twin Gulch, Idaho, and I'm his deputy. Bart Cameron is an impatient man and he gets most impatient when he has to work up his income tax. You see, besides being sheriff, he also owns and runs the general store, he's got some shares in a sheep ranch, he does a bit of assay work, he's got a kind of pension for being a disabled veteran (bad knee) and a few other things like that. Naturally, it makes his tax figures complicated.

It wouldn't be so bad if he'd let a tax man work on the forms with him, but he insists on doing it himself and it makes him a bitter man. By April 14, he isn't approachable.

So it's too bad the flying saucer landed on April 14, 1956.

I saw it land. My chair was backed up against the wall in the sheriff's office, and I was looking at the stars through the windows and feeling too lazy to go back to my magazine and wondering if I ought to knock off and hit the sack or keep on listening to Cameron curse real steady as he went over his columns of figures for the hundred twenty-seventh time.

It looked like a shooting star at first, but then the track of light broadened into two things that looked like rocket exhausts and the thing came down sweet, steady and without a sound. An old, dead leaf would have rustled more coming down and landed thumpier. Two men got out.

I couldn't say anything or do anything. I couldn't choke or point; I couldn't even bug my eyes. I just sat there.

Cameron? He never looked up.

There was a knock on the door which wasn't locked. It opened and the two men from the flying saucer stepped in. I would have thought they were city fellows if I hadn't seen the flying saucer land in the scrub. They wore charcoal-gray suits, with white shirts and maroon four-in-hands. They had on black shoes and black homburgs. They had dark

complexions, black wavy hair and brown eyes. They had very serious looks on their faces and were about five foot ten apiece. They looked very much alike.

God, I was scared.

But Cameron just looked up when the door opened and frowned. Ordinarily, I guess he'd have laughed the collar button off his shirt at seeing clothes like that in Twin Gulch, but he was so taken up by his income tax that he never cracked a smile.

He said, "What can I do for you, folks?" and he tapped his hand on the forms so it was obvious he hadn't much time.

One of the two stepped forward. He said, "We have had your people under observation a long time." He pronounced each word carefully and all by itself.

Cameron said, "My people? All I got's a wife. What's she been doing?"

The fellow in the suit said, "We have chosen this locality for our first contact because it is isolated and peaceful. We know that you are the leader here."

"I'm the sheriff, if that's what you mean, so spit it out. What's your trouble?"

"We have been careful to adopt your mode of dress and even to assume your appearance."

"That's my mode of dress?" He must have noticed it for the first time.

"The mode of dress of your dominant social class, that is. We have also learned your language."

You could see the light break in on Cameron. He said, "You guys foreigners?" Cameron didn't go much for foreigners, never having met many outside the army, but generally he tried to be fair.

The man from the saucer said, "Foreigners? Indeed we are. We come from the watery place your people call Venus."

(I was just collecting up strength to blink my eyes, but that sent me right back to nothing. I had seen the flying saucer. I had seen it land. I had to believe this! These men-or these somethings-came from Venus.)

But Cameron never blinked an eye. He said, "All right. This is the U.S.A. We all got equal rights regardless of race, creed, color, or nationality. I'm at your service. What can I do for you?"

"We would like to have you make immediate arrangements for the important men of your U.S.A., as you call it, to be brought here for discussions leading to your people joining our great organization."

Slowly, Cameron got red. "Our people join your organization. We're already part of the U.N. and God knows what else. And I suppose I'm to get the President here, eh? Right now? In Twin Gulch? Send a hurry-up message?" He looked at me, as though he wanted to see a smile on my face, but I couldn't as much as fall down if someone had pushed the chair out from under me.

The saucer man said, "Speed is desirable."

"You want Congress, too? The Supreme Court?"

"If they will help, sheriff."

And Cameron really went to pieces. He banged his income tax form and yelled, "Well, you're not helping me, and I have no time for wise-guy jerks who come around, especially foreigners. If you don't get the hell out of here pronto, I'll lock you up for disturbing the peace and I'll never let you out."

"You wish us to leave?" said the man from Venus.

"Right now! Get the hell out of here and back to wherever you're from and don't ever come back. I don't want to see you and no one else around here does."

The two men looked at each other, making little twitches with their faces.

Then the one who had done all the talking said, "I can see in your mind that you really wish, with great intensity, to be left alone. It is not our way to force ourselves or our organization on people who do not wish us or it. We will respect your privacy and leave. We will not return. We will girdle your world in warning and none will enter and your people will never have to leave."

Cameron said, "Mister, I'm tired of this crap, so I'll count to three-

They turned and left, and I just knew that everything they said was so. I was listening to them, you see, which Cameron wasn't, because he was busy thinking of his income tax, and it was as though I could hear their minds, know what I mean? I knew that there would be a kind of fence around earth, corralling us in, keeping us from leaving, keeping others from coming in. I knew it.

And when they left, I got my voice back-too late. I screamed, "Cameron, for God's sake, they're from space. Why'd you send them away?"

"From space!" He stared at me.

I yelled, "Look!" I don't know how I did it, he being twenty-five pounds heavier than I, but I yanked him to the window by his shirt collar, busting every shirt button off him.

He was too surprised to resist and when he recovered his wits enough to make like he was going to knock me down, he caught sight of what was going on outside the window and the breath went out of him.

They were getting into the flying saucer, those two men, and the saucer sat there, large, round, shiny and kind of powerful, you know. Then it took off. It went up easy as a feather and a red-orange glow showed up on one side and got brighter as the ship got smaller till it was a shooting star again, slowly fading out.

And I said, "Sheriff, why'd you send them away? They had to see the President. Now they'll never come back."

Cameron said, "I thought they were foreigners. They said they had to learn our language. And they talked funny."

"Oh, fine. Foreigners."

"They said they were foreigners and they looked Italian. I thought they were Italian."

"How could they be Italian? They said they were from the planet Venus. I heard them. They said so."

"The planet Venus." His eyes got real round.

"They said it. They called it the watery place or something. You know Venus has a lot of water on it."

But you see, it was just an error, a stupid error, the kind anyone could make. Only now Earth is never going to have space travel and we'll never as much as land on the moon or have another Venusian visit us. That dope, Cameron, and his income tax!

Because he whispered, "Venus! When they talked about the watery place, I thought they meant Venice!"

LIVING SPACE

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Clarence Rimbrow had no objections to living in the only house on an uninhabited planet, any more than had any other of Earth's even trillion of inhabitants.

If someone had questioned him concerning possible objections, he would undoubtedly have stared blankly at the questioner. His house was much larger than any house could possibly be on Earth proper and much more modern. It had its independent air supply and water supply, ample food in its freezing compartments. It was isolated from the lifeless planet on which it was located by a force field, but the rooms were built about a five-acre farm (under glass, of course), which, in the planet's beneficent sunlight, grew flowers for pleasure and vegetables for health. It even supported a few chickens. It gave Mrs. Rimbrow something to do with herself afternoons, and a place for the two little Rimbrows to play when they were tired of indoors.

Furthermore, if one wanted to be on Earth proper; if one insisted on it; if one had to have people around and air one could breathe in the open or water to swim in, one had only to go out of the front door of the house.

So where was the difficulty?

Remember, too, that on the lifeless planet on which the Rimbrow house was located there was complete silence except for the occasional monotonous effects of wind and rain. There was absolute privacy and the feeling of absolute ownership of two hundred million square miles of planetary surface.

Clarence Rimbrow appreciated all that in his distant way. He was an accountant, skilled in handling very advanced computer models, precise in his manners and clothing, not much given to smiling beneath his thin, well-kept mustache and properly aware of his own worth. When he drove from work toward home, he passed the occasional dwelling place on Earth proper and he never ceased to stare at them with a certain smugness.

Well, either for business reasons or mental perversion, some people simply had to live on Earth proper. It was too bad for them. After all, Earth proper's soil had to supply the minerals and basic food supply for all the trillion of inhabitants (in fifty years, it would be two trillion) and space was at a premium. Houses on Earth proper just couldn't be any bigger than that, and people who had to live in them had to adjust to the fact.

Even the process of entering his house had its mild pleasantness. He would enter the community twist place to which he was assigned (it looked, as did all such, like a rather stumpy obelisk), and there he would invariably find others waiting to use it. Still more would arrive before he reached the head of the line. It was a sociable time.

"How's your planet?"

"How's yours?" The usual small talk. Sometimes someone would be having trouble. Machinery breakdowns or serious weather that would alter the terrain unfavorably. Not often.

But it passed the time. Then Rimbro would be at the head of the line; he would put his key into the slot; the proper combination would be punched; and he would be twisted into a new probability pattern; his own particular probability pattern; the one assigned to him when he married and became a producing citizen; a probability pattern in which life had never developed on Earth. And twisting to this particular lifeless Earth, he would walk into his own foyer.

Just like that.

He never worried about being in another probability. Why should he? He never gave it any thought. There were an infinite number of possible Earths. Each existed in its own niche; its own probability pattern. Since on a planet such as Earth there was, according to calculation, about a fifty-fifty chance of life's developing, half of all the possible Earths (still infinite, since half of infinity was infinity) possessed life, and half (still infinite) did not. And living on about three hundred billion of the unoccupied Earths were three hundred billion families, each with its own beautiful house, powered by the sun of that probability, and each securely at peace. The number of Earths so occupied grew by millions each day.

And then one day, Rimbro came home and Sandra (his wife) said to him, as he entered, "There's been the most peculiar noise."

Rimbro's eyebrows shot up and he looked closely at his wife. Except for a certain restlessness of her thin hands and a pale look about the corners of her tight mouth, she looked normal.

Rimbro said, still holding his topcoat halfway toward the servette that waited patiently for it, "Noise? What noise? I don't hear anything."

"It's stopped now," Sandra said. "Really, it was like a deep thumping or rumble. You'd hear it a bit. Then it would stop. Then you'd hear it a bit and so on. I've never heard anything like it."

Rimbro surrendered his coat. "But that's quite impossible."

"I heard it."

"I'll look over the machinery," he mumbled. "Something may be wrong."

Nothing was, that his accountant's eyes could discover, and, with a shrug, he went to supper. He listened to the servettes hum busily about their different chores, watched one sweep up the plates and cutlery for disposal and recovery, then said, pursing his lips, "Maybe one of the servettes is out of order. I'll check them."

"It wasn't anything like that, Clarence."

Rimbro went to bed, without further concern over the matter, and awakened with his wife's hand clutching his shoulder. His hand went automatically to the contact patch that set the walls glowing. "What's the matter? What time is it?"

She shook her head. "Listen! Listen!"

Good Lord, thought Rimbrow, there is a noise. A definite rumbling. It came and went.

"Earthquake?" he whispered. It did happen, of course, though, with all the planet to choose from, they could generally count on having avoided the faulted areas.

"All day long?" asked Sandra fretfully. "I think it's something else." And then she voiced the secret terror of every nervous householder. "I think there's someone on the planet with us. This Earth is inhabited."

Rimbrow did the logical things. When morning came, he took his wife and children to his wife's mother. He himself took a day off and hurried to the Sector's Housing Bureau.

He was quite annoyed at all this.

Bill Ching of the Housing Bureau was short, jovial and proud of his part Mongolian ancestry. He thought probability patterns had solved every last one of humanity's problems. Alec Mishnoff, also of the Housing Bureau, thought probability patterns were a snare into which humanity had been hopelessly tempted. He had originally majored in archeology and had studied a variety of antiquarian subjects with which his delicately poised head was still crammed. His face managed to look sensitive despite overbearing eyebrows, and he lived with a pet notion that so far he had dared tell no one, though preoccupation with it had driven him out of archeology and into housing.

Ching was fond of saying, "The hell with Malthus!" It was almost a verbal trademark of his. "The hell with Malthus. We can't possibly overpopulate now. However frequently we double and redouble, Homo sapiens remains finite in number, and the uninhabited Earths remain infinite. And we don't have to put one house on each planet. We can put a hundred, a thousand, a million. Plenty of room and plenty of power from each probability sun."

"More than one on a planet?" said Mishnoff sourly.

Ching knew exactly what he meant. When probability patterns had first been put to use, sole ownership of a planet had been powerful inducement for early settlers. It appealed to the snob and despot in every one. What man so poor, ran the slogan, as not to have an empire larger than Genghis Khan's? To introduce multiple settling now would outrage everyone.

Ching said, with a shrug, "All right, it would take psychological preparation. So what? That's what it took to start the whole deal in the first place."

"And food?" asked Mishnoff.

"You know we're putting hydroponic works and yeast plants in other probability patterns. And if we had to, we could cultivate their soil."

"Wearing space suits and importing oxygen."

"We could reduce carbon dioxide for oxygen till the plants got going and they'd do the job after that."

"Given a million years."

"Mishnoff, the trouble with you," Ching said, "is you read too many ancient history books. You're an obstructionist."

But Ching was too good-natured really to mean that, and Mishnoff continued to read books and to worry. Mishnoff longed for the day he could get up the courage necessary to see the Head of the Section and put right out in plain view-bang, like that-exactly what it was that was troubling him.

But now, a Mr. Clarence Rimbrow faced them, perspiring slightly and toweringly angry at the fact that it had taken him the better part of two days to reach this far into the Bureau.

He reached his exposition's climax by saying, "And I say the planet is inhabited and I don't propose to stand for it."

Having listened to his story in full, Ching tried the soothing approach. He said, "Noise like that is probably just some natural phenomenon."

"What kind of natural phenomenon?" demanded Rimbrow. "I want an investigation. If it's a natural phenomenon, I want to know what kind. I say the place is inhabited. It has life on it, by Heaven, and I'm not paying rent on a planet to share it. And with dinosaurs, from the sound of it."

"Come, Mr. Rimbrow, how long have you lived on your Earth?"

"Fifteen and a half years."

"And has there ever been any evidence of life?"

"There is now, and, as a citizen with a production record classified as A-1, I demand an investigation."

"Of course we'll investigate, sir, but we just want to assure you now that everything is all right. Do you realize how carefully we select our probability patterns?"

"I'm an accountant. I have a pretty good idea," said Rimbrow at once.

"Then surely you know our computers cannot fail us. They never pick a probability which has been picked before. They can't possibly. And they're geared to select only probability patterns in which Earth has a carbon dioxide atmosphere, one in which plant life, and therefore animal life, has never developed. Because if plants had evolved, the carbon dioxide would have been reduced to oxygen. Do you understand?"

"I understand it all very well and I'm not here for lectures," said Rimbrow. "I want an investigation out of you and nothing else. It is quite humiliating to think I may be sharing my world, my own world, with something or other, and I don't propose to endure it."

"No, of course not," muttered Ching, avoiding Mishnoff's sardonic glance. "We'll be there before night."

They were on their way to the twisting place with full equipment.

Mishnoff said, "I want to ask you something. Why do you go through that 'There's no need to worry, sir' routine? They always worry anyway. Where does it get you?"

"I've got to try. They shouldn't worry," said Ching petulantly. "Ever hear of a carbon dioxide planet that was inhabited? Besides, Rimbrow is the type that starts rumors. I can spot them. By the time he's through, if he's encouraged, he'll say his sun went nova."

"That happens sometimes," said Mishnoff.

"So? One house is wiped out and one family dies. See, you're an obstructionist. In the old times, the times you like, if there were a flood in China or someplace, thousands of people would die. And that's out of a population of a measly billion or two."

Mishnoff muttered, "How do you know the Rimbrow planet doesn't have life on it?"

"Carbon dioxide atmosphere."

"But suppose-" It was no use. Mishnoff couldn't say it. He finished lamely, "Suppose plant and animal life develops that can live on carbon dioxide."

"It's never been observed."

"In an infinite number of worlds, anything can happen." He finished that in a whisper. "Everything must happen."

"Chances are one in a duodecillion," said Ching, shrugging.

They arrived at the twisting point then, and, having utilized the freight twist for their vehicle (thus sending it into the Rimbrow storage area), they entered the Rimbrow probability pattern themselves. First Ching, then Mishnoff.

"A nice house," said Ching, with satisfaction. "Very nice model. Good taste."

"Hear anything?" asked Mishnoff.

"No."

Ching wandered into the garden. "Hey," he yelled. "Rhode Island Reds."

Mishnoff followed, looking up at the glass roof. The sun looked like the sun of a trillion other Earths.

He said absently, "There could be plant life, just starting out. The carbon dioxide might just be starting to drop in concentration. The computer would never know."

"And it would take millions of years for animal life to begin and millions more for it to come out of the sea."

"It doesn't have to follow that pattern."

Ching put an arm about his partner's shoulder. "You brood. Someday, you'll tell me what's really bothering you, instead of just hinting, and we can straighten you out."

Mishnoff shrugged off the encircling arm with an annoyed frown. Ching's tolerance was always hard to bear. He began, "Let's not psychothera-pize-" He broke off, then whispered, "Listen."

There was a distant rumble. Again.

They placed the seismograph in the center of the room and activated the force field that penetrated downward and bound it rigidly to bedrock. They watched the quivering needle record the shocks.

Mishnoff said, "Surface waves only. Very superficial. It's not underground."

Ching looked a little more dismal, "What is it then?"

"I think," said Mishnoff, "we'd better find out." His face was gray with apprehension. "We'll have to set up a seismograph at another point and get a fix on the focus of the disturbance."

"Obviously," said Ching. "I'll go out with the other seismograph. You stay here."

"No," said Mishnoff, with energy. "I'll go out."

Mishnoff felt terrified, but he had no choice. If this were it, he would be prepared. He could get a warning through. Sending out an unsuspecting Ching would be disastrous. Nor could he warn Ching, who would certainly never believe him.

But since Mishnoff was not cast in the heroic mold, he trembled as he got into his oxygen suit and fumbled the disrupter as he tried to dissolve the force field locally in order to free the emergency exit.

"Any reason you want to go, particularly?" asked Ching, watching the other's inept manipulations. "I'm willing."

"It's all right. I'm going out," said Mishnoff, out of a dry throat, and stepped into the lock that led out onto the desolate surface of a lifeless Earth. A presumably lifeless Earth.

The sight was not unfamiliar to Mishnoff. He had seen its like dozens of times. Bare rock, weathered by wind and rain, crusted and powdered with sand in the gullies; a small and noisy brook beating itself against its stony course. All brown and gray; no sign of green. No sound of life.

Yet the sun was the same and, when night fell, the constellations would be the same.

The situation of the dwelling place was in that region which on Earth proper would be called Labrador. (It was Labrador here, too, really. It had been calculated that in not more than one out of a quadrillion or so Earths were there significant changes in the geological development. The continents were everywhere recognizable down to quite small details.)

Despite the situation and the time of the year, which was October, the temperature was sticky warm due to the hothouse effect of the carbon dioxide in this Earth's dead atmosphere.

From inside his suit, through the transparent visor, Mishnoff watched it all somberly. If the epicenter of the noise were close by, adjusting the second seismograph a mile or so away would be enough for the fix. If it weren't, they would have to bring in an air scooter. Well, assume the lesser complication to begin with.

Methodically, he made his way up a rocky hillside. Once at the top, he could choose his spot.

Once at the top, puffing and feeling the heat most unpleasantly, he found he didn't have to.

His heart was pounding so that he could scarcely hear his own voice as he yelled into his radio mouthpiece, "Hey, Ching, there's construction going on."

"What?" came back the appalled shout in his ears.

There was no mistake. Ground was being leveled. Machinery was at work. Rock was being blasted out.

Mishnoff shouted, "They're blasting. That's the noise."

Ching called back, "But it's impossible. The computer would never pick the same probability pattern twice. It couldn't."

"You don't understand-" began Mishnoff.

But Ching was following his own thought processes. "Get over there, Mishnoff. I'm coming out, too."

"No, damn it. You stay there," cried Mishnoff in alarm. "Keep me in radio contact, and for God's sake be ready to leave for Earth proper on wings if I give the word."

"Why?" demanded Ching. "What's going on?"

"I don't know yet," said Mishnoff. "Give me a chance to find out."

To his own surprise, he noticed his teeth were chattering.

Muttering breathless curses at the computer, at probability patterns and at the insatiable need for living space on the part of a trillion human beings expanding in numbers like a puff of smoke, Mishnoff slithered and slipped down the other side of the slope, setting stones to rolling and rousing peculiar echoes.

A man came out to meet him, dressed in a gas-tight suit, different in many details from Mishnoff's own, but obviously intended for the same purpose-to lead oxygen to the lungs.

Mishnoff gasped breathlessly into his mouthpiece, "Hold it, Ching. There's a man coming. Keep in touch." Mishnoff felt his heart pump more easily and the bellows of his lungs labor less.

The two men were staring at one another. The other man was blond and craggy of face. The look of surprise about him was too extreme to be feigned.

He said in a harsh voice, "Wer sind Sie? Was machen Sie hier?"

Mishnoff was thunderstruck. He'd studied ancient German for two years in the days when he expected to be an archeologist and he followed the comment despite the fact that the pronunciation was not what he had been taught. The stranger was asking his identity and his business there.

Stupidly, Mishnoff stammered, "Sprechen Sie Deutsch?" and then had to mutter reassurance to Ching whose agitated voice in his earpiece was demanding to know what the gibberish was all about.

The German-speaking one made no direct answer. He repeated, "Wer sind Sie?" and added impatiently, "Hier ist fiir ein verriickten Spass keine Zeit."

Mishnoff didn't feel like a joke either, particularly not a foolish one, but he continued, "Sprechen Sie Planetisch?"

He did not know the German for "Planetary Standard Language" so he had to guess. Too late, he thought he should have referred to it simply as English.

The other man stared wide-eyed at him. "Sind Sie wahnsinnig?"

Mishnoff was almost willing to settle for that, but in feeble self-defense, he said, "I'm not crazy, damn it. I mean, "AufderErde woher Sie gekom-"

He gave it up for lack of German, but the new idea that was rattling inside his skull would not quit its nagging. He had to find some way of testing it. He said desperately, "Welches fahr ist es jetzt?"

Presumably, the stranger, who was questioning his sanity already, would be convinced of Mishnoff's insanity now that he was being asked what year it was, but it was one question for which Mishnoff had the necessary German.

The other muttered something that sounded suspiciously like good German swearing and then said, "Es ist dock zwei tausend drei hundert vier-und-sechzig, und warum-"

The stream of German that followed was completely incomprehensible to Mishnoff, but in any case he had had enough for the moment. If he translated the German correctly, the year given him was 2364, which was nearly two thousand years in the past. How could that be?

He muttered, "Zwei tausend drei hundert vier-und sechzig?"

"Fa, fa," said the other, with deep sarcasm. "Zwei tausend drei hundert vier-und-sechzig. Der ganze fahr long ist es so gewesen."

Mishnoff shrugged. The statement that it had been so all year long was a feeble witticism even in German and it gained nothing in translation. He pondered.

But then the other's ironical tone deepening, the German-speaking one went on, "Zwei tausend drei hundert vier-und-sechzig nach Hitler. Hilft das Ihnen vielleicht? Nach Hitler!"

Mishnoff yelled with delight. "That does help me. Es hilft! Horen Sie, bitte-" He went on in broken German interspersed with scraps of Planetary, "For Heaven's sake, urn Gottes willen-"

Making it 2364 after Hitler was different altogether.

He put German together desperately, trying to explain.

The other frowned and grew thoughtful. He lifted his gloved hand to stroke his chin or make some equivalent gesture, hit the transparent visor that covered his face and left his hand there uselessly, while he thought.

He said, suddenly, "Ich heiss George Fallenby."

To Mishnoff it seemed that the name must be of Anglo-Saxon derivation, although the change in vowel form as pronounced by the other made it seem Teutonic.

"Guten Tag," said Mishnoff awkwardly. "Ich heiss Alec Mishnoff," and was suddenly aware of the Slavic derivation of his own name.

"Kommen Sie mit mir, Hen Mishnoff," said Fallenby.

Mishnoff followed with a strained smile, muttering into his transmitter, "It's all right, Ching. It's all right."

Back on Earth proper, Mishnoff faced the Sector's Bureau Head, who had grown old in the Service; whose every gray hair betokened a problem met and solved; and every missing hair a problem averted. He was a cautious man with eyes still bright and teeth that were still his own. His name was Berg.

He shook his head. "And they speak German: but the German you studied was two thousand years old."

"True," said Mishnoff. "But the English Hemingway used is two thousand years old and Planetary is close enough for anyone to be able to read it."

"Hmp. And who's this Hitler?"

"He was a sort of tribal chief in ancient times. He led the German tribe in one of the wars of the twentieth century, just about the time the Atomic Age started and true history began."

"Before the Devastation, you mean?"

"Right. There was a series of wars then. The Anglo-Saxon countries won out, and I suppose that's why the Earth speaks Planetary."

"And if Hitler and his Germans had won out, the world would speak German instead?"

"They have won out on Fallenby's Earth, sir, and they do speak German."

"And make their dates 'after Hitler' instead of A.D.?"

"Right. And I suppose there's an Earth in which the Slavic tribes won out and everyone speaks Russian."

"Somehow," said Berg, "it seems to me we should have foreseen it, and yet, as far as I know, no one has. After all, there are an infinite number of inhabited Earths, and we can't be the only one that has decided to solve the problem of unlimited population growth by expanding into the worlds of probability."

"Exactly," said Mishnoff earnestly, "and it seems to me that if you think of it, there must be countless inhabited Earths so doing and there must be many multiple occupations in the three hundred billion Earths we ourselves occupy. The only reason we caught this one is that, by sheer chance, they decided to build within a mile of the dwelling we had placed there. This is something we must check."

"You imply we ought to search all our Earths."

"I do, sir. We've got to make some settlement with other inhabited Earths. After all, there is room for all of us and to expand without agreement may result in all sorts of trouble and conflict."

"Yes," said Berg thoughtfully. "I agree with you."

Clarence Rimbrow stared suspiciously at Berg's old face, creased now into all manner of benevolence.

"You're sure now?"

"Absolutely," said the Bureau Head. "We're sorry that you've had to accept temporary quarters for the last two weeks--"

"More like three."

"-three weeks, but you will be compensated."

"What was the noise?"

"Purely geological, sir. A rock was delicately balanced and, with the wind, it made occasional contact with the rocks of the hillside. We've removed it and surveyed the area to make certain that nothing similar will occur again."

Rimbrow clutched his hat and said, "Well, thanks for your trouble."

"No thanks necessary, I assure you, Mr. Rimbrow. This is our job."

Rimbrow was ushered out, and Berg turned to Mishnoff, who had remained a quiet spectator of this completion of the Rimbrow affair.

Berg said, "The Germans were nice about it, anyway. They admitted we had priority and got off. Room for everybody, they said. Of course, as it turned out, they build any number of dwellings on each unoccupied world. . . And now there's the project of surveying our other worlds and making similar agreements with whomever we find. It's all strictly confidential, too.

It can't be made known to the populace without plenty of preparation. . . Still, none of this is what I want to speak to you about."

"Oh?" said Mishnoff. Developments had not noticeably cheered him. His own bogey still concerned him.

Berg smiled at the younger man. "You understand, Mishnoff, we in the Bureau, and in the Planetary Government, too, are very appreciative of your quick thinking, of your understanding of the situation. This could have developed into something very tragic, had it not been for you. This appreciation will take some tangible form."

"Thank you, sir."

"But, as I said once before, this is something many of us should have thought of. How is it you did? . . . Now we've gone into your background a little. Your co-worker, Ching, tells us you have hinted in the past at some serious danger involved in our probability-pattern setup, and that you insisted on going out to meet the Germans although you were obviously frightened. You were anticipating what you actually found, were you not? And how did you do it?"

Mishnoff said confusedly, "No, no. That was not in my mind at all. It came as a surprise. I-"

Suddenly he stiffened. Why not now? They were grateful to him. He had proved that he was a man to be taken into account. One unexpected thing had already happened.

He said firmly, "There's something else."

"Yes?"

(How did one begin?) "There's no life in the Solar System other than the life on Earth."

"That's right," said Berg benevolently.

"And computation has it that the probability of developing any form of interstellar travel is so low as to be infinitesimal."

"What are you getting at?"

"That all this is so in this probability! But there must be some probability patterns in which other life does exist in the Solar System or in which interstellar drives are developed by dwellers in other star systems."

Berg frowned. "Theoretically."

"In one of these probabilities, Earth may be visited by such intelligences. If it were a probability pattern in which Earth is inhabited, it won't affect us; they'll have no connection with us in Earth proper. But if it were a probability pattern in which Earth is uninhabited and they set up some sort of a base, they may find, by happenstance, one of our dwelling places."

"Why ours?" demanded Berg dryly. "What not a dwelling place of the Germans, for instance?"

"Because we spot our dwellings one to a world. The German Earth doesn't. Probably very few others do. The odds are in favor of us by billions to one. And if extraterrestrials do find such a dwelling, they'll investigate and find the route to Earth proper, a highly developed, rich world."

"Not if we turn off the twisting place," said Berg.

"Once they know that twisting places exist, they can construct their own," said Mishnoff. "A race intelligent enough to travel through space could do that, and from the equipment in the dwelling they would take over, they could easily spot our particular probability. . . And then how would we handle extraterrestrials? They're not Germans, or other Earths. They would have alien psychologies and motivations. And we're not even on our guard. We just keep setting up more and more worlds and increasing the chance every day that-"

His voice had risen in excitement and Berg shouted at him, "Nonsense. This is all ridiculous-"

The buzzer sounded and the communiplate brightened and showed the face of Ching. Ching's voice said, "I'm sorry to interrupt, but-"

"What is it?" demanded Berg savagely.

"There's a man here I don't know what to do with. He's drunk or crazy. He complains that his home is surrounded and that there are things staring through the glass roof of his garden."

"Things?" cried Mishnoff.

"Purple things with big red veins, three eyes and some sort of tentacles instead of hair. They have-"

But Mishnoff and Berg didn't hear the rest. They were staring at each other in sick horror.

THE MESSAGE

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They drank beer and reminisced as men will who have met after long separation. They called to mind the days under fire. They remembered sergeants and girls, both with exaggeration. Deadly things became humorous in retrospect, and trifles disregarded for ten years were hauled out for airing.

Including, of course, the perennial mystery.

"How do you account for it?" asked the first. "Who started it?"

The second shrugged. "No one started it. Everyone was doing it, like a disease. You, too, I suppose."

The first chuckled.

The third one said softly, "I never saw the fun in it. Maybe because I came across it first when I was under fire for the first time. North Africa."

"Really?" said the second.

"The first night on the beaches of Oran. I was getting under cover, making for some native shack and I saw it in the light of a flare-"

George was deliriously happy. Two years of red tape and now he was finally back in the past. Now he could complete his paper on the social life of the foot soldier of World War II with some authentic details.

Out of the warless, insipid society of the thirtieth century, he found himself for one glorious moment in the tense, superlative drama of the warlike twentieth.

North Africa! Site of the first great sea-borne invasion of the war! How the temporal physicists had scanned the area for the perfect spot and moment. This shadow of an empty wooden building was it. No human would approach for a known number of minutes. No blast would seriously affect it in that time. By being there, George would not affect history. He would be that ideal of the temporal physicist, the "pure observer."

It was even more terrific than he had imagined. There was the perpetual roar of artillery, the unseen tearing of planes overhead. There were the periodic lines of tracer bullets splitting the sky and the occasional ghastly glow of a flare twisting downward.

And he was here! He, George, was part of the war, part of an intense kind of life forever gone from the world of the thirtieth century, grown tame and gentle.

He imagined he could see the shadows of an advancing column of soldiers, hear the low cautious monosyllables slip from one to another. How he longed to be one of them in truth, not merely a momentary intruder, a "pure observer."

He stopped his note taking and stared at his stylus, its micro-light hypnotizing him for a moment. A sudden idea had overwhelmed him and he looked at the wood against which his shoulder pressed. This moment must not pass unforgotten into history. Surely

doing this would affect nothing. He would use the older English dialect and there would be no suspicion.

He did it quickly and then spied a soldier running desperately toward the structure, dodging a burst of bullets. George knew his time was up, and, even as he knew it, found himself back in the thirtieth century.

It didn't matter. For those few minutes he had been part of World War II. A small part, but part. And others would know it. They might not know they knew it, but someone perhaps would repeat the message to himself.

Someone, perhaps that man running for shelter, would read it and know that along with all the heroes of the twentieth century was the "pure observer," the man from the thirtieth century, George Kilroy. He was there!

HELL-FIRE

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There was a stir as of a very polite first-night audience. Only a handful of scientists were present, a sprinkling of high brass, some Congressmen, a few newsmen.

Alvin Homer of the Washington Bureau of the Continental Press found himself next to Joseph Vincenzo of Los Alamos, and said, "Now we ought to learn something."

Vincenzo stared at him through bifocals and said, "Not the important thing."

Homer frowned. This was to be the first super-slow-motion films of an atomic explosion. With trick lenses changing directional polarization in flickers, the moment of explosion would be divided into billionth-second snaps. Yesterday, an A-bomb had exploded. Today, those snaps would show the explosion in incredible detail.

Homer said, "You think this won't work?"

Vincenzo looked tormented. "It will work. We've run pilot tests. But the important thing-"

"Which is?"

"That these bombs are man's death sentence. We don't seem to be able to learn that." Vincenzo nodded. "Look at them here. They're excited and thrilled, but not afraid."

The newsman said, "They know the danger. They're afraid, too."

"Not enough," said the scientist. "I've seen men watch an H-bomb blow an island into a hole and then go home and sleep. That's the way men are."

For thousands of years, hell-fire has been preached to them, and it's made no real impression."

"Hell-fire: Are you religious, sir?"

"What you saw yesterday was hell-fire. An exploding atom bomb is hell-fire. Literally."

That was enough for Homer. He got up and changed his seat, but watched the audience uneasily. Were any afraid? Did any worry about hell-fire? It didn't seem so to him.

The lights went out, the projector started. On the screen, the firing tower stood gaunt. The audience grew tensely quiet.

Then a dot of light appeared at the apex of the tower, a brilliant, burning point, slowly budding in a lazy, outward elbowing, this way and that, taking on uneven shapes of light and shadow, growing oval.

A man cried out chokingly, then others. A hoarse babble of noise, followed by thick silence. Homer could smell fear, taste terror in his own mouth, feel his blood freeze.

The oval fireball had sprouted projections, then paused a moment in stasis, before expanding rapidly into a bright and featureless sphere.

That moment of stasis-the fireball had shown dark spots for eyes, with dark lines for thin, flaring eyebrows, a hairline coming down V-shaped, a mouth twisted upward, laughing wildly in the hell-fire-and horns.

THE LAST TRUMP

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The Archangel Gabriel was quite casual about the whole thing. Idly, he let the tip of one wing graze the planet Mars, which, being of mere matter, was unaffected by the contact.

He said, "It's a settled matter, Etheriel. There's nothing to be done about it now. The Day of Resurrection is due."

Etheriel, a very junior seraph who had been created not quite a thousand years earlier as men counted time, quivered so that distinct vortices appeared in the continuum. Ever since his creation, he had been in immediate charge of Earth and environs. As a job, it was a sinecure, a cubbyhole, a dead end, but through the centuries he had come to take a perverse pride in the world.

"But you'll be disrupting my world without notice."

"Not at all. Not at all. Certain passages occur in the Book of Daniel and in the Apocalypse of St. John which are clear enough."

"They are? Having been copied from scribe to scribe? I wonder if two words in a row are left unchanged."

"There are hints in the Rig-Veda, in the Confucian Analects-"

"Which are the property of isolated cultural groups which exist as a thin aristocracy-"

"The Gilgamesh Chronicle speaks out plainly."

"Much of the Gilgamesh Chronicle was destroyed with the library of Ashurbanipal sixteen hundred years, Earth-style, before my creation."

"There are certain features of the Great Pyramid and a pattern in the inlaid jewels of the Taj Mahal-"

"Which are so subtle that no man has ever rightly interpreted them." Gabriel said wearily, "If you're going to object to everything, there's no point discussing the matter. In any case, you ought to know about it. In matters concerning Earth, you're omniscient."

"Yes, if I choose to be. I've had much to concern me here and investigating the possibilities of Resurrection did not, I confess, occur to me."

"Well, it should have. All the papers involved are in the files of the Council of Ascendants. You could have availed yourself of them at any time."

"I tell you all my time was needed here. You have no idea of the deadly efficiency of the Adversary on this planet. It took all my efforts to curb him, and even so-"

"Why, yes"-Gabriel stroked a comet as it passed-"he does seem to have won his little victories. I note as I let the interlocking factual pattern of this miserable little world flow through me that this is one of those setups with matter-energy equivalence."

"So it is," said Etheriel.

"And they are playing with it."

"I'm afraid so."

"Then what better time for ending the matter?"

"I'll be able to handle it, I assure you. Their nuclear bombs will not destroy them."

"I wonder. Well, now suppose you let me continue, Etheriel. The appointed moment approaches."

The seraph said stubbornly, "I would like to see the documents in the case."

"If you insist." The wording of an Act of Ascendancy appeared in glittering symbols against the deep black of the airless firmament.

Etheriel read aloud: "It is hereby directed by order of Council that the Archangel Gabriel, Serial number etcetera, etcetera (well, that's you, at any rate), will approach Planet, Class A, number G753990, hereinafter known as Earth, and on January 1, 1957, at 12:01 P.M., using local time values-" He finished reading in gloomy silence.

"Satisfied?"

"No, but I'm helpless."

Gabriel smiled. A trumpet appeared in space, in shape like an earthly trumpet, but its burnished gold extended from Earth to sun. It was raised to Gabriel's glittering beautiful lips.

"Can't you let me have a little time to take this up with the Council?" asked Etheriel desperately.

"What good would it do you? The act is countersigned by the Chief, and you know that an act countersigned by the Chief is absolutely irrevocable.

And now, if you don't mind, it is almost the stipulated second and I want to be done with this as I have other matters of much greater moment on my mind. Would you step out of my way a little? Thank you."

Gabriel blew, and a clean, thin sound of perfect pitch and crystalline delicacy filled all the universe to the furthest star. As it sounded, there was a tiny moment of stasis as thin as the line separating past from future, and then the fabric of worlds collapsed upon itself and matter was gathered back into the primeval chaos from which it had once sprung at a word. The stars and nebulae were gone, and the cosmic dust, the sun, the planets, the moon; all, all, all except Earth itself, which spun as before in a universe now completely empty.

The Last Trump had sounded.

R. E. Mann, (known to all who knew him simply as R.E.) eased himself into the offices of the Billikan Bitsies factory and stared somberly at the tall man (gaunt but with a certain faded elegance about his neat gray mustache) who bent intently over a sheaf of papers on his desk.

R.E. looked at his wristwatch, which still said 7:01, having ceased running at that time. It was Eastern standard time, of course; 12:01 P.M. Greenwich time. His dark brown eyes, staring sharply out over a pair of pronounced cheekbones, caught those of the other.

For a moment, the tall man stared at him blankly. Then he said, "Can I do anything for you?"

"Horatio J. Billikan, I presume? Owner of this place?"

"Yes."

"I'm R. E. Mann and I couldn't help but stop in when I finally found someone at work. Don't you know what today is?"

"Today?"

"It's Resurrection Day."

"Oh, that! I know it. I heard the blast. Fit to wake the dead. . . That's rather a good one, don't you think?" He chuckled for a moment, then went on. "It woke me at seven in the morning. I nudged my wife. She slept through it, of 'course. I always said she would. 'It's the Last Trump, dear,' I said. Hortense, that's my wife, said, 'All right,' and went back to sleep. I bathed, shaved, dressed and came to work."

"But why?'"

"Why not?'"

"None of your workers have come in."

"No, poor souls. They'll take a holiday just at first. You've got to expect that. After all, it isn't every day that the world comes to an end. Frankly, it's just as well. It: gives me a chance to straighten out my personal correspondence without interruptions. Telephone hasn't rung once."

He stood up and went to the window. "It's a great improvement. No blinding sun any more and the snow's gone. There's a pleasant light and a pleasant warmth. Very good arrangement. . . But now, if you don't mind, I'm rather busy, so if you'll excuse me-

"

A great, hoarse voice interrupted with a, "Just a minute, Horatio," and a gentleman, looking remarkably like Billikan in a somewhat craggier way, followed his prominent nose into the office and struck an attitude of offended dignity which was scarcely spoiled by the fact that he was quite naked. "May I ask why you've shut down Bitsies?"

Billikan looked faint. "Good Heavens," he said, "it's Father. Wherever did you come from?"

"From the graveyard," roared Billikan, Senior. "Where on Earth else? They're coming out of the ground there by the dozens. Every one of them naked. Women, too."

Billikan cleared his throat. "I'll get you some clothes, Father. I'll bring them to you from home."

"Never mind that. Business first. Business first."

R.E. came out of his musing. "Is everyone coming out of their graves at the same time, sir?"

He stared curiously at Billikan, Senior, as he spoke. The old man's appearance was one of robust age. His cheeks were furrowed but glowed with health. His age, R.E. decided, was exactly what it was at the moment of his death, but his body was as it should have been at that age if it functioned ideally.

Billikan, Senior, said, "No, sir, they are not. The newer graves are coming up first. Pottersby died five years before me and came up about five minutes after me. Seeing him made me decide to leave. I had had enough of him when . . . And that reminds me." He brought his fist down on the desk, a very solid fist. "There were no taxis, no busses. Telephones weren't working. I had to walk. I had to walk twenty miles."

"Like that?" asked his son in a faint and appalled voice.

Billikan, Senior, looked down upon his bare skin with casual approval. "It's warm. Almost everyone else is naked. . . . Anyway, son, I'm not here to make small talk. Why is the factory shut down?"

"It isn't shut down. It's a special occasion."

"Special occasion, my foot. You call union headquarters and tell them Resurrection Day isn't in the contract. Every worker is being docked for every minute he's off the job."

Billikan's lean face took on a stubborn look as he peered at his father. "I will not. Don't forget, now, you're no longer in charge of this plant. I am."

"Oh, you are? By what right?"

"By your will."

"All right. Now here I am and I void my will."

"You can't, Father. You're dead. You may not look dead, but I have witnesses. I have the doctor's certificate. I have receipted bills from the undertaker. I can get testimony from the pallbearers."

Billikan, Senior, stared at his son, sat down, placed his arm over the back of the chair, crossed his legs and said, "If it comes to that, we're all dead, aren't we? The world's come to an end, hasn't it?"

"But you've been declared legally dead and I haven't."

"Oh, we'll change that, son. There are going to be more of us than of you and votes count."

Billikan, Junior, tapped the desk firmly with the flat of his hand and flushed slightly. "Father, I hate to bring up this particular point, but you force me to. May I remind you that by now I am sure that Mother is sitting at home waiting for you; that she probably had to walk the streets-uh- naked, too; and that she probably isn't in a good humor."

Billikan, Senior, went ludicrously pale. "Good Heavens!"

"And you know she always wanted you to retire."

Billikan, Senior, came to a quick decision. "I'm not going home. Why, this is a nightmare. Aren't there any limits to this Resurrection business? It's -it's-it's sheer anarchy. There's such a thing as overdoing it. I'm just not going home."

At which point, a somewhat rotund gentleman with a smooth, pink face and fluffy white sideburns (much like pictures of Martin Van Buren) stepped in and said coldly, "Good day."

"Father," said Billikan, Senior.

"Grandfather," said Billikan, Junior.

Billikan, Grandson, looked at Billikan, Junior, with disapproval. "If you are my grandson," he said, "you've aged considerably and the change has not improved you."

Billikan, Junior, smiled with dyspeptic feebleness, and made no answer.

Billikan, Grandsenior, did not seem to require one. He said, "Now if you two will bring me up to date on the business, I will resume my managerial function."

There were two simultaneous answers, and Billikan, Grandsenior's, floridity waxed dangerously as he beat the ground peremptorily with an imaginary cane and barked a retort.

R.E. said, "Gentlemen."

He raised his voice. "Gentlemen!"

He shrieked at full long-power, "GENTLEMEN!"

Conversation snapped off sharply and all turned to look at him. R.E.'s angular face, his oddly attractive eyes, his sardonic mouth seemed suddenly to dominate the gathering.

He said, "I don't understand this argument. What is it that you manufacture?"

"Bitsies," said Billikan, Junior.

"Which, I take it, are a packaged cereal breakfast food-"

"Teeming with energy in every golden, crispy flake-" cried Billikan, Junior.

"Covered with honey-sweet, crystalline sugar; a confection and a food- growled Billikan, Senior.

"To tempt the most jaded appetite," roared Billikan, Grandsenior.

"Exactly," said R.E. "What appetite?"

They stared stolidly at him. "I beg your pardon," said Billikan, Junior.

"Are any of you hungry?" asked R.E. "I'm not."

"What is this fool maundering about?" demanded Billikan, Grandsenior, angrily. His invisible cane would have been prodding R.E. in the navel had it (the cane, not the navel) existed.

R.E. said, "I'm trying to tell you that no one will ever eat again. It is the hereafter, and food is unnecessary."

The expressions on the faces of the Billikans needed no interpretation. It was obvious that they had tried their own appetites and found them wanting.

Billikan, Junior, said ashenly, "Ruined!"

Billikan, Grandsenior, pounded the floor heavily and noiselessly with his imaginary cane. "This is confiscation of property without due process of law.

I'll sue. I'll sue."

"Quite unconstitutional," agreed Billikan, Senior.

"If you can find anyone to sue, I wish you all good fortune," said R.E. agreeably.

"And now if you'll excuse me I think I'll walk toward the graveyard."

He put his hat on his head and walked out the door.

Etheriel, his vortices quivering, stood before the glory of a six-winged cherub.

The cherub said, "If I understand you, your particular universe has been dismantled."

"Exactly."

"Well, surely, now, you don't expect me to set it up again?"

"I don't expect you to do anything," said Etheriel, "except to arrange an appointment for me with the Chief."

The cherub gestured his respect instantly at hearing the word. Two wing-tips covered his feet, two his eyes and two his mouth. He restored himself to normal and said, "The Chief is quite busy. There are a myriad score of matters for him to decide."

"Who denies that? I merely point out that if matters stand as they are now, there will have been a universe in which Satan will have won the final victory."

"Satan?"

"It's the Hebrew word for Adversary," said Etheriel impatiently. I could say Ahriman, which is the Persian word. In any case, I mean the Adversary."

The cherub said, "But what will an interview with the Chief accomplish? The document authorizing the Last Trump was countersigned by the Chief, and you know that it is irrevocable for that reason. The Chief would never limit his own omnipotence by canceling a word he had spoken in his official capacity."

"Is that final? You will not arrange an appointment?"

"I cannot."

Etheriel said, "In that case, I shall seek out the Chief without one. I will invade the Primum Mobile. If it means my destruction, so be it." He gathered his energies. . .

The cherub murmured in horror, "Sacrilege!" and there was a faint gathering of thunder as Etheriel sprang upward and was gone.

R. E. Mann passed through the crowding streets and grew used to the sight of people bewildered, disbelieving, apathetic, in makeshift clothing or, usually, none at all.

A girl, who looked about twelve, leaned over an iron gate, one foot on a crossbar, swinging it to and fro, and said as he passed, "Hello, mister."

"Hello," said R.E. The girl was dressed. She was not one of the-uh- returnees.

The girl said, "We got a new baby in our house. She's a sister I once had. Mommy is crying and they sent me here."

R.E. said, "Well, well," passed through the gate and up the paved walk to the house, one with modest pretensions to middle-class gentility. He rang the bell, obtained no answer, opened the door and walked in.

He followed the sound of sobbing and knocked at an inner door. A stout man of about fifty with little hair and a comfortable supply of cheek and chin looked out at him with mingled astonishment and resentment.

"Who are you?"

R.E. removed his hat. "I thought I might be able to help. Your little girl outside-"

A woman looked up at him hopelessly from a chair by a double bed. Her hair was beginning to gray. Her face was puffed and unsightly with weeping and the veins stood out bluely on the back of her hands. A baby lay on the bed, plump and naked. It kicked its feet languidly and its sightless baby eyes turned aimlessly here and there.

"This is my baby," said the woman. "She was born twenty-three years ago in this house and she died when she was ten days old in this house. I wanted her back so much."

"And now you have her," said R.E.

"But it's too late," cried the woman vehemently. "I've had three other children. My oldest girl is married; my son is in the army. I'm too old to have a baby now. And even if- even if-"

Her features worked in a heroic effort to keep back the tears and failed.

Her husband said with flat tonelessness, "It's not a real baby. It doesn't cry. It doesn't soil itself. It won't take milk. What will we do? It'll never grow. It'll always be a baby."

R.E. shook his head. "I don't know," he said. "I'm afraid I can do nothing to help."

Quietly he left. Quietly he thought of the hospitals. Thousands of babies must be appearing at each one.

Place them in racks, he thought, sardonically. Stack them like cordwood. They need no care. Their little bodies are merely each the custodian of an indestructible spark of life.

He passed two little boys of apparently equal chronological age, perhaps ten. Their voices were shrill. The body of one glistened white in the sunless light so he was a returnee. The other was not. R.E. paused to listen.

The bare one said, "I had scarlet fever."

A spark of envy at the other's claim to notoriety seemed to enter the clothed one's voice. "Gee."

"That's why I died."

"Gee. Did they use pensillun or auromysim?"

"What?"

"They're medicines."

"I never heard of them."

"Boy, you never heard of much."

"I know as much as you."

"Yeah? Who's President of the United States?"

"Warren Harding, that's who."

"You're crazy. It's Eisenhower."

"Who's he?"

"Ever see television?"

"What's that?"

The clothed boy hooted earsplittingly. "It's something you turn on and see comedians, movies, cowboys, rocket rangers, anything you want."

"Let's see it."

There was a pause and the boy from the present said, "It ain't working."

The other boy shrieked his scorn. "You mean it ain't never worked. You made it all up."

R.E. shrugged and passed on.

The crowds thinned as he left town and neared the cemetery. Those who were left were all walking into town, all were nude.

A man stopped him; a cheerful man with pinkish skin and white hair who had the marks of pince-nez on either side of the bridge of his nose, but no glasses to go with them.

"Greetings, friend."

"Hello," said R.E.

"You're the first man with clothing that I've seen. You were alive when the trumpet blew, I suppose."

"Yes, I was."

"Well, isn't this great? Isn't this joyous and delightful? Come rejoice with me."

"You like this, do you?" said R.E.

"Like it? A pure and radiant joy fills me. We are surrounded by the light of the first day; the light that glowed softly and serenely before sun, moon and stars were made. (You know your Genesis, of course.) There is the comfortable warmth that must have been one of the highest blisses of Eden; not enervating heat or assaulting cold. Men and women walk the streets unclothed and are not ashamed. All is well, my friend, all is well."

R.E. said, "Well, it's a fact that I haven't seemed to mind the feminine display all about."

"Naturally not," said the other. "Lust and sin as we remember it in our earthly existence no longer exists. Let me introduce myself, friend, as I was in earthly times. My name on Earth was Winthrop Hester. I was born in 1812 and died in 1884 as we counted time then. Through the last forty years of my life I labored to bring my little flock to the Kingdom and I go now to count the ones I have won."

R.E. regarded the ex-minister solemnly, "Surely there has been no Judgment yet."

"Why not? The Lord sees within a man and in the same instant that all things of the world ceased, all men were judged and we are the saved."

"There must be a great many saved."

"On the contrary, my son, those saved are but as a remnant."

"A pretty large remnant. As near as I can make out, everyone's coming back to life. I've seen some pretty unsavory characters back in town as alive as you are."

"Last-minute repentance-"

"I never repented."

"Of what, my son?"

"Of the fact that I never attended church."

Winthrop Hester stepped back hastily. "Were you ever baptized?"

"Not to my knowledge."

Winthrop Hester trembled. "Surely you believe in God?"

"Well," said R.E., "I believed a lot of things about Him that would probably startle you."

Winthrop Hester turned and hurried off in great agitation.

In what remained of his walk to the cemetery (R.E. had no way of estimating time, nor did it occur to him to try) no one else stopped him. He found the cemetery itself all but empty, its trees and grass gone (it occurred to him that there was nothing green in

the world; the ground everywhere was a hard, featureless, grainless gray; the sky a luminous white), but its headstones still standing.

On one of these sat a lean and furrowed man with long, black hair on his head and a mat of it, shorter, though more impressive, on his chest and upper arms.

He called out in a deep voice, "Hey, there, you!"

R.E. sat down on a neighboring headstone. "Hello."

Black-hair said, "Your clothes don't look right. What year was it when it happened?"

"1957."

"I died in 1807. Funnily I expected to be one pretty hot boy right about now, with the tamale flames shooting up my innards."

"Aren't you coming along to town?" asked R.E.

"My name's Zeb," said the ancient. "That's short for Zebulon, but Zeb's good enough. What's the town like? Changed some, I reckon?"

"It's got nearly a hundred thousand people in it."

Zeb's mouth yawned somewhat. "Go on. Might nigh bigger 'n Philadelphia. . . You're making fun."

"Philadelphia's got-" R.E. paused. Stating the figure would do him no good. Instead, he said, "The town's grown in a hundred fifty years, you know."

"Country, too?"

"Forty-eight states," said R.E. "All the way to the Pacific."

"No!" Zeb slapped his thigh in delight and then winced at the unexpected absence of rough homespun to take up the worst of the blow. "I'd head out west if I wasn't needed here. Yes, sir." His face grew lowering and his thin lips took on a definite grimness. "I'll stay right here, where I'm needed."

"Why are you needed?"

The explanation came out briefly, bitten off hard. "Injuns!"

"Indians?"

"Millions of 'em. First the tribes we fought and licked and then tribes who ain't never seen a white man. They'll all come back to life. I'll need my old buddies. You city fellers ain't no good at it. . . . Ever seen an Injun?"

R.E. said, "Not around here lately, no."

Zeb looked his contempt, and tried to spit to one side but found no saliva for the purpose. He said, "You better get back to the city, then. After a while, it ain't going to be safe nohow round here. Wish I had my musket."

R.E. rose, thought a moment, shrugged and faced back to the city. The headstone he had been sitting upon collapsed as he rose, falling into a powder of gray stone that melted into the featureless ground. He looked about. Most of the headstones were gone. The rest would not last long. Only the one under Zeb still looked firm and strong.

R.E. began the walk back. Zeb did not turn to look at him. He remained waiting quietly and calmly-for Indians.

Etheriel plunged through the heavens in reckless haste. The eyes of the Ascendants were on him, he knew. From late-born seraph, through cherubs and angels, to the highest archangel, they must be watching.

Already he was higher than any Ascendant, uninvited, had ever been before and he waited for the quiver of the Word that would reduce his vortices to non-existence.

But he did not falter. Through non-space and non-time, he plunged toward union with the Primum Mobile; the seat that encompassed all that Is, Was, Would Be, Had Been, Could Be and Might Be.

And as he thought that, he burst through and was part of it, his being expanding so that momentarily he, too, was part of the All. But then it was mercifully veiled from his senses, and the Chief was a still, small voice within him, yet all the more impressive in its infinity for all that.

"My son," the voice said, "I know why you have come."

"Then help me, if that be your will."

"By my own will," said the Chief, "an act of mine is irrevocable. All your mankind, my son, yearned for life. All feared death. All evolved thoughts and dreams of life unending. No two groups of men; no two single men; evolved the same afterlife, but all wished life. I was petitioned that I might grant the common denominator of all these wishes-life unending. I did so."

"No servant of yours made that request."

"The Adversary did, my son."

Etheriel trailed his feeble glory in dejection and said in a low voice, "I am dust in your sight and unworthy to be in your presence, yet I must ask a question. Is then the Adversary your servant also?"

"Without him I can have no other," said the Chief, "for what then is Good but the eternal fight against Evil?"

And in that fight, thought Etheriel, I have lost.

R.E. paused in sight of town. The buildings were crumbling. Those that were made of wood were already heaps of rubble. R.E. walked to the nearest such heap and found the wooden splinters powdery and dry.

He penetrated deeper into town and found the brick buildings still standing, but there was an ominous roundness to the edges of the bricks, a threatening flakiness.

"They won't last long," said a deep voice, "but there is this consolation, if consolation it be; their collapse can kill no one."

R.E. looked up in surprise and found himself face to face with a cadaverous Don Quixote of a man, lantern-jawed, sunken-cheeked. His eyes were sad and his brown hair was lank and straight. His clothes hung loosely and skin showed clearly through various rents.

"My name," said the man, "is Richard Levine. I was a professor of history once-before this happened."

"You're wearing clothes," said R.E. "You're not one of those resurrected."

"No, but that mark of distinction is vanishing. Clothes are going."

R.E. looked at the throngs that drifted past them, moving slowly and aimlessly like motes in a sunbeam. Vanishingly few wore clothes. He looked down at himself and noticed for the first time that the seam down the length of each trouser leg had parted. He pinched the fabric of his jacket between thumb and forefinger and the wool parted and came away easily.

"I guess you're right," said R.E.

"If you'll notice," went on Levine, "Mellon's Hill is flattening out."

R.E. turned to the north where ordinarily the mansions of the aristocracy (such aristocracy as there was in town) studded the slopes of Mellon's Hill, and found the horizon nearly flat.

Levine said, "Eventually, there'll be nothing but flatness, featurelessness, nothingness-and us."

"And Indians," said R.E. "There's a man outside of town waiting for Indians and wishing he had a musket."

"I imagine," said Levine, "the Indians will give no trouble. There is no pleasure in fighting an enemy that cannot be killed or hurt. And even if that were not so, the lust for battle would be gone, as are all lusts."

"Are you sure?"

"I am positive. Before all this happened, although you may not think it to look at me, I derived much harmless pleasure in a consideration of the female figure. Now, with the unexampled opportunities at my disposal, I find myself irritatingly uninterested. No, that is wrong. I am not even irritated at my disinterest."

R.E. looked up briefly at the passers-by. "I see what you mean."

"The coming of Indians here," said Levine, "is nothing compared with the situation in the Old World. Early during the Resurrection, Hitler and his Wehrmacht must have come back to life and must now be facing and intermingled with Stalin and the Red Army all the way from Berlin to Stalingrad. To complicate the situation, the Kaisers and Czars will arrive. The men at Verdun and the Somme are back in the old battlegrounds. Napoleon and his marshals are scattered over western Europe. And Mohammed must be back to see what following ages have made of Islam, while the Saints and Apostles consider the paths of Christianity. And even the Mongols, poor things, the Khans from Temujin to Aurangzeb, must be wandering the steppes helplessly, longing for their horses."

"As a professor of history," said R.E., "you must long to be there and observe."

"How could I be there? Every man's position on Earth is restricted to the distance he can walk. There are no machines of any kind, and, as I have just mentioned, no horses. And what would I find in Europe anyway? Apathy, I think! As here."

A soft plopping sound caused R.E. to turn around. The wing of a neighboring brick building had collapsed in dust. Portions of bricks lay on either side of him. Some must have hurtled through him without his being aware of it. He looked about. The heaps of rubble were less numerous. Those that remained were smaller in size. He said, "I met a man who thought we had all been judged and are in Heaven."

"Judged?" said Levine. "Why, yes, I imagine we are. We face eternity now. We have no universe left, no outside phenomena, no emotions, no passions. Nothing but ourselves and thought. We face an eternity of introspection, when all through history we have never known what to do with ourselves on a rainy Sunday."

"You sound as though the situation bothers you."

"It does more than that. The Dantean conceptions of Inferno were childish and unworthy of the Divine imagination: fire and torture. Boredom is much more subtle. The inner torture of a mind unable to escape itself in any way, condemned to fester in its own exuding mental pus for all time, is much more fitting. Oh, yes, my friend, we have been judged, and condemned, too, and this is not Heaven, but hell."

And Levine rose with shoulders drooping dejectedly, and walked away.

R.E. gazed thoughtfully about and nodded his head. He was satisfied.

The self-admission of failure lasted but an instant in Etheriel, and then, quite suddenly, he lifted his being as brightly and highly as he dared in the presence of the Chief and his glory was a tiny dot of light in the infinite Primum Mobile.

"If it be your will, then," he said. "I do not ask you to defeat your will but to fulfill it."

"In what way, my son?"

"The document, approved by the Council of Ascendants and signed by yourself, authorizes the Day of Resurrection at a specific time of a specific day of the year 1957 as Earthmen count time."

"So it did."

"But the year 1957 is unqualified. What then is 1957? To the dominant culture on Earth the year was A.D. 1957. That is true. Yet from the time you breathed existence into Earth and its universe there have passed 5,960 years. Based on the internal evidence you created within that universe, nearly four billion years have passed. Is the year, unqualified, then 1957, 5960, or 4000000000?"

"Nor is that all," Etheriel went on. "The year A.D. 1957 is the year 7464 of the Byzantine era, 5716 by the Jewish calendar. It is 2708 A.U.C., that is, the 2,708th year since the founding of Rome, if we adopt the Roman calendar. It is the year 1375 in the Mohammedan calendar, and the hundred eightieth year of the independence of the United States."

"Humbly I ask then if it does not seem to you that a year referred to as 1957 alone and without qualification has no meaning."

The Chief's still small voice said, "I have always known this, my son; it was you who had to learn."

"Then," said Etheriel, quivering luminously with joy, "let the very letter of your will be fulfilled and let the Day of Resurrection fall in 1957, but only when all the inhabitants of Earth unanimously agree that a certain year shall be numbered 1957 and none other."

"So let it be," said the Chief, and this Word re-created Earth and all it contained, together with the sun and moon and all the hosts of Heaven.

It was 7 A.M. on January 1, 1957, when R. E. Mann awoke with a start. The very beginnings of a melodious note that ought to have filled all the universe had sounded and yet had not sounded.

For a moment, he cocked his head as though to allow understanding to flow in, and then a trifle of rage crossed his face to vanish again. It was but another battle.

He sat down at his desk to compose the next plan of action. People already spoke of calendar reform and it would have to be stimulated. A new era must begin with December 2, 1944, and someday a new year 1957 would come; 1957 of the Atomic Era, acknowledged as such by all the world.

A strange light shone on his head as thoughts passed through his more-than-human mind and the shadow of Ahriman on the wall seemed to have small horns at either temple.

THE FUN THEY HAD

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Margie even wrote about it that night in her diary. On the page headed May 17, 2157, she wrote, "Today Tommy found a real book!"

It was a very old book. Margie's grandfather once said that when he was a little boy his grandfather told him that there was a time when all stories were printed on paper.

They turned the pages, which were yellow and crinkly, and it was awfully funny to read words that stood still instead of moving the way they were supposed to-on a screen, you know. And then, when they turned back to the page before, it had the same words on it that it had had when they read it the first time.

"Gee," said Tommy, "what a waste. When you're through with the book, you just throw it away, I guess. Our television screen must have had a million books on it and it's good for plenty more. I wouldn't throw it away."

"Same with mine," said Margie. She was eleven and hadn't seen as many telebooks as Tommy had. He was thirteen.

She said, "Where did you find it?"

"In my house." He pointed without looking, because he was busy reading. "In the attic."

"What's it about?"

"School."

Margie was scornful. "School? What's there to write about school? I hate school."

Margie always hated school, but now she hated it more than ever. The mechanical teacher had been giving her test after test in geography and she had been doing worse and worse until her mother had shaken her head sorrowfully and sent for the County Inspector.

He was a round little man with a red face and a whole box of tools with dials and wires. He smiled at Margie and gave her an apple, then took the teacher apart. Margie had hoped he wouldn't know how to put it together again, but he knew how all right, and, after an hour or so, there it was again, large and black and ugly, with a big screen on which all the lessons were shown and the questions were asked. That wasn't so bad. The part Margie hated most was the slot where she had to put homework and test papers. She always had to write them out in a punch code they made her learn when she was six years old, and the mechanical teacher calculated the mark in no time.

The Inspector had smiled after he was finished and patted Margie's head. He said to her mother, "It's not the little girl's fault, Mrs. Jones. I think the geography sector was geared a little too quick. Those things happen sometimes. I've slowed it up to an average

ten-year level. Actually, the over-all pattern of her progress is quite satisfactory." And he patted Margie's head again.

Margie was disappointed. She had been hoping they would take the teacher away altogether. They had once taken Tommy's teacher away for nearly a month because the history sector had blanked out completely.

So she said to Tommy, "Why would anyone write about school?"

Tommy looked at her with very superior eyes. "Because it's not our kind of school, stupid. This is the old kind of school that they had hundreds and hundreds of years ago." He added loftily, pronouncing the word carefully, "Centuries ago."

Margie was hurt. "Well, I don't know what kind of school they had all that time ago." She read the book over his shoulder for a while, then said, "Anyway, they had a teacher."

"Sure they had a teacher, but it wasn't a regular teacher. It was a man."

"A man? How could a man be a teacher?"

"Well, he just told the boys and girls things and gave them homework and asked them questions."

"A man isn't smart enough."

"Sure he is. My father knows as much as my teacher."

"He can't. A man can't know as much as a teacher."

"He knows almost as much, I betcha."

Margie wasn't prepared to dispute that. She said, "I wouldn't want a strange man in my house to teach me."

Tommy screamed with laughter. "You don't know much, Margie. The teachers didn't live in the house. They had a special building and all the kids went there."

"And all the kids learned the same thing?"

"Sure, if they were the same age."

"But my mother says a teacher has to be adjusted to fit the mind of each boy and girl it teaches and that each kid has to be taught differently."

"Just the same they didn't do it that way then. If you don't like it, you don't have to read the book."

"I didn't say I didn't like it," Margie said quickly. She wanted to read about those funny schools.

They weren't even half-finished when Margie's mother called, "Margie! School!"

Margie looked up. "Not yet, Mamma."

"Now!" said Mrs. Jones. "And it's probably time for Tommy, too."

Margie said to Tommy, "Can I read the book some more with you after school?"

"Maybe," he said nonchalantly. He walked away whistling, the dusty old book tucked beneath his arm.

Margie went into the schoolroom. It was right next to her bedroom, and the mechanical teacher was on and waiting for her. It was always on at the same time every day except Saturday and Sunday, because her mother said little girls learned better if they learned at regular hours.

The screen was lit up, and it said: "Today's arithmetic lesson is on the addition of proper fractions. Please insert yesterday's homework in the proper slot."

Margie did so with a sigh. She was thinking about the old schools they had when her grandfather's grandfather was a little boy. All the kids from the whole neighborhood came, laughing and shouting in the schoolyard, sitting together in the schoolroom, going home together at the end of the day. They learned the same things, so they could help one another on the homework and talk about it.

And the teachers were people. . .

The mechanical teacher was flashing on the screen: "When we add the fractions $\frac{1}{2}$ and $\frac{1}{3}$ -"

Margie was thinking about how the kids must have loved it in the old days. She was thinking about the fun they had.

JOKESTER

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Noel Meyerhof consulted the list he had prepared and chose which item was to be first. As usual, he relied mainly on intuition.

He was dwarfed by the machine he faced, though only the smallest portion of the latter was in view. That didn't matter. He spoke with the offhand confidence of one who thoroughly knew he was master.

"Johnson," he said, "came home unexpectedly from a business trip to find his wife in the arms of his best friend. He staggered back and said, 'Max! I'm married to the lady so I have to. But why you?' "

Meyerhof thought: Okay, let that trickle down into its guts and gurgle about a bit. And a voice behind him said, "Hey."

Meyerhof erased the sound of that monosyllable and put the circuit he was using into neutral. He whirled and said, "I'm working. Don't you knock?"

He did not smile as he customarily did in greeting Timothy Whistler, a senior analyst with whom he dealt as often as with any. He frowned as he would have for an interruption by a stranger, wrinkling his thin face into a distortion that seemed to extend to his hair, rumpling it more than ever.

Whistler shrugged. He wore his white lab coat with his fists pressing down within its pockets and creasing it into tense vertical lines. "I knocked. You didn't answer. The operations signal wasn't on."

Meyerhof grunted. It wasn't at that. He'd been thinking about this new project too intensively and he was forgetting little details.

And yet he could scarcely blame himself for that. This thing was important.

He didn't know why it was, of course. Grand Masters rarely did. That's what made them Grand Masters; the fact that they were beyond reason. How else could the human mind keep up with that ten-mile-long lump of solidified reason that men called Multivac, the most complex computer ever built?

Meyerhof said, "I am working. Is there something important on your mind?"

"Nothing that can't be postponed. There are a few holes in the answer on the hyperspatial-" Whistler did a double take and his face took on a rueful look of uncertainty. "Working?"

"Yes. What about it?"

"But-" He looked about, staring into the crannies of the shallow room that faced the banks upon banks of relays that formed a small portion of Multivac. "There isn't anyone here at that."

"Who said there was, or should be?"

"You were telling one of your jokes, weren't you?"

"And?"

Whistler forced a smile. "Don't tell me you were telling a joke to Multivac?"

Meyerhof stiffened. "Why not?"

"Were you?"

"Yes."

"Why?"

Meyerhof stared the other down. "I don't have to account to you. Or to anyone."

"Good Lord, of course not. I was curious, that's all. . . . But then, if you're working, I'll leave." He looked about once more, frowning.

"Do so," said Meyerhof. His eyes followed the other out and then he activated the operations signal with a savage punch of his finger.

He strode the length of the room and back, getting himself in hand. Damn Whistler! Damn them all! Because he didn't bother to hold those technicians, analysts and mechanics at the proper social distance, because he treated them as though they, too, were creative artists, they took these liberties.

He thought grimly: They can't even tell jokes decently.

And instantly that brought him back to the task in hand. He sat down again. Devil take them all.

He threw the proper Multivac circuit back into operation and said, "The ship's steward stopped at the rail of the ship during a particularly rough ocean crossing and gazed compassionately at the man whose slumped position over the rail and whose intensity of gaze toward the depths betokened all too well the ravages of seasickness.

"Gentry, the steward patted the man's shoulder. 'Cheer up, sir,' he murmured. 'I know it seems bad, but really, you know, nobody ever dies of seasickness.'

"The afflicted gentleman lifted his greenish, tortured face to his comforter and gasped in hoarse accents, 'Don't say that, man. For Heaven's sake, don't say that. It's only the hope of dying that's keeping me alive.' "

Timothy Whistler, a bit preoccupied, nevertheless smiled and nodded as he passed the secretary's desk. She smiled back at him.

Here, he thought, was an archaic item in this computer-ridden world of the twenty-first century, a human secretary. But then perhaps it was natural that such an institution should survive here in the very citadel of computerdom; in the gigantic world corporation that handled Multivac. With Multivac filling the horizons, lesser computers for trivial tasks would have been in poor taste.

Whistler stepped into Abram Trask's office. That government official paused in his careful task of lighting a pipe; his dark eyes flicked in Whistler's direction and his beaked nose stood out sharply and prominently against the rectangle of window behind him.

"Ah, there, Whistler. Sit down. Sit down."

Whistler did so. "I think we've got a problem, Trask."

Trask half-smiled. "Not a technical one, I hope. I'm just an innocent politician." (It was one of his favorite phrases.)

"It involves Meyerhof."

Trask sat down instantly and looked acutely miserable. "Are you sure?"

"Reasonably sure."

Whistler understood the other's sudden unhappiness well. Trask was the government official in charge of the Division of Computers and Automation of the Department of the Interior. He was expected to deal with matters of policy involving the human satellites of Multivac, just as those technically trained satellites were expected to deal with Multivac itself.

But a Grand Master was more than just a satellite. More, even, than just a human.

Early in the history of Multivac, it had become apparent that the bottleneck was the questioning procedure. Multivac could answer the problem of humanity, all the problems, if-if it were asked meaningful questions. But as knowledge accumulated at an ever-faster rate, it became ever more difficult to locate those meaningful questions.

Reason alone wouldn't do. What was needed was a rare type of intuition; the same faculty of mind (only much more intensified) that made a grand master at chess. A mind was needed of the sort that could see through the quadrillions of chess patterns to find the one best move, and do it in a matter of minutes.

Trask moved restlessly. "What's Meyerhof been doing?"

"He's introduced a line of questioning that I find disturbing."

"Oh, come on, Whistler. Is that all? You can't stop a Grand Master from going through any line of questioning he chooses. Neither you nor I are equipped to judge the worth of his questions. You know that. I know you know that."

"I do. Of course. But I also know Meyerhof. Have you ever met him socially?"

"Good Lord, no. Does anyone meet any Grand Master socially?"

"Don't take that attitude, Trask. They're human and they're to be pitied. Have you ever thought what it must be like to be a Grand Master; to know there are only some twelve like you in the world; to know that only one or two come up per generation; that the world depends on you; that a thousand mathematicians, logicians, psychologists and physical scientists wait on you?"

Trask shrugged and muttered, "Good Lord, I'd feel king of the world."

"I don't think you would," said the senior analyst impatiently. "They feel kings of nothing. They have no equal to talk to, no sensation of belonging. Listen, Meyerhof never misses a chance to get together with the boys. He isn't married, naturally; he doesn't drink; he has no natural social touch-yet he forces himself into company because he must. And do you know what he does when he gets together with us, and that's at least once a week?"

"I haven't the least idea," said the government man. "This is all new to me."

"He's a jokester."

"What?"

"He tells jokes. Good ones. He's terrific. He can take any story, however old and dull, and make it sound good. It's the way he tells it. He has a flair."

"I see. Well, good."

"Or bad. These jokes are important to him." Whistler put both elbows on Trask's desk, bit at a thumbnail and stared into the air. "He's different, he knows he's different and these jokes are the one way he feels he can get the rest of us ordinary schemes to accept him. We laugh, we howl, we clap him on the back and even forget he's a Grand Master. It's the only hold he has on the rest of us."

"This is all interesting. I didn't know you were such a psychologist. Still, where does this lead?"

"Just this. What do you suppose happens if Meyerhof runs out of jokes?"

"What?" The government man stared blankly.

"If he starts repeating himself? If his audience starts laughing less heartily, or stops laughing altogether? It's his only hold on our approval. Without it, he'll be alone and then what would happen to him? After all, Trask, he's one of the dozen men mankind can't do without. We can't let anything happen to him. I don't mean just physical things. We can't even let him get too unhappy. Who knows how that might affect his intuition?"

"Well, has he started repeating himself?"

"Not as far as I know, but I think he thinks he has."

"Why do you say that?"

"Because I've heard him telling jokes to Multivac."

"Oh, no."

"Accidentally! I walked in on him and he threw me out. He was savage. He's usually good-natured enough, and I consider it a bad sign that he was so upset at the intrusion. But the fact remains that he was telling a joke to Multivac, and I'm convinced it was one of a series."

"But why?"

Whistler shrugged and rubbed a hand fiercely across his chin. "I have a thought about that. I think he's trying to build up a store of jokes in Multivac's memory banks in order to get back new variations. You see what I mean? He's planning a mechanical jokester, so that he can have an infinite number of jokes at hand and never fear running out."

"Good Lord!"

"Objectively, there may be nothing wrong with that, but I consider it a bad sign when a Grand Master starts using Multivac for his personal problems. Any Grand Master has a certain inherent mental instability and he should be watched. Meyerhof may be approaching a borderline beyond which we lose a Grand Master."

Trask said blankly, "What are you suggesting I do?"

"You can check me. I'm too close to him to judge well, maybe, and judging humans isn't my particular talent, anyway. You're a politician; it's more your talent."

"Judging humans, perhaps, not Grand Masters."

"They're human, too. Besides, who else is to do it?"

The fingers of Trask's hand struck his desk in rapid succession over and over like a slow and muted roll of drums.

"I suppose I'll have to," he said.

Meyerhof said to Multivac, "The ardent swain, picking a bouquet of wildflowers for his loved one, was disconcerted to find himself, suddenly, in the same field with a large bull of unfriendly appearance which, gazing at him steadily, pawed the ground in a threatening manner. The young man, spying a farmer on the other side of a fairly distant fence, shouted, 'Hey, mister, is that bull safe?' The farmer surveyed the situation with critical eye, spat to one side and called back, 'He's safe as anything.' He spat again, and added, 'Can't say the same about you, though'."

Meyerhof was about to pass on to the next when the summons came.

It wasn't really a summons. No one could summon a Grand Master. It was only a message that Division Head Trask would like very much to see Grand Master Meyerhof if Grand Master Meyerhof could spare him the time.

Meyerhof might, with impunity, have tossed the message to one side and continued with whatever he was doing. He was not subject to discipline.

On the other hand, were he to do that, they would continue to bother him-oh, very respectfully, but they would continue to bother him.

So he neutralized the pertinent circuits of Multivac and locked them into place. He put the freeze signal on his office so that no one would dare enter in his absence and left for Trask's office.

Trask coughed and felt a bit intimidated by the sullen fierceness of the other's look. He said, "We have not had occasion to know one another, Grand Master, to my great regret."

"I have reported to you," said Meyerhof stiffly.

Trask wondered what lay behind those keen, wild eyes. It was difficult for him to imagine Meyerhof with his thin face, his dark, straight hair, his intense air, even unbending long enough to tell funny stories.

He said, "Reports are not social acquaintance. I-I have been given to understand you have a marvelous fund of anecdotes."

"I am a jokester, sir. That's the phrase people use. A jokester."

"They haven't used the phrase to me, Grand Master. They have said-"

"The hell with them! I don't care what they've said. See here, Trask, do you want to hear a joke?" He leaned forward across the desk, his eyes narrowed.

"By all means. Certainly," said Trask, with an effort at heartiness.

"All right. Here's the joke: Mrs. Jones stared at the fortune card that had emerged from the weighing machine in response to her husband's penny. She said, 'It says here, George, that you're suave, intelligent, farseeing, industrious and attractive to women.' With that, she turned the card over and added, 'And they have your weight wrong, too.' "

Trask laughed. It was almost impossible not to. Although the punch line was predictable, the surprising facility with which Meyerhof had produced just the tone of contemptuous disdain in the woman's voice, and the cleverness with which he had contorted the lines of his face to suit that tone carried the politician helplessly into laughter.

Meyerhof said sharply, "Why is that funny?"

Trask sobered. "I beg your pardon."

"I said, why is that funny? Why do you laugh?"

"Well," said Trask, trying to be reasonable, "the last line put every thing that preceded in a new light. The unexpectedness-"

"The point is," said Meyerhof, "that I have pictured a husband being humiliated by his wife; a marriage that is such a failure that the wife is convinced that her husband lacks any virtue. Yet you laugh at that. If you were the husband, would you find it funny?"

He waited a moment in thought, then said, "Try this one, Trask Abner was seated at his wife's sickbed, weeping uncontrollably, when his wife, mustering the dregs of her strength, drew herself up to one elbow.

" 'Abner,' she whispered, 'Abner, I cannot go to my Maker without confessing my misdeed.'

" 'Not now,' muttered the stricken husband. 'Not now, my dear. Lie back and rest.'

" 'I cannot,' she cried. 'I must tell, or my soul will never know peace. I have been unfaithful to you, Abner. In this very house, not one month ago-'

" 'Hush, dear,' soothed Abner. 'I know all about it. Why else have I poisoned you?'

"

Trask tried desperately to maintain equanimity but did not entirely succeed. He suppressed a chuckle imperfectly.

Meyerhof said, "So that's funny, too. Adultery. Murder. All funny."

"Well, now," said Trask, "books have been written analyzing humor."

"True enough," said Meyerhof, "and I've read a number of them. What's more, I've read most of them to Multivac. Still, the people who write the books are just guessing. Some of them say we laugh because we feel superior to the people in the joke. Some say it is because of a suddenly realized incongruity, or a sudden relief from tension, or a sudden reinterpretation of events. Is there any simple reason? Different people laugh at different jokes. No joke is universal. Some people don't laugh at any joke. Yet what may be most important is that man is the only animal with a true sense of humor, the only animal that laughs."

Trask said suddenly, "I understand. You're trying to analyze humor. That's why you're transmitting a series of jokes to Multivac."

"Who told you I was doing that? . . . Never mind, it was Whistler. I remember, now. He surprised me at it. Well, what about it?"

"Nothing at all."

"You don't dispute my right to add anything I wish to Multivac's general fund of knowledge, or to ask any question I wish?"

"No, not at all," said Trask hastily. "As a matter of fact, I have no doubt that this will open the way to new analyses of great interest to psychologists."

"Hmp. Maybe. Just the same there's something plaguing me that's more important than just the general analysis of humor. There's a specific question I have to ask. Two of them, really."

"Oh? What's that?" Trask wondered if the other would answer. There would be no way of compelling him if he chose not to.

But Meyerhof said, "The first question is this: Where do all these jokes come from?"

"What?"

"Who makes them up? Listen! About a month ago, I spent an evening swapping jokes. As usual, I told most of them and, as usual, the fools laughed. Maybe they really thought the jokes were funny and maybe they were just humoring me. In any case, one creature took the liberty of slapping me on the back and saying, 'Meyerhof, you know more jokes than any ten people I know.'

"I'm sure he was right, but it gave rise to a thought. I don't know how many hundreds, or perhaps thousands, of jokes I've told at one time or another in my life, yet the fact is I never made up one. Not one. I'd only repeated them. My only contribution was to tell them. To begin with, I'd either heard them or read them. And the source of my hearing or reading didn't make up the jokes, either. I never met anyone who ever claimed to have constructed a joke. It's always 'I heard a good one the other day,' and 'Heard any good ones lately?'

"All the jokes are old! That's why jokes exhibit such a social lag. They still deal with seasickness, for instance, when that's easily prevented these days and never experienced. Or they'll deal with fortune-giving weighing machines, like the joke I told you, when such machines are found only in antique shops. Well, then, who makes up the jokes?"

Trask said, "Is that what you're trying to find out?" It was on the tip of Trask's tongue to add: Good Lord, who cares? He forced that impulse down. A Grand Master's questions were always meaningful.

"Of course that's what I'm trying to find out. Think of it this way. It's not just that jokes happen to be old. They must be old to be enjoyed. It's essential that a joke not be original. There's one variety of humor that is, or can be, original and that's the pun. I've heard puns that were obviously made up on the spur of the moment. I have made some up myself. But no one laughs at such puns. You're not supposed to. You groan. The better the pun, the louder the groan. Original humor is not laugh-provoking. Why?"

"I'm sure I don't know."

"All right. Let's find out. Having given Multivac all the information I thought advisable on the general topic of humor, I am now feeding it selected jokes."

Trask found himself intrigued. "Selected how?" he asked.

"I don't know," said Meyerhof. "They felt like the right ones. I'm Grand Master, you know."

"Oh, agreed. Agreed."

"From those jokes and the general philosophy of humor, my first request will be for Multivac to trace the origin of the jokes, if it can. Since Whistler is in on this and since he has seen fit to report it to you, have him down in Analysis day after tomorrow. I think he'll have a bit of work to do."

"Certainly. May I attend, too?"

Meyerhof shrugged. Trask's attendance was obviously a matter of indifference to him.

"Meyerhof had selected the last in the series with particular care. What that care consisted of, he could not have said, but he had revolved a dozen possibilities in his mind, and over and over again had tested each for some indefinable quality of meaningfulness.

He said, "Ug, the caveman, observed his mate running to him in tears, her leopard-skin skirt in disorder. 'Ug,' she cried, distraught, 'do something quickly. A saber-toothed tiger has entered Mother's cave. Do something!' Ug grunted, picked up his well-gnawed buffalo bone and said, 'Why do anything? Who the hell cares what happens to a saber-toothed tiger?' "

It was then that Meyerhof asked his two questions and leaned back, closing his eyes. He was done.

"I saw absolutely nothing wrong," said Trask to Whistler. "He told me what he was doing readily enough and it was odd but legitimate."

"What he claimed he was doing," said Whistler.

"Even so, I can't stop a Grand Master on opinion alone. He seemed queer but, after all, Grand Masters are supposed to seem queer. I didn't think him insane."

"Using Multivac to find the source of jokes?" muttered the senior analyst in discontent. "That's not insane?"

"How can we tell?" asked Trask irritably. "Science has advanced to the point where the only meaningful questions left are the ridiculous ones. The sensible ones have been thought of, asked and answered long ago."

"It's no use. I'm bothered."

"Maybe, but there's no choice now, Whistler. We'll see Meyerhof and you can do the necessary analysis of Multivac's response, if any. As for me, my only job is to handle the red tape. Good Lord, I don't even know what a senior analyst such as yourself is supposed to do, except analyze, and that doesn't help me any."

Whistler said, "It's simple enough. A Grand Master like Meyerhof asks questions and Multivac automatically formulates it into quantities and operations. The necessary machinery for converting words to symbols is what makes up most of the bulk of Multivac. Multivac then gives the answer in quantities and operations, but it doesn't translate that back into words except in the most simple and routine cases. If it were designed to solve the general retranslation problem, its bulk would have to be quadrupled at least."

"I see. Then it's your job to translate these symbols into words?"

"My job and that of other analysts. We use smaller, specially designed computers whenever necessary." Whistler smiled grimly. "Like the Delphic priestess of ancient Greece, Multivac gives oracular and obscure answers. Only we have translators, you see."

They had arrived. Meyerhof was waiting.

Whistler said briskly, "What circuits did you use, Grand Master?" Meyerhof told him and Whistler went to work.

Trask tried to follow what was happening, but none of it made sense. The government official watched a spool unreel with a pattern of dots in endless incomprehensibility. Grand Master Meyerhof stood indifferently to one side while Whistler surveyed the pattern as it emerged. The analyst had put on headphones and a mouthpiece and at intervals murmured a series of instructions which, at some far-off place, guided assistants through electronic contortions in other computers.

Occasionally, Whistler listened, then punched combinations on a complex keyboard marked with symbols that looked vaguely mathematical but weren't.

A good deal more than an hour's time elapsed.

The frown on Whistler's face grew deeper. Once, he looked up at the two others and began, "This is unbel-" and turned back to his work.

Finally, he said hoarsely, "I can give you an unofficial answer." His eyes were red-rimmed. "The official answer awaits complete analysis. Do you want it unofficial?"

"Go ahead," said Meyerhof.

Trask nodded.

Whistler darted a hangdog glance at the Grand Master. "Ask a foolish question-" he said. Then, gruffly, "Multivac says, extraterrestrial origin."

"What are you saying?" demanded Trask.

"Don't you hear me? The jokes we laugh at were not made up by any man. Multivac has analyzed all data given it and the one answer that best fits that data is that some extraterrestrial intelligence has composed the jokes, all of them, and placed them in selected human minds at selected times and places in such a way that no man is conscious of having made one up. All subsequent jokes are minor variations and adaptations of these grand originals."

Meyerhof broke in, face flushed with the kind of triumph only a Grand Master can know who once again has asked the right question. "All comedy writers," he said, "work by twisting old jokes to new purposes. That's well known. The answer fits."

"But why?" asked Trask. "Why make up the jokes?"

"Multivac says," said Whistler, "that the only purpose that fits all the data is that the jokes are intended to study human psychology. We study rat psychology by making the rats solve mazes. The rats don't know why and wouldn't even if they were aware of what was going on, which they're not. These outer intelligences study man's psychology by noting individual reactions to carefully selected anecdotes. Each man reacts differently. . . Presumably, these outer intelligences are to us as we are to rats." He shuddered.

Trask, eyes staring, said, "The Grand Master said man is the only animal with a sense of humor. It would seem then that the sense of humor is foisted upon us from without."

Meyerhof added excitedly, "And for possible humor created from within, we have no laughter. Puns, I mean."

Whistler said, "Presumably, the extraterrestrials cancel out reactions to spontaneous jokes to avoid confusion."

Trask said in sudden agony of spirit, "Come on, now, Good Lord, do either of you believe this?"

The senior analyst looked at him coldly. "Multivac says so. It's all that can be said so far. It has pointed out the real jokesters of the universe, and if we want to know more, the matter will have to be followed up." He added in a whisper, "If anyone dares follow it up."

Grand Master Meyerhof said suddenly, "I asked two questions, you know. So far only the first has been answered. I think Multivac has enough data to answer the second."

Whistler shrugged. He seemed a half-broken man. "When a Grand Master thinks there is enough data," he said, "I'll make book on it. What is your second question?"

"I asked this. What will be the effect on the human race of discovering the answer to my first question?"

"Why did you ask that?" demanded Trask.

"Just a feeling that it had to be asked," said Meyerhof.

Trask said, "Insane. It's all insane," and turned away. Even he himself felt how strangely he and Whistler had changed sides. Now it was Trask crying insanity.

Trask closed his eyes. He might cry insanity all he wished, but no man in fifty years had doubted the combination of a Grand Master and Multivac and found his doubts verified.

Whistler worked silently, teeth clenched. He put Multivac and its subsidiary machines through their paces again. Another hour passed and he laughed harshly. "A raving nightmare!"

"What's the answer?" asked Meyerhof. "I want Multivac's remarks, not yours."

"All right. Take it. Multivac states that, once even a single human discovers the truth of this method of psychological analysis of the human mind, it will become useless as an objective technique to those extraterrestrial powers now using it."

"You mean there won't be any more jokes handed out to humanity?" asked Trask faintly. "Or what do you mean?"

"No more jokes," said Whistler, "now! Multivac says now! The experiment is ended now! A new technique will have to be introduced."

They stared at each other. The minutes passed.

Meyerhof said slowly, "Multivac is right."

Whistler said haggardly, "I know."

Even Trask said in a whisper, "Yes. It must be."

It was Meyerhof who put his finger on the proof of it, Meyerhof the accomplished jokester. He said, "It's over, you know, all over. I've been trying for five minutes now and I can't think of one single joke, not one! And if I read one in a book, I wouldn't laugh. I know."

"The gift of humor is gone," said Trask drearily. "No man will ever laugh again."

And they remained there, staring, feeling the world shrink down to the dimensions of an experimental rat cage-with the maze removed and something, something about to be put in its place.

THE IMMORTAL BARD

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"Oh, yes," said Dr. Phineas Welch, "I can bring back the spirits of the illustrious dead."

He was a little drunk, or maybe he wouldn't have said it. Of course, it was perfectly all right to get a little drunk at the annual Christmas party.

Scott Robertson, the school's young English instructor, adjusted his glasses and looked to right and left to see if they were overheard. "Really, Dr. Welch."

"I mean it. And not just the spirits. I bring back the bodies, too."

"I wouldn't have said it were possible," said Robertson primly.

"Why not? A simple matter of temporal transference."

"You mean time travel? But that's quite-uh-unusual."

"Not if you know how."

"Well, how, Dr. Welch?"

"Think I'm going to tell you?" asked the physicist gravely. He looked vaguely about for another drink and didn't find any. He said, "I brought quite a few back. Archimedes, Newton, Galileo. Poor fellows."

"Didn't they like it here? I should think they'd have been fascinated by our modern science," said Robertson. He was beginning to enjoy the conversation.

"Oh, they were. They were. Especially Archimedes. I thought he'd go mad with joy at first after I explained a little of it in some Greek I'd boned up on, but no-no-

"What was wrong?"

"Just a different culture. They couldn't get used to our way of life. They got terribly lonely and frightened. I had to send them back."

"That's too bad."

"Yes. Great minds, but not flexible minds. Not universal. So I tried Shakespeare."

"What?" yelled Robertson. This was getting closer to home.

"Don't yell, my boy," said Welch. "It's bad manners."

"Did you say you brought back Shakespeare?"

"I did. I needed someone with a universal mind; someone who knew people well enough to be able to live with them centuries way from his own time. Shakespeare was the man. I've got his signature. As a memento, you know."

"On you?" asked Robertson, eyes bugging.

"Right here." Welch fumbled in one vest pocket after another. "Ah, here it is."

A little piece of pasteboard was passed to the instructor. On one side it said: "L. Klein & Sons, Wholesale Hardware." On the other side, in straggly script, was written, "William Shakespeare."

A wild surmise filled Robertson. "What did he look like?"

"Not like his pictures. Bald and an ugly mustache. He spoke in a thick brogue. Of course, I did my best to please him with our times. I told him we thought highly of his plays and still put them on the boards. In fact, I said we thought they were the greatest pieces of literature in the English language, maybe in any language."

"Good. Good," said Robertson breathlessly.

"I said people had written volumes of commentaries on his plays. Naturally he wanted to see one and I got one for him from the library."

"And?"

"Oh, he was fascinated. Of course, he had trouble with the current idioms and references to events since 1600, but I helped out. Poor fellow. I don't think he ever expected such treatment. He kept saying, 'God ha' mercy! What cannot be racked from words in five centuries? One could wring, methinks, a flood from a damp clout!' "

"He wouldn't say that."

"Why not? He wrote his plays as quickly as he could. He said he had to on account of the deadlines. He wrote Hamlet in less than six months. The plot was an old one. He just polished it up."

"That's all they do to a telescope mirror. Just polish it up," said the English instructor indignantly.

The physicist disregarded him. He made out an untouched cocktail on the bar some feet away and sidled toward it. "I told the immortal bard that we even gave college courses in Shakespeare."

"I give one."

"I know. I enrolled him in your evening extension course. I never saw a man so eager to find out what posterity thought of him as poor Bill was. He worked hard at it."

"You enrolled William Shakespeare in my course?" mumbled Robertson. Even as an alcoholic fantasy, the thought staggered him. And was it an alcoholic fantasy? He was beginning to recall a bald man with a queer way of talking. . . .

"Not under his real name, of course," said Dr. Welch. "Never mind what he went under. It was a mistake, that's all. A big mistake. Poor fellow." He had the cocktail now and shook his head at it.

"Why was it a mistake? What happened?"

"I had to send him back to 1600," roared Welch indignantly. "How much humiliation do you think a man can stand?"

"What humiliation are you talking about?"

Dr. Welch tossed off the cocktail. "Why, you poor simpleton, you flunked him."

THE AUTHOR'S ORDEAL

(WITH APOLOGIES TO W. S. GILBERT)

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Plots, helter-skelter, teem within your brain; Plots, s.f. plots, devised with joy and gladness; Plots crowd your skull and stubbornly remain, Until you're driven into hopeless madness.

When you're with your best girl and your mind's in a whirl and you don't hear a thing that she's saying; Or at Symphony Hall you are gone past recall and you can't tell a note that they're playing; Or you're driving a car and have not gone too far when you find that you've sped through a red light, And on top of that, lord! you have sideswiped a Ford, and have broken your one working headlight; Or your boss slaps your back (having made some smart crack) and you stare at him, stupidly blinking; Then you say something dumb so he's sure you're a crumb, and are possibly given to drinking.

When events such as that have been knocking you flat, do not blame supernatural forces; If you write s.f. tales, you'll be knocked off your rails, just as sure as the stars in their courses.

For your plot-making mind will stay deaf, dumb and blind to the dull facts of life that will hound you, While the wonders of space have you close in embrace and the glory of star beams surround you.

You begin with a ship that is caught on a skip into hyperspace en route for Castor, And has found to its cost that it seems to be lost in a Galaxy like ours, but vaster. You're a little perplexed as to what may come next and you make up a series of creatures Who are villains and liars with such evil desires and with perfectly horrible features. Our brave heroes are faced with these hordes and are placed in a terribly crucial position, For the enemy's bound (once our Galaxy's found) that they'll beat mankind into submission. Now you must make it rough when developing stuff so's to keep the yarn pulsing with tension, So the Earthmen are four (only four and no more) while the numbers of foes are past mention.

Our four heroes are caught and accordingly brought to the sneering, tyrannical leaders. "Where is Earth?" they demand, but the men mutely stand with a courage that pleases the readers.

But, now, wait just a bit; let's see, this isn't it, since you haven't provided a maiden, Who is both good and pure (yet with sexy allure) and with not many clothes overladen. She is part of the crew, and so she's captured, too, and is ogled by foes who are lustful; There's desire in each eye and there's good reason why, for of beauty our girl has a bustful. Just the same you go fast till this section is passed so the reader won't raise any

ruction, When recalling the foe are all reptiles and so have no interest in human seduction. Then they truss up the girl and they make the whips swirl just in order to break Earthmen's silence, And so that's when our men break their handcuffs and then we are treated to scenes full of violence. Every hero from Earth is a fighter from birth and his fists are a match for a dozen, And then just when this spot has been reached in your plot you come to with your mind all a buzzin'.

You don't know where you are, or the site of your car, and your tie is askew and you haven't a clue of the time of the day or of what people say or the fact that they stare at your socks (not a pair) and decide it's a fad, or else that you're mad, which is just a surmise from the gleam in your eyes, till at last they conclude from your general mood, you'll be mad from right now till you're hoary.

But the torture is done and it's now for the fun and the paper that's white and the words that are right, for you've worked up a new s.f. story.

DREAMING IS A PRIVATE THING

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Jesse Weill looked up from his desk. His old, spare body, his sharp, high-bridged nose, deep-set, shadowy eyes and amazing shock of white hair had trademarked his appearance during the years that Dreams, Inc., had become world-famous.

He said, "Is the boy here already, Joe?"

Joe Dooley was short and heavy-set. A cigar caressed his moist lower lip. He took it away for a moment and nodded. "His folks are with him. They're all scared."

"You're sure this is not a false alarm, Joe? I haven't got much time." He looked at his watch. "Government business at two."

"This is a sure thing, Mr. Weill." Dooley's face was a study in earnestness. His jowls quivered with persuasive intensity. "Like I told you, I picked him up playing some kind of basketball game in the schoolyard. You should've seen the kid. He stunk. When he had his hands on the ball, his own team had to take it away, and fast, but just the same he had all the stance of a star player. Know what I mean? To me it was a giveaway."

"Did you talk to him?"

"Well, sure. I stopped him at lunch. You know me." Dooley gestured expansively with his cigar and caught the severed ash with his other hand. "Kid, I said-

"And he's dream material?"

"I said, 'Kid, I just came from Africa and-' "

"All right." Weill held up the palm of his hand. "Your word I'll always take. How you do it I don't know, but when you say a boy is a potential dreamer, I'll gamble. Bring him in."

The youngster came in between his parents. Dooley pushed chairs forward and Weill rose to shake hands. He smiled at the youngster in a way that turned the wrinkles of his face into benevolent creases.

"You're Tommy Slutsky?"

Tommy nodded wordlessly. He was about ten and a little small for that. His dark hair was plastered down unconvincingly and his face was unrealistically clean.

Weill said, "You're a good boy?"

The boy's mother smiled at once and patted Tommy's head maternally (a gesture which did not soften the anxious expression on the youngster's face). She said, "He's always a very good boy."

Weill let this dubious statement pass. "Tell me, Tommy," he said, and held out a lollipop which was first hesitated over, then accepted, "do you ever listen to dreams?"

"Sometimes," said Tommy trebly.

Mr. Slutsky cleared his throat. He was broad-shouldered and thick-fingered, the type of laboring man who, every once in a while, to the confusion of eugenics, sired a dreamer. "We rented one or two for the boy. Real old ones."

Weill nodded. He said, "Did you like them, Tommy?"

"They were sort of silly."

"You think up better ones for yourself, do you?"

The grin that spread over the ten-year-old face had the effect of taking away some of the unreality of the slicked hair and washed face.

Weill went on gently, "Would you like to make up a dream for me?"

Tommy was instantly embarrassed. "I guess not."

"It won't be hard. It's very easy. . . Joe."

Dooley moved a screen out of the way and rolled forward a dream recorder.

The youngster looked owlishly at it.

Weill lifted the helmet and brought it close to the boy. "Do you know what this is?"

Tommy shrank away. "No."

"It's a thinker. That's what we call it because people think into it. You put it on your head and think anything you want."

"Then what happens?"

"Nothing at all. It feels nice."

"No," said Tommy, "I guess I'd rather not."

His mother bent hurriedly toward him. "It won't hurt, Tommy. You do what the man says." There was an unmistakable edge to her voice.

Tommy stiffened, and looked as though he might cry but he didn't. Weill put the thinker on him.

He did it gently and slowly and let it remain there for some thirty seconds before speaking again, to let the boy assure himself it would do no harm, to let him get used to the insinuating touch of the fibrils against the sutures of his skull (penetrating the skin so finely as to be insensible almost), and finally to let him get used to the faint hum of the alternating field vortices.

Then he said, "Now would you think for us?"

"About what?" Only the boy's nose and mouth showed.

"About anything you want. What's the best thing you would like to do when school is out?"

The boy thought a moment and said, with rising inflection, "Go on a stratojet?"

"Why not? Sure thing. You go on a jet. It's taking off right now." He gestured lightly to Dooley, who threw the freezer into circuit.

Weill kept the boy only five minutes and then let him and his mother be escorted from the office by Dooley. Tommy looked bewildered but undamaged by the ordeal.

Weill said to the father, "Now, Mr. Slutsky, if your boy does well on this test, we'll be glad to pay you five hundred dollars each year until he finishes high school. In that time, all we'll ask is that he spend an hour a week some afternoon at our special school."

"Do I have to sign a paper?" Slutsky's voice was a bit hoarse.

"Certainly. This is business, Mr. Slutsky."

"Well, I don't know. Dreamers are hard to come by, I hear."

"They are. They are. But your son, Mr. Slutsky, is not a dreamer yet. He might never be. Five hundred dollars a year is a gamble for us. It's not a gamble for you. When he's finished high school, it may turn out he's not a dreamer, yet you've lost nothing. You've gained maybe four thousand dollars altogether. If he is a dreamer, he'll make a nice living and you certainly haven't lost then."

"He'll need special training, won't he?"

"Oh, yes, most intensive. But we don't have to worry about that till after he's finished high school. Then, after two years with us, he'll be developed. Rely on me, Mr. Slutsky."

"Will you guarantee that special training?"

Weill, who had been shoving a paper across the desk at Slutsky, and punching a pen wrong-end-to at him, put the pen down and chuckled. "A guarantee? No. How can we when we don't know for sure yet if he's a real talent? Still, the five hundred a year will stay yours."

Slutsky pondered and shook his head. "I tell you straight out, Mr. Weill . . . After your man arranged to have us come here, I called Luster-Think. They said they'll guarantee training."

Weill sighed. "Mr. Slutsky, I don't like to talk against a competitor. If they say they'll guarantee schooling, they'll do as they say, but they can't make a boy a dreamer if he hasn't got it in him, schooling or not. If they take a plain boy without the proper talent and put him through a development course, they'll ruin him. A dreamer he won't be, I guarantee you. And a normal human being, he won't be, either. Don't take the chance of doing it to your son."

"Now Dreams, Inc., will be perfectly honest with you. If he can be a dreamer, we'll make him one. If not, we'll give him back to you without having tampered with him and say, 'Let him learn a trade.' He'll be better and healthier that way. I tell you, Mr. Slutsky-I have sons and daughters and grandchildren so I know what I say-I would not allow a child of mine to be pushed into dreaming if he's not ready for it. Not for a million dollars."

Slutsky wiped his mouth with the back of his hand and reached for the Pin. "What does this say?"

"This is just an option. We pay you a hundred dollars in cash right now. No strings attached. We study the boy's reverie. If we feel it's worth following up, we'll call you in again and make the five-hundred-dollar-a-year deal. Leave yourself in my hands, Mr. Slutsky, and don't worry. You won't be sorry."

Slutsky signed.

Weill passed the document through the file slot and handed an envelope to Slutsky.

Five minutes later, alone in the office, he placed the unfreezer over his own head and absorbed the boy's reverie intently. It was a typically childish Saydream. First Person was at the controls of the plane, which looked like a Compound of illustrations out of the

filmed thrillers that still circulated among those who lacked the time, desire or money for dream cylinders.

When he removed the unfreezer, he found Dooley looking at him.

"Well, Mr. Weill, what do you think?" said Dooley, with an eager and proprietary air.

"Could be, Joe. Could be. He has the overtones and, for a ten-year-old boy without a scrap of training, it's hopeful. When the plane went through a cloud, there was a distinct sensation of pillows. Also the smell of clean Sheets, which was an amusing touch. We can go with him a ways, Joe."

"Good."

"But I tell you, Joe, what we really need is to catch them still sooner. And why not? Someday, Joe, every child will be tested at birth. A difference in the brain there positively must be and it should be found. Then we could Separate the dreamers at the very beginning."

"Hell, Mr. Weill," said Dooley, looking hurt. "What would happen to my job, then?"

Weill laughed. "No cause to worry yet, Joe. It won't happen in our lifetimes. In mine, certainly not. We'll be depending on good talent scouts like 5you for many years. You just watch the playgrounds and the streets", Weill's gnarled hand dropped to Dooley's shoulder with a gentle, approving pressure-"and find us a few more Hillarys and Janows and Luster -Think won't ever catch us. . . . Now get out. I want lunch and then I'll be ready for my two o'clock appointment. The government, Joe, the government." And he winked portentously.

Jesse Weill's two o'clock appointment was with a young man, apple-cheeked, spectacled, sandy-haired and glowing with the intensity of a man with a mission. He presented his credentials across Weill's desk and revealed himself to be John J. Byrne, an agent of the Department of Arts and Sciences.

"Good afternoon, Mr. Byrne," said Weill. "In what way can I be of service?"

"Are we private here?" asked the agent. He had an unexpected baritone.

"Quite private."

"Then, if you don't mind, I'll ask you to absorb this." Byrne produced a small and battered cylinder and held it out between thumb and forefinger.

Weill took it, hefted it, turned it this way and that and said with a denture-revealing smile, "Not the product of Dreams, Inc., Mr. Byrne."

"I didn't think it was," said the agent. "I'd still like you to absorb it. I'd set the automatic cutoff for about a minute, though."

"That's all that can be endured?" Weill pulled the receiver to his desk and placed the cylinder into the unfreeze compartment. He removed it, polished either end of the cylinder with his handkerchief and tried again. "It doesn't make good contact," he said. "An amateurish job."

He placed the cushioned unfreeze helmet over his skull and adjusted the temple contacts, then set the automatic cutoff. He leaned back and clasped his hands over his chest and began absorbing.

His fingers grew rigid and clutched at his jacket. After the cutoff had brought absorption to an end, he removed the unfreezer and looked faintly angry. "A raw piece," he said. "It's lucky I'm an old man so that such things no longer bother me."

Byrne said stiffly, "It's not the worst we've found. And the fad is increasing."

Weill shrugged. "Pornographic dreamies. It's a logical development, I suppose."

The government man said, "Logical or not, it represents a deadly danger for the moral fiber of the nation."

"The moral fiber," said Weill, "can take a lot of beating. Erotica of one form or another have been circulated all through history."

"Not like this, sir. A direct mind-to-mind stimulation is much more effective than smoking room stories or filthy pictures. Those must be filtered through the senses and lose some of their effect in that way."

Weill could scarcely argue that point. He said, "What would you have me do?"

"Can you suggest a possible source for this cylinder?"

"Mr. Byrne, I'm not a policeman."

"No, no, I'm not asking you to do our work for us. The Department is quite capable of conducting its own investigations. Can you help us, I mean, from your own specialized knowledge? You say your company did not put out that filth. Who did?"

"No reputable dream distributor. I'm sure of that. It's too cheaply made."

"That could have been done on purpose."

"And no professional dreamer originated it."

"Are you sure, Mr. Weill? Couldn't dreamers do this sort of thing for some small, illegitimate concern for money-or for fun?"

"They could, but not this particular one. No overtones. It's two-dimensional. Of course, a thing like this doesn't need overtones."

"What do you mean, overtones?"

Weill laughed gently. "You are not a dreamie fan?"

Byrne tried not to look virtuous and did not entirely succeed. "I prefer music."

"Well, that's all right, too," said Weill tolerantly, "but it makes it a little harder to explain overtones. Even people who absorb dreamies would not be able to explain if you asked them. Still they'd know a dreamie was no good if the overtones were missing, even if they couldn't tell you why. Look, when an experienced dreamer goes into reverie, he doesn't think a story like in the old-fashioned television or book films. It's a series of little visions. Each one has several meanings. If you studied them carefully, you'd find maybe five or six. While absorbing in the ordinary way, you would never notice, but careful study shows it. Believe me, my psychological staff puts in long hours on just that point. All the overtones, the different meanings, blend together into a mass of guided emotion. Without them, everything would be flat, tasteless."

"Now, this morning, I tested a young boy. A ten-year-old with possibilities. A cloud to him isn't a cloud, it's a pillow, too. Having the sensations of both, it was more than either. Of course, the boy's very primitive. But when he's through with his schooling, he'll be trained and disciplined. He'll be subjected to all sorts of sensations. He'll store up experience. He'll study and analyze classic dreamies of the past. He'll learn how to control and direct his thoughts, though, mind you, I have always said that when a good dreamer improvises-

Weill halted abruptly, then proceeded in less impassioned tones, "I shouldn't get excited. All I try to bring out now is that every professional dreamer has his own type of overtones which he can't mask. To an expert it's like signing his name on the dreamie. And I, Mr. Byrne, know all the signatures. Now that piece of dirt you brought me has no overtones at all. It was done by an ordinary person. A little talent, maybe, but like you and me, he really can't think."

Byrne reddened a trifle. "A lot of people can think, Mr. Weill, even if they don't make dreamies."

"Oh, tush," and Weill wagged his hand in the air. "Don't be angry with what an old man says. I don't mean think as in reason. I mean think as in dream. We all can dream after a fashion, just like we all can run. But can you and I run a mile in four minutes? You and I can talk, but are we Daniel Websters? Now when I think of a steak, I think of the word. Maybe I have a quick picture of a brown steak on a platter. Maybe you have a better pictorialization of it and you can see the crisp fat and the onions and the baked potato. I don't know. But a dreamer . . . He sees it and smells it and tastes it and everything about it, with the charcoal and the satisfied feeling in the stomach and the way the knife cuts through it and a hundred other things all at once. Very sensual. Very sensual. You and I can't do it."

"Well, then," said Byrne, "no professional dreamer has done this. That's something anyway." He put the cylinder in his inner jacket pocket. "I hope we'll have your full cooperation in squelching this sort of thing."

"Positively, Mr. Byrne. With a whole heart."

"I hope so." Byrne spoke with a consciousness of power. "It's not up to me, Mr. Weill, to say what will be done and what won't be done, but this sort of thing," he tapped the cylinder he had brought, "will make it awfully tempting to impose a really strict censorship on dreamies."

He rose. "Good day, Mr. Weill."

"Good day, Mr. Byrne. I'll hope always for the best."

Francis Belanger burst into Jesse Weill's office in his usual steaming tizzy, his reddish hair disordered and his face aglow with worry and a mild perspiration. He was brought up sharply by the sight of Weill's head cradled in the crook of his elbow and bent on the desk until only the glimmer of white hair was visible.

Belanger swallowed. "Boss?"

Weill's head lifted. "It's you, Frank?"

"What's the matter, boss? Are you sick?"

"I'm old enough to be sick, but I'm on my feet. Staggering, but on my feet. A government man was here."

"What did he want?"

"He threatens censorship. He brought a sample of what's going round. Cheap dreamies for bottle parties."

"God damn!" said Belanger feelingly.

"The only trouble is that morality makes for good campaign fodder. They'll be hitting out everywhere. And, to tell the truth, we're vulnerable, Frank."

"We are? Our stuff is clean. We play up straight adventure and romance."

Weill thrust out his lower lip and wrinkled his forehead. "Between us, Frank, we don't have to make believe. Clean? It depends on how you look at it. It's not for publication, maybe, but you know and I know that every dreamie has its Freudian connotations. You can't deny it."

"Sure, if you look for it. If you're a psychiatrist-"

"If you're an ordinary person, too. The ordinary observer doesn't know it's there and maybe he couldn't tell a phallic symbol from a mother image even if you pointed it out. Still, his subconscious knows. And it's the connotations that make many a dreamie click."

"All right, what's the government going to do? Clean up the subconscious?"

"It's a problem. I don't know what they're going to do. What we have on our side, and what I'm mainly depending on, is the fact that the public loves its dreamies and won't give them up. . . . Meanwhile, what did you come in for? You want to see me about something, I suppose?"

Belanger tossed an object onto Weill's desk and shoved his shirttail deeper into his trousers.

Weill broke open the glistening plastic cover and took out the enclosed cylinder. At one end was engraved in a too fancy script in pastel blue "Along the Himalayan Trail." It bore the mark of Luster-Think.

"The Competitor's Product." Weill said it with capitals, and his lips twitched. "It hasn't been published yet. Where did you get it, Frank?"

"Never mind. I just want you to absorb it."

Weill sighed. "Today, everyone wants me to absorb dreams. Frank, it's not dirty?"

Belanger said testily, "It has your Freudian symbols. Narrow crevasses between the mountain peaks. I hope that won't bother you."

"I'm an old man. It stopped bothering me years ago, but that other thing was so poorly done, it hurt. . . . All right, let's see what you've got here."

Again the recorder. Again the unfreezer over his skull and at the temples. This time, Weill rested back in his chair for fifteen minutes or more, while Francis Belanger went hurriedly through two cigarettes.

When Weill removed the headpiece and blinked dream out of his eyes, Belanger said, "Well, what's your reaction, boss?"

Weill corrugated his forehead. "It's not for me. It was repetitious. With competition like this, Dreams, Inc., doesn't have to worry for a while."

"That's your mistake, boss. Luster-Think's going to win with stuff like this. We've got to do something."

"Now, Frank-

"No, you listen. This is the coming thing."

"This!" Weill stared with a half-humorous dubiety at the cylinder. "It's amateurish, it's repetitious. Its overtones are very unsubtle. The snow had a distinct lemon sherbet taste. Who tastes lemon sherbet in snow these days, Frank? In the old days, yes. Twenty years ago, maybe. When Lyman Harrison first made his Snow Symphonies for sale down south, it was a big thing."

Sherbet and candy-striped mountaintops and sliding down chocolate-covered cliffs. It's slapstick, Frank. These days it doesn't go."

"Because," said Belanger, "you're not up with the times, boss. I've got to talk to you straight. When you started the dreamie business, when you bought up the basic patents and began putting them out, dreamies were luxury stuff. The market was small and individual. You could afford to turn out specialized dreamies and sell them to people at high prices."

"I know," said Weill, "and we've kept that up. But also we've opened a rental business for the masses."

"Yes, we have and it's not enough. Our dreamies have subtlety, yes. They can be used over and over again. The tenth time you're still finding new things, still getting new enjoyment. But how many people are connoisseurs? And another thing. Our stuff is strongly individualized. They're First Person."

"Well?"

"Well, Luster-Think is opening dream palaces. They've opened one with three hundred booths in Nashville. You walk in, take your seat, put on your unfreezer and get your dream. Everyone in the audience gets the same one."

"I've heard of it, Frank, and it's been done before. It didn't work the first time and it won't work now. You want to know why it won't work? Because, in the first place, dreaming is a private thing. Do you like your neighbor to know what you're dreaming? In the second place, in a dream palace, the dreams have to start on schedule, don't they? So the dreamer has to dream not when he wants to but when some palace manager says he should. Finally, a dream one person likes another person doesn't like. In those three hundred booths, I guarantee you, a hundred fifty people are dissatisfied. And if they're dissatisfied, they won't come back."

Slowly, Belanger rolled up his sleeves and opened his collar. "Boss," he said, "you're talking through your hat. What's the use of proving they won't work? They are working. The word came through today that Luster-Think is breaking ground for a thousand-booth palace in St. Louis. People can get used to public dreaming, if everyone else in the same room is having the same dream. And they can adjust themselves to having it at a given time, as long as it's cheap and convenient."

"Damn it, boss, it's a social affair. A boy and a girl go to a dream palace and absorb some cheap romantic thing with stereotyped overtones and commonplace situations, but still they come out with stars sprinkling their hair. They've had the same dream together. They've gone through identical sloppy emotions. They're in tune, boss. You bet they go back to the dream palace, and all their friends go, too."

"And if they don't like the dream?"

"That's the point. That's the nub of the whole thing. They're bound to like it. If you prepare Hillary specials with wheels within wheels within wheels, with surprise twists on the third-level undertones, with clever shifts of significance and all the other things we're so proud of, why, naturally, it won't appeal to everyone. Specialized dreamies are for specialized tastes. But Luster-Think is turning out simple jobs in Third Person so both sexes can be hit at once. Like what you've just absorbed. Simple, repetitious, commonplace. They're aiming at the lowest common denominator. No one will love it, maybe, but no one will hate it."

Weill sat silent for a long time and Belanger watched him. Then Weill said, "Frank, I started on quality and I'm staying there. Maybe you're right. Maybe dream palaces are the coming thing. If so we'll open them, but we'll use good stuff. Maybe Luster-Think underestimates ordinary people. Let's go slowly and not panic. I have based all my policies on the theory that there's always a market for quality. Sometimes, my boy, it would surprise you how big a market."

"Boss--"

The sounding of the intercom interrupted Belanger.

"What is it, Ruth?" said Weill.

The voice of his secretary said, "It's Mr. Hillary, sir. He wants to see you right away. He says it's important."

"Hillary?" Weill's voice registered shock. Then, "Wait five minutes, Ruth, then send him in."

Weill turned to Belanger. "Today, Frank, is definitely not one of my good days. A dreamer's place is in his home with his thinker. And Hillary's our best dreamer so he especially should be at home. What do you suppose is wrong with him?"

Belanger, still brooding over Luster-Think and dream palaces, said shortly, "Call him in and find out."

"In one minute. Tell me, how was his last dream? I haven't tried the one that came in last week."

Belanger came down to earth. He wrinkled his nose. "Not so good."

"Why not?"

"It was ragged. Too jumpy. I don't mind sharp transitions for the liveliness, you know, but there's got to be some connection, even if only on a deep level."

"Is it a total loss?"

"No Hillary dream is a total loss. It took a lot of editing, though. We cut it down quite a bit and spliced in some odd pieces he'd sent us now and then. You know, detached scenes. It's still not Grade A, but it will pass."

"You told him about this, Frank?"

"Think I'm crazy, boss? Think I'm going to say a harsh word to a dreamer?"

And at that point the door opened and Weill's comely young secretary smiled Sherman Hillary into the office.

Sherman Hillary, at the age of thirty-one, could have been recognized as a dreamer by anyone. His eyes, unspectacled, had nevertheless the misty look of one who either needs glasses or who rarely focuses on anything mundane. He was of average height but underweight, with black hair that needed cutting, a narrow chin, a pale skin and a troubled look.

He muttered, "Hello, Mr. Weill," and half-nodded in hangdog fashion in the direction of Belanger.

Weill said heartily, "Sherman, my boy, you look fine. What's the matter? A dream is cooking only so-so at home? You're worried about it? . . . Sit down, sit down."

The dreamer did, sitting at the edge of the chair and holding his thighs stiffly together as though to be ready for instant obedience to a possible order to stand up once more.

He said, "I've come to tell you, Mr. Weill, I'm quitting."

"Quitting?"

"I don't want to dream any more, Mr. Weill."

Weill's old face looked older now than at any time in the day. "Why, Sherman?"

The dreamer's lips twisted. He blurted out, "Because I'm not living, Mr. Weill. Everything passes me by. It wasn't so bad at first. It was even relaxing. I'd dream evenings, weekends when I felt like, or any other time. And when I felt like I wouldn't. But now, Mr. Weill, I'm an old pro. You tell me I'm one of the best in the business and the industry looks to me to think up new subtleties and new changes on the old reliables like the flying reveries, and the worm-turning skits."

Weill said, "And is anyone better than you, Sherman? Your little sequence on leading an orchestra is selling steadily after ten years."

"All right, Mr. Weill. I've done my part. It's gotten so I don't go out any more. I neglect my wife. My little girl doesn't know me. Last week, we went to a dinner party- Sarah made me- and I don't remember a bit of it. Sarah says I was sitting on the couch all evening just staring at nothing and humming. She said everyone kept looking at me. She cried all night. I'm tired of things like that, Mr. Weill. I want to be a normal person and live in this world. I promised her I'd quit and I will, so it's good-bye, Mr. Weill." Hillary stood up and held out his hand awkwardly.

Weill waved it gently away. "If you want to quit, Sherman, it's all right. But do an old man a favor and let me explain something to you."

"I'm not going to change my mind," said Hillary.

"I'm not going to try to make you. I just want to explain something. I'm an old man and even before you were born I was in this business so I like to talk about it. Humor me, Sherman? Please?"

Hillary sat down. His teeth clamped down on his lower lip and he stared sullenly at his fingernails.

Weill said, "Do you know what a dreamer is, Sherman? Do you know what he means to ordinary people? Do you know what it is to be like me, like Frank Belanger, like your wife, Sarah? To have crippled minds that can't imagine, that can't build up thoughts? People like myself, ordinary people, would like to escape just once in a while this life of ours. We can't. We need help.

"In olden times it was books, plays, radio, movies, television. They gave us make-believe, but that wasn't important. What was important was that for a little while our own imaginations were stimulated. We could think of handsome lovers and beautiful princesses. We could be beautiful, witty, strong, capable, everything we weren't.

"But, always, the passing of the dream from dreamer to absorber was not perfect. It had to be translated into words in one way or another. The best dreamer in the world might not be able to get any of it into words. And the best writer in the world could put only the smallest part of his dreams into words. You understand?

"But now, with dream recording, any man can dream. You, Sherman, and a handful of men like you, supply those dreams directly and exactly. It's straight from your head into ours, full strength. You dream for a hundred million people every time you dream. You dream a hundred million dreams at once. This is a great thing, my boy. You give all those people a glimpse of something they could not have by themselves."

Hillary mumbled, "I've done my share." He rose desperately to his feet. "I'm through. I don't care what you say. And if you want to sue me for breaking our contract, go ahead and sue. I don't care."

Weill stood up, too. "Would I sue you? . . . Ruth," he spoke into the intercom, "bring in our copy of Mr. Hillary's contract."

He waited. So did Hillary and so did Belanger. Weill smiled faintly and his yellowed fingers drummed softly on his desk.

His secretary brought in the contract. Weill took it, showed its face to Hillary and said, "Sherman, my boy, unless you want to be with me, it's not right you should stay."

Then, before Belanger could make more than the beginning of a horrified gesture to stop him, he tore the contract into four pieces and tossed them down the waste chute. "That's all."

Hillary's hand shot out to seize Weill's. "Thanks, Mr. Weill," he said earnestly, his voice husky. "You've always treated me very well, and I'm grateful. I'm sorry it had to be like this."

"It's all right, my boy. It's all right."

Half in tears, still muttering thanks, Sherman Hillary left.

"For the love of Pete, boss, why did you let him go?" demanded Belanger distractedly. "Don't you see the game? He'll be going straight to Luster-Think. They've bought him off."

Weill raised his hand. "You're wrong. You're quite wrong. I know the boy and this would not be his style. Besides," he added dryly, "Ruth is a good secretary and she

knows what to bring me when I ask for a dreamer's contract. What I had was a fake. The real contract is still in the safe, believe me.

"Meanwhile, a fine day I've had. I had to argue with a father to give me a chance at new talent, with a government man to avoid censorship, with you to keep from adopting fatal policies and now with my best dreamer to keep him from leaving. The father I probably won out over. The government man and you, I don't know. Maybe yes, maybe no. But about Sherman Hillary, at least, there is no question. The dreamer will be back."

"How do you know?"

Weill smiled at Belanger and crinkled his cheeks into a network of fine lines.

"Frank, my boy, you know how to edit dreamies so you think you know all the tools and machines of the trade. But let me tell you something. The most important tool in the dreamie business is the dreamer himself. He is the one you have to understand most of all, and I understand them.

"Listen. When I was a youngster-there were no dreamies then-I knew a fellow who wrote television scripts. He would complain to me bitterly that when someone met him for the first time and found out who he was, they would say: Where do you get those crazy ideas?

"They honestly didn't know. To them it was an impossibility to even think of one of them. So what could my friend say? He used to talk to me about it and tell me: Could I say, I don't know? When I go to bed, I can't sleep for ideas dancing in my head. When I shave, I cut myself; when I talk, I lose track of what I'm saying; when I drive, I take my life in my hands. And always because ideas, situations, dialogues are spinning and twisting in my mind. I can't tell you where I get my ideas. Can you tell me, maybe, your trick of not getting ideas, so I, too, can have a little peace.

"You see, Frank, how it is. You can stop work here anytime. So can I. This is our job, not our life. But not Sherman Hillary. Wherever he goes, whatever he does, he'll dream. While he lives, he must think; while he thinks, he must dream. We don't hold him prisoner, our contract isn't an iron wall for him. His own skull is his prisoner, Frank. So he'll be back. What can he do?" Belanger shrugged. "If what you say is right, I'm sort of sorry for the guy-"

Weill nodded sadly. "I'm sorry for all of them. Through the years, I've found out one thing. It's their business; making people happy. Other people."

PROFESSION

GEORGE PLATEN could not conceal the longing in his voice. It was too much to suppress. He said, "Tomorrow's the first of May. Olympics!"

He rolled over on his stomach and peered over the foot of his bed at his roommate. Didn't he feel it, too? Didn't this make some impression on him?

George's face was thin and had grown a trifle thinner in the nearly year and a half that he had been at the House. His figure was slight but the look in his blue eyes was as intense as it had ever been, and right now there was a trapped look in the way his fingers curled against the bedspread.

George's roommate looked up briefly from his book and took the opportunity to adjust the light-level of the stretch of wall near his chair. His name was Hali Omani and he was a Nigerian by birth. His dark brown skin and massive features seemed made for calmness, and mention of the Olympics did not move him.

He said, "I know, George."

George owed much to Hall's patience and kindness when it was needed, but even patience and kindness could be overdone. Was this a time to sit there like a statue built of some dark, warm wood?

George wondered if he himself would grow like that after ten years here and rejected the thought violently. No!

He said defiantly, "I think you've forgotten what May means."

The other said, "I remember very well what it means. It means nothing! You're the one who's forgotten that. May means nothing to you, George Platen, and," he added softly, "it means nothing to me, Hali Omani."

George said, "The ships are coming in for recruits. By June, thousands and thousands will leave with millions of men and women heading for any world you can name, and all that means nothing?"

"Less than nothing. What do you want me to do about it, anyway?" Omani ran his finger along a difficult passage in the book he was reading and his lips moved soundlessly.

George watched him. Damn it, he thought, yell, scream; you can do that much. Kick at me, do anything.

It was only that he wanted not to be so alone in his anger. He wanted not to be the only one so filled with resentment, not to be the only one dying a slow death.

It was better those first weeks when the Universe was a small shell of vague light and sound pressing down upon him. It was better before Omani had wavered into view and dragged him back to a life that wasn't worth living.

Omani! He was old! He was at least thirty. George thought: Will I be like that at thirty? Will I be like that in twelve years?

And because he was afraid he might be, he yelled at Omani, "Will you stop reading that fool book?"

Omani turned a page and read on a few words, then lifted his head with its skullcap of crisply curled hair and said, "What?"

"What good does it do you to read the book?" He stepped forward, snorted "More electronics," and slapped it out of Omani's hands.

Omani got up slowly and picked up the book. He smoothed a crumpled page without visible rancor. "Call it the satisfaction of curiosity," he said. "I understand a little of it today, perhaps a little more tomorrow. That's a victory in a way."

"A victory. What kind of a victory? Is that what satisfies you in life? To get to know enough to be a quarter of a Registered Electronician by the time you're sixty-five?"

"Perhaps by the time I'm thirty-five."

"And then who'll want you? Who'll use you? Where will you go?"

"No one. No one. Nowhere. I'll stay here and read other books."

"And that satisfies you? Tell me! You've dragged me to class. You've got me to reading and memorizing, too. For what! There's nothing in it that satisfies me."

"What good will it do you to deny yourself satisfaction?"

"It means I'll quit the whole farce. I'll do as I planned to do in the beginning before you dovey-lovied me out of it. I'm going to force them to-to-----"

Omani put down his book. He let the other run down and then said, "To what, George?"

"To correct a miscarriage of justice. A frame-up. I'll get that Antonelli and force him to admit he-he-----"

Omani shook his head. "Everyone who comes here insists it's a mistake. I thought you'd passed that stage."

"Don't call it a stage," said George violently. "In my case, it's a fact. I've told you-"

"You've told me, but in your heart you know no one made any mistake as far as you were concerned."

"Because no one will admit it? You think any of them would admit a mistake unless they were forced to?-Well, I'll force them."

It was May that was doing this to George; it was Olympics month. He felt it bring the old wildness back and he couldn't stop it. He didn't want to stop it. He had been in danger of forgetting.

He said, "I was going to be a Computer Programmer and I can be one. I could be one today, regardless of what they say analysis shows." He pounded his mattress. "They're wrong. They must be."

"The analysts are never wrong."

"They must be. Do you doubt my intelligence?"

"Intelligence hasn't one thing to do with it. Haven't you been told that often enough? Can't you understand that?"

George rolled away, lay on his back and stared somberly at the ceiling.

"What did you want to be, Hali?"

"I had no fixed plans. Hydroponicist would have suited me, I suppose."

"Did you think you could make it?"

"I wasn't sure."

George had never asked personal questions of Omani before. It struck him as queer, almost unnatural, that other people had had ambitions and ended here.

Hydroponicist!

He said, "Did you think you'd make this?"

"No, but here I am just the same."

"And you're satisfied. Really, really satisfied. You're happy. You love it. You wouldn't be anywhere else."

Slowly, Omani got to his feet. Carefully, he began to unmake his bed. He said, "George, you're a hard case. You're knocking yourself out because you won't accept the facts about yourself. George, you're here in what you call the House, but I've never heard you give it its full title. Say it, George, say it. Then go to bed and sleep this off."

George gritted his teeth and showed them. He choked out, "No!"

"Then I will," said Omani, and he did. He shaped each syllable carefully.

George was bitterly ashamed at the sound of it. He turned his head away.

For most of the first eighteen years of his life, George Platen had headed firmly in one direction, that of Registered Computer Programmer. There were those in his crowd who spoke wisely of Spationautics, Refrigeration Technology, Transportation Control, and even Administration. But George held firm.

He argued relative merits as vigorously as any of them, and why not? Education Day loomed ahead of them and was the great fact of their existence. It approached steadily, as fixed and certain as the calendar- the first day of November of the year following one's eighteenth birthday.

After that day, there were other topics of conversation. One could discuss with others some detail of the profession, or the virtues of one's wife and children, or the fate of one's space-polo team, or one's experience in the Olympics. Before Education Day, however, there was only one topic that unfailingly and unwearyingly held everyone's interest, and that was Education Day.

"What are you going for? Think you'll make it? Heck, that's no good. Look at the records; quota's been cut. Logistics now-

Or Hypermechanics now- Or Communications now- Or Gravitics now- Especially Gravitics at the moment. Everyone had been talking about Gravitics in the few years just before George's Education Day because of the development of the Gravitic power engine.

Any world within ten light-years of a dwarf star, everyone said, would give its eyeteeth for any kind of Registered Gravitics Engineer.

The thought of that never bothered George. Sure it would; all the eyeteeth it could scare up. But George had also heard what had happened before in a newly developed technique. Rationalization and simplification followed in a flood. New models each year; new types of gravitic engines; new principles. Then all those eyeteeth gentlemen would

find themselves Out of date and superseded by later models with later educations. The first group would then have to settle down to unskilled labor or ship out to some backwoods world that wasn't quite caught up yet.

Now Computer Programmers were in steady demand year after year, century after century. The demand never reached wild peaks; there was never a howling bull market for Programmers; but the demand climbed steadily as new worlds opened up and as older worlds grew more complex.

He had argued with Stubby Trevelyan about that constantly. As best friends, their arguments had to be constant and vitriolic and, of course, neither ever persuaded or was persuaded.

But then Trevelyan had had a father who was a Registered Metallurgist and had actually served on one of the Outworlds, and a grandfather who had also been a Registered Metallurgist. He himself was intent on becoming a Registered Metallurgist almost as a matter of family right and was firmly convinced that any other profession was a shadeless than respectable.

"There'll always be metal," he said, "and there's an accomplishment in molding alloys to specification and watching structures grow. Now what's a Programmer going to be doing. Sitting at a coder all day long, feeding some fool mile-long machine."

Even at sixteen, George had learned to be practical. He said simply, "There'll be a million Metallurgists put out along with you."

"Because it's good. A good profession. The best."

"But you get crowded out, Stubby. You can be way back in line. Any world can tape out its own Metallurgists, and the market for advanced Earth models isn't so big. And it's mostly the small worlds that want them. You know what percent of the turnout of Registered Metallurgists get tabbed for worlds with a Grade A rating. I looked it up. It's just 13.3 percent. That means you'll have seven chances in eight of being stuck in some world that just about has running water. You may even be stuck on Earth; 2.3 percent are."

Trevelyan said belligerently, "There's no disgrace in staying on Earth. Earth needs technicians, too. Good ones." His grandfather had been an Earth-bound Metallurgist, and Trevelyan lifted his finger to his upper lip and dabbed at an as yet nonexistent mustache.

George knew about Trevelyan's grandfather and, considering the Earthbound position of his own ancestry, was in no mood to sneer. He said diplomatically, "No intellectual disgrace. Of course not. But it's nice to get into a Grade A world, isn't it?"

"Now you take Programmers. Only the Grade A worlds have the kind of computers that really need first-class Programmers so they're the only ones in the market. And Programmer tapes are complicated and hardly any one fits. They need more Programmers than their own population can supply. It's just a matter of statistics. There's one first-class Programmer per million, say. A world needs twenty and has a population often million, they have to come to Earth for five to fifteen Programmers. Right?"

"And you know how many Registered Computer Programmers went to Grade A planets last year? I'll tell you. Every last one. If you're a Programmer, you're a picked man. Yes, sir."

Trevelyan frowned. "If only one in a million makes it, what makes you think you'll make it?"

George said guardedly, "I'll make it."

He never dared tell anyone; not Trevelyan; not his parents; of exactly what he was doing that made him so confident. But he wasn't worried. He was simply confident (that was the worst of the memories he had in the hopeless days afterward). He was as blandly confident as the average eight-year-old kid approaching Reading Day-that childhood preview of Education Day.

Of course, Reading Day had been different. Partly, there was the simple fact of childhood. A boy of eight takes many extraordinary things in stride. One day you can't read and the next day you can. That's just the way things are. Like the sun shining.

And then not so much depended upon it. There were no recruiters just ahead, waiting and jostling for the lists and scores on the coming Olympics. A boy or girl who goes through the Reading Day is just someone who has ten more years of undifferentiated living upon Earth's crawling surface; just someone who returns to his family with one new ability.

By the time Education Day came, ten years later, George wasn't even sure of most of the details of his own Reading Day.

Most clearly of all, he remembered it to be a dismal September day with a mild rain falling. (September for Reading Day; November for Education Day; May for Olympics. They made nursery rhymes out of it.) George had dressed by the wall lights, with his parents far more excited than he himself was. His father was a Registered Pipe Fitter and had found his occupation on earth. This fact had always been a humiliation to him, although, of course, as anyone could see plainly, most of each generation must stay on Earth in the nature of things.

There had to be farmers and miners and even technicians on Earth. It was only the late-model, high-specialty professions that were in demand on the Outworlds, and only a few millions a year out of Earth's eight billion population could be exported. Every man and woman on Earth couldn't be among that group.

But every man and woman could hope that at least one of his children could be one, and Platen, Senior, was certainly no exception. It was obvious to him (and, to be sure, to others as well) that George was notably intelligent and quick-minded. He would be bound to do well and he would have to, as he was an only child. If George didn't end on an Outworld, they would have to wait for grandchildren before a next chance would come along, and that was too far in the future to be much consolation.

Reading Day would not prove much, of course, but it would be the only indication they would have before the big day itself. Every parent on Earth would be listening to the quality of reading when his child came home with it; listening for any particularly easy flow of words and building that into certain omens of the future. There were few families that

didn't have at least one hopeful who, from Reading Day on, was the great hope because of the way he handled his trisyllabics.

Dimly, George was aware of the cause of his parents' tension, and if there was any anxiety in his young heart that drizzly morning, it was only the fear that his father's hopeful expression might fade out when he returned home with his reading.

The children met in the large assembly room of the town's Education hall. All over Earth, in millions of local halls, throughout that month, similar groups of children would be meeting. George felt depressed by the grayness of the room and by the other children, strained and stiff in unaccustomed finery.

Automatically, George did as all the rest of the children did. He found the small clique that represented the children on his floor of the apartment house and joined them.

Trevelyan, who lived immediately next door, still wore his hair childishly long and was years removed from the sideburns and thin, reddish mustache that he was to grow as soon as he was physiologically capable of it.

Trevelyan (to whom George was then known as Jaw-joe) said, "Bet you're scared."

"I am not," said George. Then, confidentially, "My folks got a hunk of printing up on the dresser in my room, and when! come home, I'm going to read it for them." (George's main suffering at the moment lay in the fact that he didn't quite know where to put his hands. He had been warned not to scratch his head or rub his ears or pick his nose or put his hands into his pockets. This eliminated almost every possibility.)

Trevelyan put his hands in his pockets and said, "My father isn't worried."

Trevelyan, Senior, had been a Metallurgist on Diporia for nearly seven years, which gave him a superior social status in his neighborhood even though he had retired and returned to Earth.

Earth discouraged these re-immigrants because of population problems, but a small trickle did return. For one thing the cost of living was lower on Earth, and what was a trifling annuity on Diporia, say, was a comfortable income on Earth. Besides, there were always men who found more satisfaction in displaying their success before the friends and scenes of their childhood than before all the rest of the Universe besides.

Trevelyan, Senior, further explained that if he stayed on Diporia, so would his children, and Diporia was a one-spaceship world. Back on Earth, his kids could end anywhere, even Novia.

Stubby Trevelyan had picked up that item early. Even before Reading Day, his conversation was based on the carelessly assumed fact that his ultimate home would be in Novia.

George, oppressed by thoughts of the other's future greatness and his own small-time contrast, was driven to belligerent defense at once.

"My father isn't worried either. He just wants to hear me read because he knows I'll be good. I suppose your father would just as soon not hear you because he knows you'll be all wrong."

"I will not be all wrong. Reading is nothing. On Novia, I'll hire people to read to me."

"Because you won't be able to read yourself, on account of you're dumb!"

"Then how come I'll be on Novia?"

And George, driven, made the great denial. "Who says you'll be on Novia? Bet you don't go anywhere."

Stubby Trevelyan reddened. "I won't be a Pipe Fitterlike yonrold man."

"Take that back, you dumbhead."

"You take that back."

They stood nose to nose, not wanting to fight but relieved at having something familiar to do in this strange place. Furthermore, now that George had curled his hands into fists and lifted them before his face, the problem of what to do with his hands was, at least temporarily, solved. Other children gathered round excitedly.

But then it all ended when a woman's voice sounded loudly over the public address system. There was instant silence everywhere. George dropped his fists and forgot Trevelyan.

"Children," said the voice, "we are going to call out your names. As each child is called, he or she is to go to one of the men waiting along the side walls. Do you see them? They are wearing red uniforms so they will be easy to find. The girls will go to the right. The boys will go to the left. Now look about and see which man in red is nearest to you-"

George found his man at a glance and waited for his name to be called off. He had not been introduced before this to the sophistications of the alphabet, and the length of time it took to reach his own name grew disturbing.

The crowd of children thinned; little rivulets made their way to each of the red-clad guides.

When the name "George Platen" was finally called, his sense of relief was exceeded only by the feeling of pure gladness at the fact that Stubby Trevelyan still stood in his place, uncalled.

George shouted back over his shoulder as he left, "Yay, Stubby, maybe they don't want you."

That moment of gaiety quickly left. He was herded into a line and directed down corridors in the company of strange children. They all looked at one another, large-eyed and concerned, but beyond a snuffling, "Quitther pushing" and "Hey, watch out" there was no conversation.

They were handed little slips of paper which they were told must remain with them. George stared at his curiously. Little black marks of different shapes. He knew it to be printing but how could anyone make words out of it? He couldn't imagine.

He was told to strip; he and four other boys who were all that now remained together. All the new clothes came shucking off and four eight year-olds stood naked and small, shivering more out of embarrassment than cold. Medical technicians came past, probing them, testing them with odd instruments, pricking them for blood. Each took the little cards and made additional marks on them with little black rods that produced the marks, all neatly lined up, with great speed. George stared at the new marks, but they

were no more comprehensible than the old. The children were ordered back into their clothes.

They sat on separate little chairs then and waited again. Names were called again and "George Platen" came third.

He moved into a large room, filled with frightening instruments with knobs and glassy panels in front. There was a desk in the very center, and behind it a man sat, his eyes on the papers piled before him.

He said, "George Platen?"

"Yes, sir," said George in a shaky whisper. All this waiting and all this going here and there was making him nervous. He wished it were over.

The man behind the desk said, "I am Dr. Lloyed, George. How are you?"

The doctor didn't look up as he spoke. It was as though he had said those words over and over again and didn't have to look up any more.

"I'm all right."

"Are you afraid, George?"

"N-no, sir," said George, sounding afraid even in his own ears.

"That's good," said the doctor, "because there's nothing to be afraid of, you know. Let's see, George. It says here on your card that your father is named Peter and that he's a Registered Pipe Fitter and your mother is named Amy and is a Registered Home Technician. Is that right?"

"Y-yes, sir."

"And your birthday is February 13, and you had an ear infection about a year ago. Right?"

"Yes, sir."

"Do you know how I know all these things?"

"It's on the card, I think, sir."

"That's right." The doctor looked up at George for the first time and smiled. He showed even teeth and looked much younger than George's father. Some of George's nervousness vanished.

The doctor passed the card to George. "Do you know what all those things there mean, George?"

Although George knew he did not he was startled by the sudden request into looking at the card as though he might understand now through some sudden stroke of fate. But they were just marks as before and he passed the card back. "No, sir."

"Why not?"

George felt a sudden pang of suspicion concerning the sanity of this doctor. Didn't he know why not?

George said, "I can't read, sir."

"Would you like to read?"

"Yes, sir."

"Why, George?"

George stared, appalled. No one had ever asked him that. He had no answer. He said falteringly, "I don't know, sir."

"Printed information will direct you all through your life. There is so much you'll have to know even after Education Day. Cards like this one will tell you. Books will tell you. Television screens will tell you. Printing will tell you such useful things and such interesting things that not being able to read would be as bad as not being able to see. Do you understand?"

"Yes, sir."

"Are you afraid, George?"

"No, sir."

"Good. Now I'll tell you exactly what we'll do first. I'm going to put these wires on your forehead just over the corners of your eyes. They'll stick there but they won't hurt at all. Then, I'll put on something that will make a buzz. It will sound funny and it may tickle you, but it won't hurt. Now if it does hurt, you tell me, and I'll turn it off right away, but it won't hurt. All right?"

George nodded and swallowed.

"Are you ready?"

George nodded. He closed his eyes while the doctor busied himself. His parents had explained this to him. They, too, had said it wouldn't hurt, but then there were always the older children. There were the ten- and twelve-year-olds who howled after the eight-year-olds waiting for Reading Day, "Watch out for the needle." There were the others who took you off in confidence and said, "They got to cut your head open. They use a sharp knife that big with a hook on it," and so on into horrifying details.

George had never believed them but he had had nightmares, and now closed his eyes and felt pure terror.

He didn't feel the wires at his temple. The buzz was a distant thing, and there was the sound of his own blood in his ears, ringing hollowly as though it and he were in a large cave. Slowly he chanced opening his eyes.

The doctor had his back to him. From one of the instruments a strip of paper unwound and was covered with a thin, wavy purple line. The doctor tore off pieces and put them into a slot in another machine. He did it over and over again. Each time a little piece of film came out, which the doctor looked at. Finally, he turned toward George with a queer frown between his eyes.

The buzzing stopped.

George said breathlessly, "Is it over?"

The doctor said, "Yes," but he was still frowning.

"Can I read now?" asked George. He felt no different.

The doctor said, "What?" then smiled very suddenly and briefly. He said, "It works fine, George. You'll be reading in fifteen minutes. Now we're going to use another machine this time and it will take longer. I'm going to cover your whole head, and when I turn it on you won't be able to see or hear anything for a while, but it won't hurt. Just to

make sure I'm going to give you a little switch to hold in your hand. If anything hurts, you press the little button and everything shuts off. All right?"

In later years, George was told that the little switch was strictly a dummy; that it was introduced solely for confidence. He never did know for sure, however, since he never pushed the button.

A large smoothly curved helmet with a rubbery inner lining was placed over his head and left there. Three or four little knobs seemed to grab at him and bite into his skull, but there was only a little pressure that faded. No pain.

The doctor's voice sounded dimly. "Everything all right, George?"

And then, with no real warning, a layer of thick felt closed down all about him. He was disembodied, there was no sensation, no universe, only himself and a distant murmur at the very ends of nothingness telling him something-telling him-telling him- He strained to hear and understand but there was all that thick felt between.

Then the helmet was taken off his head, and the light was so bright that it hurt his eyes while the doctor's voice drummed at his ears.

The doctor said, "Here's your card, George. What does it say?"

George looked at his card again and gave out a strangled shout. The marks weren't just marks at all. They made up words. They were words just as clearly as though something were whispering them in his ears. He could hear them being whispered as he looked at them.

"What does it say, George?"

"It says-it says-'Platen, George. Born 13 February 6492 of Peter and Amy Platen in. . .'" He broke off.

"You can read, George," said the doctor. "It's all over."

"For good? I won't forget how?"

"Of course not." The doctor leaned over to shake hands gravely. "You will be taken home now."

It was days before George got over this new and great talent of his. He read for his father with such facility that Platen, Senior, wept and called relatives to tell the good news.

George walked about town, reading every scrap of printing he could find and wondering how it was that none of it had ever made sense to him before.

He tried to remember how it was not to be able to read and he couldn't. As far as his feeling about it was concerned, he had always been able to read. Always.

At eighteen, George was rather dark, of medium height, but thin enough to look taller. Trevelyan, who was scarcely an inch shorter, had a stockiness of build that made "Stubby" more than ever appropriate, but in this last year he had grown self-conscious. The nickname could no longer be used without reprisal. And since Trevelyan disapproved of his proper first name even more strongly, he was called Trevelyan or any decent variant of that. As though to prove his manhood further, he had most persistently grown a pair of sideburns and a bristly mustache.

He was sweating and nervous now, and George, who had himself grown out of "Jaw-jee" and into the curt monosyllabic gutterality of "George," was rather amused by that.

They were in the same large hall they had been in ten years before (and not since). It was as if a vague dream of the past had come to sudden reality. In the first few minutes George had been distinctly surprised at finding everything seem smaller and more cramped than his memory told him; then he made allowance for his own growth.

The crowd was smaller than it had been in childhood. It was exclusively male this time. The girls had another day assigned them.

Trevelyan leaned over to say, "Beats me the way they make you wait."

"Red tape," said George. "You can't avoid it."

Trevelyan said, "What makes you so damned tolerant about it?"

"I've got nothing to worry about."

"Oh, brother, you make me sick. I hope you end up Registered Manure Spreader just so I can see your face when you do." His somber eyes swept the crowd anxiously.

George looked about, too. It wasn't quite the system they used on the children. Matters went slower, and instructions had been given out at the start in print (an advantage over the pre-Readers). The names Platen and Trevelyan were well down the alphabet still, but this time the two knew it.

Young men came out of the education rooms, frowning and uncomfortable, picked up their clothes and belongings, then went off to analysis to learn the results.

Each, as he came out, would be surrounded by a clot of the thinning crowd.

"How was it?"

"How'd it feel?"

"Whacha think ya made?"

"Ya feel any different?"

Answers were vague and noncommittal.

George forced himself to remain out of those clots. You only raised your own blood pressure. Everyone said you stood the best chance if you remained calm. Even so, you could feel the palms of your hands grow cold. Funny that new tensions came with the years.

For instance, high-specialty professionals heading out for an Outworld were accompanied by a wife (or husband). It was important to keep the sex ratio in good balance on all worlds. And if you were going out to a Grade A world, what girl would refuse you? George had no specific girl in mind yet; he wanted none. Not now! Once he made Programmer; once he could add to his name, Registered Computer Programmer, he could take his pick, like a sultan in a harem. The thought excited him and he tried to put it away. Must stay calm.

Trevelyan muttered, "What's it all about anyway? First they say it works best if you're relaxed and at ease. Then they put you through this and make it impossible for you to be relaxed and at ease."

"Maybe that's the idea. They're separating the boys from the men to begin with. Take it easy, Trev."

"Shut up."

George's turn came. His name was not called. It appeared in glowing letters on the notice board.

He waved at Trevelyan. "Take it easy, Trev. Don't let it get you."

He was happy as he entered the testing chamber. Actually happy.

The man behind the desk said, "George Platen?"

For a fleeting instant there was a razor-sharp picture in George's mind of another man, ten years earlier, who had asked the same question, and it was almost as though this were the same man and he, George, had turned eight again as he stepped across the threshold.

But the man looked up and, of course, the face matched that of the sudden memory not at all. The nose was bulbous, the hair thin and stringy, and the chin wattled as though its owner had once been grossly overweight and had reduced.

The man behind the desk looked annoyed. "Well?"

George came to Earth. "I'm George Platen, sir."

"Say so, then. I'm Dr. Zachary Antonelli, and we're going to be intimately acquainted in a moment."

He stared at small strips of film, holding them up to the light owlishly. George winced inwardly. Very hazily, he remembered that other doctor (he had forgotten the name) staring at such film. Could these be the same? The other doctor had frowned and this one was looking at him now as though he were angry.

His happiness was already just about gone.

Dr. Antonelli spread the pages of a thickish file out before him now and put the films carefully to one side. "It says here you want to be a Computer Programmer."

"Yes, doctor."

"Still do?"

"Yes, sir."

"It's a responsible and exacting position. Do you feel up to it?"

"Yes, sir."

"Most pre-Educates don't put down any specific profession. I believe they are afraid of queering it."

"I think that's tight, sir."

"Aren't you afraid of that?"

"I might as well be honest, sir."

Dr. Antonelli nodded, but without any noticeable lightening of his expression. "Why do you want to be a Programmer?"

"It's a responsible and exacting position as you said, sir. It's an important job and an exciting one. I like it and I think I can do it."

Dr. Antonelli put the papers away, and looked at George sourly. He said, "How do you know you like it? Because you think you'll be snapped up by some Grade A planet?"

George thought uneasily: He's trying to rattle you. Stay calm and stay frank.

He said, "I think a Programmer has a good chance, sir, but even if I were left on Earth, I know I'd like it." (That was true enough. I'm not lying, thought George.)

"All right, how do you know?"

He asked it as though he knew there was no decent answer and George almost smiled. He had one.

He said, "I've been reading about Programming, sir."

"You've been what?" Now the doctor looked genuinely astonished and George took pleasure in that.

"Reading about it, sir. I bought a book on the subject and I've been studying it."

"A book for Registered Programmers?"

"Yes, sir."

"But you couldn't understand it."

"Not at first. I got other books on mathematics and electronics. I made out all I could. I still don't know much, but I know enough to know I like it and to know I can make it." (Even his parents never found that secret cache of books or knew why he spent so much time in his own room or exactly what happened to the sleep he missed.)

The doctor pulled at the loose skin under his chin. "What was your idea in doing that, son?"

"I wanted to make sure I would be interested, sir."

"Surely you know that being interested means nothing. You could be devoured by a subject and if the physical makeup of your brain makes it more efficient for you to be something else, something else you will be. You know that, don't you?"

"I've been told that," said George cautiously.

"Well, believe it. It's true."

George said nothing.

Dr. Antonelli said, "Or do you believe that studying some subject will bend the brain cells in that direction, like that other theory that a pregnant woman need only listen to great music persistently to make a composer of her child. Do you believe that?"

George flushed. That had certainly been in his mind. By forcing his intellect constantly in the desired direction, he had felt sure that he would be getting a head start. Most of his confidence had rested on exactly that point.

"I never-" he began, and found no way of finishing.

"Well, it isn't true. Good Lord, youngster, your brain pattern is fixed at birth. It can be altered by a blow hard enough to damage the cells or by a burst blood vessel or by a tumor or by a major infection-each time, of course, for the worse. But it certainly can't be affected by your thinking special thoughts." He stared at George thoughtfully, then said, "Who told you to do this?"

George, now thoroughly disturbed, swallowed and said, "No one, doctor. My own idea."

"Who knew you were doing it after you started?"

"No one. Doctor, I meant to do no wrong."

"Who said anything about wrong? Useless is what I would say. Why did you keep it to yourself?"

"I-I thought they'd laugh at me." (He thought abruptly of a recent exchange with Trevelyan. George had very cautiously broached the thought, as of something merely circulating distantly in the very outermost reaches of his mind, concerning the possibility of learning something by ladling it into the mind by hand, so to speak, in bits and pieces. Trevelyan had hooted, "George, you'll be tanning your own shoes next and weaving your own shirts." He had been thankful for his policy of secrecy.)

Dr. Antonelli shoved the bits of film he had first looked at from position to position in morose thought. Then he said, "Let's get you analyzed. This is getting me nowhere."

The wires went to George's temples. There was the buzzing. Again there came a sharp memory of ten years ago.

George's hands were clammy; his heart pounded. He should never have told the doctor about his secret reading.

It was his damned vanity, he told himself. He had wanted to show how enterprising he was, how full of initiative. Instead, he had showed himself superstitious and ignorant and aroused the hostility of the doctor. (He could tell the doctor hated him for a wise guy on the make.)

And now he had brought himself to such a state of nervousness, he was sure the analyzer would show nothing that made sense.

He wasn't aware of the moment when the wires were removed from his temples. The sight of the doctor, staring at him thoughtfully, blinked into his consciousness and that was that; the wires were gone. George dragged himself together with a tearing effort. He had quite given up his ambition to be a Programmer. In the space of ten minutes, it had all gone.

He said dismally, "I suppose no?"

"No what?"

"No Programmer?"

The doctor rubbed his nose and said, "You get your clothes and whatever belongs to you and go to room 15-C. Your files will be waiting for you there. So will my report."

George said in complete surprise, "Have I been Educated already? I thought this was just to-"

Dr. Antonelli stared down at his desk. "It will all be explained to you. You do as I say."

George felt something like panic. What was it they couldn't tell him? He wasn't fit for anything but Registered Laborer. They were going to prepare him for that; adjust him to it.

He was suddenly certain of it and he had to keep from screaming by main force.

He stumbled back to his place of waiting. Trevelyan was not there, a fact for which he would have been thankful if he had had enough self-possession to be meaningfully aware of his surroundings. Hardly anyone was left, in fact, and the few who were looked

as though they might ask him questions were it not that they were too worn out by their tail-of-the-alphabet waiting to buck the fierce, hot look of anger and hate he cast at them.

What right had they to be technicians and he, himself, a Laborer? Laborer! He was certain!

He was led by a red-uniformed guide along the busy corridors lined with separate rooms each containing its groups, here two, there five: the Motor Mechanics the Construction Engineers, the Agronomists. There were hundreds of specialized Professions and most of them would be represented in this small town by one or two anyway.

He hated them all just then: the Statisticians, the Accountants, the lesser breeds and the higher. He hated them because they owned their smug knowledge now, knew their fate, while he himself, empty still, had to face some kind of further red tape.

He reached 15-C, was ushered in and left in an empty room. For one moment, his spirits bounded. Surely, if this were the Labor classification room, there would be dozens of youngsters present.

A door sucked into its recess on the other side of a waist-high partition and an elderly, white-haired man stepped out. He smiled and showed even teeth that were obviously false, but his face was still ruddy and unlined and his voice had vigor.

He said, "Good evening, George. Our own sector has only one of you this time, I see."

"Only one?" said George blandly.

"Thousands over the Earth, of course. Thousands. You're not alone."

George felt exasperated. He said, "I don't understand, sir. What's my classification? What's happening?"

"Easy, son. You're all right. It could happen to anyone." He held out his hand and George took it mechanically. It was warm and it pressed George's hand firmly. "Sit down, son. I'm Sam Ellenford."

George nodded impatiently. "I want to know what's going on, sir."

"Of course. To begin with, you can't be a Computer Programmer, George. You've guessed that, I think."

"Yes, I have," said George bitterly. "What will I be, then?"

"That's the hard part to explain, George." He paused, then said with careful distinctness, "Nothing."

"What!"

"Nothing!"

"But what does that mean? Why can't you assign me a profession?"

"We have no choice in the matter, George. It's the structure of your mind that decides that."

George went a sallow yellow. His eyes bulged. "There's something wrong with my mind?"

"There's something about it. As far as professional classification is concerned, I suppose you can call it wrong."

"But why?"

Ellenford shrugged. "I'm sure you know how Earth runs its Educational program, George. Practically any human being can absorb practically any body of knowledge, but each individual brain pattern is better suited to receiving some types of knowledge than others. We try to match mind to knowledge as well as we can within the limits of the quota requirements for each profession."

George nodded. "Yes, I know."

"Every once in awhile, George, we come up against a young man whose mind is not suited to receiving a superimposed knowledge of any sort."

"You mean I can't be Educated?"

"That is what I mean."

"But that's crazy. I'm intelligent. I can understand-" He looked helplessly about as though trying to find some way of proving that he had a functioning brain.

"Don't misunderstand me, please," said Ellenford gravely. "You're intelligent. There's no question about that. You're even above average in intelligence. Unfortunately that has nothing to do with whether the mind ought to be allowed to accept superimposed knowledge or not. In fact, it is almost always the intelligent person who comes here."

"You mean I can't even be a Registered Laborer?" babbled George. Suddenly even that was better than the blank that faced him. "What's there to know to be a Laborer?"

"Don't underestimate the Laborer, young man. There are dozens of subclassifications and each variety has its own corpus of fairly detailed knowledge. Do you think there's no skill in knowing the proper aimer of lifting a weight? Besides, for the Laborer, we must select not only minds suited to it, but bodies as well. You're not the type, George, to last long as a Laborer."

George was conscious of his slight build. He said, "But I've never heard of anyone without a profession."

"There aren't many," conceded Ellenford. "And we protect them."

"Protect them?" George felt confusion and fright grow higher in-side him.

"You're a ward of the planet, George. From the time you walked through that door, we've been in charge of you." And he smiled.

It was a fond smile. To George it seemed the smile of ownership; the smile of a grown man for a helpless child.

He said, "You mean, I'm going to be in prison?"

"Of course not. You will simply be with others of your kind."

Your kind. The words made a kind of thunder in George's ear.

Ellenford said, "You need special treatment. We'll take care of you."

To George's own horror, he burst into tears. Ellenford walked to the other end of the room and faced away as though in thought.

George fought to reduce the agonized weeping to sobs and then to strangle those. He thought of his father and mother, of his friends, of Trevelyan, of his own shame- He said rebelliously, "I learned to read."

"Everyone with a whole mind can do that. We've never found exceptions. It is at this stage that we discover-exceptions. And when you learned to read, George, we were concerned about your mind pattern. Certain peculiarities were reported even then by the doctor in charge."

"Can't you try Educating me? You haven't even tried. I'm willing to take the risk."

"The law forbids us to do that, George. But look, it will not be bad. We will explain matters to your family so they will not be hurt. At the place to which you'll be taken, you'll be allowed privileges. We'll get you books and you can learn what you will."

"Dab knowledge in by hand," said George bitterly. "Shred by shred. Then, when I die I'll know enough to be a Registered Junior Office Boy, Paper-Clip Division."

"Yet I understand you've already been studying books."

George froze. He was struck devastatingly by sudden understanding. "That's it. .

"What's it?"

"That fellow Antonelli. He's knifing me."

"No, George. You're quite wrong."

"Don't tell me that." George was in an ecstasy of fury. "That lousy bastard is selling me out because he thought I was a little too wise for him. I read books and tried to get a head start toward programming. Well, what do you want to square things? Money? You won't get it. I'm getting out of here and when I finish broadcasting this-

He was screaming.

Ellenford shook his head and touched a contact.

Two men entered on cat feet and got on either side of George. They pinned his arms to his sides. One of them used an air-spray hypodermic in the hollow of his right elbow and the hypnotic entered his vein and had an almost immediate effect.

His screams cut off and his head fell forward. His knees buckled and only the men on either side kept him erect as he slept.

They took care of George as they said they would; they were good to him and unfailingly kind-about the way, George thought, he himself would be to a sick kitten he had taken pity on.

They told him that he should sit up and take some interest in life; and then told him that most people who came there had the same attitude of despair at the beginning and that he would snap out of it.

He didn't even hear them.

Dr. Ellenford himself visited him to tell him that his parents had been informed that he was away on special assignment.

George muttered, "Do they know-"

Ellenford assured him at once, "We gave no details."

At first George had refused to eat. They fed him intravenously. They hid sharp objects and kept him under guard. Hali Omani came to be his roommate and his stolidity had a calming effect.

One day, out of sheer desperate boredom, George asked for a book. Omani, who himself read books constantly, looked up, smiling broadly. George almost withdrew the request then, rather than give any of them satisfaction, then thought: What do I care?

He didn't specify the book and Omani brought one on chemistry. It was in big print, with small words and many illustrations. It was for teen-agers. He threw the book violently against the wall.

That's what he would be always. A teen-ager all his life. A pre-Educate forever and special books would have to be written for him. He lay smoldering in bed, staring at the ceiling, and after an hour had passed, he got up sulkily, picked up the book, and began reading.

It took him a week to finish it and then he asked for another.

"Do you want to take the first one back?" asked Omani.

George frowned. There were things in the book he had not understood, yet he was not so lost to shame as to say so.

But Omani said, "Come to think of it, you'd better keep it. Books are meant to be read and reread."

It was that same day that he finally yielded to Omani's invitation that he tour the place. He dogged at the Nigerian's feet and took in his surroundings with quick hostile glances.

The place was no prison certainly. There were no walls, no locked doors, no guards. But it was a prison in that the inmates had no place to go outside.

It was somehow good to see others like himself by the dozen. It was so easy to believe himself to be the only one in the world so-maimed.

He mumbled, "How many people here anyway?"

"Two hundred and five, George, and this isn't the only place of the sort in the world. There are thousands."

Men looked up as he passed, wherever he went; in the gymnasium, along the tennis courts; through the library (he had never in his life imagined books could exist in such numbers; they were stacked, actually stacked, along long shelves). They stared at him curiously and he returned the looks savagely. At least they were no better than he; no call for them to look at him as though he were some sort of curiosity.

Most of them were in their twenties. George said suddenly, "What happens to the older ones?"

Omani said, "This place specializes in the younger ones." Then, as though he suddenly recognized an implication in George's question that he had missed earlier, he shook his head gravely and said, "They're not put out of the way, if that's what you mean. There are other Houses for older ones."

"Who cares?" mumbled George, who felt he was sounding too interested and in danger of slipping into surrender.

"You might. As you grow older, you will find yourself in a House with Occupants of both sexes."

That surprised George somehow. "Women, too?"

'Of course. Do you suppose women are immune to this sort of thing?"

George thought of that with more interest and excitement than he had felt for anything since before that day when- He forced his thought away from that.

Ornani stopped at the doorway of a room that contained a small closed-circuit television and a desk computer. Five or six men sat about the television Ornani said, "This is a classroom."

George said, "What's that?"

"The young men in there are being educated. Not," he added, quickly, "in the usual way."

"You mean they're cramming it in bit by bit."

"That's right. This is the way everyone did it in ancient times."

This was what they kept telling him since he had come to the House but what of it? Suppose there had been a day when mankind had not known the diatherm-oven. Did that mean he should be satisfied to eat meat raw in a world where others ate it cooked?

He said, "Why do they want to go through that bit-by-bit stuff?"

"To pass the time, George, and because they're curious."

"What good does it do them?"

"It makes them happier."

George carried that thought to bed with him.

The next day he said to Omani ungraciously, "Can you get me into a classroom where I can find out something about programming?"

Omani replied heartily, "Sure."

It was slow and he resented it. Why should someone have to explain something and explain it again? Why should he have to read and reread a passage, then stare at a mathematical relationship and not understand it at once? That wasn't how other people had to be.

Over and over again, he gave up. Once he refused to attend classes for a week.

But always he returned. The official in charge, who assigned reading, conducted the television demonstrations, and even explained difficult passages and concepts, never commented on the matter.

George was finally given a regular task in the gardens and took his turn in the various kitchen and cleaning details. This was represented to him as being an advance, but he wasn't fooled. The place might have been far more mechanized than it was, but they deliberately made work for the young men in order to give them the illusion of worthwhile occupation, of usefulness. George wasn't fooled.

They were even paid small sums of money out of which they could buy certain specified luxuries or which they could put aside for a problematical use in a problematical old age. George kept his money in an open jar, which he kept on a closet shelf. He had no idea how much he had accumulated. Nor did he care.

He made no real friends though he reached the stage where a civil good day was in order. He even stopped brooding (or almost stopped) on the miscarriage of justice that had placed him there. He would go weeks without dreaming of Antonelli, of his gross

nose and wattled neck, of the leer with which he would push George into a boiling quicksand and hold him under, till he woke screaming with Omani bending over him in concern.

Omani said to him on a snowy day in February, "It's amazing how you're adjusting."

But that was February, the thirteenth to be exact, his nineteenth birthday. March came, then April, and with the approach of May he realized he hadn't adjusted at all.

The previous May had passed unregarded while George was still in his bed, drooping and ambitionless. This May was different.

All over Earth, George knew, Olympics would be taking place and young men would be competing, matching their skills against one another in the fight for a place on a new world. There would be the holiday atmosphere, the excitement, the news reports, the self-contained recruiting agents from the worlds beyond space, the glory of victory or the consolations of defeat.

How much of fiction dealt with these motifs; how much of his own boyhood excitement lay in following the events of Olympics from year to year; how many of his own plans- George Platen could not conceal the longing in his voice. It was too much to suppress. He said, "Tomorrow's the first of May. Olympics!"

And that led to his first quarrel with Omani and to Omani's bitter enunciation of the exact name of the institution in which George found himself.

Omani gazed fixedly at George and said distinctly, "A House for the Feeble-minded."

George Platen flushed. Feeble-minded!

He rejected it desperately. He said in a monotone, "I'm leaving."

He said it on impulse. His conscious mind learned it first from the statement as he uttered it.

Omani, who had returned to his book, looked up. "What?"

George knew what he was saying now. He said it fiercely, "I'm leaving."

"That's ridiculous. Sit down, George, calm yourself."

"Oh, no. I'm here on a frame-up, I tell you. This doctor, Antonelli, took a dislike to me. It's the sense of power these petty bureaucrats have. Cross them and they wipe out your life with a stylus mark on some card file."

"Are you back to that?"

"And staying there till it's all straightened out. I'm going to get to Antonelli somehow, break him, force the truth out of him." George was breathing heavily and he felt feverish. Olympics month was here and he couldn't let it pass. If he did, it would be the final surrender and he would be lost for all time.

Omani threw his legs over the side of his bed and stood up. He was nearly six feet tall and the expression on his face gave him the look of a concerned Saint Bernard. He put his arm about George's shoulder, "If I hurt your feelings-

George shrugged him off. "You just said what you thought was the truth, and I'm going to prove it isn't the truth, that's all. Why not? The door's open. There aren't any locks. No one ever said I couldn't leave. I'll just walk out."

"All right, but where will you go?"

"To the nearest air terminal, then to the nearest Olympics center. I've got money." He seized the open jar that held the wages he had put away. Some of the coins jangled to the floor.

"That will last you a week maybe. Then what?"

"By then I'll have things settled."

"By then you'll come crawling back here," said Omani earnestly, "with all the progress you've made to do over again. You're mad, George."

"Feeble-minded is the word you used before."

"Well, I'm sorry I did. Stay here, will you?"

"Are you going to try to stop me?"

Omani compressed his full lips. "No, I guess I won't. This is your business. If the only way you can learn is to buck the world and come back with blood on your face, go ahead.-Well, go ahead."

George was in the doorway now, looking back over his shoulder. "I'm going," -he came back to pick up his pocket grooming set slowly- "I hope you don't object to my taking a few personal belongings."

Omani shrugged. He was in bed again reading, indifferent.

George lingered at the door again, but Omani didn't look up. George gritted his teeth, turned and walked rapidly down the empty corridor and out into the night-shrouded grounds.

He had expected to be stopped before leaving the grounds. He wasn't. He had stopped at an all-night diner to ask directions to an air terminal and expected the proprietor to call the police. That didn't happen. He summoned a skimmer to take him to the airport and the driver asked no questions.

Yet he felt no lift at that. He arrived at the airport sick at heart. He had not realized how the outer world would be. He was surrounded by professionals. The diner's proprietor had had his name inscribed on the plastic shell over the cash register. So and so, Registered Cook. The man in the skimmer had his license up, Registered Chauffeur. George felt the bareness of his name and experienced a kind of nakedness because of it; worse, he felt skinned. But no one challenged him. No one studied him suspiciously and demanded proof of professional rating.

George thought bitterly: Who would imagine any human being without one?

He bought a ticket to San Francisco on the 3 A.M. plane. No other plane for a sizable Olympics center was leaving before morning and he wanted to wait as little as possible. As it was, he sat huddled in the waiting room, watching for the police. They did not come.

He was in San Francisco before noon and the noise of the city struck him like a blow. This was the largest city he had ever seen and he had been used to silence and calm for a year and a half now.

Worse, it was Olympics month. He almost forgot his own predicament in his sudden awareness that some of the noise, excitement, confusion was due to that.

The Olympics boards were up at the airport for the benefit of the incoming travelers, and crowds jostled around each one. Each major profession had its own board. Each listed directions to the Olympics Hall where the contest for that day for that profession would be given; the individuals competing and their city of birth; the Outworld (if any) sponsoring it.

It was a completely stylized thing. George had read descriptions often enough in the newsprints and films, watched matches on television, and even witnessed a small Olympics in the Registered Butcher classification at the county seat. Even that, which had no conceivable Galactic implication (there was no Outworlder in attendance, of course) aroused excitement enough.

Partly, the excitement was caused simply by the fact of competition, partly by the spur of local pride (oh, when there was a home-town boy to cheer for, though he might be a complete stranger), and, of course, partly by betting. There was no way of stopping the last.

George found it difficult to approach the board. He found himself looking at the scurrying, avid onlookers in a new way.

There must have been a time when they themselves were Olympic material. What had they done? Nothing!

If they had been winners, they would be far out in the Galaxy somewhere, not stuck here on Earth. Whatever they were, their professions must have made them Earth-bait from the beginning; or else they had made themselves Earth-bait by inefficiency at whatever high-specialized professions they had had.

Now these failures stood about and speculated on the chances of newer and younger men. Vultures!

How he wished they were speculating on him.

He moved down the line of boards blandly, clinging to the outskirts of the groups about them. He had eaten breakfast on the strato and he wasn't hungry. He was afraid, though. He was in a big city during the confusion of the beginning of Olympics competition. That was protection, sure. The city was full of strangers. No one would question George. No one would care about George.

No one would care. Not even the House, thought George bitterly. They cared for him like a sick kitten, but if a sick kitten up and wanders off, well, too bad, what can you do?

And now that he was in San Francisco, what did he do? His thoughts struck blankly against a wall. See someone? Whom? How? Where would he even stay? The money he had left seemed pitiful.

The first shamefaced thought of going back came to him. He could go to the police- He shook his head violently as though arguing with a material adversary.

A word caught his eye on one of the boards, gleaming there: Metallurgist. In smaller letters, nonferrous. At the bottom of a long list of names, in flowing script, sponsored by Novia.

It induced painful memories: himself arguing with Trevelyan, so certain that he himself would be a Programmer, so certain that a Programmer was superior to a Metallurgist, so certain that he was following the right course, so certain that he was clever- So clever that he had to boast to that small-minded, vindictive Antonelli.

He had been so sure of himself that moment when he had been called and had left the nervous Trevelyan standing there, so cocksure.

George cried out in a short, incoherent high-pitched gasp. Someone turned to look at him, then hurried on. People brushed past impatiently pushing him this way and that. He remained staring at the board, open-mouthed.

It was as though the board had answered his thought. He was thinking "Trevelyan" so hard that it had seemed for a moment that of course the board would say "Trevelyan" back at him.

But that was Trevelyan, up there. And Armand Trevelyan (Stubby's hated first name; up in lights for everyone to see) and the right hometown. What's more, Trev had wanted Novia, aimed for Novia, insisted on Novia; and this competition was sponsored by Novia.

This had to be Trev; good old Trev. Almost without thinking, he noted the directions for getting to the place of competition and took his place in line for a skimmer.

Then he thought somberly: Trev made it. He wanted to be a Metallurgist, and he made it!

George felt colder, more alone than ever.

There was a line waiting to enter the hall. Apparently, Metallurgy Olympics was to be an exciting and closely fought one. At least, the illuminated sky sign above the hail said so, and the jostling crowd seemed to think so.

It would have been a rainy day, George thought, from the color of the sky, but San Francisco had drawn the shield across its breadth from bay to ocean. It was an expense to do so, of course, but all expenses were warranted where the comfort of Outworlders was concerned. They would be in town for the Olympics. They were heavy spenders. And for each recruit taken, there would be a fee both to Earth and to the local government from the planet sponsoring the Olympics. It paid to keep Outworlders in mind of a particular city as a pleasant place in which to spend Olympics time. San Francisco knew what it was doing.

George, lost in thought, was suddenly aware of a gentle pressure on his shoulder blade and a voice saying, "Are you in line here, young man?"

The line had moved up without George's having noticed the widening gap. He stepped forward hastily and muttered, "Sony, sir."

There was the touch of two fingers on the elbow of his jacket and he looked about furtively.

The man behind him nodded cheerfully. He had iron-gray hair, and under his jacket he wore an old-fashioned sweater that buttoned down in front. He said, "I didn't mean to sound sarcastic."

"No offense."

"All right, then." He sounded cozily talkative. "I wasn't sure you might not simply be standing there, entangled with the line, so to speak, only by accident. I thought you might be a-"

"A what?" said George sharply.

"Why, a contestant, of course. You look young."

George turned away. He felt neither cozy nor talkative, and bitterly impatient with busybodies.

A thought struck him. Had an alarm been sent out for him? Was his description known, or his picture? Was Gray-hair behind him trying to get a good look at his face?

He hadn't seen any news reports. He craned his neck to see the moving strip of news headlines parading across one section of the city shield, somewhat lackluster against the gray of the cloudy afternoon sky. It was no use. He gave up at once. The headlines would never concern themselves with him. This was Olympics time and the only news worth headlining was the comparative scores of the winners and the trophies won by continents, nations, and cities.

It would go on like that for weeks, with scores calculated on a per capita basis and every city finding some way of calculating itself into a position of honor. His own town had once placed third in an Olympics covering Wiring Technician; third in the whole state. There was still a plaque saying so in Town Hall.

George hunched his head between his shoulders and shoved his hands in his pocket and decided that made him more noticeable. He relaxed and tried to look unconcerned, and felt no safer. He was in the lobby now, and no authoritative hand had yet been laid on his shoulder. He filed into the hall itself and moved as far forward as he could.

It was with an unpleasant shock that he noticed Gray-hair next to him. He looked away quickly and tried reasoning with himself. The man had been right behind him in line after all.

Gray-hair, beyond a brief and tentative smile, paid no attention to him and, besides, the Olympics was about to start. George rose in his seat to see if he could make out the position assigned to Trevelyan and at the moment that was all his concern.

The hall was moderate in size and shaped in the classical long oval, with the spectators in the two balconies running completely about the rim and the contestants in the linear trough down the center. The machines were set up, the progress boards above each bench were dark, except for the name and contest number of each man. The contestants themselves were on the scene, reading, talking together; one was checking

his fingernails minutely. (It was, of course, considered bad form for any contestant to pay any attention to the problem before him until the instant of the starting signal.)

George studied the program sheet he found in the appropriate slot in the arm of his chair and found Trevelyan's name. His number was twelve and, to George's chagrin, that was at the wrong end of the hail. He could make out the figure of Contestant Twelve, standing with his hands in his pockets, back to his machine, and staring at the audience as though he were counting the house. George couldn't make out the face.

Still, that was Trev.

George sank back in his seat. He wondered if Trev would do well. He hoped, as a matter of conscious duty, that he would, and yet there was something within him that felt rebelliously resentful. George, profession-less, here, watching. Trevelyan, Registered Metallurgist, Nonferrous, there, competing.

George wondered if Trevelyan had competed in his first year. Sometimes men did, if they felt particularly confident-or hurried. It involved a certain risk. However efficient the Educative process, a preliminary year on Earth ("oiling the stiff knowledge," as the expression went) insured a higher score.

If Trevelyan was repeating, maybe he wasn't doing so well. George felt ashamed that the thought pleased him just a bit.

He looked about. The stands were almost full. This would be a well-attended Olympics, which meant greater strain on the contestants-or greater drive, perhaps, depending on the individual.

Why Olympics, he thought suddenly? He had never known. Why was bread called bread?

Once he had asked his father: "Why do they call it Olympics, Dad?"

And his father had said: "Olympics means competition."

George had said: "Is when Stubby and I fight an Olympics, Dad?"

Platen, Senior, had said: "No. Olympics is a special kind of competition and don't ask silly questions. You'll know all you have to know when you get Educated."

George, back in the present, sighed and crowded down into his seat.

All you have to know!

Funny that the memory should be so clear now. "When you get Educated." No one ever said, "If you get Educated."

He always had asked silly questions, it seemed to him now. It was as though his mind had some instinctive foreknowledge of its inability to be Educated and had gone about asking questions in order to pick up scraps here and there as best it could.

And at the House they encouraged him to do so because they agreed with his mind's instinct. It was the only way.

He sat up suddenly. What the devil was he doing? Falling for that lie? Was it because Trev was there before him, an Educatee, competing in the Olympics that he himself was surrendering?

He wasn't feeble-minded! No!

And the shout of denial in his mind was echoed by the sudden clamor in the audience as everyone got to his feet.

The box seat in the very center of one long side of the oval was filling with an entourage wearing the colors of Novia, and the word "Novia" went up above them on the main board.

Novia was a Grade A world with a large population and a thoroughly developed civilization, perhaps the best in the Galaxy. It was the kind of world that every Earthman wanted to live in someday; or, failing that, to see his children live in. (George remembered Trevelyan's insistence on Novia as a goal-and there he was competing for it.)

The lights went out in that section of the ceiling above the audience and so did the wall lights. The central trough, in which the contestants waited, became floodlit.

Again George tried to make out Trevelyan. Too far.

The clear, polished voice of the announcer sounded. "Distinguished Novian sponsors. Ladies. Gentlemen. The Olympics competition for Metallurgist, Nonferrous, is about to begin. The contestants are--"

Carefully and conscientiously, he read off the list in the program. Names. Home towns. Educative years. Each name received its cheers, the San Franciscans among them receiving the loudest. When Trevelyan's name was reached, George surprised himself by shouting and waving madly. The gray-haired man next to him surprised him even more by cheering likewise.

George could not help but stare in astonishment and his neighbor leaned over to say (speaking loudly in order to be heard over the hubbub), "No one here from my home town; I'll root for yours. Someone you know?"

George shrank back. "No."

"I noticed you looking in that direction. Would you like to borrow my glasses?"

"No. Thank you." (Why didn't the old fool mind his own business?)

The announcer went on with other formal details concerning the serial number of the competition, the method of timing and scoring and so on. Finally, he approached the meat of the matter and the audience grew silent as it listened.

"Each contestant will be supplied with a bar of nonferrous alloy of unspecified composition. He will be required to sample and assay the bar, reporting all results correctly to four decimals in percent. All will utilize for this purpose a Beeman Microspectrograph, Model FX-2, each of which is, at the moment, not in working order."

There was an appreciative shout from the audience.

"Each contestant will be required to analyze the fault of his machine and correct it. Tools and spare parts are supplied. The spare part necessary may not be present, in which case it must be asked for, and time of delivery thereof will be deducted from final time. Are all contestants ready?"

The board above Contestant Five flashed a frantic red signal. Contestant Five ran off the floor and returned a moment later. The audience laughed good-naturedly.

"Are all contestants ready?"

The boards remained blank.

"Any questions?"

Still blank.

"You may begin."

There was, of course, no way anyone in the audience could tell how any contestant was progressing except for whatever notations went up on the notice board. But then, that didn't matter. Except for what professional Metallurgists there might be in the audience, none would understand anything about the contest professionally in any case. What was important was who won, who was second, who was third. For those who had bets on the standings (illegal, but unpreventable) that was all-important. Everything else might go hang.

George watched as eagerly as the rest, glancing from one contestant to the next, observing how this one had removed the cover from his microspectrograph with deft strokes of a small instrument; how that one was peering into the face of the thing; how still a third was setting his alloy bar into its holder; and how a fourth adjusted a vernier with such small touches that he seemed momentarily frozen.

Trevelyan was as absorbed as the rest. George had no way of telling how he was doing.

The notice board over Contestant Seventeen flashed: 'Focus plate out of adjustment.'

The audience cheered wildly.

Contestant Seventeen might be right and he might, of course, be wrong. If the latter, he would have to correct his diagnosis later and lose time. Or he might never correct his diagnosis and be unable to complete his analysis or, worse still, end with a completely wrong analysis.

Never mind. For the moment, the audience cheered.

Other boards lit up. George watched for Board Twelve. That came on finally: "Sample holder off-center. New clamp depresser needed."

An attendant went running to him with a new part. If Trevelyan was wrong, it would mean useless delay. Nor would the time elapsed in waiting for the part be deducted. George found himself holding his breath.

Results were beginning to go up on Board Seventeen, in gleaming letters: aluminum, 41.2649; magnesium, 22.1914; copper, 10.1001. Here and there, other boards began sprouting figures.

The audience was in bedlam.

George wondered how the contestants could work in such pandemonium, then wondered if that were not even a good thing. A first-class technician should work best under pressure.

Seventeen rose from his place as his board went red-rimmed to signify completion. Four was only two seconds behind him. Another, then another.

Trevelyan was still working, the minor constituents of his alloy bar still unreported. With nearly all contestants standing, Trevelyan finally rose, also. Then, tailing off, Five rose, and received an ironic cheer.

It wasn't over. Official announcements were naturally delayed. Time elapsed was something, but accuracy was just as important. And not all diagnoses were of equal difficulty. A dozen factors had to be weighed.

Finally, the announcer's voice sounded, "Winner in the time of four minutes and twelve seconds, diagnosis correct, analysis correct within an average of zero point seven parts per hundred thousand, Contestant Number-Seventeen, Henry Anton Schmidt of-"

What followed was drowned in the screaming. Number Eight was next and then Four, whose good time was spoiled by a five part in ten thousand error in the niobium figure. Twelve was never mentioned. He was an also-ran.

George made his way through the crowd to the Contestants' Door and found a large clot of humanity ahead of him. There would be weeping relatives (joy or sorrow, depending) to greet them, newsmen to interview the top-scorers, or the home-town boys, autograph hounds, publicity seekers and the just plain curious. Girls, too, who might hope to catch the eye of a top-scorer, almost certainly headed for Novia (or perhaps a low-scorer who needed consolation and had the cash to afford it).

George hung back. He saw no one he knew. With San Francisco so far from home, it seemed pretty safe to assume that there would be no relatives to condole with Trev on the spot.

Contestants emerged, smiling wealdy, nodding at shouts of approval. Policemen kept the crowds far enough away to allow a lane for walking. Each high-scorer drew a portion of the crowd off with him, like a magnet pushing through a mound of iron filings.

When Trevelyan walked out, scarcely anyone was left. (George felt somehow that he had delayed coming out until just that had come to pass.) There was a cigarette in his dour mouth and he turned, eyes downcast, to walk off.

It was the first hint of home George had had in what was almost a year and a half and seemed almost a decade and a half. He was almost amazed that Trevelyan hadn't aged, that he was the same Trev he had last seen.

George sprang forward. "Trev!"

Trevelyan spun about, astonished. He stared at George and then his hand shot out. "George Platen, what the devil-"

And almost as soon as the look of pleasure had crossed his face, it left. His hand dropped before George had quite the chance of seizing it.

"Were you in there?" A curt jerk of Trev's head indicated the hail.

"I was."

"To see me?"

"Yes."

"Didn't do so well, did I?" He dropped his cigarette and stepped on it, staring off to the street, where the emerging crowd was slowly eddying and finding its way into skimmers, while new lines were forming for the next scheduled Olympics.

Trevelyan said heavily, "So what? It's only the second time I missed. Novia can go shove after the deal I got today. There are planets that would jump at me fast enough- But, listen, I haven't seen you since Education Day. Where did you go? Your folks said you were on special assignment but gave no details and you never wrote. You might have written."

"I should have," said George uneasily. "Anyway, I came to say I was sorry the way things went just now."

"Don't be," said Trevelyan. "I told you. Novia can go shove- At that I should have known. They've been saying for weeks that the Beeman machine would be used. All the wise money was on Beeman machines. The damned Education tapes they ran through me were for Henslers and who uses Henslers? The worlds in the Goman Cluster if you want to call them worlds. Wasn't that a nice deal they gave me?"

"Can't you complain to-"

"Don't be a fool. They'll tell me my brain was built for Henslers. Go argue. Everything went wrong. I was the only one who had to send out for a piece of equipment. Notice that?"

"They deducted the time for that, though."

"Sure, but I lost time wondering if I could be right in my diagnosis when I noticed there wasn't any clamp depressor in the parts they had supplied. They don't deduct for that. If it had been a Hensler, I would have known I was right. How could I match up then? The top winner was a San Franciscan. So were three of the next four. And the fifth guy was from Los Angeles. They get big-city Educational tapes. The best available. Beeman spectrographs and all. How do I compete with them? I came all the way out here just to get a chance at a Novian-sponsored Olympics in my classification and I might just as well have stayed home. I knew it, I tell you, and that settles it. Novia isn't the only chunk of rock in space. Of all the damned-"

He wasn't speaking to George. He wasn't speaking to anyone. He was just uncorked and frothing. George realized that.

George said, "If you knew in advance that the Beemans were going to be used, couldn't you have studied up on them?"

"They weren't in my tapes, I tell you."

"You could have read-books."

The last word had trailed off under Trevelyan's suddenly sharp look.

Trevelyan said, "Are you trying to make a big laugh out of this? You think this is funny? How do you expect me to read some book and try to memorize enough to match someone else who knows."

"I thought-"

"You try it. You try-" Then, suddenly, "What's your profession, by the way?" He sounded thoroughly hostile.

"Well-"

"Come on, now. If you're going to be a wise guru with me, let's see what you've done. You're still on Earth, I notice, so you're not a Computer Programmer and your special assignment can't be much."

George said, "Listen, Trev. I'm late for an appointment." He backed away, trying to smile.

"No, you don't." Trevelyan reached out fiercely, catching hold of George's jacket. "You answer my question. Why are you afraid to tell me? What is it with you? Don't come here rubbing a bad showing in my face, George, unless you can take it, too. Do you hear me?"

He was shaking George in frenzy and they were struggling and swaying across the floor, when the Voice of Doom struck George's ear in the form of a policeman's outraged call.

"All right now. All right. Break it up."

George's heart turned to lead and lurched sickeningly. The policeman would be taking names, asking to see identity cards, and George lacked one. He would be questioned and his lack of profession would show at once; and before Trevelyan, too, who ached with the pain of the drubbing he had taken and would spread the news back home as a salve for his own hurt feelings.

George couldn't stand that. He broke away from Trevelyan and made to run, but the policeman's heavy hand was on his shoulder. "Hold on, there. Let's see your identity card."

Trevelyan was fumbling for his, saying harshly. "I'm Annand Trevelyan, Metallurgist, Nonferrous. I was just competing in the Olympics. You better find out about him, though, officer."

George faced the two, lips dry and throat thickened past speech.

Another voice sounded, quiet, well-mannered. "Officer. One moment."

The policeman stepped back. "Yes, sir?"

"This young man is my guest. What is the trouble?"

George looked about in wild surprise. It was the gray-haired man who had been sitting next to him. Gray-hair nodded benignly at George.

Guest? Was he mad?

The policeman was saying, "These two were creating a disturbance, sir."

"Any criminal charges? Any damages?"

"No, sir."

"Well, then, I'll be responsible." He presented a small card to the policeman's view and the latter stepped back at once.

Trevelyan began indignantly. "Hold on, now-" but the policeman turned on him.

"All right now. Got any charges?"

"I just-"

"On your way. The rest of you-move on." A sizable crowd had gathered, which now, reluctantly, unknotted itself and raveled away.

George let himself be led to a skimmer but balked at entering. He said, "Thank you, but I'm not your guest." (Could it be a ridiculous case of mistaken identity?)

But Gray-hair smiled and said, "You weren't but you are now. Let me introduce myself, I'm Ladislas Ingenescu, Registered Historian."

"But-"

"Come, you will come to no harm, I assure you. After all, I only wanted to spare you some trouble with a policeman."

"But why?"

"Do you want a reason? Well, then, say that we're honorary towns-mates, you and I. We both shouted for the same man, remember, and we townspeople must stick together, even if the tie is only honorary. Eh?"

And George, completely unsure of this man, Ingenescu, and of himself as well, found himself inside the skimmer. Before he could make up his mind that he ought to get off again, they were off the ground.

He thought confusedly: 'The man has some status. The policeman deferred to him.'

He was almost forgetting that his real purpose here in San Francisco was not to find Trevelyan but to find some person with enough influence to force a reappraisal of his own capacity of Education.

It could be that Ingenescu was such a man. And right in George's lap. Everything could be working out fine-fine. Yet it sounded hollow in his thought. He was uneasy.

During the short skimmer-hop, Ingenescu kept up an even flow of small-talk, pointing out the landmarks of the city, reminiscing about past Olympics he had seen. George, who paid just enough attention to make vague sounds during the pauses, watched the route of flight anxiously.

Would they head for one of the shield-openings and leave the city altogether?

No, they headed downward, and George sighed his relief softly. He felt safer in the city.

The skimmer landed at the roof-entry of a hotel and, as he alighted, Ingenescu said, "I hope you'll eat dinner with me in my room?"

George said, "Yes," and grinned unaffectedly. He was just beginning to realize the gap left within him by missing lunch.

Ingenescu let George eat in silence. Night closed in and the wall lights went on automatically. (George thought: I've been on my own almost twenty-four hours.)

And then over the coffee, Ingenescu finally spoke again. He said, "You've been acting as though you think I intend you harm."

George reddened, put down his cup and tried to deny it, but the older man laughed and shook his head.

"It's so. I've been watching you closely since I first saw you and I think I know a great deal about you now."

George half rose in horror.

Ingenescu said, "But sit down. I only want to help you."

George sat down but his thoughts were in a whirl. If the old man knew who he was, why had he not left him to the policeman? On the other hand, why should he volunteer help?

Ingenescu said, "You want to know why I should want to help you? Oh, don't look alarmed. I can't read minds. It's just that my training enables me to judge the little reactions that give minds away, you see. Do you understand that?"

George shook his head.

Ingenescu said, "Consider my first sight of you. You were waiting in line to watch an Olympics, and your micro-reactions didn't match what you were doing. The expression of your face was wrong, the action of your hands was wrong. It meant that something, in general, was wrong, and the interesting thing was that, whatever it was, it was nothing common, nothing obvious. Perhaps, I thought, it was something of which your own conscious mind was unaware.

"I couldn't help but follow you, sit next to you. I followed you again when you left and eavesdropped on the conversation between your friend and yourself. After that, well, you were far too interesting an object of study-I'm sorry if that sounds cold-blooded----for me to allow you to be taken off by a policeman. -Now tell me, what is it that troubles you?"

George was in an agony of indecision. If this was a trap, why should it be such an indirect, roundabout one? And he had to turn to someone. He had come to the city to find help and here was help being offered. Perhaps what was wrong was that it was being offered. It came too easy.

Ingenescu said, "Of course, what you tell me as a Social Scientist is a privileged communication. Do you know what that means?"

"No, sir."

"It means, it would be dishonorable for me to repeat what you say to anyone for any purpose. Moreover no one has the legal right to compel me to repeat it."

George said, with sudden suspicion, "I thought you were a Historian."

"So I am."

"Just now you said you were a Social Scientist."

Ingenescu broke into loud laughter and apologized for it when he could talk. "I'm sorry, young man, I shouldn't laugh, and I wasn't really laughing at you. I was laughing at Earth and its emphasis on physical science, and the practical segments of it at that. I'll bet you can rattle off every subdivision of construction technology or mechanical engineering and yet you're a blank on social science."

"Well, then what is social science?"

"Social science studies groups of human beings and there are many high-specialized branches to it, just as there are to zoology, for instance. For instance, there are Culturists, who study the mechanics of cultures, their growth, development, and decay. Cultures," he added, forestalling a question, "are all the aspects of a way of life. For instance, it includes the way we make our living, the things we enjoy and believe, what we consider good and bad and soon. Do you understand?"

"I think I do."

"An Economist-not an Economic Statistician, now, but an Economist-specialized in the study of the way a culture supplies the bodily needs of its individual members. A Psychologist specializes in the individual member of a society and how he is affected by the society. A Futurist specializes in planning the future course of a society, and a Historian- That's where I come in, now."

"Yes, sir."

"A Historian specializes in the past development of our own society and of societies with other cultures."

George found himself interested. "Was it different in the past?"

"I should say it was. Until a thousand years ago, there was no Education, not what we call Education, at least."

George said, "I know. People learned in bits and pieces out of books."

"Why, how do you know this?"

"I've heard it said," George said cautiously. Then, "Is there any use in worrying about what's happened long ago? I mean, it's all done with, isn't it?"

"It's never done with, my boy. The past explains the present. For instance, why is our Educational system what it is?"

George stirred restlessly. The man kept bringing the subject back to that. He said snappishly, "Because it's best."

"Ah, but why is it best?" Now you listen to me for one moment and I'll explain. Then you can tell me if there is any use in history. Even before interstellar travel was developed-" He broke off at the look of complete astonishment on George's face. "Well, did you think we always had it?"

"I never gave it any thought, sir."

"I'm sure you didn't. But there was a time, four or five thousand years ago, when mankind was confined to the surface of Earth. Even then, his culture had grown quite technological and his numbers had increased to the point where any failure in technology would have meant mass starvation and disease. To maintain the technological level and advance it in the face of an increasing population, more and more technicians and scientists had to be trained, and yet, as science advanced, it took longer and longer to train them.

"As first interplanetary and then interstellar travel was developed, the problem grew more acute. In fact, actual colonization of extra-Solar planets was impossible for about fifteen hundred years because of a lack of properly trained men.

"The turning point came when the mechanics of the storage of knowledge within the brain was worked out. Once that had been done, it became possible to devise Educational tapes that would modify the mechanics in such a way as to place within the mind a body of knowledge ready-made so to speak. But you know about that.

"Once that was done, trained men could be turned out by the thousands and millions, and we could begin what someone has since called the 'Filling of the Universe.'

There are now fifteen hundred inhabited planets in the Galaxy and there is no end in sight.

"Do you see all that is involved? Earth exports Education tapes for low-specialized professions and that keeps the Galactic culture unified. For instance, the Reading tapes insure a single language for all of us. -Don't look so surprised, other languages are possible, and in the past were used. Hundreds of them.

"Earth also exports high-specialized professionals and keeps its own population at an endurable level. Since they are shipped out in a balanced sex ratio, they act as self-reproductive units and help increase the populations on the Outworlds where an increase is needed. Furthermore, tapes and men are paid for in material which we much need and on which our economy depends. Now do you understand why our Education is the best way?"

"Yes, sir."

"Does it help you to understand, knowing that without it, interstellar colonization was impossible for fifteen hundred years?"

"Yes, sir."

"Then you see the uses of history." The Historian smiled. "And now I wonder if you see why I'm interested in you?"

George snapped out of time and space back to reality. Ingenescu, apparently, didn't talk aimlessly. All this lecture had been a device to attack him from a new angle.

He said, once again withdrawn, hesitating, "Why?"

"Social Scientists work with societies and societies are made up of people."

'All right.

"But people aren't machines. The professionals in physical science work with machines. There is only a limited amount to know about a machine and the professionals know it all. Furthermore, all machines of a given sort are just about alike so that there is nothing to interest them in any given individual machine. But people, ah- They are so complex and so different one from another that a Social Scientist never knows all there is to know or even a good part of what there is to know. To understand his own specialty, he must always be ready to study people; particularly unusual Specimens."

"Like me," said George tonelessly.

"I shouldn't call you a specimen, I suppose, but you are unusual. You're worth studying, and if you will allow me that privilege then, in return, I will help you if you are in trouble and if I can."

There were pin wheels whirring in George's mind. -All this talk about people and colonization made possible by Education. It was as though caked thought within him were being broken up and strewn about mercilessly.

He said, "Let me think," and clamped his hands over his ears.

He took them away and said to the Historian, "Will you do something for me, sir?"

"If I can," said the Historian amiably.

"And everything I say in this room is a privileged communication. You said so."

"And I meant it."

"Then get me an interview with an Outworld official, with-with a Novian."

Ingenescu looked startled. "Well, now-"

"You can do it," said George earnestly. "You're an important official. I saw the policeman's look when you put that card in front of his eyes. If you refuse, I-I won't let you study me."

It sounded a silly threat in George's own ears, one without force. On Ingenescu, however, it seemed to have a strong effect.

He said, "That's an impossible condition. A Novian in Olympics month-"

"All right, then, get me a Novian on the phone and I'll make my own arrangements for an interview."

"Do you think you can?"

"I know I can. Wait and see."

Ingenescu stared at George thoughtfully and then reached for the visiphone.

George waited, half drunk with his new outlook on the whole problem and the sense of power it brought. It couldn't miss. It couldn't miss. He would be a Novian yet. He would leave Earth in triumph despite Antonelli and the whole crew of fools at the House for the (he almost laughed aloud) Feeble-minded.

George watched eagerly as the visiplate lit up. It would open up a window into a room of Novians, a window into a small patch of Novia transplanted to Earth. In twenty-four hours, he had accomplished that much.

There was a burst of laughter as the plate unmisted and sharpened, but for the moment no single head could be seen but rather the fast passing of the shadows of men and women, this way and that. A voice was heard, clear-worded over a background of babble. "Ingenescu? He wants me?"

Then there he was, staring out of the plate. A Novian. A genuine Novian. (George had not an atom of doubt. There was something completely Outworldly about him. Nothing that could be completely defined, or even momentarily mistaken.)

He was swarthy in complexion with a dark wave of hair combed rigidly back from his forehead. He wore a thin black mustache and a pointed beard, just as dark, that scarcely reached below, the lower limit of his narrow chin, but the rest of his face was so smooth that it looked as though it had been depilated permanently.

He was smiling. "Ladislav, this goes too far. We fully expect to be spied on, within reason, during our stay on Earth, but mind reading is out of bounds."

"Mind reading, Honorable?"

"Confess! You knew I was going to call this evening. You knew I was only waiting to finish this drink." His hand moved up into view and his eye peered through a small glass of a faintly violet liqueur. "I can't offer you one, I'm afraid."

George, out of range of Ingenescu's transmitter could not be seen by the Novian. He was relieved at that. He wanted time to compose himself and he needed it badly. It was as though he were made up exclusively of restless fingers, drumming, drumming- But he was right. He hadn't miscalculated. Ingenescu was important.

The Novian called him by his first name.

Good! Things worked well. What George had lost on Antonelli, he would make up, with advantage, on Ingenescu. And someday, when he was on his own at last, and could come back to Earth as powerful a Novian as this one who could negligently joke with Ingenescu's first name and be addressed as "Honorable" in turn-when he came back, he would settle with Antonelli. He had a year and a half to pay back and he- He all but lost his balance on the brink of the enticing daydream and snapped back in sudden anxious realization that he was losing the thread of what was going on.

The Novian was saying, "-doesn't hold water. Novia has a civilization as complicated and advanced as Earth's. We're not Zeston, after all. It's ridiculous that we have to come here for individual technicians."

Ingenescu said soothingly, "Only for new models. There is never any certainty that new models will be needed. To buy the Educational tapes would cost you the same price as a thousand technicians and how do you know you would need that many?"

The Novian tossed off what remained of his drink and laughed. (It displeased George, somehow, that a Novian should be this frivolous. He wondered uneasily if perhaps the Novian ought not to have skipped that drink and even the one or two before that.)

The Novian said, "That's typical pious fraud, Ladislas. You know we can make use of all the late models we can get. I collected five Metallurgists this afternoon-"

"I know," said Ingenescu. "I was there."

"Watching me! Spying!" cried the Novian. "I'll tell you what it is. The new-model Metallurgists I got differed from the previous model only in knowing the use of Beeman Spectrographs. The tapes couldn't be modified that much, not that much" (he held up two fingers close together) "from last year's model. You introduce the new models only to make us buy and spend and come here hat in hand."

"We don't make you buy."

"No, but you sell late-model technicians to Landonum and so we have to keep pace. It's a merry-go-round you have us on, you pious Earthmen, but watch out, there may be an exit somewhere." There was a sharp edge to his laugh, and it ended sooner than it should have.

Ingenescu said, "In all honesty, I hope there is. Meanwhile, as to the purpose of my call-"

"That's right, you called. Oh, well, I've said my say and I suppose next year there'll be a new model of Metallurgist anyway for us to spend goods on, probably with a new gimmick for niobium assays and nothing else altered and the next year- But go on, what is it you want?"

"I have a young man here to whom I wish you to speak."

"Oh?" The Novian looked not completely pleased with that. "Concerning what?"

"I can't say. He hasn't told me. For that matter he hasn't even told me his name and profession."

The Novian frowned. "Then why take up my time?"

"He seems quite confident that you will be interested in what he has to say."

"I dare say."

"And," said Ingenescu, "as a favor to me."

The Novian shrugged. "Put him on and tell him to make it short."

Ingenescu stepped aside and whispered to George, "Address him as 'Honorable.'"

George swallowed with difficulty. This was it.

George felt himself going moist with perspiration. The thought had come so recently, yet it was in him now so certainly. The beginnings of it had come when he had spoken to Trevelyan, then everything had fermented and billowed into shape while Ingenescu had prattled, and then the Novian's own remarks had seemed to nail it all into place.

George said, "Honorable, I've come to show you the exit from the merry-go-round." Deliberately, he adopted the Novian's own metaphor.

The Novian stared at him gravely. "What merry-go-round?"

"You yourself mentioned it, Honorable. The merry-go-round that Novia is on when you come to Earth to get technicians." (He couldn't keep his teeth from chattering; from excitement, not fear.)

The Novian said, "You're trying to say that you know a way by which we can avoid patronizing Earth's mental supermarket. Is that it?"

"Yes, sir. You can control your own Educational system."

"Umm. Without tapes?"

"Y-yes, Honorable."

The Novian, without taking his eyes from George, called out, "Ingenescu, get into view."

The Historian moved to where he could be seen over George's shoulder.

The Novian said, "What is this? I don't seem to penetrate."

"I assure you solemnly," said Ingenescu, "that whatever this is it is being done on the young man's own initiative, Honorable. I have not inspired this. I have nothing to do with it."

"Well, then, what is the young man to you? Why do you call me on his behalf?"

Ingenescu said, "He is an object of study, Honorable. He has value to me and I humor him."

"What kind of value?"

"It's difficult to explain; a matter of my profession."

The Novian laughed shortly. "Well, to each his profession." He nodded to an invisible person or persons outside plate range. "There's a young man here, a protégé of Ingenescu or some such thing, who will explain to us how to Educate without tapes." He snapped his fingers, and another glass of pale liqueur appeared in his hand. "Well, young man?"

The faces on the plate were multiple now. Men and women, both, crammed in for a view of George, their faces molded into various shades of amusement and curiosity.

George tried to look disdainful. They were all, in their own ways, Novians as well as the Earthman, "studying" him as though he were a bug on a pin. Ingenescu was sitting in a corner, now, watching him owl-eyed.

Fools, he thought tensely, one and all. But they would have to understand. He would make them understand.

He said, "I was at the Metallurgist Olympics this afternoon."

"You, too?" said the Novian blandly. "It seems all Earth was there."

"No, Honorable, but I was. I had a friend who competed and who made out very badly because you were using the Beeman machines. His education had included only the Henslers, apparently an older model. You said the modification involved was slight." George held up two fingers close together in conscious mimicry of the other's previous gesture. "And my friend had known some time in advance that knowledge of the Beeman machines would be required."

"And what does that signify?"

"It was my friend's lifelong ambition to qualify for Novia. He already knew the Henslers. He had to know the Beemans to qualify and he knew that. To learn about the Beemans would have taken just a few more facts, a bit more data, a small amount of practice perhaps. With a life's ambition ending the scale, he might have managed this--"

"And where would he have obtained a tape for the additional facts and data? Or has Education become a private matter for home study here on Earth?"

There was dutiful laughter from the faces in the background.

George said, "That's why he didn't learn, Honorable. He thought he needed a tape. He wouldn't even try without one, no matter what the prize. He refused to try without a tape."

"Refused, eh? Probably the type of fellow who would refuse to fly without a skimmer." More laughter and the Novian thawed into a smile and said, "The fellow is amusing. Go on. I'll give you another few moments."

George said tensely, "Don't think this is a joke. Tapes are actually bad. They teach too much; they're too painless. A man who learns that way doesn't know how to learn any other way. He's frozen into whatever position he's been taped. Now if a person weren't given tapes but were forced to learn by hand, so to speak, from the start; why, then he'd get the habit of learning, and continue to learn. Isn't that reasonable? Once he has the habit well developed he can be given just a small amount of tape-knowledge, perhaps, to fill in gaps or fix details. Then he can make further progress on his own. You can make Beeman Metallurgists out of your own Hensler Metallurgists in that way and not have to come to Earth for new models."

The Novian nodded and sipped at his drink. "And where does everyone get knowledge without tapes? From interstellar vacuum?"

"From books. By studying the instruments themselves. By thinking."

"Books? How does one understand books without Education?"

Books are in words. Words can be understood for the most part. Specialized words can be explained by the technicians you already have."

"What about reading? Will you allow reading tapes?"

"Reading tapes are all right, I suppose, but there's no reason you can't learn to read the old way, too. At least in part."

The Novian said, "So that you can develop good habits from the start?"

"Yes, yes," George said gleefully. The man was beginning to understand.

"And what about mathematics?"

"That's the easiest of all, sir-Honorable. Mathematics is different from other technical subjects. It starts with certain simple principles and proceeds by steps. You can start with nothing and learn. It's practically designed for that. Then, once you know the proper types of mathematics, other technical books become quite understandable. Especially if you start with easy ones."

"Are there easy books?"

"Definitely. Even if there weren't, the technicians you now have can try to write easy books. Some of them might be able to put some of their knowledge into words and symbols."

"Good Lord," said the Novian to the men clustered about him. "The young devil has an answer for everything."

"I have. I have," shouted George. "Ask me."

"Have you tried learning from books yourself? Or is this just theory with you?"

George turned to look quickly at Ingenescu, but the Historian was passive. There was no sign of anything but gentle interest in his face.

George said, "I have."

"And do you find it works?"

"Yes, Honorable," said George eagerly. "Take me with you to Novia. I can set up a program and direct-"

"Wait, I have a few more questions. How long would it take, do you suppose, for you to become a Metallurgist capable of handling a Beeman machine, supposing you started from nothing and did not use Educational tapes?"

George hesitated. "Well-years, perhaps."

"Two years? Five? Ten?"

"I can't say, Honorable."

"Well, there's a vital question to which you have no answer, have you? Shall we say five years? Does that sound reasonable to you?"

"I suppose so."

"All right. We have a technician studying metallurgy according to this method of yours for five years. He's no good to us during that time, you'll admit, but he must be fed and housed and paid for all that time."

"But-"

"Let me finish. Then when he's done and can use the Beeman, five years have passed. Don't you suppose we'll have modified Beemans then which he won't be able to use?"

"But by then he'll be expert on learning. He could learn the new details necessary in a matter of days."

"So you say. And suppose this friend of yours, for instance, had studied up on Beemans on his own and managed to learn it; would he be as expert in its use as a competitor who had learned it off the tapes?"

"Maybe not-" began George.

"Ah," said the Novian.

"Wait, let me finish. Even if he doesn't know something as well, it's the ability to learn further that's important. He may be able to think up things, new things that no tape-Educated man would. You'll have a reservoir of original thinkers-"

"In your studying," said the Novian, "have you thought up any new things?"

"No, but I'm just one man and I haven't studied long-"

"Yes. -Well, ladies, gentlemen, have we been sufficiently amused?"

"Wait," cried George, in sudden panic. "I want to arrange a personal interview. There are things I can't explain over the visiphone. There are details-"

The Novian looked past George. "Ingenescu! I think I have done you your favor. Now, really, I have a heavy schedule tomorrow. Be well."

The screen went blank.

George's hands shot out toward the screen, as though in a wild impulse to shake life back into it. He cried out, "He didn't believe me. He didn't believe me."

Ingenescu said, "No, George. Did you really think he would?"

George scarcely heard him. "But why not? It's all true. It's all so much to his advantage. No risk. I and a few men to work with- A dozen men training for years would cost less than one technician. -He was drunk. Drunk! He didn't understand."

George looked about breathlessly. "How do I get to him? I've got to. This was wrong. Shouldn't have used the visiphone. I need time. Face to face. How do I-"

Ingenescu said, "He won't see you, George. And if he did, he wouldn't believe you."

"He will, I tell you. When he isn't drinking. He-" George turned squarely toward the Historian and his eyes widened. "Why do you call me George?"

"Isn't that your name? George Platen?"

"You know me?"

"All about you."

George was motionless except for the breath pumping his chest wall up and down.

Ingenescu said, "I want to help you, George. I told you that. I've been studying you and I want to help you."

George screamed, "I don't need help. I'm not feeble-minded. The whole world is, but I'm not." He whirled and dashed madly for the door.

He flung it open and two policemen roused themselves suddenly from their guard duty and seized him.

For all George's straining, he could feel the hypo-spray at the fleshy point just under the corner of his jaw, and that was it. The last thing he remembered was the face of Ingenesco, watching with gentle concern.

George opened his eyes to the whiteness of a ceiling. He remembered what had happened. He remembered it distantly as though it had happened to somebody else. He stared at the ceiling till the whiteness filled his eyes and washed his brain clean, leaving room, it seemed, for new thought and new ways of thinking.

He didn't know how long he lay there so, listening to the drift of his own thinking.

There was a voice in his ear. "Are you awake?"

And George heard his own moaning for the first time. Had he been moaning? He tried to turn his head.

The voice said, "Are you in pain, George?"

George whispered, "Funny. I was so anxious to leave Earth. I didn't understand."

"Do you know where you are?"

"Back in the-the House." George managed to turn. The voice be-longed to Omani.

George said, "It's funny I didn't understand."

Omani smiled gently, "Sleep again-"

George slept.

And woke again. His mind was clear.

Omani sat at the bedside reading, but he put down the book as George's eyes opened.

George struggled to a sitting position. He said, "Hello."

"Are you hungry?"

"You bet." He stared at Omani curiously. "I was followed when I left, wasn't I?"

Omani nodded. "You were under observation at all times. We were going to maneuver you to Antonelli and let you discharge your aggressions. We felt that to be the only way you could make progress. Your emotions were clogging your advance."

George said, with a trace of embarrassment, "I was all wrong about him."

"It doesn't matter now. When you stopped to stare at the Metallurgy notice board at the airport, one of our agents reported back the list of names. You and I had talked about your past sufficiently so that I caught the significance of Trevelyan's name there. You asked for directions to the Olympics; there was the possibility that this might result in the kind of crisis we were hoping for; we sent Ladislav Ingenesco to the hall to meet you and take over."

"He's an important man in the government, isn't he?"

"Yes, he is."

"And you had him take over. It makes me sound important."

"You are important, George."

A thick stew had arrived, steaming, fragrant. George grinned wolfishly and pushed his sheets back to free his arms. Omani helped arrange the bed-table. For a while, George ate silently.

Then George said, "I woke up here once before just for a short time."

Omani said, "I know. I was here."

"Yes, I remember. You know, everything was changed. It was as though I was too tired to feel emotion. I wasn't angry any more. I could just think. It was as though I had been drugged to wipe out emotion."

"You weren't," said Omani. "Just sedation. You had rested."

"Well, anyway, it was all clear to me, as though I had known it all the time but wouldn't listen to myself. I thought: What was it I had wanted Novia to let me do? I had wanted to go to Novia and take a batch of un-Educated youngsters and teach them out of books. I had wanted to establish a House for the Feeble-minded-like here-and Earth already has them-many of them."

Omani's white teeth gleamed as he smiled. "The Institute of Higher Studies is the correct name for places like this."

"Now I see it," said George, "so easily I am amazed at my blindness before. After all, who invents the new instrument models that require new-model technicians? Who invented the Beeman spectrographs, for instance? A man called Beeman, I suppose, but he couldn't have been tape-Educated or how could he have made the advance?"

"Exactly."

"Or who makes Educational tapes? Special tape-making technicians? Then who makes the tapes to train them? More advanced technicians? Then who makes the tapes- You see what I mean. Somewhere there has to be an end. Somewhere there must be men and women with capacity for original thought."

"Yes, George."

George leaned back, stared over Omani's head, and for a moment there was the return of something like restlessness to his eyes.

"Why wasn't I told all this at the beginning?"

"Oh, if we could," said Omani, "the trouble it would save us. We can analyze a mind, George, and say this one will make an adequate architect and that one a good woodworker. We know of no way of detecting the capacity for original, creative thought. It is too subtle a thing. We have some rule-of-thumb methods that mark out individuals who may possibly or potentially have such a talent."

"On Reading Day, such individuals are reported. You were, for instance. Roughly speaking, the number so reported comes to one in ten thousand. By the time Education Day arrives, these individuals are checked again, and nine out of ten of them turn out to have been false alarms. Those who remain are sent to places like this."

George said, "Well, what's wrong with telling people that one out of a hundred thousand will end at places like these? Then it won't be such a shock to those who do."

"And those who don't? The ninety-nine thousand nine hundred and ninety-nine that don't? We can't have all those people considering themselves failures. They aim at the professions and one way or another they all make it. Everyone can place after his or her name: Registered something-or-other. In one fashion or another every individual has his or her place in society and this is necessary."

"But we?" said George. "The one in ten thousand exception?"

"You can't be told. That's exactly it. It's the final test. Even after we've thinned out the possibilities on Education Day, nine out of ten of those who come here are not quite the material of creative genius, and there's no way we can distinguish those nine from the tenth that we want by any form of machinery. The tenth one must tell us himself."

"How?"

"We bring you here to a House for the Feeble-minded and the man who won't accept that is the man we want. It's a method that can be cruel, but it works. It won't do to say to a man, 'You can create. Do so.' It is much safer to wait for a man to say, 'I can create, and I will do so whether you wish it or not.' There are ten thousand men like you, George, who support the advancing technology of fifteen hundred worlds. We can't allow ourselves to miss one recruit to that number or waste our efforts on one member who doesn't measure up."

George pushed his empty plate out of the way and lifted a cup of coffee to his lips.

"What about the people here who don't-measure up?"

"They are taped eventually and become our Social Scientists. Ingenescu is one. I am a Registered Psychologist. We are second echelon, so to speak."

George finished his coffee. He said, "I still wonder about one thing."

"What is that?"

George threw aside the sheet and stood up. "Why do they call them Olympics?"

THE FEELING OF POWER

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Jehan Shuman was used to dealing with the men in authority on long-embattled Earth. He was only a civilian but he originated programming patterns that resulted in self-directing war computers of the highest sort. Generals consequently listened to him. Heads of congressional committees, too.

There was one of each in the special lounge of New Pentagon. General Weidef was space-burnt and had a small mouth puckered almost into a cipher. Congressman Brant was smooth-cheeked and clear-eyed. He smoked Denebian tobacco with the air of one whose patriotism was so notorious, he could be allowed such liberties.

Shuman, tall, distinguished, and Programmer-first-class, faced them fearlessly.

He said, "This, gentlemen, is Myron Aub."

"The one with the unusual gift that you discovered quite by accident," said Congressman Brant placidly. "Ah." He inspected the little man with the egg-bald head with amiable curiosity.

The little man, in return, twisted the fingers of his hands anxiously. He had never been near such great men before. He was only an aging low-grade Technician who had long ago failed all tests designed to smoke out the gifted ones among mankind and had settled into the rut of unskilled labor. There was just this hobby of his that the great Programmer had found out about and was now making such a frightening fuss over.

General Weider said, "I find this atmosphere of mystery childish."

"You won't in a moment," said Shuman. "This is not something we can leak to the firstcomer. -Aub!" There was something imperative about his manner of biting off that one-syllable name, but then he was a great Programmer speaking to a mere Technician. "Aub! How much is nine times seven?"

Aub hesitated a moment. His pale eyes glimmered with a feeble anxiety. "Sixty-three," he said.

Congressman Brant lifted his eyebrows. "Is that right?"

"Check it for yourself, Congressman."

The congressman took out his pocket computer, nudged the milled edges twice, looked at its face as it lay there in the palm of his hand, and put it back. He said, "Is this the gift you brought us here to demonstrate? An illusionist?"

"More than that, sir. Aub has memorized a few operations and with them he computes on paper."

"A paper computer?" said the general. He looked pained.

"No, sir," said Shuman patiently. "Not a paper computer. Simply a sheet of paper. General, would you be so kind as to suggest a number?"

"Seventeen," said the general.

"And you, Congressman?"

"Twenty-three."

"Good! Aub, multiply those numbers and please show the gentlemen your manner of doing it."

"Yes, Programmer," said Aub, ducking his head. He fished a small pad out of one shirt pocket and an artist's hairline stylus out of the other. His forehead corrugated as he made painstaking marks on the paper.

General Weider interrupted him sharply. "Let's see that."

Aub passed him the paper, and Weider said, "Well, it looks like the figure seventeen."

Congressman Brant nodded and said, "So it does, but I suppose anyone can copy figures off a computer. I think I could make a passable seventeen myself, even without practice."

"If you will let Aub continue, gentlemen," said Shuman without heat.

Aub continued, his hand trembling a little. Finally he said in a low voice, "The answer is three hundred and ninety-one."

Congressman Brant took out his computer a second time and flicked it, "By Godfrey, so it is. How did he guess?"

"No guess, Congressman," said Shuman. "He computed that result. He did it on this sheet of paper."

"Humbug," said the general impatiently. "A computer is one thing and marks on paper are another."

"Explain, Aub," said Shuman.

"Yes, Programmer. -Well, gentlemen, I write down seventeen and just underneath it, I write twenty-three. Next, I say to myself: seven times three-

The congressman interrupted smoothly, "Now, Aub, the problem is seventeen times twenty-three."

"Yes, I know," said the little Technician earnestly, "but I start by saying seven times three because that's the way it works. Now seven times three is twenty-one."

"And how do you know that?" asked the congressman.

"I just remember it. It's always twenty-one on the computer. I've checked it any number of times."

"That doesn't mean it always will be, though, does it?" said the congressman.

"Maybe not," stammered Aub. "I'm not a mathematician. But I always get the right answers, you see."

"Go on."

"Seven times three is twenty-one, so I write down twenty-one. Then one times three is three, so I write down a three under the two of twenty-one."

"Why under the two?" asked Congressman Brant at once.

"Because-" Aub looked helplessly at his superior for support. "It's difficult to explain."

Shuman said, "If you will accept his work for the moment, we can leave the details for the mathematicians."

Brant subsided.

Aub said, "Three plus two makes five, you see, so the twenty-one becomes a fifty-one. Now you let that go for a while and start fresh. You multiply seven and two, that's fourteen, and one and two, that's two. Put them down like this and it adds up to thirty-four. Now if you put the thirty-four under the fifty-one this way and add them, you get three hundred and ninety-one and that's the answer."

There was an instant's silence and then General Weider said, "I don't believe it. He goes through this rigmarole and makes up numbers and multiplies and adds them this way and that, but I don't believe it. It's too complicated to be anything but hornswiggling."

"Oh no, sir," said Aub in a sweat. "It only seems complicated because you're not used to it. Actually, the rules are quite simple and will work for any numbers."

"Any numbers, eh?" said the general. "Come then." He took out his own computer (a severely styled GI model) and struck it at random. "Make a five seven three eight on the paper. That's five thousand seven hundred and thirty-eight."

"Yes, sir," said Aub, taking a new sheet of paper.

"Now," (more punching of his computer), "seven two three nine. Seven thousand two hundred and thirty-nine."

"Yes, sir."

"And now multiply those two."

"It will take some time," quavered Aub.

"Take the time," said the general.

"Go ahead, Aub," said Shuman crisply.

Aub set to work, bending low. He took another sheet of paper and another. The general took out his watch finally and stared at it. "Are you through with your magic-making, Technician?"

"I'm almost done, sir. -Here it is, sir. Forty-one million, five hundred and thirty-seven thousand, three hundred and eighty-two." He showed the scrawled figures of the result.

General Weider smiled bitterly. He pushed the multiplication contact on his computer and let the numbers whirl to a halt. And then he stared and said in a surprised squeak, "Great Galaxy, the fella's right."

The President of the Terrestrial Federation had grown haggard in office and, in private, he allowed a look of settled melancholy to appear on his sensitive features. The Denebian war, after its early start of vast movement and great popularity, had trickled down into a sordid matter of maneuver and countermove, with discontent rising steadily on Earth. Possibly, it was rising on Deneb, too.

And now Congressman Brant, head of the important Committee on Military Appropriations, was cheerfully and smoothly spending his half-hour appointment spouting nonsense.

"Computing without a computer," said the president impatiently, "is a contradiction in terms."

"Computing," said the congressman, "is only a system for handling data. A machine might do it, or the human brain might. Let me give you an example." And, using the new skills he had learned, he worked out sums and products until the president, despite himself, grew interested.

"Does this always work?"

"Every time, Mr. President. It is foolproof."

"Is it hard to learn?"

"It took me a week to get the real hang of it. I think you would do better."

"Well," said the president, considering, "it's an interesting parlor game, but what is the use of it?"

"What is the use of a newborn baby, Mr. President? At the moment there is no use, but don't you see that this points the way toward liberation from the machine. Consider, Mr. President," the congressman rose and his deep voice automatically took on some of the cadences he used in public debate, "that the Denebian war is a war of computer against computer. Their computers forge an impenetrable shield of counter-missiles against our missiles, and ours forge one against theirs. If we advance the efficiency of our computers, so do they theirs, and for five years a precarious and profitless balance has existed.

"Now we have in our hands a method for going beyond the computer, leapfrogging it, passing through it. We will combine the mechanics of computation with human thought; we will have the equivalent of intelligent computers; billions of them. I can't predict what the consequences will be in detail but they will be incalculable. And if Deneb beats us to the punch, they may be unimaginably catastrophic."

The president said, troubled, "What would you have me do?"

"Put the power of the administration behind the establishment of a secret project on human computation. Call it Project Number, if you like. I can vouch for my committee, but I will need the administration behind me."

"But how far can human computation go?"

"There is no limit. According to Programmer Shuman, who first introduced me to this discovery--"

"I've heard of Shuman, of course."

"Yes. Well, Dr. Shuman tells me that in theory there is nothing the computer can do that the human mind can not do. The computer merely takes a finite amount of data and performs a finite number of operations upon them. The human mind can duplicate the process."

The president considered that. He said, "If Shuman says this, I am inclined to believe him-in theory. But, in practice, how can anyone know how a computer works?"

Brant laughed genially. "Well, Mr. President, I asked the same question. It seems that at one time computers were designed directly by human beings. Those were simple

computers, of course, this being before the time of the rational use of computers to design more advanced computers had been established."

"Yes, yes. Go on."

"Technician Aub apparently had, as his hobby, the reconstruction of some of these ancient devices and in so doing he studied the details of their workings and found he could imitate them. The multiplication I just performed for you is an imitation of the workings of a computer."

"Amazing!"

The congressman coughed gently, "If I may make another point, Mr. President- The further we can develop this thing, the more we can divert our Federal effort from computer production and computer maintenance. As the human brain takes over, more of our energy can be directed into peacetime pursuits and the impingement of war on the ordinary man will be less. This will be most advantageous for the party in power, of course."

"Ah," said the president, "I see your point. Well, sit down, Congressman, sit down. I want some time to think about this. -But meanwhile, show me that multiplication trick again. Let's see if I can't catch the point of it."

Programmer Shuman did not try to hurry matters. Loesser was conservative, very conservative, and liked to deal with computers as his father and grandfather had. Still, he controlled the West European computer combine, and if he could be persuaded to join Project Number in full enthusiasm, a great deal would be accomplished.

But Loesser was holding back. He said, "I'm not sure I like the idea of relaxing our hold on computers. The human mind is a capricious thing. The computer will give the same answer to the same problem each time. What guarantee have we that the human mind will do the same?"

"The human mind, Computer Loesser, only manipulates facts. It doesn't matter whether the human mind or a machine does it. They are just tools."

"Yes, yes. I've gone over your ingenious demonstration that the mind can duplicate the computer but it seems to me a little in the air. I'll grant the theory but what reason have we for thinking that theory can be converted to practice?"

"I think we have reason, sir. After all, computers have not always existed. The cave men with their triremes, stone axes, and railroads had no computers."

"And possibly they did not compute."

"You know better than that. Even the building of a railroad or a ziggurat called for some computing, and that must have been without computers as we know them."

"Do you suggest they computed in the fashion you demonstrate?"

"Probably not. After all, this method-we call it 'graphitics,' by the way, from the old European word 'grapho' meaning 'to write'-is developed from the computers themselves so it cannot have antedated them. Still, the cave men must have had some method, eh?"

"Lost arts! If you're going to talk about lost arts-"

"No, no. I'm not a lost art enthusiast, though I don't say there may not be some. After all, man was eating grain before hydroponics, and if the primitives ate grain, they must have grown it in soil. What else could they have done?"

"I don't know, but I'll believe in soil-growing when I see someone grow grain in soil. And I'll believe in making fire by rubbing two pieces of flint together when I see that, too."

Shuman grew placative. "Well, let's stick to graphitics. It's just part of the process of etherealization. Transportation by means of bulky contrivances is giving way to direct mass-transference. Communications devices become less massive and more efficient constantly. For that matter, compare your pocket computer with the massive jobs of a thousand years ago. Why not, then, the last step of doing away with computers altogether? Come, sir, Project Number is a going concern; progress is already headlong. But we want your help. If patriotism doesn't move you, consider the intellectual adventure involved."

Loesser said skeptically, "What progress? What can you do beyond multiplication? Can you integrate a transcendental function?"

"In time, sir. In time. In the last month I have learned to handle division. I can determine, and correctly, integral quotients and decimal quotients."

"Decimal quotients? To how many places?"

Programmer Shuman tried to keep his tone casual. "Any number!"

Loesser's lower jaw dropped. "Without a computer?"

"Set me a problem."

"Divide twenty-seven by thirteen. Take it to six places."

Five minutes later, Shuman said, "Two point oh seven six nine two three."

Loesser checked it. "Well, now, that's amazing. Multiplication didn't impress me too much because it involved integers after all, and I thought trick manipulation might do it. But decimals-

"And that is not all. There is a new development that is, so far, top secret and which, strictly speaking, I ought not to mention. Still- We may have made a breakthrough on the square root front."

"Square roots?"

"It involves some tricky points and we haven't licked the bugs yet, but Technician Aub, the man who invented the science and who has an amazing intuition in connection with it, maintains he has the problem almost solved. And he is only a Technician. A man like yourself, a trained and talented mathematician ought to have no difficulty."

"Square roots," muttered Loesser, attracted.

"Cube roots, too. Are you with us?"

Loesser's hand thrust out suddenly, "Count me in."

General Weider stumped his way back and forth at the head of the room and addressed his listeners after the fashion of a savage teacher facing a group of recalcitrant students. It made no difference to the general that they were the civilian scientists

heading Project Number. The general was the over-all head, and he so considered himself at every waking moment.

He said, "Now square roots are all fine. I can't do them myself and I don't understand the methods, but they're fine. Still, the Project will not be sidetracked into what some of you call the fundamentals. You can play with graphitics any way you want to after the war is over, but right now we have specific and very practical problems to solve."

In a far corner, Technician Aub listened with painful attention. He was no longer a Technician, of course, having been relieved of his duties and assigned to the project, with a fine-sounding title and good pay. But, of course, the social distinction remained and the highly placed scientific leaders could never bring themselves to admit him to their ranks on a footing of equality. Nor, to do Aub justice, did he, himself, wish it. He was as uncomfortable with them as they with him.

"The general was saying, "Our goal is a simple one, gentlemen; the replacement of the computer. A ship that can navigate space without a computer on board can be constructed in one fifth the time and at one tenth the expense of a computer-laden ship. We could build fleets five times, ten times, as great as Deneb could if we could but eliminate the computer.

"And I see something even beyond this. It may be fantastic now; a mere dream; but in the future I see the manned missile!" There was an instant murmur from the audience. The general drove on. "At the present time, our chief bottleneck is the fact that missiles are limited in intelligence. The computer controlling them can only be so large, and for that reason they can meet the changing nature of anti-missile defenses in an unsatisfactory way. Few missiles, if any, accomplish their goal and missile warfare is coming to a dead end; for the enemy, fortunately, as well as for ourselves.

"On the other hand, a missile with a man or two within, controlling flight by graphitics, would be lighter, more mobile, more intelligent. It would give us a lead that might well mean the margin of victory. Besides which, gentlemen, the exigencies of war compel us to remember one thing. A man is much more dispensable than a computer. Manned missiles could be launched in numbers and under circumstances that no good general would care to undertake as far as computer-directed missiles are concerned-" He said much more but Technician Aub did not wait.

Technician Aub, in the privacy of his quarters, labored long over the note he was leaving behind. It read finally as follows: "When I began the study of what is now called graphitics, it was no more than a hobby. I saw no more in it than an interesting amusement, an exercise of mind.

"When Project Number began, I thought that others were wiser than I; that graphitics might be put to practical use as a benefit to mankind, to aid in the production of really practical mass-transference devices perhaps. But now I see it is to be used only for death and destruction.

"I cannot face the responsibility involved in having invented graphitics."

He then deliberately turned the focus of a protein-depolarizer on himself and fell instantly and painlessly dead.

They stood over the grave of the little Technician while tribute was paid to the greatness of his discovery.

Programmer Shuman bowed his head along with the rest of them, but remained unmoved. The Technician had done his share and was no longer needed, after all. He might have started graphitics, but now that it had started, it would carry on by itself overwhelmingly, triumphantly, until manned missiles were possible with who knew what else.

Nine times seven, thought Shuman with deep satisfaction, is sixty-three, and I don't need a computer to tell me so. The computer is in my own head.

And it was amazing the feeling of power that gave him.

THE DYING NIGHT

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PART ONE

It was almost a class reunion, and though it was marked by joylessness, there was no reason as yet to think it would be marred by tragedy.

Edward Talliaferro, fresh from the Moon and without his gravity legs yet, met the other two in Stanley Kaunas's room. Kaunas rose to greet him in a subdued manner. Battersley Ryger merely sat and nodded.

Talliaferro lowered his large body carefully to the couch, very aware of its unusual weight. He grimaced a little, his plump lips twisting inside the rim of hair that surrounded his mouth on lip, chin, and cheek.

They had seen one another earlier that day under more formal conditions. Now for the first time they were alone, and Talliaferro said, "This is a kind of occasion. We're meeting for the first time in ten years. First time since graduation, in fact."

Ryger's nose twitched. It had been broken shortly before that same graduation and he had received his degree in astronomy with a bandage disfiguring his face. He said grumpily, "Anyone ordered champagne? Or something?"

Talliaferro said, "Come on! First big interplanetary astronomical convention in history is no place for glooming. And among friends, too!"

Kaunas said suddenly, "It's Earth. It doesn't feel right. I can't get used to it." He shook his head but his look of depression was not detachable. It remained.

Talliaferro said, "I know. I'm so heavy. It takes all the energy out of me. At that, you're better off than I am, Kaunas. Mercurian gravity is 0.4 normal. On the Moon, it's only 0.16." He interrupted Ryger's beginning of a sound by saying, "And on Ceres they use pseudograv fields adjusted to 0.8. You have no problems at all, Ryger."

The Cerian astronomer looked annoyed, "It's the open air. Going outside without a suit gets me."

"Right," agreed Kaunas, "and letting the sun beat down on you. Just letting it."

Talliaferro found himself insensibly drifting back in time. They had not changed much. Nor, he thought, had he himself. They were all ten years older, of course. Ryger had put on some weight and Kaunas's thin face had grown a bit leathery, but he would have recognized either if he had met him without warning.

He said, "I don't think it's Earth getting us. Let's face it."

Kaunas looked up sharply. He was a little fellow with quick, nervous movements of his hands. He habitually wore clothes that looked a shade too large for him.

He said, "Villiers! I know. I think about him sometimes." Then, with an air of desperation, "I got a letter from him."

Ryger sat upright, his olive complexion darkening further and said with energy, "You did? When?"

"A month ago."

Ryger turned to Talliaferro. "How about you?"

Talliaferro blinked placidly and nodded.

Ryger said, "He's gone crazy. He claims he's discovered a practical method of mass-transference through space. -He told you two also? -That's it, then. He was always a little bent. Now he's broken."

He rubbed his nose fiercely and Talliaferro thought of the day Villiers had broken it.

For ten years, Villiers had haunted them like the vague shadow of a guilt that wasn't really theirs. They had gone through their graduate work together, four picked and dedicated men being trained for a profession that had reached new heights in this age of interplanetary travel.

The Observatories were opening on the other worlds, surrounded by vacuum, unblurred by air.

There was the Lunar Observatory, from which Earth and the inner planets could be studied; a silent world in whose sky the home-planet hung suspended.

Mercury Observatory, closest to the sun, perched at Mercury's north pole, where the terminator moved scarcely at all, and the sun was fixed on the horizon and could be studied in the minutest detail.

Ceres Observatory, newest, most modem, with its range extending from Jupiter to the outermost galaxies.

There were disadvantages, of course. With interplanetary travel still difficult, leaves would be few, anything like normal life virtually impossible, but this was a lucky generation. Coming scientists would find the fields of knowledge well-reaped and, until the invention of an interstellar drive, no new horizon as capacious as this one would be opened.

Each of these lucky four, Talliaferro, Ryger, Kaunas, and Villiers, was to be in the position of a Galileo, who by owning the first real telescope, could not point it anywhere in the sky without making a major discovery.

But then Romero Villiers had fallen sick and it was rheumatic fever. Whose fault was that? His heart had been left leaking and limping.

He was the most brilliant of the four, the most hopeful, the most intense -and he could not even finish his schooling and get his doctorate.

Worse than that, he could never leave Earth; the acceleration of a spaceship's take-off would kill him.

Talliaferro was marked for the Moon, Ryger for Ceres, Kaunas for Mercury. Only Villiers stayed behind, a life-prisoner of Earth.

They had tried telling their sympathy and Villiers had rejected it with something approaching hate. He had railed at them and cursed them. When Ryger lost his temper and lifted his fist, Villiers had sprung at him, screaming, and had broken Ryger's nose.

Obviously Ryger hadn't forgotten that, as he caressed his nose gingerly with one finger.

Kaunas's forehead was an uncertain washboard of wrinkles. "He's at the Convention, you know. He's got a room in the hotel-405."

"I won't see him," said Ryger.

"He's coming up here. He said he wanted to see us. I thought- He said nine. He'll be here any minute."

"In that case," said Ryger, "if you don't mind, I'm leaving." He rose.

Talliaferro said, "Oh, wait a while. What's the harm in seeing him?"

"Because there's no point. He's mad."

"Even so. Let's not be petty about it. Are you afraid of him?"

"Afraid!" Ryger looked contemptuous.

"Nervous, then. What is there to be nervous about?"

"I'm not nervous," said Ryger.

"Sure you are. We all feel guilty about him, and without real reason. Nothing that happened was our fault." But he was speaking defensively and he knew it.

And when, at that point, the door signal sounded, all three jumped and turned to stare uneasily at the barrier that stood between themselves and Villiers.

The door opened and Romero Villiers walked in. The others rose stiffly to greet him, then remained standing in embarrassment, without one hand being raised.

He stared them down sardonically. He's changed, thought Talliaferro.

He had. He had shrunken in almost every dimension. A gathering stoop made him seem even shorter. The skin of his scalp glistened through thinning hair, the skin on the back of his hands was ridged crookedly with bluish veins. He looked ill. There seemed nothing to link him to the memory of the past except for his trick of shading his eyes with one hand when he stared intently and, when he spoke, the even, controlled baritone of his voice.

He said, "My friends! My space-trotting friends! We've lost touch."

Talliaferro said, "Hello, Villiers."

Villiers eyed him. "Are you well?"

"Well enough."

"And you two?"

Kaunas managed a weak smile and a murmur. Ryger snapped, "All right, Villiers. What's up?"

"Ryger, the angry man," said Villiers. "How's Ceres?"

"It was doing well when I left. How's Earth?"

"You can see for yourself," but Villiers tightened as he said that.

He went on, "I am hoping that the reason all three of you have come to the Convention is to hear my paper day after tomorrow."

"Your paper? What paper?" asked Talliaferro.

"I wrote you all about it. My method of mass-transference."

Ryger smiled with one corner of his mouth. "Yes, you did. You didn't say anything about a paper, though, and I don't recall that you're listed as one of the speakers. I would have noticed it if you had been."

"You're right. I'm not listed. Nor have I prepared an abstract for publication."

Villiers had flushed and Talliaferro said soothingly, "Take it easy, Villiers. You don't look well."

Villiers whirled on him, lips contorted. "My heart's holding out, thank you."

Kaunas said, "Listen, Villiers, if you're not listed or abstracted-"

"You listen. I've waited ten years. You have the jobs in space and I have to teach school on Earth, but I'm a better man than any of you or all of you."

"Granted-" began Talliaferro.

"And I don't want your condescension either. Mandel witnessed it. I suppose you've heard of Mandel. Well, he's chairman of the astronautics division at the Convention and I demonstrated mass-transference for him. It was a crude device and it burnt out after one use but- Are you listening?"

"We're listening," said Ryger coldly, "for what that counts."

"He'll let me talk about it my way. You bet he will. No warning. No advertisement. I'm going to spring it at them like a bombshell. When I give them the fundamental relationships involved it will break up the Convention. They'll scatter to their home labs to check on me and build devices. And they'll find it works. I made a live mouse disappear at one spot in my lab and appear in another. Mandel witnessed it."

He stared at them, glaring first at one face, then at another. He said, "You don't believe me, do you?"

Ryger said, "If you don't want advertisement, why do you tell us?"

"You're different. You're my friends, my classmates. You went out into space and left me behind."

"That wasn't a matter of choice," objected Kaunas in a thin, high voice.

Villiers ignored that. He said, "So I want you to know now. What will work for a mouse will work for a human. What will move something ten feet across a lab will move it a million miles across space. I'll be on the Moon, and on Mercury, and on Ceres and anywhere I want to go. I'll match every one of you and more. And I'll have done more for astronomy just teaching school and thinking, than all of you with your observatories and telescopes and cameras and spaceships."

"Well," said Talliaferro, "I'm pleased. More power to you. May I see a copy of the paper?"

"Oh, no." Villiers' hands clenched close to his chest as though he were holding phantom sheets and shielding them from observation. "You wait like everyone else. There's only one copy and no one will see it till I'm ready. Not even Mandel."

"One copy," cried Talliaferro. "If you misplace it-"

"I won't. And if I do, it's all in my head."

"If you-" Talliaferro almost finished that sentence with "die" but stopped himself. Instead, he went on after an almost imperceptible pause, "-have any sense, you'll scan it at least. For safety's sake."

"No," said Villiers, shortly. "You'll hear me day after tomorrow. You'll see the human horizon expanded at one stroke as it never has been before."

Again he stared intently at each face. "Ten years," he said. "Good-by."

"He's mad," said Ryger explosively, staring at the door as though Villiers were still standing before it.

"Is he?" said Talliaferro thoughtfully. "I suppose he is, in a way. He hates us for irrational reasons. And, then, not even to scan his paper as a precaution-"

Talliaferro fingered his own small scanner as he said that. It was just a neutrally colored, undistinguished cylinder, somewhat thicker and somewhat shorter than an ordinary pencil. In recent years, it had become the hallmark of the scientist, much as the stethoscope was that of the physician and the micro-computer that of the statistician. The scanner was worn in a jacket pocket, or clipped to a sleeve, or slipped behind the ear, or swung at the end of a string.

Talliaferro sometimes, in his more philosophical moments, wondered how it was in the days when research men had to make laborious notes of the literature or file away full-sized reprints. How unwieldy!

Now it was only necessary to scan anything printed or written to have a micro-negative which could be developed at leisure. Talliaferro had already recorded every abstract included in the program booklet of the Convention. The other two, he assumed with full confidence, had done likewise.

Talliaferro said, "Under the circumstances, refusal to scan is mad."

"Space!" said Ryger hotly. "There is no paper. There is no discovery. Scoring one on us would be worth any lie to him."

"But then what will he do day after tomorrow?" asked Kaunas.

"How do I know? He's a madman."

Talliaferro still played with his scanner and wondered idly if he ought to remove and develop some of the small slivers of film that lay stored away in its vitals. He decided against it. He said, "Don't underestimate Villiers. He's a brain."

"Ten years ago, maybe," said Ryger. "Now he's a nut. I propose we forget him."

He spoke loudly, as though to drive away Villiers and all that concerned him by the sheer force with which he discussed other things. He talked about Ceres and his work-the radio-plotting of the Milky Way with new radiosopes capable of the resolution of single stars.

Kaunas listened and nodded, then chimed in with information concerning the radio emissions of sunspots and his own paper, in press, on the association of proton storms with the gigantic hydrogen flares on the sun's surface.

Talliaferro contributed little. Lunar work was unglamorous in comparison. The latest information on long-scale weather forecasting through direct observation of terrestrial jet-streams would not compare with radiosopes and proton storms.

More than that, his thoughts could not leave Villiers. Villiers was the brain. They all knew it. Even Ryger, for all his bluster, must feel that if mass-transference were at all possible then Villiers was a logical discoverer.

The discussion of their own work amounted to no more than an uneasy admission that none of them had come to much. Talliaferro had followed the literature and knew. His own papers had been minor. The others had authored nothing of great importance.

None of them-face the fact-had developed into space-shakers. The colossal dreams of school days had not come true and that was that. They were competent routine workmen. No less. Unfortunately, no more. They knew that.

Villiers would have been more. They knew that, too. It was that knowledge, as well as guilt, which kept them antagonistic.

Talliaferro felt uneasily that Villiers, despite everything, was yet to be more. The others must be thinking so, too, and mediocrity could grow quickly unbearable. The mass-transference paper would come to pass and Villiers would be the great man after all, as he was always fated to be apparently, while his classmates, with all their advantages, would be forgotten. Their role would be no more than to applaud from the crowd.

He felt his own envy and chagrin and was ashamed of it, but felt it none the less.

Conversation died, and Kaunas said, his eyes turning away, "Listen, why don't we drop in on old Villiers?"

There was a false heartiness about it, a completely unconvincing effort at casualness. He added, "No use leaving bad feelings-unnecessarily-"

Talliaferro thought: He wants to make sure about the mass-transference. He's hoping it is only a madman's nightmare so he can sleep tonight.

But he was curious himself, so he made no objection, and even Ryger shrugged with ill grace and said, "Hell, why not?"

It was a little before eleven then.

Talliaferro was awakened by the insistent ringing of his door signal. He hitched himself to one elbow in the darkness and felt distinctly outraged. The soft glow of the ceiling indicator showed it to be not quite four in the morning.

He cried out, "Who is it?"

The ringing continued in short, insistent spurts.

Growling, Talliaferro slipped into his bathrobe. He opened the door and blinked in the corridor light. He recognized the man who faced him from the trimensionals he had seen often enough.

Nevertheless, the man said in an abrupt whisper, "My name is Hubert Mandel."

"Yes, sir," said Talliaferro. Mandel was one of the Names in astronomy, prominent enough to have an important executive position with the World Astronomical Bureau, active enough to be Chairman of the Astronautics section here at the Convention.

It suddenly struck Talliaferro that it was Mandel for whom Villiers claimed to have demonstrated mass-transference. The thought of Villiers was somehow a sobering one.

Mandel said, "You are Dr. Edward Talliaferro?"

"Yes, sir."

"Then dress and come with me. It is very important. It concerns a mutual acquaintance."

"Dr. Villiers?"

Mandel's eyes flickered a bit. His brows and lashes were so fair as to give those eyes a naked, unfringed appearance. His hair was silky-thin, his age about fifty.

He said, "Why Villiers?"

"He mentioned you last evening. I don't know any other mutual acquaintance."

Mandel nodded, waited for Talliaferro to finish slipping into his clothes, then turned and led the way. Ryger and Kaunas were waiting in a room one floor above Talliaferro's. Kaunas's eyes were red and troubled. Ryger was smoking a cigarette with impatient puffs.

Talliaferro said, "We're all here. Another reunion." It fell flat.

He took a seat and the three stared at one another. Ryger shrugged.

Mandel paced the floor, hands deep in his pockets. He said, "I apologize for any inconvenience, gentlemen, and I thank you for your co-operation. I would like more of it. Our friend, Romero Villiers, is dead. About an hour ago, his body was removed from the hotel. The medical judgment is heart failure."

There was a stunned silence. Ryger's cigarette hovered halfway to his lips, then sank slowly without completing its journey.

"Poor devil," said Talliaferro.

"Horrible," whispered Kaunas hoarsely. "He was-" His voice played out.

Ryger shook himself. "Well, he had a bad heart. There's nothing to be done."

"One little thing," corrected Mandel quietly. "Recovery."

"What does that mean?" asked Ryger sharply.

Mandel said, "When did you three see him last?"

Talliaferro spoke. "Last evening. It turned out to be a reunion. We all met for the first time in ten years. It wasn't a pleasant meeting, I'm sorry to say. Villiers felt he had cause for anger with us, and he was angry."

"That was-when?"

"About nine, the first time."

"The first time?"

"We saw him again later in the evening."

Kaunas looked troubled. "He had left angrily. We couldn't leave it at that. We had to try. It wasn't as if we hadn't all been friends at one time. So we went to his room and-

Mandel pounced on that. "You were all in his room?"

"Yes," said Kaunas, surprised.

"About when?"

"Eleven, I think." He looked at the others. Talliaferro nodded.

"And how long did you stay?"

"Two minutes," put in Ryger. "He ordered us out as though we were after his paper." He paused as though expecting Mandel to ask what paper, but Mandel said

nothing. He went on. "I think he kept it under his pillow. At least he lay across the pillow as he yelled at us to leave."

"He may have been dying then," said Kaunas, in a sick whisper.

"Not then," said Mandel shortly. "So you probably all left fingerprints."

"Probably," said Talliaferro. He was losing some of his automatic respect for Mandel and a sense of impatience was returning. It was four in the morning, Mandel or no. He said, "Now what's all this about?"

"Well, gentlemen," said Mandel, "there's more to Villiers' death than the fact of death. Villiers' paper, the only copy of it as far as I know, was stuffed into the cigarette flash-disposal unit and only scraps of it were left. I've never seen or read the paper, but I knew enough about the matter to be willing to swear in court if necessary that the remnants of unflushed paper in the disposal unit were of the paper he was planning to give at this Convention. -You seem doubtful, Dr. Ryger."

Ryger smiled sourly. "Doubtful that he was going to give it. If you want my opinion, sir, he was mad. For ten years he was a prisoner of Earth and he fantasized mass-transference as escape. It was all that kept him alive probably. He rigged up some sort of fraudulent demonstration. I don't say it was deliberate fraud. He was probably madly sincere, and sincerely mad. Last evening was the climax. He came to our rooms-he hated us for having escaped Earth-and triumphed over us. It was what he had lived for ten years. It may have shocked him back to some form of sanity. He knew he couldn't actually give the paper; there was nothing to give. So he burnt it and his heart gave out. It is too bad."

Mandel listened to the Cerian astronomer, wearing a look of sharp disapproval. He said, "Very glib, Dr. Ryger, but quite wrong. I am not as easily fooled by fraudulent demonstrations as you may believe. Now according to the registration data, which I have been forced to check rather hastily, you three were his classmates at college. Is that right?"

They nodded.

"Are there any other classmates of yours present at the Convention?"

"No," said Kaunas. "We were the only four qualifying for a doctorate in astronomy that year. At least he would have qualified except-"

"Yes, I understand," said Mandel. "Well, then, in that case one of you three visited Villiers in his room one last time at midnight."

There was a short silence. Then Ryger said coldly, "Not I." Kaunas, eyes wide, shook his head.

Talliaferro said, "What are you implying?"

"One of you came to him at midnight and insisted on seeing his paper. I don't know the motive. Conceivably, it was with the deliberate intention of forcing him into heart failure. When Villiers collapsed, the criminal, if I may call him so, was ready. He snatched the paper which, I might add, probably was kept under his pillow, and scanned it. Then he destroyed the paper itself in the flash-disposal, but he was in a hurry and destruction wasn't complete."

Ryger interrupted. "How do you know all this? Were you a witness?"

"Almost," said Mandel. "Villiers was not quite dead at the moment of his first collapse. When the criminal left, he managed to reach the phone and call my room. He choked out a few phrases, enough to outline what had occurred. Unfortunately I was not in my room; a late conference kept me away. However, my recording attachment taped it. I always play the recording tape back whenever I return to my room or office. Bureaucratic habit. I called back. He was dead."

"Well, then," said Ryger, "who did he say did it?"

"He didn't. Or if he did, it was unintelligible. But one word rang out clearly. It was 'classmate.' "

Talliaferro detached his scanner from its place in his inner jacket pocket and held it out toward Mandel. Quietly he said, "If you would like to develop the film in my scanner, you are welcome to do so. You will not find Villiers' paper there."

At once, Kaunas did the same, and Ryger, with a scowl, joined.

Mandel took all three scanners and said dryly, "Presumably, whichever one of you has done this has already disposed of the piece of exposed film with the paper on it. However-"

Talliaferro raised his eyebrows. "You may search my person or my room."

But Ryger was still scowling, "Now wait a minute, wait one bloody minute. Are you the police?"

Mandel stared at him. "Do you want the police? Do you want a scandal and a murder charge? Do you want the Convention disrupted and the System press to make a holiday out of astronomy and astronomers? Villiers' death might well have been accidental. He did have a bad heart. Whichever one of you was there may well have acted on impulse. It may not have been a premeditated crime. If whoever it is will return the negative, we can avoid a great deal of trouble."

"Even for the criminal?" asked Talliaferro.

Mandel shrugged. "There may be trouble for him. I will not promise immunity. But whatever the trouble, it won't be public disgrace and life imprisonment, as it might be if the police are called in."

Silence.

Mandel said, "It is one of you three."

Silence.

Mandel went on, "I think I can see the original reasoning of the guilty person. The paper would be destroyed. Only we four knew of the mass-transference and only I had ever seen a demonstration. Moreover you had only his word, a madman's word perhaps, that I had seen it. With Villiers dead of heart failure and the paper gone, it would be easy to believe Dr. Ryger's theory that there was no mass-transference and never had been. A year or two might pass and our criminal, in possession of the mass-transference data, could reveal it little by little, rig experiments, publish careful papers, and end as the apparent discoverer with all that would imply in terms of money and renown. Even his

own classmates would suspect nothing. At most they would believe that the long-past affair with Villiers had inspired him to begin investigations in the field. No more."

Mandel looked sharply from one face to another. "But none of that will work now. Any of the three of you who comes through with mass-transference is proclaiming himself the criminal. I've seen the demonstration; I know it is legitimate; I know that one of you possesses a record of the paper. The information is therefore useless to you. Give it up then."

Silence.

Mandel walked to the door and turned again, "I'd appreciate it if you would stay here till I return. I won't be long. I hope the guilty one will use the interval to consider. If he's afraid a confession will lose him his job, let him remember that a session with the police may lose him his liberty and cost him the Psychic Probe." He hefted the three scanners, looked grim and somewhat in need of sleep. "I'll develop these."

Kaunas tried to smile. "What if we make a break for it while you're gone?"

"Only one of you has reason to try," said Mandel. "I think I can rely on the two innocent ones to control the third, if only out of self-protection."

He left.

It was five in the morning. Ryger looked at his watch indignantly. "A hell of a thing. I want to sleep."

"We can curl up here," said Talliaferro philosophically. "Is anyone planning a confession?"

Kaunas looked away and Ryger's lip lifted.

"I didn't think so." Talliaferro closed his eyes, leaned his large head back against the chair and said in a tired voice, "Back on the Moon, they're in the slack season. We've got a two-week night and then it's busy, busy. Then there's two weeks of sun and there's nothing but calculations, correlations and bull-sessions. That's the hard time. I hate it. If there were more women, if I could arrange something permanent-"

In a whisper, Kaunas talked about the fact that it was still impossible to get the entire Sun above the horizon and in view of the telescope on Mercury. But with another two miles of track soon to be laid down for the Observatory-move the whole thing, you know, tremendous forces involved, solar energy used directly-it might be managed. It would be managed.

Even Ryger consented to talk of Ceres after listening to the low murmur of the other voices. There was the problem there of the two-hour rotation period, which meant the stars whipped across the sky at an angular velocity twelve times that in Earth's sky. A net of three light scopes, three radio-scopes, three of everything, caught the fields of study from one another as they whirled past.

"Could you use one of the poles?" asked Kaunas.

"You're thinking of Mercury and the Sun," said Ryger impatiently. "Even at the poles, the sky would still twist, and half of it would be forever hidden. Now if Ceres showed only one face to the Sun, the way Mercury does, we could have a permanent night sky with the stars rotating slowly once in three years."

The sky lightened and it dawned slowly.

Talliaferro was half asleep, but he kept hold of half-consciousness firmly. He would not fall asleep and leave the others awake. Each of the three, he thought, was wondering, "Who? Who?"-except the guilty one, of course.

Talliaferro's eyes snapped open as Mandel entered again. The sky, as seen from the window, had grown blue. Talliaferro was glad the window was closed. The hotel was air-conditioned, of course, but windows could be opened during the mild season of the year by those Earthmen who fancied the illusion of fresh air. Talliaferro, with Moon-vacuum on his mind, shuddered at the thought with real discomfort.

Mandel said, "Have any of you anything to say?"

They looked at him steadily. Ryger shook his head.

Mandel said, "I have developed the film in your scanners, gentlemen, and viewed the results." He tossed scanners and developed slivers of film on to the bed. "Nothing! you'll have trouble sorting out the film, I'm afraid. For that I'm sorry. And now there is still the question of the missing film."

"If any," said Ryger, and yawned prodigiously.

Mandel said, "I would suggest we come down to Villiers' room, gentlemen."

Kaunas looked startled. "Why?"

Talliaferro said, "Is this psychology? Bring the criminal to the scene of the crime and remorse will wring a confession from him?"

Mandel said, "A less melodramatic reason is that I would like to have the two of you who are innocent help me find the missing film of Villiers' paper."

"Do you think it's there?" asked Ryger challengingly.

"Possibly. It's a beginning. We can then search each of your rooms. The symposium on Astronautics doesn't start till tomorrow at 10 A.M. We have till then."

"And after that?"

"It may have to be the police."

They stepped gingerly into Villiers' room. Ryger was red, Kaunas pale. Talliaferro tried to remain calm.

Last night they had seen it under artificial lighting with a scowling, disheveled Villiers clutching his pillow, staring them down, ordering them away. Now there was the scentless odor of death about it.

Mandel fiddled with the window-polarizer to let more light in, and adjusted it too far, so that the eastern Sun slipped in.

Kaunas threw his arm up to shade his eyes and screamed, "The Sun!" so that all the others froze.

Kaunas's face showed a kind of terror, as though it were his Mercurian sun that he had caught a blinding glimpse of.

Talliaferro thought of his own reaction to the possibility of open air and his teeth gritted. They were all bent crooked by their ten years away from Earth.

Kaunas ran to the window, fumbling for the polarizer, and then the breath came out of him in a huge gasp.

Mandel stepped to his side. "What's wrong?" and the other two joined them.

The city lay stretched below them and outward to the horizon in broken stone and brick, bathed in the rising sun, with the shadowed portions toward them. Talliaferro cast it all a furtive and uneasy glance.

Kaunas, his chest seemingly contracted past the point where he could cry out, stared at something much closer. There, on the outer window sill, one corner secured in a trifling imperfection, a crack in the cement, was an inch-long strip of milky-gray film, and on it were the early rays of the rising sun.

Mandel, with an angry, incoherent cry, threw up the window and snatched it away. He shielded it in one cupped hand, staring out of hot and reddened eyes.

He said, "Wait here!"

There was nothing to say. When Mandel left, they sat down and stared stupidly at one another.

Mandel was back in twenty minutes. He said quietly (in a voice that gave the impression, somehow, that it was quiet only because its owner had passed far beyond the raving stage), "The corner in the crack wasn't overexposed. I could make out a few words. It is Villiers' paper. The rest is ruined; nothing can be salvaged. It's gone."

"What next?" said Talliaferro.

Mandel shrugged wearily. "Right now, I don't care. Mass-transference is gone until someone as brilliant as Villiers works it out again. I shall work on it but I have no illusions as to my own capacity. With it gone, I suppose you three don't matter, guilty or not. What's the difference?" His whole body seemed to have loosened and sunk into despair.

But Talliaferro's voice grew hard. "Now, hold on. In your eyes, any of the three of us might be guilty. I, for instance. You are a big man in the field and you will never have a good word to say for me. The general idea may arise that I am incompetent or worse. I will not be ruined by the shadow of guilt. Now let's solve this thing."

"I am no detective," said Mandel wearily.

"Then call in the police, damn it."

Ryger said, "Wait a while, Tal. Are you implying that I'm guilty?"

"I'm saying that I'm innocent."

Kaunas raised his voice in fright. "It will mean the Psychic Probe for each of us. There may be mental damage-"

Mandel raised both arms high in the air. "Gentlemen! Gentlemen! Please! There is one thing we might do short of the police; and you are right, Dr. Talliaferro, it would be unfair to the innocent to leave this matter here."

They turned to him in various stages of hostility. Ryger said, "What do you suggest?"

"I have a friend named Wendell Urth. You may have heard of him, or you may not, but perhaps I can arrange to see him tonight."

"What if you can?" demanded Talliaferro. "Where does that get us?"

"He's an odd man," said Mandel hesitantly, "very odd. And very brilliant in his way. He has helped the police before this and he may be able to help us now."

PART TWO

Edward Talliaferro could not forbear staring at the room and its occupant with the greatest astonishment. It and he seemed to exist in isolation, and to be part of no recognizable world. The sounds of Earth were absent in this well-padded, windowless nest. The light and air of Earth had been blanked out in artificial illumination and conditioning.

It was a large room, dim and cluttered. They had picked their way across a littered floor to a couch from which book-films had been brusquely cleared and dumped to one side in a tangle.

The man who owned the room had a large, round face on a stumpy, round body. He moved quickly about on his short legs, jerking his head as he spoke until his thick glasses all but bounced off the thoroughly inconspicuous nibble that served as a nose. His thick-lidded, somewhat protuberant eyes gleamed in myopic good nature at them all, as he seated himself in his own chair-desk combination, lit directly by the one bright light in the room.

"So good of you to come, gentlemen. Pray excuse the condition of my room." He waved stubby fingers in a wide-sweeping gesture. "I am engaged in cataloguing the many objects of extraterrological interest I have accumulated. It is a tremendous job. For instance-

He dodged out of his seat and burrowed in a heap of objects beside the desk till he came up with a smoky-gray object, semi-translucent and roughly cylindrical. "This," he said, "is a Callistan object that may be a relic of intelligent nonhuman entities. It is not decided. Not more than a dozen have been discovered and this is the most perfect single specimen I know of."

He tossed it to one side and Talliaferro jumped. The plump man stared in his direction and said, "It's not breakable." He sat down again, clasped his pudgy fingers tightly over his abdomen and let them pump slowly in and out as he breathed. "And now what can I do for you?"

Hubert Mandel had carried through the introductions and Talliaferro was considering deeply. Surely it was a man named Wendell Urth who had written a recent book entitled Comparative Evolutionary Processes on Water-Oxygen Planets, and surely this could not be the man.

He said, "Are you the author of Comparative Evolutionary Processes, Dr. Urth?"

A beatific smile spread across Urth's face, "You've read it?"

"Well, no, I haven't, but-

Urth's expression grew instantly censorious. "Then you should. Right now. Here, I have a copy-

He bounced out of his chair again and Mandel cried at once, "Now wait, Urth, first things first. This is serious."

He virtually forced Urth back into his chair and began speaking rapidly as though to prevent any further side issues from erupting. He told the whole story with admirable word-economy.

Urth reddened slowly as he listened. He seized his glasses and shoved them higher up on his nose. "Mass-transference!" he cried.

"I saw it with my own eyes," said Mandel.

"And you never told me."

"I was sworn to secrecy. The man was-peculiar. I explained that."

Urth pounded the desk. "How could you allow such a discovery to remain the property of an eccentric, Mandel? The knowledge should have been forced from him by Psychic Probe, if necessary."

"It would have killed him," protested Mandel.

But Urth was rocking back and forth with his hands clasped tightly to his cheeks. "Mass-transference. The only way a decent, civilized man should travel. The only possible way. The only conceivable way. If I had known. If I could have been there. But the hotel is nearly thirty miles away." '_, Ryger, who listened with an expression of annoyance on his face, interposed, "I understand there's a flitter line direct to Convention Hall. It could have gotten you there in ten minutes."

Urth stiffened and looked at Ryger strangely. His cheeks bulged. He jumped to his feet and scurried out of the room.

Ryger said, "What the devil?"

Mandel muttered, "Damn it. I should have warned you."

"About what?"

"Dr. Urth doesn't travel on any sort of conveyance. It's a phobia. He moves about only on foot."

Kaunas blinked about in the dimness. "But he's an extraterrologist, isn't he? An expert on life forms of other planets?"

Talliaferro had risen and now stood before a Galactic Lens on a pedestal.

He stared at the inner gleam of the star systems. He had never seen a Lens so large or so elaborate.

Mandel said, "He's an extraterrologist, yes, but he's never visited any of the planets on which he is expert and he never will. In thirty years, I doubt if he's ever been more than a mile from this room."

Ryger laughed.

Mandel flushed angrily. "You may find it funny, but I'd appreciate your being careful what you say when Dr. Urth comes back."

Urth sidled in a moment later. "My apologies, gentlemen," he said in a whisper. "And now let us approach our problem. Perhaps one of you wishes to confess."

Talliaferro's lips quirked sourly. This plump, self-imprisoned extraterrologist was scarcely formidable enough to force a confession from anyone. Fortunately, there would be no need of his detective talents, if any, after all.

Talliaferro said, "Dr. Urth, are you connected with the police?"

A certain smugness seemed to suffuse Urth's ruddy face. "I have no official connection, Dr. Talliaferro, but my unofficial relationships are very good indeed."

"In that case, I will give you some information which you can carry to the police."

Urth drew in his abdomen and hitched at his shirttail. It came free, and slowly he polished his glasses with it. When he was quite through and had perched them precariously on his nose once more, he said, "And what is that?"

"I will tell you who was present when Villiers died and who scanned his paper."

"You have solved the mystery?"

"I've thought about it all day. I think I've solved it." Talliaferro rather enjoyed the sensation he was creating.

"Well, then?"

Talliaferro took a deep breath. This was not going to be easy to do, though he had been planning it for hours. "The guilty man," he said, "is obviously Dr. Hubert Mandel."

Mandel stared at Talliaferro in sudden, hard-breathing indignation. "Look here, Doctor," he began, loudly, "if you have any basis for such a ridiculous-

Urth's tenor voice soared above the interruption. "Let him talk, Hubert, let us hear him. You suspected him and there is no law that forbids him to suspect you."

Mandel fell angrily silent.

Talliaferro, not allowing his voice to falter, said, "It is more than just suspicion, Dr. Urth. The evidence is perfectly plain. Four of us knew about mass-transference, but only one of us, Dr. Mandel, had actually seen a demonstration. He knew it to be a fact. He knew a paper on the subject existed. We three knew only that Villiers was more or less unbalanced. Oh, we might have thought there was just a chance. We visited him at eleven, I think, just to check on that, though none of us actually said so-but he just acted crazier than ever.

"Check special knowledge and motive then on Dr. Mandel's side. Now, Dr. Urth, picture something else. Whoever it was who confronted Villiers at midnight, saw him collapse, and scanned his paper (let's keep him anonymous for a moment) must have been terribly startled to see Villiers apparently come to life again and to hear him talking into the telephone. Our criminal, in the panic of the moment, realized one thing: he must get rid of the one piece of incriminating material evidence.

"He had to get rid of the undeveloped film of the paper and he had to do it in such a way that it would be safe from discovery so that he might pick it up once more if he remained unsuspected. The outer window sill was ideal. Quickly he threw up Villiers' window, placed the strip of film outside, and left. Now, even if Villiers survived or if his telephoning brought results, it would be merely Villiers' word against his own and it would be easy to show that Villiers was unbalanced."

Talliaferro paused in something like triumph. This would be irrefutable.

Wendell Urth blinked at him and wiggled the thumbs of his clasped hands so that they slapped against his ample shirt front. He said, "And the significance of all that?"

"The significance is that the window was thrown open and the film placed in open air. Now Ryger has lived for ten years on Ceres, Kaunas on Mercury, I on the Moon-

barring short leaves and not many of them. We commented to one another several times yesterday on the difficulty of growing acclimated to Earth.

"Our work-worlds are each airless objects. We never go out in the open without a suit. To expose ourselves to unenclosed space is unthinkable. None of us could have opened the window without a severe inner struggle. Dr. Mandel, however, has lived on Earth exclusively. Opening a window to him is only a matter of a bit of muscular exertion. He could do it. We couldn't. Ergo, he did it."

Talliaferro sat back and smiled a bit.

"Space, that's it!" cried Ryger, with enthusiasm.

"That's not it at all," roared Mandel, half rising as though tempted to throw himself at Talliaferro. "I deny the whole miserable fabrication. What about the record I have of Villiers' phone call? He used the word 'classmate.' The entire tape makes it obvious-"

"He was a dying man," said Talliaferro. "Much of what he said you admitted was incomprehensible. I ask you, Dr. Mandel, without having heard the tape, if it isn't true that Villiers' voice is distorted past recognition."

"Well-" said Mandel in confusion.

"I'm sure it is. There is no reason to suppose, then, that you might not have rigged up the tape in advance, complete with the damning word 'classmate.' "

Mandel said, "Good Lord, how would I know there were classmates at the Convention? How would I know they knew about the mass-transference?"

"Villiers might have told you. I presume he did."

"Now, look," said Mandel, "you three saw Villiers alive at eleven. The medical examiner, seeing Villiers' body shortly after 3 A.M. declared he had been dead at least two hours. That was certain. The time of death, therefore, was between 11 P.M. and 1 A.M. I was at a late conference last night. I can prove my whereabouts, miles from the hotel, between 10:00 and 2:00 by a dozen witnesses no one of whom anyone can possibly question. Is that enough for you?"

Talliaferro paused a moment. Then he went on stubbornly, "Even so. Suppose you got back to the hotel by 2:30. You went to Villiers' room to discuss his talk. You found the door open, or you had a duplicate key. Anyway, you found him dead. You seized the opportunity to scan the paper-"

"And if he were already dead, and couldn't make phone calls, why should I hide the film?"

"To remove suspicion. You may have a second copy of the film safe in your possession. For that matter, we have only your own word that the paper itself was destroyed."

"Enough. Enough," cried Urth. "It is an interesting hypothesis, Dr. Talliaferro, but it falls to the ground of its own weight."

Talliaferro frowned. "That's your opinion, perhaps-"

"It would be anyone's opinion. Anyone, that is, with the power of human thought. Don't you see that Hubert Mandel did too much to be the criminal?"

"No," said Talliaferro.

Wendell Urth smiled benignly. "As a scientist, Dr. Talliaferro, you undoubtedly know better than to fall in love with your own theories to the exclusion of facts or reasoning. Do me the pleasure of behaving similarly as a detective.

"Consider that if Dr. Mandel had brought about the death of Villiers and faked an alibi, or if he had found Villiers dead and taken advantage of that, how little he would really have had to do! Why scan the paper or even pretend that anyone had done so? He could simply have taken the paper. Who else knew of its existence? Nobody, really. There is no reason to think Villiers told anyone else about it. Villiers was pathologically secretive. There would have been every reason to think that he told no one.

"No one knew Villiers was giving a talk, except Dr. Mandel. It wasn't announced. No abstract was published. Dr. Mandel could have walked off with the paper in perfect confidence.

"Even if he had discovered that Villiers had talked to his classmates about the matter, what of it? What evidence would his classmates have except the word of one whom they are themselves half willing to consider a madman?

"By announcing instead that Villiers' paper had been destroyed, by declaring his death to be not entirely natural, by searching for a scanned copy of the film-in short by everything Dr. Mandel had done-he has aroused a suspicion that only he could possibly have aroused when he need only have remained quiet to have committed a perfect crime. If he were the criminal, he would be more stupid, more colossally obtuse than anyone I have ever known. And Dr. Mandel, after all, is none of that."

Talliaferro thought hard but found nothing to say.

Ryger said, "Then who did do it?"

"One of you three. That's obvious."

"But which?"

"Oh, that's obvious, too. I knew which of you was guilty the moment Dr. Mandel had completed his description of events."

Talliaferro stared at the plump extraterrologist with distaste. The bluff did not frighten him, but it was affecting the other two. Ryger's lips were thrust out and Kaunas's lower jaw had relaxed moronically. They looked like fish, both of them.

He said, "Which one, then? Tell us."

Urth blinked. "First, I want to make it perfectly plain that the important thing is mass-transference. It can still be recovered."

Mandel, scowling still, said querulously, "What the devil are you talking about, Urth?"

"The man who scanned the paper probably looked at what he was scanning. I doubt that he had the time or presence of mind to read it, and if he did, I doubt if he could remember it-consciously. However, there is the Psychic Probe. If he even glanced at the paper, what impinged on his retina could be Probed."

There was an uneasy stir.

Urth said at once, "No need to be afraid of the Probe. Proper handling is safe, particularly if a man offers himself voluntarily. When damage is done, it is usually because

of unnecessary resistance, a kind of mental tearing, you know. So if the guilty man will voluntarily confess, place himself in my hands-

Talliaferro laughed. The sudden noise rang out sharply in the dim quiet of the room. The psychology was so transparent and artless.

Wendell Urth looked almost bewildered at the reaction and stared earnestly at Talliaferro over his glasses. He said, "I have enough influence with the police to keep the Probing entirely confidential."

Ryger said savagely, "I didn't do it."

Kaunas shook his head.

Talliaferro disdained any answer.

Urth sighed. "Then I will have to point out the guilty man. It will be traumatic. It will make things harder." He tightened the grip on his belly and his fingers twitched. "Dr. Talliaferro pointed out that the film was hidden on the outer window sill so that it might remain safe from discovery and from harm. I agree with him."

"Thank you," said Talliaferro dryly.

"However, why should anyone think that an outer window sill is a particularly safe hiding place? The police would certainly look there. Even in the absence of the police it was discovered. Who would tend to consider anything outside a building as particularly safe? Obviously, some person who has lived a long time on an airless world and has it drilled into him that no one goes outside an enclosed place without detailed precautions.

"To someone on the Moon, for instance, anything hidden outside a Lunar Dome would be comparatively safe. Men venture out only rarely and then only on specific business. So he would overcome the hardship of opening a window and exposing himself to what he would subconsciously consider a vacuum for the sake of a safe hiding place. The reflex thought, 'Outside an inhabited structure is safe,' would do the trick."

Talliaferro said between clenched teeth, "Why do you mention the Moon, Dr. Urth?"

Urth said blandly, "Only as an example. What I've said so far applies to all three of you. But now comes the crucial point, the matter of the dying night."

Talliaferro frowned. "You mean the night Villiers died?"

"I mean any night. See here, even granted that an outer window sill was a safe hiding place, which of you would be mad enough to consider it a safe hiding place for a piece of unexposed film? Scanner film isn't very sensitive, to be sure, and is made to be developed under all sorts of hit-and-miss conditions. Diffuse night-time illumination wouldn't seriously affect it, but diffuse daylight would ruin it in a few minutes, and direct sunlight would ruin it at once. Everyone knows that."

Mandel said, "Go ahead, Urth. What is this leading to?"

"You're trying to rush me," said Urth, with a massive pout. "I want you to see this clearly. The criminal wanted, above all, to keep the film safe. It was his only record of something of supreme value to himself and to the world. Why would he put it where it would inevitably be ruined by the morning sun? -Only because he did not expect the morning sun ever to come. He thought the night, so to speak, was immortal."

"But nights aren't immortal. On Earth, they die and give way to daytime.

Even the six-month polar night is a dying night eventually. The nights on Ceres last only two hours; the nights on the Moon last two weeks. They are dying nights, too, and Dr. Talliaferro and Ryger know that day must always come."

Kaunas was on his feet. "But wait-

Wendell Urth faced him full. "No longer any need to wait, Dr. Kaunas. Mercury is the only sizable object in the Solar System that turns only one face to the sun. Even taking liberation into account, fully three-eighths of its surface is true dark-side and never sees the sun. The Polar Observatory is at the rim of that dark-side. For ten years, you have grown used to the fact that nights are immortal, that a surface in darkness remains eternally in darkness, and so you entrusted unexposed film to Earth's night, forgetting in your excitement that nights must die-

Kaunas stumbled forward. "Wait-

Urth was inexorable. "I am told that when Mandel adjusted the polarizer in Villiers' room, you screamed at the sunlight. Was that your ingrained fear of Mercurian sun, or your sudden realization of what sunlight meant to your plans? You rushed forward. Was that to adjust the polarizer or to stare at the ruined film?"

Kaunas fell to his knees. "I didn't mean it. I wanted to speak to him, only to speak to him, and he screamed and collapsed. I thought he was dead and the paper was under his pillow and it all just followed. One thing led on to another and before I knew it, I couldn't get out of it anymore. But I meant none of it. I swear it."

They had formed a semicircle about him and Wendell Urth stared at the moaning Kaunas with pity in his eyes.

An ambulance had come and gone. Talliaferro finally brought himself to say stiffly to Mandel, "I hope, sir, there will be no hard feelings for anything said here."

And Mandel had answered, as stiffly, "I think we had all better forget as much as possible of what has happened during the last twenty-four hours."

They were standing in the doorway, ready to leave, and Wendell Urth ducked his smiling head, and said, "There's the question of my fee, you know."

Mandel looked startled.

"Not money," said Urth at once. "But when the first mass-transference setup for humans is established, I want a trip arranged for me."

Mandel continued to look anxious. "Now, wait. Trips through outer space are a long way off."

Urth shook his head rapidly. "Not outer space. Not at all. I would like to step across to Lower Falls, New Hampshire."

"All right. But why?"

Urth looked up. To Talliaferro's outright surprise, the extraterrologist's face wore an expression compounded of shyness and eagerness.

Urth said, "I once -quite a long time ago- knew a girl there. It's been many years - but I sometimes wonder-

I'M IN MARSPORT WITHOUT HILDA

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It worked itself out, to begin with, like a dream. I didn't have to make any arrangement. I didn't have to touch it. I just watched things work out. -Maybe that's when I should have first smelled catastrophe.

It began with my usual month's layoff between assignments. A month on and a month off is the right and proper routine for the Galactic Service. I reached Marsport for the usual three-day layover before the short hop to Earth.

Ordinarily, Hilda, God bless her, as sweet a wife as any man ever had, would be there waiting for me and we'd have a nice sedate time of it-a nice little interlude for the two of us. The only trouble with that is that Marsport is the rowdiest spot in the System, and a nice little interlude isn't exactly what fits in. Only, how do I explain that to Hilda, hey?

Well, this time, my mother-in-law, God bless her (for a change) got sick just two days before I reached Marsport, and the night before landing, I got a spacegram from Hilda saying she would stay on Earth with her mother and wouldn't meet me this one time. I grammed back my loving regrets and my feverish anxiety concerning her mother and when I landed, there I was-I was in Marsport without Hilda!

That was still nothing, you understand. It was the frame of the picture, the bones of the woman. Now there was the matter of the lines and coloring inside the frame; the skin and flesh outside the bones.

So I called up Flora (Flora of certain rare episodes in the past) and for the purpose I used a video booth. -Damn the expense; full speed ahead. I was giving myself ten to one odds she'd be out, she'd be busy with her videophone disconnected, she'd be dead, even.

But she was in, with her videophone connected, and Great Galaxy, was she anything but dead. She looked better than ever. Age cannot wither, as somebody or other once said, nor custom stale her infinite variety.

Was she glad to see me? She squealed, "Max! It's been years."

"I know, Flora, but this is it, if you're available. Because guess what! I'm in Marsport without Hilda."

She squealed again, "Isn't that nice! Then come on over."

I goggled a bit. This was too much. "You mean you are available?" You have to understand that Flora was never available without plenty of notice. Well, she was that kind of knockout.

She said, "Oh, I've got some quibbling little arrangement, Max, but I'll take care of that. You come on over."

"I'll come," I said happily.

Flora was the kind of girl- Well, I tell you, she had her rooms under Martian gravity, 0.4 Earth-normal. The gadget to free her of Marsport's pseudo-grav field was expensive of course, but if you've ever held a girl in your arms at 0.4 gees, you need no explanation. If you haven't, explanations will do no good. I'm also sorry for you.

Talk about floating on clouds.

I closed connections, and only the prospect of seeing it all in the flesh could have made me wipe out the image with such alacrity. I stepped out of the booth.

And at that point, that precise point, that very split-instant of time, the first whiff of catastrophe nudged itself up to me.

That first whiff was the bald head of that lousy Rog Crinton of the Mars offices, gleaming over a headful of pale blue eyes, pale yellow complexion, and pale brown mustache. I didn't bother getting on all fours and beating my forehead against the ground because my vacation had started the minute I had gotten off the ship.

So I said with only normal politeness, "What do you want and I'm in a hurry. I've got an appointment."

He said, "You've got an appointment with me. I was waiting for you at the unloading desk."

I said, "I didn't see you-"

He said, "You didn't see anything."

He was right at that, for, come to think of it, if he was at the unloading desk, he must have been spinning ever since because I went past that desk like Halley's Comet skimming the Solar Corona.

I said, "All right. What do you want?"

"I've got a little job for you."

I laughed. "It's my month off, friend."

He said, "Red emergency alert, friend."

Which meant, no vacation, just like that. I couldn't believe it. I said, "Nuts, Rog. Have a heart. I got an emergency alert of my own."

"Nothing like this."

"Rog," I yelled, "can't you get someone else? Anyone else?"

"You're the only Class A agent on Mars."

"Send to Earth, then. They stack agents like micro-pile units at Headquarters."

"This has got to be done before 11 P.M. What's the matter? You haven't got three hours?"

I grabbed my head. The boy just didn't know. I said, "Let me make a call, will you?"

I stepped back into the booth, glared at him, and said, "Private!"

Flora shone on the screen again, like a mirage on an asteroid. She said, "Something wrong, Max? Don't say something's wrong. I canceled my other engagement."

I said, "Flora, baby, I'll be there. I'll be there. But something's come up."

She asked the natural question in a hurt tone of voice and I said, "No. Not another girl. With you in the same town they don't make any other girls. Females, maybe. Not girls. Baby! Honey!" (I had a wild impulse but hugging 'vision screen is no pastime for a grown man.) "It's business. Just hold on. It won't take long."

She said, "All right," but she said it kind of like it was just enough not all right so that I got the shivers.

I stepped out of the booth and said, "All right, Rog, what kind of mess have you cooked up for me?"

We went into the spaceport bar and got us an insulated booth. He said, "The Antares Giant is coming in from Sirius in exactly half an hour; at 8 P.M. local time."

"Okay."

"Three men will get out, among others, and will wait for the Space Eater coming in from Earth at 11 P.M. and leaving for Capella some time thereafter. The three men will get on the Space Eater and will then be out of our jurisdiction."

"So."

"So between 8:00 and 11:00, they will be in a special waiting room and you will be with them. I have a trimensional image of each for you so you'll know which they are and which is which. You have between 8:00 and 11:00 to decide which one of the three is carrying contraband."

"What kind of contraband?"

"The worst kind. Altered Spaceoline."

"Altered Spaceoline?"

He had thrown me. I knew what Spaceoline was. If you've been on a space-hop you know, too. And in case you're Earth-bound yourself the bare fact is that everyone needs it on the first space-trip; almost everybody needs it for the first dozen trips; lots need it every trip. Without it, there is vertigo associated with free fall, screaming terrors, semi-permanent psychoses. With it, there is nothing; no one minds a thing. And it isn't habit-forming; it has no adverse side-effects. Spaceoline is ideal, essential, unsubstitutable. When in doubt, take Spaceoline.

Rog said, "That's right, altered Spaceoline. It can be changed chemically by a very simple reaction that can be conducted in anyone's basement into a drug that will give one giant-size charge and become your baby-blue habit the first time. It is on a par with the most dangerous alkaloids we know."

"And we just found out about it?"

"No. The Service has known about it for years, and we've kept others from knowing by squashing every discovery flat. Only now the discovery has gone too far."

"In what way?"

"One of the men who will be stopping over at this spaceport is carrying some of the altered Spaceoline on his person. Chemists in the Capellan system, which is outside the Federation, will analyze it and set up ways of synthesizing more. After that, it's either fight the worst drug menace we've ever seen or suppress the matter by suppressing the source."

"You mean Spaceoline."

"Right. And if we suppress Spaceoline, we suppress space travel."

I decided to put my finger on the point. "Which one of the three has it?"

Rog smiled nastily, "If we knew, would we need you? You're to find out which of the three."

"You're calling on me for a lousy frisk job."

"Touch the wrong one at the risk of a haircut down to the larynx. Every one of the three is a big man on his own planet. One is Edward Harponaster; one is Joaquin Lipsky; and one is Andiamo Ferrucci. Well?"

He was right. I'd heard of every one of them. Chances are you have, too; and not one was touchable without proof in advance, as you know. I said, "Would one of them touch a dirty deal like-"

"There are trillions involved," said Rog, "which means any one of the three would. And one of them is, because Jack Hawk got that far before he was killed-"

"Jack Hawk's dead?" For a minute, I forgot about the Galactic drug menace. For a minute, I nearly forgot about Flora.

"Right, and one of those guys arranged the killing. Now you find out which. You put the finger on the right one before 11:00 and there's a promotion, a raise in pay, a pay-back for poor Jack Hawk, and a rescue of the Galaxy. You put the finger on the wrong one and there'll be a nasty interstellar situation and you'll be out on your ear and also on every black list from here to Antares and back."

I said, "Suppose I don't finger anybody?"

"That would be like fingering the wrong one as far as the Service is concerned."

"I've got to finger someone but only the right one or my head's handed to me."

"In thin slices. You're beginning to understand me, Max."

In a long lifetime of looking ugly, Rog Crinton had never looked uglier. The only comfort I got out of staring at him was the realization that he was married, too, and that he lived with his wife at Marsport all year round. And does he deserve that. Maybe I'm hard on him, but he deserves it.

I put in a quick call to Flora, as soon as Rog was out of sight.

She said, "Well?"

I said, "Baby, honey, it's something I can't talk about, but I've got to do it, see? Now you hang on, I'll get it over with if I have to swim the Grand Canal to the icecap in my underwear, see? If I have to claw Phobos out of the sky. If I have to cut myself in pieces and mail myself parcel post."

"Gee," she said, "if I thought I was going to have to wait-"

I winced. She just wasn't the type to respond to poetry. Actually, she was a simple creature of action- But after all, if I was going to be drifting through low-gravity in a sea of jasmine perfume with Flora, poetry-response is not the type of qualification I would consider most indispensable.

I said urgently, "Just hold on, Flora. I won't be any time at all. I'll make it up to you."

I was annoyed, sure, but I wasn't worried as yet. Rog hadn't more than left me when I figured out exactly how I was going to tell the guilty man from the others.

It was easy. I should have called Rog back and told him, but there's no law against wanting egg in your beer and oxygen in your air. It would take me five minutes and then off I would go to Flora; a little late, maybe, but with a promotion, a raise, and a slobbering kiss from the Service on each cheek.

You see, it's like this. Big industrialists don't go space-hopping much; they use trans-video reception. When they do go to some ultra-high interstellar conference, as these three were probably going, they take Spaceoline. For one thing, they don't have enough hops under their belt to risk doing without. For another, Spaceoline is the expensive way of doing it and industrialists do things the expensive way. I know their psychology.

Now that would hold for two of them. The one who carried contraband, however, couldn't risk Spaceoline-even to prevent space-sickness. Under Spaceoline influence, he could throw the drug away; or give it away; or talk gibberish about it. He would have to stay in control of himself.

It was as simple as that, so I waited.

The Antares Giant was on time and I waited with my leg muscles tense for a quick take-off as soon as I collared the murdering drug-toting rat and sped the two eminent captains of industry on their way.

They brought in Lipsky first. He had thick, ruddy lips, rounded jowls, very dark eyebrows, and graying hair. He just looked at me and sat down. Nothing. He was under Spaceoline.

I said, "Good evening, sir."

He said, in a dreamy voice, "Surrealismus of Panamy hearts in three-quarter time for a cup of coffeedom of speech."

That was Spaceoline all the way. The buttons in the human mind were set free-swing. Each syllable suggests the next in free association.

Andiamo Ferrucci came in next. Black mustache, long and waxed, olive complexion, pock-marked face. He took a seat in another chair, facing us.

I said, "Nice trip?"

He said, "Trip the light fantastic tock the clock is Growings on the bird."

Lipsky said, "Bird to the wise guyed book to all places every body."

I grinned. That left Harponaster. I had my needle gun neatly palmed out of sight and the magnetic coil ready to grip him.

And then Harponaster came in. He was thin, leathery, near-bald and rather younger than he seemed in his trimensional image. And he was Spaceolined to the gills.

I said, "Damn!"

Harponaster said, "Damyantee note speech to his last time I saw wood you say so."

Ferrucci said, "Sow the seed the territory under dispute do well to come along long road to a nightingale."

Lipsky said, "Gay lords hopping pong balls."

I stared from one to the other as the nonsense ran down in shorter and shorter spurts and then silence.

I got the picture, all right. One of them was faking. He had thought ahead and realized that omitting the Spaceoline would be a giveaway. He might have bribed an official into injecting saline or dodged it some other way.

One of them must be faking. It wasn't hard to fake the thing. Comedians on subetheric had a Spaceoline skit regularly. You've heard them.

I stared at them and got the first prickle at the base of my skull that said: What if you don't finger the right one?

It was 8:30 and there was my job, my reputation, my head growing rickety upon my neck to be considered. I saved it all for later and thought of Flora. She wasn't going to wait for me forever. For that matter, chances were she wouldn't wait for half an hour.

I wondered. Could the faker keep up free association if nudged gently onto dangerous territory?

I said, "The floor's covered with a nice solid rug" and ran the last two words together to make it "soli drug."

Lipsky said, "Drug from underneath the dough re mi fa sol to be saved."

Ferrucci said, "Saved and a haircut above the common herd something about younicorny as a harmonican the cheek by razor and shine."

Harponaster said, "Shiner wind nor snow use trying to by four ever and effervescence and sensibilityter totter."

Lipsky said, "Totters and rags."

Ferrucci said, "Ragsactly."

Harponaster said, "Acthimation."

A few grunts and they ran down.

I tried again and I didn't forget to be careful. They would remember everything I said afterward and what I said had to be harmless. I said, "This is a darned good space-line."

Ferrucci said, "Lines and tigers through the prairie dogs do bark of the bough-wough-"

I interrupted, looking at Harponaster, "A darned good space-line."

"Line the bed and rest a little black sheepishion of wrong the clothes of a perfect day."

I interrupted again, glaring at Lipsky, "Good space-line."

"Liron is hot chocolate ain't gonna be the same on you vee and double the stakes and potatoes and heel."

Some one else said, "Heel the sicknecessaryd and write will wincetance."

"Tance with mealtime."

"I'm comingle."

"Inglish."

"Ishter seals."

"Eels."

I tried a few more times and got nowhere. The faker, whichever he was, had practiced or had natural talents at talking free association. He was disconnecting his brain and letting the words come out any old way. And he must be inspired by knowing exactly what I was after. If "drug" hadn't given it away, "space-line" three times repeated must have. I was safe with the other two, but he would know.

-And he was having fun with me. All three were saying phrases that might have pointed to a deep inner guilt ("sol to be saved," "little black sheepishion of wrong," "drug from underneath," and so on). Two were saying such things helplessly, randomly. The third was amusing himself.

So how did I find the third? I was in a feverish thrill of hatred against him and my fingers twitched. The rat was subverting the Galaxy. More than, he had killed my colleague and friend. More than that, he was keeping me from Flora.

I could go up to each of them and start searching. The two who were really under Spaceoline would make no move to stop me. They could feel no emotion, no fear, no anxiety, no hate, no passion, no desire for self-defense. And if one made the slightest gesture of resistance I would have my man.

But the innocent ones would remember afterward. They would remember a personal search while under Spaceoline.

I sighed. If I tried it, I would get the criminal all right but later I would be the nearest thing to chopped liver any man had ever been. There would be a shake-up in the Service, a big stink the width of the Galaxy, and in the excitement and disorganization, the secret of altered Spaceoline would get out anyway and so what the hell.

Of course, the one I wanted might be the first one I touched. One chance out of three. I'd have one out and only God can make a three.

Nuts, something had started them going while I was muttering to myself and Spaceoline is contagious a gigolo my, oh- I stared desperately at my watch and my line of sight focused on 9:15.

Where the devil was time going to?

Oh, my; oh, nuts; oh, Flora!

I had no choice. I made my way to the booth for another quick call to Flora. Just a quick one, you understand, to keep things alive; assuming they weren't dead already.

I kept saying to myself: She won't answer.

I tried to prepare myself for that. There were other girls, there were other- What's the use, there were no other girls.

If Hilda had been in Marsport, I never would have had Flora on my mind in the first place and it wouldn't have mattered. But I was in Marsport without Hilda and I had made a date with Flora.

The signal was signaling and signaling and I didn't dare break off.

Answer! Answer!

She answered. She said, "It's you!"

"Of course, sweetheart, who else would it be?"

"Lots of people. Someone who would come."

"There's just this little detail of business, honey."

"What business? Plastons for who?"

I almost corrected her grammar but I was too busy wondering what this plastons kick was.

Then I remembered. I told her once I was a plaston salesman. That was the time I brought her a plaston nightgown that was a honey.

I said, "Look. Just give me another half hour-

Her eyes grew moist. "I'm sitting here all by myself."

"I'll make it up to you." To show you how desperate I was getting, I was definitely beginning to think along paths that could lead only to jewelry even though a sizable dent in the bankbook would show up to Hilda's piercing eye like the Horsehead Nebula interrupting the Milky Way. But then I was desperate.

She said, "I had a perfectly good date and I broke it off."

I protested, "You said it was a quibbling little arrangement."

That was a mistake. I knew it the minute I said it.

She shrieked, "Quibbling little arrangement!" (It was what she had said. It was what she had said. But having the truth on your side just makes it worse in arguing with a woman. Don't I know?) "You call a man who's promised me an estate on Earth-

She went on and on about that estate on Earth. There wasn't a gal in Marsport who wasn't wangling for an estate on Earth, and you could count the number who got one on the sixth finger of either hand.

I tried to stop her. No use.

She finally said, "And here I am all alone, with nobody," and broke off contact.

Well, she was right. I felt like the lowest heel in the Galaxy.

I went back into the reception room. A flunky outside the door saluted me in.

I stared at the three industrialists and speculated on the order in which I would slowly choke each to death if I could but receive choking orders. Harponaster first, maybe. He had a thin, stringy neck that the fingers could go round neatly and a sharp Adam's apple against which the thumbs could find purchase.

It cheered me up infinitesimally, to the point where I mustered, "Boy!" just out of sheer longing, though it was no boy I was longing for.

It started them off at once. Ferrucci said, "Boyl the watern the spout you goateeming rain over us, God savior pennies-

Harponaster of the scrawny neck added, "Nies and nephew don't like orporalley cat."

Lipsky said, "Cattle corral go down off a ductilitease drunk."

"Drunkle aunterior passagewayt a while."

"While beasts oh pray."

"Prayties grow."

"Grow way."

"Waiter."

"Terble."

"Ble."

Then nothing.

They stared at me. I stared at them. They were empty of emotion (or two were) and I was empty of ideas. And time passed.

I stared at them some more and thought about Flora. It occurred to me that I had nothing to lose that I had not already lost. I might as well talk about her.

I said, "Gentlemen, there is a girl in this town whose name I will not mention for fear of compromising her. Let me describe her to you, gentlemen."

And I did. If I say so myself, the last two hours had honed me to such a fine force-field edge that the description of Flora took on a kind of poetry that seemed to be coming from some wellspring of masculine force deep in the subbasement of my unconscious.

And they sat frozen, almost as though they were listening, and hardly ever interrupting. People under Spaceoline have a kind of politeness about them. They won't speak when someone else is speaking. That's why they take turns.

I kept it up with a kind of heartfelt sadness in my voice until the loudspeaker announced in stirring tones the arrival of the Space Eater.

That was that. I said in a loud voice, "Rise, gentlemen."

"Not you, you murderer," and my magnetic coil was on Ferrucci's wrist before he could breathe twice.

Ferrucci fought like a demon. He was under no Spaceoline influence. They found the altered Spaceoline in thin flesh-colored plastic pads hugging the inner surface of his thighs. You couldn't see it at all; you could only feel it, and even then it took a knife to make sure.

Afterward, Rog Crinton, grinning and half insane with relief, held me by the lapel with a death grip. "How did you do it? What gave it away?"

I said, trying to pull loose, "One of them was faking a Spaceoline jag. I was sure of it. So I told them," (I grew cautious-none of his business as to the details, you know) ". . . uh, about a girl, see, and two of them never reacted, so they were Spaceolined. But Ferrucci's breathing speeded up and the beads of sweat came out on his forehead. I gave a pretty dramatic rendition, and he reacted, so he was under no Spaceoline. Now will you let me go?"

He let go and I almost fell over backward.

I was set to take off. My feet were pawing the ground without any instruction from me-but then I turned back.

"Hey, Rog," I said, "can you sign me a chit for a thousand credits without its going on the record-for services rendered to the Service?"

That's when I realized he was half insane with relief and very temporary gratitude, because he said, "Sure, Max, sure. Ten thousand credits if you want."

"I want," I said, grabbing him for a change. "I want. I want."

He filled out an official Service chit for ten thousand credits; good as cash anywhere in half the Galaxy. He was actually grinning as he gave it to me and you can bet I was grinning as I took it.

How he intended accounting for it was his affair; the point was that I wouldn't have to account for it to Hilda.

I stood in the booth, one last time, signaling Flora. I didn't dare let matters go till I reached her place. The additional half hour might just give her time to get someone else, if she hadn't already.

Make her answer. Make her answer. Make her-

She answered, but she was in formal clothes. She was going out and I had obviously caught her by two minutes.

"I am going out," she announced. "Some men can be decent. And I do not wish to see you in the henceforward. I do not wish ever to find my eyes upon you. You will do me a great favor, Mister Whoever you are, if you unhand my signal combination and never pollute it with-

I wasn't saying anything. I was just standing there holding my breath and also holding the chit up where she could see it. Just standing there. Just holding.

Sure enough, at the word "pollute" she came in for a closer look. She wasn't much on education, that girl, but she could read "ten thousand credits" faster than any college graduate in the Solar System.

She said, "Max! For me?"

"All for you, baby," I said, "I told you I had a little business to do. I wanted to surprise you."

"Oh, Max, that's sweet of you. I didn't really mind. I was joking. Now you come right here to me." She took off her coat.

"What about your date?" I said.

"I said I was joking," she said.

"I'm coming," I said faintly.

"With every single one of those credits now," she said roguishly.

"With every single one," I said.

I broke contact, stepped out of the booth, and now, finally, I was set- ..set- I heard my name called. "Max! Max!" Someone was running toward me. "Rog Crinton said I would find you here. Mamma's all right after all, so I got special passage on the Space Eater and what's this about ten thousand credits?"

I didn't turn. I said, "Hello, Hilda."

And then I turned and did the hardest thing I ever succeeded in doing in .all my good-for-nothing, space-hopping life.

I managed to smile.

THE GENTLE VULTURES

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For fifteen years now, the Hurrians had maintained their base on the other side of the Moon.

It was unprecedented; unheard of. No Human had dreamed it possible to be delayed so long. The decontamination squads had been ready; ready and waiting for fifteen years; ready to swoop down through the radioactive clouds and save what might be saved for the remnant of survivors. -In return, of course, for fair payment.

But fifteen times the planet had revolved about its Sun. During each revolution, the satellite had rotated not quite thirteen times about the primary. And in all that time the nuclear war had not come.

Nuclear bombs were exploded by the large-primate intelligences at various points on the planet's surface. The planet's stratosphere had grown amazingly warm with radioactive refuse. But still no war.

Devien hoped ardently that he would be replaced. He was the fourth Captain-in-charge of this colonizing expedition (if it could still be called so after fifteen years of suspended animation) and he was quite content that there should be a fifth. Now that the home world was sending an Arch-administrator to make a personal survey of the situation, his replacement might come soon. Good!

He stood on the surface of the Moon, encased in his space-suit, and thought of home, of Hurria. His long, thin arms moved restlessly with the thought, as though aching (through millions of years of instinct) for the ancestral trees. He stood only three feet high. What could be seen of him through the glass-fronted head plate was a black and wrinkled face with the fleshy, mobile nose dead-centered. The little tuft of fine beard was a pure white in contrast. In the rear of the suit, just below center, was the bulge within which the short and stubby Hurrian tail might rest comfortably.

Devien took his appearance for granted, of course, but was well aware of the difference between the Hurrians and all the other intelligences in the Galaxy. The Hurrians alone were so small; they alone were tailed; they alone were vegetarians-they alone had escaped the inevitable nuclear war that had ruined every other known intelligent species.

He stood on the walled plain that extended for so many miles that the raised and circular rim (which on Hurria would have been called a crater, if it were smaller) was invisible beyond the horizon. Against the southern edge of the rim, where there was always some protection against the direct rays of the Sun, a city had grown. It had begun as a temporary camp, of course, but with the years, women had been brought in, and children had been born in it. Now there were schools and elaborate hydroponics establishments, large water reservoirs, all that went with a city on an airless world.

It was ridiculous! All because one planet had nuclear weapons and would not fight a nuclear war.

The Arch-administrator, who would be arriving soon, would undoubtedly ask, almost at once, the same question that Devi-en had asked himself a wearisome number of times.

Why had there not been a nuclear war?

Devi-en watched the hulking Mauvs preparing the ground now for the landing, smoothing out the unevennesses and laying down the ceramic bed designed to absorb the hyperatomic field-thrusts with minimum discomfort to the passengers within the ship.

Even in their space-suits, the Mauvs seemed to exude power, but it was the power of muscle only. Beyond them was the little figure of a Hurrian giving orders, and the docile Mauvs obeyed. Naturally.

The Mauvian race, of all the large-primate intelligences, paid their fees in the most unusual coin, a quota of themselves, rather than of material goods. It was a surprisingly useful tribute, better than steel, aluminum, or fine drugs in many ways.

Devi-en's receiver stuttered to life. "The ship is sighted, sir," came the report. "It will be landing within the hour."

"Very good," said Devi-en. "Have my car made ready to take me to the ship as soon as landing is initiated."

He did not feel that it was very good at all.

The Arch-administrator came, flanked by a personal retinue of five Mauvs. They entered the city with him, one on each side, three following. They helped him off with his space-suit, then removed their own.

Their thinly haired bodies, their large, coarse-featured faces, their broad noses and flat cheekbones were repulsive but not frightening. Though twice the height of the Hurrians and more than twice the breadth, there was a blankness about their eyes, something completely submissive about the way they stood, with their thick-sinewed necks slightly bent, their bulging arms hanging listlessly.

The Arch-administrator dismissed them and they trooped out. He did not really need their protection, of course, but his position required a retinue of five and that was that.

No business was discussed during the meal or during the almost endless ritual of welcome. At a time that might have been more appropriate for sleeping, the Arch-administrator passed small fingers through his tuft of beard and said, "How much longer must we wait for this planet, Captain?"

He was visibly advancing in age. The hair on his upper arms was grizzled and the tufts at the elbows were almost as white as his beard.

"I cannot say, your Height," said Devi-en humbly. "They have not followed the path."

"That is obvious. The point is, why have they not followed the path? It is clear to the Council that your reports promise more than they deliver. You talk of theories but you

give no details. Now we are tired of all this back on Hurria. If you know of anything you have not told us, now is the time to talk of it."

"The matter, your Height, is hard to prove. We have had no experience of spying on a people over such an extended period. Until recently, we weren't watching for the right things. Each year we kept expecting the nuclear war the year after and it is only in my time as Captain that we have taken to studying the people more intensively. It is at least one benefit of the long waiting time that we have learned some of their principal languages."

"Indeed? Without even landing on their planet?"

Devi-en explained. "A number of radio messages were recorded by those of our ships that penetrated the planetary atmosphere on observation missions, particularly in the early years. I set our linguistics computers to work on them, and for the last year I have been attempting to make sense out of it ail-The Arch-administrator stared. His bearing was such that any outright exclamation of surprise would have been superfluous. "And have you learned anything of interest?"

"I may have, your Height, but what I have worked out is so strange and the underpinning of actual evidence is so uncertain that I dared not speak of it officially in my reports."

The Arch-administrator understood. He said, stiffly, "Would you object to explaining your views unofficially-to me?"

"I would be glad to," said Devi-en at once. "The inhabitants of this planet are, of course, large-primate in nature. And they are competitive."

The other blew out his breath in a kind of relief and passed his tongue quickly over his nose. "I had the queer notion," he muttered, "that they might not be competitive and that that might- But go on, go on."

"They are competitive," Devi-en assured him. "Much more so than one would expect on the average."

"Then why doesn't everything else follow?"

"Up to a point it does, your Height. After the usual long incubation period, they began to mechanize; and after that, the usual large-primate killings became truly destructive warfare. At the conclusion of the most recent large-scale war, nuclear weapons were developed and the war ended at once."

The Arch-administrator nodded. "And then?"

Devi-en said, "What should have happened was that a nuclear war ought to have begun shortly afterward and in the course of the war, nuclear weapons would have developed quickly in destructiveness, have been used nevertheless in typical large-primate fashion, and have quickly reduced the population to starving remnants in a ruined world."

"Of course, but that didn't happen. Why not?"

Devi-en said, "There is one point. I believe these people, once mechanization started, developed at an unusually high rate."

"And if so?" said the other. "Does that matter? They reached nuclear weapons the more quickly."

"True. But after the most recent general war, they continued to develop nuclear weapons at an unusual rate. That's the trouble. The deadly potential had increased before the nuclear war had a chance to start and now it has reached a point where even large-primate intelligences dare not risk a war."

The Arch-administrator opened his small black eyes wide. "But that is impossible. I don't care how technically talented these creatures are. Military science advances rapidly only during a war."

"Perhaps that is not true in the case of these particular creatures. But even if it were, it seems they are having a war; not a real war, but a war."

"Not a real war, but a war," repeated the Arch-administrator blankly. "What does that mean?"

"I'm not sure." Devi-en wiggled his nose in exasperation. "This is where my attempts to draw logic out of the scattered material we have picked up is least satisfactory. This planet has something called a Cold War. Whatever it is, it drives them furiously onward in research and yet it does not involve complete nuclear destruction."

The Arch-administrator said, "Impossible!"

Devi-en said, "There is the planet. Here we are. We have been waiting fifteen years."

The Arch-administrator's long arms came up and crossed over his head and down again to the opposite shoulders. "Then there is only one thing to do. The Council has considered the possibility that the planet may have achieved a stalemate, a kind of uneasy peace that balances just short of a nuclear war. Something of the sort you describe, though no one suggested the actual reasons you advance. But it's something we can't allow."

"No, your Height?"

"No," he seemed almost in pain. "The longer the stalemate continues, the greater the possibility that large-primate individuals may discover the methods of interstellar travel. They will leak out into the Galaxy, in full competitive strength. You see?"

"Then?"

The Arch-administrator hunched his head deeper into his arms, as though not wishing to hear what he himself must say. His voice was a little muffled. "If they are balanced precariously, we must push them a little, Captain. We must push them."

Devi-en's stomach churned and he suddenly tasted his dinner once more in the back of his throat. "Push them, your Height?" He didn't want to understand.

But the Arch-administrator put it bluntly, "We must help them start their nuclear war." He looked as miserably sick as Devi-en felt. He whispered, "We must!"

Devi-en could scarcely speak. He said, in a whisper, "But how could such a thing be done, your Height?"

"I don't know how. -And do not look at me so. It is not my decision. It is the decision of the Council. Surely you understand what would happen to the Galaxy if a

large-primate intelligence were to enter space in full strength without having been tamed by nuclear war."

Devi-en shuddered at the thought. All that competitiveness loosed on the Galaxy. He persisted though. "But how does one start a nuclear war? How is it done?"

"I don't know, I tell you. But there must be some way; perhaps a-a message we might send or a-a crucial rainstorm we might start by cloud-seeding. We could manage a great deal with their weather conditions-

"How would that start a nuclear war?" said Devi-en, unimpressed.

"Maybe it wouldn't. I mention such a thing only as a possible example. But large-primates would know. After all, they are the ones who do start nuclear wars in actual fact. It is in their brain-pattern to know. That is the decision the Council came to."

Devi-en felt the soft noise his tail made as it thumped slowly against the chair. He tried to stop it and failed. "What decision, your Height?"

"To trap a large-primate from the planet's surface. To kidnap one."

"A wild one?"

"It's the only kind that exists at the moment on the planet. Of course, a wild one."

"And what do you expect him to tell us?"

"That doesn't matter, Captain. As long as he says enough about anything, mentalic analysis will give us the answer."

Devi-en withdrew his head as far as he could into the space between his shoulder blades. The skin just under his armpits quivered with repulsion. A wild large-primate being! He tried to picture one, untouched by the stunning aftermath of nuclear war, unaltered by the civilizing influence of Hurrian eugenic breeding.

The Arch-administrator made no attempt to hide the fact that he shared the repulsion, but he said, "You will have to lead the trapping expedition, Captain. It is for the good of the Galaxy."

Devi-en had seen the planet a number of times before but each time a ship swung about the Moon and placed the world in his line of sight a wave of unbearable homesickness swept him.

It was a beautiful planet, so like Hurria itself in dimensions and characteristics but wilder and grander. The sight of it, after the desolation of the Moon, was like a blow.

How many other planets like it were on Hurrian master listings at this moment, he wondered. How many other planets were there concerning which meticulous observers had reported seasonal changes in appearance that could be interpreted only as being caused by artificial cultivation of food plants? How many times in the future would a day come when the radioactivity in the stratosphere of one of these planets would begin to climb; when colonizing squadrons would have to be sent out at once?

-As they were to this planet.

It was almost pathetic, the confidence with which the Hurrians had proceeded at first. Devi-en could have laughed as he read through those initial reports, if he weren't trapped in this project himself now. The Hurrian scoutships had moved close to the planet

to gather geographical information, to locate population centers. They were sighted, of course, but what did it matter? Any time, now, they thought, the final explosion.

Any time- But useless years passed and the scoutships wondered if they ought not to be cautious. They moved back.

Devi-en's ship was cautious now. The crew was on edge because of the unpleasantness of the mission; not all Devi-en's assurances that there was no harm intended to the large-primate could quite calm them. Even so, they could not hurry matters. It had to be over a fairly deserted and uncultivated tract of uneven ground that they hovered. They stayed at a height of ten miles for days, while the crew became edgier and only the ever-stolid Mauvs maintained calm.

Then the scope showed them a creature, alone on the uneven ground, a long staff in one hand, a pack across the upper portion of his back.

They lowered silently, supersonically. Devi-en himself, skin crawling, was at the controls.

The creature was heard to say two definite things before he was taken, and they were the first comments recorded for use in mentalic computing.

The first, when the large-primate caught sight of the ship almost upon him, was picked up by the direction telemike. It was, "My God! A flying saucer!"

Devi-en understood the second phrase. That was a term for the Hurrian ships that had grown common among the large-primates those first careless years.

The second remark was made when the wild creature was brought into the ship, struggling with amazing strength, but helpless in the iron grip of the unperturbed Mauvs.

Devi-en, panting, with his fleshy nose quivering slightly, advanced to receive him, and the creature (whose unpleasantly hairless face had become oily with some sort of fluid secretion) yelled, "Holy Toledo, a monkey!"

Again, Devi-en understood the second part. It was the word for little-primate in one of the chief languages of the planet.

The wild creature was almost impossible to handle. He required infinite patience before he could be spoken to reasonably. At first, there was nothing but a series of crises. The creature realized almost at once that he was being taken off Earth, and what Devi-en thought might prove an exciting experience for him, proved nothing of the sort. He talked instead of his offspring and of a large-primate female.

(They have wives and children, thought Devi-en, compassionately, and, in their way, love them, for all they are large-primate.)

Then he had to be made to understand that the Mauvs who kept him under guard and who restrained him when his violence made that necessary would not hurt him, that he was not to be damaged in any way.

(Devi-en was sickened at the thought that one intelligent being might be damaged by another. It was very difficult to discuss the subject, even if only to admit the possibility long enough to deny it. The creature from the planet treated the very hesitation with great suspicion. It was the way the large-primates were.)

On the fifth day, when out of sheer exhaustion, perhaps, the creature remained quiet over a fairly extended period, they talked in Devi-en's private quarters, and suddenly he grew angry again when the Hurrian first explained, matter-of-factly, that they were waiting for a nuclear war.

"Waiting!" cried the creature. "What makes you so sure there will be one?"

Devi-en wasn't sure, of course, but he said, "There is always a nuclear war. It is our purpose to help you afterward."

"Help us afterward." His words grew incoherent. He waved his arms violently, and the Mauvs who flanked him had to restrain him gently once again and lead him away.

Devi-en sighed. The creature's remarks were building in quantity and perhaps mentalics could do something with them. His own unaided mind could make nothing of them.

And meanwhile the creature was not thriving. His body was almost completely hairless, a fact that long-distance observation had not revealed owing to the artificial skins worn by them. This was either for warmth or because of an instinctive repulsion even on the part of these particular large-primates themselves for hairless skin. (It might be an interesting subject to take up. Mentalics computation could make as much out of one set of remarks as another.)

Strangely enough, the creature's face had begun to sprout hair; more, in fact, than the Hurrian face had, and of a darker color.

But still, the central fact was that he was not thriving. He had grown thinner because he was eating poorly, and if he was kept too long, his health might suffer. Devi-en had no wish to feel responsible for that.

On the next day, the large-primate seemed quite calm. He talked almost eagerly, bringing the subject around to nuclear warfare almost at once. (It had a terrible attraction for the large-primate mind, Devi-en thought.)

The creature said, "You said nuclear wars always happen? Does that mean there are other people than yours and mine-and theirs?" He indicated the near-by Mauvs.

"There are thousands of intelligent species, living on thousands of worlds. Many thousands," said Devi-en.

"And they all have nuclear wars?"

"All who have reached a certain stage of technology. All but us. We were different. We lacked competitiveness. We had the co-operative instinct."

"You mean you know that nuclear wars will happen and you do nothing about it?"

"We do," said Devi-en, pained. "Of course, we do. We try to help. In the early history of my people, when we first developed space-travel, we did not understand large-primates. They repelled our attempts at friendship and we stopped trying. Then we found worlds in radioactive ruins. Finally, we found one world actually in the process of a nuclear war. We were horrified, but could do nothing. Slowly, we learned. We are ready, now, at every world we discover to be at the nuclear stage. We are ready with decontamination equipment and eugenic analyzers."

"What are eugenic analyzers?"

Devi-en had manufactured the phrase by analogy with what he knew of the wild one's language. Now he said carefully, "We direct matings and sterilizations to remove, as far as possible, the competitive element in the remnant of the survivors."

For a moment, he thought the creature would grow violent again.

Instead, the other said in a monotone, "You make them docile, you mean, like these things?" Once again he indicated the Mauvs.

"No. No. These are different. We simply make it possible for the remnants to be content with a peaceful, nonexpanding, nonaggressive society under our guidance. Without this, they destroyed themselves, you see, and without it, they would destroy themselves again."

"What do you get out of it?"

Devi-en stared at the creature dubiously. Was it really necessary to explain the basic pleasure of life? He said, "Don't you enjoy helping someone?"

"Come on. Besides that. What's in it for you?"

"Of course, there are contributions to Hurria."

"Ha."

"Payment for saving a species is only fair," protested Devi-en, "and there are expenses to be covered. The contribution is not much and is adjusted to the nature of the world. It may be an annual supply of wood from a forested world; manganese salts from another. The world of these Mauvs is poor in physical resources and they themselves offered to supply us with a number of individuals to use as personal assistants. They are extremely powerful even for large-primates and we treat them painlessly with anticerebral drugs-"

"To make zombies out of them!"

Devi-en guessed at the meaning of the noun and said indignantly, "Not at all. Merely to make them content with their role as personal servant and forgetful of their homes. We would not want them to be unhappy. They are intelligent beings!"

"And what would you do with Earth if we had a war?"

"We have had fifteen years to decide that," said Devi-en. "Your world is very rich in iron and has developed a fine steel technology. Steel, I think, would be your contribution." He sighed, "But the contribution would not make up for our expense in this case, I think. We have overwaited now by ten years at least."

The large-primate said, "How many races do you tax in this way?"

"I do not know the exact number. Certainly more than a thousand."

"Then you're the little landlords of the Galaxy, are you? A thousand worlds destroy themselves in order to contribute to your welfare. You're something else, too, you know." The wild one's voice was rising, growing shrill. "You're vultures."

"Vultures?" said Devi-en, trying to place the word.

"Carrion-eaters. Birds that wait for some poor creature to die of thirst in the desert and then come down to eat the body."

Devi-en felt himself turn faint and sick at the picture conjured up for him. He said weakly, "No, no, we help the species."

"You wait for the war to happen like vultures. If you want to help, prevent the war. Don't save the remnants. Save them all."

Devi-en's tail twitched with sudden excitement. "How do we prevent a war? Will you tell me that?" (What was prevention of war but the reverse of bringing about a war? Learn one process and surely the other would be obvious.)

But the wild one faltered. He said finally, "Get down there. Explain the situation."

Devi-en felt keen disappointment. That didn't help. Besides- He said, "Land among you? Quite impossible." His skin quivered in half a dozen places at the thought of mingling with the wild ones in their untamed billions.

Perhaps the sick look on Devi-en's face was so pronounced and unmistakable that the wild one could recognize it for what it was even across the barrier of species. He tried to fling himself at the Human and had to be caught virtually in mid-air by one of the Mauvs, who held him immobile with an effortless constriction of biceps.

The wild one screamed. "No. Just sit here and wait! Vulture! Vulture! Vulture!"

It was days before Devi-en could bring himself to see the wild one again. He was almost brought to disrespect of the Arch-administrator when the latter insisted that he lacked sufficient data for a complete analysis of the mental make-up of these wild ones.

Devi-en said boldly, "Surely, there is enough to give some solution to our question."

The Arch-administrator's nose quivered and his pink tongue passed over it meditatively. "A solution of a kind, perhaps. I can't trust this solution. We are facing a very unusual species. We know that already. We can't afford to make mistakes. -One thing, at least. We have happened upon a highly intelligent one. Unless-unless he is at his race's norm." The Arch-administrator seemed upset at that thought.

Devi-en said, "The creature brought up the horrible picture of that-that bird-that-"

"Vulture," said the Arch-administrator.

"It put our entire mission into such a distorted light. I have not been able to eat properly since, or sleep. In fact, I am afraid I will have to ask to be relieved-"

"Not before we have completed what we have set out to do," said the Arch-administrator firmly. "Do you think I enjoy the picture of-of carrion-eat- You must collect more data."

Devi-en nodded finally. He understood, of course. The Arch-administrator was no more anxious to cause a nuclear war than any Human would be. He was putting off the moment of decision as long as possible.

Devi-en settled himself for one more interview with the wild one. It turned out to be a completely unbearable one, and the last.

The wild one had a bruise across his cheek as though he had been resisting the Mauvs again. In fact, it was certain he had. He had done so numerous times before, and the Mauvs, despite their most earnest attempts to do no harm, could not help but bruise him on occasion. One would expect the wild one to see how intensely they tried not to hurt him and to quiet his behavior as a result. Instead, it was as though the conviction of safety spurred him on to additional resistance.

(These large-primate species were vicious, vicious, thought Devi-en sadly.)

For over an hour, the interview hovered over useless small talk and then the wild one said with sudden belligerence, "How long did you say you things have been here?"

"Fifteen of your years," said Devi-en.

"That figures. The first flying saucers were sighted just after World War II. How much longer before the nuclear war?"

With automatic truth, Devi-en said, "We wish we knew," and stopped suddenly.

The wild one said, "I thought nuclear war was inevitable. Last time you said you overstayed ten years. You expected the war ten years ago, didn't you?"

Devi-en said, "I can't discuss this subject."

"No?" The wild one was screaming. "What are you going to do about it? How long will you wait? Why not nudge it a little? Don't just wait, vulture. Start one."

Devi-en jumped to his feet. "What are you saying?"

"Why else are you waiting, you dirty-" He choked on a completely incomprehensible expletive, then continued, breathlessly, "Isn't that what vultures do when some poor miserable animal, or man, maybe, is taking too long to die? They can't wait. They come swirling down and peck out his eyes. They wait till he's helpless and just hurry him along the last step."

Devi-en ordered him away quickly and retired to his sleeping room, where he was sick for hours. Nor did he sleep then or that night. The word "vulture" screamed in his ears and that final picture danced before his eyes.

Devi-en said firmly, "Your Height, I can speak with the wild one no more. If you need still more data, I cannot help you."

The Arch-administrator looked haggard. "I know. This vulture business- Very difficult to take. Yet you notice the thought didn't affect him. Large-primates are immune to such things, hardened, calloused. It is part of their way of thinking. Horrible."

"I can get you no more data."

"It's all right. I understand. -Besides, each additional item only strengthens the preliminary answer; the answer I thought was only provisional; that I hoped earnestly was only provisional." He buried his head in his grizzled arms. "We have a way to start their nuclear war for them."

"Oh? What need be done?"

"It is something very direct, very simple. It is something I could never have thought of. Nor you."

"What is it, your Height?" He felt an anticipatory dread.

"What keeps them at peace now is that neither of two nearly equal sides dares take the responsibility of starting a war. If one side did, however, the other-well, let's be blunt about it-would retaliate in full."

Devi-en nodded.

The Arch-administrator went on. "If a single nuclear bomb fell on the territory of either of the two sides, the victims would at once assume the other side had launched it."

They would feel they could not wait for further attacks. Retaliation in full would follow within hours; the other side would retaliate in its turn. Within weeks it would be over."

"But how do we make one of them drop that first bomb?"

"We don't, Captain. That is the point. We drop the first bomb ourselves."

"What?" Devi-en swayed.

"That is it. Compute a large-primate's mind and that answer thrusts itself at you."

"But how can we?"

"We assemble a bomb. That is easy enough. We send it down by ship and drop it over some inhabited locality-"

"Inhabited?"

The Arch-administrator looked away and said uneasily, "The effect is lost otherwise."

"I see," said Devi-en. He was picturing vultures; he couldn't help it. He visualized them as large, scaled bird (like the small harmless flying creatures on Hurria, but immensely large), with rubber-skinned wings and long razorbills, circling down, pecking at dying eyes.

His hands covered his eyes. He said shakily, "Who will pilot the ship? Who will launch the bomb?"

The Arch-administrator's voice was no stronger than Devi-en's. "I don't know."

"I won't," said Devi-en. "I can't. There is no Hurrian who can, at any price."

The Arch-administrator rocked back and forth miserably. "Perhaps the Mauvs could be given orders-"

"Who could give them such orders?"

The Arch-administrator sighed heavily. "I will call the Council. They may have all the data. Perhaps they will suggest something."

So after a little over fifteen years, the Hurrians were dismantling their base on the other side of the Moon.

Nothing had been accomplished. The large-primates of the planet had not had their nuclear war; they might never have.

And despite all the future horror that might bring, Devi-en was in an agony of happiness. There was no point in thinking of the future. For the present, he was getting away from this most horrible of horrible worlds.

He watched the Moon fall away and shrink to a spot of light, along with the planet, and the Sun of the system itself, till the whole thing was lost among the constellations.

It was only then that he could feel anything but relief. It was only then that he felt a first tiny twinge of it-might-have-been.

He said to the Arch-administrator, "It might all have been well if we had been more patient. They might yet have blundered into nuclear war."

The Arch-administrator said, "Somehow I doubt it. The mentalic analysis of-"

He stopped and Devi-en understood. The wild one had been replaced on his planet with minimal harm. The events of the past weeks had been blanked out of his mind. He had been placed near a small, inhabited locality not far from the spot where he

had been first found. His fellows would assume he had been lost. They would blame his loss of weight, his bruises, his amnesia upon the hardships he had undergone.

But the harm done by him- If only they had not brought him up to the Moon in the first place. They might have reconciled themselves to the thought of starting a war. They might somehow have thought of dropping a bomb; and worked out some indirect, long-distance system for doing so.

It had been the wild one's word-picture of the vulture that had stopped it all. It had ruined Devi-en and the Arch-administrator. When all data was sent back to Hurria, the effect on the Council itself had been notable. The order to dismantle the Base had come quickly.

Devi-en said, "I will never take part in colonization again."

The Arch-administrator said mournfully, "None of us may ever have to. The wild ones of that planet will emerge and with large-primates and large-primate thinking loose in the Galaxy, it will mean the end of-of-"

Devi-en's nose twitched. The end of everything; of all the good Hurria had done in the Galaxy; all the good it might have continued to do in the future.

He said, "We ought to have dropped-" and did not finish.

What was the use of saying that? They couldn't have dropped the bomb for all the Galaxy. If they could have, they would have been large-primate themselves in their manner of thinking, and there are worse things than merely the end of everything.

Devi-en thought of the vultures.

ALL THE TROUBLES OF THE WORLD

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The greatest industry on Earth centered about Multivac-Multivac, the giant computer that had grown in fifty years until its various ramifications had filled Washington, D.C., to the suburbs and had reached out tendrils into every city and town on Earth.

An army of civil servants fed it data constantly and another army correlated and interpreted the answers it gave. A corps of engineers patrolled its interior while mines and factories consumed themselves in keeping its reserve stocks of replacement parts ever complete, ever accurate, ever satisfactory in every way.

Multivac directed Earth's economy and helped Earth's science. Most important of all, it was the central clearing house of all known facts about each individual Earthman.

And each day it was part of Multivac's duties to take the four billion sets of facts about individual human beings that filled its vitals and extrapolate them for an additional day of time. Every Corrections Department on Earth received the data appropriate to its own area of jurisdiction, and the over-all data was presented in one large piece to the Central Board of Corrections in Washington, D.C.

Bernard Gulliman was in the fourth week of his year term as Chairman of the Central Board of Corrections and had grown casual enough to accept the morning report without being frightened by it. As usual, it was a sheaf of papers some six inches thick. He knew by now, he was not expected to read it. (No human could.) Still, it was amusing to glance through it.

There was the usual list of predictable crimes: frauds of all sorts, larcenies, riots, manslaughters, arsons.

He looked for one particular heading and felt a slight shock at finding it there at all, then another one at seeing two entries. Not one, but two. Two first-degree murders. He had not seen two in one day in all his term as Chairman so far.

He punched the knob of the two-way intercom and waited for the smooth face of his coordinator to appear on the screen.

"Ali," said Gulliman. "There are two first-degrees this day. Is there any unusual problem?"

"No, sir." The dark-complexioned face with its sharp, black eyes seemed restless. "Both cases are quite low probability."

"I know that," said Gulliman. "I observed that neither probability is higher than 15 per cent. Just the same, Multivac has a reputation to maintain. It has virtually wiped out crime, and the public judges that by its record on first-degree murder which is, of course, the most spectacular crime."

Ali Othman nodded. "Yes, sir. I quite realize that."

"You also realize, I hope," Gulliman said, "that I don't want a single consummated case of it during my term. If any other crime slips through, I may allow excuses. If a first-degree murder slips through, I'll have your hide. Understand?"

"Yes, sir. The complete analyses of the two potential murders are already at the district offices involved. The potential criminals and victims are under observation. I have rechecked the probabilities of consummation and they are already dropping."

"Very good," said Gulliman, and broke connection.

He went back to the list with an uneasy feeling that perhaps he had been overpompous. -But then, one had to be firm with these permanent civil-service personnel and make sure they didn't imagine they were running everything, including the Chairman. Particularly this Othman, who had been working with Multivac since both were considerably younger, and had a proprietary air that could be infuriating.

To Gulliman, this matter of crime was the political chance of a lifetime. So far, no Chairman had passed through his term without a murder taking place somewhere on Earth, some time. The previous Chairman had ended with a record of eight, three more (more, in fact) than under his predecessor.

Now Gulliman intended to have none. He was going to be, he had decided, the first Chairman without any murder at all anywhere on Earth during his term. After that, and the favorable publicity that would result-

He barely skimmed the rest of the report. He estimated that there were at least two thousand cases of prospective wife-beatings listed. Undoubtedly, not all would be stopped in time. Perhaps thirty per cent would be consummated. But the incidence was dropping and consummations were dropping even more quickly.

Multivac had added wife-beating to its list of predictable crimes only some five years earlier and the average man was not yet accustomed to the thought that if he planned to wallop his wife, it would be known in advance. As the conviction percolated through society, woman would first suffer fewer bruises and then, eventually, none.

Some husband-beatings were on the list, too, Gulliman noticed.

Ali Othman closed connections and stared at the screen from which Gulliman's jowled and balding head had departed. Then he looked across at his assistant, Rafe Leemy and said, "What do we do?"

"Don't ask me. He's worried about just a lousy murder or two."

"It's an awful chance trying to handle this thing on our own. Still if we tell him, he'll have a first-class fit. These elective politicians have their skins to think of, so he's bound to get in our way and make things worse."

Leemy nodded his head and put a thick lower lip between his teeth. "Trouble is, though, what if we miss out? It would just about be the end of the world, you know."

"If we miss out, who cares what happens to us? We'll just be part of the general catastrophe." Then he said in a more lively manner, "But hell, the probability is only 12.3 per cent. On anything else, except maybe murder, we'd let the probabilities rise a bit before taking any action at all. There could still be spontaneous correction."

"I wouldn't count on it," said Leemy dryly.

"I don't intend to. I was just pointing the fact out. Still, at this probability, I suggest we confine ourselves to simple observation for the moment. No one could plan a crime like this alone; there must be accomplices."

"Multivac didn't name any."

"I know. Still-" His voice trailed off.

So they stared at the details of the one crime not included on the list handed out to Gulliman; the one crime much worse than first-degree murder; the one crime never before attempted in the history of Multivac; and wondered what to do.

Ben Manners considered himself the happiest sixteen-year-old in Baltimore. This was, perhaps, doubtful. But he was certainly one of the happiest, and one of the most excited.

At least, he was one of the handful admitted to the galleries of the stadium during the swearing in of the eighteen-year-olds. His older brother was going to be sworn in so his parents had applied for spectator's tickets and they had allowed Ben to do so, too. But when Multivac chose among all the applicants, it was Ben who got the ticket.

Two years later, Ben would be sworn in himself, but watching big brother Michael now was the next best thing.

His parents had dressed him (or supervised the dressing, at any rate) with all care, as representative of the family and sent him off with numerous messages for Michael, who had left days earlier for preliminary physical and neurological examinations.

The stadium was on the outskirts of town and Ben, just bursting with self-importance, was shown to his seat. Below him, now, were rows upon rows of hundreds upon hundreds of eighteen-year-olds (boys to the right, girls to the left), all from the second district of Baltimore. At various times in the year, similar meetings were going on all over the world, but this was Baltimore, this was the important one. Down there (somewhere) was Mike, Ben's own brother.

Ben scanned the tops of heads, thinking somehow he might recognize his brother. He didn't, of course, but then a man came out on the raised platform in front of all the crowd and Ben stopped looking to listen.

The man said, "Good afternoon, swearers and guests. I am Randolph T. Hoch, in charge of the Baltimore ceremonies this year. The swearers have met me several times now during the progress of the physical and neurological portions of this examination. Most of the task is done, but the most important matter is left. The swearer himself, his personality, must go into Multivac's records.

"Each year, this requires some explanation to the young people reaching adulthood. Until now" (he turned to the young people before him and his eyes went no more to the gallery) "you have not been adult; you have not been individuals in the eyes of Multivac, except where you were especially singled out as such by your parents or your government.

"Until now, when the time for the yearly up-dating of information came, it was your parents who filled in the necessary data on you. Now the time has come for you to take over that duty yourself, it is a great honor, a great responsibility. Your parents have told

us what schooling you've had, what diseases, what habits; a great many things. But now you must tell us a great deal more; your innermost thoughts; your most secret deeds.

"This is hard to do the first time, embarrassing even, but it must be done. Once it is done, Multivac will have a complete analysis of all of you in its files. It will understand your actions and reactions. It will even be able to guess with fair accuracy at your future actions and reactions.

"In this way, Multivac will protect you. If you are in danger of accident, it will know. If someone plans harm to you, it will know. If you plan harm, it will know and you will be stopped in time so that it will not be necessary to punish you.

"With its knowledge of all of you, Multivac will be able to help Earth adjust its economy and its laws for the good of all. If you have a personal problem, you may come to Multivac with it and with its knowledge of all of you, Multivac will be able to help you.

"Now you will have many forms to fill out. Think carefully and answer all questions as accurately as you can. Do not hold back through shame or caution. No one will ever know your answers except Multivac unless it becomes necessary to learn the answers in order to protect you. And then only authorized officials of the government will know.

"It may occur to you to stretch the truth a bit here or there. Don't do this. We will find out if you do. All your answers put together form a pattern. If some answers are false, they will not fit the pattern and Multivac will discover them. If all your answers are false, there will be a distorted pattern of a type that Multivac will recognize. So you must tell the truth."

Eventually, it was all over, however; the form-filling; the ceremonies and speeches that followed. In the evening, Ben, standing tiptoe, finally spotted Michael, who was still carrying the robes he had worn in the "parade of the adults." They greeted one another with jubilation.

They shared a light supper and took the expressway home, alive and alight with the greatness of the day.

They were not prepared, then, for the sudden transition of the home-coming. It was a numbing shock to both of them to be stopped by a cold-faced young man in uniform outside their own front door; to have their papers inspected before they could enter their own house; to find their own parents sitting forlornly in the living room, the mark of tragedy on their faces.

Joseph Manners, looking much older than he had that morning, looked out of his puzzled, deep-sunken eyes at his sons (one with the robes of new adulthood still over his arm) and said, "I seem to be under house arrest."

Bernard Gulliman could not and did not read the entire report. He read only the summary and that was most gratifying, indeed.

A whole generation, it seemed, had grown up accustomed to the fact that Multivac could predict the commission of major crimes. They learned that Corrections agents would be on the scene before the crime could be committed. They found out that consummation of the crime led to inevitable punishment. Gradually, they were convinced that there was no way anyone could outsmart Multivac.

The result was, naturally, that even the intention of crime fell off. And as such intentions fell off and as Multivac's capacity was enlarged, minor crimes could be added to the list it would predict each morning, and these crimes, too, were now shrinking in incidence.

So Gulliman had ordered an analysis made (by Multivac naturally) of Multivac's capacity to turn its attention to the problem of predicting probabilities of disease incidence. Doctors might soon be alerted to individual patients who might grow diabetic in the course of the next year, or suffer an attack of tuberculosis or grow a cancer.

An ounce of prevention-

And the report was a favorable one!

After that, the roster of the day's possible crimes arrived and there was not a first-degree murder on the list.

Gulliman put in an intercom call to Ali Othman in high good humor. "Othman, how do the numbers of crimes in the daily lists of the past week average compared with those in my first week as Chairman?"

It had gone down, it turned out, by 8 per cent and Gulliman was happy indeed. No fault of his own, of course, but the electorate would not know that. He blessed his luck that he had come in at the right time, at the very climax of Multivac, when disease, too, could be placed under its all-embracing and protecting knowledge.

Gulliman would prosper by this.

Othman shrugged his shoulders. "Well, he's happy."

"When do we break the bubble?" said Leemy. "Putting Manners under observation just raised the probabilities and house arrest gave it another boost."

"Don't I know it?" said Othman peevishly. "What I don't know is why."

"Accomplices, maybe, like you said. With Manners in trouble, the rest have to strike at once or be lost."

"Just the other way around. With our hand on one, the rest would scatter for safety and disappear. Besides, why aren't the accomplices named by Multivac?"

"Well, then, do we tell Gulliman?"

"No, not yet. The probability is still only 17.3 per cent. Let's get a bit more drastic first."

Elizabeth Manners said to her younger son, "You go to your room, Ben."

"But what's it all about, Mom?" asked Ben, voice breaking at this strange ending to what had been a glorious day.

"Please!"

He left reluctantly, passing through the door to the stairway, walking up it noisily and down again quietly.

And Mike Manners, the older son, the new-minted adult and the hope of the family, said in a voice and tone that mirrored his brother's, "What's it all about?"

Joe Manners said, "As heaven is my witness, son, I don't know. I haven't done anything."

"Well, sure you haven't done anything." Mike looked at his small-boned, mild-mannered father in wonder. "They must be here because you're thinking of doing something."

"I'm not."

Mrs. Manners broke in angrily, "How can he be thinking of doing something worth all-all this." She cast her arm about, in a gesture toward the enclosing shell of government men about the house. "When I was a little girl, I remember the father of a friend of mine was working in a bank, and they once called him up and said to leave the money alone and he did. It was fifty thousand dollars. He hadn't really taken it. He was just thinking about taking it. They didn't keep those things as quiet in those days as they do now; the story got out. That's how I know about it."

"But I mean," she went on, rubbing her plump hands slowly together, "that was fifty thousand dollars; fifty-thousand-dollars. Yet all they did was call him; one phone call. What could your father be planning that would make it worth having a dozen men come down and close off the house?"

Joe Manners said, eyes filled with pain, "I am planning no crime, not even the smallest. I swear it."

Mike, filled with the conscious wisdom of a new adult, said, "Maybe it's something subconscious, Pop. Some resentment against your supervisor."

"So that I would want to kill him? No!"

"Won't they tell you what it is, Pop?"

His mother interrupted again, "No, they won't. We've asked. I said they were ruining our standing in the community just being here. The least they could do is tell us what it's all about so we could fight it, so we could explain."

"And they wouldn't?"

"They wouldn't."

Mike stood with his legs spread apart and his hands deep in his pockets. He said, troubled, "Gee, Mom, Multivac doesn't make mistakes."

His father pounded his fist helplessly on the arm of the sofa. "I tell you I'm not planning any crime."

The door opened without a knock and a man in uniform walked in with sharp, self-possessed stride. His face had a glazed, official appearance. He said, "Are you Joseph Manners?"

Joe Manners rose to his feet. "Yes. Now what is it you want of me?"

"Joseph Manners, I place you under arrest by order of the government," and curtly he showed his identification as a Corrections officer. "I must ask you to come with me."

"For what reason? What have I done?"

"I am not at liberty to discuss that."

"But I can't be arrested just for planning a crime even if I were doing that. To be arrested I must actually have done something. You can't arrest me otherwise. It's against the law."

The officer was impervious to the logic. "You will have to come with me."

Mrs. Manners shrieked and fell on the couch, weeping hysterically. Joseph Manners could not bring himself to violate the code drilled into him all his life by actually resisting an officer, but he hung back at least, forcing the Corrections officer to use muscular power to drag him forward.

And Manners called out as he went, "But tell me what it is. Just tell me. If I knew- Is it murder? Am I supposed to be planning murder?"

The door closed behind him and Mike Manners, white-faced and suddenly feeling not the least bit adult, stared first at the door, then at his weeping mother.

Ben Manners, behind the door and suddenly feeling quite adult, pressed his lips tightly together and thought he knew exactly what to do.

If Multivac took away, Multivac could also give. Ben had been at the ceremonies that very day. He had heard this man, Randolph Hoch, speak of Multivac and all that Multivac could do. It could direct the government and it could also unbend and help out some plain person who came to it for help.

Anyone could ask help of Multivac and anyone meant Ben. Neither his mother nor Mike were in any condition to stop him now, and he had some money left of the amount they had given him for his great outing that day. If afterward they found him gone and worried about it, that couldn't be helped. Right now, his first loyalty was to his father.

He ran out the back way and the officer at the door cast a glance at his papers and let him go.

Harold Quimby handled the complaints department of the Baltimore substation of Multivac. He considered himself to be a member of that branch of the civil service that was most important of all. In some ways, he may have been right, and those who heard him discuss the matter would have had to be made of iron not to feel impressed.

For one thing, Quimby would say, Multivac was essentially an invader of privacy. In the past fifty years, mankind had had to acknowledge that its thoughts and impulses were no longer secret, that it owned no inner recess where anything could be hidden. And mankind had to have something in return.

Of course, it got prosperity, peace, and safety, but that was abstract. Each man and woman needed something personal as his or her own reward for surrendering privacy, and each one got it. Within reach of every human being was a Multivac station with circuits into which he could freely enter his own problems and questions without control or hindrance, and from which, in a matter of minutes, he could receive answers.

At any given moment, five million individual circuits among the quadrillion or more within Multivac might be involved in this question-and-answer program. The answers might not always be certain, but they were the best available, and every questioner knew the answer to be the best available and had faith in it. That was what counted.

And now an anxious sixteen-year-old had moved slowly up the waiting line of men and women (each in that line illuminated by a different mixture of hope with fear or anxiety or even anguish-always with hope predominating as the person stepped nearer and nearer to Multivac).

Without looking up, Quimby took the filled-out form being handed him and said, "Booth 5-B."

Ben said, "How do I ask the question, sir?"

Quimby looked up then, with a bit of surprise. Preadults did not generally make use of the service. He said kindly, "Have you ever done this before, son?"

"No, sir."

Quimby pointed to the model on his desk. "You use this. You see how it works? Just like a typewriter. Don't you try to write or print anything by hand. Just use the machine. Now you take booth 5-B, and if you need help, just press the red button and someone will come. Down that aisle, son, on the right."

He watched the youngster go down the aisle and out of view and smiled. No one was ever turned away from Multivac. Of course, there was always a certain percentage of trivia: people who asked personal questions about their neighbors or obscene questions about prominent personalities; college youths trying to outguess their professors or thinking it clever to stump Multivac by asking it Russell's class-of-all-classes paradox and so on.

Multivac could take care of all that. It needed no help.

Besides, each question and answer was filed and formed but another item in the fact assembly for each individual. Even the most trivial question and the most impertinent, insofar as it reflected the personality of the questioner, helped humanity by helping Multivac know about humanity.

Quimby turned his attention to the next person in line, a middle-aged woman, gaunt and angular, with the look of trouble in her eye.

Ali Othman strode the length of his office, his heels thumping desperately on the carpet. "The probability still goes up. It's 22.4 per cent now. Damnation! We have Joseph Manners under actual arrest and it still goes up." He was perspiring freely.

Leemy turned away from the telephone. "No confession yet. He's under Psychic Probing and there is no sign of crime. He may be telling the truth."

Othman said, "Is Multivac crazy then?"

Another phone sprang to life. Othman closed connections quickly, glad of the interruption. A Corrections officer's face came to life in the screen. The officer said, "Sir, are there any new directions as to Manners' family? Are they to be allowed to come and go as they have been?"

"What do you mean, as they have been?"

"The original instructions were for the house arrest of Joseph Manners. Nothing was said of the rest of the family, sir."

"Well, extend it to the rest of the family until you are informed otherwise."

"Sir, that is the point. The mother and older son are demanding information about the younger son. The younger son is gone and they claim he is in custody and wish to go to headquarters to inquire about it."

Othman frowned and said in almost a whisper, "Younger son? How young?"

"Sixteen, sir," said the officer.

"Sixteen and he's gone. Don't you know where?"

"He was allowed to leave, sir. There were no orders to hold him."

"Hold the line. Don't move." Othman put the line into suspension, then clutched at his coal-black hair with both hands and shrieked, "Fool! Fool! Fool!"

Leemy was startled. "What the hell?"

"The man has a sixteen-year-old son," choked out Othman. "A sixteen-year-old is not an adult and he is not filed independently in Multivac, but only as part of his father's file." He glared at Leemy. "Doesn't everyone know that until eighteen a youngster does not file his own reports with Multivac but that his father does it for him? Don't I know it? Don't you?"

"You mean Multivac didn't mean Joe Manners?" said Leemy.

"Multivac meant his minor son, and the youngster is gone, now. With officers three deep around the house, he calmly walks out and goes on you know what errand."

He whirled to the telephone circuit to which the Corrections officer still clung, the minute break having given Othman just time enough to collect himself and to assume a cool and self-possessed mien. (It would never have done to throw a fit before the eyes of the officer, however much good it did in purging his spleen.)

He said, "Officer, locate the younger son who has disappeared. Take every man you have, if necessary. Take every man available in the district, if necessary. I shall give the appropriate orders. You must find that boy at all costs."

"Yes, sir."

Connection was broken. Othman said, "Have another rundown on the probabilities, Leemy."

Five minutes later, Leemy said, "It's down to 19.6 per cent. It's down."

Othman drew a long breath. "We're on the right track at last."

Ben Manners sat in Booth 5-B and punched out slowly, "My name is Benjamin Manners, number MB-71833412. My father, Joseph Manners, has been arrested but we don't know what crime he is planning. Is there any way we can help him?"

He sat and waited. He might be only sixteen but he was old enough to know that somewhere those words were being whirled into the most complex structure ever conceived by man; that a trillion facts would blend and coordinate into a whole, and that from that whole, Multivac would abstract the best help.

The machine clicked and a card emerged. It had an answer on it, a long answer. It began, "Take the expressway to Washington, D.C. at once. Get off at the Connecticut Avenue stop. You will find a special exit, labeled 'Multivac' with a guard. Inform the guard you are special courier for Dr. Trumbull and he will let you enter.

"You will be in a corridor. Proceed along it till you reach a small door labeled 'Interior.' Enter and say to the men inside, 'Message for Doctor Trumbull.' You will be allowed to pass. Proceed on-"

It went on in this fashion. Ben could not see the application to his question, but he had complete faith in Multivac. He left at a run, heading for the expressway to Washington.

The Corrections officers traced Ben Manners to the Baltimore station an hour after he had left. A shocked Harold Quimby found himself flabbergasted at the number and importance of the men who had focused on him in the search for a sixteen-year-old.

"Yes, a boy," he said, "but I don't know where he went to after he was through here. I had no way of knowing that anyone was looking for him. We accept all comers here. Yes, I can get the record of the question and answer."

They looked at the record and televised it to Central Headquarters at once.

Othman read it through, turned up his eyes, and collapsed. They brought him to almost at once. He said to Leemy weakly, "Have them catch that boy. And have a copy of Multivac's answer made out for me. There's no way any more, no way out. I must see Gulliman now."

Bernard Gulliman had never seen Ali Othman as much as perturbed before, and watching the coordinator's wild eyes now sent a trickle of ice water down his spine.

He stammered, "What do you mean, Othman? What do you mean worse than murder?"

"Much worse than just murder."

Gulliman was quite pale. "Do you mean assassination of a high government official?" (It did cross his mind that he himself-)

Othman nodded. "Not just a government official. The government official."

"The Secretary-General?" Gulliman said in an appalled whisper.

"More than that, even. Much more. We deal with a plan to assassinate Multivac!"

"WHAT!"

"For the first time in the history of Multivac, the computer came up with the report that it itself was in danger."

"Why was I not at once informed?"

Othman half-truthed out of it. "The matter was so unprecedented, sir, that we explored the situation first before daring to put it on official record."

"But Multivac has been saved, of course? It's been saved?"

"The probabilities of harm have declined to under 4 per cent. I am waiting for the report now."

"Message for Dr. Trumbull," said Ben Manners to the man on the high stool, working carefully on what looked like the controls of a stratojet cruiser, enormously magnified.

"Sure, Jim," said the man. "Go ahead."

Ben looked at his instructions and hurried on. Eventually, he would find a tiny control lever which he was to shift to a DOWN position at a moment when a certain indicator spot would light up red.

He heard an agitated voice behind him, then another, and suddenly, two men had him by his elbows. His feet were lifted off the floor.

One man said, "Come with us, boy."

Ali Othman's face did not noticeably lighten at the news, even though Gulliman said with great relief, "If we have the boy, then Multivac is safe."

"For the moment."

Gulliman put a trembling hand to his forehead. "What a half hour I've had. Can you imagine what the destruction of Multivac for even a short time would mean. The government would have collapsed; the economy broken down. It would have meant devastation worse-" His head snapped up, "What do you mean for the moment?"

"The boy, this Ben Manners, had no intention of doing harm. He and his family must be released and compensation for false imprisonment given them. He was only following Multivac's instructions in order to help his father and it's done that. His father is free now."

"Do you mean Multivac ordered the boy to pull a lever under circumstances that would burn out enough circuits to require a month's repair work? You mean Multivac would suggest its own destruction for the comfort of one man?"

"It's worse than that, sir. Multivac not only gave those instructions but selected the Manners family in the first place because Ben Manners looked exactly like one of Dr. Trumbull's pages so that he could get into Multivac without being stopped."

"What do you mean the family was selected?"

"Well, the boy would have never gone to ask the question if his father had not been arrested. His father would never have been arrested if Multivac had not blamed him for planning the destruction of Multivac. Multivac's own action started the chain of events that almost led to Multivac's destruction."

"But there's no sense to that," Gulliman said in a pleading voice. He felt small and helpless and he was virtually on his knees, begging this Othman, this man who had spent nearly a lifetime with Multivac, to reassure him.

Othman did not do so. He said, "This is Multivac's first attempt along this line as far as I know. In some ways, it planned well, it chose the right family. It carefully did not distinguish between father and son to send us off the track. It was still an amateur at the game, though. It could not overcome its own instructions that led it to report the probability of its own destruction as increasing with every step we took down the wrong road. It could not avoid recording the answer it gave the youngster. With further practice, it will probably learn deceit. It will learn to hide certain facts, fail to record certain others. From now on, every instruction it gives may have the seeds in it of its own destruction. We will never know. And however careful we are, eventually Multivac will succeed. I think, Mr. Gulliman, you will be the last Chairman of this organization."

Gulliman pounded his desk in fury. "But why, why, why? Damn you, why? What is wrong with it? Can't it be fixed?"

"I don't think so," said Othman, in soft despair. "I've never thought about this before. I've never had the occasion to until this happened, but now that I think of it, it seems to me we have reached the end of the road because Multivac is too good. Multivac has grown so complicated, its reactions are no longer those of a machine, but those of a living thing."

"You're mad, but even so?"

"For fifty years and more we have been loading humanity's troubles on Multivac, on this living thing. We've asked it to care for us, all together and each individually. We've asked it to take all our secrets into itself; we've asked it to absorb our evil and guard us against it. Each of us brings his troubles to it, adding his bit to the burden. Now we are planning to load the burden of human disease on Multivac, too."

Othman paused a moment, then burst out, "Mr. Gulliman, Multivac bears all the troubles of the world on its shoulders and it is tired."

"Madness. Midsummer madness," muttered Gulliman.

"Then let me show you something. Let me put it to the test. May I have permission to use the Multivac circuit line here in your office?"

"Why?"

"To ask it a question no one has ever asked Multivac before?"

"Will you do it harm?" asked Gulliman in quick alarm.

"No. But it will tell us what we want to know."

The Chairman hesitated a trifle. Then he said, "Go ahead."

Othman used the instrument on Gulliman's desk. His fingers punched Out the question with deft strokes: "Multivac, what do you yourself want more than anything else?"

The moment between question and answer lengthened unbearably, but neither Othman nor Gulliman breathed.

And there was a clicking and a card popped out. It was a small card. On it, in precise letters, was the answer:

"I want to die."

SPELL MY NAME WITH AN S

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Marshall Zebatinsky felt foolish. He felt as though there were eyes staring through the grimy store-front glass and across the scarred wooden partition; eyes watching him. He felt no confidence in the old clothes he had resurrected or the turned-down brim of a hat he never otherwise wore or the glasses he had left in their case.

He felt foolish and it made the lines in his forehead deeper and his young-old face a little paler.

He would never be able to explain to anyone why a nuclear physicist such as himself should visit a numerologist. (Never, he thought. Never.) Hell, he could not explain it to himself except that he had let his wife talk him into it.

The numerologist sat behind an old desk that must have been secondhand when bought. No desk could get that old with only one owner. The same might almost be said of his clothes. He was little and dark and peered at Zebatinsky with little dark eyes that were brightly alive.

He said, "I have never had a physicist for a client before, Dr. Zebatinsky."

Zebatinsky flushed at once. "You understand this is confidential."

The numerologist smiled so that wrinkles creased about the corners of his mouth and the skin around his chin stretched. "All my dealings are confidential."

Zebatinsky said, "I think I ought to tell you one thing. I don't believe in numerology and I don't expect to begin believing in it. If that makes a difference, say so now."

"But why are you here, then?"

"My wife thinks you may have something, whatever it is. I promised her and I am here." He shrugged and the feeling of folly grew more acute.

"And what is it you are looking for? Money? Security? Long life? What?"

Zebatinsky sat for a long moment while the numerologist watched him quietly and made no move to hurry his client.

Zebatinsky thought: What do I say anyway? That I'm thirty-four and without a future?

He said, "I want success. I want recognition."

"A better job?"

"A different job. A different kind of job. Right now, I'm part of a team, working under orders. Teams! That's all government research is. You're a violinist lost in a symphony orchestra."

"And you want to solo."

"I want to get out of a team and into-into me." Zebatinsky felt carried away, almost lightheaded, just putting this into words to someone other than his wife. He said,

"Twenty-five years ago, with my kind of training and my kind of ability, I would have gotten to work on the first nuclear power plants. Today I'd be running one of them or I'd be head of a pure research group at a university. But with my start these days where will I be twenty-five years from now? Nowhere. Still on the team. Still carrying my 2 per cent of the ball. I'm drowning in an anonymous crowd of nuclear physicists, and what I want is room on dry land, if you see what I mean."

The numerologist nodded slowly. "You realize, Dr. Zebatinsky, that I don't guarantee success."

Zebatinsky, for all his lack of faith, felt a sharp bite of disappointment. "You don't? Then what the devil do you guarantee?"

"An improvement in the probabilities. My work is statistical in nature. Since you deal with atoms, I think you understand the laws of statistics."

"Do you?" asked the physicist sourly.

"I do, as a matter of fact. I am a mathematician and I work mathematically. I don't tell you this in order to raise my fee. That is standard. Fifty dollars. But since you are a scientist, you can appreciate the nature of my work better than my other clients. It is even a pleasure to be able to explain to you."

Zebatinsky said, "I'd rather you wouldn't, if you don't mind. It's no use telling me about the numerical values of letters, their mystic significance and that kind of thing. I don't consider that mathematics. Let's get to the point."

The numerologist said, "Then you want me to help you provided I don't embarrass you by telling you the silly nonscientific basis of the way in which I helped you. Is that it?"

"All right. That's it."

"But you still work on the assumption that I am a numerologist, and I am not. I call myself that so that the police won't bother me and" (the little man chuckled dryly) "so that the psychiatrists won't either. I am a mathematician; an honest one."

Zebatinsky smiled.

The numerologist said, "I build computers. I study probable futures."

"What?"

"Does that sound worse than numerology to you? Why? Given enough data and a computer capable of sufficient number of operations in unit time, the future is predictable, at least in terms of probabilities. When you compute the motions of a missile in order to aim an anti-missile, isn't it the future you're predicting? The missile and anti-missile would not collide if the future were predicted incorrectly. I do the same thing. Since I work with a greater number of variables, my results are less accurate."

"You mean you'll predict my future?"

"Very approximately. Once I have done that, I will modify the data by changing your name and no other fact about you. I throw that modified datum into the operation-program. Then I try other modified names. I study each modified future and find one that contains a greater degree of recognition for you than the future that now lies ahead of you. Or no, let me put it another way. I will find you a future in which the probability of adequate recognition is higher than the probability of that in your present future."

"Why change my name?"

"That is the only change I ever make, for several reasons. Number one, it is a simple change. After all, if I make a great change or many changes, so many new variables enter that I can no longer interpret the result. My machine is still crude. Number two, it is a reasonable change. I can't change your height, can I, or the color of your eyes, or even your temperament. Number three, it is a significant change. Names mean a lot to people. Finally, number four, it is a common change that is done every day by various people."

Zebatinsky said, "What if you don't find a better future?"

"That is the risk you will have to take. You will be no worse off than now, my friend."

Zebatinsky stared at the little man uneasily, "I don't believe any of this. I'd sooner believe numerology."

The numerologist sighed. "I thought a person like yourself would feel more comfortable with the truth. I want to help you and there is much yet for you to do. If you believed me a numerologist, you would not follow through. I thought if I told you the truth you would let me help you."

Zebatinsky said, "If you can see the future-"

"Why am I not the richest man on earth? Is that it? But I am rich-in all I want. You want recognition and I want to be left alone. I do my work. No one bothers me. That makes me a billionaire. I need a little real money and this I get from people such as yourself. Helping people is nice and perhaps a psychiatrist would say it gives me a feeling of power and feeds my ego. Now -do you want me to help you?"

"How much did you say?"

"Fifty dollars. I will need a great deal of biographical information from you but I have prepared a form to guide you. It's a little long, I'm afraid. Still, if you can get it in the mail by the end of the week, I will have an answer for you by the-" (he put out his lower lip and frowned in mental calculation) "the twentieth of next month."

"Five weeks? So long?"

"I have other work, my friend, and other clients. If I were a fake, I could do it much more quickly. It is agreed then?"

Zebatinsky rose. "Well, agreed. -This is all confidential, now."

"Perfectly. You will have all your information back when I tell you what change to make and you have my word that I will never make any further use of any of it."

The nuclear physicist stopped at the door. "Aren't you afraid I might tell someone you're not a numerologist?"

The numerologist shook his head. "Who would believe you, my friend? Even supposing you were willing to admit to anyone that you've been here."

On the twentieth, Marshall Zebatinsky was at the paint-peeling door, glancing sideways at the shop front with the little card up against the glass reading "Numerology," dimmed and scarcely legible through the dust. He peered in, almost hoping that

someone else would be there already so that he might have an excuse to tear up the wavering intention in his mind and go home.

He had tried wiping the thing out of his mind several times. He could never stick at filling out the necessary data for long. It was embarrassing to work at it. He felt incredibly silly filling out the names of his friends, the cost of his house, whether his wife had had any miscarriages, if so, when. He abandoned it.

But he couldn't stick at stopping altogether either. He returned to it each evening.

It was the thought of the computer that did it, perhaps; the thought of the infernal gall of the little man pretending he had a computer. The temptation to call the bluff, see what would happen, proved irresistible after all.

He finally sent off the completed data by ordinary mail, putting on nine cents worth of stamps without weighing the letter. If it comes back, he thought, I'll call it off.

It didn't come back.

He looked into the shop now and it was empty. Zebatinsky had no choice but to enter. A bell tinkled.

The old numerologist emerged from a curtained door.

"Yes? -Ah, Dr. Zebatinsky."

"You remember me?" Zebatinsky tried to smile.

"Oh, yes."

"What's the verdict?"

The numerologist moved one gnarled hand over the other. "Before that, sir, there's a little-"

"A little matter of the fee?"

"I have already done the work, sir. I have earned the money."

Zebatinsky raised no objection. He was prepared to pay. If he had come this far, it would be silly to turn back just because of the money.

He counted out five ten-dollar bills and shoved them across the counter. "Well?"

The numerologist counted the bills again slowly, then pushed them into a cash drawer in his desk.

He said, "Your case was very interesting. I would advise you to change your name to Sebatinsky."

"Seba- How do you spell that?"

"S-e-b-a-t-i-n-s-k-y."

Zebatinsky stared indignantly. "You mean change the initial? Change the Z to an S? That's all?"

"It's enough. As long as the change is adequate, a small change is safer than a big one."

"But how could the change affect anything?"

"How could any name?" asked the numerologist softly. "I can't say. It may, somehow, and that's all I can say. Remember, I don't guarantee results. Of course, if you do not wish to make the change, leave things as they are. But in that case I cannot refund the fee."

Zebatinsky said, "What do I do? Just tell everyone to spell my name with an S?"

"If you want my advice, consult a lawyer. Change your name legally. He can advise you on little things."

"How long will it all take? I mean for things to improve for me?"

"How can I tell? Maybe never. Maybe tomorrow."

"But you saw the future. You claim you see it."

"Not as in a crystal ball. No, no, Dr. Zebatinsky. All I get out of my 'computer is a set of coded figures. I can recite probabilities to you, but I saw no pictures."

Zebatinsky turned and walked rapidly out of the place. Fifty dollars to change a letter! Fifty dollars for Sebatinsky! Lord, what a name! Worse than Zebatinsky.

It took another month before he could make up his mind to see a lawyer, and then he finally went.

He told himself he could always change the name back. Give it a chance, he told himself. Hell, there was no law against it.

Henry Brand looked through the folder page by page, with the practiced eye of one who had been in Security for fourteen years. He didn't have to read every word. Anything peculiar would have leaped off the paper and punched him in the eye.

He said, "The man looks clean to me." Henry Brand looked clean, too; with a soft, rounded paunch and a pink and freshly scrubbed complexion. It was as though continuous contact with all sorts of human failings, from possible ignorance to possible treason, had compelled him into frequent washings.

Lieutenant Albert Quincy, who had brought him the folder, was young and filled with the responsibility of being Security officer at the Hanford Station. "But why Sebatinsky?" he demanded.

"Why not?"

"Because it doesn't make sense. Zebatinsky is a foreign name and I'd change it myself if I had it, but I'd change it to something Anglo-Saxon. If Zebatinsky had done that, it would make sense and I wouldn't give it a second thought. But why change a Z to an S? I think we must find out what his reasons were."

"Has anyone asked him directly?"

"Certainly. In ordinary conversation, of course. I was careful to arrange that. He won't say anything more than that he's tired of being last in the alphabet."

"That could be, couldn't it, Lieutenant?"

"It could, but why not change his name to Sands or Smith, if he wants an S.? Or if he's that tired of Z, why not go the whole way and change it to an A? Why not a name like-uh-Aarons?"

"Not Anglo-Saxon enough," muttered Brand. Then, "But there's nothing to pin against the man. No matter how queer a name change may be, that alone can't be used against anyone."

Lieutenant Quincy looked markedly unhappy.

Brand said, "Tell me, Lieutenant, there must be something specific that bothers you. Something in your mind; some theory; some gimmick. What is it?"

The lieutenant frowned. His light eyebrows drew together and his lips tightened.
"Well, damn it, sir, the man's a Russian."

Brand said, "He's not that. He's a third-generation American."

"I mean his name's Russian."

Brand's face lost some of its deceptive softness. "No, Lieutenant, wrong again.
Polish."

The lieutenant pushed his hands out impatiently, palms up. "Same thing."

Brand, whose mother's maiden name had been Wiszewski, snapped, "Don't tell
that to a Pole, Lieutenant." -Then, more thoughtfully, "Or to a Russian either, I suppose."

"What I'm trying to say, sir," said the lieutenant, reddening, "is that the Poles and
Russians are both on the other side of the Curtain."

"We all know that."

"And Zebatinsky or Sebatinsky, whatever you want to call him, may have relatives
there."

"He's third generation. He might have second cousins there, I suppose. So what?"

"Nothing in itself. Lots of people may have distant relatives there. But Zebatinsky
changed his name."

"Go on."

"Maybe he's trying to distract attention. Maybe a second cousin over there is
getting too famous and our Zebatinsky is afraid that the relationship may spoil his own
chances of advancement."

"Changing his name won't do any good. He'd still be a second cousin."

"Sure, but he wouldn't feel as though he were shoving the relationship in our
face."

"Have you ever heard of any Zebatinsky on the other side?"

"No, sir."

"Then he can't be too famous. How would our Zebatinsky know about him?"

"He might keep in touch with his own relatives. That would be suspicious under
the circumstances, he being a nuclear physicist."

Methodically, Brand went through the folder again. "This is awfully thin,
Lieutenant. It's thin enough to be completely invisible."

"Can you offer any other explanation, sir, of why he ought to change his name in
just this way?"

"No, I can't. I admit that."

"Then I think, sir, we ought to investigate. We ought to look for any men named
Zebatinsky on the other side and see if we can draw a connection." The lieutenant's voice
rose a trifle as a new thought occurred to him. "He might be changing his name to
withdraw attention from them; I mean to protect them."

"He's doing just the opposite, I think."

"He doesn't realize that, maybe, but protecting them could be his motive."

Brand sighed. "All right, we'll tackle the Zebatinsky angle. -But if nothing turns up,
Lieutenant, we drop the matter. Leave the folder with me."

When the information finally reached Brand, he had all but forgotten the lieutenant and his theories. His first thought on receiving data that included a list of seventeen biographies of seventeen Russian and Polish citizens, all named Zebatinsky, was: What the devil is this?

Then he remembered, swore mildly, and began reading.

It started on the American side. Marshall Zebatinsky (fingerprints) had been born in Buffalo, New York (date, hospital statistics). His father had been born in Buffalo as well, his mother in Oswego, New York. His paternal grandparents had both been born in Bialystok, Poland (date of entry into the United States, dates of citizenship, photographs).

The seventeen Russian and Polish citizens named Zebatinsky were all descendants of people who, some half century earlier, had lived in or near Bialystok. Presumably, they could be relatives, but this was not explicitly stated in any particular case. (Vital statistics in East Europe during the aftermath of World War I were kept poorly, if at all.)

Brand passed through the individual life histories of the current Zebatinsky men and women (amazing how thoroughly intelligence did its work; probably the Russians' was as thorough). He stopped at one and his smooth forehead sprouted lines as his eyebrows shot upward. He put that one to one side and went on. Eventually, he stacked everything but that one and returned it to its envelope.

Staring at that one, he tapped a neatly kept fingernail on the desk.

With a certain reluctance, he went to call on Dr. Paul Kristow of the Atomic Energy Commission.

Dr. Kristow listened to the matter with a stony expression. He lifted a little finger occasionally to dab at his bulbous nose and remove a nonexistent speck. His hair was iron gray, thinning and cut short. He might as well have been bald.

He said, "No, I never heard of any Russian Zebatinsky. But then, I never heard of the American one either."

"Well," Brand scratched at his hairline over one temple and said slowly, "I don't think there's anything to this, but I don't like to drop it too soon. I have a young lieutenant on my tail and you know what they can be like. I don't want to do anything that will drive him to a Congressional committee. Besides, the fact is that one of the Russian Zebatinsky fellows, Mikhail Andreyevich Zebatinsky, is a nuclear physicist. Are you sure you never heard of him?"

"Mikhail Andreyevich Zebatinsky? No- No, I never did. Not that that proves anything."

"I could say it was coincidence, but you know that would be piling it a trifle high. One Zebatinsky here and one Zebatinsky there, both nuclear physicists, and the one here suddenly changes his name to Sebatinsky, and goes around anxious about it, too. He won't allow misspelling. He says, emphatically, 'Spell my name with an S.' It all just fits well enough to make my spy-conscious lieutenant begin to look a little too good. -And another peculiar thing is that the Russian Zebatinsky dropped out of sight just about a year ago."

Dr. Kristow said stolidly, "Executed!"

"He might have been. Ordinarily, I would even assume so, though the Russians are not more foolish than we are and don't kill any nuclear physicist they can avoid killing. The thing is there's another reason why a nuclear physicist, of all people, might suddenly disappear. I don't have to tell you."

"Crash research; top secret. I take it that's what you mean. Do you believe that's it?"

"Put it together with everything else, add in the lieutenant's intuition, and I just begin to wonder."

"Give me that biography." Dr. Kristow reached for the sheet of paper and read it over twice. He shook his head. Then he said, "I'll check this in Nuclear Abstracts."

Nuclear Abstracts lined one wall of Dr. Kristow's study in neat little boxes, each filled with its squares of microfilm.

The A.E.G. man used his projector on the indices while Brand watched with what patience he could muster.

Dr. Kristow muttered, "A Mikhail Zebatinsky authored or co-authored half a dozen papers in the Soviet journals in the last half dozen years. We'll get out the abstracts and maybe we can make something out of it. I doubt it."

A selector flipped out the appropriate squares. Dr. Kristow lined them up, ran them through the projector, and by degrees an expression of odd intent-ness crossed his face. He said, "That's odd."

Brand said, "What's odd?"

Dr. Kristow sat back. "I'd rather not say just yet. Can you get me a list of other nuclear physicists who have dropped out of sight in the Soviet Union in the last year?"

"You mean you see something?"

"Not really. Not if I were just looking at any one of these papers. It's just that looking at all of them and knowing that this man may be on a crash research program and, on top of that, having you putting suspicions in my head-" He shrugged. "It's nothing."

Brand said earnestly, "I wish you'd say what's on your mind. We may as well be foolish about this together."

"If you feel that way- It's just possible this man may have been inching toward gamma-ray reflection."

"And the significance?"

"If a reflecting shield against gamma rays could be devised, individual shelters could be built to protect against fallout. It's fallout that's the real danger, you know. A hydrogen bomb might destroy a city but the fallout could slow-kill the population over a strip thousands of miles long and hundreds wide."

Brand said quickly, "Are we doing any work on this?"

"No."

"And if they get it and we don't, they can destroy the United States in toto at the cost of, say, ten cities, after they have their shelter program completed."

"That's far in the future. -And, what are we getting in a hurrah about? All this is built on one man changing one letter in his name."

"All right, I'm insane," said Brand. "But I don't leave the matter at this point. Not at this point. I'll get you your list of disappearing nuclear physicists if I have to go to Moscow to get it."

He got the list. They went through all the research papers authored by any of them. They called a full meeting of the Commission, then of the nuclear brains of the nation. Dr. Kristow walked out of an all night session, finally, part of which the President himself had attended.

Brand met him. Both looked haggard and in need of sleep.

Brand said, "Well?"

Kristow nodded. "Most agree. Some are doubtful even yet, but most agree."

"How about you? Are you sure?"

"I'm far from sure, but let me put it this way. It's easier to believe that the Soviets are working on a gamma-ray shield than to believe that all the data we've uncovered has no interconnection."

"Has it been decided that we're to go on shield research, too?"

"Yes." Kristow's hand went back over his short, bristly hair, making a dry, whispery sound. "We're going to give it everything we've got. Knowing the papers written by the men who disappeared, we can get right on their heels. We may even beat them to it. -Of course, they'll find out we're working on it."

"Let them," said Brand. "Let them. It will keep them from attacking. I don't see any percentage in selling ten of our cities just to get ten of theirs- if we're both protected and they're too dumb to know that."

"But not too soon. We don't want them finding out too soon. What about the American Zebatinsky-Sebatinsky?"

Brand looked solemn and shook his head. "There's nothing to connect him with any of this even yet. Hell, we've looked. I agree with you, of course. He's in a sensitive spot where he is now and we can't afford to keep him there even if he's in the clear."

"We can't kick him out just like that, either, or the Russians will start wondering."

"Do you have any suggestions?"

They were walking down the long corridor toward the distant elevator in the emptiness of four in the morning.

Dr. Kristow said, "I've looked into his work. He's a good man, better than most, and not happy in his job, either. He hasn't the temperament for teamwork."

"So?"

"But he is the type for an academic job. If we can arrange to have a large university offer him a chair in physics, I think he would take it gladly. There would be enough nonsensitive areas to keep him occupied; we would be able to keep him in close view; and it would be a natural development. The Russians might not start scratching their heads. What do you think?"

Brand nodded. "It's an idea. Even sounds good. I'll put it up to the chief."

They stepped into the elevator and Brand allowed himself to wonder about it all. What an ending to what had started with one letter of a name.

Marshall Sebatinsky could hardly talk. He said to his wife, "I swear I don't see how this happened. I wouldn't have thought they knew me from a meson detector. -Good Lord, Sophie, Associate Professor of Physics at Princeton. Think of it."

Sophie said, "Do you suppose it was your talk at the A.P.S. meetings?"

"I don't see how. It was a thoroughly uninspired paper once everyone in the division was done hacking at it." He snapped his fingers. "It must have been Princeton that was investigating me. That's it. You know all those forms I've been filling out in the last six months; those interviews they wouldn't explain. Honestly, I was beginning to think I was under suspicion as a subversive. -It was Princeton investigating me. They're thorough."

"Maybe it was your name," said Sophie. "I mean the change."

"Watch me now. My professional life will be my own finally. I'll make my mark. Once I have a chance to do my work without-" He stopped and turned to look at his wife. "My name! You mean the 5."

"You didn't get the offer till after you changed your name, did you?"

"Not till long after. No, that part's just coincidence. I've told you before Sophie, it was just a case of throwing out fifty dollars to please you. Lord, what a fool I've felt all these months insisting on that stupid 5."

Sophie was instantly on the defensive. "I didn't make you do it, Marshall. I suggested it but I didn't nag you about it. Don't say I did. Besides, it did turn out well. I'm sure it was the name that did this." Sebatinsky smiled indulgently. "Now that's superstition."

"I don't care what you call it, but you're not changing your name back."

"Well, no, I suppose not. I've had so much trouble getting them to spell my name with an S, that the thought of making everyone move back is more than I want to face. Maybe I ought to change my name to Jones, eh?" He laughed almost hysterically.

But Sophie didn't. "You leave it alone."

"Oh, all right, I'm just joking. -Tell you what. I'll step down to that old fellow's place one of these days and tell him everything worked out and slip him another tenner. Will that satisfy you?"

He was exuberant enough to do so the next week. He assumed no disguise this time. He wore his glasses and his ordinary suit and was minus a hat.

He was even humming as he approached the store front and stepped to one side to allow a weary, sour-faced woman to maneuver her twin baby carriage past.

He put his hand on the door handle and his thumb on the iron latch. The latch didn't give to his thumb's downward pressure. The door was locked.

The dusty, dim card with "Numerologist" on it was gone, now that he looked. Another sign, printed and beginning to yellow and curl with the sunlight, said "To let."

Sebatinsky shrugged. That was that. He had tried to do the right thing.

Haround, happily divested of corporeal excrescence, capered happily and his energy vortices glowed a dim purple over cubic hypermiles. He said, "Have I won? Have I won?"

Mestack was withdrawn, his vortices almost a sphere of light in hyper-space. "I haven't calculated it yet."

"Well, go ahead. You won't change the results any by taking a long time. -Wowf, it's a relief to get back into clean energy. It took me a microcycle of time as a corporeal body; a nearly used-up one, too. But it was worth it to show you."

Mestack said, "All right, I admit you stopped a nuclear war on the planet."

"Is that or is that not a Class A effect?"

"It is a Class A effect. Of course it is."

"All right. Now check and see if I didn't get that Class A effect with a Ckss F stimulus. I changed one letter of one name."

"What?"

"Oh, never mind. It's all there. I've worked it out for you."

Mestack said reluctantly, "I yield. A Class F stimulus."

"Then I win. Admit it."

"Neither one of us will win when the Watchman gets a look at this."

Haround, who had been an elderly numerologist on Earth and was still somewhat unsettled with relief at no longer being one, said, "You weren't worried about that when you made the bet."

"I didn't think you'd be fool enough to go through with it."

"Heat-waste! Besides, why worry? The Watchman will never detect a Ckss F stimulus."

"Maybe not, but he'll detect a Class A effect. Those corporeals will still be around after a dozen microcycles. The Watchman will notice that."

"The trouble with you, Mestack, is that you don't want to pay off. You're stalling."

"I'll pay. But just wait till the Watchman finds out we've been working on an unassigned problem and made an unallowed-for change. Of course, if we-" He paused.

Haround said, "All right, we'll change it back. He'll never know."

There was a crafty glow to Mestack's brightening energy pattern. "You'll need another Class F stimulus if you expect him not to notice."

Haround hesitated. "I can do it."

"I doubt it."

"I could."

"Would you be willing to bet on that, too?" Jubilation was creeping into Mestack's radiations.

"Sure," said the goaded Haround. "I'll put those corporeals right back where they were and the Watchman will never know the difference."

Mestack followed through his advantage. "Suspend the first bet, then. Triple the stakes on the second."

The mounting eagerness of the gamble caught at Haround, too. "All right, I'm game. Triple the stakes."

"Done, then!"

"Done."

THE LAST QUESTION

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The last question was asked for the first time, half in jest, on May 21, 2061, at a time when humanity first stepped into the light. The question came about as a result of a five-dollar bet over highballs, and it happened this way: Alexander Adell and Bertram Lupov were two of the faithful attendants of Multivac. As well as any human beings could, they knew what lay behind the cold, clicking, flashing face-miles and miles of face-of that giant computer. They had at least a vague notion of the general plan of relays and circuits that had long since grown past the point where any single human could possibly have a firm grasp of the whole.

Multivac was self-adjusting and self-correcting. It had to be, for nothing human could adjust and correct it quickly enough or even adequately enough. -So Adell and Lupov attended the monstrous giant only lightly and superficially, yet as well as any men could. They fed it data, adjusted questions to its needs and translated the answers that were issued. Certainly they, and all others like them, were fully entitled to share in the glory that was Multivac's.

For decades, Multivac had helped design the ships and plot the trajectories that enabled man to reach the Moon, Mars, and Venus, but past that, Earth's poor resources could not support the ships. Too much energy was needed for the long trips. Earth exploited its coal and uranium with increasing efficiency, but there was only so much of both.

But slowly Multivac learned enough to answer deeper questions more fundamentally, and on May 14, 2061, what had been theory, became fact.

The energy of the sun was stored, converted, and utilized directly on a planet-wide scale. All Earth turned off its burning coal, its fissioning uranium, and flipped the switch that connected all of it to a small station, one mile in diameter, circling the Earth at half the distance of the Moon. All Earth ran by invisible beams of sunpower.

Seven days had not sufficed to dim the glory of it and Adell and Lupov finally managed to escape from the public function, and to meet in quiet where no one would think of looking for them, in the deserted underground chambers, where portions of the mighty buried body of Multivac showed. Unattended, idling, sorting data with contented lazy clickings, Multivac, too, had earned its vacation and the boys appreciated that. They had no intention, originally, of disturbing it.

They had brought a bottle with them, and their only concern at the moment was to relax in the company of each other and the bottle.

"It's amazing when you think of it," said Adell. His broad face had lines of weariness in it, and he stirred his drink slowly with a glass rod, watching the cubes of ice

slur clumsily about. "All the energy we can possibly ever use for free. Enough energy, if we wanted to draw on it, to melt all Earth into a big drop of impure liquid iron, and still never miss the energy so used. All the energy we could ever use, forever and forever and forever."

Lupov cocked his head sideways. He had a trick of doing that when he wanted to be contrary, and he wanted to be contrary now, partly because he had had to carry the ice and glassware. "Not forever," he said.

"Oh, hell, just about forever. Till the sun runs down, Bert."

"That's not forever."

"All right, then. Billions and billions of years. Twenty billion, maybe. Are you satisfied?"

Lupov put his fingers through his thinning hair as though to reassure himself that some was still left and sipped gently at his own drink. "Twenty billion years isn't forever."

"Well, it will last our time, won't it?"

"So would the coal and uranium."

"All right, but now we can hook up each individual spaceship to the Solar Station, and it can go to Pluto and back a million times without ever worrying about fuel. You can't do that on coal and uranium. Ask Multivac, if you don't believe me."

"I don't have to ask Multivac. I know that."

"Then stop running down what Multivac's done for us," said Adell, blazing up. "It did all right."

"Who says it didn't? What I say is that a sun won't last forever. That's all I'm saying. We're safe for twenty billion years, but then what?" Lupov pointed a slightly shaky finger at the other. "And don't say we'll switch to another sun."

There was silence for a while. Adell put his glass to his lips only occasionally, and Lupov's eyes slowly closed. They rested.

Then Lupov's eyes snapped open. "You're thinking we'll switch to another sun when ours is done, aren't you?"

"I'm not thinking."

"Sure you are. You're weak on logic, that's the trouble with you. You're like the guy in the story who was caught in a sudden shower and who ran to a grove of trees and got under one. He wasn't worried, you see, because he figured when one tree got wet through, he would just get under another one."

"I get it," said Adell. "Don't shout. When the sun is done, the other stars will be gone, too."

"Darn right they will," muttered Lupov. "It all had a beginning in the original cosmic explosion, whatever that was, and it'll all have an end when all the stars run down. Some run down faster than others. Hell, the giants won't last a hundred million years. The sun will last twenty billion years and maybe the dwarfs will last a hundred billion for all the good they are. But just give us a trillion years and everything will be dark. Entropy has to increase to maximum, that's all."

"I know all about entropy," said Adell, standing on his dignity.

"The hell you do."

"I know as much as you do."

"Then you know everything's got to run down someday."

"All right. Who says they won't?"

"You did, you poor sap. You said we had all the energy we needed, forever. You said 'forever.' "

It was Adell's turn to be contrary. "Maybe we can build things up again someday," he said.

"Never."

"Why not? Someday."

"Never."

"Ask Multivac."

"You ask Multivac. I dare you. Five dollars says it can't be done."

Adell was just drunk enough to try, just sober enough to be able to phrase the necessary symbols and operations into a question which, in words, might have corresponded to this: Will mankind one day without the net expenditure of energy be able to restore the sun to its full youthfulness even after it had died of old age?

Or maybe it could be put more simply like this: How can the net amount of entropy of the universe be massively decreased?

Multivac fell dead and silent. The slow flashing of lights ceased, the distant sounds of clicking relays ended.

Then, just as the frightened technicians felt they could hold their breath no longer, there was a sudden springing to life of the teletype attached to that portion of Multivac. Five words were printed: INSUFFICIENT DATA FOR MEANINGFUL ANSWER.

"No bet," whispered Lupov. They left hurriedly. By next morning, the two, plagued with throbbing head and cottony mouth, had forgotten the incident.

Jerrodd, Jerrodine, and Jerrodette I and II watched the starry picture in the visiplat change as the passage through hyperspace was completed in its non-time lapse. At once, the even powdering of stars gave way to the predominance of a single bright marble-disk, centered.

"That's X-23," said Jerrodd confidently. His thin hands clamped tightly behind his back and the knuckles whitened.

The little Jerrodettes, both girls, had experienced the hyperspace passage for the first time in their lives and were self-conscious over the momentary sensation of inside-outness. They buried their giggles and chased one another wildly about their mother, screaming, "We've reached X-23-we've reached X-23-we've-"

"Quiet, children," said Jerrodine sharply. "Are you sure, Jerrodd?"

"What is there to be but sure?" asked Jerrodd, glancing up at the bulge of featureless metal just under the ceiling. It ran the length of the room, disappearing through the wall at either end. It was as long as the ship.

Jerrodd scarcely knew a thing about the thick rod of metal except that it was called a Microvac, that one asked it questions if one wished; that if one did not it still had its task

of guiding the ship to a preordered destination; of feeding on energies from the various Sub-galactic Power Stations; of computing the equations for the hyperspatial jumps.

Jerrodd and his family had only to wait and live in the comfortable residence quarters of the ship.

Someone had once told Jerrodd that the "ac" at the end of "Microvac" stood for "analog computer" in ancient English, but he was on the edge of forgetting even that.

Jerroddine's eyes were moist as she watched the visiplat. "I can't help it. I feel funny about leaving Earth."

"Why, for Pete's sake?" demanded Jerrodd. "We had nothing there. We'll have everything on X-23. You won't be alone. You won't be a pioneer. There are over a million people on the planet already. Good Lord, our greatgrandchildren will be looking for new worlds because X-23 will be overcrowded." Then, after a reflective pause, "I tell you, it's a lucky thing the computers worked out interstellar travel the way the race is growing."

"I know, I know," said Jerroddine miserably.

Jerroddette I said promptly, "Our Microvac is the best Microvac in the world."

"I think so, too," said Jerrodd, tousling her hair.

It was a nice feeling to have a Microvac of your own and Jerrodd was glad he was part of his generation and no other. In his father's youth, the only computers had been tremendous machines taking up a hundred square miles of land. There was only one to a planet. Planetary ACs they were called. They had been growing in size steadily for a thousand years and then, all at once, came refinement. In place of transistors had come molecular valves so that even the largest Planetary AC could be put into a space only half the volume of a spaceship.

Jerrodd felt uplifted, as he always did when he thought that his own personal Microvac was many times more complicated than the ancient and primitive Multivac that had first tamed the Sun, and almost as complicated as Earth's Planetary AC (the largest) that had first solved the problem of hyperspatial travel and had made trips to the stars possible.

"So many stars, so many planets," sighed Jerroddine, busy with her own thoughts. "I suppose families will be going out to new planets forever, the way we are now."

"Not forever," said Jerrodd, with a smile. "It will all stop someday, but not for billions of years. Many billions. Even the stars run down, you know. Entropy must increase."

"What's entropy, daddy?" shrilled Jerroddette II.

"Entropy, little sweet, is just a word which means the amount of running-down of the universe. Everything runs down, you know, like your little walkie-talkie robot, remember?"

"Can't you just put in a new power-unit, like with my robot?"

"The stars are the power-units, dear. Once they're gone, there are no more power-units."

Jerroddette I at once set up a howl. "Don't let them, daddy. Don't let the stars run down."

"Now look what you've done," whispered Jerrodine, exasperated.

"How was I to know it would frighten them?" Jerrodd whispered back.

"Ask the Microvac," wailed Jerrodette I. "Ask him how to turn the stars on again."

"Go ahead," said Jerrodine. "It will quiet them down." (Jerrodette II was beginning to cry, also.)

Jerrodd shrugged. "Now, now, honeys. I'll ask Microvac. Don't worry, he'll tell us."

He asked the Microvac, adding quickly, "Print the answer."

Jerrodd cupped the strip of thin celluloid and said cheerfully, "See now, the Microvac says it will take care of everything when the time comes so don't worry."

Jerrodine said, "And now, children, it's time for bed. We'll be in our new home soon."

Jerrodd read the words on the celluloid again before destroying it: INSUFFICIENT DATA FOR A MEANINGFUL ANSWER.

He shrugged and looked at the visiplate. X-23 was just ahead.

VJ-23X of Lameth stared into the black depths of the three-dimensional, small-scale map of the Galaxy and said, "Are we ridiculous, I wonder, in being so concerned about the matter?"

MQ-17J of Nicron shook his head. "I think not. You know the Galaxy will be filled in five years at the present rate of expansion."

Both seemed in their early twenties, both were tall and perfectly formed.

"Still," said VJ-23X, "I hesitate to submit a pessimistic report to the Galactic Council."

"I wouldn't consider any other kind of report. Stir them up a bit. We've got to stir them up."

VJ-23X sighed. "Space is infinite. A hundred billion Galaxies are there for the taking. More."

"A hundred billion is not infinite and it's getting less infinite all the time. Consider! Twenty thousand years ago, mankind first solved the problem of utilizing stellar energy, and a few centuries later, interstellar travel became possible. It took mankind a million years to fill one small world and then only fifteen thousand years to fill the rest of the Galaxy. Now the population doubles every ten years--"

VJ-23X interrupted. "We can thank immortality for that."

"Very well. Immortality exists and we have to take it into account. I admit it has its seamy side, this immortality. The Galactic AC has solved many problems for us, but in solving the problem of preventing old age and death, it has undone all its other solutions."

"Yet you wouldn't want to abandon life, I suppose."

"Not at all," snapped MQ-17J, softening it at once to, "Not yet. I'm by no means old enough. How old are you?"

"Two hundred twenty-three. And you?"

"I'm still under two hundred. -But to get back to my point. Population doubles every ten years. Once this Galaxy is filled, we'll have filled another in ten years. Another

ten years and we'll have filled two more. Another decade, four more. In a hundred years, we'll have filled a thousand Galaxies. In a thousand years, a million Galaxies. In ten thousand years, the entire known Universe. Then what?"

VJ-23X said, "As a side issue, there's a problem of transportation. I wonder how many sunpower units it will take to move Galaxies of individuals from one Galaxy to the next."

"A very good point. Already, mankind consumes two sunpower units per year."

"Most of it's wasted. After all, our own Galaxy alone pours out a thousand sunpower units a year and we only use two of those."

"Granted, but even with a hundred per cent efficiency, we only stave off the end. Our energy requirements are going up in a geometric progression even faster than our population. We'll run out of energy even sooner than we run out of Galaxies. A good point. A very good point."

"We'll just have to build new stars out of interstellar gas."

"Or out of dissipated heat?" asked MQ-17J, sarcastically.

"There may be some way to reverse entropy. We ought to ask the Galactic AC."

VJ-23X was not really serious, but MQ-17J pulled out his AC-contact from his pocket and placed it on the table before him.

"I've half a mind to," he said. "It's something the human race will have to face someday."

He stared somberly at his small AC-contact. It was only two inches cubed and nothing in itself, but it was connected through hyperspace with the great Galactic AC that served all mankind. Hyperspace considered, it was an integral part of the Galactic AC.

MQ-17J paused to wonder if someday in his immortal life he would get to see the Galactic AC. It was on a little world of its own, a spider webbing of force-beams holding the matter within which surges of sub-mesons took the place of the old clumsy molecular valves. Yet despite its sub-etheric workings, the Galactic AC was known to be a full thousand feet across.

MQ-17J asked suddenly of his AC-contact, "Can entropy ever be reversed?"

VJ-23X looked startled and said at once, "Oh, say, I didn't really mean to have you ask that,"

"Why not?"

"We both know entropy can't be reversed. You can't turn smoke and ash back into a tree."

"Do you have trees on your world?" asked MQ-17J.

The sound of the Galactic AC startled them into silence. Its voice came thin and beautiful out of the small AC-contact on the desk. It said: THERE IS INSUFFICIENT DATA FOR A MEANINGFUL ANSWER.

VJ-23X said, "See!"

The two men thereupon returned to the question of the report they were to make to the Galactic Council.

Zee Prime's mind spanned the new Galaxy with a faint interest in the countless twists of stars that powdered it. He had never seen this one before. Would he ever see them all? So many of them, each with its load of humanity. -But a load that was almost a dead weight. More and more, the real essence of men was to be found out here, in space.

Minds, not bodies! The immortal bodies remained back on the planets, in suspension over the eons. Sometimes they roused for material activity but that was growing rarer. Few new individuals were coming into existence to join the incredibly mighty throng, but what matter? There was little room in the Universe for new individuals.

Zee Prime was roused out of his reverie upon coming across the wispy tendrils of another mind.

"I am Zee Prime," said Zee Prime. "And you?"

"I am Dee Sub Wun. Your Galaxy?"

"We call it only the Galaxy. And you?"

"We call ours the same. All men call their Galaxy their Galaxy and nothing more. Why not?"

"True. Since all Galaxies are the same."

"Not all Galaxies. On one particular Galaxy the race of man must have originated. That makes it different."

Zee Prime said, "On which one?"

"I cannot say. The Universal AC would know."

"Shall we ask him? I am suddenly curious."

Zee Prime's perceptions broadened until the Galaxies themselves shrank and became a new, more diffuse powdering on a much larger background. So many hundreds of billions of them, all with their immortal beings, all carrying their load of intelligences with minds that drifted freely through space. And yet one of them was unique among them all in being the original Galaxy. One of them had, in its vague and distant past, a period when it was the only Galaxy populated by man.

Zee Prime was consumed with curiosity to see this Galaxy and he called out: "Universal AC! On which Galaxy did mankind originate?"

The Universal AC heard, for on every world and throughout space, it had its receptors ready, and each receptor lead through hyperspace to some unknown point where the Universal AC kept itself aloof.

Zee Prime knew of only one man whose thoughts had penetrated within sensing distance of Universal AC, and he reported only a shining globe, two feet across, difficult to see.

"But how can that be all of Universal AC?" Zee Prime had asked.

"Most of it," had been the answer, "is in hyperspace. In what form it is there I cannot imagine."

Nor could anyone, for the day had long since passed, Zee Prime knew, when any man had any part of the making of a Universal AC. Each Universal AC designed and constructed its successor. Each, during its existence of a million years or more

accumulated the necessary data to build a better and more intricate, more capable successor in which its own store of data and individuality would be submerged.

The Universal AC interrupted Zee Prime's wandering thoughts, not with words, but with guidance. Zee Prime's mentality was guided into the dim . sea of Galaxies and one in particular enlarged into stars.

A thought came, infinitely distant, but infinitely clear. "THIS is THE ORIGINAL GALAXY OF MAN."

But it was the same after all, the same as any other, and Zee Prime stifled his disappointment.

Dee Sub Wun, whose mind had accompanied the other, said suddenly, "And is one of these stars the original star of Man?" The Universal AC said, "MAN'S ORIGINAL STAR HAS GONE NOVA. IT IS A WHITE DWARF."

"Did the men upon it die?" asked Zee Prime, startled and without thinking.

The Universal AC said, "A NEW WORLD, AS IN SUCH CASES, WAS CONSTRUCTED FOR THEIR PHYSICAL BODIES IN TIME."

"Yes, of course," said Zee Prime, but a sense of loss overwhelmed him even so. His mind released its hold on the original Galaxy of Man, let it spring back and lose itself among the blurred pin points. He never wanted to see it again.

Dee Sub Wun said, "What is wrong?"

"The stars are dying. The original star is dead."

"They must all die. Why not?"

"But when all energy is gone, our bodies will finally die, and you and I with them."

"It will take billions of years."

"I do not wish it to happen even after billions of years. Universal AC! How may stars be kept from dying?"

Dee Sub Wun said in amusement, "You're asking how entropy might be reversed in direction."

And the Universal AC answered: "THERE IS AS YET INSUFFICIENT DATA FOR A MEANINGFUL ANSWER."

Zee Prime's thoughts fled back to his own Galaxy. He gave no further thought to Dee Sub Wun, whose body might be waiting on a Galaxy a trillion light-years away, or on the star next to Zee Prime's own. It didn't matter.

Unhappily, Zee Prime began collecting interstellar hydrogen out of which to build a small star of his own. If the stars must someday die, at least some could yet be built.

Man considered with himself, for in a way, Man, mentally, was one. He consisted of a trillion, trillion, trillion ageless bodies, each in its place, each resting quiet and incorruptible, each cared for by perfect automatons, equally incorruptible, while the minds of all the bodies freely melted one into the other, indistinguishable.

Man said, "The Universe is dying."

Man looked about at the dimming Galaxies. The giant stars, spendthrifts, were gone long ago, back in the dimmest of the dim far past. Almost all stars were white dwarfs, fading to the end.

New stars had been built of the dust between the stars, some by natural processes, some by Man himself, and those were going, too. White dwarfs might yet be crashed together and of the mighty forces so released, new stars built, but only one star for every thousand white dwarfs destroyed, and those would come to an end, too.

Man said, "Carefully husbanded, as directed by the Cosmic AC, the energy that is even yet left in all the Universe will last for billions of years."

"But even so," said Man, "eventually it will all come to an end. However it may be husbanded, however stretched out, the energy once expended is gone and cannot be restored. Entropy must increase forever to the maximum."

Man said, "Can entropy not be reversed? Let us ask the Cosmic AC."

The Cosmic AC surrounded them but not in space. Not a fragment of it was in space. It was in hyperspace and made of something that was neither matter nor energy. The question of its size and nature no longer had meaning in any terms that Man could comprehend.

"Cosmic AC," said Man, "how may entropy be reversed?"

The Cosmic AC said, "THERE IS AS YET INSUFFICIENT DATA FOR A MEANINGFUL ANSWER."

Man said, "Collect additional data."

The Cosmic AC said, "I WILL DO SO. I HAVE BEEN DOING SO FOR A HUNDRED BILLION YEARS. MY PREDECESSORS AND I HAVE BEEN ASKED THIS QUESTION MANY TIMES. ALL THE DATA I HAVE REMAINS INSUFFICIENT."

"Will there come a time," said Man, "when data will be sufficient or is the problem insoluble in all conceivable circumstances?" The Cosmic AC said, "NO PROBLEM is INSOLUBLE IN ALL CONCEIVABLE CIRCUMSTANCES."

Man said, "When will you have enough data to answer the question?" The Cosmic AC said, "THERE is AS YET INSUFFICIENT DATA FOR A MEANINGFUL ANSWER."

"Will you keep working on it?" asked Man. The Cosmic AC said, "i WILL." Man said, "We shall wait."

The stars and Galaxies died and snuffed out, and space grew black after ten trillion years of running down.

One by one Man fused with AC, each physical body losing its mental identity in a manner that was somehow not a loss but a gain.

Man's last mind paused before fusion, looking over a space that included nothing but the dregs of one last dark star and nothing besides but incredibly thin matter, agitated randomly by the tag ends of heat wearing out, asymptotically, to the absolute zero.

Man said, "AC, is this the end? Can this chaos not be reversed into the Universe once more? Can that not be done?"

AC said, " THERE is AS YET INSUFFICIENT DATA FOR A MEANINGFUL ANSWER."

Man's last mind fused and only AC existed-and that in hyperspace.

Matter and energy had ended and with it space and time. Even AC existed only for the sake of the one last question that it had never answered from the time a half-drunken computer ten trillion years before had asked the question of a computer that was to AC far less than was a man to Man.

All other questions had been answered, and until this last question was answered also, AC might not release his consciousness.

All collected data had come to a final end. Nothing was left to be collected.

But all collected data had yet to be completely correlated and put together in all possible relationships.

A timeless interval was spent in doing that.

And it came to pass that AC learned how to reverse the direction of entropy.

But there was now no man to whom AC might give the answer of the last question. No matter. The answer-by demonstration-would take care of that, too.

For another timeless interval, AC thought how best to do this. Carefully, AC organized the program.

The consciousness of AC encompassed all of what had once been a Universe and brooded over what was now Chaos. Step by step, it must be done.

And AC said, "LET THERE BE LIGHT!"

And there was light-

THE UGLY LITTLE BOY

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Edith Fellowes smoothed her working smock as she always did before opening the elaborately locked door and stepping across the invisible dividing line between the is and the is not. She carried her notebook and her pen although she no longer took notes except when she felt the absolute need for some report.

This time she also carried a suitcase. ("Games for the boy," she had said, smiling, to the guard-who had long since stopped even thinking of questioning her and who waved her on.)

And, as always, the ugly little boy knew that she had entered and came running to her, crying, "Miss Fellowes-Miss Fellowes-" in his soft, slurring way.

"Timmie," she said, and passed her hand over the shaggy, brown hair on his misshapen little head. "What's wrong?"

He said, "Will ferry be back to play again? I'm sorry about what happened."

"Never mind that now, Timmie. Is that why you've been crying?"

He looked away. "Not just about that, Miss Fellowes. I dreamed again."

"The same dream?" Miss Fellowes' lips set. Of course, the Jerry affair would bring back the dream.

He nodded. His too large teeth showed as he tried to smile and the lips of his forward-thrusting mouth stretched wide. "When will I be big enough to go out there, Miss Fellowes?"

"Soon," she said softly, feeling her heart break. "Soon."

Miss Fellowes let him take her hand and enjoyed the warm touch of the thick dry skin of his palm. He led her through the three rooms that made up the whole of Stasis Section One-comfortable enough, yes, but an eternal prison for the ugly little boy all the seven (was it seven?) years of his life.

He led her to the one window, looking out onto a scrubby woodland section of the world of is (now hidden by night), where a fence and painted instructions allowed no men to wander without permission.

He pressed his nose against the window. "Out there, Miss Fellowes?"

"Better places. Nicer places," she said sadly as she looked at his poor little imprisoned face outlined in profile against the window. The forehead retreated flatly and his hair lay down in tufts upon it. The back of his skull bulged and seemed to make the head overheavy so that it sagged and bent forward, forcing the whole body into a stoop. Already, bony ridges were beginning to bulge the skin above his eyes. His wide mouth thrust forward more prominently than did his wide and flattened nose and he had no chin

to speak of, only a jawbone that curved smoothly down and back. He was small for his years and his stumpy legs were bowed.

He was a very ugly little boy and Edith Fellowes loved him dearly.

Her own face was behind his line of vision, so she allowed her lips the luxury of a tremor.

They would not kill him. She would do anything to prevent it. Anything. She opened the suitcase and began taking out the clothes it contained.

Edith Fellowes had crossed the threshold of Stasis, Inc. for the first time just a little over three years before. She hadn't, at that time, the slightest idea as to what Stasis meant or what the place did. No one did then, except those who worked there. In fact, it was only the day after she arrived that the news broke upon the world.

At the time, it was just that they had advertised for a woman with knowledge of physiology, experience with clinical chemistry, and a love for children. Edith Fellowes had been a nurse in a maternity ward and believed she fulfilled those qualifications.

Gerald Hoskins, whose name plate on the desk included a Ph.D. after the name, scratched his cheek with his thumb and looked at her steadily.

Miss Fellowes automatically stiffened and felt her face (with its slightly asymmetric nose and its a-trifle-too-heavy eyebrows) twitch.

He's no dreamboat himself, she thought resentfully. He's getting fat and bald and he's got a sullen mouth. -But the salary mentioned had been considerably higher than she had expected, so she waited.

Hoskins said, "Now do you really love children?"

"I wouldn't say I did if I didn't."

"Or do you just love pretty children? Nice chubby children with cute little button-noses and gurgly ways?"

Miss Fellowes said, "Children are children, Dr. Hoskins, and the ones that aren't pretty are just the ones who may happen to need help most."

"Then suppose we take you on-"

"You mean you're offering me the job now?"

He smiled briefly, and for a moment, his broad face had an absentminded charm about it. He said, "I make quick decisions. So far the offer is tentative, however. I may make as quick a decision to let you go. Are you ready to take the chance?"

Miss Fellowes clutched at her purse and calculated just as swiftly as she could, then ignored calculations and followed impulse. "All right."

"Fine. We're going to form the Stasis tonight and I think you had better be there to take over at once. That will be at 8 P.M. and I'd appreciate it if you could be here at 7:30."

"But what-"

"Fine. Fine. That will be all now." On signal, a smiling secretary came in to usher her out.

Miss Fellowes stared back at Dr. Hoskins' closed door for a moment. What was Stasis? What had this large barn of a building-with its badged employees, its makeshift corridors, and its unmistakable air of engineering- to do with children?

She wondered if she should go back that evening or stay away and teach that arrogant man a lesson. But she knew she would be back if only out of sheer frustration. She would have to find out about the children.

She came back at 7:30 and did not have to announce herself. One after another, men and women seemed to know her and to know her function. She found herself all but placed on skids as she was moved inward.

Dr. Hoskins was there, but he only looked at her distantly and murmured, "Miss Fellowes."

He did not even suggest that she take a seat, but she drew one calmly up to the railing and sat down.

They were on a balcony, looking down into a large pit, filled with instruments that looked like a cross between the control panel of a spaceship and the working face of a computer. On one side were partitions that seemed to make up an unceilinged apartment, a giant dollhouse into the rooms of which she could look from above.

She could see an electronic cooker and a freeze-space unit in one room and a washroom arrangement off another. And surely the object she made out in another room could only be part of a bed, a small bed.

Hoskins was speaking to another man and, with Miss Fellowes, they made up the total occupancy of the balcony. Hoskins did not offer to introduce the other man, and Miss Fellowes eyed him surreptitiously. He was thin and quite fine-looking in a middle-aged way. He had a small mustache and keen eyes that seemed to busy themselves with everything.

He was saying, "I won't pretend for one moment that I understand all this, Dr. Hoskins; I mean, except as a layman, a reasonably intelligent layman, may be expected to understand it. Still, if there's one part I understand less than another, it's this matter of selectivity. You can only reach out so far; that seems sensible; things get dimmer the further you go; it takes more energy. -But then, you can only reach out so near. That's the puzzling part."

"I can make it seem less paradoxical, Deveney, if you will allow me to use an analogy."

(Miss Fellowes placed the new man the moment she heard his name, and despite herself was impressed. This was obviously Candide Deveney, the science writer of the Telenews, who was notoriously at the scene of every major scientific break-through. She even recognized his face as one she saw on the news-plate when the landing on Mars had been announced. -So Dr. Hoskins must have something important here.

"By all means use an analogy," said Deveney ruefully, "if you think it will help."

"Well, then, you can't read a book with ordinary-sized print if it is held six feet from your eyes, but you can read it if you hold it one foot from your eyes. So far, the closer the

better. If you bring the book to within one inch of your eyes, however, you've lost it again. There is such a thing as being too close, you see."

"Hmm," said Deveney.

"Or take another example. Your right shoulder is about thirty inches from the tip of your right forefinger and you can place your right forefinger on your right shoulder. Your right elbow is only half the distance from the tip of your right forefinger; it should by all ordinary logic be easier to reach, and yet you cannot place your right finger on your right elbow. Again, there is such a thing as being too close."

Deveney said, "May I use these analogies in my story?"

"Well, of course. Only too glad. I've been waiting long enough for someone like you to have a story. I'll give you anything else you want. It is time, finally, that we want the world looking over our shoulder. They'll see something."

(Miss Fellowes found herself admiring his calm certainty despite herself. There was strength there.)

Deveney said, "How far out will you reach?"

"Forty thousand years."

Miss Fellowes drew in her breath sharply.

Years?

There was tension in the air. The men at the controls scarcely moved. One man at a microphone spoke into it in a soft monotone, in short phrases that made no sense to Miss Fellowes.

Deveney, leaning over the balcony railing with an intent stare, said, "Will we see anything, Dr. Hoskins?"

"What? No. Nothing till the job is done. We detect indirectly, something on the principle of radar, except that we use mesons rather than radiation. Mesons reach backward under the proper conditions. Some are reflected and we must analyze the reflections."

"That sounds difficult."

Hoskins smiled again, briefly as always. "It is the end product of fifty years of research; forty years of it before I entered the field. -Yes, it's difficult."

The man at the microphone raised one hand.

Hoskins said, "We've had the fix on one particular moment in time for weeks; breaking it, remaking it after calculating our own movements in time; making certain that we could handle time-flow with sufficient precision. This must work now."

But his forehead glistened.

Edith Fellowes found herself out of her seat and at the balcony railing, but there was nothing to see.

The man at the microphone said quietly, "Now."

There was a space of silence sufficient for one breath and then the sound of a terrified little boy's scream from the dollhouse rooms. Terror! Piercing terror!

Miss Fellowes' head twisted in the direction of the cry. A child was involved. She had forgotten.

And Hoskins' fist pounded on the railing and he said in a tight voice, trembling with triumph, "Did it."

Miss Fellowes was urged down the short, spiral flight of steps by the hard press of Hoskins' palm between her shoulder blades. He did not speak to her.

The men who had been at the controls were standing about now, smiling, smoking, watching the three as they entered on the main floor. A very soft buzz sounded from the direction of the dollhouse.

Hoskins said to Deveney, "It's perfectly safe to enter Stasis. I've done it a thousand times. There's a queer sensation which is momentary and means nothing."

He stepped through an open door in mute demonstration, and Deveney, smiling stiffly and drawing an obviously deep breath, followed him.

Hoskins said, "Miss Fellowes! Please!" He crooked his forefinger impatiently.

Miss Fellowes nodded and stepped stiffly through. It was as though a ripple went through her, an internal tickle.

But once inside all seemed normal. There was the smell of the fresh wood of the dollhouse and-of-of soil somehow.

There was silence now, no voice at last, but there was the dry shuffling of feet, a scrabbling as of a hand over wood-then a low moan.

"Where is it?" asked Miss Fellowes in distress. Didn't these fool men care?

The boy was in the bedroom; at least the room with the bed in it.

It was standing naked, with its small, dirt-smeared chest heaving raggedly. A bushel of dirt and coarse grass spread over the floor at his bare brown feet. The smell of soil came from it and a touch of something fetid.

Hoskins followed her horrified glance and said with annoyance, "You can't pluck a boy cleanly out of time, Miss Fellowes. We had to take some of the surroundings with it for safety. Or would you have preferred to have it arrive here minus a leg or with only half a head?"

"Please!" said Miss Fellowes, in an agony of revulsion. "Are we just to stand here? The poor child is frightened. And it's filthy."

She was quite correct. It was smeared with encrusted dirt and grease and had a scratch on its thigh that looked red and sore.

As Hoskins approached him, the boy, who seemed to be something over three years in age, hunched low and backed away rapidly. He lifted his upper lip and snarled in a hissing fashion like a cat. With a rapid gesture, Hoskins seized both the child's arms and lifted him, writhing and screaming, from the floor.

Miss Fellowes said, "Hold him, now. He needs a warm bath first. He needs to be cleaned. Have you the equipment? If so, have it brought here, and I'll need to have help in handling him just at first. Then, too, for heaven's sake, have all this trash and filth removed."

She was giving the orders now and she felt perfectly good about that. And because now she was an efficient nurse, rather than a confused spectator, she looked at

the child with a clinical eye-and hesitated for one shocked moment. She saw past the dirt and shrieking, past the thrashing of limbs and useless twisting. She saw the boy himself.

It was the ugliest little boy she had ever seen. It was horribly ugly from misshapen head to bandy legs.

She got the boy cleaned with three men helping her and with others milling about in their efforts to clean the room. She worked in silence and with a sense of outrage, annoyed by the continued stragglings and outcries of the boy and by the undignified drenchings of soapy water to which she was subjected.

Dr. Hoskins had hinted that the child would not be pretty, but that was far from stating that it would be repulsively deformed. And there was a stench about the boy that soap and water was only alleviating little by little.

She had the strong desire to thrust the boy, soaped as he was, into Hoskins' arms and walk out; but there was the pride of profession. She had accepted an assignment, after all. -And there would be the look in his eyes. A cold look that would read: Only pretty children, Miss Fellowes?

He was standing apart from them, watching coolly from a distance with a half-smile on his face when he caught her eyes, as though amused at her outrage.

She decided she would wait a while before quitting. To do so now would only demean her.

Then, when the boy was a bearable pink and smelled of scented soap, she felt better anyway. His cries changed to whimpers of exhaustion as he watched carefully, eyes moving in quick frightened suspicion from one to another of those in the room. His cleanness accentuated his thin nakedness as he shivered with cold after his bath.

Miss Fellowes said sharply, "Bring me a nightgown for the child!"

A nightgown appeared at once. It was as though everything were ready and yet nothing were ready unless she gave orders; as though they were deliberately leaving this in her charge without help, to test her.

The newsman, Deveney, approached and said, "I'll hold him, Miss. You won't get it on yourself."

"Thank you," said Miss Fellowes. And it was a battle indeed, but the nightgown went on, and when the boy made as though to rip it off, she slapped his hand sharply.

The boy reddened, but did not cry. He stared at her and the splayed fingers of one hand moved slowly across the flannel of the nightgown, feeling the strangeness of it.

Miss Fellowes thought desperately: Well, what next?

Everyone seemed in suspended animation, waiting for her-even the ugly little boy.

Miss Fellowes said sharply, "Have you provided food? Milk?"

They had. A mobile unit was wheeled in, with its refrigeration compartment containing three quarts of milk, with a warming unit and a supply of fortifications in the form of vitamin drops, copper-cobalt-iron syrup and others she had no time to be concerned with. There was a variety of canned self-warming junior foods.

She used milk, simply milk, to begin with. The radar unit heated the milk to a set temperature in a matter of ten seconds and clicked off, and she put some in a saucer. She had a certainty about the boy's savagery. He wouldn't know how to handle a cup.

Miss Fellowes nodded and said to the boy, "Drink. Drink." She made a gesture as though to raise the milk to her mouth. The boy's eyes followed but he made no move.

Suddenly, the nurse resorted to direct measures. She seized the boy's upper arm in one hand and dipped the other in the milk. She dashed the milk across his lips, so that it dripped down cheeks and receding chin.

For a moment, the child uttered a high-pitched cry, then his tongue moved over his wetted lips. Miss Fellowes stepped back.

The boy approached the saucer, bent toward it, then looked up and behind sharply as though expecting a crouching enemy; bent again and licked at the milk eagerly, like a cat. He made a slurping noise. He did not use his hands to lift the saucer.

Miss Fellowes allowed a bit of the revulsion she felt show on her face. She couldn't help it.

Deveney caught that, perhaps. He said, "Does the nurse know, Dr. Hoskins?"

"Know what?" demanded Miss Fellowes.

Deveney hesitated, but Hoskins (again that look of detached amusement on his face) said, "Well, tell her."

Deveney addressed Miss Fellowes. "You may not suspect it, Miss, but you happen to be the first civilized woman in history ever to be taking care of a Neanderthal youngster."

She turned on Hoskins with a kind of controlled ferocity. "You might have told me, Doctor."

"Why? What difference does it make?"

"You said a child."

"Isn't that a child? Have you ever had a puppy or a kitten, Miss Fellowes? Are those closer to the human? If that were a baby chimpanzee, would you be repelled? You're a nurse, Miss Fellowes. Your record places you in a maternity ward for three years. Have you ever refused to take care of a deformed infant?"

Miss Fellowes felt her case slipping away. She said, with much less decision, "You might have told me."

"And you would have refused the position? Well, do you refuse it now?" He gazed at her coolly, while Deveney watched from the other side of the room, and the Neanderthal child, having finished the milk and licked the plate, looked up at her with a wet face and wide, longing eyes.

The boy pointed to the milk and suddenly burst out in a short series of sounds repeated over and over; sounds made up of gutturals and elaborate tongue-clickings.

Miss Fellowes said, in surprise, "Why, he talks."

"Of course," said Hoskins. "Homo neanderthalensis is not a truly separate species, but rather a subspecies of Homo sapiens. Why shouldn't he talk? He's probably asking for more milk."

Automatically, Miss Fellowes reached for the bottle of milk, but Hoskins seized her wrist. "Now, Miss Fellowes, before we go any further, are you staying on the job?"

Miss Fellowes shook free in annoyance, "Won't you feed him if I don't? I'll stay with him-for a while."

She poured the milk.

Hoskins said, "We are going to leave you with the boy, Miss Fellowes. This is the only door to Stasis Number One and it is elaborately locked and guarded. I'll want you to learn the details of the lock which will, of course, be keyed to your fingerprints as they are already keyed to mine. The spaces overhead" (he looked upward to the open ceilings of the dollhouse) "are also guarded and we will be warned if anything untoward takes place in here."

Miss Fellowes said indignantly, "You mean I'll be under view." She thought suddenly of her own survey of the room interiors from the balcony.

"No, no," said Hoskins seriously, "your privacy will be respected completely. The view will consist of electronic symbolism only, which only a computer will deal with. Now you will stay with him tonight, Miss Fellowes, and every night until further notice. You will be relieved during the day according to some schedule you will find convenient. We will allow you to arrange that."

Miss Fellowes looked about the dollhouse with a puzzled expression. "But why all this, Dr. Hoskins? Is the boy dangerous?"

"It's a matter of energy, Miss Fellowes. He must never be allowed to leave these rooms. Never. Not for an instant. Not for any reason. Not to save his life. Not even to save your life, Miss Fellowes. Is that clear?"

Miss Fellowes raised her chin. "I understand the orders, Dr. Hoskins, and the nursing profession is accustomed to placing its duties ahead of self-preservation."

"Good. You can always signal if you need anyone." And the two men left.

Miss Fellowes turned to the boy. He was watching her and there was still milk in the saucer. Laboriously, she tried to show him how to lift the saucer and place it to his lips. He resisted, but let her touch him without crying out.

Always, his frightened eyes were on her, watching, watching for the one false move. She found herself soothing him, trying to move her hand very slowly toward his hair, letting him see it every inch of the way, see there was no harm in it.

And she succeeded in stroking his hair for an instant.

She said, "I'm going to have to show you how to use the bathroom. Do you think you can learn?"

She spoke quietly, kindly, knowing he would not understand the words but hoping he would respond to the calmness of the tone.

The boy launched into a clicking phrase again.

She said, "May I take your hand?"

She held out hers and the boy looked at it. She left it outstretched and waited. The boy's own hand crept forward toward hers.

"That's right," she said.

It approached within an inch of hers and then the boy's courage failed him. He snatched it back.

"Well," said Miss Fellowes calmly, "we'll try again later. Would you like to sit down here?" She patted the mattress of the bed.

The hours passed slowly and progress was minute. She did not succeed either with bathroom or with the bed. In fact, after the child had given unmistakable signs of sleepiness he lay down on the bare ground and then, with a quick movement, rolled beneath the bed.

She bent to look at him and his eyes gleamed out at her as he tongue-clicked at her.

"All right," she said, "if you feel safer there, you sleep there."

She closed the door to the bedroom and retired to the cot that had been placed for her use in the largest room. At her insistence, a make-shift canopy had been stretched over it. She thought: Those stupid men will have to place a mirror in this room and a larger chest of drawers and a separate washroom if they expect me to spend nights here.

It was difficult to sleep. She found herself straining to hear possible sounds in the next room. He couldn't get out, could he? The walls were sheer and impossibly high but suppose the child could climb like a monkey? Well, Hoskins said there were observational devices watching through the ceiling.

Suddenly she thought: Can he be dangerous? Physically dangerous?

Surely, Hoskins couldn't have meant that. Surely, he would not have left her here alone, if-

She tried to laugh at herself. He was only a three- or four-year-old child. Still, she had not succeeded in cutting his nails. If he should attack her with nails and teeth while she slept-

Her breath came quickly. Oh, ridiculous, and yet-

She listened with painful attentiveness, and this time she heard the sound.

The boy was crying.

Not shrieking in fear or anger; not yelling or screaming. It was crying softly, and the cry was the heartbroken sobbing of a lonely, lonely child.

For the first time, Miss Fellowes thought with a pang: Poor thing!

Of course, it was a child; what did the shape of its head matter? It was a child that had been orphaned as no child had ever been orphaned before. Not only its mother and father were gone, but all its species. Snatched callously out of time, it was now the only creature of its kind in the world. The last. The only.

She felt pity for it strengthen, and with it shame at her own callousness. Tucking her own nightgown carefully about her calves (incongruously, she thought: Tomorrow I'll have to bring in a bathrobe) she got out of bed and went into the boy's room.

"Little boy," she called in a whisper. "Little boy."

She was about to reach under the bed, but she thought of a possible bite and did not. Instead, she turned on the night light and moved the bed.

The poor thing was huddled in the corner, knees up against his chin, looking up at her with blurred and apprehensive eyes.

In the dim light, she was not aware of his repulsiveness.

"Poor boy," she said, "poor boy." She felt him stiffen as she stroked his hair, then relax. "Poor boy. May I hold you?"

She sat down on the floor next to him and slowly and rhythmically stroked his hair, his cheek, his arm. Softly, she began to sing a slow and gentle song.

He lifted his head at that, staring at her mouth in the dimness, as though wondering at the sound.

She maneuvered him closer while he listened to her. Slowly, she pressed gently against the side of his head, until it rested on her shoulder. She put her arm under his thighs and with a smooth and unhurried motion lifted him into her lap.

She continued singing, the same simple verse over and over, while she rocked back and forth, back and forth.

He stopped crying, and after a while the smooth burr of his breathing showed he was asleep.

With infinite care, she pushed his bed back against the wall and laid him down. She covered him and stared down. His face looked so peaceful and little-boy as he slept. It didn't matter so much that it was so ugly. Really.

She began to tiptoe out, then thought: If he wakes up?

She came back, battled irresolutely with herself, then sighed and slowly got into bed with the child.

It was too small for her. She was cramped and uneasy at the lack of canopy, but the child's hand crept into hers and, somehow, she fell asleep in that position.

She awoke with a start and a wild impulse to scream. The latter she just managed to suppress into a gurgle. The boy was looking at her, wide-eyed. It took her a long moment to remember getting into bed with him, and now, slowly, without unfixing her eyes from his, she stretched one leg carefully and let it touch the floor, then the other one.

She cast a quick and apprehensive glance toward the open ceiling, then tensed her muscles for quick disengagement.

But at that moment, the boy's stubby fingers reached out and touched her lips. He said something.

She shrank at the touch. He was terribly ugly in the light of day.

The boy spoke again. He opened his own mouth and gestured with his hand as though something were coming out.

Miss Fellowes guessed at the meaning and said tremulously, "Do you want me to sing?"

The boy said nothing but stared at her mouth.

In a voice slightly off key with tension, Miss Fellowes began the little song she had sung the night before and the ugly little boy smiled. He swayed clumsily in rough time to the music and made a little gurgly sound that might have been the beginnings of a laugh.

Miss Fellowes sighed inwardly. Music hath charms to soothe the savage breast. It might help-

She said, "You wait. Let me get myself fixed up. It will just take a minute. Then I'll make breakfast for you."

She worked rapidly, conscious of the lack of ceiling at all times. The boy remained in bed, watching her when she was in view. She smiled at him at those times and waved. At the end, he waved back, and she found herself being charmed by that.

Finally, she said, "Would you like oatmeal with milk?" It took a moment to prepare, and then she beckoned to him.

Whether he understood the gesture or followed the aroma, Miss Fellowes did not know, but he got out of bed.

She tried to show him how to use a spoon but he shrank away from it in fright. (Time enough, she thought.) She compromised on insisting that he lift the bowl in his hands. He did it clumsily enough and it was incredibly messy but most of it did get into him.

She tried the drinking milk in a glass this time, and the little boy whined when he found the opening too small for him to get his face into conveniently. She held his hand, forcing it around the glass, making him tip it, forcing his mouth to the rim.

Again a mess but again most went into him, and she was used to messes.

The washroom, to her surprise and relief, was a less frustrating matter. He understood what it was she expected him to do.

She found herself patting his head, saying, "Good boy. Smart boy."

And to Miss Fellowes' exceeding pleasure, the boy smiled at that.

She thought: when he smiles, he's quite bearable. Really.

Later in the day, the gentleman of the press arrived.

She held the boy in her arms and he clung to her wildly while across the open door they set cameras to work. The commotion frightened the boy and he began to cry, but it was ten minutes before Miss Fellowes was allowed to retreat and put the boy in the next room.

She emerged again, flushed with indignation, walked out of the apartment (for the first time in eighteen hours) and closed the door behind her. "I think you've had enough. It will take me a while to quiet him. Go away."

"Sure, sure," said the gentlemen from the Times-Herald. "But is that really a Neanderthal or is this some kind of gag?"

"I assure you," said Hoskins' voice, suddenly, from the background, "that this is no gag. The child is authentic Homo neanderthalensis."

"Is it a boy or a girl?"

"Boy," said Miss Fellowes briefly.

"Ape-boy," said the gentleman from the News. "That's what we've got here. Ape-boy. How does he act, Nurse?"

"He acts exactly like a little boy," snapped Miss Fellowes, annoyed into the defensive, "and he is not an ape-boy. His name is-is Timothy, Timmie -and he is perfectly normal in his behavior."

She had chosen the name Timothy at a venture. It was the first that had occurred to her.

"Timmie the Ape-boy," said the gentleman from the News and, as it turned out, Timmie the Ape-boy was the name under which the child became known to the world.

The gentleman from the Globe turned to Hoskins and said, "Doc, what do you expect to do with the ape-boy?"

Hoskins shrugged. "My original plan was completed when I proved it possible to bring him here. However, the anthropologists will be very interested, I imagine, and the physiologists. We have here, after all, a creature which is at the edge of being human. We should learn a great deal about ourselves and our ancestry from him."

"How long will you keep him?"

"Until such a time as we need the space more than we need him. Quite a while, perhaps."

The gentleman from the News said, "Can you bring it out into the open so we can set up sub-etheric equipment and put on a real show?"

"I'm sorry, but the child cannot be removed from Stasis."

"Exactly what is Stasis?"

"Ah." Hoskins permitted himself one of his short smiles. "That would take a great deal of explanation, gentlemen. In Stasis, time as we know it doesn't exist. Those rooms are inside an invisible bubble that is not exactly part of our Universe. That is why the child could be plucked out of time as it was."

"Well, wait now," said the gentleman from the News discontentedly, "what are you giving us? The nurse goes into the room and out of it."

"And so can any of you," said Hoskins matter-of-factly. "You would be moving parallel to the lines of temporal force and no great energy gain or loss would be involved. The child, however, was taken from the far past. It moved across the lines and gained temporal potential. To move it into the Universe and into our own time would absorb enough energy to burn out every line in the place and probably blank out all power in the city of Washington. We had to store trash brought with him on the premises and will have to remove it little by little."

The newsmen were writing down sentences busily as Hoskins spoke to them. They did not understand and they were sure their readers would not, but it sounded scientific and that was what counted.

The gentleman from the Times-Herald said, "Would you be available for an all-circuit interview tonight?"

"I think so," said Hoskins at once, and they all moved off.

Miss Fellowes looked after them. She understood all this about Stasis and temporal force as little as the newsmen but she managed to get this much. Timmie's imprisonment (she found herself suddenly thinking of the little boy as Timmie) was a real one and not

one imposed by the arbitrary fiat of Hoskins. Apparently, it was impossible to let him out of Stasis at all, ever.

Poor child. Poor child.

She was suddenly aware of his crying and she hastened in to console him.

Miss Fellowes did not have a chance to see Hoskins on the all-circuit hookup, and though his interview was beamed to every part of the world and even to the outpost on the Moon, it did not penetrate the apartment in which Miss Fellowes and the ugly little boy lived.

But he was down the next morning, radiant and joyful.

Miss Fellowes said, "Did the interview go well?"

"Extremely. And how is-Timmie?"

Miss Fellowes found herself pleased at the use of the name. "Doing quite well. Now come out here, Timmie, the nice gentleman will not hurt you."

But Timmie stayed in the other room, with a lock of his matted hair showing behind the barrier of the door and, occasionally, the corner of an eye.

"Actually," said Miss Fellowes, "he is settling down amazingly. He is quite intelligent."

"Are you surprised?"

She hesitated just a moment, then said, "Yes, I am. I suppose I thought he was an ape-boy."

"Well, ape-boy or not, he's done a great deal for us. He's put Stasis, Inc. on the map. We're in, Miss Fellowes, we're in." It was as though he had to express his triumph to someone, even if only to Miss Fellowes.

"Oh?" She let him talk.

He put his hands in his pockets and said, "We've been working on a shoestring for ten years, scrounging funds a penny at a time wherever we could. We had to shoot the works on one big show. It was everything, or nothing. And when I say the works, I mean it. This attempt to bring in a Neanderthal took every cent we could borrow or steal, and some of it was stolen-funds for other projects, used for this one without permission. If that experiment hadn't succeeded, I'd have been through."

Miss Fellowes said abruptly, "Is that why there are no ceilings?"

"Eh?" Hoskins looked up.

"Was there no money for ceilings?"

"Oh. Well, that wasn't the only reason. We didn't really know in advance how old the Neanderthal might be exactly. We can detect only dimly in time, and he might have been large and savage. It was possible we might have had to deal with him from a distance, like a caged animal."

"But since that hasn't turned out to be so, I suppose you can build a ceiling now."

"Now, yes. We have plenty of money, now. Funds have been promised from every source. This is all wonderful, Miss Fellowes." His broad face gleamed with a smile that lasted and when he left, even his back seemed to be smiling.

Miss Fellowes thought: He's quite a nice man when he's off guard and forgets about being scientific.

She wondered for an idle moment if he was married, then dismissed the thought in self-embarrassment.

"Timmie," she called. "Come here, Timmie."

In the months that passed, Miss Fellowes felt herself grow to be an integral part of Stasis, Inc. She was given a small office of her own with her name on the door, an office quite close to the dollhouse (as she never stopped calling Timmie's Stasis bubble). She was given a substantial raise. The dollhouse was covered by a ceiling; its furnishings were elaborated and improved; a second washroom was added-and even so, she gained an apartment of her own on the institute grounds and, on occasion, did not stay with Timmie during the night. An intercom was set up between the dollhouse and her apartment and Timmie learned how to use it.

Miss Fellowes got used to Timmie. She even grew less conscious of his ugliness. One day she found herself staring at an ordinary boy in the street and finding something bulgy and unattractive in his high domed forehead and jutting chin. She had to shake herself to break the spell.

It was more pleasant to grow used to Hoskins' occasional visits. It was obvious he welcomed escape from his increasingly harried role as head of Stasis, Inc., and that he took a sentimental interest in the child who had started it all, but it seemed to Miss Fellowes that he also enjoyed talking to her.

(She had learned some facts about Hoskins, too. He had invented the method of analyzing the reflection of the past-penetrating mesonic beam; he had invented the method of establishing Stasis; his coldness was only an effort to hide a kindly nature; and, oh yes, he was married.)

What Miss Fellowes could not get used to was the fact that she was engaged in a scientific experiment. Despite all she could do, she found herself getting personally involved to the point of quarreling with the physiologists.

On one occasion, Hoskins came down and found her in the midst of a hot urge to kill. They had no right; they had no right-

Even if he was a Neanderthal, he still wasn't an animal.

She was staring after them in a blind fury; staring out the open door and listening to Timmie's sobbing, when she noticed Hoskins standing before her. He might have been there for minutes.

He said, "May I come in?"

She nodded curtly, then hurried to Timmie, who clung to her, curling his little bandy legs-still thin, so thin-about her.

Hoskins watched, then said gravely, "He seems quite unhappy."

Miss Fellowes said, "I don't blame him. They're at him every day now with their blood samples and their probings. They keep him on synthetic diets that I wouldn't feed a pig."

"It's the sort of thing they can't try on a human, you know."

"And they can't try it on Timmie, either. Dr. Hoskins, I insist. You told me it was Timmie's coming that put Stasis, Inc. on the map. If you have any gratitude for that at all, you've got to keep them away from the poor thing at least until he's old enough to understand a little more. After he's had a bad session with them, he has nightmares, he can't sleep. Now I warn you," (she reached a sudden peak of fury) "I'm not letting them in here any more."

(She realized that she had screamed that, but she couldn't help it.)

She said more quietly, "I know he's Neanderthal but there's a great deal we don't appreciate about Neanderthals. I've read up on them. They had a culture of their own. Some of the greatest human inventions arose in Neanderthal times. The domestication of animals, for instance; the wheel; various techniques in grinding stone. They even had spiritual yearnings. They buried their dead and buried possessions with the body, showing they believed in a life after death. It amounts to the fact that they invented religion. Doesn't that mean Timmie has a right to human treatment?"

She patted the little boy gently on his buttocks and sent him off into his playroom. As the door was opened, Hoskins smiled briefly at the display of toys that could be seen.

Miss Fellowes said defensively, "The poor child deserves his toys. It's all he has and he earns them with what he goes through."

"No, no. No objections, I assure you. I was just thinking how you've changed since the first day, when you were quite angry I had foisted a Neanderthal on you."

Miss Fellowes said in a low voice, "I suppose I didn't-" and faded off.

Hoskins changed the subject, "How old would you say he is, Miss Fellowes?"

She said, "I can't say, since we don't know how Neanderthals develop. In size, he'd only be three but Neanderthals are smaller generally and with all the tampering they do with him, he probably isn't growing. The way he's learning English, though, I'd say he was well over four."

"Really? I haven't noticed anything about learning English in the reports."

"He won't speak to anyone but me. For now, anyway. He's terribly afraid of others, and no wonder. But he can ask for an article of food; he can indicate any need practically; and he understands almost anything I say. Of course," (she watched him shrewdly, trying to estimate if this was the time), "his development may not continue."

"Why not?"

"Any child needs stimulation and this one lives a life of solitary confinement. I do what I can, but I'm not with him all the time and I'm not all he needs. What I mean, Dr. Hoskins, is that he needs another boy to play with."

Hoskins nodded slowly. "Unfortunately, there's only one of him, isn't there? Poor child."

Miss Fellowes warmed to him at once. She said, "You do like Timmie, don't you?" It was so nice to have someone else feel like that.

"Oh, yes," said Hoskins, and with his guard down, she could see the weariness in his eyes.

Miss Fellowes dropped her plans to push the matter at once. She said, with real concern, "You look worn out, Dr. Hoskins."

"Do I, Miss Fellowes? I'll have to practice looking more lifelike then."

"I suppose Stasis, Inc. is very busy and that that keeps you very busy."

Hoskins shrugged. "You suppose right. It's a matter of animal, vegetable, and mineral in equal parts, Miss Fellowes. But then, I suppose you haven't ever seen our displays."

"Actually, I haven't. -But it's not because I'm not interested. It's just that I've been so busy."

"Well, you're not all that busy right now," he said with impulsive decision. "I'll call for you tomorrow at eleven and give you a personal tour. How's that?"

She smiled happily. "I'd love it."

He nodded and smiled in his turn and left.

Miss Fellowes hummed at intervals for the rest of the day. Really-to think so was ridiculous, of course-but really, it was almost like-like making a date.

He was quite on time the next day, smiling and pleasant. She had replaced her nurse's uniform with a dress. One of conservative cut, to be sure, but she hadn't felt so feminine in years.

He complimented her on her appearance with staid formality and she accepted with equally formal grace. It was really a perfect prelude, she thought. And then the additional thought came, prelude to what?

She shut that off by hastening to say good-bye to Timmie and to assure him she would be back soon. She made sure he knew all about what and where lunch was.

Hoskins took her into the new wing, into which she had never yet gone. It still had the odor of newness about it and the sound of construction, softly heard, was indication enough that it was still being extended.

"Animal, vegetable, and mineral," said Hoskins, as he had the day before. "Animal right there; our most spectacular exhibits."

The space was divided into many rooms, each a separate Stasis bubble. Hoskins brought her to the view-glass of one and she looked in. What she saw impressed her first as a scaled, tailed chicken. Skittering on two thin legs it ran from wall to wall with its delicate birdlike head, surmounted by a bony keel like the comb of a rooster, looking this way and that. The paws on its small forelimbs clenched and unclenched constantly.

Hoskins said, "It's our dinosaur. We've had it for months. I don't know when we'll be able to let go of it."

"Dinosaur?"

"Did you expect a giant?"

She dimpled. "One does, I suppose. I know some of them are small."

"A small one is all we aimed for, believe me. Generally, it's under investigation, but this seems to be an open hour. Some interesting things have been discovered. For instance, it is not entirely cold-blooded. It has an imperfect method of maintaining internal temperatures higher than that of its environment. Unfortunately, it's a male. Ever

since we brought it in we've been trying to get a fix on another that may be female, but we've had no luck yet."

"Why female?"

He looked at her quizzically. "So that we might have a fighting chance to obtain fertile eggs, and baby dinosaurs."

"Of course."

He led her to the trilobite section. "That's Professor Dwayne of Washington University," he said. "He's a nuclear chemist. If I recall correctly, he's taking an isotope ratio on the oxygen of the water."

"Why?"

"It's primeval water; at least half a billion years old. The isotope ratio gives the temperature of the ocean at that time. He himself happens to ignore the trilobites, but others are chiefly concerned in dissecting them. They're the lucky ones because all they need are scalpels and microscopes. Dwayne has to set up a mass spectrograph each time he conducts an experiment."

"Why's that? Can't he-"

"No, he can't. He can't take anything out of the room as far as can be helped."

There were samples of primordial plant life too and chunks of rock formations. Those were the vegetable and mineral. And every specimen had its investigator. It was like a museum; a museum brought to life and serving as a superactive center of research.

"And you have to supervise all of this, Dr. Hoskins?"

"Only indirectly, Miss Feflowes. I have subordinates, thank heaven. My own interest is entirely in the theoretical aspects of the matter: the nature of Time, the technique of mesonic intertemporal detection and so on. I would exchange all this for a method of detecting objects closer in Time than ten thousand years ago. If we could get into historical times-"

He was interrupted by a commotion at one of the distant booths, a thin voice raised querulously. He frowned, muttered hastily, "Excuse me," and hastened off.

Miss Feflowes followed as best she could without actually running.

An elderly man, thinly-bearded and red-faced, was saying, "I had vital aspects of my investigations to complete. Don't you understand that?"

A uniformed technician with the interwoven SI monogram (for Stasis, Inc.) on his lab coat, said, "Dr. Hoskins, it was arranged with Professor Ademewski at the beginning that the specimen could only remain here two weeks."

"I did not know then how long my investigations would take. I'm not a prophet," said Ademewski heatedly.

Dr. Hoskins said, "You understand, Professor, we have limited space; we must keep specimens rotating. That piece of chalcopyrite must go back; there are men waiting for the next specimen."

"Why can't I have it for myself, then? Let me take it out of there."

"You know you can't have it."

"A piece of chalcopyrite; a miserable five-kilogram piece? Why not?"

"We can't afford the energy expense!" said Hoskins brusquely. "You know that."

The technician interrupted. "The point is, Dr. Hoskins, that he tried to remove the rock against the rules and I almost punctured Stasis while he was in there, not knowing he was in there."

There was a short silence and Dr. Hoskins turned on the investigator with a cold formality. "Is that so, Professor?"

Professor Ademewski coughed. "I saw no harm-"

Hoskins reached up to a hand-pull dangling just within reach, outside the specimen room in question. He pulled it.

Miss Fellowes, who had been peering in, looking at the totally undistinguished sample of rock that occasioned the dispute, drew in her breath sharply as its existence flickered out. The room was empty.

Hoskins said, "Professor, your permit to investigate matters in Stasis will be permanently voided. I am sorry."

"But wait-"

"I am sorry. You have violated one of the stringent rules."

"I will appeal to the International Association-"

"Appeal away. In a case like this, you will find I can't be overruled." He turned away deliberately, leaving the professor still protesting and said to Miss Fellowes (his face still white with anger), "Would you care to have lunch with me, Miss Fellowes?"

He took her into the small administration alcove of the cafeteria. He greeted others and introduced Miss Fellowes with complete ease, although she herself felt painfully self-conscious.

What must they think, she thought, and tried desperately to appear businesslike.

She said, "Do you have that kind of trouble often, Dr. Hoskins? I mean like that you just had with the professor?" She took her fork in hand and began eating.

"No," said Hoskins forcefully. "That was the first time. Of course I'm always having to argue men out of removing specimens but this is the first time one actually tried to do it."

"I remember you once talked about the energy it would consume."

"That's right. Of course, we've tried to take it into account. Accidents will happen and so we've got special power sources designed to stand the drain of accidental removal from Stasis, but that doesn't mean we want to see a year's supply of energy gone in half a second-or can afford to without having our plans of expansion delayed for years. -Besides, imagine the professor's being in the room while Stasis was about to be punctured."

"What would have happened to him if it had been?"

"Well, we've experimented with inanimate objects and with mice and they've disappeared. Presumably they've traveled back in time; carried along, so to speak, by the pull of the object simultaneously snapping back into its natural time. For that reason, we have to anchor objects within Stasis that we don't want to move and that's a complicated procedure. The professor would not have been anchored and he would have gone back

to the Pliocene at the moment when we abstracted the rock-plus, of course, the two weeks it had remained here in the present."

"How dreadful it would have been."

"Not on account of the professor, I assure you. If he were fool enough to do what he did, it would serve him right. But imagine the effect it would have on the public if the fact came out. All people would need is to become aware of the dangers involved and funds could be choked off like that." He snapped his fingers and played moodily with his food.

Miss Fellowes said, "Couldn't you get him back? The way you got the rock in the first place?"

"No, because once an object is returned, the original fix is lost unless we deliberately plan to retain it and there was no reason to do that in this case. There never is. Finding the professor again would mean relocating a specific fix and that would be like dropping a line into the oceanic abyss for the purpose of dredging up a particular fish. - My God, when I think of the precautions we take to prevent accidents, it makes me mad. We have every individual Stasis unit set up with its own puncturing device-we have to, since each unit has its separate fix and must be collapsible independently. The point is, though, none of the puncturing devices is ever activated until the last minute. And then we deliberately make activation impossible except by the pull of a rope carefully led outside the Stasis. The pull is a gross mechanical motion that requires a strong effort, not something that is likely to be done accidentally."

Miss Fellowes said, "But doesn't it-change history to move something in and out of Time?"

Hoskins shrugged. "Theoretically, yes; actually, except in unusual cases, no. We move objects out of Stasis all the time. Air molecules. Bacteria. Dust. About 10 percent of our energy consumption goes to make up micro-losses of that nature. But moving even large objects in Time sets up changes that damp out. Take that chalcopyrite from the Pliocene. Because of its absence for two weeks some insect didn't find the shelter it might have found and is killed. That could initiate a whole series of changes, but the mathematics of Stasis indicates that this is a converging series. The amount of change diminishes with time and then things are as before."

"You mean, reality heals itself?"

"In a manner of speaking. Abstract a human from time or send one back, and you make a larger wound. If the individual is an ordinary one, that wound still heals itself. Of course, there are a great many people who write to us each day and want us to bring Abraham Lincoln into the present, or Mohammed, or Lenin. That can't be done, of course. Even if we could find them, the change in reality in moving one of the history molders would be too great to be healed. There are ways of calculating when a change is likely to be too great and we avoid even approaching that limit."

Miss Fellowes said, "Then, Timmie-"

"No, he presents no problem in that direction. Reality is safe. But-" He gave her a quick, sharp glance, then went on, "But never mind. Yesterday you said Timmie needed companionship."

"Yes," Miss Fellowes smiled her delight. "I didn't think you paid that any attention."

"Of course I did. I'm fond of the child. I appreciate your feelings for him and I was concerned enough to want to explain to you. Now I have; you've seen what we do; you've gotten some insight into the difficulties involved; so you know why, with the best will in the world, we can't supply companionship for Timmie."

"You can't?" said Miss Fellowes, with sudden dismay.

"But I've just explained. We couldn't possibly expect to find another Neanderthal his age without incredible luck, and if we could, it wouldn't be fair to multiply risks by having another human being in Stasis."

Miss Fellowes put down her spoon and said energetically, "But, Dr. Hoskins, that is not at all what I meant. I don't want you to bring another Neanderthal into the present. I know that's impossible. But it isn't impossible to bring another child to play with Timmie."

Hoskins stared at her in concern. "A human child?"

"Another child," said Miss Fellowes, completely hostile now. "Timmie is human."

"I couldn't dream of such a thing."

"Why not? Why couldn't you? What is wrong with the notion? You pulled that child out of Time and made him an eternal prisoner. Don't you owe him something? Dr. Hoskins, if there is any man who, in this world, is that child's father in every sense but the biological, it is you. Why can't you do this little thing for him?"

Hoskins said, "His father?" He rose, somewhat unsteadily, to his feet. "Miss Fellowes, I think I'll take you back now, if you don't mind."

They returned to the dollhouse in a complete silence that neither broke.

It was a long time after that before she saw Hoskins again, except for an occasional glimpse in passing. She was sorry about that at times; then, at other times, when Timmie was more than usually woebegone or when he spent silent hours at the window with its prospect of little more than nothing, she thought, fiercely: Stupid man.

Timmie's speech grew better and more precise each day. It never entirely lost a certain soft, slurriness that Miss Fellowes found rather endearing. In times of excitement, he fell back into tongue-clicking but those times were becoming fewer. He must be forgetting the days before he came into the present-except for dreams.

As he grew older, the physiologists grew less interested and the psychologists more so. Miss Fellowes was not sure that she did not like the new group even less than the first. The needles were gone; the injections and withdrawals of fluid; the special diets. But now Timmie was made to overcome barriers to reach food and water. He had to lift panels, move bars, reach for cords. And the mild electric shocks made him cry and drove Miss Fellowes to distraction.

She did not wish to appeal to Hoskins; she did not wish to have to go to him; for each time she thought of him, she thought of his face over the luncheon table that last time. Her eyes moistened and she thought: Stupid, stupid man.

And then one day Hoskins' voice sounded unexpectedly, calling into the dollhouse, "Miss Fellowes."

She came out coldly, smoothing her nurse's uniform, then stopped in confusion at finding herself in the presence of a pale woman, slender and of middle height. The woman's fair hair and complexion gave her an appearance of fragility. Standing behind her and clutching at her skirt was a round-faced, large-eyed child of four.

Hoskins said, "Dear, this is Miss Fellowes, the nurse in charge of the boy. Miss Fellowes, this is my wife."

(Was this his wife? She was not as Miss Fellowes had imagined her to be. But then, why not? A man like Hoskins would choose a weak thing to be his foil. If that was what he wanted-)

She forced a matter-of-fact greeting. "Good afternoon, Mrs. Hoskins. Is this your little boy?"

(That was a surprise. She had thought of Hoskins as a husband, but not as a father, except, of course- She suddenly caught Hoskins' grave eyes and flushed.)

Hoskins said, "Yes, this is my boy, Jerry. Say hello to Miss Fellowes, Jerry."

(Had he stressed the word "this" just a bit? Was he saying this was his son and not-)

Jerry receded a bit further into the folds of the maternal skirt and muttered his hello. Mrs. Hoskins' eyes were searching over Miss Fellowes' shoulders, peering into the room, looking for something.

Hoskins said, "Well, let's go in. Come, dear. There's a trifling discomfort at the threshold, but it passes."

Miss Fellowes said, "Do you want Jerry to come in, too?"

"Of course. He is to be Timmie's playmate. You said that Timmie needed a playmate. Or have you forgotten?"

"But-" She looked at him with a colossal, surprised wonder. "Jburboy?"

He said peevishly, "Well, whose boy, then? Isn't this what you want? Come on in, dear. Come on in."

Mrs. Hoskins lifted Jerry into her arms with a distinct effort and, hesitantly, stepped over the threshold. Jerry squirmed as she did so, disliking the sensation.

Mrs. Hoskins said in a thin voice, "Is the creature here? I don't see him."

Miss Fellowes called, "Timmie. Come out."

Timmie peered around the edge of the door, staring up at the little boy who was visiting him. The muscles in Mrs. Hoskins' arms tensed visibly.

She said to her husband, "Gerald, are you sure it's safe?"

Miss Fellowes said at once, "If you mean is Timmie safe, why, of course he is. He's a gentle little boy."

"But he's a sa-savage."

(The ape-boy stories in the newspapers!) Miss Fellowes said emphatically, "He is not a savage. He is just as quiet and reasonable as you can possibly expect a five-and-a-half-year-old to be. It is very generous of you, Mrs. Hoskins, to agree to allow your boy to play with Timmie but please have no fears about it."

Mrs. Hoskins said with mild heat, "I'm not sure that I agree."

"We've had it out, dear," said Hoskins. "Let's not bring up the matter for new argument. Put Jerry down."

Mrs. Hoskins did so and the boy backed against her, staring at the pair of eyes which were staring back at him from the next room.

"Come here, Timmie," said Miss Fellowes. "Don't be afraid."

Slowly, Timmie stepped into the room. Hoskins bent to disengage Jerry's fingers from his mother's skirt. "Step back, dear. Give the children a chance."

The youngsters faced one another. Although the younger, Jerry was nevertheless an inch taller, and in the presence of his straightness and his high-held, well-proportioned head, Timmie's grotesqueries were suddenly almost as pronounced as they had been in the first days.

Miss Fellowes' lips quivered.

It was the little Neanderthal who spoke first, in childish treble. "What's your name?" And Timmie thrust his face suddenly forward as though to inspect the other's features more closely.

Startled Jerry responded with a vigorous shove that sent Timmie tumbling. Both began crying loudly and Mrs. Hoskins snatched up her child, while Miss Fellowes, flushed with repressed anger, lifted Timmie and comforted him.

Mrs. Hoskins said, "They just instinctively don't like one another."

"No more instinctively," said her husband wearily, "than any two children dislike each other. Now put Jerry down and let him get used to the situation. In fact, we had better leave. Miss Fellowes can bring Jerry to my office after a while and I'll have him taken home."

The two children spent the next hour very aware of each other. Jerry cried for his mother, struck out at Miss Fellowes and, finally, allowed himself to be comforted with a lollipop. Timmie sucked at another, and at the end of an hour, Miss Fellowes had them playing with the same set of blocks, though at opposite ends of the room.

She found herself almost maudlinly grateful to Hoskins when she brought Jerry to him.

She searched for ways to thank him but his very formality was a rebuff. Perhaps he could not forgive her for making him feel like a cruel father. Perhaps the bringing of his own child was an attempt, after all, to prove himself both a kind father to Timmie and, also, not his father at all. Both at the same time!

So all she could say was, "Thank you. Thank you very much."

And all he could say was, "It's all right. Don't mention it."

It became a settled routine. Twice a week, Jerry was brought in for an hour's play, later extended to two hours' play. The children learned each other's names and ways and played together.

And yet, after the first rush of gratitude, Miss Fellowes found herself disliking Jerry. He was larger and heavier and in all things dominant, forcing Timmie into a completely secondary role. All that reconciled her to the situation was the fact that, despite difficulties, Timmie looked forward with more and more delight to the periodic appearances of his playfellow.

It was all he had, she mourned to herself.

And once, as she watched them, she thought: Hoskins' two children, one by his wife and one by Stasis.

While she herself-

Heavens, she thought, putting her fists to her temples and feeling ashamed: I'm jealous!

"Miss Fellowes," said Timmie (carefully, she had never allowed him to call her anything else) "when will I go to school?"

She looked down at those eager brown eyes turned up to hers and passed her hand softly through his thick, curly hair. It was the most disheveled portion of his appearance, for she cut his hair herself while he sat restlessly under the scissors. She did not ask for professional help, for the very clumsiness of the cut served to mask the retreating fore part of the skull and the bulging hinder part.

She said, "Where did you hear about school?"

"Jerry goes to school. Kin-der-gar-ten." He said it carefully. "There are lots of places he goes. Outside. When can I go outside, Miss Fellowes?"

A small pain centered in Miss Fellowes' heart. Of course, she saw, there would be no way of avoiding the inevitability of Timmie's hearing more and more of the outer world he could never enter.

She said, with an attempt at gaiety, "Why, whatever would you do in kindergarten, Timmie?"

"Jerry says they play games, they have picture tapes. He says there are lots of children. He says-he says-" A thought, then a triumphant upholding of both small hands with the fingers splayed apart. "He says this many."

Miss Fellowes said, "Would you like picture tapes? I can get you picture tapes. Very nice ones. And music tapes too."

So that Timmie was temporarily comforted.

He pored over the picture tapes in Jerry's absence and Miss Fellowes read to him out of ordinary books by the hours.

There was so much to explain in even the simplest story, so much that was outside the perspective of his three rooms. Timmie took to having his dreams more often now that the outside was being introduced to him.

They were always the same, about the outside. He tried haltingly to describe them to Miss Fellowes. In his dreams, he was outside, an empty outside, but very large, with

children and queer indescribable objects half-digested in his thought out of bookish descriptions half-understood, or out of distant Neanderthal memories half-recalled.

But the children and objects ignored him and though he was in the world, he was never part of it, but was as alone as though he were in his own room -and would wake up crying.

Miss Fellowes tried to laugh at the dreams, but there were nights in her own apartment when she cried, too.

One day, as Miss Fellowes read, Timmie put his hand under her chin and lifted it gently so that her eyes left the book and met his.

He said, "How do you know what to say, Miss Fellowes?"

She said, "You see these marks? They tell me what to say. These marks make words."

He stared at them long and curiously, taking the book out of her hands. "Some of these marks are the same."

She laughed with pleasure at this sign of his shrewdness and said, "So they are. Would you like to have me show you how to make the marks?"

"All right. That would be a nice game."

It did not occur to her that he could learn to read. Up to the very moment that he read a book to her, it did not occur to her that he could learn to read.

Then, weeks later, the enormity of what had been done struck her. Timmie sat in her lap, following word by word the printing in a child's book, reading to her. He was reading to her!

She struggled to her feet in amazement and said, "Now Timmie, I'll be back later. I want to see Dr. Hoskins."

Excited nearly to frenzy, it seemed to her she might have an answer to Timmie's unhappiness. If Timmie could not leave to enter the world, the world must be brought into those three rooms to Timmie-the whole world in books and film and sound. He must be educated to his full capacity. So much the world owed him.

She found Hoskins in a mood that was oddly analogous to her own; a kind of triumph and glory. His offices were unusually busy, and for a moment, she thought she would not get to see him, as she stood abashed in the anteroom.

But he saw her, and a smile spread over his broad face. "Miss Fellowes, come here."

He spoke rapidly into the intercom, then shut it off. "Have you heard?"

-No, of course, you couldn't have. We've done it. We've actually done it. We have intertemporal detection at close range."

"You mean," she tried to detach her thought from her own good news for a moment, "that you can get a person from historical times into the present?"

"That's just what I mean. We have a fix on a fourteenth century individual right now. Imagine. Imagine! If you could only know how glad I'll be to shift from the eternal concentration on the Mesozoic, replace the paleontologists with the historians- But

there's something you wish to say to me, eh? Well, go ahead; go ahead. You find me in a good mood. Anything you want you can have."

Miss Fellowes smiled. "I'm glad. Because I wonder if we might not establish a system of instruction for Timmie?"

"Instruction? In what?"

"Well, in everything. A school. So that he might learn."

"But can he learn?"

"Certainly, he is learning. He can read. I've taught him so much myself."

Hoskins sat there, seeming suddenly depressed. "I don't know, Miss Fellowes."

She said, "You just said that anything I wanted-"

"I know and I should not have. You see, Miss Fellowes, I'm sure you must realize that we cannot maintain the Timmie experiment forever."

She stared at him with sudden horror, not really understanding what he had said. How did he mean "cannot maintain"? With an agonizing flash of recollection, she recalled Professor Ademewski and his mineral specimen that was taken away after two weeks. She said, "But you're talking about a boy. Not about a rock-"

Dr. Hoskins said uneasily, "Even a boy can't be given undue importance, Miss Fellowes. Now that we expect individuals out of historical time, we will need Stasis space, all we can get."

She didn't grasp it. "But you can't. Timmie-Timmie-"

"Now, Miss Fellowes, please don't upset yourself. Timmie won't go right away; perhaps not for months. Meanwhile we'll do what we can."

She was still staring at him.

"Let me get you something, Miss Fellowes."

"No," she whispered. "I don't need anything." She arose in a kind of nightmare and left.

Timmie, she thought, you will not die. You will not die.

It was all very well to hold tensely to the thought that Timmie must not die, but how was that to be arranged? In the first weeks, Miss Fellowes clung only to the hope that the attempt to bring forward a man from the fourteenth century would fail completely. Hoskins' theories might be wrong or his practice defective. Then things could go on as before.

Certainly, that was not the hope of the rest of the world and, irrationally, Miss Fellowes hated the world for it. "Project Middle Ages" reached a climax of white-hot publicity. The press and the public had hungered for something like this. Stasis, Inc. had lacked the necessary sensation for a long time now. A new rock or another ancient fish failed to stir them. But this was it. A historical human; an adult speaking a known language; someone who could open a new page of history to the scholar.

Zero-time was coming and this time it was not a question of three onlookers from the balcony. This time there would be a world-wide audience. This time the technicians of Stasis, Inc. would play their role before nearly all of mankind.

Miss Fellowes was herself all but savage with waiting. When young Jerry Hoskins showed up for his scheduled playtime with Timmie, she scarcely recognized him. He was not the one she was waiting for.

(The secretary who brought him left hurriedly after the barest nod for Miss Fellowes. She was rushing for a good place from which to watch the climax of Project Middle Ages. -And so ought Miss Fellowes with far better reason, she thought bitterly, if only that stupid girl would arrive.)

Jerry Hoskins sidled toward her, embarrassed. "Miss Fellowes?" He took the reproduction of a news-strip out of his pocket.

"Yes? What is it, Jerry?"

"Is this a picture of Timmie?"

Miss Fellowes stared at him, then snatched the strip from Jerry's hand. The excitement of Project Middle Ages had brought about a pale revival of interest in Timmie on the part of the press.

Jerry watched her narrowly, then said, "It says Timmie is an ape-boy. What does that mean?"

Miss Fellowes caught the youngster's wrist and repressed the impulse to shake him. "Never say that, Jerry. Never, do you understand? It is a nasty word and you mustn't use it."

Jerry struggled out of her grip, frightened.

Miss Fellowes tore up the news-strip with a vicious twist of the wrist. "Now go inside and play with Timmie. He's got a new book to show you."

And then, finally, the girl appeared. Miss Fellowes did not know her. None of the usual stand-ins she had used when business took her elsewhere was available now, not with Project Middle Ages at climax, but Hoskins' secretary had promised to find someone and this must be the girl.

Miss Fellowes tried to keep querulousness out of her voice. "Are you the girl assigned to Stasis Section One?"

"Yes, I'm Mandy Terris. You're Miss Fellowes, aren't you?"

"That's right."

"I'm sorry I'm late. There's just so much excitement."

"I know. Now I want you-"

Mandy said, "You'll be watching, I suppose." Her thin, vacuously pretty face filled with envy.

"Never mind that. Now I want you to come inside and meet Timmie and Jerry. They will be playing for the next two hours so they'll be giving you no trouble. They've got milk handy and plenty of toys. In fact, it will be better if you leave them alone as much as possible. Now I'll show you where everything is located and-

"Is it Timmie that's the ape-b-"

"Timmie is the Stasis subject," said Miss Fellowes firmly.

"I mean, he's the one who's not supposed to get out, is that right?"

"Yes. Now, come in. There isn't much time."

And when she finally left, Mandy Terris called after her shrilly, "I hope you get a good seat and, golly, I sure hope it works."

Miss Fellowes did not trust herself to make a reasonable response. She hurried on without looking back.

But the delay meant she did not get a good seat. She got no nearer than the wall-viewing-plate in the assembly hall. Bitterly, she regretted that. If she could have been on the spot; if she could somehow have reached out for some sensitive portion of the instrumentations; if she were in some way able to wreck the experiment-

She found the strength to beat down her madness. Simple destruction would have done no good. They would have rebuilt and reconstructed and made the effort again. And she would never be allowed to return to Timmie.

Nothing would help. Nothing but that the experiment itself fail; that it break down irretrievably.

So she waited through the countdown, watching every move on the giant screen, scanning the faces of the technicians as the focus shifted from one to the other, watching for the look of worry and uncertainty that would mark something going unexpectedly wrong; watching, watching-

There was no such look. The count reached zero, and very quietly, very unassumingly, the experiment succeeded!

In the new Stasis that had been established there stood a bearded, stoop-shouldered peasant of indeterminate age, in ragged dirty clothing and wooden shoes, staring in dull horror at the sudden mad change that had flung itself over him.

And while the world went mad with jubilation, Miss Fellowes stood frozen in sorrow, jostled and pushed, all but trampled; surrounded by triumph while bowed down with defeat.

And when the loud-speaker called her name with strident force, it sounded it three times before she responded.

"Miss Fellowes. Miss Fellowes. You are wanted in Stasis Section One immediately. Miss Fellowes. Miss Fell-"

"Let me through!" she cried breathlessly, while the loud-speaker continued its repetitions without pause. She forced her way through the crowds with wild energy, beating at it, striking out with closed fists, flailing, moving toward the door in a nightmare slowness.

Mandy Terris was in tears. "I don't know how it happened. I just went down to the edge of the corridor to watch a pocket-viewing-plate they had put up. Just for a minute. And then before I could move or do anything-"

She cried out in sudden accusation, "You said they would make no trouble; you said to leave them alone-"

Miss Fellowes, disheveled and trembling uncontrollably, glared at her. "Where's Timmie?"

A nurse was swabbing the arm of a wailing Jerry with disinfectant and another was preparing an anti-tetanus shot. There was blood on Jerry's clothes.

"He bit me, Miss Fellowes," Jerry cried in rage. "He bit me."

But Miss Fellowes didn't even see him.

"What did you do with Timmie?" she cried out.

"I locked him in the bathroom," said Mandy. "I just threw the little monster in there and locked him in."

Miss Fellowes ran into the dollhouse. She fumbled at the bathroom door. It took an eternity to get it open and to find the ugly little boy cowering in the corner.

"Don't whip me, Miss Fellowes," he whispered. His eyes were red. His lips were quivering. "I didn't mean to do it."

"Oh, Timmie, who told you about whips?" She caught him to her, hugging him wildly.

He said tremulously, "She said, with a long rope. She said you would hit me and hit me."

"You won't be. She was wicked to say so. But what happened? What happened?"

"He called me an ape-boy. He said I wasn't a real boy. He said I was an animal." Timmie dissolved in a flood of tears. "He said he wasn't going to play with a monkey anymore. I said I wasn't a monkey; I wasn't a monkey. He said I was all funny-looking. He said I was horrible ugly. He kept saying and saying and I bit him."

They were both crying now. Miss Fellowes sobbed, "But it isn't true. You know that, Timmie. You're a real boy. You're a dear real boy and the best boy in the world. And no one, no one will ever take you away from me."

It was easy to make up her mind, now; easy to know what to do. Only it had to be done quickly. Hoskins wouldn't wait much longer, with his own son mangled-

No, it would have to be done this night, this night; with the place four-fifths asleep and the remaining fifth intellectually drunk over Project Middle Ages.

It would be an unusual time for her to return but not an unheard of one. The guard knew her well and would not dream of questioning her. He would think nothing of her carrying a suitcase. She rehearsed the noncommittal phrase, "Games for the boy," and the calm smile.

Why shouldn't he believe that?

He did. When she entered the dollhouse again, Timmie was still awake, and she maintained a desperate normality to avoid frightening him. She talked about his dreams with him and listened to him ask wistfully after Jerry.

There would be few to see her afterward, none to question the bundle she would be carrying. Timmie would be very quiet and then it would be a fait accompli. It would be done and what would be the use of trying to undo it. They would leave her be. They would leave them both be.

She opened the suitcase, took out the overcoat, the woolen cap with the ear-flaps and the rest.

Timmie said, with the beginning of alarm, "Why are you putting all these clothes on me, Miss Fellowes?"

She said, "I am going to take you outside, Timmie. To where your dreams are."

"My dreams?" His face twisted in sudden yearning, yet fear was there, too.

"You won't be afraid. You'll be with me. You won't be afraid if you're with me, will you, Timmie?"

"No, Miss Fellowes." He buried his little misshapen head against her side, and under her enclosing arm she could feel his small heart thud.

It was midnight and she lifted him into her arms. She disconnected the alarm and opened the door softly.

And she screamed, for facing her across the open door was Hoskins!

There were two men with him and he stared at her, as astonished as she.

Miss Fellowes recovered first by a second and made a quick attempt to push past him; but even with the second's delay he had time. He caught her roughly and hurled her back against a chest of drawers. He waved the men in and confronted her, blocking the door.

"I didn't expect this. Are you completely insane?"

She had managed to interpose her shoulder so that it, rather than Timmie, had struck the chest. She said pleadingly, "What harm can it do if I take him, Dr. Hoskins? You can't put energy loss ahead of a human life?"

Firmly, Hoskins took Timmie out of her arms. "An energy loss this size would mean millions of dollars lost out of the pockets of investors. It would mean a terrible setback for Stasis, Inc. It would mean eventual publicity about a sentimental nurse destroying all that for the sake of an ape-boy."

"Ape-boy!" said Miss Fellowes, in helpless fury.

"That's what the reporters would call him," said Hoskins.

One of the men emerged now, looping a nylon rope through eyelets along the upper portion of the wall.

Miss Fellowes remembered the rope that Hoskins had pulled outside the room containing Professor Ademewski's rock specimen so long ago.

She cried out, "No!"

But Hoskins put Timmie down and gently removed the overcoat he was wearing. "You stay here, Timmie. Nothing will happen to you. We're just going outside for a moment. All right?"

Timmie, white and wordless, managed to nod.

Hoskins steered Miss Fellowes out of the dollhouse ahead of himself. For the moment, Miss Fellowes was beyond resistance. Dully, she noticed the hand-pull being adjusted outside the dollhouse.

"I'm sorry, Miss Fellowes," said Hoskins. "I would have spared you this. I planned it for the night so that you would know only when it was over."

She said in a weary whisper, "Because your son was hurt. Because he tormented this child into striking out at him."

"No. Believe me. I understand about the incident today and I know it was Jerry's fault. But the story has leaked out. It would have to with the press surrounding us on this day of all days. I can't risk having a distorted story about negligence and savage

Neanderthalers, so-called, distract from the success of Project Middle Ages. Timmie has to go soon anyway; he might as well go now and give the sensationalists as small a peg as possible on which to hang their trash."

"It's not like sending a rock back. You'll be killing a human being."

"Not killing. There'll be no sensation. He'll simply be a Neanderthal boy in a Neanderthal world. He will no longer be a prisoner and alien. He will have a chance at a free life."

"What chance? He's only seven years old, used to being taken care of, fed, clothed, sheltered. He will be alone. His tribe may not be at the point where he left them now that four years have passed. And if they were, they would not recognize him. He will have to take care of himself. How will he know how?"

Hoskins shook his head in hopeless negative. "Lord, Miss Fellowes, do you think we haven't thought of that? Do you think we would have brought in a child if it weren't that it was the first successful fix of a human or near-human we made and that we did not dare to take the chance of unfixing him and finding another fix as good? Why do you suppose we kept Timmie as long as we did, if it were not for our reluctance to send a child back into the past? It's just"-his voice took on a desperate urgency-"that we can wait no longer. Timmie stands in the way of expansion! Timmie is a source of possible bad publicity; we are on the threshold of great things, and I'm sorry, Miss Fellowes, but we can't let Timmie block us. We cannot. We cannot. I'm sorry, Miss Fellowes."

"Well, then," said Miss Fellowes sadly. "Let me say good-by. Give me five minutes to say good-by. Spare me that much."

Hoskins hesitated. "Go ahead."

Timmie ran to her. For the last time he ran to her and for the last time Miss Fellowes clasped him in her arms.

For a moment, she hugged him blindly. She caught at a chair with the toe of one foot, moved it against the wall, sat down.

"Don't be afraid, Timmie."

"I'm not afraid if you're here, Miss Fellowes. Is that man mad at me, the man out there?"

"No, he isn't. He just doesn't understand about us. -Timmie, do you know what a mother is?"

"Like Jerry's mother?"

"Did he tell you about his mother?"

"Sometimes. I think maybe a mother is a lady who takes care of you and who's very nice to you and who does good things."

"That's right. Have you ever wanted a mother, Timmie?"

Timmie pulled his head away from her so that he could look into her face. Slowly, he put his hand to her cheek and hair and stroked her, as long, long ago she had stroked him. He said, "Aren't you my mother?"

"Oh, Timmie."

"Are you angry because I asked?"

"No. Of course not."

"Because I know your name is Miss Fellowes, but-but sometimes, I call you 'Mother' inside. Is that all right?"

"Yes. Yes. It's all right. And I won't leave you any more and nothing will hurt you. I'll be with you to care for you always. Call me Mother, so I can hear you."

"Mother," said Timmie contentedly, leaning his cheek against hers.

She rose, and, still holding him, stepped up on the chair. The sudden beginning of a shout from outside went unheard and, with her free hand, she yanked with all her weight at the cord where it hung suspended between two eyelets.

And Stasis was punctured and the room was empty.

NIGHTFALL

If the stars should appear one night in a thousand years, how would men believe and adore, and preserve for many generations the remembrance of the city of God?

EMERSON

Aton 77, director of Saro University, thrust out a belligerent lower lip and glared at the young newspaperman in a hot fury.

Theremon 762 took that fury in his stride. In his earlier days, when his now widely syndicated column was only a mad idea in a cub reporter's mind, he had specialized in 'impossible' interviews. It had cost him bruises, black eyes, and broken bones; but it had given him an ample supply of coolness and self-confidence. So he lowered the outthrust hand that had been so pointedly ignored and calmly waited for the aged director to get over the worst. Astronomers were queer ducks, anyway, and if Aton's actions of the last two months meant anything; this same Aton was the queer-duckiest of the lot.

Aton 77 found his voice, and though it trembled with restrained emotion, the careful, somewhat pedantic phraseology, for which the famous astronomer was noted, did not abandon him.

'Sir,' he said, 'you display an infernal gall in coming to me with that impudent proposition of yours.' The husky telephotographer of the Observatory, Beenay 25, thrust a tongue's tip across dry lips and interposed nervously, 'Now, sir, after all -- '

The director turned to him and lifted a white eyebrow.

'Do not interfere, Beenay. I will credit you with good intentions in bringing this man here; but I will tolerate no insubordination now.'

Theremon decided it was time to take a part. 'Director Aton, if you'll let me finish what I started saying, I think -- '

'I don't believe, young man,' retorted Aton, 'that anything you could say now would count much as compared with your daily columns of these last two months. You have led a vast newspaper campaign against the efforts of myself and my colleagues to organize the world against the menace which it is now too late to avert. You have done your best with your highly personal attacks to make the staff of this Observatory objects of ridicule.'

The director lifted a copy of the Saro City Chronicle from the table and shook it at Theremon furiously. 'Even a person of your well-known impudence should have hesitated before coming to me with a request that he be allowed to cover today's events for his paper. Of all newsmen, you!'

Aton dashed the newspaper to the floor, strode to the window, and clasped his arms behind his back.

'You may leave,' he snapped over his shoulder. He stared moodily out at the skyline where Gamma, the brightest of the planet's six suns, was setting. It had already faded and yellowed into the horizon mists, and Aton knew he would never see it again as a sane man. He whirled. 'No, wait, come here!' He gestured peremptorily. 'I'll give you your story.'

The newsman had made no motion to leave, and now he approached the old man slowly. Aton gestured outward.

'Of the six suns, only Beta is left in the sky. Do you see it?'

The question was rather unnecessary. Beta was almost at zenith, its ruddy light flooding the landscape to an unusual orange as the brilliant rays of setting Gamma died. Beta was at aphelion. It was small; smaller than Theremon had ever seen it before, and for the moment it was undisputed ruler of Lagash's sky.

Lagash's own sun. Alpha, the one about which it revolved, was at the antipodes, as were the two distant companion pairs. The red dwarf Beta -- Alpha's immediate companion -- was alone, grimly alone.

Aton's upturned face flushed redly in the sunlight. 'In just under four hours,' he said, 'civilization, as we know it, comes to an end. It will do so because, as you see. Beta is the only sun in the sky.' He smiled grimly. 'Print that! There'll be no one to read it.'

'But if it turns out that four hours pass -- and another four -- and nothing happens?' asked Theremon softly.

'Don't let that worry you. Enough will happen.'

'Granted! And still -- if nothing happens?'

For a second time, Beenay 25 spoke. 'Sir, I think you ought to listen to him.'

Theremon said, 'Put it to a vote, Director Aton.'

There was a stir among the remaining five members of the Observatory staff, who till now had maintained an attitude of wary neutrality.

'That,' stated Aton flatly, 'is not necessary.' He drew out his pocket watch. 'Since your good friend, Beenay, insists so urgently, I will give you five minutes. Talk away.'

'Good! Now, just what difference would it make if you allowed me to take down an eyewitness account of what's to come? If your prediction comes true, my presence won't hurt; for in that case my column would never be written. On the other hand, if nothing comes of it, you will just have to expect ridicule or worse. It would be wise to leave that ridicule to friendly hands.'

Aton snorted. 'Do you mean yours when you speak of friendly hands?'

'Certainly!' Theremon sat down and crossed his legs.

'My columns may have been a little rough, but I gave you people the benefit of the doubt every time. After all. this is not the century to preach "The end of the world is at hand" to Lagash. You have to understand that people don't believe the Book of Revelations anymore, and it annoys them to have scientists turn aboutface and tell us the Cultists are right after all -- '

'No such thing, young man,' interrupted Aton. 'While a great deal of our data has been supplied us by the Cult, our results contain none of the Cult's mysticism. Facts are

facts, and the Cult's so-called mythology has certain facts behind it. We've exposed them and ripped away their mystery. I assure you that the Cult hates us now worse than you do.'

'I don't hate you. I'm just trying to tell you that the public is in an ugly humor. They're angry.'

Aton twisted his mouth in derision. 'Let them be angry.'

'Yes, but what about tomorrow?'

'There'll be no tomorrow!'

'But if there is. Say that there is -- just to see what happens. That anger might take shape into something serious. After all, you know, business has taken a nosedive these last two months. Investors don't really believe the world is coming to an end, but just the same they're being cagy with their money until it's all over. Johnny Public doesn't believe you, either, but the new spring furniture might just as well wait a few months -- just to make sure.

'You see the point. Just as soon as this is all over, the business interests will be after your hide. They'll say that if crackpots -- begging your pardon -- can upset the country's prosperity any time they want, simply by making some cockeyed prediction -- it's up to the planet to prevent them. The sparks will fly, sir.'

The director regarded the columnist sternly. 'And just what were you proposing to do to help the situation?'

'Well' -- Theremon grinned -- 'I was proposing to take charge of the publicity. I can handle things so that only the ridiculous side will show. It would be hard to stand, I admit, because I'd have to make you all out to be a bunch of gibbering idiots, but if I can get people laughing at you, they might forget to be angry. In return for that, all my publisher asks is an exclusive story.'

Beenay nodded and burst out, 'Sir, the rest of us think he's right. These last two months we've considered everything but the million-to-one chance that there is an error somewhere in our theory or in our calculations. We ought to take care of that, too.'

There was a murmur of agreement from the men grouped about the table, and Aton's expression became that of one who found his mouth full of something bitter and couldn't get rid of it.

'You may stay if you wish, then. You will kindly refrain, however, from hampering us in our duties in any way. You will also remember that I am in charge of all activities here, and in spite of your opinions as expressed in your columns, I will expect full cooperation and full respect -- '

His hands were behind his back, and his wrinkled face thrust forward determinedly as he spoke. He might have continued indefinitely but for the intrusion of a new voice.

'Hello, hello, hello!' It came in a high tenor, and the plump cheeks of the newcomer expanded in a pleased smile. 'What's this morgue-like atmosphere about here? No one's losing his nerve, I hope.'

Aton started in consternation and said peevishly, 'Now what the devil are you doing here, Sheerin? I thought you were going to stay behind in the Hideout.'

Sheerin laughed and dropped his stubby figure into a chair. 'Hideout be blown! The place bored me. I wanted to be here, where things are getting hot. Don't you suppose I have my share of curiosity? I want to see these Stars the Cultists are forever speaking about.' He rubbed his hands and added in a soberer tone. 'It's freezing outside. The wind's enough to hang icicles on your nose. Beta doesn't seem to give any heat at all, at the distance it is.'

The white-haired director ground his teeth in sudden exasperation. 'Why do you go out of your way to do crazy things, Sheerin? What kind of good are you around here?'

'What kind of good am I around there?' Sheerin spread his palms in comical resignation. 'A psychologist isn't worth his salt in the Hideout. They need men of action and strong, healthy women that can breed children. Me? I'm a hundred pounds too heavy for a man of action, and I wouldn't be a success at breeding children. So why bother them with an extra mouth to feed? I feel better over here.'

Theremon spoke briskly. 'Just what is the Hideout, sir?'

Sheerin seemed to see the columnist for the first time. He frowned and blew his ample cheeks out. 'And just who in Lagash are you, redhead?'

Aton compressed his lips and then muttered sullenly, 'That's Theremon 762, the newspaper fellow. I suppose you've heard of him.'

The columnist offered his hand. 'And, of course, you're Sheerin 501 of Saro University. I've heard of you.' Then he repeated, 'What is this Hideout, sir?'

'Well,' said Sheerin, 'we have managed to convince a few people of the validity of our prophecy of -- er -- doom, to be spectacular about it, and those few have taken proper measures. They consist mainly of the immediate members of the families of the Observatory staff, certain of the faculty of Saro University, and a few outsiders. Altogether, they number about three hundred, but three quarters are women and children.'

'I see! They're supposed to hide where the Darkness and the -- er -- Stars can't get at them, and then hold out when the rest of the world goes poof.'

'If they can. It won't be easy. With all of mankind insane, with the great cities going up in flames -- environment will not be conducive to survival. But they have food, water, shelter, and weapons -- '

'They've got more,' said Aton. 'They've got all our records, except for What we will collect today. Those records will mean everything to the next cycle, and that's what must survive. The rest can go hang.'

Theremon uttered a long, low whistle and sat brooding for several minutes. The men about the table had brought out a multi-chess board and started a six-member game. Moves were made rapidly and in silence. All eyes bent in furious concentration on the board. Theremon watched them intently and then rose and approached Aton, who sat apart in whispered conversation with Sheerin.

'Listen,' he said, 'let's go somewhere where we won't bother the rest of the fellows. I want to ask some questions.'

The aged astronomer frowned sourly at him, but Sheerin chirped up, 'Certainly. It will do me good to talk. It always does. Aton was telling me about your ideas concerning world reaction to a failure of the prediction -- and I agree with you. I read your column pretty regularly, by the way, and as a general thing I like your views.'

'Please, Sheerin,' growled Aton.

'Eh? Oh, all right. We'll go into the next room. It has softer chairs, anyway.'

There were softer chairs in the next room. There were also thick red curtains on the windows and a maroon carpet on the floor. With the bricky light of Beta pouring in, the general effect was one of dried blood.

Theremon shuddered. 'Say, I'd give ten credits for a decent dose of white light for just a second. I wish Gamma or Delta were in the sky.'

'What are your questions?' asked Aton. 'Please remember that our time is limited. In a little over an hour and a quarter we're going upstairs, and after that there will be no time for talk.'

'Well, here it is.' Theremon leaned back and folded his hands on his chest. 'You people seem so all-fired serious about this that I'm beginning to believe you. Would you mind explaining what it's all about?'

Aton exploded, 'Do you mean to sit there and tell me that you've been bombarding us with ridicule without even finding out what we've been trying to say?'

The columnist grinned sheepishly. 'It's not that bad, sir. I've got the general idea. You say there is going to be a world-wide Darkness in a few hours and that all mankind will go violently insane. What I want now is the science behind it.'

'No, you don't. No, you don't,' broke in Sheerin. 'If you ask Aton for that -- supposing him to be in the mood to answer at all -- he'll trot out pages of figures and volumes of graphs. You won't make head or tail of it. Now if you were to ask me, I could give you the layman's standpoint.'

'All right; I ask you.'

'Then first I'd like a drink.' He rubbed his hands and looked at Aton.

'Water?' grunted Aton.

'Don't be silly!'

'Don't you be silly. No alcohol today. It would be too easy to get my men drunk. I can't afford to tempt them.'

The psychologist grumbled wordlessly. He turned to Theremon, impaled him with his sharp eyes, and began.

'You realize, of course, that the history of civilization on Lagash displays a cyclic character -- but I mean cyclic!'

'I know,' replied Theremon cautiously, 'that that is the current archaeological theory. Has it been accepted as a fact?'

'Just about. In this last century it's been generally agreed upon. This cyclic character is -- or rather, was -- one of the great mysteries. We've located series of civilizations, nine of them definitely, and indications of others as well, all of which have

reached heights comparable to our own, and all of which, without exception, were destroyed by fire at the very height of their culture.

'And no one could tell why. All centers of culture were thoroughly gutted by fire, with nothing left behind to give a hint as to the cause.'

Theremon was following closely. 'Wasn't there a Stone Age, too?'

'Probably, but as yet practically nothing is known of it, except that men of that age were little more than rather intelligent apes. We can forget about that.'

'I see. Go on!'

There have been explanations of these recurrent catastrophes, all of a more or less fantastic nature. Some say that there are periodic rains of fire; some that Lagash passes through a sun every so often; some even wilder things. But there is one theory, quite different from all of these, that has been handed down over a period of centuries.'

'I know. You mean this myth of the "Stars" that the Cultists have in their Book of Revelations.'

'Exactly,' rejoined Sheerin with satisfaction. 'The Cultists said that every two thousand and fifty years Lagash entered a huge cave, so that all the suns disappeared, and there came total darkness all over the world! And then, they say, things called Stars appeared, which robbed men of their souls and left them unreasoning brutes, so that they destroyed the civilization they themselves had built up. Of course they mix all this up with a lot of religio-mystic notions, but that's the central idea.'

There was a short pause in which Sheerin drew a long breath. 'And now we come to the Theory of Universal Gravitation.' He pronounced the phrase so that the capital letters sounded -- and at that point Aton turned from the window, snorted loudly, and stalked out of the room.

The two stared after him, and Theremon said, 'What's wrong?'

'Nothing in particular,' replied Sheerin. 'Two of the men were due several hours ago and haven't shown up yet. He's terrifically short-handed, of course, because all but the really essential men have gone to the Hideout.'

'You don't think the two deserted, do you?'

'Who? Faro and Yimot? Of course not. Still, if they're not back within the hour, things would be a little sticky.' He got to his feet suddenly, and his eyes twinkled.

'Anyway, as long as Aton is gone -- '

Tiptoeing to the nearest window, he squatted, and from the low window box beneath withdrew a bottle of red liquid that gurgled suggestively when he shook it.

'I thought Aton didn't know about this,' he remarked as he trotted back to the table. 'Here! We've only got one glass so, as the guest, you can have it. I'll keep the bottle.'

And he filled the tiny cup with judicious care. Theremon rose to protest, but Sheerin eyed him sternly.

'Respect your elders, young man.'

The newsman seated himself with a look of anguish on his face. 'Go ahead, then, you old villain.'

The psychologist's Adam's apple wobbled as the bottle upended, and then, with a satisfied grunt and a smack of the lips, he began again. 'But what do you know about gravitation?'

'Nothing, except that it is a very recent development, not too well established, and that the math is so hard that only twelve men in Lagash are supposed to understand it.'

'Tcha! Nonsense! Baloney! I can give you all the essential math in a sentence. The Law of Universal Gravitation states that there exists a cohesive force among all bodies of the universe, such that the amount of this force between any two given bodies is proportional to the product of their masses divided by the square of the distance between them.'

'Is that all?'

'That's enough! It took four hundred years to develop it.'

'Why that long? It sounded simple enough, the way you said it.'

'Because great laws are not divined by flashes of inspiration, whatever you may think. It usually takes the combined work of a world full of scientists over a period of centuries. After Genovi 4I discovered that Lagash rotated about the sun Alpha rather than vice versa -- and that was four hundred years ago -- astronomers have been working. The complex motions of the six suns were recorded and analyzed and unwoven. Theory after theory was advanced and checked and counterchecked and modified and abandoned and revived and converted to something else. It was a devil of a job.'

Theremon nodded thoughtfully and held out his glass for more liquor. Sheerin grudgingly allowed a few ruby drops to leave the bottle.

'It was twenty years ago,' he continued after remoistening his own throat, 'that it was finally demonstrated that the Law of Universal Gravitation accounted exactly for the orbital motions of the six suns. It was a great triumph.'

Sheerin stood up and walked to the window, still clutching his bottle. 'And now we're getting to the point. In the last decade, the motions of Lagash about Alpha were computed according to gravity, and it did not account for the orbit observed; not even when all perturbations due to the other suns were included. Either the law was invalid, or there was another, as yet unknown, factor involved.'

Theremon joined Sheerin at the window and gazed out past the wooded slopes to where the spires of Saro City gleamed bloodily on the horizon. The newsman felt the tension of uncertainty grow within him as he cast a short glance at Beta. It glowered redly at zenith, dwarfed and evil.

'Go ahead, sir,' he said softly.

Sheerin replied, 'Astronomers stumbled about for year, each proposed theory more untenable than the one before -- until Aton had the inspiration of calling in the Cult. The head of the Cult, Sor 5, had access to certain data that simplified the problem considerably. Aton set to work on a new track.'

'What if there were another nonluminous planetary body such as Lagash? If there were, you know, it would shine only by reflected light, and if it were composed of bluish

rock, as Lagash itself largely is, then, in the redness of the sky, the eternal blaze of the suns would make it invisible -- drown it out completely.'

Theremon whistled. 'What a screwy idea!'

'You think that's screwy? Listen to this: Suppose this body rotated about Lagash at such a distance and in such an orbit and had such a mass that its attention would exactly account for the deviations of Lagash's orbit from theory -- do you know what would happen?'

The columnist shook his head.

'Well, sometimes this body would get in the way of a sun.' And Sheerin emptied what remained in the bottle at a draft.

'And it does, I suppose,' said Theremon flatly.

'Yes! But only one sun lies in its plane of revolution.' He jerked a thumb at the shrunken sun above. 'Beta! And it has been shown that the eclipse will occur only when the arrangement of the suns is such that Beta is alone in its hemisphere and at maximum distance, at which time the moon is invariably at minimum distance. The eclipse that results, with the moon seven times the apparent diameter of Beta, covers all of Lagash and lasts well over half a day, so that no spot on the planet escapes the effects. That eclipse comes once every two thousand and forty-nine years.'

Theremon's face was drawn into an expressionless mask.

'And that's my story?'

The psychologist nodded. 'That's all of it. First the eclipse -- which will start in three quarters of an hour -- then universal Darkness and, maybe, these mysterious Stars -- then madness, and end of the cycle.'

He brooded. 'We had two months' leeway -- we at the Observatory -- and that wasn't enough time to persuade Lagash of the danger. Two centuries might not have been enough. But our records are at the Hideout, and today we photograph the eclipse. The next cycle will start off with the truth, and when the next eclipse comes, mankind will at last be ready for it. Come to think of it, that's part of your story too.'

A thin wind ruffled the curtains at the window as Theremon opened it and leaned out. It played coldly with his hair as he stared at the crimson sunlight on his hand. Then he turned in sudden rebellion.

'What is there in Darkness to drive me mad?'

Sheerin smiled to himself as he spun the empty liquor bottle with abstracted motions of his hand. 'Have you ever experienced Darkness, young man?'

The newsman leaned against the wall and considered. 'No. Can't say I have. But I know what it is. Just -- uh -- ' He made vague motions with his fingers and then brightened. 'Just no light. Like in caves.', 'Have you ever been in a cave? '

'In a cave! Of course not!'

'I thought not. I tried last week -- just to see -- but I got out in a hurry. I went in until the mouth of the cave was just visible as a blur of light, with black everywhere else. I never thought a person my weight could run that fast.'

Theremon's lip curled. 'Well, if it comes to that, I guess I wouldn't have run if I had been there.'

The psychologist studied the young man with an annoyed frown.

'My, don't you talk big! I dare you to draw the curtain.'

Theremon looked his surprise and said, 'What for? If we had four or five suns out there, we might want to cut the light down a bit for comfort, but now we haven't enough light as it is.'

'That's the point. Just draw the curtain; then come here and sit down.'

'All right.' Theremon reached for the tasseled string and jerked. The red curtain slid across the wide window, the brass rings hissing their way along the crossbar, and a dusk-red shadow clamped down on the room.

Theremon's footsteps sounded hollowly in the silence as he made his way to the table, and then they stopped halfway. 'I can't see you, sir,' he whispered.

'Feel your way,' ordered Sheerin in a strained voice.

'But I can't see you, sir.' The newsman was breathing harshly. 'I can't see anything.'

'What did you expect?' came the grim reply. 'Come here and sit down!'

The footsteps sounded again, waveringly, approaching slowly. There was the sound of someone fumbling with a chair. Theremon's voice came thinly, 'Here I am. I feel . . . ulp . . . all right.'

'You like it, do you?'

'N -- no. It's pretty awful. The walls seem to be -- ' He paused. 'They seem to be closing in on me. I keep wanting to push them away. But I'm not going mad! In fact, the feeling isn't as bad as it was.'

'All right. Draw the curtain back again.'

There were cautious footsteps through the dark, the rustle of Theremon's body against the curtain as he felt for the tassel, and then the triumphant roo-osh of the curtain slithering back. Red light flooded the room, and with a cry of joy Theremon looked up at the sun.

Sheerin wiped the moistness off his forehead with the back of a hand and said shakily, 'And that was just a dark room.'

'It can be stood,' said Theremon lightly.

'Yes, a dark room can. But were you at the Jonglor Centennial Exposition two years ago?'

'No, it so happens I never got around to it. Six thousand miles was just a bit too much to travel, even for the exposition.'

'Well, I was there. You remember hearing about the "Tunnel of Mystery" that broke all records in the amusement area -- for the first month or so, anyway?'

'Yes. Wasn't there some fuss about it?'

'Very little. It was hushed up. You see, that Tunnel of Mystery was just a mile-long tunnel -- with no lights. You got into a little open car and jolted along through Darkness for fifteen minutes. It was very popular -- while it lasted.'

'Popular?'

'Certainly. There's a fascination in being frightened when it's part of a game. A baby is born with three instinctive fears: of loud noises, of falling, and of the absence of light. That's why it's considered so funny to jump at someone and shout "Boo!" That's why it's such fun to ride a roller coaster. And that's why that Tunnel of Mystery started cleaning up. People came out of that Darkness shaking, breathless, half dead with fear, but they kept on paying to get in.'

'Wait a while, I remember now. Some people came out dead, didn't they? There were rumors of that after it shut down.'

The psychologist snorted. 'Bah! Two or three died. That was nothing! They paid off the families of the dead ones and argued the Jonglor City Council into forgetting it. After all, they said, if people with weak hearts want to go through the tunnel, it was at their own risk -- and besides, it wouldn't happen again. So they put a doctor in the front office and had every customer go through a physical examination before getting into the car. That actually boosted ticket sales.'

'Well, then?'

'But you see, there was something else. People sometimes came out in perfect order, except that they refused to go into buildings -- any buildings; including palaces, mansions, apartment houses, tenements, cottages, huts, shacks, lean-tos, and tents.'

Theremon looked shocked. 'You mean they refused to come in out of the open? Where'd they sleep?'

'In the open.'

'They should have forced them inside.'

'Oh, they did, they did. Whereupon these people went into violent hysterics and did their best to bat their brains out against the nearest wall. Once you got them inside, you couldn't keep them there without a strait jacket or a heavy dose of tranquilizer.'

'They must have been crazy.'

'Which is exactly what they were. One person out of every ten who went into that tunnel came out that way. They called in the psychologists, and we did the only thing possible. We closed down the exhibit.' He spread his hands.

'What was the matter with these people?' asked Theremon finally.

'Essentially the same thing that was the matter with you when you thought the walls of the room were crushing in on you in the dark. There is a psychological term for mankind's instinctive fear of the absence of light. We call it "claustrophobia", because the lack of light is always tied up with enclosed places, so that fear of one is fear of the other. You see?'

'And those people of the tunnel?'

'Those people of the tunnel consisted of those unfortunates whose mentality did not quite possess the resiliency to overcome the claustrophobia that overtook them in the Darkness. Fifteen minutes without light is a long time; you only had two or three minutes, and I believe you were fairly upset.'

'The people of the tunnel had what is called a "claustrophobic fixation". Their latent fear of Darkness and enclosed places had crystalized and become active, and, as far as we can tell, permanent. That's what fifteen minutes in the dark will do.'

There was a long silence, and Theremon's forehead wrinkled slowly into a frown. 'I don't believe it's that bad.'

'You mean you don't want to believe,' snapped Sheerin. 'You're afraid to believe. Look out the window!'

Theremon did so, and the psychologist continued without pausing. 'Imagine Darkness -- everywhere. No light, as far as you can see. The houses, the trees, the fields, the earth, the sky -- black! And Stars thrown in, for all I know -- whatever they are. Can you conceive it?'

'Yes, I can,' declared Theremon truculently.

And Sheerin slammed his fist down upon the table in sudden passion. 'You lie! You can't conceive that. Your brain wasn't built for the conception any more than it was built for the conception of infinity or of eternity. You can only talk about it. A fraction of the reality upsets you, and when the real thing comes, your brain is going to be presented with the phenomenon outside its limits of comprehension. You will go mad, completely and permanently! There is no question of it!'

He added sadly, 'And another couple of millennia of painful struggle comes to nothing. Tomorrow there won't be a city standing unharmed in all Lagash.'

Theremon recovered part of his mental equilibrium. 'That doesn't follow. I still don't see that I can go loony just because there isn't a sun in the sky -- but even if I did, and everyone else did, how does that harm the cities? Are we going to blow them down?'

But Sheerin was angry, too. 'If you were in Darkness, what would you want more than anything else; what would it be that every instinct would call for? Light, damn you, light!'

'Well?'

'And how would you get light?'

'I don't know,' said Theremon flatly.

'What's the only way to get light, short of a sun?'

'How should I know?'

They were standing face to face and nose to nose.

Sheerin said, 'You burn something, mister. Ever see a forest fire? Ever go camping and cook a stew over a wood fire? Heat isn't the only thing burning wood gives off, you know. It gives off light, and people know that. And when it's dark they want light, and they're going to get it.'

'So they burn wood?'

'So they burn whatever they can get. They've got to have light. They've got to burn something, and wood isn't handy -- so they'll burn whatever is nearest. They'll have their light -- and every center of habitation goes up in flames!'

Eyes held each other as though the whole matter were a personal affair of respective will powers, and then Theremon broke away wordlessly. His breathing was

harsh and ragged, and he scarcely noted the sudden hubbub that came from the adjoining room behind the closed door.

Sheerin spoke, and it was with an effort that he made it sound matter-of-fact. 'I think I heard Yimot's voice. He and Faro are probably back. Let's go in and see what kept them.'

'Might as well!' muttered Theremon. He drew a long breath and seemed to shake himself. The tension was broken.

The room was in an uproar, with members of the staff clustering about two young men who were removing outer garments even as they parried the miscellany of questions being thrown at them.

Aton hustled through the crowd and faced the newcomers angrily. 'Do you realize that it's less than half an hour before deadline? Where have you two been?'

Faro 24 seated himself and rubbed his hands. His cheeks were red with the outdoor chill. 'Yimot and I have just finished carrying through a little crazy experiment of our own. We've been trying to see if we couldn't construct an arrangement by which we could simulate the appearance of Darkness and Stars so as to get an advance notion as to how it looked.'

There was a confused murmur from the listeners, and a sudden look of interest entered Aton's eyes. 'There wasn't anything said of this before. How did you go about it?'

'Well,' said Faro, 'the idea came to Yimot and myself long ago, and we've been working it out in our spare time. Yimot knew of a low one-story house down in the city with a domed roof -- it had once been used as a museum, I think. Anyway, we bought it -- '

'Where did you get the money?' interrupted Aton peremptorily.

'Our bank accounts,' grunted Yimot 70. 'It cost two thousand credits.' Then, defensively, 'Well, what of it? Tomorrow, two thousand credits will be two thousand pieces of paper. That's all.'

'Sure.' agreed Faro. 'We bought the place and rigged it up with black velvet from top to bottom so as to get as perfect a Darkness as possible. Then we punched tiny holes in the ceiling and through the roof and covered them with little metal caps, all of which could be shoved aside simultaneously at the close of a switch. At least we didn't do that part ourselves; we got a carpenter and an electrician and some others -- money didn't count. The point was that we could get the light to shine through those holes in the roof, so that we could get a starlike effect.'

Not a breath was drawn during the pause that followed. Aton said stiffly, 'You had no right to make a private -- '

Faro seemed abashed. 'I know, sir -- but frankly, Yimot and I thought the experiment was a little dangerous. If the effect really worked, we half expected to go mad -- from what Sheerin says about all this, we thought that would be rather likely. We wanted to take the risk ourselves. Of course if we found we could retain sanity, it occurred to us that we might develop immunity to the real thing, and then expose the rest of you the same way. But things didn't work out at all -- '

'Why, what happened?'

It was Yimot who answered. 'We shut ourselves in and allowed our eyes to get accustomed to the dark. It's an extremely creepy feeling because the total Darkness makes you feel as if the walls and ceiling are crushing in on you. But we got over that and pulled the switch. The caps fell away and the roof glittered all over with little dots of light -- '

'Well?'

'Well -- nothing. That was the whacky part of it. Nothing happened. It was just a roof with holes in it, and that's just what it looked like. We tried it over and over again -- that's what kept us so late -- but there just isn't any effect at all.'

There followed a shocked silence, and all eyes turned to Sheerin, who sat motionless, mouth open.

Theremon was the first to speak. 'You know what this does to this whole theory you've built up, Sheerin, don't you?' He was grinning with relief.

But Sheerin raised his hand. 'Now wait a while. Just let me think this through.' And then he snapped his fingers, and when he lifted his head there was neither surprise nor uncertainty in his eyes. 'Of course -- '

He never finished. From somewhere up above there sounded a sharp clang, and Beenay, starting to his feet, dashed up the stairs with a 'What the devil!'

The rest followed after.

Things happened quickly. Once up in the dome, Beenay cast one horrified glance at the shattered photographic plates and at the man bending over them; and then hurled himself fiercely at the intruder, getting a death grip on his throat. There was a wild threshing, and as others of the staff joined in, the stranger was swallowed up and smothered under the weight of half a dozen angry men.

Aton came up last, breathing heavily. 'Let him up!'

There was a reluctant unscrambling and the stranger, panting harshly, with his clothes torn and his forehead bruised, was hauled to his feet. He had a short yellow beard curled elaborately in the style affected by the Cultists. Beenay shifted his hold to a collar grip and shook the man savagely. 'All right, rat, what's the idea? These plates -- '

'I wasn't after them,' retorted the Cultist coldly. 'That was an accident.'

Beenay followed his glowering stare and snarled, 'I see. You were after the cameras themselves. The accident with the plates was a stroke of luck for you, then. If you had touched Snapping Bertha or any of the others, you would have died by slow torture. As it is -- ' He drew his fist back.

Aton grabbed his sleeve. 'Stop that! Let him go!'

The young technician wavered, and his arm dropped reluctantly. Aton pushed him aside and confronted the Cultist. 'You're Latimer, aren't you?'

The Cultist bowed stiffly and indicated the symbol upon his hip. 'I am Latimer 25, adjutant of the third class to his serenity, Sor 5.'

'And' -- Aton's white eyebrows lifted -- 'you were with his serenity when he visited me last week, weren't you?'

Latimer bowed a second time.

'Now, then, what do you want?'

'Nothing that you would give me of your own free will.'

'Sor 5 sent you, I suppose -- or is this your own idea?'

'I won't answer that question.'

'Will there be any further visitors?'

'I won't answer that, either.'

Aton glanced at his timepiece and scowled. 'Now, man, what is it your master wants of me? I have fulfilled my end of the bargain.'

Latimer smiled faintly, but said nothing.

'I asked him,' continued Aton angrily, 'for data only the Cult could supply, and it was given to me. For that, thank you. In return I promised to prove the essential truth of the creed of the Cult.'

'There was no need to prove that,' came the proud retort. It stands proven by the Book of Revelations.'

'For the handful that constitute the Cult, yes. Don't pretend to mistake my meaning. I offered to present scientific backing for your beliefs. And I did!'

The Cultist's eyes narrowed bitterly. 'Yes, you did -- with a fox's subtlety, for your pretended explanation backed our beliefs, and at the same time removed all necessity for them. You made of the Darkness and of the Stars a natural phenomenon and removed all its real significance. That was blasphemy.'

'If so, the fault isn't mine. The facts exist. What can I do but state them?'

'Your "facts" are a fraud and a delusion.'

Aton stamped angrily. 'How do you know?'

And the answer came with the certainty of absolute faith. 'I know!'

The director purpled and Beenay whispered urgently. Aton waved him silent. 'And what does Sor 5 want us to do? He still thinks. I suppose, that in trying to warn the world to take measures against the menace of madness, we are placing innumerable souls in jeopardy. We aren't succeeding, if that means anything to him.'

'The attempt itself has done harm enough, and your vicious effort to gain information by means of your devilish instruments must be stopped. We obey the will of the Stars, and I only regret that my clumsiness prevented me from wrecking your infernal devices.'

'It wouldn't have done you too much good,' returned Aton. 'All our data, except for the direct evidence we intend collecting right now, is already safely cached and well beyond possibility of harm.' He smiled grimly. 'But that does not affect your present status as an attempted burglar and criminal.'

He turned to the men behind him. 'Someone call the police at Saro City.'

There was a cry of distaste from Sheerin. 'Damn it, Aton, what's wrong with you? There's no time for that. Here' -- he hustled his way forward -- 'let me handle this.'

Aton stared down his nose at the psychologist. 'This is not the time for your monkeyshines, Sheerin. Will you please let me handle this my own way? Right now you are a complete outsider here, and don't forget it.'

Sheerin's mouth twisted eloquently. 'Now why should we go to the impossible trouble of calling the police -- with Beta's eclipse a matter of minutes from now -- when this young man here is perfectly willing to pledge his word of honor to remain and cause no trouble whatsoever?'

The Cultist answered promptly, 'I will do no such thing. You're free to do what you want, but it's only fair to warn you that just as soon as I get my chance I'm going to finish what I came out here to do. If it's my word of honor you're relying on, you'd better call the police.'

Sheerin smiled in a friendly fashion. 'You're a determined cuss, aren't you? Well, I'll explain something. Do you see that young man at the window? He's a strong, husky fellow, quite handy with his fists, and he's an outsider besides. Once the eclipse starts there will be nothing for him to do except keep an eye on you. Besides him, there will be myself -- a little too stout for active fisticuffs, but still able to help.'

'Well, what of it?' demanded Latimer frozenly.

'Listen and I'll tell you,' was the reply. 'Just as soon as the eclipse starts, we're going to take you, Theremon and I, and deposit you in a little closet with one door, to which is attached one giant lock and no windows. You will remain there for the duration.'

'And afterward,' breathed Latimer fiercely, 'there'll be no one to let me out. I know as well as you do what the coming of the Stars means -- I know it far better than you. With all your minds gone, you are not likely to free me. Suffocation or slow starvation, is it? About what I might have expected from a group of scientists. But I don't give my word. It's a matter of principle, and I won't discuss it further.'

Aton seemed perturbed. His faded eyes were troubled.

'Really, Sheerin, locking him -- '

'Please!' Sheerin motioned him impatiently to silence. 'I don't think for a moment things will go that far. Latimer has just tried a clever little bluff, but I'm not a psychologist just because I like the sound of the word.' He grinned at the Cultist. 'Come now, you don't really think I'm trying anything as crude as slow starvation. My dear Latimer, if I lock you in the closet, you are not going to see the Darkness, and you are not going to see the Stars. It does not take much knowledge of the fundamental creed of the Cult to realize that for you to be hidden from the Stars when they appear means the loss of your immortal soul. Now, I believe you to be an honorable man. I'll accept your word of honor to make no further effort to disrupt proceedings, if you'll offer it.'

A vein throbbed in Latimer's temple, and he seemed to shrink within himself as he said thickly, 'You have it!' And then he added with swift fury. 'But it is my consolation that you will all be damned for your deeds of today.' He turned on his heel and stalked to the high three-legged stool by the door.

Sheerin nodded to the columnist. 'Take a seat next to him, Theremon -- just as a formality. Hey, Theremon!'

But the newspaperman didn't move. He had gone pale to the lips. 'Look at that!' The finger he pointed toward the sky shook, and his voice was dry and cracked.

There was one simultaneous gasp as every eye followed the pointing finger and, for one breathless moment, stared frozenly.

Beta was chipped on one side!

The tiny bit of encroaching blackness was perhaps the width of a fingernail, but to the staring watchers it magnified itself into the crack of doom.

Only for a moment they watched, and after that there was a shrieking confusion that was even shorter of duration and which gave way to an orderly scurry of activity -- each man at his prescribed job. At the crucial moment there was no time for emotion. The men were merely scientists with work to do. Even Aton had melted away.

Sheerin said prosaically. 'First contact must have been made fifteen minutes ago. A little early, but pretty good considering the uncertainties involved in the calculation.' He looked about him and then tiptoed to Theremon, who still remained staring out the window, and dragged him away gently.

'Aton is furious,' he whispered, 'so stay away. He missed first contact on account of this fuss with Latimer, and if you get in his way he'll have you thrown out the window.'

Theremon nodded shortly and sat down. Sheerin stared in surprise at him.

'The devil, man,' he exclaimed, 'you're shaking.'

'Eh?' Theremon licked dry lips and then tried to smile. 'I don't feel very well, and that's a fact.'

The psychologist's eyes hardened. 'You're not losing your nerve?'

'No!' cried Theremon in a flash of indignation. 'Give me a chance, will you? I haven't really believed this rigmarole -- not way down beneath, anyway -- till just this minute. Give me a chance to get used to the idea. You've been preparing yourself for two months or more.'

'You're right, at that,' replied Sheerin thoughtfully. 'Listen! Have you got a family -- parents, wife, children?'

Theremon shook his head. 'You mean the Hideout, I suppose. No, you don't have to worry about that. I have a sister, but she's two thousand miles away. I don't even know her exact address.'

'Well, then, what about yourself? You've got time to get there, and they're one short anyway, since I left. After all, you're not needed here, and you'd make a darned fine addition -- '

Theremon looked at the other wearily. 'You think I'm scared stiff, don't you? Well, get this, mister. I'm a newspaperman and I've been assigned to cover a story. I intend covering it.'

There was a faint smile on the psychologist's face. 'I see. Professional honor, is that it?'

'You might call it that. But, man. I'd give my right arm for another bottle of that sockeroo juice even half the size of the one you bogged. If ever a fellow needed a drink, I do.'

He broke off. Sheerin was nudging him violently. 'Do you hear that? Listen!'

Theremon followed the motion of the other's chin and stared at the Cultist, who, oblivious to all about him, faced the window, a look of wild elation on his face, droning to himself the while in singsong fashion.

'What's he saying?' whispered the columnist.

'He's quoting Book of Revelations, fifth chapter,' replied Sheerin. Then, urgently, 'Keep quiet and listen, I tell you.'

The Cultist's voice had risen in a sudden increase of fervor: "And it came to pass that in those days the Sun, Beta, held lone vigil in the sky for ever longer periods as the revolutions passed; until such time as for full half a revolution, it alone, shrunken and cold, shone down upon Lagash.

"And men did assemble in the public squares and in the highways, there to debate and to marvel at the sight, for a strange depression had seized them. Their minds were troubled and their speech confused, for the souls of men awaited the coming of the Stars.

"And in the city of Trigon, at high noon, Vendret 2 came forth and said unto the men of Trigon, 'Lo, ye sinners! Though ye scorn the ways of righteousness, yet will the time of reckoning come. Even now the Cave approaches to swallow Lagash; yea, and all it contains.'

"And even as he spoke the lip of the Cave of Darkness passed the edge of Beta so that to all Lagash it was hidden from sight. Loud were the cries of men as it vanished, and great the fear of soul that fell upon them.

"It came to pass that the Darkness of the Cave fell upon Lagash, and there was no light on all the surface of Lagash. Men were even as blinded, nor could one man see his neighbor, though he felt his breath upon his face.

"And in this blackness there appeared the Stars, in countless numbers, and to the strains of music of such beauty that the very leaves of the trees cried out in wonder.

"And in that moment the souls of men departed from them, and their abandoned bodies became even as beasts; yea, even as brutes of the wild; so that through the blackened streets of the cities of Lagash they prowled with wild cries.

"From the Stars there then reached down the Heavenly Flame, and where it touched, the cities of Lagash flamed to utter destruction, so that of man and of the works of man naught remained.

'Even then -- "

There was a subtle change in Latimer's tone. His eyes had not shifted, but somehow he had become aware of the absorbed attention of the other two. Easily, without pausing for breath, the timbre of his voice shifted and the syllables became more liquid.

Theremon, caught by surprise, stared. The words seemed on the border of familiarity. There was an elusive shift in the accent, a tiny change in the vowel stress; nothing more -- yet Latimer had become thoroughly unintelligible.

Sheerin smiled slyly. 'He shifted to some old-cycle tongue, probably their traditional second cycle. That was the language in which the Book of Revelations was originally written, you know.'

'It doesn't matter; I've heard enough.' Theremon shoved his chair back and brushed his hair back with hands that no longer shook. 'I feel much better now.'

'You do?' Sheerin seemed mildly surprised.

'I'll say I do. I had a bad case of jitters just a while back. Listening to you and your gravitation and seeing that eclipse start almost finished me. But this' -- he jerked a contemptuous thumb at the yellow-bearded Cultist -- 'this is the sort of thing my nurse used to tell me. I've been laughing at that sort of thing all my life. I'm not going to let it scare me now.'

He drew a deep breath and said with a hectic gaiety, 'But if I expect to keep on the good side of myself. I'm going to turn my chair away from the window.'

Sheerin said, 'Yes, but you'd better talk lower. Aton just lifted his head out of that box he's got it stuck into and gave you a look that should have killed you.'

Theremon made a mouth. 'I forgot about the old fellow.' With elaborate care he turned the chair from the window, cast one distasteful look over his shoulder, and said, 'It has occurred to me that there must be considerable immunity against this Star madness.'

The psychologist did not answer immediately. Beta was past its zenith now, and the square of bloody sunlight that outlined the window upon the floor had lifted into Sheerin's lap. He stared at its dusky color thoughtfully and then bent and squinted into the sun itself.

The chip in its side had grown to a black encroachment that covered a third of Beta. He shuddered, and when he straightened once more his florid cheeks did not contain quite as much color as they had had previously.

With a smile that was almost apologetic, he reversed his chair also. 'There are probably two million people in Saro City that are all trying to join the Cult at once in one gigantic revival.' Then, ironically. 'The Cult is in for an hour of unexampled prosperity. I trust they'll make the most of it. Now, what was it you said?'

'Just this. How did the Cultists manage to keep the Book of Revelations going from cycle to cycle, and how on Lagash did it get written in the first place? There must have been some sort of immunity, for if everyone had gone mad, who would be left to write the book?'

Sheerin stared at his questioner ruefully. 'Well, now, young man, there isn't any eyewitness answer to that, but we've got a few damned good notions as to what happened. You see. there are three kinds of people who might remain relatively unaffected. First, the very few who don't see the Stars at all: the seriously retarded or those who drink themselves into a stupor at the beginning of the eclipse and remain so to the end. We leave them out -- because they aren't really witnesses.

'Then there are children below six, to whom the world as a whole is too new and strange for them to be too frightened at Stars and Darkness. They would be just another item in an already surprising world. You see that, don't you?'

The other nodded doubtfully. 'I suppose so.'

'Lastly, there are those whose minds are too coarsely grained to be entirely toppled. The very insensitive would be scarcely affected -- oh, such people as some of our older, work-broken peasants. Well, the children would have fugitive memories, and that, combined with the confused, incoherent babblings of the half-mad morons, formed the basis for the Book of Revelations.

'Naturally, the book was based, in the first place, on the testimony of those least qualified to serve as historians; that is, children and morons; and was probably edited and re-edited through the cycles.'

'Do you suppose,' broke in Theremon, 'that they carried the book through the cycles the way we're planning on handing on the secret of gravitation?'

Sheerin shrugged. 'Perhaps, but their exact method is unimportant. They do it, somehow. The point I was getting at was that the book can't help but be a mass of distortion, even if it is based on fact. For instance, do you remember the experiment with the holes in the roof that Faro and Yimot tried -- the one that didn't work?'

'Yes.'

'You know why it didn't w -- ' He stopped and rose in alarm, for Aton was approaching, his face a twisted mask of consternation. 'What's happened?'

Aton drew him aside and Sheerin could feel the fingers on his elbow twitching.

'Not so loud!' Aton's voice was low and tortured. 'I've just gotten word from the Hideout on the private line.'

Sheerin broke in anxiously. 'They are in trouble?'

'Not they.' Aton stressed the pronoun significantly. 'They sealed themselves off just a while ago, and they're going to stay buried till day after tomorrow. They're safe. But the city. Sheerin -- it's a shambles. You have no idea -- ' He was having difficulty in speaking.

'Well?' snapped Sheerin impatiently. 'What of it? It will get worse. What are you shaking about?' Then, suspiciously, 'How do you feel?'

Aton's eyes sparked angrily at the insinuation, and then faded to anxiety once more. 'You don't understand. The Cultists are active. They're rousing the people to storm the Observatory -- promising them immediate entrance into grace, promising them salvation, promising them anything. What are we to do, Sheerin?'

Sheerin's head bent, and he stared in long abstraction at his toes. He tapped his chin with one knuckle, then looked up and said crisply, 'Do? What is there to do? Nothing at all. Do the men know of this?'

'No, of course not!'

'Good! Keep it that way. How long till totality?'

'Not quite an hour.'

'There's nothing to do but gamble. It will take time to organize any really formidable mob, and it will take more time to get them out here. We're a good five miles from the city -- '

He glared out the window, down the slopes to where the farmed patches gave way to clumps of white houses in the suburbs; down to where the metropolis itself was a blur on the horizon -- a mist in the waning blaze of Beta.

He repeated without turning. 'It will take time. Keep on working and pray that totality comes first.'

Beta was cut in half, the line of division pushing a slight concavity into the still-bright portion of the Sun. It was like a gigantic eyelid shutting slantwise over the light of a world.

The faint clatter of the room in which he stood faded into oblivion, and he sensed only the thick silence of the fields outside. The very insects seemed frightened mute. And things were dim.

He jumped at the voice in his ear. Theremon said. 'Is something wrong?'

'Eh? Er -- no. Get back to the chair. We're in the way.' They slipped back to their corner, but the psychologist did not speak for a time. He lifted a finger and loosened his collar. He twisted his neck back and forth but found no relief. He looked up suddenly.

'Are you having any difficulty in breathing?'

The newspaperman opened his eyes wide and drew two or three long breaths. 'No. Why?'

'I looked out the window too long, I suppose. The dimness got me. Difficulty in breathing is one of the first symptoms of a claustrophobic attack. '

Theremon drew another long breath. 'Well, it hasn't got me yet. Say, here's another of the fellows.'

Beenay had interposed his bulk between the light and the pair in the corner, and Sheerin squinted up at him anxiously. 'Hello, Beenay.'

The astronomer shifted his weight to the other foot and smiled feebly. 'You won't mind if I sit down awhile and join in the talk? My cameras are set, and there's nothing to do till totality.' He paused and eyed the Cultist, who fifteen minutes earlier had drawn a small, skin-bound book from his sleeve and had been poring intently over it ever since.

'That rat hasn't been making trouble, has he?'

Sheerin shook his head. His shoulders were thrown back and he frowned his concentration as he forced himself to breathe regularly. He said, 'Have you had any trouble breathing, Beenay?'

Beenay sniffed the air in his turn. 'It doesn't seem stuffy to me.'

'A touch of claustrophobia,' explained Sheerin apologetically.

'Ohhh! It worked itself differently with me. I get the impression that my eyes are going back on me. Things seem to blur and -- well, nothing is clear. And it's cold, too.'

'Oh, it's cold, all right. That's no illusion.' Theremon grimaced. 'My toes feel as if I've been shipping them cross-country in a refrigerating car.'

'What we need,' put in Sheerin, 'is to keep our minds busy with extraneous affairs. I was telling you a while ago, Theremon, why Faro's experiments with the holes in the roof came to nothing.'

'You were just beginning,' replied Theremon. He encircled a knee with both arms and nuzzled his chin against it.

'Well, as I started to say, they were misled by taking the Book of Revelations literally. There probably wasn't any sense in attaching any physical significance to the Stars. It might be, you know, that in the presence of total Darkness, the mind finds it absolutely necessary to create light. This illusion of light might be all the Stars there really are.'

'In other words,' interposed Theremon, 'you mean the Stars are the results of the madness and not one of the causes. Then, what good will Beenay's photographs be?'

'To prove that it is an illusion, maybe; or to prove the opposite; for all I know. Then again -- '

But Beenay had drawn his chair closer, and there was an expression of sudden enthusiasm on his face. 'Say, I'm glad you two got onto this subject.' His eyes narrowed and he lifted one finger. 'I've been thinking about these Stars and I've got a really cute notion. Of course it's strictly ocean foam, and I'm not trying to advance it seriously, but I think it's interesting. Do you want to hear it?'

He seemed half reluctant, but Sheerin leaned back and said, 'Go ahead! I'm listening.'

'Well, then, supposing there were other suns in the universe.' He broke off a little bashfully. 'I mean suns that are so far away that they're too dim to see. It sounds as if I've been reading some of that fantastic fiction, I suppose.'

'Not necessarily. Still, isn't that possibility eliminated by the fact that, according to the Law of Gravitation, they would make themselves evident by their attractive forces?'

'Not if they were far enough off,' rejoined Beenay, 'really far off -- maybe as much as four light years, or even more. We'd never be able to detect perturbations then, because they'd be too small. Say that there were a lot of suns that far off; a dozen or two, maybe.'

Theremon whistled melodiously. 'What an idea for a good Sunday supplement article. Two dozen suns in a universe eight light years across. Wow! That would shrink our world into insignificance. The readers would eat it up.'

'Only an idea,' said Beenay with a grin, 'but you see the point. During an eclipse, these dozen suns would become visible because there'd be no real sunlight to drown them out. Since they're so far off, they'd appear small, like so many little marbles. Of course the Cultists talk of millions of Stars, but that's probably exaggeration. There just isn't any place in the universe you could put a million suns -- unless they touch one another.'

Sheerin had listened with gradually increasing interest. 'You've hit something there, Beenay. And exaggeration is just exactly what would happen. Our minds, as you probably know, can't grasp directly any number higher than five; above that there is only the concept of "many". A dozen would become a million just like that. A damn good idea!'

'And I've got another cute little notion,' Beenay said. 'Have you ever thought what a simple problem gravitation would be if only you had a sufficiently simple system? Supposing you had a universe in which there was a planet with only one sun. The planet would travel in a perfect ellipse and the exact nature of the gravitational force would be so evident it could be accepted as an axiom. Astronomers on such a world would start off with gravity probably before they even invented the telescope. Naked-eye observation would be enough.'

'But would such a system be dynamically stable?' questioned Sheerin doubtfully.

'Sure! They call it the "one-and-one" case. It's been worked out mathematically, but it's the philosophical implications that interest me.'

'It's nice to think about,' admitted Sheerin, 'as a pretty abstraction -- like a perfect gas, or absolute zero.'

'Of course,' continued Beenay, 'there's the catch that life would be impossible on such a planet. It wouldn't get enough heat and light, and if it rotated there would be total Darkness half of each day. You couldn't expect life -- which is fundamentally dependent upon light -- to develop under those conditions. Besides -- '

Sheerin's chair went over backward as he sprang to his feet in a rude interruption. 'Aton's brought out the lights.'

Beenay said, 'Huh,' turned to stare, and then grinned halfway around his head in open relief.

There were half a dozen foot-long, inch-thick rods cradled in Aton's arms. He glared over them at the assembled staff members.

'Get back to work, all of you. Sheerin, come here and help me!'

Sheerin trotted to the older man's side and, one by one, in utter silence, the two adjusted the rods in makeshift metal holders suspended from the walls.

With the air of one carrying through the most sacred item of a religious ritual, Sheerin scraped a large, clumsy match into spluttering life and passed it to Aton, who carried the flame to the upper end of one of the rods.

It hesitated there awhile, playing futilely about the tip, until a sudden, crackling flare cast Aton's lined face into yellow highlights. He withdrew the match and a spontaneous cheer rattled the window.

The rod was topped by six inches of wavering flame! Methodically, the other rods were lighted, until six independent fires turned the rear of the room yellow.

The light was dim, dimmer even than the tenuous sunlight. The flames reeled crazily, giving birth to drunken, swaying shadows. The torches smoked devilishly and smelled like a bad day in the kitchen. But they emitted yellow light.

There was something about yellow light, after four hours of somber, dimming Beta. Even Latimer had lifted his eyes from his book and stared in wonder.

Sheerin warmed his hands at the nearest, regardless of the soot that gathered upon them in a fine, gray powder, and muttered ecstatically to himself. 'Beautiful! Beautiful! I never realized before what a wonderful color yellow is.'

But Theremon regarded the torches suspiciously. He wrinkled his nose at the rancid odor and said, 'What are those things?'

'Wood,' said Sheerin shortly.

'Oh, no, they're not. They aren't burning. The top inch is charred and the flame just keeps shooting up out of nothing.'

'That's the beauty of it. This is a really efficient artificial-light mechanism. We made a few hundred of them, but most went to the Hideout, of course. You see' -- he turned and wiped his blackened hands upon his handkerchief -- 'you take the pithy core of coarse water reeds, dry them thoroughly, and soak them in animal grease. Then you set fire to it and the grease burns, little by little. These torches will burn for almost half an hour without stopping. Ingenious, isn't it? It was developed by one of our own young men at Saro University.'

After the momentary sensation, the dome had quieted. Latimer had carried his chair directly beneath a torch and continued reading, lips moving in the monotonous recital of invocations to the Stars. Beenay had drifted away to his cameras once more, and Theremon seized the opportunity to add to his notes on the article he was going to write for the Saro City Chronicle the next day -- a procedure he had been following for the last two hours in a perfectly methodical, perfectly conscientious and, as he was well aware, perfectly meaningless fashion. But, as the gleam of amusement in Sheerin's eyes indicated, careful note-taking occupied his mind with something other than the fact that the sky was gradually turning a horrible deep purple-red, as if it were one gigantic, freshly peeled beet; and so it fulfilled its purpose.

The air grew, somehow, denser. Dusk, like a palpable entity, entered the room, and the dancing circle of yellow light about the torches etched itself into ever-sharper distinction against the gathering grayness beyond. There was the odor of smoke and the presence of little chuckling sounds that the torches made as they burned; the soft pad of one of the men circling the table at which he worked, on hesitant tiptoes; the occasional indrawn breath of someone trying to retain composure in a world that was retreating into the shadow.

It was Theremon who first heard the extraneous noise. It was a vague, unorganized impression of sound that would have gone unnoticed but for the dead silence that prevailed within the dome.

The newsman sat upright and replaced his notebook. He held his breath and listened; then, with considerable reluctance, threaded his way between the solarscope and one of Beenay's cameras and stood before the window.

The silence ripped to fragments at his startled shout: 'Sheerin!'

Work stopped! The psychologist was at his side in a moment. Aton joined him. Even Yimot 70, high in his little lean-back seat at the eyepiece of the gigantic solarscope, paused and looked downward.

Outside, Beta was a mere smoldering splinter, taking one last desperate look at Lagash. The eastern horizon, in the direction of the city, was lost in Darkness, and the road from Saro to the Observatory was a dull-red line bordered on both sides by wooded

tracts, the trees of which had somehow lost individuality and merged into a continuous shadowy mass.

But it was the highway itself that held attention, for along it there surged another, and infinitely menacing, shadowy mass.

Aton cried in a cracked voice, 'The madmen from the city! They've come!'

'How long to totality?' demanded Sheerin.

'Fifteen minutes, but . . . but they'll be here in five.'

'Never mind, keep the men working. We'll hold them off. This place is built like a fortress. Aton, keep an eye on our young Cultist just for luck. Theremon, come with me.'

Sheerin was out the door, and Theremon was at his heels. The stairs stretched below them in tight, circular sweeps about the central shaft, fading into a dank and dreary grayness.

The first momentum of their rush had carried them fifty feet down, so that the dim, flickering yellow from the open door of the dome had disappeared and both above and below the same dusky shadow crushed in upon them.

Sheerin paused, and his pudgy hand clutched at his chest. His eyes bulged and his voice was a dry cough. 'I can't . . . breathe . . . Go down . . . yourself. Close all doors -- '

Theremon took a few downward steps, then turned.

'Wait! Can you hold out a minute?' He was panting himself. The air passed in and out his lungs like so much molasses, and there was a little germ of screeching panic in his mind at the thought of making his way into the mysterious Darkness below by himself.

Theremon, after all, was afraid of the dark!

'Stay here,' he said. 'I'll be back in a second.' He dashed upward two steps at a time, heart pounding -- not altogether from the exertion -- tumbled into the dome and snatched a torch from its holder. It was foul-smelling, and the smoke smarted his eyes almost blind, but he clutched that torch as if he wanted to kiss it for joy, and its flame streamed backward as he hurtled down the stairs again.

Sheerin opened his eyes and moaned as Theremon bent over him. Theremon shook him roughly. 'All right, get a hold on yourself. We've got light.'

He held the torch at tiptoe height and, propping the tottering psychologist by an elbow, made his way downward in the middle of the protecting circle of illumination.

The offices on the ground floor still possessed what light there was, and Theremon felt the horror about him relax.

'Here,' he said brusquely, and passed the torch to Sheerin. 'You can hear them outside.'

And they could. Little scraps of hoarse, wordless shouts.

But Sheerin was right; the Observatory was built like a fortress. Erected in the last century, when the neo-Gavottian style of architecture was at its ugly height, it had been designed for stability and durability rather than for beauty.

The windows were protected by the grillwork of inch-thick iron bars sunk deep into the concrete sills. The walls were solid masonry that an earthquake couldn't have

touched, and the main door was a huge oaken slab reinforced -- forced with iron. Theremon shot the bolts and they slid shut with a dull clang.

At the other end of the corridor, Sheerin cursed weakly. He pointed to the lock of the back door which had been neatly jimmied into uselessness.

'That must be how Latimer got in,' he said.

'Well, don't stand there,' cried Theremon impatiently. 'Help drag up the furniture -- and keep that torch out of my eyes. The smoke's killing me.'

He slammed the heavy table up against the door as he spoke, and in two minutes had built a barricade which made up for what it lacked in beauty and symmetry by the sheer inertia of its massiveness.

Somewhere, dimly, far off, they could hear the battering of naked fists upon the door; and the screams and yells from outside had a sort of half reality.

That mob had set off from Saro City with only two things in mind: the attainment of Cultist salvation by the destruction of the Observatory, and a maddening fear that all but paralyzed them. There was no time to think of ground cars, or of weapons, or of leadership, or even of organization. They made for the Observatory on foot and assaulted it with bare hands.

And now that they were there, the last flash of Beta, the last ruby-red drop of flame, flickered feebly over a humanity that had left only stark, universal fear!

Theremon groaned, 'Let's get back to the dome!'

In the dome, only Yimot, at the solarscope, had kept his place. The rest were clustered about the cameras, and Beenay was giving his instructions in a hoarse, strained voice.

'Get it straight, all of you. I'm snapping Beta just before totality and changing the plate. That will leave one of you to each camera. You all know about . . . about times of exposure -- '

There was a breathless murmur of agreement.

Beenay passed a hand over his eyes. 'Are the torches still burning? Never mind, I see them!' He was leaning hard against the back of a chair. 'Now remember, don't. . . don't try to look for good shots. Don't waste time trying to get t-two stars at a time in the scope field. One is enough. And . . . and if you feel yourself going, get away from the camera.'

At the door, Sheerin whispered to Theremon, 'Take me to Aton. I don't see him.'

The newsman did not answer immediately. The vague forms of the astronomers wavered and blurred, and the torches overhead had become only yellow splotches.

'It's dark,' he whimpered.

Sheerin held out his hand. 'Aton.' He stumbled forward. 'Aton!'

Theremon stepped after and seized his arm. 'Wait, I'll take you.' Somehow he made his way across the room. He closed his eyes against the Darkness and his mind against the chaos within it.

No one heard them or paid attention to them. Sheerin stumbled against the wall. 'Aton!'

The psychologist felt shaking hands touching him, then withdrawing, a voice muttering, 'Is that you, Sheerin?'

'Aton!' He strove to breathe normally. 'Don't worry about the mob. The place will hold them off.'

Latimer, the Cultist, rose to his feet, and his face twisted in desperation. His word was pledged, and to break it would mean placing his soul in mortal peril. Yet that word had been forced from him and had not been given freely. The Stars would come soon! He could not stand by and allow -- And yet his word was pledged.

Beenay's face was dimly flushed as it looked upward at Beta's last ray, and Latimer, seeing him bend over his camera, made his decision. His nails cut the flesh of his palms as he tensed himself.

He staggered crazily as he started his rush. There was nothing before him but shadows; the very floor beneath his feet lacked substance. And then someone was upon him and he went down with clutching fingers at his throat.

He doubled his knee and drove it hard into his assailant. 'Let me up or I'll kill you.'

Theremon cried out sharply and muttered through a blinding haze of pain. 'You double-crossing rat!'

The newsman seemed conscious of everything at once. He heard Beenay croak, 'I've got it. At your cameras, men!' and then there was the strange awareness that the last thread of sunlight had thinned out and snapped.

Simultaneously he heard one last choking gasp from Beenay, and a queer little cry from Sheerin, a hysterical giggle that cut off in a rasp -- and a sudden silence, a strange, deadly silence from outside.

And Latimer had gone limp in his loosening grasp. Theremon peered into the Cultist's eyes and saw the blankness of them, staring upward, mirroring the feeble yellow of the torches. He saw the bubble of froth upon Latimer's lips and heard the low animal whimper in Latimer's throat.

With the slow fascination of fear, he lifted himself on one arm and turned his eyes toward the blood-curdling blackness of the window.

Through it shone the Stars!

Not Earth's feeble thirty-six hundred Stars visible to the eye; Lagash was in the center of a giant cluster. Thirty thousand mighty suns shone down in a soul-searing splendor that was more frighteningly cold in its awful indifference than the bitter wind that shivered across the cold, horribly bleak world.

Theremon staggered to his feet, his throat, constricting him to breathlessness, all the muscles of his body writhing in an intensity of terror and sheer fear beyond bearing. He was going mad and knew it, and somewhere deep inside a bit of sanity was screaming, struggling to fight off the hopeless flood of black terror. It was very horrible to go mad and know that you were going mad -- to know that in a little minute you would be here physically and yet all the real essence would be dead and drowned in the black madness. For this was the Dark -- the Dark and the Cold and the Doom. The bright walls

of the universe were shattered and their awful black fragments were falling down to crush and squeeze and obliterate him.

He jostled someone crawling on hands and knees, but stumbled somehow over him. Hands groping at his tortured throat, he limped toward the flame of the torches that filled all his mad vision.

'Light!' he screamed.

Aton, somewhere, was crying, whimpering horribly like a terribly frightened child. 'Stars -- all the Stars -- we didn't know at all. We didn't know anything. We thought six stars in a universe is something the Stars didn't notice is Darkness forever and ever and ever and the walls are breaking in and we didn't know we couldn't know and anything -- '

Someone clawed at the torch, and it fell and snuffed out. In the instant, the awful splendor of the indifferent Stars leaped nearer to them.

On the horizon outside the window, in the direction of Saro City, a crimson glow began growing, strengthening in brightness, that was not the glow of a sun.

The long night had come again.

GREEN PATCHES

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He had slipped aboard the ship! There had been dozens waiting outside the energy barrier when it had seemed that waiting would do no good. Then the barrier had faltered for a matter of two minutes (which showed the superiority of unified organisms over life fragments) and he was across.

None of the others had been able to move quickly enough to take advantage of the break, but that didn't matter. All alone, he was enough. No others were necessary.

And the thought faded out of satisfaction and into loneliness. It was a terribly unhappy and unnatural thing to be parted from all the rest of the unified organism, to be a life fragment oneself. How could these aliens stand being fragments?

It increased his sympathy for the aliens. Now that he experienced fragmentation himself, he could feel, as though from a distance, the terrible isolation that made them so afraid. It was fear born of that isolation that dictated their actions. What but the insane fear of their condition could have caused them to blast an area, one mile in diameter, into dull-red heat before landing their ship? Even the organized life ten feet deep in the soil had been destroyed in the blast.

He engaged reception, listening eagerly, letting the alien thought saturate him. He enjoyed the touch of life upon his consciousness. He would have to ration that enjoyment. He must not forget himself.

But it could do no harm to listen to thoughts. Some of the fragments of life on the ship thought quite clearly, considering that they were such primitive, incomplete creatures. Their thoughts were like tiny bells.

Roger Oldenn said, "I feel contaminated. You know what I mean? I keep washing my hands and it doesn't help."

Jerry Thorn hated dramatics and didn't look up. They were still maneuvering in the stratosphere of Saybrook's Planet and he preferred to watch the panel dials. He said, "No reason to feel contaminated. Nothing happened."

"I hope not," said Oldenn. "At least they had all the field men discard their spacesuits in the air lock for complete disinfection. They had a radiation bath for all men entering from outside. I suppose nothing happened."

"Why be nervous, then?"

"I don't know. I wish the barrier hadn't broken down."

"Who doesn't? It was an accident."

"I wonder." Oldenn was vehement. "I was here when it happened. My shift, you know. There was no reason to overload the power line. There was equipment plugged into it that had no damn business near it. None whatsoever."

"All right. People are stupid."

"Not that stupid. I hung around when the Old Man was checking into the matter. None of them had reasonable excuses. The armor-baking circuits, which were draining off two thousand watts, had been put into the barrier line. They'd been using the second subsidiaries for a week. Why not this time? They couldn't give any reason."

"Can you?"

Oldenn flushed. "No, I was just wondering if the men had been"-he searched for a word-"hypnotized into it. By those things outside."

Thorn's eyes lifted and met those of the other levelly. "I wouldn't repeat that to anyone else. The barrier was down only two minutes. If anything had happened, if even a spear of grass had drifted across it would have shown up in our bacteria cultures within half an hour, in the fruit-fly colonies in a matter of days. Before we got back it would show up in the hamsters, the rabbits, maybe the goats. Just get it through your head, Oldenn, that nothing happened. Nothing."

Oldenn turned on his heel and left. In leaving, his foot came within two feet of the object in the corner of the room. He did not see it.

He disengaged his reception centers and let the thoughts flow past him unperceived. These life fragments were not important, in any case, since they were not fitted for the continuation of life. Even as fragments, they were incomplete.

The other types of fragments now-they were different. He had to be careful of them. The temptation would be great, and he must give no indication, none at all, of his existence on board ship till they landed on their home planet.

He focused on the other parts of the ship, marveling at the diversity of life. Each item, no matter how small, was sufficient to itself. He forced himself to contemplate this, until the unpleasantness of the thought grated on him and he longed for the normality of home.

Most of the thoughts he received from the smaller fragments were vague and fleeting, as you would expect. There wasn't much to be had from them, but that meant their need for completeness was all the greater. It was that which touched him so keenly.

There was the life fragment which squatted on its haunches and fingered the wire netting that enclosed it. Its thoughts were clear, but limited. Chiefly, they concerned the yellow fruit a companion fragment was eating. It wanted the fruit very deeply. Only the wire netting that separated the fragments prevented its seizing the fruit by force.

He disengaged reception in a moment of complete revulsion. These fragments competed for food!

He tried to reach far outward for the peace and harmony of home, but it was already an immense distance away. He could reach only into the nothingness that separated him from sanity.

He longed at the moment even for the feel of the dead soil between the barrier and the ship. He had crawled over it last night. There had been no life upon it, but it had been the soil of home, and on the other side of the barrier there had still been the comforting feel of the rest of organized life.

He could remember the moment he had located himself on the surface of the ship, maintaining a desperate suction grip until the air lock opened. He had entered, moving cautiously between the outgoing feet. There had been an inner lock and that had been passed later. Now he lay here, a life fragment himself, inert and unnoticed.

Cautiously, he engaged reception again at the previous focus. The squatting fragment of life was tugging furiously at the wire netting. It still wanted the other's food, though it was the less hungry of the two.

Larsen said, "Don't feed the damn thing. She isn't hungry; she's just sore because Tillie had the nerve to eat before she herself was crammed full. The greedy ape! I wish we were back home and I never had to look another animal in the face again."

He scowled at the older female chimpanzee frowningly and the chimp mouthed and chattered back to him in full reciprocation.

Rizzo said, "Okay, okay. Why hang around here, then? Feeding time is over. Let's get out."

They went past the goat pens, the rabbit hutches, the hamster cages.

Larsen said bitterly, "You volunteer for an exploration voyage. You're a hero. They send you off with speeches-and make a zoo keeper out of you."

"They give you double pay."

"All right, so what? I didn't sign up just for the money. They said at the original briefing that it was even odds we wouldn't come back, that we'd end up like Saybrook. I signed up because I wanted to do something important."

"Just a bloomin' bloody hero," said Rizzo.

"I'm not an animal nurse."

Rizzo paused to lift a hamster out of the cage and stroke it. "Hey," he said, "did you ever think that maybe one of these hamsters has some cute little baby hamsters inside, just getting started?"

"Wise guy! They're tested every day."

"Sure, sure." He muzzled the little creature, which vibrated its nose at him. "But just suppose you came down one morning and found them there. New little hamsters looking up at you with soft, green patches of fur where the eyes ought to be."

"Shut up, for the love of Mike," yelled Larsen.

"Little soft, green patches of shining fur," said Rizzo, and put the hamster down with a sudden loathing sensation.

He engaged reception again and varied the focus. There wasn't a specialized life fragment at home that didn't have a rough counterpart on shipboard.

There were the moving runners in various shapes, the moving swimmers, and the moving fliers. Some of the fliers were quite large, with perceptible thoughts; others were

small, gauzy-winged creatures. These last transmitted only patterns of sense perception, imperfect patterns at that, and added nothing intelligent of their own.

There were the non-movers, which, like the non-movers at home, were green and lived on the air, water, and soil. These were a mental blank. They knew only the dim, dim consciousness of light, moisture, and gravity.

And each fragment, moving and non-moving, had its mockery of life.

Not yet. Not yet. . .

He clamped down hard upon his feelings. Once before, these life fragments had come, and the rest at home had tried to help them-too quickly. It had not worked. This time they must wait.

If only these fragments did not discover him.

They had not, so far. They had not noticed him lying in the corner of the pilot room. No one had bent down to pick up and discard him. Earlier, it had meant he could not move. Someone might have turned and stared at the stiff wormlike thing, not quite six inches long. First stare, then shout, and then it would all be over.

But now, perhaps, he had waited long enough. The takeoff was long past. The controls were locked; the pilot room was empty.

It did not take him long to find the chink in the armor leading to the recess where some of the wiring was. They were dead wires.

The front end of his body was a rasp that cut in two a wire of just the right diameter. Then, six inches away, he cut it in two again. He pushed the snipped-off section of the wire ahead of him packing it away neatly and invisibly into a corner of recess. Its outer covering was a brown elastic material and its core was gleaming, ruddy metal. He himself could not reproduce the core, of course, but that was not necessary. It was enough that the pellicle that covered him had been carefully bred to resemble a wire's surface.

He returned and grasped the cut sections of the wire before and behind. He tightened against them as his little suction disks came into play. Not even a seam showed.

They could not find him now. They could look right at him and see only a continuous stretch of wire.

Unless they looked very closely indeed and noted that, in a certain spot on this wire, there were two tiny patches of soft and shining green fur.

"It is remarkable," said Dr. Weiss, "that little green hairs can do so much."

Captain Loring poured the brandy carefully. In a sense, this was a celebration. They would be ready for the jump through hyper-space in two hours, and after that, two days would see them back on Earth.

"You are convinced, then, the green fur is the sense organ?" he asked.

"It is," said Weiss. Brandy made him come out in splotches, but he was aware of the need of celebration-quite aware. "The experiments were conducted under difficulties, but they were quite significant."

The captain smiled stiffly. " 'Under difficulties' is one way of phrasing it. I would never have taken the chances you did to run them."

"Nonsense. We're all heroes aboard this ship, all volunteers, all great men with trumpet, fife, and fanfare. You took the chance of coming here."

"You were the first to go outside the barrier."

"No particular risk involved," Weiss said. "I burned the ground before me as I went, to say nothing of the portable barrier that surrounded me. Nonsense, Captain. Let's all take our medals when we come back; let's take them without attempt at gradation. Besides, I'm a male."

"But you're filled with bacteria to here." The captain's hand made a quick, cutting gesture three inches above his head. "Which makes you as vulnerable as a female would be."

They paused for drinking purposes.

"Refill?" asked the captain.

"No, thanks. I've exceeded my quota already."

"Then one last for the spaceroad." He lifted his glass in the general direction of Saybrook's Planet, no longer visible, its sun only a bright star in the visiplat. "To the little green hairs that gave Saybrook his first lead."

Weiss nodded. "A lucky thing. We'll quarantine the planet, of course."

The captain said, "That doesn't seem drastic enough. Someone might always land by accident someday and not have Saybrook's insight, or his guts. Suppose he did not blow up his ship, as Saybrook did. Suppose he got back to some inhabited place."

The captain was somber. "Do you suppose they might ever develop interstellar travel on their own?"

"I doubt it. No proof, of course. It's just that they have such a completely different orientation. Their entire organization of life has made tools unnecessary. As far as we know, even a stone ax doesn't exist on the planet."

"I hope you're right. Oh, and, Weiss, would you spend some time with Drake?"

"The Galactic Press fellow?"

"Yes. Once we get back, the story of Saybrook's Planet will be released for the public and I don't think it would be wise to oversensationalize it. I've asked Drake to let you consult with him on the story. You're a biologist and enough of an authority to carry weight with him. Would you oblige?"

"A pleasure."

The captain closed his eyes wearily and shook his head.

"Headache, Captain?"

"No. Just thinking of poor Saybrook."

He was weary of the ship. Awhile back there had been a queer, momentary sensation, as though he had been turned inside out. It was alarming and he had searched the minds of the keen-thinkers for an explanation. Apparently the ship had leaped across vast stretches of empty space by cutting across something they knew as "hyper-space." The keen-thinkers were ingenious.

But he was weary of the ship. It was such a futile phenomenon. These life fragments were skillful in their constructions, yet it was only a measure of their unhappiness, after all. They strove to find in the control of inanimate matter what they could not find in themselves. In their unconscious yearning for completeness, they built machines and scoured space, seeking, seeking . . .

These creatures, he knew, could never, in the very nature of things, find that for which they were seeking. At least not until such time as he gave it to them. He quivered a little at the thought.

Completeness!

These fragments had no concept of it, even. "Completeness" was a poor word.

In their ignorance they would even fight it. There had been the ship that had come before. The first ship had contained many of the keen-thinking fragments. There had been two varieties, life producers and the sterile ones. (How different this second ship was. The keen-thinkers were all sterile, while the other fragments, the fuzzy-thinkers and the no-thinkers, were all producers of life. It was strange.)

How gladly that first ship had been welcomed by all the planet! He could remember the first intense shock at the realization that the visitors were fragments and not complete. The shock had given way to pity, and the pity to action. It was not certain how they would fit into the community, but there had been no hesitation. All life was sacred and somehow room would have been made for them—for all of them, from the large keen-thinkers to the little multipliers in the darkness.

But there had been a miscalculation. They had not correctly analyzed the course of the fragments' ways of thinking. The keen-thinkers became aware of what had been done and resented it. They were frightened, of course; they did not understand.

They had developed the barrier first, and then, later, had destroyed themselves, exploding their ships to atoms.

Poor, foolish fragments.

This time, at least, it would be different. They would be saved, despite themselves.

John Drake would not have admitted it in so many words, but he was very proud of his skill on the phototyper. He had a travel-kit model, which was a six-by-eight, featureless dark plastic slab, with cylindrical bulges on either end to hold the roll of thin paper. It fitted into a brown leather case, equipped with a beltlike contraption that held it closely about the waist and at one hip. The whole thing weighed less than a pound.

Drake could operate it with either hand. His fingers would flick quickly and easily, placing their light pressure at exact spots on the blank surface, and, soundlessly, words would be written.

He looked thoughtfully at the beginning of his story, then up at Dr. Weiss. "What do you think, Doc?"

"It starts well."

Drake nodded. "I thought I might as well start with Saybrook himself. They haven't released his story back home yet. I wish I could have seen Saybrook's original report. How did he ever get it through, by the way?"

"As near as I could tell, he spent one last night sending it through the sub-ether. When he was finished, he shorted the motors, and converted the entire ship into a thin cloud of vapor a millionth of a second later. The crew and himself along with it."

"What a man! You were in this from the beginning, Doc?"

"Not from the beginning," corrected Weiss gently. "Only since the receipt of Saybrook's report."

He could not help thinking back. He had read that report, realizing even then how wonderful the planet must have seemed when Saybrook's colonizing expedition first reached it. It was practically a duplicate of Earth, with an abounding plant life and a purely vegetarian animal life.

There had been only the little patches of green fur (how often had he used that phrase in his speaking and thinking!) which seemed strange. No living individual on the planet had eyes. Instead, there was this fur. Even the plants, each blade or leaf or blossom, possessed the two patches of richer green.

Then Saybrook had noticed, startled and bewildered, that there was no conflict for food on the planet. All plants grew pulpy appendages which were eaten by the animals. These were regrown in a matter of hours. No other parts of the plants were touched. It was as though the plants fed the animals as part of the order of nature. And the plants themselves did not grow in overpowering profusion. They might almost have been cultivated, they were spread across the available soil so discriminately.

How much time, Weiss wondered, had Saybrook had to observe the strange law and order on the planet?-the fact that insects kept their numbers reasonable, though no birds ate them; that the rodent-like things did not swarm, though no carnivores existed to keep them in check.

And then there had come the incident of the white rats.

That prodded Weiss. He said, "Oh, one correction, Drake. Hamsters were not the first animals involved. It was the white rats."

"White rats," said Drake, making the correction in his notes.

"Every colonizing ship," said Weiss, "takes a group of white rats for the purpose of testing any alien foods. Rats, of course, are very similar to human beings from a nutritional viewpoint. Naturally, only female white rats are taken."

Naturally. If only one sex was present, there was no danger of unchecked multiplication in case the planet proved favorable. Remember the rabbits in Australia.

"Incidentally, why not use males?" asked Drake.

"Females are hardier," said Weiss, "which is lucky, since that gave the situation away. It turned out suddenly that all the rats were bearing young."

"Right. Now that's where I'm up to, so here's my chance to get some things straight. For my own information, Doc, how did Saybrook find out they were in a family way?"

"Accidentally, of course. In the course of nutritional investigations, rats are dissected for evidence of internal damage. Their condition was bound to be discovered.

A few more were dissected; same results. Eventually, all that lived gave birth to young-with no male rats aboard!"

"And the point is that all the young were born with little green patches of fur instead of eyes."

"That is correct. Saybrook said so and we corroborate him. After the rats, the pet cat of one of the children was obviously affected. When it finally kittened, the kittens were not born with closed eyes but with little patches of green fur. There was no tomcat aboard.

"Eventually Saybrook had the women tested. He didn't tell them what for. He didn't want to frighten them. Every single one of them was in the early stages of pregnancy, leaving out of consideration those few who had been pregnant at the time of embarkation. Saybrook never waited for any child to be born, of course. He knew they would have no eyes, only shining patches of green fur.

"He even prepared bacterial cultures (Saybrook was a thorough man) and found each bacillus to show microscopic green spots."

Drake was eager. "That goes way beyond our briefing-or, at least, the briefing I got. But granted that life on Saybrook's Planet is organized into a unified whole, how is it done?"

"How? How are your cells organized into a unified whole? Take an individual cell out of your body, even a brain cell, and what is it by itself? Nothing. A little blob of protoplasm with no more capacity for anything human than an amoeba. Less capacity, in fact, since it couldn't live by itself. But put the cells together and you have something that could invent a spaceship or write a symphony."

"I get the idea," said Drake.

Weiss went on, "All life on Saybrook's Planet is a single organism. In a sense, all life on Earth is too, but it's a fighting dependence, a dog-eat-dog dependence. The bacteria fix nitrogen; the plants fix carbon; animals eat plants and each other; bacterial decay hits everything. It comes full circle. Each grabs as much as it can, and is, in turn, grabbed.

"On Saybrook's Planet, each organism has its place, as each cell in our body does. Bacteria and plants produce food, on the excess of which animals feed, providing in turn carbon dioxide and nitrogenous wastes. Nothing is produced more or less than is needed. The scheme of life is intelligently altered to suit the local environment. No group of life forms multiplies more or less than is needed, just as the cells in our body stop multiplying when there are enough of them for a given purpose. When they don't stop multiplying, we call it cancer. And that's what life on Earth really is, the kind of organic organization we have, compared to that on Saybrook's Planet. One big cancer. Every species, every individual doing its best to thrive at the expense of every other species and individual."

"You sound as if you approve of Saybrook's Planet, Doc."

"I do, in a way. It makes sense out of the business of living. I can see their viewpoint toward us. Suppose one of the cells of your body could be conscious of the efficiency of the human body as compared with that of the cell itself, and could realize

that this was only the result of the union of many cells into a higher whole. And then suppose it became conscious of the existence of free-living cells, with bare life and nothing more. It might feel a very strong desire to drag the poor thing into an organization. It might feel sorry for it, feel perhaps a sort of missionary spirit. The things on Saybrook's Planet-or the thing; one should use the singular-feels just that, perhaps."

"And went ahead by bringing about virgin births, eh, Doc? I've got to go easy on that angle of it. Post-office regulations, you know."

"There's nothing ribald about it, Drake. For centuries we've been able to make the eggs of sea urchins, bees, frogs, et cetera develop without the intervention of male fertilization. The touch of a needle was sometimes enough, or just immersion in the proper salt solution. The thing on Saybrook's Planet can cause fertilization by the controlled use of radiant energy. That's why an appropriate energy barrier stops it; interference, you see, or static.

"They can do more than stimulate the division and development of an unfertilized egg. They can impress their own characteristics upon its nucleo-proteins, so that the young are born with the little patches of green fur, which serve as the planet's sense organ and means of communication. The young, in other words, are not individuals, but become part of the thing on Saybrook's Planet. The thing on the planet, not at all incidentally, can impregnate any species-plant, animal, or microscopic."

"Potent stuff," muttered Drake.

"Totipotent," Dr. Weiss said sharply. "Universally potent. Any fragment of it is totipotent. Given time, a single bacterium from Saybrook's Planet can convert all of Earth into a single organism! We've got the experimental proof of that."

Drake said unexpectedly, "You know, I think I'm a millionaire, Doc. Can you keep a secret?"

Weiss nodded, puzzled.

"I've got a souvenir from Saybrook's Planet," Drake told him, grinning. "It's only a pebble, but after the publicity the planet will get, combined with the fact that it's quarantined from here on in, the pebble will be all any human being will ever see of it. How much do you suppose I could sell the thing for?"

Weiss stared. "A pebble?" He snatched at the object shown him, a hard, gray ovoid. "You shouldn't have done that, Drake. It was strictly against regulations."

"I know. That's why I asked if you could keep a secret. If you could give me a signed note of authentication-What's the matter, Doc?"

Instead of answering, Weiss could only chatter and point. Drake ran over and stared down at the pebble. It was the same as before- Except that the light was catching it at an angle, and it showed up two little green spots. Look very closely; they were patches of green hairs.

He was disturbed. There was a definite air of danger within the ship. There was the suspicion of his presence aboard. How could that be? He had done nothing yet. Had another fragment of home come aboard and been less cautious? That would be

impossible without his knowledge, and though he probed the ship intensely, he found nothing.

And then the suspicion diminished, but it was not quite dead. One of the keen-thinkers still wondered, and was treading close to the truth.

How long before the landing? Would an entire world of life fragments be deprived of completeness? He clung closer to the severed ends of the wire he had been specially bred to imitate, afraid of detection, fearful for his altruistic mission.

Dr. Weiss had locked himself in his own room. They were already within the solar system, and in three hours they would be landing. He had to think. He had three hours in which to decide.

Drake's devilish "pebble" had been part of the organized life on Saybrook's Planet, of course, but it was dead. It was dead when he had first seen it, and if it hadn't been, it was certainly dead after they fed it into the hyper-atomic motor and converted it into a blast of pure heat. And the bacterial cultures still showed normal when Weiss anxiously checked.

That was not what bothered Weiss now.

Drake had picked up the "pebble" during the last hours of the stay on Saybrook's Planet-after the barrier breakdown. What if the breakdown had been the result of a slow, relentless mental pressure on the part of the thing on the planet? What if parts of its being waited to invade as the barrier dropped? If the "pebble" had not been fast enough and had moved only after the barrier was reestablished, it would have been killed. It would have lain there for Drake to see and pick up.

It was a "pebble," not a natural life form. But did that mean it was not some kind of life form? It might have been a deliberate production of the planet's single organism-a creature deliberately designed to look like a pebble, harmless-seeming, unsuspecting. Camouflage, in other words-a shrewd and frighteningly successful camouflage.

Had any other camouflaged creature succeeded in crossing the barrier before it was re-established-with a suitable shape filched from the minds of the humans aboard ship by the mind-reading organism of the planet? Would it have the casual appearance of a paperweight? Of an ornamental brass-head nail in the captain's old-fashioned chair? And how would they locate it? Could they search every part of the ship for the telltale green patches- even down to individual microbes?

And why camouflage? Did it intend to remain undetected for a time? Why? So that it might wait for the landing on Earth?

An infection after landing could not be cured by blowing up a ship. The bacteria of Earth, the molds, yeasts, and protozoa, would go first. Within a year the non-human young would be arriving by the uncountable billions.

Weiss closed his eyes and told himself it might not be such a bad thing. There would be no more disease, since no bacterium would multiply at the expense of its host, but instead would be satisfied with its fair share of what was available. There would be no more overpopulation; the hordes of mankind would decline to adjust themselves to the food supply. There would be no more wars, no crime, no greed.

But there would be no more individuality, either.

Humanity would find security by becoming a cog in a biological machine. A man would be brother to a germ, or to a liver cell.

He stood up. He would have a talk with Captain Loring. They would send their report and blow up the ship, just as Saybrook had done.

He sat down again. Saybrook had had proof, while he had only the conjectures of a terrorized mind, rattled by the sight of two green spots on a pebble. Could he kill the two hundred men on board ship because of a feeble suspicion?

He had to think!

He was straining. Why did he have to wait? If he could only welcome those who were aboard now. Now!

Yet a cooler, more reasoning part of himself told him that he could not. The little multipliers in the darkness would betray their new status in fifteen minutes, and the keen-thinkers had them under continual observation. Even one mile from the surface of their planet would be too soon, since they might still destroy themselves and their ship out in space.

Better to wait for the main air locks to open, for the planetary air to swirl in with millions of the little multipliers. Better to greet each one of them into the brotherhood of unified life and let them swirl out again to spread the message.

Then it would be done! Another world organized, complete!

He waited. There was the dull throbbing of the engines working mightily to control the slow dropping of the ship; the shudder of contact with planetary surface, then- He let the jubilation of the keen-thinkers sweep into reception, and his own jubilant thoughts answered them. Soon they would be able to receive as well as himself. Perhaps not these particular fragments, but the fragments that would grow out of those which were fitted for the continuation of life.

The main air locks were about to be opened- And all thought ceased.

Jerry Thorn thought, Damn it, something's wrong now.

He said to Captain Loring, "Sorry. There seems to be a power breakdown. The locks won't open."

"Are you sure, Thorn? The lights are on."

"Yes, sir. We're investigating it now."

He tore away and joined Roger Oldenn at the air-lock wiring box. "What's wrong?"

"Give me a chance, will you?" Oldenn's hands were busy. Then he said, "For the love of Pete, there's a six-inch break in the twenty-amp lead."

"What? That can't be!"

Oldenn held up the broken wires with their clean, sharp, sawn-through ends.

Dr. Weiss joined them. He looked haggard and there was the smell of brandy on his breath.

He said shakily, "What's the matter?"

They told him. At the bottom of the compartment, in one corner, was the missing section.

Weiss bent over. There was a black fragment on the floor of the compartment. He touched it with his finger and it smeared, leaving a sooty smudge on his finger tip. He rubbed it off absently.

There might have been something taking the place of the missing section of wire. Something that had been alive and only looked like wire, yet something that would heat, die, and carbonize in a tiny fraction of a second once the electrical circuit which controlled the air lock had been closed.

He said, "How are the bacteria?"

A crew member went to check, returned and said, "All normal, Doc."

The wires had meanwhile been spliced, the locks opened, and Dr. Weiss stepped out into the anarchic world of life that was Earth.

"Anarchy," he said, laughing a little wildly. "And it will stay that way."

HOSTESS

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Smollett was happy about it; almost triumphant. She peeled off her gloves, put her hat away, and turned her brightening eyes upon her husband.

She said, "Drake, we're going to have him here."

Drake looked at her with annoyance. "You've missed supper. I thought you were going to be back by seven."

"Oh, that doesn't matter. I ate something on the way home. But, Drake, we're going to have him here!"

"Who here? What are you talking about?"

"The doctor from Hawkin's Planet! Didn't you realize that was what today's conference was about? We spent all day talking about it. It's the most exciting thing that could possibly have happened!"

Drake Smollett removed the pipe from the vicinity of his face. He stared first at it and then at his wife. "Let me get this straight. When you say the doctor from Hawkin's Planet, do you mean the Hawkinsite you've got at the Institute?"

"Well, of course. Who else could I possibly mean?"

"And may I ask what the devil you mean by saying we'll have him here?"

"Drake, don't you understand?"

"What is there to understand? Your Institute may be interested in the thing, but I'm not. What have we to do with it personally? It's Institute business, isn't it?"

"But, darling," Rose said, patiently, "the Hawkinsite would like to stay at a private house somewhere, where he won't be bothered with official ceremony, and where he'll be able to proceed more according to his own likes and dislikes. I find it quite understandable."

"Why at our house?"

"Because our place is convenient for the purpose, I suppose. They asked if I would allow it, and frankly," she added with some stiffness, "I consider it a privilege."

"Look!" Drake put his fingers through his brown hair and succeeded in rumpling it. "We've got a convenient little place here-granted! It's not the most elegant place in the world, but it does well enough for us. However, I don't see where we've got room for extraterrestrial visitors."

Rose began to look worried. She removed her glasses and put them away in their case. "He can stay in the spare room. He'll take care of it himself. I've spoken to him and he's very pleasant. Honestly, all we have to do is show a certain amount of adaptability."

Drake said, "Sure, just a little adaptability! The Hawkinsites breathe cyanide. We'll just adapt ourselves to that, I suppose!"

"He carries cyanide in a little cylinder. You won't even notice it."

"And what else about them that I won't notice?"

"Nothing else. They're perfectly harmless. Goodness, they're even vegetarians."

"And what does that mean? Do we feed him a bale of hay for dinner?"

Rose's lower lip trembled. "Drake, you're being deliberately hateful. There are many vegetarians on Earth; they don't eat hay."

"And what about us? Do we eat meat ourselves or will that make us look like cannibals to him? I won't live on salads to suit him; I warn you."

"You're being quite ridiculous."

Rose felt helpless. She had married late in life, comparatively. Her career had been chosen; she herself had seemed well settled in it. She was a fellow in biology at the Jenkins Institute for the Natural Sciences, with over twenty publications to her credit. In a word, the line was hewed, the path cleared; she had been set for a career and spinsterhood. And now, at thirty-five, she was still a little amazed to find herself a bride of less than a year.

Occasionally, it embarrassed her, too, since she sometimes found that she had not the slightest idea of how to handle her husband. What did one do when the man of the family became mulish? That was not included in any of her courses. As a woman of independent mind and career, she couldn't bring herself to cajolery.

So she looked at him steadily and said simply, "It means very much to me."

"Why?"

"Because, Drake, if he stays here for any length of time, I can study him really closely. Very little work has been done on the biology and psychology of the individual Hawkinsite or of any of the extraterrestrial intelligences. We have some of their sociology and history, of course, but that's all. Surely, you must see the opportunity. He stays here; we watch him, speak to him, observe his habits--"

"Not interested."

"Oh, Drake, I don't understand you."

"You're going to say I'm not usually like this, I suppose."

"Well, you're not."

Drake was silent for a while. He seemed withdrawn and his high cheekbones and large chin were twisted and frozen into a brooding position.

He said finally, "Look, I've heard a bit about the Hawkinsites in the way of my own business. You say there have been investigations of their sociology, but not of their biology. Sure. It's because the Hawkinsites don't like to be studied as specimens any more than we would. I've spoken to men who were in charge of security groups watching various Hawkinsite missions on Earth. The missions stay in the rooms assigned to them and don't leave for anything but the most important official business. They have nothing to do with Earthmen. It's quite obvious that they are as revolted by us as I personally am by them.

"In fact, I just don't understand why this Hawkinsite at the Institute should be any different. It seems to me to be against all the rules to have him come here by himself,

anyway-and to have him want to stay in an Earthman's home just puts the maraschino cherry on top."

Rose said, wearily, "This is different. I'm surprised you can't understand it, Drake. He's a doctor. He's coming here in the way of medical research, and I'll grant you that he probably doesn't enjoy staying with human beings and will find us perfectly horrible. But he must stay just the same! Do you suppose human doctors enjoy going into the tropics, or that they are particularly fond of letting themselves be bitten by infected mosquitoes?"

Drake said sharply, "What's this about mosquitoes? What have they to do with it?"

"Why, nothing," Rose answered, surprised. "It just came to my mind, that's all. I was thinking of Reed and his yellow-fever experiments."

Drake shrugged. "Well, have it your own way."

For a moment, Rose hesitated. "You're not angry about this, are you?" To her own ears she sounded unpleasantly girlish.

"No."

And that, Rose knew, meant that he was.

Rose surveyed herself doubtfully in the full-length mirror. She had never been beautiful and was quite reconciled to the fact; so much so that it no longer mattered. Certainly, it would not matter to a being from Hawkin's Planet. What did bother her was this matter of being a hostess under the very queer circumstances of having to be tactful to an extraterrestrial creature and, at the same time, to her husband as well. She wondered which would prove the more difficult.

Drake was coming home late that day; he was not due for half an hour. Rose found herself inclined to believe that he had arranged that purposely in a sullen desire to leave her alone with her problem. She found herself in a state of mild resentment.

He had called her just before noon at the Institute and had asked abruptly, "When are you taking him home?"

She answered, curtly, "In about three hours."

"All right. What's his name? His Hawkinsite name?"

"Why do you want to know?" She could not keep the chill from her words.

"Let's call it a small investigation of my own. After all, the thing will be in my house."

"Oh, for heaven's sake, Drake, don't bring your job home with you!"

Drake's voice sounded tinny and nasty in her ears. "Why not, Rose? Isn't that exactly what you're doing?"

It was, of course, so she gave him the information he wanted.

This was the first time in their married life that they had had even the semblance of a quarrel, and, as she sat there before the full-length mirror, she began to wonder if perhaps she ought not make an attempt to see his side of it. In essence, she had married a policeman. Of course he was more than simply a policeman; he was a member of the World Security Board.

It had been a surprise to her friends. The fact of the marriage itself had been the biggest surprise, but if she had decided on marriage, the attitude was, why not with

another biologist? Or, if she had wanted to go afield, an anthropologist, perhaps; even a chemist; but why, of all people, a policeman? Nobody had exactly said those things, naturally, but it had been in the very atmosphere at the time of her marriage.

She had resented it then, and ever since. A man could marry whom he chose, but if a doctor of philosophy, female variety, chose to marry a man who never went past the bachelor's degree, there was shock. Why should there be? What business was it of theirs? He was handsome, in a way, intelligent, in another way, and she was perfectly satisfied with her choice.

Yet how much of this same snobbishness did she bring home with her? Didn't she always have the attitude that her own work, her biological investigations, were important, while his job was merely something to be kept within the four walls of his little office in the old U.N. buildings on the East River?

She jumped up from her seat in agitation and, with a deep breath, decided to leave such thoughts behind her. She desperately did not want to quarrel with him. And she just wasn't going to interfere with him. She was committed to accepting the Hawkinsite as guest, but otherwise she would let Drake have his own way. He was making enough of a concession as it was.

Harg Tholan was standing quietly in the middle of the living room when she came down the stairs. He was not sitting, since he was not anatomically constructed to sit. He stood on two sets of limbs placed close together, while a third pair entirely different in construction were suspended from a region that would have been the upper chest in a human being. The skin of his body was hard, glistening and ridged, while his face bore a distant resemblance to something alienly bovine. Yet he was not completely repulsive, and he wore clothes of a sort over the lower portion of his body in order to avoid offending the sensibilities of his human hosts.

He said, "Mrs. Smollett, I appreciate your hospitality beyond my ability to express it in your language," and he drooped so that his forelimbs touched the ground for a moment.

Rose knew this to be a gesture signifying gratitude among the beings of Hawkin's Planet. She was grateful that he spoke English as well as he did. The construction of his mouth, combined with an absence of incisors, gave a whistling sound to the sibilants. Aside from that, he might have been born on Earth for all the accent his speech showed.

She said, "My husband will be home soon, and then we will eat."

"Your husband?" For a moment, he said nothing more, and then added, "Yes, of course."

She let it go. If there was one source of infinite confusion among the five intelligent races of the known Galaxy, it lay in the differences among them with regard to their sex life and the social institutions that grew around it. The concept of husband and wife, for instance, existed only on Earth. The other races could achieve a sort of intellectual understanding of what it meant, but never an emotional one.

She said, "I have consulted the Institute in preparing your menu. I trust you will find nothing in it that will upset you."

The Hawkinsite blinked its eyes rapidly. Rose recalled this to be a gesture of amusement.

He said, "Proteins are proteins, my dear Mrs. Smollett. For those trace factors which I need but are not supplied in your food, I have brought concentrates that will be most adequate."

And proteins were proteins. Rose knew this to be true. Her concern for the creature's diet had been largely one of formal politeness. In the discovery of life on the planets of the outer stars, one of the most interesting generalizations that had developed was the fact that, although life could be formed on the basis of substances other than proteins-even on elements other than carbon-it remained true that the only known intelligences were proteinaceous in nature. This meant that each of the five forms of intelligent life could maintain themselves over prolonged periods on the food of any of the other four.

She heard Drake's key in the door and went stiff with apprehension.

She had to admit he did well. He strode in, and, without hesitation, thrust his hand out at the Hawkinsite, saying firmly, "Good evening, Dr. Tholan."

The Hawkinsite put out his large and rather clumsy forelimb and the two, so to speak, shook hands. Rose had already gone through that procedure and knew the queer feeling of a Hawkinsite hand in her own. It had felt rough and hot and dry. She imagined that, to the Hawkinsite, her own and Drake's felt cold and slimy.

At the time of the formal greeting, she had taken the opportunity to observe the alien hand. It was an excellent case of converging evolution. Its morphological development was entirely different from that of the human hand, yet it had brought itself into a fairly approximate similarity. There were four fingers but no thumb. Each finger had five independent ball-and-socket joints. In this way, the flexibility lost with the absence of the thumb was made up for by the almost tentacular properties of the fingers. What was even more interesting to her biologist's eyes was the fact that each Hawkinsite finger ended in a vestigial hoof, very small and, to the layman, unidentifiable as such, but clearly adapted at one time to running, just as man's had been to climbing.

Drake said, in friendly enough fashion, "Are you quite comfortable, sir?"

The Hawkinsite answered, "Quite. Your wife has been most thoughtful in all her arrangements."

"Would you care for a drink?"

The Hawkinsite did not answer but looked at Rose with a slight facial contortion that indicated some emotion which, unfortunately, Rose could not interpret. She said, nervously, "On Earth there is the custom of drinking liquids which have been fortified with ethyl alcohol. We find it stimulating."

"Oh, yes. I am afraid, then, that I must decline. Ethyl alcohol would interfere most unpleasantly with my metabolism."

"Why, so it does to Earthmen, too, but I understand, Dr. Tholan," Drake replied.

"Would you object to my drinking?"

"Of course not."

Drake passed close to Rose on his way to the sideboard and she caught only one word. He said, "God!" in a tightly controlled whisper, yet he managed to put seventeen exclamation points after it.

The Hawkinsite stood at the table. His fingers were models of dexterity as they wove their way around the cutlery. Rose tried not to look at him as he ate. His wide lipless mouth split his face alarmingly as he ingested food, and in chewing, his large jaws moved disconcertingly from side to side. It was another evidence of his ungulate ancestry. Rose found herself wondering if, in the quiet of his own room, he would later chew his cud, and was then panic-stricken lest Drake get the same idea and leave the table in disgust. But Drake was taking everything quite calmly.

He said, "I imagine, Dr. Tholan, that the cylinder at your side holds cyanide?"

Rose started. She had actually not noticed it. It was a curved metal object, something like a water canteen, that fitted flatly against the creature's skin, half-hidden behind its clothing. But, then, Drake had a policeman's eyes.

The Hawkinsite was not in the least disconcerted. "Quite so," he said, and his hoofed fingers held out a thin, flexible hose that ran up his body, its tint blending into that of his yellowish skin, and entered the corner of his wide mouth. Rose felt slightly embarrassed, as though at the display of intimate articles of clothing.

Drake said, "And does it contain pure cyanide?"

The Hawkinsite humorously blinked his eyes. "I hope you are not considering possible danger to Earthites. I know the gas is highly poisonous to you and I do not need a great deal. The gas contained in the cylinder is five per cent hydrogen cyanide, the remainder oxygen. None of it emerges except when I actually suck at the tube, and that need not be done frequently."

"I see. And you really must have the gas to live?"

Rose was slightly appalled. One simply did not ask such questions without careful preparation. It was impossible to foresee where the sensitive points of an alien psychology might be. And Drake must be doing this deliberately, since he could not help realizing that he could get answers to such questions as easily from herself. Or was it that he preferred not to ask her?

The Hawkinsite remained apparently unperturbed. "Are you not a biologist, Mr. Smollett?"

"No, Dr. Tholan."

"But you are in close association with Mrs. Dr. Smollett."

Drake smile a bit. "Yes, I am married to a Mrs. doctor, but just the same I am not a biologist; merely a minor government official. My wife's friends," he added, "call me a policeman."

Rose bit the inside of her cheek. In this case it was the Hawkinsite who had impinged upon the sensitive point of an alien psychology. On Hawkin's Planet, there was a tight caste system and intercaste associations were limited. But Drake wouldn't realize that.

The Hawkinsite turned to her. "May I have your permission, Mrs. Smollett, to explain a little of our biochemistry to your husband? It will be dull for you, since I am sure you must understand it quite well already."

She said, "By all means do, Dr. Tholan."

He said, "You see, Mr. Smollett, the respiratory system in your body and in the bodies of all air-breathing creatures on Earth is controlled by certain metal-containing enzymes, I am taught. The metal is usually iron, though sometimes it is copper. In either case, small traces of cyanide would combine with these metals and immobilize the respiratory system of the terrestrial living cell. They would be prevented from using oxygen and killed in a few minutes.

"The life on my own planet is not quite so constituted. The key respiratory compounds contain neither iron nor copper; no metal at all, in fact. It is for this reason that my blood is colorless. Our compounds contain certain organic groupings which are essential to life, and these groupings can only be maintained intact in the presence of a small concentration of cyanide. Undoubtedly, this type of protein has developed through millions of years of evolution on a world which has a few tenths of a per cent of hydrogen cyanide occurring naturally in the atmosphere. Its presence is maintained by a biological cycle. Various of our native micro-organisms liberate the free gas."

"You make it extremely clear, Dr. Tholan, and very interesting," Drake said. "What happens if you don't breathe it? Do you just go, like that?" He snapped his fingers.

"Not quite. It isn't equivalent to the presence of cyanide for you. In my case, the absence of cyanide would be equivalent to slow strangulation. It happens sometimes, in ill-ventilated rooms on my world, that the cyanide is gradually consumed and falls below the minimum necessary concentration. The results are very painful and difficult to treat."

Rose had to give Drake credit; he really sounded interested. And the alien, thank heaven, did not mind the catechism.

The rest of the dinner passed without incident. It was almost pleasant.

Throughout the evening, Drake remained that way; interested. Even more than that-absorbed. He drowned her out, and she was glad of it. He was the one who was really colorful and it was only her job, her specialized training, that stole the color from him. She looked at him gloomily and thought, Why did he marry me?

Drake sat, one leg crossed over the other, hands clasped and tapping his chin gently, watching the Hawkinsite intently. The Hawkinsite faced him, standing in his quadruped fashion.

Drake said, "I find it difficult to keep thinking of you as a doctor."

The Hawkinsite laughingly blinked his eyes. "I understand what you mean," he said. "I find it difficult to think of you as a policeman. On my world, policemen are very specialized and distinctive people."

"Are they?" said Drake, somewhat drily, and then changed the subject. "I gather that you are not here on a pleasure trip."

"No, I am here very much on business. I intend to study this queer planet you call Earth, as it has never been studied before by any of my people.'

"Queer?" asked Drake. "In what way?"

The Hawkinsite looked at Rose. "Does he know of the Inhibition Death?"

Rose felt embarrassed. "His work is important," she said. "I am afraid that my husband has little time to listen to the details of my work." She knew that this was not really adequate and she felt herself to be the recipient, yet again, of one of the Hawkinsite's unreadable emotions.

The extraterrestrial creature turned back to Drake. "It is always amazing to me to find how little you Earthmen understand your own unusual characteristics. Look, there are five intelligent races in the Galaxy. These have all developed independently, yet have managed to converge in remarkable fashion. It is as though, in the long run, intelligence requires a certain physical makeup to flourish. I leave that question for philosophers. But I need not belabor the point, since it must be a familiar one to you.

"Now when the differences among the intelligences are closely investigated, it is found over and over again that it is you Earthmen, more than any of the others, who are unique. For instance, it is only on Earth that life depends upon metal enzymes for respiration. Your people are the only ones which find hydrogen cyanide poisonous. Yours is the only form of intelligent life which is carnivorous. Yours is the only form of life which has not developed from a grazing animal. And, most interesting of all, yours is the only form of intelligent life known which stops growing upon reaching maturity."

Drake grinned at him. Rose felt her heart suddenly race. It was the nicest thing about him, that grin, and he was using it perfectly naturally. It wasn't forced or false. He was adjusting to the presence of this alien creature. He was being pleasant-and he must be doing it for her. She loved that thought and repeated it to herself. He was doing it for her; he was being nice to the Hawkinsite for her sake.

Drake was saying with his grin, "You don't look very large, Dr. Tholan. I should say that you are an inch taller than I am, which would make you six feet two inches tall. Is it that you are young, or is it that the others on your world are generally small?"

"Neither," said the Hawkinsite. "We grow at a diminishing rate with the years, so that at my age it would take fifteen years to grow an additional inch, but-and this is the important point-we never entirely stop. And, of course, as a consequence, we never entirely die."

Drake gasped and even Rose felt herself sitting stiffly upright. This was something new. This was something which, to her knowledge, the few expeditions to Hawkin's Planet had never brought back. She was torn with excitement but held an exclamation back and let Drake speak for her.

He said, "They don't entirely die? You're not trying to say, sir, that the people on Hawkin's Planet are immortal?"

"No people are truly immortal. If there were no other way to die, there would always be accident, and if that fails, there is boredom. Few of us live more than several centuries of your time. Still, it is unpleasant to think that death may come involuntarily. It is something which, to us, is extremely horrible. It bothers me even as I think of it now, this thought that against my will and despite all care, death may come."

"We," said Drake, grimly, "are quite used to it."

"You Earthmen live with the thought; we do not. And this is why we are disturbed to find that the incidence of Inhibition Death has been increasing in recent years."

"You have not yet explained," said Drake, "just what the Inhibition Death is, but let me guess. Is the Inhibition Death a pathological cessation of growth?"

"Exactly."

"And how long after growth's cessation does death follow?"

"Within the year. It is a wasting disease, a tragic one, and absolutely incurable."

"What causes it?"

The Hawkinsite paused a long time before answering, and even then there was something strained and uneasy about the way he spoke. "Mr. Smollett, we know nothing about the cause of the disease."

Drake nodded thoughtfully. Rose was following the conversation as though she were a spectator at a tennis match.

Drake said, "And why do you come to Earth to study this disease?"

"Because again Earthmen are unique. They are the only intelligent beings who are immune. The Inhibition Death affects all the other races. Do your biologists know that, Mrs. Smollett?"

He had addressed her suddenly, so that she jumped slightly. She said, "No, they don't."

"I am not surprised. That piece of information is the result of very recent research. The Inhibition Death is easily diagnosed incorrectly and the incidence is much lower on the other planets. In fact, it is a strange thing, something to philosophize over, that the incidence of the Death is highest on my world, which is closest to Earth, and lower on each more distant planet-so that it is lowest on the world of the star Tempora, which is farthest from Earth, while Earth itself is immune. Somewhere in the biochemistry of the Earthite, there is the secret of that immunity. How interesting it would be to find it."

Drake said, "But look here, you can't say Earth is immune. From where I sit, it looks as if the incidence is a hundred per cent. All Earthmen stop growing and all Earthmen die. We've all got the Inhibition Death."

"Not at all. Earthmen live up to seventy years after the cessation of growth. That is not the Death as we know it. Your equivalent disease is rather one of unrestrained growth. Cancer, you call it. -But come, I bore you."

Rose protested instantly. Drake did likewise with even more vehemence, but the Hawkinsite determinedly changed the subject. It was then that Rose had her first pang of suspicion, for Drake circled Harg Tholan warily with his words, worrying him, jabbing at him, attempting always to get the information back to the point where the Hawkinsite had left off. Not badly, not unskillfully, but Rose knew him, and could tell what he was after. And what could he be after but that which was demanded by his profession? And, as though in response to her thoughts, the Hawkinsite took up the phrase which had begun careening in her mind like a broken record on a perpetual turntable.

He asked, "Did you not say you were a policeman?"

Drake said, curtly, "Yes."

"Then there is something I would like to request you to do for me. I have been wanting to all this evening, since I discovered your profession, and yet I hesitate. I do not wish to be troublesome to my host and hostess."

"We'll do what we can."

"I have a profound curiosity as to how Earthmen live; a curiosity which is not perhaps shared by the generality of my countrymen. So I wonder, could you show me through one of the police departments on your planet?"

"I do not belong to a police department in exactly the way you imagine," said Drake, cautiously. "However, I am known to the New York police department. I can manage it without trouble. Tomorrow?"

"That would be most convenient for me. Would I be able to visit the Missing Persons Bureau?"

"The what?"

The Hawkinsite drew his four standing legs closer together, as if he were becoming more intense. "It is a hobby of mine, a little queer corner of interest I have always had. I understand you have a group of police officers whose sole duty it is to search for men who are missing."

"And women and children," added Drake. "But why should that interest you so particularly?"

"Because there again you are unique. There is no such thing as a missing person on our planet. I can't explain the mechanism to you, of course, but among the people of other worlds, there is always an awareness of one another's presence, especially if there is a strong, affectionate tie. We are always aware of each other's exact location, no matter where on the planet we might be."

Rose grew excited again. The scientific expeditions to Hawkin's Planet had always had the greatest difficulty in penetrating the internal emotional mechanisms of the natives, and here was one who talked freely, who would explain! She forgot to worry about Drake and intruded into the conversations. "Can you feel such awareness even now? On Earth?"

The Hawkinsite said, "You mean across space? No, I'm afraid not. But you see the importance of the matter. All the uniqueness of Earth should be linked. If the lack of this sense can be explained, perhaps the immunity to Inhibition Death can be, also. Besides, it strikes me as very curious that any form of intelligent community life can be built among people who lack this community awareness. How can an Earthman tell, for instance, when he has formed a congenial sub-group, a family? How can you two, for instance, know that there is a true tie between you?"

Rose found herself nodding. How strongly she missed such a sense!

But Drake only smiled. "We have our ways. It is as difficult to explain what we call 'love' to you as it is for you to explain your sense to us."

"I suppose so. Yet tell me truthfully, Mr. Smollett-if Mrs. Smollett were to leave this room and enter another without your having seen her do so, would you really not be aware of her location?"

"I really would not."

The Hawkinsite said, "Amazing." He hesitated, then added, "Please do not be offended at the fact that I find it revolting as well."

After the light in the bedroom had been put out, Rose went to the door three times, opening it a crack and peering out. She could feel Drake watching her. There was a hard kind of amusement in his voice as he asked, finally, "What's the matter?"

She said, "I want to talk to you."

"Are you afraid our friend can hear?"

Rose was whispering. She got into bed and put her head on his pillow so that she could whisper better. She said, "Why were you talking about the Inhibition Death to Dr. Tholan?"

"I am taking an interest in your work, Rose. You've always wanted me to take an interest."

"I'd rather you weren't sarcastic." She was almost violent, as nearly violent as she could be in a whisper. "I know that there's something of your own interest in this-of police interest, probably. What is it?"

He said, "I'll talk to you tomorrow."

"No, right now."

He put his hand under her head, lifting it. For a wild moment she thought he was going to kiss her-just kiss her on impulse the way husbands sometimes did, or as she imagined they sometimes did. Drake never did, and he didn't now.

He merely held her close and whispered, "Why are you so interested?"

His hand was almost brutally hard upon the nape of her neck, so that she stiffened and tried to draw back. Her voice was more than a whisper now. "Stop it, Drake."

He said, "I want no questions from you and no interference. You do your job, and I'll do mine."

"The nature of my job is open and known."

"The nature of my job," he retorted, "isn't, by definition. But I'll tell you this. Our six-legged friend is here in this house for some definite reason. You weren't picked as biologist in charge for any random reason. Do you know that two days ago, he'd been inquiring about me at the Commission?"

"You're joking."

"Don't believe that for a minute. There are depths to this that you know nothing about. But that's my job and I won't discuss it with you any further. Do you understand?"

"No, but I won't question you if you don't want me to."

"Then go to sleep."

She lay stiffly on her back and the minutes passed, and then the quarter-hours. She was trying to fit the pieces together. Even with what Drake had told her, the curves and

colors refused to blend. She wondered what Drake would say if he knew she had a recording of that night's conversation!

One picture remained clear in her mind at that moment. It hovered over her mockingly. The Hawkinsite, at the end of the long evening, had turned to her and said gravely, "Good night, Mrs. Smollett. You are a most charming hostess."

She had desperately wanted to giggle at the time. How could he call her a charming hostess? To him, she could only be a horror, a monstrosity with too few limbs and a too-narrow face.

And then, as the Hawkinsite delivered himself of this completely meaningless piece of politeness, Drake had turned white! For one instant, his eyes had burned with something that looked like terror.

She had never before known Drake to show fear of anything, and the picture of that instant of pure panic remained with her until all her thoughts finally sagged into the oblivion of sleep.

It was noon before Rose was at her desk the next day. She had deliberately waited until Drake and the Hawkinsite had left, since only then was she able to remove the small recorder that had been behind Drake's armchair the previous evening. She had had no original intention of keeping its presence secret from him. It was just that he had come home so late, and she couldn't say anything about it with the Hawkinsite present. Later on, of course, things had changed-

The placing of the recorder had been only a routine maneuver. The Hawkinsite's statements and intonations needed to be preserved for future intensive studies by various specialists at the Institute. It had been hidden in order to avoid the distortions of self-consciousness that the visibility of such a device would bring, and now it couldn't be shown to the members of the Institute at all. It would have to serve a different function altogether. A rather nasty function.

She was going to spy on Drake.

She touched the little box with her fingers and wondered, irrelevantly, how Drake was going to manage, that day. Social intercourse between inhabited worlds was, even now, not so commonplace that the sight of a Hawkinsite on the city streets would not succeed in drawing crowds. But Drake would manage, she knew. Drake always managed.

She listened once again to the sounds of last evening, repeating the interesting moments. She was dissatisfied with what Drake had told her. Why should the Hawkinsite have been interested in the two of them particularly? Yet Drake wouldn't lie. She would have liked to check at the Security Commission, but she knew she could not do that. Besides, the thought made her feel disloyal; Drake would definitely not lie.

But, then again, why should Harg Tholan not have investigated them? He might have inquired similarly about the families of all the biologists at the Institute. It would be no more than natural to attempt to choose the home he would find most pleasant by his own standards, whatever they were.

And if he had-even if he had investigated only the Smolletts-why should that create the great change in Drake from intense hostility to intense interest? Drake undoubtedly had knowledge he was keeping to himself. Only heaven knew how much.

Her thoughts churned slowly through the possibilities of interstellar intrigue. So far, to be sure, there were no signs of hostility or ill-feeling among any of the five intelligent races known to inhabit the Galaxy. As yet they were spaced at intervals too wide for enmity. Even the barest contact among them was all but impossible. Economic and political interests just had no point at which to conflict.

But that was only her idea and she was not a member of the Security Commission. If there were conflict, if there were danger, if there were any reason to suspect that the mission of a Hawkinsite might be other than peaceful-Drake would know.

Yet was Drake sufficiently high in the councils of the Security Commission to know, off-hand, the dangers involved in the visit of a Hawkinsite physician? She had never thought of his position as more than that of a very minor functionary in the Commission; he had never presented himself as more. And yet- Might he be more?

She shrugged at the thought. It was reminiscent of Twentieth Century spy novels and of costume dramas of the days when there existed such things as atom bomb secrets.

The thought of costume dramas decided her. Unlike Drake, she wasn't a real policeman, and she didn't know how a real policeman would go about it. But she knew how such things were done in the old dramas.

She drew a piece of paper toward her and, with a quick motion, slashed a vertical pencil mark down its center. She headed one column "Harg Tholan," the other "Drake." Under "Harg Tholan" she wrote "bonafide" and thoughtfully put three question marks after it. After all, was he a doctor at all, or was he what could only be described as an interstellar agent? What proof had even the Institute of his profession except his own statements? Was that why Drake had quizzed him so relentlessly concerning the Inhibition Death? Had he boned up in advance and tried to catch the Hawkinsite in an error?

For a moment, she was irresolute; then, springing to her feet, she folded the paper, put it in the pocket of her short jacket, and swept out of her office. She said nothing to any of those she passed as she left the Institute. She left no word at the reception desk as to where she was going, or when she would be back.

Once outside, she hurried into the third-level tube and waited for an empty compartment to pass. The two minutes that elapsed seemed unbearably long. It was all she could do to say, "New York Academy of Medicine," into the mouthpiece just above the seat.

The door of the little cubicle closed, and the sound of the air flowing past the compartment hissed upward in pitch.

The New York Academy of Medicine had been enlarged both vertically and horizontally in the past two decades. The library alone occupied one entire wing of the third floor. Undoubtedly, if all the books, pamphlets and periodicals it contained were in their original printed form, rather than in microfilm, the entire building, huge though it was, would not have been sufficiently vast to hold them. As it was, Rose knew there was

already talk of limiting printed works to the last five years, rather than to the last ten, as was now the case.

Rose, as a member of the Academy, had free entry to the library. She hurried toward the alcoves devoted to extraterrestrial medicine and was relieved to find them unoccupied.

It might have been wiser to have enlisted the aid of a librarian, but she chose not to. The thinner and smaller the trail she left, the less likely it was that Drake might pick it up.

And so, without guidance, she was satisfied to travel along the shelves, following the titles anxiously with her fingers. The books were almost all in English, though some were in German or Russian. None, ironically enough, were in extraterrestrial symbolisms. There was a room somewhere for such originals, but they were available only to official translators.

Her traveling eye and finger stopped. She had found what she was looking for.

She dragged half a dozen volumes from the shelf and spread them out upon the small dark table. She fumbled for the light switch and opened the first of the volumes. It was entitled Studies on Inhibition. She leafed through it and then turned to the author index. The name of Harg Tholan was there.

One by one, she looked up the references indicated, then returned to the shelves for translations of such original papers as she could find.

She spent more than two hours in the Academy. When she was finished, she knew this much—there was a Hawkinsite doctor named Harg Tholan, who was an expert on the Inhibition Death. He was connected with the Hawkinsite research organization with which the Institute had been in correspondence. Of course, the Harg Tholan she knew might simply be impersonating an actual doctor to make the role more realistic, but why should that be necessary?

She took the paper out of her pocket and, where she had written "bonafide" with three question marks, she now wrote a YES in capitals. She went back to the Institute and at 4 P.M. was once again at her desk. She called the switchboard to say that she would not answer any phone calls and then she locked her door.

Underneath the column headed "Harg Tholan" she now wrote two questions: "Why did Harg Tholan come to Earth alone?" She left considerable space. Then, "What is his interest in the Missing Persons Bureau?"

Certainly, the Inhibition Death was all the Hawkinsite said it was. From her reading at the Academy, it was obvious that it occupied the major share of medical effort on Hawkin's Planet. It was more feared there than cancer was on Earth. If they had thought the answer to it lay on Earth, the Hawkinsites would have sent a full-scale expedition. Was it distrust and suspicion on their part that made them send only one investigator?

What was it Harg Tholan had said the night before? The incidence of the Death was highest upon his own world, which was closest to Earth, lowest upon the world farthest from Earth. Add to that the fact implied by the Hawkinsite, and verified by her

own readings at the Academy, that the incidence had expanded enormously since interstellar contact had been made with Earth. . .

Slowly and reluctantly she came to one conclusion. The inhabitants of Hawkin's Planet might have decided that somehow Earth had discovered the cause of the Inhibition Death, and was deliberately fostering it among the alien peoples of the Galaxy, with the intention, perhaps, of becoming supreme among the stars.

She rejected this conclusion with what was almost panic. It could not be; it was impossible. In the first place, Earth wouldn't do such a horrible thing. Secondly, it couldn't. As far as scientific advance was concerned, the beings of Hawkin's Planet were certainly the equals of Earthmen. The Death had occurred there for thousands of years and their medical record was one of total failure. Surely, Earth, in its long-distance investigations into alien biochemistry, could not have succeeded so quickly. In fact, as far as she knew, there were no investigations to speak of into Hawkinsite pathology on the part of Earth biologists and physicians.

Yet all the evidence indicated that Harg Tholan had come in suspicion and had been received in suspicion. Carefully, she wrote down under the question, "Why did Harg Tholan come to Earth alone?" the answer, "Haw-kin's Planet believes Earth is causing the Inhibition Death."

But, then, what was this business about the Bureau of Missing Persons? As a scientist, she was rigorous about the theories she developed. All the facts had to fit in, not merely some of them.

Missing Persons Bureau! If it was a false trail, deliberately intended to deceive Drake, it had been done clumsily, since it came only after an hour of discussion of the Inhibition Death.

Was it intended as an opportunity to study Drake? If so, why? Was this perhaps the major point? The Hawkinsite had investigated Drake before coming to them. Had he come because Drake was a policeman with entry to Bureaus of Missing Persons?

But why? Why?

She gave it up and turned to the column headed "Drake."

And there a question wrote itself, not in pen and ink upon the paper, but in the much more visible letters of thought on mind. Why did he marry me? thought Rose, and she covered her eyes with her hands so that the unfriendly light was excluded.

They had met quite by accident somewhat more than a year before, when he had moved into the apartment house in which she then lived. Polite greetings had somehow become friendly conversation and this, in turn, had led to occasional dinners in a neighborhood restaurant. It had been very friendly and normal and an exciting new experience, and she had fallen in love.

When he asked her to marry him, she was pleased-and overwhelmed. At the time, she had many explanations for it. He appreciated her intelligence and friendliness. She was a nice girl. She would make a good wife, a splendid companion.

She had tried all those explanations and had half-believed every one of them. But half-belief was not enough.

It was not that she had any definite fault to find in Drake as a husband. He was always thoughtful, kind and a gentleman. Their married life was not one of passion, and yet it suited the paler emotional surges of the late thirties. She wasn't nineteen. What did she expect?

That was it; she wasn't nineteen. She wasn't beautiful, or charming, or glamorous. What did she expect? Could she have expected Drake-handsome and rugged, whose interest in intellectual pursuits was quite minor, who neither asked about her work in all the months of their marriage, nor offered to discuss his own with her? Why, then, did he marry her?

' But there was no answer to that question, and it had nothing to do with what Rose was trying to do now. It was extraneous, she told herself fiercely; it was a childish distraction from the task she had set herself. She was acting like a girl of nineteen, after all, with no chronological excuse for it.

She found that the point of her pencil had somehow broken, and took a new one. In the column headed "Drake" she wrote, "Why is he suspicious of Harg Tholan?" and under it she put an arrow pointing to the other column.

What she had already written there was sufficient explanation. If Earth was spreading the Inhibition Death, or if Earth knew it was suspected of such a deed, then, obviously, it would be preparing for eventual retaliation on the part of the aliens. In fact, the setting would actually be one of preliminary maneuvering for the first interstellar war of history. It was an adequate but horrible explanation.

Now there was left the second question, the one she could not answer. She wrote it slowly, "Why Drake's reaction to Tholan's words, 'You are a most charming hostess'?"

She tried to bring back the exact setting. The Hawkinsite had said it innocuously, matter-of-factly, politely, and Drake had frozen at the sound of it. Over and over, she had listened to that particular passage in the recording. An Earthman might have said it in just such an inconsequential tone on leaving a routine cocktail party. The recording did not carry the sight of Drake's face; she had only her memory for that. Drake's eyes had become alive with fear and hate, and Drake was one who feared practically nothing. What was there to fear in the phrase, "You are a most charming hostess," that could upset him so? Jealousy? Absurd. The feeling that Tholan had been sarcastic? Maybe, though unlikely. She was sure Tholan was sincere.

She gave it up and put a large question mark under that second question. There were two of them now, one under "Harg Tholan" and one under "Drake." Could there be a connection between Tholan's interest in missing persons and Drake's reaction to a polite party phrase? She could think of none.

She put her head down upon her arms. It was getting dark in the office and she was very tired. For a while, she must have hovered in that queer land between waking and sleeping, when thoughts and phrases lose the control of the conscious and disport themselves erratically and surrealistically through one's head. But, no matter where they danced and leaped, they always returned to that one phrase, "You are a most charming hostess." Sometimes she heard it in Harg Tholan's cultured, lifeless voice, and sometimes

in Drake's vibrant one. When Drake said it, it was full of love, full of a love she never heard from him. She liked to hear him say it.

She startled herself to wakefulness. It was quite dark in the office now, and she put on the desk light. She blinked, then frowned a little. Another thought must have come to her in that fitful half-sleep. There had been another phrase which had upset Drake. What was it? Her forehead furrowed with mental effort. It had not been last evening. It was not anything in the recorded conversation, so it must have been before that. Nothing came and she grew restless.

Looking at her watch, she gasped. It was almost eight. They would be at home waiting for her.

But she did not want to go home. She did not want to face them. Slowly, she took up the paper upon which she had scrawled her thoughts of the afternoon, tore it into little pieces and let them flutter into the little atomic-flash ashtray upon her desk. They were gone in a little flare and nothing was left of them.

If only nothing were left of the thoughts they represented as well.

It was no use. She would have to go home.

They were not there waiting for her, after all. She came upon them getting out of a gyrocab just as she emerged from the tubes on to street level. The gyrocab, wide-eyed, gazed after his fares for a moment, then hovered upward and away. By unspoken mutual consent, the three waited until they had entered the apartment before speaking.

Rose said disinterestedly, "I hope you have had a pleasant day, Dr. Tholan."

"Quite. And a fascinating and profitable one as well, I think."

"Have you had a chance to eat?" Though Rose had not herself eaten, she was anything but hungry.

"Yes, indeed."

Drake interrupted, "We had lunch and supper sent up to us. Sandwiches." He sounded tired.

Rose said, "Hello, Drake." It was the first time she had addressed him.

Drake scarcely looked at her. "Hello."

The Hawkinsite said, "Your tomatoes are remarkable vegetables. We have nothing to compare with them in taste on our own planet. I believe I ate two dozen, as well as an entire bottle of tomato derivative."

"Ketchup," explained Drake, briefly.

Rose said, "And your visit at the Missing Persons Bureau, Dr. Tholan? You say you found it profitable?"

"I should say so. Yes."

Rose kept her back to him. She plumped up sofa cushions as she said, "In what way?"

"I find it most interesting that the large majority of missing persons are males. Wives frequently report missing husbands, while the reverse is practically never the case."

Rose said, "Oh, that's not mysterious, Dr. Tholan. You simply don't realize the economic setup we have on Earth. On this planet, you see, it is the male who is usually

the member of the family that maintains it as an economic unit. He is the one whose labor is repaid in units of currency. The wife's function is generally that of taking care of home and children."

"Surely this is not universal!"

Drake put in, "More or less. If you are thinking of my wife, she is an example of the minority of women who are capable of making their own way in the world."

Rose looked at him swiftly. Was he being sarcastic?

The Hawkinsite said, "Your implication, Mrs. Smollett, is that women, being economically dependent upon their male companions, find it less feasible to disappear?"

"That's a gentle way of putting it," said Rose, "but that's about it."

"And would you call the Missing Persons Bureau of New York a fair sampling of such cases in the planet at large?"

"Why, I should think so."

The Hawkinsite said, abruptly, "And is there, then, an economic explanation for the fact that since interstellar travel has been developed, the percentage of young males among the missing is more pronounced than ever?"

It was Drake who answered, with a verbal snap. "Good lord, that's even less of a mystery than the other. Nowadays, the runaway has all space to disappear into. Anyone who wants to get away from trouble need only hop the nearest space freighter. They're always looking for crewmen, no questions asked, and it would be almost impossible to locate the runaway after that, if he really wanted to stay out of circulation."

"And almost always young men in their first year of marriage."

Rose laughed suddenly. She said, "Why, that's just the time a man's troubles seem the greatest. If he survives the first year, there is usually no need to disappear at all."

Drake was obviously not amused. Rose thought again that he looked tired and unhappy. Why did he insist on bearing the load alone? And then she thought that perhaps he had to.

The Hawkinsite said, suddenly, "Would it offend you if I disconnected for a period of time?"

Rose said, "Not at all. I hope you haven't had too exhausting a day. Since you come from a planet whose gravity is greater than that of Earth's, I'm afraid we too easily presume that you would show greater endurance than we do."

"Oh, I am not tired in a physical sense." He looked for a moment at her legs and blinked very rapidly, indicating amusement. "You know, I keep expecting Earthmen to fall either forward or backward in view of their meager equipment of standing limbs. You must pardon me if my comment is overfamiliar, but your mention of the lesser gravity of Earth brought it to my mind. On my planet, two legs would simply not be enough. But this is all beside the point at the moment. It is just that I have been absorbing so many new and unusual concepts that I feel the desire for a little disconnection."

Rose shrugged inwardly. Well, that was as close as one race could get to another, anyway. As nearly as the expeditions to Hawkin's Planet could make out, Hawkinsites had the faculty for disconnecting their conscious mind from all its bodily functions and

allowing it to sink into an undisturbed meditative process for periods of time lasting up to terrestrial days. Hawkinsites found the process pleasant, even necessary sometimes, though no Earthman could truly say what function it served.

Conversely, it had never been entirely possible for Earthmen to explain the concept of "sleep" to a Hawkinsite, or to any extraterrestrial. What an Earthman would call sleep or a dream, a Hawkinsite would view as an alarming sign of mental disintegration.

Rose thought uneasily, Here is another way Earthmen are unique.

The Hawkinsite was backing away, drooping so that his forelimbs swept the floor in polite farewell. Drake nodded curtly at him as he disappeared behind the bend in the corridor. They heard his door open, close, then silence.

After minutes in which the silence was thick between them, Drake's chair creaked as he shifted restlessly. With a mild horror, Rose noticed blood upon his lips. She thought to herself, He's in some kind of trouble. I've got to talk to him. I can't let it go on like this.

She said, "Drake!"

Drake seemed to look at her from a far, far distance. Slowly, his eyes focused closer at hand and he said, "What is it? Are you through for the day, too?"

"No, I'm ready to begin. It's the tomorrow you spoke of. Aren't you going to speak to me?"

"Pardon me?"

"Last night, you said you would speak to me tomorrow. I am ready now."

Drake frowned. His eyes withdrew beneath a lowered brow and Rose felt some of her resolution begin to leave her. He said, "I thought it was agreed that you would not question me about my business in this matter."

"I think it's too late for that. I know too much about your business by now."

"What do you mean?" he shouted, jumping to his feet. Recollecting himself, he approached, laid his hands upon her shoulders and repeated in a lower voice, "What do you mean?"

Rose kept her eyes upon her hands, which rested limply in her lap. She bore the painfully gripping fingers patiently, and said slowly, "Dr. Tholan thinks that Earth is spreading the Inhibition Death purposely. That's it, isn't it?"

She waited. Slowly, the grip relaxed and he was standing there, hands at his side, face baffled and unhappy. He said, "Where did you get that notion?"

"It's true, isn't it?"

He said breathlessly, unnaturally, "I want to know exactly why you say that. Don't play foolish games with me, Rose. This is for keeps."

"If I tell you, will you answer one question?"

"What question?"

"Is Earth spreading the disease deliberately, Drake?"

Drake flung his hands upward. "Oh, for Heaven's sake!"

He knelt before her. He took her hands in his and she could feel their trembling. He was forcing his voice into soothing, loving syllables.

He was saying, "Rose dear, look, you've got something red-hot by the tail and you think you can use it to tease me in a little husband-wife repartee. No, I'm not asking much. Just tell me exactly what causes you to say what- what you have just said." He was terribly earnest about it.

"I was at the New York Academy of Medicine this afternoon. I did some reading there."

"But why? What made you do it?"

"You seemed so interested in the Inhibition Death, for one thing. And Dr. Tholan made those statements about the incidence increasing since interstellar travel, and being the highest on the planet nearest Earth." She paused.

"And your reading?" he prompted. "What about your reading, Rose?"

She said, "It backs him up. All I could do was to skim hastily into the direction of their research in recent decades. It seems obvious to me, though, that at least some of the Hawkinsites are considering the possibility the Inhibition Death originates on Earth."

"Do they say so outright?"

"No. Or, if they have, I haven't seen it." She gazed at him in surprise. In a matter like this, certainly the government would have investigated Hawkinsite research on the matter. She said, gently, "Don't you know about Hawkinsite research in the matter, Drake? The government-"

"Never mind about that." Drake had moved away from her and now he turned again. His eyes were bright. He said, as though making a wonderful discovery, "Why, you're an expert in this!"

Was she? Did he find that out only now that he needed her? Her nostrils flared and she said flatly, "I am a biologist."

He said, "Yes, I know that, but I mean your particular specialty is growth. Didn't you once tell me you had done work on growth?"

"You might call it that. I've had twenty papers published on the relationship of nucleic acid fine structure and embryonic development on my Cancer Society grant."

"Good. I should have thought of that." He was choked with a new excitement. "Tell me, Rose- Look, I'm sorry if I lost my temper with you a moment ago. You'd be as competent as anyone to understand the direction of their researches if you read about it, wouldn't you?"

"Fairly competent, yes."

"Then tell me how they think the disease is spread. The details, I mean."

"Oh, now look, that's asking a little too much. I spent a few hours in the Academy, that's all. I'd need much more time than that to be able to answer your question."

"An intelligent guess, at least. You can't imagine how important it is."

She said, doubtfully, "Of course, 'Studies on Inhibition' is a major treatise in the field. It would summarize all of the available research data."

"Yes? And how recent is it?"

"It's one of those periodic things. The last volume is about a year old."

"Does it have any account of his work in it?" His finger jabbed in the direction of Harg Tholan's bedroom.

"More than anyone else's. He's an outstanding worker in the field. I looked over his papers especially."

"And what are his theories about the origin of the disease? Try to remember, Rose."

She shook her head at him. "I could swear he blames Earth, but he admits they know nothing about how the disease is spread. I could swear to that, too."

He stood stiffly before her. His strong hands were clenched into fists at his side and his words were scarcely more than a mutter. "It could be a matter of complete overestimation. Who knows-"

He whirled away. "I'll find out about this right now, Rose. Thank you for your help."

She ran after him. "What are you going to do?"

"Ask him a few questions." He was rummaging through the drawers of his desk and now his right hand withdrew. It held a needle-gun.

She cried, "No, Drake!"

He shook her off roughly, and turned down the corridor toward the Hawkinsite's bedroom.

Drake threw the door open and entered. Rose was at his heels, still trying to grasp his arm, but now he stopped and looked at Harg Tholan.

The Hawkinsite was standing there motionless, eyes unfocused, his four standing limbs sprawled out in four directions as far as they would go. Rose felt ashamed of intruding, as though she were violating an intimate rite. But Drake, apparently unconcerned, walked to within four feet of the creature and stood there. They were face to face, Drake holding the needle-gun easily at a level of about the center of the Hawkinsite's torso.

Drake said, "Now keep quiet. He'll gradually become aware of me."

' "How do you know?"

'The answer was flat. "I know. Now get out of here."

But she did not move and Drake was too absorbed to pay her further attention.

Portions of the skin on the Hawkinsite's face were beginning to quiver slightly. It was rather repulsive and Rose found herself preferring not to watch.

Drake suddenly, "That's about all, Dr. Tholan. Don't throw in connection with any of the limbs. Your sense organs and voice box will be quite enough."

The Hawkinsite's voice was dim. "Why do you invade my disconnection chamber?" Then, more strongly, "And why are you armed?"

His head wobbled slightly atop a still frozen torso. He had, apparently, followed Drake's suggestion against limb connection. Rose wondered how Drake knew such partial reconnection to be possible. She herself had not known of it.

The Hawkinsite spoke again. "What do you want?"

And this time Drake answered. He said, "The answer to certain questions."

"With a gun in your hand? I would not humor your discourtesy so far."

"You would not merely be humoring me. You might be saving your own life."

"That would be a matter of considerable indifference to me, under the circumstances. I am sorry, Mr. Smollett, that the duties toward a guest are so badly understood on Earth."

"You are no guest of mine, Dr. Tholan," said Drake. "You entered my house on false pretenses. You had some reason for it, some way you had planned of using me to further your own purposes. I have no compunction in reversing the process."

"You had better shoot. It will save time."

"You are convinced that you will answer no questions? That, in itself, is suspicious. It seems that you consider certain answers to be more important than your life."

"I consider the principles of courtesy to be very important. You, as an Earthman, may not understand."

"Perhaps not. But I, as an Earthman, understand one thing." Drake had jumped forward, faster than Rose could cry out, faster than the Hawkinsite could connect his limbs. When he sprang backward, the flexible hose of Harg Tholan's cyanide cylinder was in his hand. At the corner of the Hawkinsite's wide mouth, where the hose had once been affixed, a droplet of colorless liquid oozed sluggishly from a break in the rough skin, and slowly solidified into a brown jellylike globule, as it oxidized.

Drake yanked at the hose and the cylinder jerked free. He plunged home the knob that controlled the needle valve at the head of the cylinder and the small hissing ceased.

"I doubt," said Drake, "that enough will have escaped to endanger us. I hope, however, that you realize what will happen to you now, if you do not answer the questions I am going to ask you-and answer them in such a way that I am convinced you are being truthful."

"Give me back my cylinder," said the Hawkinsite, slowly, "If not, it will be necessary for me to attack you and then it will be necessary for you to kill me."

Drake stepped back. "Not at all. Attack me and I shoot your legs from under you. You will lose them; all four, if necessary, but you will still live, in a horrible way. You will live to die of cyanide lack. It would be a most uncomfortable death. I am only an Earthman and I can't appreciate its true horrors, but you can, can't you?"

The Hawkinsite's mouth was open and something within quivered yellow-green. Rose wanted to throw up. She wanted to scream. Give him back the cylinder, Drake! But nothing would come. She couldn't even turn her head.

Drake said, "You have about an hour, I think, before the effects are irreversible. Talk quickly, Dr. Tholan, and you will have your cylinder back."

"And after that-" said the Hawkinsite.

"After that, what does it matter to you? Even if I kill you then, it will be a clean death; not cyanide lack."

Something seemed to pass out of the Hawkinsite. His voice grew guttural and his words blurred as though he no longer had the energy to keep his English perfect. He said, "What are your questions?" and as he spoke, his eyes followed the cylinder in Drake's hand.

Drake swung it deliberately, tantalizingly, and the creature's eyes followed - followed-

Drake said, "What are your theories concerning the Inhibition Death? Why did you really come to Earth? What is your interest in the Missing Persons Bureau?"

Rose found herself waiting in breathless anxiety. These were the questions she would like to have asked, too. Not in this manner, perhaps, but in Drake's job, kindness and humanity had to take second place to necessity.

She repeated that to herself several times in an effort to counteract the fact that she found herself loathing Drake for what he was doing to Dr. Tholan.

The Hawkinsite said, "The proper answer would take more than the hour I have left me. You have bitterly shamed me by forcing me to talk under duress. On my own planet, you could not have done so under any circumstances. It is only here, on this revolting planet, that I can be deprived of cyanide."

"You are wasting your hour, Dr. Tholan."

"I would have told you this eventually, Mr. Smollett. I needed your help. It is why I came here."

"You are still not answering my questions."

"I will answer them now. For years, in addition to my regular scientific work, I have been privately investigating the cells of my patients suffering from Inhibition Death. I have been forced to use the utmost secrecy and to work without assistance, since the methods I used to investigate the bodies of my patients were frowned upon by my people. Your society would have similar feelings against human vivisection, for instance. For this reason, I could not present the results I obtained to my fellow physicians until I had verified my theories here on Earth."

"What were your theories?" demanded Drake. The feverishness had returned to his eyes.

"It became more and more obvious to me as I proceeded with my studies that the entire direction of research into the Inhibition Death was wrong. Physically, there was no solution to its mystery. The Inhibition Death is entirely a disease of the mind."

Rose interrupted, "Surely, Dr. Tholan, it isn't psychosomatic."

A thin, gray translucent film had passed over the Hawkinsite's eyes. He no longer looked at them. He said, "No, Mrs. Smollett, it is not psychosomatic. It is a true disease of the mind; a mental infection. My patients had double minds. Beyond and beneath the one that obviously belonged to them, there was evidence of another one-an alien mind. I worked with Inhibition Death patients of other races than my own, and the same could be found. In short, there are not five intelligences in the Galaxy, but six. And the sixth is parasitic."

Rose said, "This is wild-impossible! You must be mistaken, Dr. Tholan."

"I am not mistaken. Until I came to Earth, I thought I might be. But my stay at the Institute and my researches at the Missing Persons Bureau convinced me that is not so. What is so impossible about the concept of a parasitic intelligence? Intelligences like these would not leave fossil remains, nor even leave artifacts-if their only function is to

derive nourishment somehow from the mental activities of other creatures. One can imagine such a parasite, through the course of millions of years, perhaps, losing all portions of its physical being but that which remains necessary, just as a tapeworm, among your Earthly physical parasites, eventually lost all its functions but the single one of reproduction. In the case of the parasitic intelligence, all physical attributes would eventually be lost. It would become nothing but pure mind, living in some mental fashion we cannot conceive of on the minds of others. Particularly on the minds of Earthmen."

Rose said, "Why particularly Earthmen?"

Drake simply stood apart, intent, asking no further questions. He was content, apparently, to let the Hawkinsite speak.

"Have you not surmised that the sixth intelligence is a native of Earth? Mankind from the beginning has lived with it, has adapted to it, is unconscious of it. It is why the higher species of terrestrial animals, including man, do not grow after maturity and, eventually, die what is called natural death. It is the result of this universal parasitic infestation. It is why you sleep and dream, since it is then that the parasitic mind must feed and then that you are a little more conscious of it, perhaps. It is why the terrestrial mind alone of the intelligences is so subject to instability. Where else in the Galaxy are found split personalities and other such manifestations? After all, even now there must be occasional human minds which are visibly harmed by the presence of the parasite.

"Somehow, these parasitic minds could traverse space. They had no physical limitations. They could drift between the stars in what would correspond to a state of hibernation. Why the first ones did it, I don't know; probably no one will ever know. But once those first discovered the presence of intelligence on other planets in the Galaxy, there was a small, steady stream of parasitic intelligences making their way through space. We of the outer worlds must have been a gourmet's dish for them or they would have never struggled so hard to get to us. I imagine many must have failed to make the trip, but it must have been worth the effort to those who succeeded.

"But you see, we of the other worlds had not lived with these parasites for millions of years, as man and his ancestors had. We had not adapted ourselves to it. Our weak strains had not been killed off gradually through hundreds of generations until only the resistants were left. So, where Earthmen could survive the infection for decades with little harm, we others die a quick death within a year."

"And is that why the incidence has increased since interstellar travel between Earth and the other planets has begun?"

"Yes." For a moment there was silence, and then the Hawkinsite said with a sudden access of energy, "Give me back my cylinder. You have your answer."

Drake said, coolly, "What about the Missing Persons Bureau?" He was swinging the cylinder again; but now the Hawkinsite did not follow its movements. The gray translucent film on his eyes had deepened and Rose wondered whether that was simply an expression of weariness or an example of the changes induced by cyanide lack.

The Hawkinsite said, "As we are not well adapted to the intelligence that infests man, neither is it well adapted to us. It can live on us-it even prefers to, apparently-but it

cannot reproduce with ourselves alone as the source of its life. The Inhibition Death is therefore not directly contagious among our people."

Rose looked at him with growing horror. "What are you implying, Dr. Tholan?"

"The Earthman remains the prime host for the parasite. An Earthman may infect one of us if he remains among us. But the parasite, once it is located in an intelligence of the outer worlds, must somehow return to an Earthman, if it expects to reproduce. Before interstellar travel, this was possible only by a re-passage of space and therefore the incidence of infection remained infinitesimal. Now we are infected and reinfected as the parasites return to Earth and come back to us via the mind of Earthmen who travel through space."

Rose said faintly, "And the missing persons-"

"Are the intermediate hosts. The exact process by which it is done, I, of course, do not know. The masculine terrestrial mind seems better suited for their purposes. You'll remember that at the Institute I was told that the life expectancy of the average human male is three years less than that of the average female. Once reproduction has been taken care of, the infested male leaves, by spaceship, for the outer worlds. He disappears."

"But this is impossible," insisted Rose. "What you say implies that the parasite mind can control the actions of its host! This cannot be, or we of Earth would have noticed their presence."

"The control, Mrs. Smollett, may be very subtle, and may, moreover, be exerted only during the period of active reproduction. I simply point to your Missing Persons Bureau. Why do the young men disappear? You have economic and psychological explanations, but they are not sufficient. -But I am quite ill now and cannot speak much longer. I have only this to say. In the mental parasite, your people and mine have a common enemy. Earthmen, too, need not die involuntarily, except for its presence. I thought that if I found myself unable to return to my own world with my information because of the unorthodox methods I used to obtain it, I might bring it to the authorities on Earth, and ask their help in stamping out this menace. Imagine my pleasure when I found that the husband of one of the biologists at the Institute was a member of one of Earth's most important investigating bodies. Naturally, I did what I could to be made a guest at his home in order that I might deal with him privately; convince him of the terrible truth; utilize his position to help in the attack on the parasites.

"This is, of course, now impossible. I cannot blame you too far. As Earthmen, you cannot be expected to understand the psychology of my people. Nevertheless, you must understand this. I can have no further dealing with either of you. I could not even bear to remain any longer on Earth."

Drake said, "Then you alone, of all your people, have any knowledge of this theory of yours."

"I atone."

Drake held out the cylinder. "Your cyanide, Dr. Tholan."

The Hawkinsite groped for it eagerly. His supple fingers manipulated the hose and the needle valve with the utmost delicacy. In the space of ten seconds, he had it in place and was inhaling the gas in huge breaths. His eyes were growing clear and transparent.

Drake waited until the Hawkinsite breathings had subsided to normal, and then, without expression, he raised his needle-gun and fired. Rose screamed. The Hawkinsite remained standing. His four lower limbs were incapable of buckling, but his head lolled and from his suddenly flaccid mouth, the cyanide hose fell, disregarded. Once again, Drake closed the needle valve and now he tossed the cylinder aside and stood there somberly, looking at the dead creature. There was no external mark to show that he had been killed. The needle-gun's pellet, thinner than the needle which gave the gun its name, entered the body noiselessly and easily, and exploded with devastating effect only within the abdominal cavity.

Rose ran from the room, still screaming. Drake pursued her, seized her arm. She heard the hard, flat sounds of his palm against her face without feeling them and subsided into little bubbling sobs.

Drake said, "I told you to have nothing to do with this. Now what do you think you'll do?"

She said, "Let me go. I want to leave. I want to go away."

"Because of something it was my job to do? You heard what the creature was saying. Do you suppose I could allow him to return to his world and spread those lies? They would believe him. And what do you think would happen then? Can you imagine what an interstellar war might be like? They would imagine they would have to kill us all to stop the disease."

With an effort that seemed to turn her inside out, Rose steadied. She looked firmly into Drake's eyes and said, "What Dr. Tholan said were no lies and no mistakes, Drake,"

"Oh, come now, you're hysterical. You need sleep."

"I know what he said is so because the Security Commission knows all about that same theory, and knows it to be true."

"Why do you say such a preposterous thing?"

"Because you yourself let that slip twice."

Drake said, "Sit down." She did so, and he stood there, looking curiously at her. "So I have given myself away twice, have I? You've had a busy day of detection, my dear. You have facets you keep well hidden." He sat down and crossed his legs.

Rose thought, yes, she had had a busy day. She could see the electric clock on the kitchen wall from where she sat; it was more than two hours past midnight. Harg Tholan had entered their house thirty-five hours before and now he lay murdered in the spare bedroom.

Drake said, "Well, aren't you going to tell me where I pulled my two boners?"

"You turned white when Harg Tholan referred to me as a charming hostess. Hostess has a double meaning, you know, Drake. A host is one who harbors a parasite."

"Number one," said Drake. "What's number two?"

"That's something you did before Harg Tholan entered the house. I've been trying to remember it for hours. Do you remember, Drake? You spoke about how unpleasant it was for Hawkinsites to associate with Earthmen, and I said Harg Tholan was a doctor and had to. I asked you if you thought that human doctors particularly enjoyed going to the tropics, or letting infected mosquitoes bite them. Do you remember how upset you became?"

Drake laughed. "I had no idea I was so transparent. Mosquitoes are hosts for the malaria and yellow fever parasites." He sighed. "I've done my best to keep you out of this. I tried to keep the Hawkinsite away. I tried threatening you. Now there's nothing left but to tell you the truth. I must, because only the truth-or death-will keep you quiet. And I don't want to kill you."

She shrank back in her chair, eyes wide.

Drake said, "The Commission knows the truth. It does us no good. We can only do all in our power to prevent the other worlds from finding out."

"But the truth can't be held down forever! Harg Tholan found out. You've killed him, but another extraterrestrial will repeat the same discovery -over and over again. You can't kill them all."

"We know that, too," agreed Drake. "We have no choice."

"Why?" cried Rose. "Harg Tholan gave you the solution. He made no suggestions or threats of war between worlds. He suggested that we combine with the other intelligences and help to wipe out the parasite. And we can! If we, in common with all the others, put every scrap of effort into it-"

"You mean we can trust him? Does he speak for his government or for the other races?"

"Can we dare to refuse the risk?"

Drake said, "You don't understand." He reached toward her and took one of her cold, unresisting hands between both of his. He went on, "I may seem silly trying to teach you anything about your specialty, but I want you to hear me out. Harg Tholan was right. Man and his prehistoric ancestors have been living with this parasitic intelligence for uncounted ages; certainly for a much longer period than we have been truly Homo sapiens. In that interval, we have not only become adapted to it, we have become dependent upon it. It is no longer a case of parasitism. It is a case of mutual cooperation. You biologists have a name for it."

She tore her hand away. "What are you talking about? Symbiosis?"

"Exactly. We have a disease of our own, remember. It is a reverse disease; one of unrestrained growth. We've mentioned it already as a contrast to the Inhibition Death. Well, what is the cause of cancer? How long have biologists, physiologists, biochemists and all the others been working on it? How much success have they had with it? Why? Can't you answer that for yourself now?"

She said, slowly, "No, I can't. What are you talking about?"

"It's all very well to say that if we could remove the parasite, we would have eternal growth and life if we wanted it; or at least until we got tired of being too big or of living

too long, and did away with ourselves neatly. But how many millions of years has it been since the human body has had occasion to grow in such an unrestrained fashion? Can it do so any longer? Is the chemistry of the body adjusted to that? Has it got the proper whatchamacallits?"

"Enzymes," Rose supplied in a whisper.

"Yes, enzymes. It's impossible for us. If for any reason the parasitic intelligence, as Harg Tholan calls it, does leave the human body, or if its relationship to the human mind is in any way impaired, growth does take place, but not in any orderly fashion. We call the growth cancer. And there you have it. There's no way of getting rid of the parasite. We're together for all eternity. To get rid of their inhibition Death, extraterrestrials must first wipe out all vertebrate life on Earth. There is no other solution for them, and so we must keep knowledge of it from them. Do you understand?"

Her mouth was dry and it was difficult to talk. "I understand, Drake." She noticed that his forehead was damp and that there was a line of perspiration down each cheek. "And now you'll have to get it out of the apartment."

"It's late at night and I'll be able to get the body out of the building. From there on-" He turned to her. "I don't know when I'll be back."

"I understand, Drake," she said again.

Harg Tholan was heavy. Drake had to drag him through the apartment. Rose turned away, retching. She hid her eyes until she heard the front door close. She whispered to herself, "I understand, Drake."

It was 3 A.M. Nearly an hour had passed since she had heard the front door click gently into place behind Drake and his burden. She didn't know where he was going, what he intended doing- She sat there numbly. There was no desire to sleep; no desire to move. She kept her mind traveling in tight circles, away from the thing she knew and which she wanted not to know.

Parasitic minds! Was it only a coincidence or was it some queer racial memory, some tenuous long-sustained wisp of tradition or insight, stretching back through incredible millennia, that kept current the odd myth of human beginnings? She thought to herself, there were two intelligences on Earth to begin with. There were humans in the Garden of Eden and also the serpent, which "was more subtle than any beast of the field." The serpent infected man and, as a result, it lost its limbs. Its physical attributes were no longer necessary. And because of the infection, man was driven out of the Garden of eternal life. Death entered the world.

Yet, despite her efforts, the circle of her thoughts expanded and returned to Drake. She shoved and it returned; she counted to herself, she recited the names of the objects in her field of vision, she cried, "No, no, no," and it returned. It kept returning.

Drake had lied to her. It had been a plausible story. It would have held good under most circumstances; but Drake was not a biologist. Cancer could not be, as Drake had said, a disease that was an expression of a lost ability for normal growth. Cancer attacked children while they were still growing; it could even attack embryonic tissue. It attacked fish, which, like extraterrestrials, never stopped growing while they lived, and died only by

disease or accident. It attacked plants which had no minds and could not be parasitized. Cancer had nothing to do with the presence or absence of normal growth; it was the general disease of life, to which no tissue of no multicellular organism was completely immune.

He should not have bothered lying. He should not have allowed some obscure sentimental weakness to persuade him to avoid the necessity of killing her in that manner. She would tell them at the Institute. The parasite could be beaten. Its absence would not cause cancer. But who would believe her?

She put her hands over her eyes. The young men who disappeared were usually in the first year of their marriage. Whatever the process of reproduction of the parasite intelligences, it must involve close association with another parasite-the type of close and continuous association that might only be possible if their respective hosts were in equally close relationship. As in the case of newly married couples.

She could feel her thoughts slowly disconnect. They would be coming to her. They would be saying, "Where is Harg Tholan?" And she would answer, "With my husband." Only they would say, "Where is your husband?" because he would be gone, too. He needed her no longer. He would never return. They would never find him, because he would be out in space. She would report them both, Drake Smollett and Harg Tholan, to the Missing Persons Bureau.

She wanted to weep, but couldn't; she was dry-eyed and it was painful.

And then she began to giggle and couldn't stop. It was very funny. She had looked for the answers to so many questions and had found them all. She had even found the answer to the question she thought had no bearing on the subject.

She had finally learned why Drake had married her.

"BREEDS THERE A MAN. . . ?"

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Police Sergeant Mankiewicz was on the telephone and he wasn't enjoying it. His conversation was sounding like a one-sided view of a firecracker.

He was saying, "That's right! He came in here and said, 'Put me in jail, because I want to kill myself.'

". . . I can't help that. Those were his exact words. It sounds crazy to me, too.

". . . Look, mister, the guy answers the description. You asked me for information and I'm giving it to you.

". . . He has exactly that scar on his right cheek and he said his name was John Smith. He didn't say it was Doctor anything-at-all.

". . . Well, sure it's a phony. Nobody is named John Smith. Not in a police station, anyway.

". . . He's in jail now.

". . . Yes, I mean it.

". . . Resisting an officer; assault and battery; malicious mischief. That's three counts.

". . . I don't care who he is.

". . . All right. I'll hold on."

He looked up at Officer Brown and put his hand over the mouthpiece of the phone. It was a ham of a hand that nearly swallowed up the phone altogether. His blunt-featured face was ruddy and steaming under a thatch of pale-yellow hair.

He said, "Trouble! Nothing but trouble at a precinct station. I'd rather be pounding a beat any day."

"Who's on the phone?" asked Brown. He had just come in and didn't really care. He thought Mankiewicz would look better on a suburban beat, too.

"Oak Ridge. Long Distance. A guy called Grant. Head of somethingo-logical division, and now he's getting somebody else at seventy-five cents a min . . . Hello!"

Mankiewicz got a new grip on the phone and held himself down.

"Look," he said, "let me go through this from the beginning. I want you to get it straight and then if you don't like it, you can send someone down here. The guy doesn't want a lawyer. He claims he just wants to stay in jail and, brother, that's all right with me.

"Well, will you listen? He came in yesterday, walked right up to me, and said, 'Officer, I want you to put me in jail because I want to kill myself.' So I said, 'Mister, I'm sorry you want to kill yourself. Don't do it, because if you do, you'll regret it the rest of your life.'

". . . I am serious. I'm just telling you what I said. I'm not saying it was a funny joke, but I've got my own troubles here, if you know what I mean. Do you think all I've got to do here is to listen to cranks who walk in and- ". . . Give me a chance, will you?" I said, 'I can't put you in jail for wanting to kill yourself. That's no crime.' And he said, 'But I don't want to die.' So I said, 'Look, bud, get out of here.' I mean if a guy wants to commit suicide, all right, and if he doesn't want to, all right, but I don't want him weeping on my shoulder.

". . . I'm getting on with it. So he said to me. 'If I commit a crime, will you put me in jail?' I said, 'If you're caught and if someone files a charge and you can't put up bail, we will. Now beat it.' So he picked up the inkwell on my desk and, before I could stop him, he turned it upside down on the open police blotter.

". . . That's right! Why do you think we have 'malicious mischief tabbed on him? The ink ran down all over my pants.

". . . Yes, assault and battery, too! I came hopping down to shake a little sense into him, and he kicked me in the shins and handed me one in the eye.

". . . I'm not making this up. You want to come down here and look at my face?

". . . He'll be up in court one of these days. About Thursday, maybe.

". . . Ninety days is the least he'll get, unless the psychoes say otherwise. I think he belongs in the loony-bin myself.

". . . Officially, he's John Smith. That's the only name he'll give.

". . . No, sir, he doesn't get released without the proper legal steps.

", . . O.K., you do that, if you want to, bud! I just do my job here."

He banged the phone into its cradle, glowered at it, then picked it up and began dialing. He said "Gianetti?", got the proper answer and began talking.

"What's the A.E.C.? I've been talking to some Joe on the phone and he says-

". . . No, I'm not kidding, lunk-head. If I were kidding, I'd put up a sign. What's the alphabet soup?"

He listened, said, "Thanks" in a small voice and hung up again.

He had lost some of his color. "That second guy was the head of the Atomic Energy Commission," he said to Brown. "They must have switched me from Oak Ridge to Washington."

Brown lounged to his feet, "Maybe the F.B.I, is after this John Smith guy. Maybe he's one of these here scientists." He felt moved to philosophy. "They ought to keep atomic secrets away from those guys. Things were O.K. as long as General Groves was the only fella who knew about the atom bomb. Once they cut in these here scientists on it, though-

"Ah, shut up," snarled Mankiewicz.

Dr. Oswald Grant kept his eyes fixed on the white line that marked the highway and handled the car as though it were an enemy of his. He always did. He was tall and knobby with a withdrawn expression stamped on his face. His knees crowded the wheel, and his knuckles whitened whenever he made a turn.

Inspector Darrity sat beside him with his legs crossed so that the sole of his left shoe came up hard against the door. It would leave a sandy mark when he took it away. He tossed a nut-brown penknife from hand to hand. Earlier, he had unsheathed its wicked, gleaming blade and scraped casually at his nails as they drove, but a sudden swerve had nearly cost him a finger and he desisted.

He said, "What do you know about this Ralson?"

Dr. Grant took his eyes from the road momentarily, then returned them. He said, uneasily, "I've known him since he took his doctorate at Princeton. He's a very brilliant man."

"Yes? Brilliant, huh? Why is it that all you scientific men describe one another as 'brilliant'? Aren't there any mediocre ones?"

"Many. I'm one of them. But Ralson isn't. You ask anyone. Ask Oppenheimer. Ask Bush. He was the youngest observer at Alamogordo."

"O.K. He was brilliant. What about his private life?"

Grant waited. "I wouldn't know."

"You know him since Princeton. How many years is that?"

They had been scouring north along the highway from Washington for two hours with scarcely a word between them. Now Grant felt the atmosphere change and the grip of the law on his coat collar.

"He got his degree in '43."

"You've known him eight years then."

"That's right."

"And you don't know about his private life?"

"A man's life is his own, Inspector. He wasn't very sociable. A great many of the men are like that. They work under pressure and when they're off the job, they're not interested in continuing the lab acquaintanceships."

"Did he belong to any organizations that you know of?"

"No."

The inspector said, "Did he ever say anything to you that might indicate he was disloyal?"

Grant shouted "No!" and there was silence for a while.

Then Darrity said, "How important is Ralson in atomic research?"

Grant hunched over the wheel and said, "As important as any one man can be. I grant you that no one is indispensable, but Ralson has always seemed to be rather unique. He has the engineering mentality."

"What does that mean?"

"He isn't much of a mathematician himself, but he can work out the gadgets that put someone else's math into life. There's no one like him when it comes to that. Time and again, Inspector, we've had a problem to lick and no time to lick it in. There were nothing but blank minds all around until he put some thought into it and said, 'Why don't you try so-and-so?' Then he'd go away. He wouldn't even be interested enough to see if it worked. But it always did. Always! Maybe we would have got it ourselves eventually, but

it might have taken months of additional time. I don't know how he does it. It's no use asking him either. He just looks at you and says 'It was obvious', and walks away. Of course, once he's shown us how to do it, it is obvious."

The inspector let him have his say out. When no more came, he said, "Would you say he was queer, mentally? Erratic, you know."

"When a person is a genius, you wouldn't expect him to be normal, would you?"

"Maybe not. But just how abnormal was this particular genius?"

"He never talked, particularly. Sometimes, he wouldn't work."

"Stayed at home and went fishing instead?"

"No. He came to the labs all right; but he would just sit at his desk. Sometimes that would go on for weeks. Wouldn't answer you, or even look at you, when you spoke to him."

"Did he ever actually leave work altogether?"

"Before now, you mean? Never!"

"Did he ever claim he wanted to commit suicide? Ever say he wouldn't feel safe except in jail?"

"No."

"You're sure this John Smith is Ralson?"

"I'm almost positive. He has a chemical bum on his right cheek that can't be mistaken."

"O.K. That's that, then I'll speak to him and see what he sounds like." The silence fell for good this time. Dr. Grant followed the snaking line as Inspector Darrity tossed the penknife in low arcs from hand to hand.

The warden listened to the call-box and looked up at his visitors. "We can have him brought up here, Inspector, regardless."

"No," Dr. Grant shook his head. "Let's go to him."

Darrity said, "Is that normal for Ralson, Dr. Grant? Would you expect him to attack a guard trying to take him out of a prison cell?" Grant said, "I can't say."

The warden spread a calloused palm. His thick nose twitched a little. "We haven't tried to do anything about him so far because of the telegram from Washington, but, frankly, he doesn't belong here. I'll be glad to have him taken off my hands."

"We'll see him in his cell," said Darrity.

They went down the hard, barlined corridor. Empty, incurious eyes watched their passing.

Dr. Grant felt his flesh crawl. "Has he been kept here all the time?" Darrity did not answer.

The guard, pacing before them, stopped. "This is the cell." Darrity said, "Is that Dr. Ralson?"

Dr. Grant looked silently at the figure upon the cot. The man had been lying down when they first reached the cell, but now he had risen to one elbow and seemed to be trying to shrink into the wall. His hair was sandy and thin, his figure slight, his eyes blank

and china-blue. On his right cheek there was a raised pink patch that tailed off like a tadpole. Dr. Grant said, "That's Ralson."

The guard opened the door and stepped inside, but Inspector Darrity sent him out again with a gesture. Ralson watched them mutely. He had drawn both feet up to the cot and was pushing backwards. His Adam's apple bobbed as he swallowed.

Darrity said quietly, "Dr. Elwood Ralson?"

"What do you want?" The voice was a surprising baritone. "Would you come with us, please? We have some questions we would like to ask you."

"No! Leave me alone!"

"Dr. Ralson," said Grant, "I've been sent here to ask you to come back to work."

Ralson looked at the scientist and there was a momentary glint of something other than fear in his eyes. He said, "Hello, Grant." He got off his cot. "Listen, I've been trying to have them put me into a padded cell. Can't you make them do that for me? You know me, Grant, I wouldn't ask for something I didn't feel was necessary. Help me. I can't stand the hard walls. It makes me want to . . . bash-" He brought the flat of his palm thudding down against the hard, dull-gray concrete behind his cot.

Darrity looked thoughtful. He brought out his penknife and unbent the Reaming blade. Carefully, he scraped at his thumbnail, and said, "Would you like to see a doctor?"

But Ralson didn't answer that. He followed the gleam of metal and his lips parted and grew wet. His breath became ragged and harsh.

He said, "Put that away!"

Darrity paused. "Put what away?"

"The knife. Don't hold it in front of me. I can't stand looking at it."

Darrity said, "Why not?" He held it out. "Anything wrong with it? It's a good knife."

Ralson lunged. Darrity stepped back and his left hand came down on the other's wrist. He lifted the knife high in the air. "What's the matter, Ralson? What are you after?"

Grant cried a protest but Darrity waved him away.

Darrity said, "What do you want, Ralson?"

Ralson tried to reach upward, and bent under the other's appalling grip. ;He gasped, "Give me the knife."

"Why, Ralson? What do you want to do with it?"

"Please. I've got to-" He was pleading. "I've got to stop living."

"You want to die?"

"No. But I must."

Darrity shoved. Ralson flailed backward and tumbled into his cot, so that it squeaked noisily. Slowly, Darrity bent the blade of his penknife into its sheath and put it away. Ralson covered his face. His shoulders were shaking but otherwise he did not move.

There was the sound of shouting from the corridor, as the other prisoners reacted to the noise issuing from Ralson's cell. The guard came hurrying down, yelling, "Quiet!" as he went.

Darrity looked up. "It's all right, guard."

He was wiping his hands upon a large white handkerchief. "I think we'll get a doctor for him."

Dr. Gottfried Blaustein was small and dark and spoke with a trace of an Austrian accent. He needed only a small goatee to be the layman's caricature of a psychiatrist. But he was clean-shaven, and very carefully dressed. He watched Grant closely, assessing him, blocking in certain observations and deductions. He did this automatically, now, with everyone he met.

He said, "You give me a sort of picture. You describe a man of great talent, perhaps even genius. You tell me he has always been uncomfortable with people; that he has never fitted in with his laboratory environment, even though it was there that he met the greatest of success. Is there another environment to which he has fitted himself?"

"I don't understand."

"It is not given to all of us to be so fortunate as to find a congenial type of company at the place or in the field where we find it necessary to make a living. Often, one compensates by playing an instrument, or going hiking, or joining some club. In other words, one creates a new type of society, when not working, in which one can feel more at home. It need not have the slightest connection with what one's ordinary occupation is. It is an escape, and not necessarily an unhealthy one." He smiled and added, "Myself, I collect stamps. I am an active member of the American Society of Philatelists."

Grant shook his head. "I don't know what he did outside working hours. I doubt that he did anything like what you've mentioned."

"Um-m-m. Well, that would be sad. Relaxation and enjoyment are wherever you find them; but you must find them somewhere, no?"

"Have you spoken to Dr. Ralson, yet?"

"About his problems? No."

"Aren't you going to?"

"Oh, yes. But he has been here only a week. One must give him a chance to recover. He was in a highly excited state when he first came here. It was almost a delirium. Let him rest and become accustomed to the new environment. I will question him, then."

"Will you be able to get him back to work?"

Blaustein smiled. "How should I know? I don't even know what his sickness is."

"Couldn't you at least get rid of the worst of it; this suicidal obsession of his, and take care of the rest of the cure while he's at work?"

"Perhaps. I couldn't even venture an opinion so far without several interviews."

"How long do you suppose it will all take?"

"In these matters, Dr. Grant, nobody can say."

Grant brought his hands together in a sharp slap. "Do what seems best then. But this is more important than you know."

"Perhaps. But you may be able to help me, Dr. Grant."

"How?"

"Can you get me certain information which may be classified as top secret?"

"What kind of information?"

"I would like to know the suicide rate, since 1945, among nuclear scientists. Also, how many have left their jobs to go into other types of scientific work, or to leave science altogether."

"Is this in connection with Ralson?"

"Don't you think it might be an occupational disease, this terrible unhappiness of his?"

"Well-a good many have left their jobs, naturally."

"Why naturally, Dr. Grant?"

"You must know how it is, Dr. Blaustein, The atmosphere in modern atomic research is one of great pressure and red tape. You work with the government; you work with military men. You can't talk about your work; you have to be careful what you say. Naturally, if you get a chance at a job in a university, where you can fix your own hours, do your own work, write papers that don't have to be submitted to the A.E.C., attend conventions that aren't held behind locked doors, you take it."

"And abandon your field of specialty forever."

"There are always non-military applications. Of course, there was one man who did leave for another reason. He told me once he couldn't sleep nights. He said he'd hear one hundred thousand screams coming from Hiroshima, when he put the lights out. The last I heard of him he was a clerk in a haberdashery."

"And do you ever hear a few screams yourself?"

Grant nodded. "It isn't a nice feeling to know that even a little of the responsibility of atomic destruction might be your own."

"How did Ralson feel?"

"He never spoke of anything like that."

"In other words, if he felt it, he never even had the safety-valve effect of letting off steam to the rest of you."

"I guess he hadn't."

"Yet nuclear research must be done, no?"

"I'll say."

"What would you do, Dr. Grant, if you felt you had to do something that you couldn't do."

Grant shrugged. "I don't know."

"Some people kill themselves."

"You mean that's what has Ralson down."

"I don't know. I do not know. I will speak to Dr. Ralson this evening. I don't promise nothing, of course, but I will let you know whatever I can."

Grant rose. "Thanks, Doctor. I'll try to get the information you want."

Elwood Ralson's appearance had improved in the week he had been at Dr. Blaustein's sanatorium. His face had filled out and some of the restlessness had gone out of him. He was tieless and beltless. His shoes were without laces.

Blaustein said, "How do you feel, Dr. Ralson?"

"Rested."

"You have been treated well?"

"No complaints, Doctor."

Blaustein's hand fumbled for the letter-opener with which it was his habit to play during moments of abstraction, but his fingers met nothing. It had been put away, of course, with anything else possessing a sharp edge. There was nothing on his desk, now, but papers.

He said, "Sit down, Dr. Ralson. How do your symptoms progress?"

"You mean, do I have what you would call a suicidal impulse? Yes. It gets worse or better, depending on my thoughts, I think. But it's always with me. There is nothing you can do to help."

"Perhaps you are right. There are often things I cannot help. But I would like to know as much as I can about you. You are an important man--"

Ralson snorted.

"You do not consider that to be so?" asked Blaustein.

"No, I don't. There are no important men, any more than there are important individual bacteria."

"I don't understand."

"I don't expect you to."

"And yet it seems to me that behind your statement there must have been much thought. It would certainly be of the greatest interest to have you tell me some of this thought."

For the first time, Ralson smiled. It was not a pleasant smile. His nostrils were white. He said, "It is amusing to watch you, Doctor. You go about your business so conscientiously. You must listen to me, mustn't you, with just that air of phony interest and unctuous sympathy. I can tell you the most ridiculous things and still be sure of an audience, can't I?"

"Don't you think my interest can be real, even granted that it is professional, too?"

"No, I don't."

"Why not?"

"I'm not interested in discussing it."

"Would you rather return to your room?"

"If you don't mind. No!" His voice had suddenly suffused with fury as he stood up, then almost immediately sat down again. "Why shouldn't I use you? I don't like to talk to people. They're stupid. They don't see things. They stare at the obvious for hours and it means nothing to them. If I spoke to them, they wouldn't understand; they'd lose patience; they'd laugh. Whereas you must listen. It's your job. You can't interrupt to tell me I'm mad, even though you may think so."

"I'd be glad to listen to whatever you would like to tell me."

Ralson drew a deep breath. "I've known something for a year now, that very few people know. Maybe it's something no live person knows. Do you know that human cultural advances come in spurts? Over a space of two generations in a city containing thirty thousand free men, enough literary and artistic genius of the first rank arose to supply a nation of millions for a century under ordinary circumstances. I'm referring to the Athens of Pericles.

"There are other examples. There is the Florence of the Medicis, the England of Elizabeth, the Spain of the Cordovan Emirs. There was the spasm of social reformers among the Israelites of the Eighth and Seventh centuries before Christ. Do you know what I mean?"

Blaustein nodded. "I see that history is a subject that interests you."

"Why not? I suppose there's nothing that says I must restrict myself to nuclear cross-sections and wave mechanics."

"Nothing at all. Please proceed."

"At first, I thought I could learn more of the true inwardness of historical cycles by consulting a specialist. I had some conferences with a professional historian. A waste of time!"

"What was his name; this professional historian?"

"Does it matter?"

"Perhaps not, if you would rather consider it confidential. What did he tell you?"

"He said I was wrong; that history only appeared to go in spasms. He said that after closer studies the great civilizations of Egypt and Sumeria did not arise suddenly or out of nothing, but upon the basis of a long-developing sub-civilization that was already sophisticated in its arts. He said that Periclean Athens built upon a pre-Periclean Athens of lower accomplishments, without which the age of Pericles could not have been.

"I asked why was there not a post-Periclean Athens of higher accomplishments still, and he told me that Athens was ruined by a plague and by a long war with Sparta. I asked about other cultural spurts and each time it was a war that ended it, or, in some cases, even accompanied it. He was like all the rest. The truth was there; he had only to bend and pick it up; but he didn't."

Ralson stared at the floor, and said in a tired voice, "They come to me in the laboratory sometimes, Doctor. They say, 'How the devil are we going to get rid of the such-and-such effect that is ruining all our measurements, Ralson?' They show me the instruments and the wiring diagrams and I say, 'It's staring at you. Why don't you do so-and-so? A child could tell you that.' Then I walk away because I can't endure the slow puzzling of their stupid faces. Later, they come to me and say, 'It worked, Ralson. How did you figure it out?' I can't explain to them, Doctor; it would be like explaining that water is wet. And I couldn't explain to the historian. And I can't explain to you. It's a waste of time."

"Would you like to go back to your room?"

"Yes."

Blaustein sat and wondered for many minutes after Ralson had been escorted out of his office. His fingers found their way automatically into the upper right drawer of his desk and lifted out the letter-opener. He twiddled it in his fingers.

Finally, he lifted the telephone and dialed the unlisted number he had been given.

He said, "This is Blaustein. There is a professional historian who was consulted by Dr. Ralson some time in the past, probably a bit over a year ago. I don't know his name. I don't even know if he was connected with a university. If you could find him, I would like to see him."

Thaddeus Milton, Ph.D., blinked thoughtfully at Blaustein and brushed his hand through his iron-gray hair. He said, "They came to me and I said that I had indeed met this man. However, I have had very little connection with him. None, in fact, beyond a few conversations of a professional nature."

"How did he come to you?"

"He wrote me a letter; why me, rather than someone else, I do not know. A series of articles written by myself had appeared in one of the semi-learned journals of semi-popular appeal about that time. It may have attracted his attention."

"I see. With what general topic were the articles concerned?"

"They were a consideration of the validity of the cyclic approach to history. That is, whether one can really say that a particular civilization must follow laws of growth and decline in any matter analogous to those involving individuals."

"I have read Toynbee, Dr. Milton."

"Well, then, you know what I mean."

Blaustein said, "And when Dr. Ralson consulted you, was it with reference to this cyclic approach to history?"

"U-m-m-m. In a way, I suppose. Of course, the man is not an historian and some of his notions about cultural trends are rather dramatic and. . . what shall I say. . . tabloidish. Pardon me, Doctor, if I ask a question which may be improper. Is Dr. Ralson one of your patients?"

"Dr. Ralson is not well and is in my care. This, and all else we say here, is confidential, of course."

"Quite. I understand that. However, your answer explains something to me. Some of his ideas almost verged on the irrational. He was always worried, it seemed to me, about the connection between what he called 'cultural spurts' and calamities of one sort or another. Now such connections have been noted frequently. The time of a nation's greatest vitality may come at a time of great national insecurity. The Netherlands is a good case in point. Her great artists, statesmen, and explorers belong to the early Seventeenth Century at the time when she was locked in a death struggle with the greatest European power of the time, Spain. When at the point of destruction at home, she was building an empire in the Far East and had secured footholds on the northern coast of South America, the southern tip of Africa, and the Hudson Valley of North America. Her fleets fought England to a standstill. And then, once her political safety was assured, she declined.

"Well, as I say, that is not unusual. Groups, like individuals, will rise to strange heights in answer to a challenge, and vegetate in the absence of a challenge. Where Dr. Ralson left the paths of sanity, however, was in insisting that such a view amounted to confusing cause and effect. He deckred that it was not times of war and danger that stimulated 'cultural spurts', but rather vice versa. He claimed that each time a group of men snowed too much vitality and ability, a war became necessary to destroy the possibility of their further development."

"I see," said Blaustein.

"I rather laughed at him, I am afraid. It may be that that was why he did not keep the last appointment we made. Just toward the end of that last conference he asked me, in the most intense fashion imaginable, whether I did not think it queer that such an improbable species as man was dominant on earth, when all he had in his favor was intelligence. There I laughed aloud. Perhaps I should not have, poor fellow."

"It was a natural reaction," said Blaustein, "but I must take no more of your time. You have been most helpful."

They shook hands, and Thaddeus Milton took his leave.

"Well," said Darrity, "there are your figures on the recent suicides among scientific personnel. Get any deductions out of it?"

"I should be asking you that," said Blaustein, gently. "The F.B.I., must have investigated thoroughly."

"You can bet the national debt on that. They are suicides. There's no mistake about it. There have been people checking on it in another department. The rate is about four times above normal, taking age, social status, economic class into consideration."

"What about British scientists?"

"Just about the same."

"And the Soviet Union?"

"Who can tell?" The investigator leaned forward. "Doc, you don't think the Soviets have some sort of ray that can make people want to commit suicide, do you? It's sort of suspicious that men in atomic research are the only ones affected."

"Is it? Perhaps not. Nuclear physicists may have peculiar strains imposed upon them. It is difficult to tell without thorough study."

"You mean complexes might be coming through?" asked Darrity, warily.

Blaustein made a face. "Psychiatry is becoming too popular. Everybody talks of complexes and neuroses and psychoses and compulsions and whatnot. One man's guilt complex is another man's good night's sleep. If I could talk to each one of the men who committed suicide, maybe I could know something."

"You're talking to Ralson."

"Yes, I'm talking to Ralson."

"Has he got a guilt complex?"

"Not particularly. He has a background out of which it would not surprise me if he obtained a morbid concern with death. When he was twelve he saw his mother die under

the wheels of an automobile. His father died slowly of cancer. Yet the effect of those experiences on his present troubles is not clear."

Darrity picked up his hat. "Well, I wish you'd get a move on, Doc. There's something big on, bigger than the H-Bomb. I don't know how anything can be bigger than that, but it is."

Ralson insisted on standing. "I had a bad night last night, Doctor."

"I hope," said Blaustein, "these conferences are not disturbing you."

"Well, maybe they are. They have me thinking on the subject again. It makes things bad, when I do that. How do you imagine it feels being part of a bacterial culture, Doctor?"

"I had never thought of that. To a bacterium, it probably feels quite normal."

Ralson did not hear. He said, slowly, "A culture in which intelligence is being studied. We study all sorts of things as far as their genetic relationships are concerned. We take fruit flies and cross red eyes and white eyes to see what happens. We don't care anything about red eyes and white eyes, but we try to gather from them certain basic genetic principles. You see what I mean?"

"Certainly."

"Even in humans, we can follow various physical characteristics. There are the Hapsburg lips, and the haemophilia that started with Queen Victoria and cropped up in her descendants among the Spanish and Russian royal families. We can even follow feeble-mindedness in the Jukeses and Kallikakas. You learn about it in high-school biology. But you can't breed human beings the way you do fruit flies. Humans live too long. It would take centuries to draw conclusions. It's a pity we don't have a special race of men that reproduce at weekly intervals, eh?"

He waited for an answer, but Blaustein only smiled.

Ralson said, "Only that's exactly what we would be for another group of beings whose life span might be thousands of years. To them, we would reproduce rapidly enough. We would be short-lived creatures and they could study the genetics of such things as musical aptitude, scientific intelligence, and so on. Not that those things would interest them as such, any more than the white eyes of the fruit fly interest us as white eyes."

"This is a very interesting notion," said Blaustein.

"It is not simply a notion. It is true. To me, it is obvious, and I don't care how it seems to you. Look around you. Look at the planet, Earth. What kind of a ridiculous animal are we to be lords of the world after the dinosaurs had failed? Sure, we're intelligent, but what's intelligence? We think it is important because we have it. If the Tyrannosaurus could have picked out the one quality that he thought would ensure species domination, it would be size and strength. And he would make a better case for it. He lasted longer than we're likely to.

"Intelligence in itself isn't much as far as survival values are concerned. The elephant makes out very poorly indeed when compared to the sparrow even though he is much more intelligent. The dog does well, under man's protection, but not as well as the

house-fly against whom every human hand is raised. Or take the primates as a group. The small ones cower before their enemies; the large ones have always been remarkably unsuccessful in doing more than barely holding their own. The baboons do the best and that is because of their canines, not their brains."

A light film of perspiration covered Ralson's forehead. "And one can see that man has been tailored, made to careful specifications for those things that study us. Generally, the primate is short-lived. Naturally, the larger ones live longer, which is a fairly general rule in animal life. Yet the human being has a life span twice as long as any of the other great apes; considerably longer even than the gorilla that outweighs him. We mature later. It's as though we've been carefully bred to live a little longer so that our life cycle might be of a more convenient length."

He jumped to his feet, shaking his fists above his head. "A thousand years are but as yesterday-"

Blaustein punched a button hastily.

For a moment, Ralson struggled against the white-coated orderly who entered, and then he allowed himself to be led away.

Blaustein looked after him, shook his head, and picked up the telephone.

He got Darrity. "Inspector, you may as well know that this may take a long time."

He listened and shook his head. "I know. I don't minimize the urgency."

The voice in the receiver was tinny and harsh. "Doctor, you are minimizing it. I'll send Dr. Grant to you. He'll explain the situation to you."

Dr. Grant asked how Ralson was, then asked somewhat wistfully if he could see him. Blaustein shook his head gently.

Grant said, "I've been directed to explain the current situation in atomic research to you."

"So that I will understand, no?"

"I hope so. It's a measure of desperation. I'll have to remind you-"

"Not to breathe a word of it. Yes, I know. This insecurity on the part of you people is a very bad symptom. You must know these things cannot be hidden."

"You live with secrecy. It's contagious."

"Exactly. What is the current secret?"

"There is . . . or, at least, there might be a defense against the atomic bomb."

"And that is a secret? It would be better if it were shouted to all the people of the world instantly."

"For heaven's sake, no. Listen to me, Dr. Blaustein. It's only on paper so far. It's at the E equal me square stage, almost. It may not be practical. It would be bad to raise hopes we would have to disappoint. On the other hand, if it were known that we almost had a defense, there might be a desire to start and win a war before the defense were completely developed."

"That I don't believe. But, nevertheless, I distract you. What is the nature of this defense, or have you told me as much as you dare?"

"No, I can go as far as I like; as far as is necessary to convince you we have to have Ralson-and fast!"

"Well, then tell me, and I too, will know secrets. I'll feel like a member of the Cabinet."

"You'll know more than most. Look, Dr. Blaustein, let me explain it in lay language. So far, military advances have been made fairly equally in both offensive and defensive weapons. Once before there seemed to be a definite and permanent tipping of all warfare in the direction of the offense, and that was with the invention of gunpowder. But the defense caught up. The medieval man-in-armor-on-horse became the modern man-in-tank-on-treads, and the stone castle became the concrete pillbox. The same thing, you see, except that everything has been boosted several orders of magnitude."

"Very good. You make it clear. But with the atomic bomb comes more orders of magnitude, no? You must go past concrete and steel for protection."

"Right. Only we can't just make thicker and thicker walls. We've run out of materials that are strong enough. So we must abandon materials altogether. If the atom attacks, we must let the atom defend. We will use energy itself; a force field."

"And what," asked Blaustein, gently, "is a force field?"

"I wish I could tell you. Right now, it's an equation on paper. Energy can be so channeled as to create a wall of matterless inertia, theoretically. In practice, we don't know how to do it."

"It would be a wall you could not go through, is that it? Even for atoms?"

"Even for atom bombs. The only limit on its strength would be the amount of energy we could pour into it. It could even theoretically be made to be impermeable to radiation. The gamma rays would bounce off it. What we're dreaming of is a screen that would be in permanent place about cities; at minimum strength, using practically no energy. It could then be triggered to maximum intensity in a fraction of a millisecond at the impingement of short-wave radiation; say the amount radiating from the mass of plutonium large enough to be an atomic war head. All this is theoretically possible."

"And why must you have Ralson?"

"Because he is the only one who can reduce it to practice, if it can be made practical at all, quickly enough. Every minute counts these days. You know what the international situation is. Atomic defense must arrive before atomic war."

"You are so sure of Ralson?"

"I am as sure of him as I can be of anything. The man is amazing, Dr. Blaustein. He is always right. Nobody in the field knows how he does it."

"A sort of intuition, no?" the psychiatrist looked disturbed. "A kind of reasoning that goes beyond ordinary human capacities. Is that it?"

"I make no pretense of knowing what it is."

"Let me speak to him once more then. I will let you know."

"Good." Grant rose to leave; then, as if in afterthought, he said, "I might say, Doctor, that if you don't do something, the Commission plans to take Dr. Ralson out of your hands."

"And try another psychiatrist? If they wish to do that, of course, I will not stand in their way. It is my opinion, however, that no reputable practitioner will pretend there is a rapid cure."

"We may not intend further mental treatment. He may simply be returned to work."

"That, Dr. Grant, I will fight. You will get nothing out of him. It will be his death."

"We get nothing out of him anyway."

"This way there is at least a chance, no?"

"I hope so. And by the way, please don't mention the fact that I said anything about taking Ralson away."

"I will not, and I thank you for the warning. Good-bye, Dr. Grant."

"I made a fool of myself last time, didn't I, Doctor?" said Ralson. He was frowning.

"You mean you don't believe what you said then?"

"Ida!" Ralson's slight form trembled with the intensity of his affirmation.

He rushed to the window, and Blaustein swiveled in his chair to keep him in view. There were bars in the window. He couldn't jump. The glass was unbreakable.

Twilight was ending, and the stars were beginning to come out. Ralson stared at them in fascination, then he turned to Blaustein and flung a finger outward. "Every single one of them is an incubator. They maintain temperatures at the desired point. Different experiments; different temperatures. And the planets that circle them are just huge cultures, containing different nutrient mixtures and different life forms. The experimenters are economical, too-whatever and whoever they are. They've cultured many types of life forms in this particular test-tube. Dinosaurs in a moist, tropical age and ourselves among the glaciers. They turn the sun up and down and we try to work out the physics of it. Physics!" He drew his lips back in a snarl.

"Surely," said Dr. Blaustein, "it is not possible that the sun can be turned up and down at will."

"Why not? It's just like a heating element in an oven. You think bacteria know what it is that works the heat that reaches them? Who knows? Maybe they evolve theories, too. Maybe they have their cosmogonies about cosmic catastrophes, in which clashing light-bulbs create strings of Petri dishes. Maybe they think there must be some beneficent creator that supplies them with food and warmth and says to them, 'Be fruitful and multiply!'

"We breed like them, not knowing why. We obey the so-called laws of nature which are only our interpretation of the not-understood forces imposed upon us.

"And now they've got the biggest experiment of any yet on their hands. It's been going on for two hundred years. They decided to develop a strain for mechanical aptitude in England in the seventeen hundreds, I imagine. We call it the Industrial Revolution. It began with steam, went on to electricity, then atoms. It was an interesting experiment, but they took their chances on letting it spread. Which is why they'll have to be very drastic indeed in ending it."

Blaustein said, "And how would they plan to end it? Do you have an idea about that?"

"You ask me how they plan to end it. You can look about the world today and still ask what is likely to bring our technological age to an end. All the earth fears an atomic war and would do anything to avoid it; yet all the earth fears that an atomic war is inevitable."

"In other words, the experimenters will arrange an atom war whether we want it or not, to kill off the technological era we are in, and to start fresh. That is it, no?"

"Yes. It's logical. When we sterilize an instrument, do the germs know where the killing heat comes from? Or what has brought it about? There is some way the experimenters can raise the heat of our emotions; some way they can handle us that passes our understanding."

"Tell me," said Blaustein, "is that why you want to die? Because you think the destruction of civilization is coming and can't be stopped?"

Ralson said, "I don't want to die. It's just that I must." His eyes were tortured. "Doctor, if you had a culture of germs that were highly dangerous and that you had to keep under absolute control, might you not have an agar medium impregnated with, say, penicillin, in a circle at a certain distance from the center of inoculation? Any germs spreading out too far from the center would die. You would have nothing against the particular germs who were killed; you might not even know that any germs had spread that far in the first place. It would be purely automatic."

"Doctor, there is a penicillin ring about our intellects. When we stray too far; when we penetrate the true meaning of our own existence, we have reached into the penicillin and we must die. It works slowly-but it's hard to stay alive."

He smiled briefly and sadly. Then he said, "May I go back to my room "ow, Doctor?"

Dr. Blaustein went to Ralson's room about noon the next day. It was a small room and featureless. The walls were gray with padding. Two small windows were high up and could not be reached. The mattress lay directly on the padded floor. There was nothing of metal in the room; nothing that could be utilized in tearing life from body. Even Ralson's nails were clipped short. Ralson sat up. "Hello!"

"Hello, Dr. Ralson. May I speak to you?"

"Here? There isn't any seat I can offer you."

"It is all right. I'll stand. I have a sitting job and it is good for my sitting-down place that I should stand sometimes. Dr. Ralson, I have thought all night of what you told me yesterday and in the days before."

"And now you are going to apply treatment to rid me of what you think are delusions."

"No. It is just that I wish to ask questions and perhaps to point out some consequences of your theories which . . . you will forgive me? . . . you may not have thought of."

"Oh?"

"You see, Dr. Ralson, since you have explained your theories, I, too, know what you know. Yet I have no feeling about suicide."

"Belief is more than something intellectual, Doctor. You'd have to believe this with all your insides, which you don't."

"Do you not think perhaps it is rather a phenomenon of adaptation?"

"How do you mean?"

"You are not really a biologist, Dr. Ralson. And although you are very brilliant indeed in physics, you do not think of everything with respect to these bacterial cultures you use as analogies. You know that it is possible to breed bacterial strains that are resistant to penicillin or to almost any bacterial poison."

"Well?"

"The experimenters who breed us have been working with humanity for many generations, no? And this particular strain which they have been culturing for two centuries shows no sign of dying out spontaneously. Rather, it is a vigorous strain and a very infective one. Older high-culture strains were confined to single cities or to small areas and lasted only a generation or two. This one is spreading throughout the world. It is a very infective strain. Do you not think it may have developed penicillin immunity? In other words, the methods the experimenters use to wipe out the culture may not work too well any more, no?"

Ralson shook his head. "It's working on me."

"You are perhaps non-resistant. Or you have stumbled into a very high concentration of penicillin indeed. Consider all the people who have been trying to outlaw atomic warfare and to establish some form of world government and lasting peace. The effort has risen in recent years, without too awful results."

"It isn't stopping the atomic war that's coming."

"No, but maybe only a little more effort is all that is required. The peace-advocates do not kill themselves. More and more humans are immune to the experimenters. Do you know what they are doing in the laboratory?"

"I don't want to know."

"You must know. They are trying to invent a force field that will stop the atom bomb. Dr. Ralson, if I am culturing a virulent and pathological bacterium; then, even with all precautions, it may sometimes happen that I will start a plague. We may be bacteria to them, but we are dangerous to them, also, or they wouldn't wipe us out so carefully after each experiment."

"They are not quick, no? To them a thousand years is as a day, no? By the time they realize we are out of the culture, past the penicillin, it will be too late for them to stop us. They have brought us to the atom, and if we can only prevent ourselves from using it upon one another, we may turn out to be too much even for the experimenters."

Ralson rose to his feet. Small though he was, he was an inch and a half taller than Blaustein. "They are really working on a force field?"

"They are trying to. But they need you."

"No. I can't."

"They must have you in order that you might see what is so obvious to you. It is not obvious to them. Remember, it is your help, or else-defeat of man by the experimenters."

Ralson took a few rapid steps away, staring into the blank, padded wall. He muttered, "But there must be that defeat. If they build a force field, it will mean death for all of them before it can be completed."

"Some or all of them may be immune, no? And in any case, it will be death for them anyhow. They are trying."

Ralson said, "I'll try to help them."

"Do you still want to kill yourself?"

"Yes."

"But you'll try not to, no?"

"I'll try not to, Doctor." His lip quivered. "I'll have to be watched."

Blaustein climbed the stairs and presented his pass to the guard in the lobby. He had already been inspected at the outer gate, but he, his pass, and its signature were now scrutinized once again. After a moment, the guard retired to his little booth and made a phone call. The answer satisfied him. Blaustein took a seat and, in half a minute, was up again, shaking hands with Dr. Grant.

"The President of the United States would have trouble getting in here, no?" said Blaustein.

The lanky physicist smiled. "You're right, if he came without warning."

They took an elevator which traveled twelve floors. The office to which Grant led the way had windows in three directions. It was sound-proofed and air-conditioned. Its walnut furniture was in a state of high polish.

Blaustein said, "My goodness. It is like the office of the chairman of a board of directors. Science is becoming big business."

Grant looked embarrassed. "Yes, I know, but government money flows easily and it is difficult to persuade a congressman that your work is important unless he can see, smell, and touch the surface shine."

Blaustein sat down and felt the upholstered seat give way slowly. He said, "Dr. Elwood Ralson has agreed to return to work."

"Wonderful. I was hoping you would say that. I was hoping that was why you wanted to see me." As though inspired by the news, Grant offered the psychiatrist a cigar, which was refused.

"However," said Blaustein, "he remains a very sick man. He will have to be treated carefully and with insight."

"Of course. Naturally."

"It's not quite as simple as you may think. I want to tell you something of Ralson's problems, so that you will really understand how delicate the situation is."

He went on talking and Grant listened first in concern, and then in astonishment. "But then the man is out of his head, Dr. Blaustein. He'll be of no use to us. He's crazy."

Blaustein shrugged. "It depends on how you define 'crazy.' It's a bad word; don't use it. He had delusions, certainly. Whether they will affect his peculiar talents one cannot know."

"But surely no sane man could possibly-"

"Please. Please. Let us not launch into long discussions on psychiatric definitions of sanity and so on. The man has delusions and, ordinarily, I would dismiss them from all consideration. It is just that I have been given to understand that the man's particular ability lies in his manner of proceeding to the solution of a problem by what seems to be outside ordinary reason. That is so, no?"

"Yes. That must be admitted."

"How can you and I judge then as to the worth of one of his conclusions. Let me ask you, do you have suicidal impulses lately?"

"I don't think so."

"And other scientists here?"

"No, of course not."

"I would suggest, however, that while research on the force field proceeds, the scientists concerned be watched here and at home. It might even be a good enough idea that they should not go home. Offices like these could be arranged to be a small dormitory-"

"Sleep at work. You would never get them to agree."

"Oh, yes. If you do not tell them the real reason but say it is for security purposes, they will agree. 'Security purposes' is a wonderful phrase these days, no? Ralson must be watched more than anyone."

"Of course."

"But all this is minor. It is something to be done to satisfy my conscience in case Ralson's theories are correct. Actually, I don't believe them. They are delusions, but once fiat is granted, it is necessary to ask what the causes of those delusions are. What is it in Ralson's mind, in his background, in his life that makes it so necessary for him to have these particular delusions? One cannot answer that simply. It may well take years of constant psychoanalysis to discover the answer. And until the answer is discovered, he will not be cured."

"But, meanwhile, we can perhaps make intelligent guesses. He has had an unhappy childhood, which, in one way or another, has brought him face to face with death in very unpleasant fashion. In addition, he has never been able to form associations with other children, or, as he grew older, with other men. He was always impatient with their slower forms of reasoning. Whatever difference there is between his mind and that of others, it has built a wall between him and society as strong as the force field you are trying to design. For similar reasons, he has been unable to enjoy a normal sex life. He has never married; he has had no sweethearts."

"It is easy to see that he could easily compensate to himself for this failure to be accepted by his social milieu by taking refuge in the thought that other human beings are inferior to himself. Which is, of course, true, as far as mentality is concerned. There are, of

course, many, many facets to the human personality and in not all of them is he superior. No one is. Others, then, who are more prone to see merely what is inferior, just as he himself is, would not accept his affected pre-eminence of position. They would think him queer, even laughable, which would make it even more important to Ralson to prove how miserable and inferior the human species was. How could he better do that than to show that mankind was simply a form of bacteria to other superior creatures which experiment upon them. And then his impulses to suicide would be a wild desire to break away completely from being a man at all; to stop this identification with the miserable species he has created in his mind. You see?"

Grant nodded. "Poor guy."

"Yes, it is a pity. Had he been properly taken care of in childhood- Well, it is best for Dr. Ralson that he have no contact with any of the other men here. He is too sick to be trusted with them. You, yourself, must arrange to be the only man who will see him or speak to him. Dr. Ralson has agreed to that. He apparently thinks you are not as stupid as some of the others."

Grant smiled faintly. "That is agreeable to me."

"You will, of course, be careful. I would not discuss anything with him but his work. If he should volunteer information about his theories, which I doubt, confine yourself to something non-committal, and leave. And at all times, keep away anything that is sharp and pointed. Do not let him reach a window. Try to have his hands kept in view. You understand. I leave my patient in your care, Dr. Grant."

"I will do my best, Dr. Blaustein."

For two months, Ralson lived in a corner of Grant's office, and Grant lived with him. Gridwork had been built up before the windows, wooden furniture was removed and upholstered sofas brought in. Ralson did his thinking on the couch and his calculating on a desk pad atop a hassock.

The "Do Not Enter" was a permanent fixture outside the office. Meals were left outside. The adjoining men's room was marked off for private use and the door between it and the office removed. Grant switched to an electric razor. He made certain that Ralson took sleeping pills each night and waited till the other slept before sleeping himself.

And always reports were brought to Ralson. He read them while Grant watched and tried to seem not to watch.

Then Ralson would let them drop and stare at the ceiling, with one hand shading his eyes.

"Anything?" asked Grant.

Ralson shook his head from side to side.

Grant said, "Look, I'll clear the building during the swing shift. It's important that you see some of the experimental jigs we've been setting up"

They did so, wandering through the lighted, empty buildings like drifting ghosts, hand in hand. Always hand in hand. Grant's grip was tight. But after each trip, Ralson would still shake his head from side to side.

Half a dozen times he would begin writing; each time there would be a ; few scrawls and then he would kick the hassock over on its side.

Until, finally, he began writing once again and covered half a page rapidly. Automatically, Grant approached. Ralson looked up, covering the sheet of paper with a trembling hand. He said, "Call Blaustein."

"What?"

"I said, 'Call Blaustein.' Get him here. Now!" Grant moved to the telephone.

Ralson was writing rapidly now, stopping only to brush wildly at his forehead with the back of a hand. It came away wet. He looked up and his voice was cracked, "Is he coming?" Grant looked worried. "He isn't at his office."

"Get him at his home. Get him wherever he is. Use that telephone. Don't play with it."

Grant used it; and Ralson pulled another sheet toward himself.

Five minutes later, Grant said, "He's coming. What's wrong? You're looking sick."

Ralson could speak only thickly, "No time- Can't talk-"

He was writing, scribbling, scrawling, shakily diagramming. It was as though he were driving his hands, fighting it.

"Dictate!" urged Grant. "I'll write."

Ralson shook him off. His words were unintelligible. He held his wrist with his other hand, shoving it as though it were a piece of wood, and then he collapsed over the papers.

Grant edged them out from under and laid Ralson down on the couch. He hovered over him restlessly and hopelessly until Blaustein arrived.

Blaustein took one look. "What happened?"

Grant said, "I think he's alive," but by that time Blaustein had verified that for himself, and Grant told him what had happened.

Blaustein used a hypodermic and they waited. Ralson's eyes were blank when they opened. He moaned.

Blaustein leaned close. "Ralson."

Ralson's hands reached out blindly and clutched at the psychiatrist. "Doc. Take me back."

"I will. Now. It is that you have the force field worked out, no?"

"It's on the papers. Grant, it's on the papers."

Grant had them and was leafing through them dubiously. Ralson said, weakly, "It's not all there. It's all I can write. You'll have to make it out of that. Take me back, Doc!"

"Wait," said Grant. He whispered urgently to Blaustein. "Can't you leave him here till we test this thing? I can't make out what most of this is. The writing is illegible. Ask him what makes him think this will work."

"Ask him?" said Blaustein, gentry. "Isn't he the one who always knows?"

"Ask me, anyway," said Ralson, overhearing from where he lay on the couch. His eyes were suddenly wide and blazing.

They turned to him.

He said, "They don't want a force field. They! The experimenters! As long as I had no true grasp, things remained as they were. But I hadn't followed up that thought-that thought which is there in the papers-I hadn't followed it up for thirty seconds before I felt . . . I felt- Doctor-"

Blaustein said, "What is it?"

Ralson was whispering again, "I'm deeper in the penicillin. I could feel myself plunging in and in, the further I went with that. I've never been in . . . so deep. That's how I knew I was right. Take me away."

Blaustein straightened. "I'll have to take him away, Grant. There's no alternative. If you can make out what he's written, that's it. If you can't make it out, I can't help you. That man can do no more work in his field without dying, do you understand?"

"But," said Grant, "he's dying of something imaginary."

"All right. Say that he is. But he will be really dead just the same, no?"

Ralson was unconscious again and heard nothing of this. Grant looked at him somberly, then said, "Well, take him away, then."

Ten of the top men at the Institute watched glumly as slide after slide filled the illuminated screen. Grant faced them, expression hard and frowning.

He said, "I think the idea is simple enough. You're mathematicians and you're engineers. The scrawl may seem illegible, but it was done with meaning behind it. That meaning must somehow remain in the writing, distorted though it is. The first page is clear enough. It should be a good lead. Each one of you will look at every page over and over again. You're going to put down every possible version of each page as it seems it might be. You will work independently. I want no consultations."

One of them said, "How do you know it means anything, Grant?"

"Because those are Ralson's notes."

"Ralson! I thought he was-"

"You thought he was sick," said Grant. He had to shout over the rising hum of conversation. "I know. He is. That's the writing of a man who was nearly dead. It's all we'll ever get from Ralson, any more. Somewhere in that scrawl is the answer to the force field problem. If we can't find it, we may have to spend ten years looking for it elsewhere."

They bent to their work. The night passed. Two nights passed. Three nights-

Grant looked at the results. He shook his head. "I'll take your word for it that it is all self-consistent. I can't say I understand it."

Lowe, who, in the absence of Ralson, would readily have been rated the best nuclear engineer at the Institute, shrugged. "It's not exactly clear to me. If it works, he hasn't explained why."

"He had no time to explain. Can you build the generator as he describes it?"

"I could try."

"Would you look at all the other versions of the pages?"

"The others are definitely not self-consistent."

"Would you double-check?"

"Sure."

"And could you start construction anyway?"

"I'll get the shop started. But I tell you frankly that I'm pessimistic."

"I know. So am I."

The thing grew. Hal Ross, Senior Mechanic, was put in charge of the actual construction, and he stopped sleeping. At any hour of the day or night, he could be found at it, scratching his bald head.

He asked questions only once, "What is it, Dr. Lowe? Never saw anything like it? What's it supposed to do?"

Lowe said, "You know where you are, Ross. You know we don't ask questions here. Don't ask again."

Ross did not ask again. He was known to dislike the structure that was being built. He called it ugly and unnatural. But he stayed at it.

Blaustein called one day.

Grant said, "How's Ralson?"

"Not good. He wants to attend the testing of the Field Projector he designed."

Grant hesitated, "I suppose we should. It's his after all."

"I would have to come with him."

Grant looked unhappier. "It might be dangerous, you know. Even in a pilot test, we'd be playing with tremendous energies."

Blaustein said, "No more dangerous for us than for you."

"Very well. The list of observers will have to be cleared through the Commission and the F.B.I., but I'll put you in."

Blaustein looked about him. The field projector squatted in the very center of the huge testing laboratory, but all else had been cleared. There was no visible connection with the plutonium pile which served as energy-source, but from what the psychiatrist heard in scraps about him-he knew better than to ask Ralson-the connection was from beneath.

At first, the observers had circled the machine, talking in incomprehensibles, but they were drifting away now. The gallery was filling up. There were at least three men in generals' uniforms on the other side, and a real coterie of lower-scale military. Blaustein chose an unoccupied portion of the railing; for Ralson's sake, most of all.

He said, "Do you still think you would like to stay?"

It was warm enough within the laboratory, but Ralson was in his coat, with his collar turned up. It made little difference, Blaustein felt. He doubted that any of Ralson's former acquaintances would now recognize him.

Ralson said, "I'll stay."

Blaustein was pleased. He wanted to see the test. He turned again at a new voice.

"Hello, Dr. Blaustein."

For a minute, Blaustein did not place him, then he said, "Ah, Inspector Darrity. What are you doing here?"

"Just what you would suppose." He indicated the watchers. "There isn't any way you can weed them out so that you can be sure there won't be any mistakes. I once stood

as near to Klaus Fuchs as I am standing to you." He tossed his pocketknife into the air and retrieved it with a dexterous motion.

"Ah, yes. Where shall one find perfect security? What man can trust even his own unconscious? And you will now stand near to me, no?"

"Might as well." Darrity smiled. "You were very anxious to get in here, weren't you?"

"Not for myself, Inspector. And would you put away the knife, please."

Darrity turned in surprise in the direction of Blaustein's gentle head-gesture. He put his knife away and looked at Blaustein's companion for the second time. He whistled softly.

He said, "Hello, Dr. Ralson."

Ralson croaked, "Hello."

Blaustein was not surprised at Darrity's reaction. Ralson had lost twenty pounds since returning to the sanatorium. His face was yellow and wrinkled; the face of a man who had suddenly become sixty.

Blaustein said, "Will the test be starting soon?"

Darrity said, "It looks as if they're starting now."

He turned and leaned on the rail. Blaustein took Ralson's elbow and began leading him away, but Darrity said, softly, "Stay here, Doc. I don't want you wandering about."

Blaustein looked across the laboratory. Men were standing about with the uncomfortable air of having turned half to stone. He could recognize Grant, tall and gaunt, moving his hand slowly to light a cigarette, then changing his mind and putting lighter and cigarette in his pocket. The young men at the control panels waited tensely.

Then there was a low humming and the faint smell of ozone filled the air.

Ralson said harshly, "Look!"

Blaustein and Darrity looked along the pointing finger. The projector seemed to flicker. It was as though there were heated air rising between it and them. An iron ball came swinging down pendulum fashion and passed through the flickering area.

"It slowed up, no?" said Blaustein, excitedly.

Ralson nodded. "They're measuring the height of rise on the other side to calculate the loss of momentum. Fools! I said it would work." He was speaking with obvious difficulty.

Blaustein said, "Just watch, Dr. Ralson. I would not allow myself to grow needlessly excited."

The pendulum was stopped in its swinging, drawn up. The flickering about the projector became a little more intense and the iron sphere arced down once again.

Over and over again, and each time the sphere's motion was slowed with more of a jerk. It made a clearly audible sound as it struck the flicker. And eventually, it bounced. First, soggily, as though it hit putty, and then ringingly, as though it hit steel, so that the noise filled the place.

They drew back the pendulum bob and used it no longer. The projector could hardly be seen behind the haze that surrounded it.

Grant gave an order and the odor of ozone was suddenly sharp and pungent. There was a cry from the assembled observers; each one exclaiming to his neighbor. A dozen fingers were pointing.

Blaustein leaned over the railing, as excited as the rest. Where the projector had been, there was now only a huge semi-globular mirror. It was perfectly and beautifully clear. He could see himself in it, a small man standing on a small balcony that curved up on each side. He could see the fluorescent lights reflected in spots of glowing illumination. It was wonderfully sharp.

He was shouting, "Look, Ralson. It is reflecting energy. It is reflecting light waves like a mirror. Ralson-"

He turned, "Ralson! Inspector, where is Ralson?"

"What?" Darrity whirled. "I haven't seen him."

He looked about, wildly. "Well, he won't get away. No way of getting out of here now. You take the other side." And then he clapped hand to thigh, fumbled for a moment in his pocket, and said, "My knife is gone."

Bluestein found him. He was inside the small office belonging to Hal Ross. It led off the balcony, but under the circumstances, of course, it had been deserted. Ross himself was not even an observer. A senior mechanic need not observe. But his office would do very well for the final end of the long fight against suicide.

Blaustein stood in the doorway for a sick moment, then turned. He caught Darrity's eye as the latter emerged from a similar office a hundred feet down the balcony. He beckoned, and Darrity came at a run.

Dr. Grant was trembling with excitement. He had taken two puffs at each of two cigarettes and trodden each underfoot thereafter. He was fumbling with the third now.

He was saying, "This is better than any of us could possibly have hoped. We'll have the gunfire test tomorrow. I'm sure of the result now, but we've planned it; we'll go through with it. We'll skip the small arms and start with the bazooka levels. Or maybe not. It might be necessary to construct a special testing structure to take care of the ricochet problem."

He discarded his third cigarette.

A general said, "We'd have to try a literal atom-bombing, of course."

"Naturally. Arrangements have already been made to build a mock-city at Eniwetole. We could build a generator on the spot and drop the bomb. There'd be animals inside."

"And you really think if we set up a field in full power it would hold the bomb?"

"It's not just that, general. There'd be no noticeable field at all until the bomb is dropped. The radiation of the plutonium would have to energize the field before explosion. As we did here in the last step. That's the essence of it all."

"You know," said a Princeton professor, "I see disadvantages, too. When the field is on full, anything it protects is in total darkness, as far as the sun is concerned. Besides that, it strikes me that the enemy can adopt the practice of dropping harmless radioactive

missiles to set off the field at frequent intervals. It would have nuisance value and be a considerable drain on our pile as well."

"Nuisances," said Grant, "can be survived. These difficulties will be met eventually, I'm sure, now that the main problem has been solved."

The British observer had worked his way toward Grant and was shaking hands. He said, "I feel better about London already. I cannot help but wish your government would allow me to see the complete plans. What I have seen strikes me as completely ingenious. It seems obvious now, of course, but how did anyone ever come to think of it?"

Grant smiled. "That question has been asked before with reference to Dr. Ralson's devices-"

He turned at the touch of a hand upon his shoulder. "Dr. Blaustein! I had nearly forgotten. Here, I want to talk to you."

He dragged the small psychiatrist to one side and hissed in his ear, "Listen, can you persuade Ralson to be introduced to these people? This is his triumph."

Blaustein said, "Ralson is dead."

"What?"

"Can you leave these people for a time?"

"Yes . . . yes- Gentlemen, you will excuse me for a few minutes?"

He hurried off with Blaustein.

The Federal men had already taken over. Unobtrusively, they barred the doorway to Ross's office. Outside there were the milling crowd discussing the answer to Alamogordo that they had just witnessed. Inside, unknown to them, was the death of the answerer. The G-man barrier divided to allow Grant and Blaustein to enter. It closed behind them again.

For a moment, Grant raised the sheet. He said, "He looks peaceful."

"I would say-happy," said Blaustein.

Darrity said, colorlessly, "The suicide weapon was my own knife. It was !my negligence; it will be reported as such."

"No, no," said Blaustein, "that would be useless. He was my patient and I am responsible. In any case, he would not have lived another week. Since he invented the projector, he was a dying man."

Grant said, "How much of this has to be placed in the Federal files? Can't we forget all about his madness?"

"I'm afraid not, Dr. Grant," said Darrity.

"I have told him the whole story," said Blaustein, sadly.

Grant looked from one to the other. "I'll speak to the Director. I'll go to the President, if necessary. I don't see that there need be any mention of suicide or of madness. He'll get full publicity as inventor of the field projector. It's the least we can do for him." His teeth were gritting.

Blaustein said, "He left a note."

"A note?"

Darrity handed him a sheet of paper and said, "Suicides almost always do. This is one reason the doctor told me about what really killed Ralson."

The note was addressed to Blaustein and it went: "The projector works; I knew it would. The bargain is done. You've got it and you don't need me any more. So I'll go. You needn't worry about the human race, Doc. You were right. They've bred us too long; they've taken too many chances. We're out of the culture now and they won't be able to stop us. I know. That's all I can say. I know."

He had signed his name quickly and then underneath there was one scrawled line, and it said: "Provided enough men are penicillin-resistant."

Grant made a motion to crumple the paper, but Darrity held out a quick hand.

"For the record, Doctor," he said.

Grant gave it to him and said, "Poor Ralson! He died believing all that trash."

Blaustein nodded. "So he did. Ralson will be given a great funeral, I suppose, and the fact of his invention will be publicized without the madness and the suicide. But the government men will remain interested in his mad theories. They may not be so mad, no, Mr. Darrity?"

"That's ridiculous, Doctor," said Grant. "There isn't a scientist on the job who has shown the least uneasiness about it at all."

"Tell him, Mr. Darrity," said Blaustein.

Darrity said, "There has been another suicide. No, no, none of the scientists. No one with a degree. It happened this morning, and we investigated because we thought it might have some connection with today's test. There didn't seem any, and we were going to keep it quiet till the test was over. Only now there seems to be a connection."

"The man who died was just a guy with a wife and three kids. No reason to die. No history of mental illness. He threw himself under a car. We have witnesses, and it's certain he did it on purpose. He didn't die right away and they got a doctor to him. He was horribly mangled, but his last words were 'I feel much better now' and he died."

"But who was he?" cried Grant.

"Hal Ross. The guy who actually built the projector. The guy whose office this is."

Blaustein walked to the window. The evening sky was darkening into starriness.

He said, "The man knew nothing about Ralson's views. He had never spoken to Ralson, Mr. Darrity tells me. Scientists are probably resistant as a whole. They must be or they are quickly driven out of the profession. Ralson was an exception, a penicillin-sensitive who insisted on remaining. You see what happened to him. But what about the others; those who have remained in walks of life where there is no constant weeding out of the sensitive ones. How much of humanity is penicillin-resistant?"

"You believe Ralson?" asked Grant in horror.

"I don't really know."

Blaustein looked at the stars.

Incubators?

C-CHUTE

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Even from the cabin into which he and the other passengers had been herded, Colonel Anthony Windham could still catch the essence of the battle's progress. For a while, there was silence, no jolting, which meant the spaceships were fighting at astronomical distance in a duel of energy blasts and powerful force-field defenses.

He knew that could have only one end. Their Earth ship was only an armed merchantman and his glimpse of the Kloro enemy just before he had been cleared off deck by the crew was sufficient to show it to be a light cruiser.

And in less than half an hour, there came those hard little shocks he was waiting for. The passengers swayed back and forth as the ship pitched and veered, as though it were an ocean liner in a storm. But space was calm and silent as ever. It was their pilot sending desperate bursts of steam through the steam-tubes, so that by reaction the ship would be sent rolling and tumbling. It could only mean that the inevitable had occurred. The Earth ship's screens had been drained and it no longer dared withstand a direct hit.

Colonel Windham tried to steady himself with his aluminum cane. He was thinking that he was an old man; that he had spent his life in the militia and had never seen a battle; that now, with a battle going on around him, he was old and fat and lame and had no men under his command.

They would be boarding soon, those Kloro monsters. It was their way of fighting. They would be handicapped by spacesuits and their casualties would be high, but they wanted the Earth ship. Windham considered the passengers. For a moment, he thought, if they were armed and I could lead them- He abandoned the thought. Porter was in an obvious state of funk and the young boy, Leblanc, was hardly better. The Polyorketes brothers-dash it, he couldn't tell them apart-huddled in a corner speaking only to one another. Mullen was a different matter. He sat perfectly erect, with no signs of fear or any other emotion in his face. But the man was just about five feet tall and had undoubtedly never held a gun of any sort in his hands in all his life. He could do nothing.

And there was Stuart, with his frozen half-smile and the high-pitched sarcasm which saturated all he said. Windham looked sidelong at Stuart now as Stuart sat there, pushing his dead-white hands through his sandy hair. With those artificial hands he was useless, anyway.

Windham felt the shuddering vibration of ship-to-ship contact; and in five minutes, there was the noise of the fight through the corridors. One of the Polyorketes brothers screamed and dashed for the door. The other called, "Aristides! Wait!" and hurried after.

It happened so quickly. Aristides was out the door and into the corridor, running in brainless panic. A carbonizer glowed briefly and there was never even a scream.

Windham, from the doorway, turned in horror at the blackened stump of what was left. Strange—a lifetime in uniform and he had never before seen a man killed in violence.

It took the combined force of the rest to carry the other brother back struggling into the room.

The noise of battle subsided.

Stuart said, "That's it. They'll put a prize crew of two aboard and take us to one of their home planets. We're prisoners of war, naturally."

"Only two of the Kloros will stay aboard?" asked Windham, astonished.

Stuart said, "It is their custom. Why do you ask, Colonel? Thinking of leading a gallant raid to retake the ship?"

Windham flushed. "Simply a point of information, dash it." But the dignity and tone of authority he tried to assume failed him, he knew. He was simply an old man with a limp.

And Stuart was probably right. He had lived among the Kloros and knew their ways.

John Stuart had claimed from the beginning that the Kloros were gentlemen. Twenty-four hours of imprisonment had passed, and now he repeated the statement as he flexed the fingers of his hands and watched the crinkles come and go in the soft artiplasm.

He enjoyed the unpleasant reaction it aroused in the others. People were made to be punctured; windy bladders, all of them. And they had hands of the same stuff as their bodies.

There was Anthony Windham, in particular. Colonel Windham, he called himself, and Stuart was willing to believe it. A retired colonel who had probably drilled a home guard militia on a village green, forty years ago, with such lack of distinction that he was not called back to service in any capacity, even during the emergency of Earth's first interstellar war.

"Dashed unpleasant thing to be saying about the enemy, Stuart. Don't know that I like your attitude." Windham seemed to push the words through his clipped mustache. His head had been shaven, too, in imitation of the current military style, but now a gray stubble was beginning to show about a centered bald patch. His flabby cheeks dragged downward. That and the fine red lines on his thick nose gave him a somewhat undone appearance, as though he had been wakened too suddenly and too early in the morning.

Stuart said, "Nonsense. Just reverse the present situation. Suppose an Earth warship had taken a Kloro liner. What do you think would have happened to any Kloro civilians aboard?"

"I'm sure the Earth fleet would observe all the interstellar rules of war," Windham said stiffly.

"Except that there aren't any. If we landed a prize crew on one of their ships, do you think we'd take the trouble to maintain a chlorine atmosphere for the benefit of the survivors; allow them to keep their non-contraband possessions; give them the use of the most comfortable stateroom, etcetera, etcetera, etcetera?"

Ben Porter said, "Oh, shut up, for God's sake. If I hear your etcetera, etcetera once again, I'll go nuts."

Stuart said, "Sorry!" He wasn't.

Porter was scarcely responsible. His thin face and beaky nose glistened with perspiration, and he kept biting the inside of his cheek until he suddenly winced. He put his tongue against the sore spot, which made him look even more clownish.

Stuart was growing weary of baiting them. Windham was too flabby a target and Porter could do nothing but writhe. The rest were silent. Demetrios Polyorketes was off in a world of silent internal grief for the moment. He had not slept the night before, most probably. At least, whenever Stuart woke to change his position-he himself had been rather restless-there had been Polyorketes' thick mumble from the next cot. It said many things, but the moan to which it returned over and over again was, "Oh, my brother!"

He sat dumbly on his cot now, his red eyes rolling at the other prisoners out of his broad swarthy, unshaven face. As Stuart watched, his face sank into calloused palms so that only his mop of crisp and curly black hair could be seen. He rocked gently, but now that they were all awake, he made no sound.

Claude Leblanc was trying very unsuccessfully, to read a letter. He was the youngest of the six, scarcely out of college, returning to Earth to get married. Stuart had found him that morning weeping quietly, his pink and white face flushed and blotched as though it were a heartbroken child's. He was very fair, with almost a girl's beauty about his large blue eyes and full lips. Stuart wondered what kind of girl it was who had promised to be his wife. He had seen her picture. Who on the ship had not? She had the characterless prettiness that makes all pictures of fiancées indistinguishable. It seemed to Stuart that if he were a girl, however, he would want someone a little more pronouncedly masculine.

That left only Randolph Mullen. Stuart frankly did not have the least idea what to make of him. He was the only one of the six that had been on the Arcturian worlds for any length of time. Stuart, himself, for instance, had been there only long enough to give a series of lectures on astronautical engineering at the provincial engineering institute. Colonel Windham had been on a Cook's tour; Porter was trying to buy concentrated alien vegetables for his canneries on Earth; and the Polyorketes brothers had attempted to establish themselves in Arcturus as truck farmers and, after two growing seasons, gave it up, had somehow unloaded at a profit, and were returning to Earth.

Randolph Mullen, however, had been in the Arcturian system for seventeen years. How did voyagers discover so much about one another so quickly? As far as Stuart knew, the little man had scarcely spoken aboard ship. He was unfailingly polite, always stepped to one side to allow another to pass, but his entire vocabulary appeared to consist only of "Thank you" and "Pardon me." Yet the word had gone around that this was his first trip to Earth in seventeen years.

He was a little man, very precise, almost irritatingly so. Upon awaking that morning, he had made his cot neatly, shaved, bathed and dressed. The habit of years seemed not in the least disturbed by the fact that he was a prisoner of the Kloros now. He was

unobtrusive about it, it had to be admitted, and gave no impression of disapproving of the sloppiness of the others. He simply sat there, almost apologetic, trussed in his overconservative clothing, and hands loosely clasped in his lap. The thin line of hair on his upper lip, far from adding character to his face, absurdly increased its primness.

He looked like someone's idea of a caricature of a bookkeeper. And the queer thing about it all, Stuart thought, was that that was exactly what he was. He had noticed it on the registry-Randolph Fluellen Mullen; occupation, bookkeeper; employers, Prime Paper Box Co.; 27 Tobias Avenue, New Warsaw, Arcturus II.

"Mr. Stuart?"

Stuart looked up. It was Leblanc, his lower lip trembling slightly. Stuart tried to remember how one went about being gentle. He said, "What is it, Leblanc?"

"Tell me, when will they let us go?"

"How should I know?"

"Everyone says you lived on a Kloro planet, and just now you said they were gentlemen."

"Well, yes. But even gentlemen fight wars in order to win. Probably, we'll be interned for the duration."

"But that could be years! Margaret is waiting. She'll think I'm dead!"

"I suppose they'll allow messages to be sent through once we're on their planet."

Porter's hoarse voice sounded in agitation. "Look here, if you know so much about these devils, what will they do to us while we're interned? What will they feed us? Where will they get oxygen for us? They'll kill us, I tell you." And as an afterthought, "I've got a wife waiting for me, too," he added.

But Stuart had heard him speaking of his wife in the days before the attack. He wasn't impressed. Porter's nail-bitten fingers were pulling and plucking at Stuart's sleeve. Stuart drew away in sharp revulsion. He couldn't stand those ugly hands. It angered him to desperation that such monstrosities should be real while his own white and perfectly shaped hands were only mocking imitations grown out of an alien latex.

He said, "They won't kill us. If they were going to, they would have done it before now. Look, we capture Kloros too, you know, and it's just a matter of common sense to treat your prisoners decently if you want the other side to be decent to your men. They'll do their best. The food may not be very good, but they're better chemists than we are. It's what they're best at. They'll know exactly what food factors we'll need and how many calories. We'll live. They'll see to that."

Windham rumbled, "You sound more and more like a blasted greenie sympathizer, Stuart. It turns my stomach to hear an Earthman speak well of the green fellas the way you've been doing. Burn it, man, where's your loyalty?"

"My loyalty's where it belongs. With honesty and decency, regardless of the shape of the being it appears in." Stuart held up his hands. "See these? Kloros made them. I lived on one of their planets for six months. My hands were mangled in the conditioning machinery of my own quarters. I thought the oxygen supply they gave me was a little poor-it wasn't, by the way- and I tried making the adjustments on my own. It was my fault.

You should never trust yourself with the machines of another culture. By the time someone among the Kloros could put on an atmosphere suit and get to me, it was too late to save my hands.

"They grew these artiplasm things for me and operated. You know what that meant? It meant designing equipment and nutrient solutions that would work in oxygen atmosphere. It meant that their surgeons had to perform a delicate operation while dressed in atmosphere suits. And now I've got hands again." He laughed harshly, and clenched them into weak fists. "Hands-"

Windham said, "And you'd sell your loyalty to Earth for that?"

"Sell my loyalty? You're mad. For years, I hated the Kloros for this. I was a master pilot on the Trans-Galactic Spacelines before it happened. Now? Desk job. Or an occasional lecture. It took me a long time to pin the fault on myself and to realize that the only role played by the Kloros was a decent one. They have their code of ethics, and it's as good as ours. If it weren't for the stupidity of some of their people-and, by God, of some of ours-we wouldn't be at war. And after it's over-"

Polyorketes was on his feet. His thick fingers curved inward before him and his dark eyes glittered. "I don't like what you say, mister."

"Why don't you?"

"Because you talk too nice about these damned green bastards. The Kloros were good to you, eh? Well, they weren't good to my brother. They killed him. I think maybe I kill you, you damned greenie spy."

And he charged.

Stuart barely had time to raise his arms to meet the infuriated farmer. He gasped out, "What the hell-" as he caught one wrist and heaved a shoulder to block the other which groped toward his throat.

His artiplasm hand gave way. Polyorketes wrenched free with scarcely an effort.

Windham was bellowing incoherently, and Leblanc was calling out in his reedy voice, "Stop it! Stop it!" But it was little Mullen who threw his arms about the farmer's neck from behind and pulled with all his might. He was not very effective; Polyorketes seemed scarcely aware of the little man's weight upon his back. Mullen's feet left the floor so that he tossed helplessly to right and left. But he held his grip and it hampered Polyorketes sufficiently to allow Stuart to break free long enough to grasp Windham's aluminum cane.

He said, "Stay away, Polyorketes."

He was gasping for breath and fearful of another rush. The hollow aluminum cylinder was scarcely heavy enough to accomplish much, but it was better than having only his weak hands to defend himself with.

Mullen had loosed his hold and was now circling cautiously, his breathing roughened and his jacket in disarray.

Polyorketes, for a moment, did not move. He stood there, his shaggy head bent low. Then he said, "It is no use. I must kill Kloros. Just watch your tongue, Stuart. If it keeps on rattling too much, you're liable to get hurt. Really hurt, I mean."

Stuart passed a forearm over his forehead and thrust the cane back at Windham, who seized it with his left hand, while mopping his bald pate vigorously with a handkerchief in his right.

Windham said, "Gentlemen, we must avoid this. It lowers our prestige. We must remember the common enemy. We are Earthmen and we must act what we are-the ruling race of the Galaxy. We dare not demean ourselves before the lesser breeds."

"Yes, Colonel," said Stuart, wearily. "Give us the rest of the speech tomorrow."

He turned to Mullen, "I want to say thanks."

He was uncomfortable about it, but he had to. The little accountant had surprised him completely.

But Mullen said, in a dry voice that scarcely raised above a whisper, "Don't thank me, Mr. Stuart. It was the logical thing to do. If we are to be interned, we would need you as an interpreter, perhaps, one who would understand the Kloros."

Stuart stiffened. It was, he thought, too much of the bookkeeper type of reasoning, too logical, too dry of juice. Present risk and ultimate advantage. The assets and debits balanced neatly. He would have liked Mullen to leap to his defense out of-well, out of what? Out of pure, unselfish decency?

Stuart laughed silently at himself. He was beginning to expect idealism of human beings, rather than good, straight-forward, self-centered motivation.

Polyorketes was numb. His sorrow and rage were like acid inside him, but they had no words to get out. If he were Stuart, big-mouth, white-hands Stuart, he could talk and talk and maybe feel better. Instead, he had to sit there with half of him dead; with no brother, no Aristides-

It had happened so quickly. If he could only go back and have one second more warning, so that he might snatch Aristides, hold him, save him.

But mostly he hated the Kloros. Two months ago, he had hardly ever heard of them, and now he hated them so hard, he would be glad to die if he could kill a few.

He said, without looking up, "What happened to start this war, eh?"

He was afraid Stuart's voice would answer. He hated Stuart's voice. But it was Windham, the bald one.

Windham said, "The immediate cause, sir, was a dispute over mining concessions in the Wyandotte system. The Kloros had poached on Earth property."

"Room for both, Colonel!"

Polyorketes looked up at that, snarling. Stuart could not be kept quiet for long. He was speaking again; the cripple-hand, wiseguy, Kloros-lover.

Stuart was saying, "Is that anything to fight over, Colonel? We can't use one another's worlds. Their chlorine planets are useless to us and our oxygen ones are useless to them. Chlorine is deadly to us and oxygen is deadly to them. There's no way we could maintain permanent hostility. Our races just don't coincide. Is there reason to fight then because both races want to dig iron out of the same airless planetoids when there are millions like them in the Galaxy?"

Windham said, "There is the question of planetary honor-"

"Planetary fertilizer. How can it excuse a ridiculous war like this one? It can only be fought on outposts. It has to come down to a series of holding actions and eventually be settled by negotiations that might just as easily have been worked out in the first place. Neither we nor the Kloros will gain a thing."

Grudgingly, Polyorketes found that he agreed with Stuart. What did he and Aristides care where Earth or the Kloros got their iron?

Was that something for Aristides to die over?

The little warning buzzer sounded.

Polyorketes' head shot up and he rose slowly, his lips drawing back. Only one thing could be at the door. He waited, arms tense, fists balled. Stuart was edging toward him. Polyorketes saw that and laughed to himself. Let the Kloro come in, and Stuart, along with all the rest, could not stop him.

Wait, Aristides, wait just a moment, and a fraction of revenge will be paid back.

The door opened and a figure entered, completely swathed in a shapeless, billowing travesty of a spacesuit.

An odd, unnatural, but not entirely unpleasant voice began, "It is with some misgivings, Earthmen, that my companion and myself-

It ended abruptly as Polyorketes, with a roar, charged once again. There was no science in the lunge. It was sheer bull-momentum. Dark head low, burly arms spread out with the hair-tufted fingers in choking position, he clumped on. Stuart was whirled to one side before he had a chance to intervene, and was spun tumbling across a cot.

The Kloro might have, without undue exertion, straight-armed Polyorketes to a halt, or stepped aside, allowing the whirlwind to pass. He did neither. With a rapid movement, a hand-weapon was up and a gentle pinkish line of radiance connected it with the plunging Earthman. Polyorketes stumbled and crashed down, his body maintaining its last curved position, one foot raised, as though a lightning paralysis had taken place. It toppled to one side and he lay there, eyes all alive and wild with rage.

The Kloro said, "He is not permanently hurt." He seemed not to resent the offered violence. Then he began again, "It is with some misgiving, Earthmen, that my companion and myself were made aware of a certain commotion in this room. Are you in any need which we can satisfy?"

Stuart was angrily nursing his knee which he had scraped in colliding with the cot. He said, "No, thank you, Kloro."

"Now, look here," puffed Windham, "this is a dashed outrage. We demand that our release be arranged."

The Kloro's tiny, insectlike head turned in the fat old man's direction. He was not a pleasant sight to anyone unused to him. He was about the height of an Earthman, but the top of him consisted of a thin stalk of a neck with a head that was the merest swelling. It consisted of a blunt triangular proboscis in front and two bulging eyes on either side. That was all. There was no brain pan and no brain. What corresponded to the brain in a Kloro was located in what would be an Earthly abdomen, leaving the head as a mere sensory organ. The Kloro's spacesuit followed the outlines of the head more or less faithfully, the

two eyes being exposed by two clear semicircles of glass, which looked faintly green because of the chlorine atmosphere inside.

One of the eyes was now cocked squarely at Windham, who quivered uncomfortably under the glance, but insisted, "You have no right to hold us prisoner. We are noncombatants."

The Kloro's voice, sounding thoroughly artificial, came from a small attachment of chromium mesh on what served as its chest. The voice box was manipulated by compressed air under the control of one or two of the many delicate, forked tendrils that radiated from two circles about its upper body and were, mercifully enough, hidden by the suit.

The voice said, "Are you serious, Earthman? Surely you have heard of war and rules of war and prisoners of war."

It looked about, shifting eyes with quick jerks of its head, staring at a particular object first with one, then with another. It was Stuart's understanding that each eye transferred a separate message to the abdominal brain, which had to coordinate the two to obtain full information.

Windham had nothing to say. No one had. The Kloro, its four main limbs, roughly arms and legs in pairs, had a vaguely human appearance under the masking of the suit, if you looked no higher than its chest, but there was no way of telling what it felt.

They watched it turn and leave.

Porter coughed and said in a strangled voice, "God, smell that chlorine. If they don't do something, we'll all die of rotted lungs."

Stuart said, "Shut up. There isn't enough chlorine in the air to make a mosquito sneeze, and what there is will be swept out in two minutes. Besides, a little chlorine is good for you. It may kill your cold virus."

Windham coughed and said, "Stuart, I feel that you might have said something to your Kloro friend about releasing us. You are scarcely as bold in their presence, dash it, as you are once they are gone."

"You heard what the creature said, Colonel. We're prisoners of war, and prisoner exchanges are negotiated by diplomats. We'll just have to wait."

Leblanc, who had turned pasty white at the entrance of the Kloro, rose and hurried into the privy. There was the sound of retching.

An uncomfortable silence fell while Stuart tried to think of something to say to cover the unpleasant sound. Mullen filled in. He had rummaged through a little box he had taken from under his pillow.

He said, "Perhaps Mr. Leblanc had better take a sedative before retiring. I have a few. I'd be glad to give him one." He explained his generosity immediately, "Otherwise he may keep the rest of us awake, you see."

"Very logical," said Stuart, dryly. "You'd better save one for Sir Launcelot here; save half a dozen." He walked to where Polyorketes still sprawled and knelt at his side. "Comfortable, baby?"

Windham said, "Deuced poor taste speaking like that, Stuart."

"Well, if you're so concerned about him, why don't you and Porter hoist him onto his cot?"

He helped them do so. Polyorketes' arms were trembling erratically now. From what Stuart knew of the Kloro's nerve weapons, the man should be in an agony of pins and needles about now.

Stuart said, "And don't be too gentle with him, either. The damned fool might have gotten us all killed. And for what?"

He pushed Polyorketes' stiff carcass to one side and sat at the edge of the cot. He said, "Can you hear me, Polyorketes?"

Polyorketes' eyes gleamed. An arm lifted abortively and fell back.

"Okay then, listen. Don't try anything like that again. The next time it may be the finish for all of us. If you had been a Kloro and he had been an Earthman, we'd be dead now. So just get one thing through your skull. We're sorry about your brother and it's a rotten shame, but it was his own fault."

Polyorketes tried to heave and Stuart pushed him back.

"No, you keep on listening," he said. "Maybe this is the only time I'll get to talk to you when you have to listen. Your brother had no right leaving passenger's quarters. There was no place for him to go. He just got in the way of our own men. We don't even know for certain that it was a Kloro gun that killed him. It might have been one of our own."

"Oh, I say, Stuart," objected Windham.

Stuart whirled at him. "Do you have proof it wasn't? Did you see the shot? Could you tell from what was left of the body whether it was Kloro energy or Earth energy?"

Polyorketes found his voice, driving his unwilling tongue into a fuzzy verbal snarl. "Damned stinking greenie bastard."

"Me?" said Stuart. "I know what's going on in your mind, Polyorketes. You think that when the paralysis wears off, you'll ease your feelings by slamming me around. Well, if you do, it will probably be curtains for all of us."

He rose, put his back against the wall. For the moment, he was fighting all of them. "None of you know the Kloros the way I do. The physical differences you see are not important. The differences in their temperament are. They don't understand our views on sex, for instance. To them, it's just a biological reflex like breathing. They attach no importance to it. But they do attach importance to social groupings. Remember, their evolutionary ancestors had lots in common with our insects. They always assume that any group of Earthmen they find together makes up a social unit.

"That means just about everything to them. I don't understand exactly what it means. No Earthman can. But the result is that they never break up a group, just as we don't separate a mother and her children if we can help it. One of the reasons they may be treating us with kid gloves right now is that they imagine we're all broken up over the fact that they killed one of us, and they feel guilt about it.

"But this is what you'll have to remember. We're going to be interned together and kept together for duration. I don't like the thought. I wouldn't have picked any of you

for co-internees and I'm pretty sure none of you would have picked me. But there it is. The Kloros could never understand that our being together on the ship is only accidental.

"That means we've got to get along somehow. That's not just goodie-goodie talk about birds in their little nest agreeing. What do you think would have happened if the Kloros had come in earlier and found Polyorketes and myself trying to kill each other? You don't know? Well, what do you suppose you would think of a mother you caught trying to kill her children?

"That's it, then. They would have killed every one of us as a bunch of Kloro-type perverts and monsters. Got that? How about you, Polyorketes? Have you got it? So let's call names if we have to, but let's keep our hands to ourselves. And now, if none of you mind, I'll massage my hands back into shape-these synthetic hands that I got from the Kloros and that one of my own kind tried to mangle again."

For Claude Leblanc, the worst was over. He had been sick enough; sick with many things; but sick most of all over having ever left Earth. It had been a great thing to go to college off Earth. It had been an adventure and had taken him away from his mother. Somehow, he had been sneakingly glad to make that escape after the first month of frightened adjustment.

And then on the summer holidays, he had been no longer Claude, the shy-spoken scholar, but Leblanc, space traveler. He had swaggered the fact for all it was worth. It made him feel such a man to talk of stars and Jumps and the customs and environments of other worlds; it had given him corkage with Margaret. She had loved him for the dangers he had undergone-

Except that this had been the first one, really, and he had not done so well. He knew it and was ashamed and wished he were like Stuart.

He used the excuse of mealtime to approach. He said, "Mr. Stuart."

Stuart looked up and said shortly, "How do you feel?"

Leblanc felt himself blush. He blushed easily and the effort not to blush only made it worse. He said, "Much better, thank you. We are eating. I thought I'd bring you your ration,"

Stuart took the offered can, It was standard space ration; thoroughly synthetic, concentrated, nourishing and, somehow, unsatisfying. It heated automatically when the can was opened, but could be eaten cold, if necessary. Though a combined fork-spoon utensil was enclosed, the ration was of a consistency that made the use of fingers practical and not particularly messy.

Stuart said, "Did you hear my little speech?"

"Yes, sir. I want you to know you can count on me."

"Well, good. Now go and eat."

"May I eat here?"

"Suit yourself."

For a moment, they ate in silence, and then Leblanc burst out, "You are so sure of yourself, Mr. Stuart! It must be very wonderful to be like that!"

"Sure of myself? Thanks, but there's your self-assured one."

Leblanc followed the direction of the nod in surprise. "Mr. Mullen? That little man? Oh, no!"

"You don't think he's self-assured?"

Leblanc shook his head. He looked at Stuart intently to see if he could detect humor in his expression. "That one is just cold. He has no emotion in him. He's like a little machine. I find him repulsive. You're different, Mr. Stuart. You have it all inside, but you control it. I would like to be like that."

And as though attracted by the magnetism of the mention, even though unheard, of his name, Mullen joined them. His can of ration was barely touched. It was still steaming gently as he squatted opposite them.

His voice had its usual quality of furtively rustling underbrush. "How long, Mr. Stuart, do you think the trip will take?"

"Can't say, Mullen. They'll undoubtedly be avoiding the usual trade routes and they'll be making more Jumps through hyper-space than usual to throw off possible pursuit. I wouldn't be surprised if it took as long as a week. Why do you ask? I presume you have a very practical and logical reason?"

"Why, yes. Certainly." He seemed quite shellbacked to sarcasm. He said, "It occurred to me that it might be wise to ration the rations, so to speak."

"We've got enough food and water for a month. I checked on that first thing."

"I see. In that case, I will finish the can." He did, using the all-purpose utensil daintily and patting a handkerchief against his unstained lips from time to time.

Polyorketes struggled to his feet some two hours later. He swayed a bit, looking like the Spirit of Hangover. He did not try to come closer to Stuart, but spoke from where he stood.

He said, "You stinking greenie spy, you watch yourself."

"You heard what I said before, Polyorketes."

"I heard. But I also heard what you said about Aristides. I won't bother with you, because you're a bag of nothing but noisy air. But wait, someday you'll blow your air in one face too many and it will be let out of you."

"I'll wait," said Stuart.

Windham hobbled over, leaning heavily on his cane. "Now, now," he called with a wheezing joviality that overkidd his sweating anxiety so thinly as to emphasize it. "We're all Earthmen, dash it. Got to remember that; keep it as a glowing light of inspiration. Never let down before the blasted Kloros. We've got to forget private feuds and remember only that we are Earthmen united against alien blighters."

Stuart's comment was unprintable.

Porter was right behind Windham. He had been in a close conference with the shaven-headed colonel for an hour, and now he said with indignation, "It doesn't help to be a wiseguy, Stuart. You listen to the colonel. We've been doing some hard thinking about the situation."

He had washed some of the grease off his face, wet his hair and slicked it back. It did not remove the little tic on his right cheek just at the point where his lips ended, or make his hangnail hands more attractive in appearance.

"All right, Colonel," said Stuart. "What's on your mind?"

Windham said, "I'd prefer to have all the men together."

"Okay, call them."

Leblanc hurried over; Mullen approached with greater deliberation.

Stuart said, "You want that fellow?" He jerked his head at Polyorketes.

"Why, yes. Mr. Polyorketes, may we have you, old fella?"

"Ah, leave me alone."

"Go ahead," said Stuart, "leave him alone. I don't want him."

"No, no," said Windham. "This is a matter for all Earthmen. Mr. Polyorketes, we must have you."

Polyorketes rolled off one side of his cot. "I'm close enough, I can hear you."

Windham said to Stuart, "Would they-the Kloros, I mean-have this room wired?"

"No," said Stuart. "Why should they?"

"Are you sure?"

"Of course I'm sure. They didn't know what happened when Polyorketes jumped me. They just heard the thumping when it started rattling the ship."

"Maybe they were trying to give us the impression the room wasn't wired."

"Listen, Colonel, I've never known a Kloro to tell a deliberate lie-"

Polyorketes interrupted calmly, "That lump of noise just loves the Kloros."

Windham said hastily, "Let's not begin that. Look, Stuart, Porter and I have been discussing matters and we have decided that you know the Kloros well enough to think of some way of getting us back to Earth."

"It happens that you're wrong. I can't think of any way."

"Maybe there is some way we can take the ship back from the blasted green fellas," suggested Windham. "Some weakness they may have. Dash it, you know what I mean."

"Tell me, Colonel, what are you after? Your own skin or Earth's welfare?"

"I resent that question. I'll have you know that while I'm as careful of my own life as anyone has a right to be, I'm thinking of Earth primarily. And I think that's true of all of us."

"Damn right," said Porter, instantly. Leblanc looked anxious, Polyorketes resentful; and Mullen had no expression at all.

"Good," said Stuart. "Of course, I don't think we can take the ship. They're armed and we aren't. But there's this. You know why the Kloros took this ship intact. It's because they need ships. They may be better chemists than Earthmen are, but Earthmen are better astronautical engineers. We have bigger, better and more ships. In fact, if our crew had had a proper respect for military axioms in the first place, they would have blown the ship up as soon as it looked as though the Kloros were going to board."

Leblanc looked horrified. "And kill the passengers?"

"Why not? You heard what the good colonel said. Every one of us puts his own lousy little life after Earth's interests. What good are we to Earth alive right now? None at all. What harm will this ship do in Kloro hands? A hell of a lot, probably."

"Just why," asked Mullen, "did our men refuse to blow up the ship? They must have had a reason."

"They did. It's the firmest tradition of Earth's military men that there must never be an unfavorable ratio of casualties. If we had blown ourselves up, twenty fighting men and seven civilians of Earth would be dead as compared with an enemy casualty total of zero. So what happens? We let them board, kill twenty-eight-I'm sure we killed at least that many-and let them have the ship."

"Talk, talk, talk," jeered Polyorketes.

"There's a moral to this," said Stuart. "We can't take the ship away from the Kloros. We might be able to rush them, though, and keep them busy long enough to allow one of us enough time to short the engines."

"What?" yelled Porter, and Windham shushed him in fright.

"Short the engines," Stuart repeated. "That would destroy the ship, of course, which is what we want to do, isn't it?"

Leblanc's lips were white. "I don't think that would work."

"We can't be sure till we try. But what have we to lose by trying?"

"Our lives, damn it!" cried Porter. "You insane maniac, you're crazy!"

"If I'm a maniac," said Stuart, "and insane to boot, then naturally I'm crazy. But just remember that if we lose our lives, which is overwhelmingly probable, we lose nothing of value to Earth; whereas if we destroy the ship, as we just barely might, we do Earth a lot of good. What patriot would hesitate? Who here would put himself ahead of his world?" He looked about in the silence. "Surely not you, Colonel Windham."

Windham coughed tremendously. "My dear man, that is not the question. There must be a way to save the ship for Earth without losing our lives, eh?"

"All right. You name it."

"Let's all think about it. Now there are only two of the Kloros aboard ship. If one of us could sneak up on them and-

"How? The rest of the ship's all filled with chlorine. We'd have to wear a spacesuit. Gravity in their part of the ship is hopped up to Kloro level, so whoever is patsy in the deal would be clumping around, metal on metal, slow and heavy. Oh, he could sneak up on them, sure-like a skunk trying to sneak downwind."

"Then we'll drop it all," Porter's voice shook. "Listen, Windham, there's not going to be any destroying the ship. My life means plenty to me and if any of you try anything like that, I'll call the Kloros. I mean it."

"Well," said Stuart, "there's hero number one."

Leblanc said, "I want to go back to Earth, but I-

Mullen interrupted, "I don't think our chances of destroying the ship are good enough unless-"

"Heroes number two and three. What about you, Polyorketes, You would have the chance of killing two Kloros."

"I want to kill them with my bare hands," growled the farmer, his heavy fists writhing. "On their planet, I will kill dozens."

"That's a nice safe promise for now. What about you, Colonel? Don't you want to march to death and glory with me?"

"Your attitude is very cynical and unbecoming, Stuart. It's obvious that if the rest are unwilling, then your plan will fall through."

"Unless I do it myself, huh?"

"You won't, do you hear?" said Porter, instantly.

"Damn right I won't," agreed Stuart. "I don't claim to be a hero. I'm just an average patriot, perfectly willing to head for any planet they take me to and sit out the war."

Mullen said, thoughtfully, "Of course, there is a way we could surprise the Kloros."

The statement would have dropped flat except for Polyorketes. He pointed a black-nailed, stubby forefinger and laughed harshly. "Mr. Bookkeeper!" he said. "Mr. Bookkeeper is a big shot talker like this damned greenie spy, Stuart. All right, Mr. Bookkeeper, go ahead. You make big speeches also. Let the words roll like an empty barrel."

He turned to Stuart and repeated venomously, "Empty barrel! Cripple-hand empty barrel. No good for anything but talk."

Mullen's soft voice could make no headway until Polyorketes was through, but then he said, speaking directly to Stuart, "We might be able to reach them from outside. This room has a C-chute I'm sure."

"What's a C-chute?" asked Leblanc.

"Well-" began Mullen, and then stopped, at a loss.

Stuart said, mockingly, "It's a euphemism, my boy. Its full name is 'casualty chute.' It doesn't get talked about, but the main rooms on any ship would have them. They're just little airlocks down which you slide a corpse. Burial at space. Always lots of sentiment and bowed heads, with the captain making a rolling speech of the type Polyorketes here wouldn't like."

Leblanc's face twisted. "Use that to leave the ship?"

"Why not? Superstitious? -Go on, Mullen."

The little man had waited patiently. He said, "Once outside, one could re-enter the ship by the steam-tubes. It can be done-with luck. And then you would be an unexpected visitor in the control room."

Stuart stared at him curiously. "How do you figure this out? What do you know about steam-tubes?"

Mullen coughed. "You mean because I'm in the paper-box business? Well-" He grew pink, waited a moment, then made a new start in a colorless, unemotional voice. "My company, which manufactures fancy paper boxes and novelty containers, made a line of spaceship candy boxes for the juvenile trade some years ago. It was designed so

that if a string were pulled, small pressure containers were punctured and jets of compressed air shot out through the mock steam-tubes, sailing the box across the room and scattering candy as it went. The sales theory was that the youngsters would find it exciting to play with the ship and fun to scramble for the candy.

"Actually, it was a complete failure. The ship would break dishes and sometimes hit another child in the eye. Worse still, the children would not only scramble for the candy but would fight over it. It was almost our worst failure. We lost thousands.

"Still, while the boxes were being designed, the entire office was extremely interested. It was like a game, very bad for efficiency and office morale. For a while, we all became steam-tube experts. I read quite a few books on ship construction. On my own time, however, not the company's."

Stuart was intrigued. He said, "You know it's a video sort of idea, but it might work if we had a hero to spare. Have we?"

"What about you?" demanded Porter, indignantly. "You go around sneering at us with your cheap wisecracks. I don't notice you volunteering for anything."

"That's because I'm no hero, Porter. I admit it. My object is to stay alive, and shinnying down steam-tubes is no way to go about staying alive. But the rest of you are noble patriots. The colonel says so. What about you, Colonel? You're the senior hero here."

Windham said, "If I were younger, blast it, and if you had your hands, I would take pleasure, sir, in trouncing you soundly."

"I've no doubt of it, but that's no answer."

"You know very well that at my time of life and with my leg-" he brought the flat of his hand down upon his stiff knee- "I am in no position to do anything of the sort, however much I should wish to."

"Ah, yes," said Stuart, "and I, myself, am crippled in the hands, as Poryorketes tells me. That saves us. And what unfortunate deformities do the rest of us have?"

"Listen," cried Porter, "I want to know what this is all about. How can anyone go down the steam-tubes? What if the Kloros use them while one of us is inside?"

"Why, Porter, that's part of the sporting chance. It's where the excitement comes in."

"But he'd be boiled in the shell like a lobster."

"A pretty image, but inaccurate. The steam wouldn't be on for more than a very short time, maybe a second or two, and the suit insulation would hold that long. Besides, the jet comes scooting out at several hundred miles a minute, so that you would be blown clear of the ship before the steam could even warm you. In fact, you'd be blown quite a few miles out into space, and after that you would be quite safe from the Kloros. Of course, you couldn't get back to the ship."

Porter was sweating freely. "You don't scare me for one minute, Stuart."

"I don't? Then you're offering to go? Are you sure you've thought out what being stranded in space means? You're all alone, you know; really all alone. The steam-jet will probably leave you turning or tumbling pretty rapidly. You won't feel that. You'll seem to

be motionless. But all the stars will be going around and around so that they're just streaks in the sky. They won't ever stop. They won't even slow up. Then your heater will go off, your oxygen will give out, and you will die very slowly. You'll have lots of time to think. Or, if you are in a hurry, you could open your suit. That wouldn't be pleasant, either. I've seen faces of men who had a torn suit happen to them accidentally, and it's pretty awful. But it would be quicker. Then-

Porter turned and walked unsteadily away.

Stuart said, lightly, "Another failure. One act of heroism still ready to be knocked down to the highest bidder with nothing offered yet."

Polyorketes spoke up and his harsh voice roughed the words. "You keep on talking, Mr. Big Mouth. You just keep banging that empty barrel. Pretty soon, we'll kick your teeth in. There's one boy I think would be willing to do it now, eh, Mr. Porter?"

Porter's look at Stuart confirmed the truth of Polyorketes' remarks, but he said nothing.

Stuart said, "Then what about you, Polyorketes? You're the barehand man with guts. Want me to help you into a suit?"

"I'll ask you when I want help."

"What about you, Leblanc?"

The young man shrank away.

"Not even to get back to Margaret?"

But Leblanc could only shake his head.

"Mullen?"

"Well-I'll try."

"You'll what?"

"I said, yes, I'll try. After all, it's my idea."

Stuart looked stunned. "You're serious? How come?"

Mullen's prim mouth pursed. "Because no one else will."

"But that's no reason. Especially for you."

Mullen shrugged.

There was a thump of a cane behind Stuart. Windham brushed past.

He said, "Do you really intend to go, Mullen?"

"Yes, Colonel."

"In that case, dash it, let me shake your hand. I like you. You're an-an Earthman, by heaven. Do this, and win or die, I'll bear witness for you."

Mullen withdrew his hand awkwardly from the deep and vibrating grasp of the other.

And Stuart just stood there. He was in a very unusual position. He was, in fact, in the particular position of all positions in which he most rarely found himself.

He had nothing to say.

The quality of tension had changed. The gloom and frustration had lifted a bit, and the excitement of conspiracy had replaced it. Even Polyorketes was fingering the spacesuits and commenting briefly and hoarsely on which he considered preferable.

Mullen was having a certain amount of trouble. The suit hung rather limply upon him even though the adjustable joints had been tightened nearly to minimum. He stood there now with only the helmet to be screwed on. He wiggled his neck.

Stuart was holding the helmet with an effort. It was heavy, and his arthritic hands did not grip it well. He said, "Better scratch your nose if it itches. It's your last chance for a while." He didn't add, "Maybe forever," but he thought it.

Mullen said, tonelessly, "I think perhaps I had better have a spare oxygen cylinder."

"Good enough."

"With a reducing valve."

Stuart nodded. "I see what you're thinking of. If you do get blown clear of the ship, you could try to blow yourself back by using the cylinder as an action-reaction motor."

They clamped on the headpiece and buckled the spare cylinder to Mullen's waist. Polyorketes and Leblanc lifted him up to the yawning opening of the C-tube. It was ominously dark inside, the metal lining of the interior having been painted a mournful black. Stuart thought he could detect a musty odor about it, but that, he knew, was only imagination.

He stopped the proceedings when Mullen was half within the tube. He tapped upon the little man's faceplate.

"Can you hear me?"

Within, there was a nod.

"Air coming through all right? No last-minute troubles?"

Mullen lifted his armored arm in a gesture of reassurance.

"Then remember, don't use the suit-radio out there. The Kloros might pick up the signals."

Reluctantly, he stepped away. Polyorketes' brawny hands lowered Mullen until they could hear the thumping sound made by the steel-shod feet against the outer valve. The inner valve then swung shut with a dreadful finality, its beveled silicone gasket making a slight soughing noise as it crushed hard. They clamped it into place.

Stuart stood at the toggle-switch that controlled the outer valve. He threw it and the gauge that marked the air pressure within the tube fell to zero. A little pinpoint of red light warned that the outer valve was open. Then the light disappeared, the valve closed, and the gauge climbed slowly to fifteen pounds again.

They opened the inner valve again and found the tube empty.

Polyorketes spoke first. He said, "The little son-of-a-gun. He went!" He looked wonderingly at the others. "A little fellow with guts like that."

Stuart said, "Look, we'd better get ready in here. There's just a chance that the Kloros may have detected the valves opening and closing. If so, they'll be here to investigate and we'll have to cover up."

"How?" asked Windham.

"They won't see Mullen anywhere around. We'll say he's in the head. The Kloros know that it's one of the peculiar characteristics of Earthmen that they resent intrusion on their privacy in lavatories, and they'll make no effort to check. If we can hold them off-"

"What if they wait, or if they check the spacesuits?" asked Porter.

Stuart shrugged. "Let's hope they don't. And listen, Polyorketes, don't make any fuss when they come in."

Polyorketes grunted, "With that little guy out there? What do you think I am?" He stared at Stuart without animosity, then scratched his curly hair vigorously. "You know, I laughed at him. I thought he was an old woman. It makes me ashamed."

Stuart cleared his throat. He said, "Look, I've been saying some things that maybe weren't too funny after all, now that I come to think of it. I'd like to say I'm sorry if I have."

He turned away morosely and walked toward his cot. He heard the steps behind him, felt the touch on his sleeve. He turned; it was Leblanc.

The youngster said softly, "I keep thinking that Mr. Mullen is an old man."

"Well, he's not a kid. He's about forty-five or fifty, I think."

Leblanc said, "Do you think, Mr. Stuart, that I should have gone, instead? I'm the youngest here. I don't like the thought of having let an old man go in my place. It makes me feel like the devil."

"I know. If he dies, it will be too bad."

"But he volunteered. We didn't make him, did we?"

"Don't try to dodge responsibility, Leblanc. It won't make you feel better. There isn't one of us without a stronger motive to run the risk than he had." And Stuart sat there silently, thinking.

Mullen felt the obstruction beneath his feet yield and the walls about him slip away quickly, too quickly. He knew it was the puff of air escaping, carrying him with it, and he dug arms and legs frantically against the wall to brake himself. Corpses were supposed to be flung well clear of the ship, but he was no corpse-for the moment.

His feet swung free and threshed. He heard the clunk of one magnetic boot against the hull just as the rest of his body puffed out like a tight cork under air pressure. He teetered dangerously at the lip of the hole in the ship -he had changed orientation suddenly and was looking down on it-then took a step backward as its lid came down of itself and fitted smoothly against the hull.

A feeling of unreality overwhelmed him. Surely, it wasn't he standing on the outer surface of a ship. Not Randolph F. Mullen. So few human beings could ever say they had, even those who traveled in space constantly.

He was only gradually aware that he was in pain. Popping out of that hole with one foot clamped to the hull had nearly bent him in two. He tried moving, cautiously, and found his motions to be erratic and almost impossible to control. He thought nothing was broken, though the muscles of his left side were badly wrenched.

And then he came to himself and noticed that the wrist-lights of his suit were on. It was by their light that he had stared into the blackness of the C-chute. He stirred with the

nervous thought that from within, the Kloros might see the twin spots of moving light just outside the hull. He flicked the switch upon the suit's midsection.

Mullen had never imagined that, standing on a ship, he would fail to see its hull. But it was dark, as dark below as above. There were the stars, hard and bright little non-dimensional dots. Nothing more. Nothing more anywhere. Under his feet, not even the stars-not even his feet.

He bent back to look at the stars. His head swam. They were moving slowly. Or, rather, they were standing still and the ship was rotating, but he could not tell his eyes that. They moved. His eyes followed-down and behind the ship. New stars up and above from the other side. A black horizon. The ship existed only as a region where there were no stars.

No stars? Why, there was one almost at his feet. He nearly reached for it; then he realized that it was only a glittering reflection in the mirroring metal.

They were moving thousands of miles an hour. The stars were. The ship was. He was. But it meant nothing. To his senses, there was only silence and darkness and that slow wheeling of the stars. His eyes followed the wheeling-

And his head in its helmet hit the ship's hull with a soft bell-like ring.

He felt about in panic with his thick, insensitive, spun-silicate gloves. His feet were still firmly magnetized to the hull, that was true, but the rest of his body bent backward at the knees in a right angle. There was no gravity outside the ship. If he bent back, there was nothing to pull the upper part of his body down and tell his joints they were bending. His body stayed as he put it.

He pressed wildly against the hull and his torso shot upward and refused to stop when upright. He fell forward.

He tried more slowly, balancing with both hands against the hull, until he squatted evenly. Then upward. Very slowly. Straight up. Arms out to balance.

He was straight now, aware of his nausea and lightheadedness.

He looked about. My God, where were the steam-tubes? He couldn't see them. They were black on black, nothing on nothing.

Quickly, he turned on the wrist-lights. In space, there were no beams, only elliptical, sharply defined spots of blue steel, winking light back at him. Where they struck a rivet, a shadow was cast, knife-sharp and as black as space, the lighted region illuminated abruptly and without diffusion.

He moved his arms, his body swaying gently in the opposite direction; action and reaction. The vision of a steam-tube with its smooth cylindrical sides sprang at him.

He tried to move toward it. His foot held firmly to the hull. He pulled and it slogged upward, straining against quicksand that eased quickly. Three inches up and it had almost sucked free; six inches up and he thought it would fly away.

He advanced it and let it down, felt it enter the quicksand. When the sole was within two inches of the hull, it snapped down; out of control, hitting the hull ringingly. His spacesuit carried the vibrations, amplifying them in his ears.

He stopped in absolute terror. The dehydrators that dried the atmosphere within his suit could not handle the sudden gush of perspiration that drenched his forehead and armpits.

He waited, then tried lifting his foot again-a bare inch, holding it there by main force and moving it horizontally. Horizontal motion involved no effort at all; it was motion perpendicular to the lines of magnetic force. But he had to keep the foot from snapping down as he did so, and then lower it slowly.

He puffed with the effort. Each step was agony. The tendons of his knees were cracking, and there were knives in his side.

Mullen stopped to let the perspiration dry. It wouldn't do to steam up the inside of his faceplate. He flashed his wrist-lights, and the steam-cylinder was right ahead.

The ship had four of them, at ninety degree intervals, thrusting out at an angle from the midgirdle. They were the "fine adjustment" of the ship's course. The coarse adjustment was the powerful thrusters back and front which fixed final velocity by their accelerative and the decelerative force, and the hyperatomics that took care of the space-swallowing Jumps.

But occasionally the direction of flight had to be adjusted slightly and then the steam-cylinders took over. Singly, they could drive the ship up, down, right, left. By twos, in appropriate ratios of thrust, the ship could be turned in any desired direction.

The device had been unimproved in centuries, being too simple to improve. The atomic pile heated the water content of a closed container into steam, driving it, in less than a second, up to temperatures where it would have broken down into a mixture of hydrogen and oxygen, and then into a mixture of electrons and ions. Perhaps the breakdown actually took place. No one ever bothered testing; it worked, so there was no need to.

At the critical point, a needle valve gave way and the steam thrust madly out in a short but incredible blast. And the ship, inevitably and majestically, moved in the opposite direction, veering about its own center of gravity. When the degrees of turn were sufficient, an equal and opposite blast would take place and the turning would be canceled. The ship would be moving at its original velocity, but in a new direction.

Mullen had dragged himself out to the lip of the steam-cylinder. He had a picture of himself-3 small speck teetering at the extreme end of a structure thrusting out of an ovoid that was tearing through space at ten thousand miles an hour.

But there was no air-stream to whip him off the hull, and his magnetic soles held him more firmly than he liked.

With lights on, he bent down to peer into the tube and the ship dropped down precipitously as his orientation changed. He reached out to steady himself, but he was not falling. There was no up or down in space except for what his confused mind chose to consider up or down.

The cylinder was just large enough to hold a man, so that it might be entered for repair purposes. His light caught the rungs almost directly opposite his position at the lip.

He puffed a sigh of relief with what breath he could muster. Some ships didn't have ladders.

He made his way to it, the ship appearing to slip and twist beneath him as he moved. He lifted an arm over the lip of the tube, feeling for the rung, loosened each foot, and drew himself within.

The knot in his stomach that had been there from the first was a convulsed agony now. If they should choose to manipulate the ship, if the steam should whistle out now-

He would never hear it; never know it. One instant he would be holding a rung, feeling slowly for the next with a groping arm. The next moment he would be alone in space, the ship a dark, dark nothingness lost forever among the stars. There would be, perhaps, a brief glory of swirling ice crystals drifting with him, shining in his wrist-lights and slowly approaching and rotating about him, attracted by his mass like infinitesimal planets to an absurdly tiny Sun.

He was trickling sweat again, and now he was also conscious of thirst. He put it out of his mind. There would be no drinking until he was out of his suit-if ever.

Up a rung; up another; and another. How many were there? His hand slipped and he stared in disbelief at the glitter that showed under his light.

Ice?

Why not? The steam, incredibly hot as it was, would strike metal that was at nearly absolute zero. In the few split-seconds of thrust, there would not be time for the metal to warm above the freezing point of water. A sheet of ice would condense that would sublime slowly into the vacuum. It was the speed of all that happened that prevented the fusion of the tubes and of the original water-container itself.

His groping hand reached the end. Again the wrist-lights. He stared with crawling horror at the steam nozzle, half an inch in diameter. It looked dead, harmless. But it always would, right up to the micro-second before-

Around it was the outer steam lock. It pivoted on a central hub that was springed on the portion toward space, screwed on the part toward the ship. The springs allowed it to give under the first wild thrust of steam pressure before the ship's mighty inertia could be overcome. The steam was bled into the inner chamber, breaking the force of the thrust, leaving the total energy unchanged, but spreading it over time so that the hull itself was in that much less danger of being staved in.

Mullen braced himself firmly against a rung and pressed against the outer lock so that it gave a little. It was stiff, but it didn't have to give much, just enough to catch on the screw. He felt it catch.

He strained against it and turned it, feeling his body twist in the opposite direction. It held tight, the screw taking up the strain as he carefully adjusted the small control switch that allowed the springs to fall free. How well he remembered the books he had read!

He was in the interlock space now, which was large enough to hold a man comfortably, again for convenience in repairs. He could no longer be blown away from the ship. If the steam blast were turned on now, it would merely drive him against the

inner lock-hard enough to crush him to a pulp. A quick death he would never feel, at least.

Slowly, he unhooked his spare oxygen cylinder. There was only an inner lock between himself and the control room now. This lock opened outward into space so that the steam blast could only close it tighter, rather than blow it open. And it fitted tightly and smoothly. There was absolutely no way to open it from without.

He lifted himself above the lock, forcing his bent back against the inner surface of the interlock area. It made breathing difficult. The spare oxygen cylinder dangled at a queer angle. He held its metal-mesh hose and straightened it, forcing it against the inner lock so that vibration thudded. Again- again- It would have to attract the attention of the Kloros. They would have to investigate.

He would have no way of telling when they were about to do so. Ordinarily, they would first let air into the interlock to force the outer lock shut.

But now the outer lock was on the central screw, well away from its rim. Air would suck about it ineffectually, dragging out into space.

Mullen kept on thumping. Would the Kloros look at the air-gauge, note that it scarcely lifted from zero, or would they take its proper working for granted?

Porter said, "He's been gone an hour and a half."

"I know," said Stuart.

They were all restless, jumpy, but the tension among themselves had disappeared. It was as though all the threads of emotion extended to the hull of the ship.

Porter was bothered. His philosophy of life had always been simple-take care of yourself because no one will take care of you for you. It upset him to see it shaken.

He said, "Do you suppose they've caught him?"

"If they had, we'd hear about it," replied Stuart, briefly.

Porter felt, with a miserable twinge, that there was little interest on the part of the others in speaking to him. He could understand it; he had not exactly earned their respect. For the moment, a torrent of self-excuse poured through his mind. The others had been frightened, too. A man had a right to be afraid. No one likes to die. At least, he hadn't broken like Aristides Polyorketes. He hadn't wept like Leblanc. He- But there was Mullen, out there on the hull.

"Listen," he cried, "why did he do it?" They turned to look at him, not understanding, but Porter didn't care. It bothered him to the point where it had to come out. "I want to know why Mullen is risking his life."

"The man," said Windham, "is a patriot-"

"No, none of that!" Porter was almost hysterical. "That little fellow has no emotions at all. He just has reasons and I want to know what those reasons are, because-"

He didn't finish the sentence. Could he say that if those reasons applied to a little middle-aged bookkeeper, they might apply even more forcibly to himself?

Polyorketes said, "He's one brave damn little fellow."

Porter got to his feet. "Listen," he said, "he may be stuck out there. Whatever he's doing, he may not be able to finish it alone. I-I volunteer to go out after him."

He was shaking as he said it and he waited in fear for the sarcastic lash of Stuart's tongue. Stuart was staring at him, probably with surprise, but Porter dared not meet his eyes to make certain.

Stuart said, mildly, "Let's give him another half-hour."

Porter looked up, startled. There was no sneer on Stuart's face. It was even friendly. They all looked friendly.

He said, "And then-"

"And then all those who do volunteer will draw straws or something equally democratic. Who volunteers, besides Porter?"

They all raised their hands; Stuart did, too.

But Porter was happy. He had volunteered first. He was anxious for the half-hour to pass.

It caught Mullen by surprise. The outer lock flew open and the long, thin, snakelike, almost headless neck of a Kloro sucked out, unable to fight the blast of escaping air.

Mullen's cylinder flew away, almost tore free. After one wild moment of frozen panic, he fought for it, dragging it above the airstream, waiting as long as he dared to let the first fury die down as the air of the control room thinned out, then bringing it down with force.

It caught the sinewy neck squarely, crushing it. Mullen, curled above the lock, almost entirely protected from the stream, raised the cylinder again and plunging it down again striking the head, mashing the staring eyes to liquid ruin. In the near-vacuum, green blood was pumping out of what was left of the neck.

Mullen dared not vomit, but he wanted to.

With eyes averted, he backed away, caught the outer lock with one hand and imparted a whirl. For several seconds, it maintained that whirl. At the end of the screw, the springs engaged automatically and pulled it shut.

What was left of the atmosphere tightened it and the laboring pumps could now begin to fill the control room once again.

Mullen crawled over the mangled Kloro and into the room. It was empty.

He had barely time to notice that when he found himself on his knees. He rose with difficulty. The transition from non-gravity to gravity had taken him entirely by surprise. It was Klorian gravity, too, which meant that with this suit, he carried a fifty percent overload for his small frame. At least, though, his heavy metal clogs no longer clung so exasperatingly to the metal underneath. Within the ship, floors and wall were of cork-covered aluminum alloy.

He circled slowly. The neckless Kloro had collapsed and lay with only an occasional twitch to show it had once been a living organism. He stepped over it, distastefully, and drew the steam-tube lock shut.

The room had a depressing bilious cast and the lights shone yellow-green. It was the Kloro atmosphere, of course.

Mullen felt a twinge of surprise and reluctant admiration. The Kloros obviously had some way of treating materials so that they were impervious to the oxidizing effect of

chlorine. Even the map of Earth on the wall, printed on glossy plastic-backed paper, seemed fresh and untouched. He approached, drawn by the familiar outlines of the continents-

There was a flash of motion caught in the corner of his eyes. As quickly as he could in his heavy suit, he turned, then screamed. The Kloro he had thought dead was rising to its feet.

Its neck hung limp, an oozing mass of tissue mash, but its arms reached out blindly, and the tentacles about its chest vibrated rapidly like innumerable snakes' tongues.

It was blind, of course. The destruction of its neck-stalk had deprived it of all sensory equipment, and partial asphyxiation had disorganized it. But the brain remained whole and safe in the abdomen. It still lived.

Mullen backed away. He circled, trying clumsily and unsuccessfully to tiptoe, though he knew that what was left of the Kloro was also deaf. It blundered on its way, struck a wall, felt to the base and began sidling along it.

Mullen cast about desperately for a weapon, found nothing. There was the Kloro's holster, but he dared not reach for it. Why hadn't he snatched it at the very first? Fool!

The door to the control room opened. It made almost no noise. Mullen turned, quivering.

The other Kloro entered, unharmed, entire. It stood in the doorway for a moment, chest-tendrils stiff and unmoving; its neck-stalk stretched forward; its horrible eyes flickering first at him and then at its nearly dead comrade.

And then its hand moved quickly to its side.

Mullen, without awareness, moved as quickly in pure reflex. He stretched out the hose of the spare oxygen-cylinder, which, since entering the control room, he had replaced in its suit-clamp, and cracked the valve. He didn't bother reducing the pressure. He let it gush out unchecked so that he nearly staggered under the backward push.

He could see the oxygen stream. It was a pale puff, billowing out amid the chlorine-green. It caught the Kloro with one hand on the weapon's holster.

The Kloro threw its hands up. The little beak on its head-nodule opened alarmingly but noiselessly. It staggered and fell, writhed for a moment, then lay still. Mullen approached and played the oxygen-stream upon its body as though he were extinguishing a fire. And then he raised his heavy foot and brought it down upon the center of the neck-stalk and crushed it on the floor.

He turned to the first. It was sprawled, rigid.

The whole room was pale with oxygen, enough to kill whole legions of Kloros, and his cylinder was empty.

Mullen stepped over the dead Kloro, out of the control room and along the main corridor toward the prisoners' room.

Reaction had set in. He was whimpering in blind, incoherent fright.

Stuart was tired. False hands and all, he was at the controls of a ship once again. Two light cruisers of Earth were on the way. For better than twenty-four hours he had handled the controls virtually alone. He had discarded the chlorinating equipment,

rerigged the old atmospherics, located the ship's position in space, tried to plot a course, and sent out carefully guarded signals-which had worked.

So when the door of the control room opened, he was a little annoyed. He was too tired to play conversational handball. Then he turned, and it was Mullen stepping inside.

Stuart said, "For God's sake, get back into bed, Mullen!"

Mullen said, "I'm tired of sleeping, even though I never thought I would be a while ago."

"How do you feel?"

"I'm stiff all over. Especially my side." He grimaced and stared involuntarily around.

"Don't look for the Kloros," Stuart said. "We dumped the poor devils." He shook his head. "I was sorry for them. To themselves, they're the human beings, you know, and we're the aliens. Not that I'd rather they'd killed you, you understand."

"I understand."

Stuart turned a sidelong glance upon the little man who sat looking at the map of Earth and went on, "I owe you a particular and personal apology, Mullen. I didn't think much of you."

"It was your privilege," said Mullen in his dry voice, "There was no feeling in it. "

"No, it wasn't. It is no one's privilege to despise another. It is only a hard-won right after long experience."

"Have you been thinking about this?"

"Yes, all day. Maybe I can't explain. It's these hands." He held them up before him, spread out. "It was hard knowing that other people had hands of their own. I had to hate them for it. I always had to do my best to investigate and belittle their motives, point up their deficiencies, expose their stupidities. I had to do anything that would prove to myself that they weren't worth envying."

Mullen moved restlessly. "This explanation is not necessary."

"It is. It is!" Stuart felt his thoughts intently, strained to put them into words. "For years I've abandoned hope of finding any decency in human beings. Then you climbed into the C-chute."

"You had better understand," said Mullen, "that I was motivated by practical and selfish considerations. I will not have you present me to myself as a hero."

"I wasn't intending to. I know that you would do nothing without a reason. It was what your action did to the rest of us. It turned a collection of phonies and fools into decent people. And not by magic either. They were decent all along. It was just that they needed something to live up to and you supplied it. And-I'm one of them. I'll have to live up to you, too. For the rest of my life, probably."

Mullen turned away uncomfortably. His hand straightened his sleeves, which were not in the least twisted. His finger rested on the map.

He said, "I was born in Richmond, Virginia, you know. Here it is. I'll be going there first. Where were you born?"

"Toronto," said Stuart.

"That's right here. Not very far apart on the map, is it?"

Stuart said, "Would you tell me something?"

"If I can."

"Just why did you go out there?"

Mullen's precise mouth pursed. He said, dryly, "Wouldn't my rather prosaic reason ruin the inspirational effect?"

"Call it intellectual curiosity. Each of the rest of us had such obvious motives.

Porter was scared to death of being interned; Leblanc wanted to get back to his sweetheart; Polyorketes wanted to kill Kloros; and Windham was a patriot according to his lights. As for me, I thought of myself as a noble idealist, I'm afraid. Yet in none of us was the motivation strong enough to get us into a spacesuit and out the C-chute. Then what made you do it, you, of all people?"

"Why the phrase, 'of all people'?"

"Don't be offended, but you seem devoid of all emotion."

"Do I?" Mullen's voice did not change. It remained precise and soft, yet somehow a tightness had entered it. "That's only training, Mr. Stuart, and self-discipline; not nature. A small man can have no respectable emotions. Is there anything more ridiculous than a man like myself in a state of rage? I'm five feet and one-half inch tall, and one hundred and two pounds in weight, if you care for exact figures. I insist on the half inch and the two pounds.

"Can I be dignified? Proud? Draw myself to my full height without inducing laughter? Where can I meet a woman who will not dismiss me instantly with a giggle? Naturally, I've had to learn to dispense with external display of emotion.

"You talk about deformities. No one would notice your hands or know they were different, if you weren't so eager to tell people all about it the instant you meet them. Do you think that the eight inches of height I do not have can be hidden? That it is not the first and, in most cases, the only thing about me that a person will notice?"

Stuart was ashamed. He had invaded a privacy he ought not have. He said, "I'm sorry."

"Why?"

"I should not have forced you to speak of this. I should have seen for myself that you-that you-"

"That I what? Tried to prove myself? Tried to show that while I might be small in body, I held within it a giant's heart?"

"I would not have put it mockingly."

"Why not? It's a foolish idea, and nothing like it is the reason I did what I did. What would I have accomplished if that's what was in my mind? Will they take me to Earth now and put me up before the television cameras- pitching them low, of course, to catch my face, or standing me on a chair- and pin medals on me?"

"They are quite likely to do exactly that."

"And what good would it do me? They would say, 'Gee, and he's such a little guy.' And afterward, what? Shall I tell each man I meet, 'You know, I'm the fellow they

decorated for incredible valor last month?' How many medals, Mr. Stuart, do you suppose it would take to put eight inches and sixty pounds on me?"

Stuart said, "Put that way, I see your point."

Mullen was speaking a trifle more quickly now; a controlled heat had entered his words, warming them to just a tepid room temperature. "There were days when I thought I would show them, the mysterious 'them' that includes all the world. I was going to leave Earth and carve out worlds for myself. I would be a new and even smaller Napoleon. So I left Earth and went to Arcturus. And what could I do on Arcturus that I could not have done on Earth? Nothing. I balance books. So I am past the vanity, Mr. Stuart, of trying to stand on tiptoe."

"Then why did you do it?"

"I left Earth when I was twenty-eight and came to the Arcturian System. I've been there ever since. This trip was to be my first vacation, my first visit back to Earth in all that time. I was going to stay on Earth for six months. The Kloros instead captured us and would have kept us interned indefinitely. But I couldn't-I couldn't let them stop me from traveling to Earth. No matter what the risk, I had to prevent their interference. It wasn't love of woman, or fear, or hate, or idealism of any sort. It was stronger than any of those."

He stopped, and stretched out a hand as though to caress the map on the wall.

"Mr. Stuart," Mullen asked quietly, "haven't you ever been homesick?"

"IN A GOOD CAUSE-"

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In the Great Court, which stands as a patch of untouched peace among the fifty busy square miles devoted to the towering buildings that are the pulse beat of the United Worlds of the Galaxy, stands a statue.

It stands where it can look at the stars at night. There are other statues ringing the court, but this one stands in the center and alone.

It is not a very good statue. The face is too noble and lacks the lines of living. The brow is a shade too high, the nose a shade too symmetrical, the clothing a shade too carefully disposed. The whole bearing is by far too saintly to be true. One can suppose that the man in real life might have frowned at times, or hiccuped, but the statue seemed to insist that such imperfections were impossible.

All this, of course, is understandable overcompensation. The man had no statues raised to him while alive, and succeeding generations, with the advantage of hindsight, felt guilty.

The name on the pedestal reads "Richard Sayama Altmayer." Underneath it is a short phrase and, vertically arranged, three dates. The phrase is: "In a good cause, there are no failures.» The three dates are June 17, 2755; September 5, 2788; December 32, 2800;-the years being counted in the usual manner of the period, that is, from the date of the first atomic explosion in 1945 of the ancient era.

None of those dates represents either his birth or death. They mark neither a date of marriage or of the accomplishment of some great deed or, indeed, of anything that the inhabitants of the United Worlds can remember with pleasure and pride. Rather, they are the final expression of the feeling of guilt.

Quite simply and plainly, they are the three dates upon which Richard Sayama Altmayer was sent to prison for his opinions.

1 June 17, 2755

At the age of twenty-two, certainly, Dick Altmayer was fully capable of feeling fury. His hair was as yet dark brown and he had not grown the mustache which, in later years, would be so characteristic of him. His nose was, of course, thin and high-bridged, but the contours of his face were youthful. It would only be later that the growing gauntness of his cheeks would convert that nose into the prominent landmark that it now is in the minds of trillions of school children.

Geoffrey Stock was standing in the doorway, viewing the results of his friend's fury. His round face and cold, steady eyes were there, but he had yet to put on the first of the military uniforms in which he was to spend the rest of his life. "

He said, "Great Galaxy!"

Altmayer looked up. "Hello, Jeff."

"What's been happening, Dick? I thought your principles, pal, forbid destruction of any kind. Here's a book-viewer that looks somewhat destroyed." He picked up the pieces.

Altmayer said, "I was holding the viewer when my wave-receiver came through with an official message. You know which one, too."

"I know. It happened to me, too. Where is it?"

"On the floor. I tore it off the spool as soon as it belched out at me. Wait, let's dump it down the atom chute."

"Hey, hold on. You can't-"

"Why not?"

"Because you won't accomplish anything. You'll have to report."

"And just why?"

"Don't be an ass, Dick."

"This is a matter of principle, by Space."

"Oh, nuts! You can't fight the whole planet."

"I don't intend to fight the whole planet; just the few who get us into wars."

Stock shrugged. "That means the whole planet. That guff of yours of leaders tricking poor innocent people into fighting is just so much space-dust. Do you think that if a vote were taken the people wouldn't be overwhelmingly in favor of fighting this fight?"

"That means nothing, Jeff. The government has control of-"

"The organs of propaganda. Yes, I know. I've listened to you often enough. But why not report, anyway?"

Altmayer turned away.

Stock said, "In the first place, you might not pass the physical examination."

"I'd pass. I've been in Space."

"That doesn't mean anything. If the doctors let you hop a liner, that only means you don't have a heart murmur or an aneurysm. For military duty aboard ship in Space you need much more than just that. How do you know you qualify?"

"That's a side issue, Jeff, and an insulting one. It's not that I'm afraid to fight."

"Do you think you can stop the war this way?"

"I wish I could," Altmayer's voice almost shook as he spoke. "It's this idea I have that all mankind should be a single unit. There shouldn't be wars or space-fleets armed only for destruction. The Galaxy stands ready to be opened to the united efforts of the human race. Instead, we have been factioned for nearly two thousand years, and we throw away all the Galaxy."

Stock laughed, "We're doing all right. There are more than eighty independent planetary systems."

"And are we the only intelligences in the Galaxy?"

"Oh, the Diaboli, your particular devils," and Stock put his fists to his temples and extended the two forefingers, wagging them.

"And yours, too, and everybody's. They have a single government extending over more planets than all those occupied by our precious eighty independents."

"Sure, and their nearest planet is only fifteen hundred light years away from Earth and they can't live on oxygen planets anyway."

Stock got out of his friendly mood. He said, curtly, "Look, I dropped by here to say that I was reporting for examination next week. Are you coming with me?"

"No."

"You're really determined."

"I'm really determined."

"You know you'll accomplish nothing. There'll be no great flame ignited on Earth. It will be no case of millions of young men being excited by your example into a no-war strike. You will simply be put in jail."

"Well, then, jail it is."

And jail it was. On June 17, 2755, of the atomic era, after a short trial in which Richard Sayama Altmayer refused to present any defense, he was sentenced to jail for the term of three years or for the duration of the war, whichever should be longer. He served a little over four years and two months, at which time the war ended in a definite though not shattering Santannian defeat. Earth gained complete control of certain disputed asteroids, various commercial advantages, and a limitation of the Santannian navy.

The combined human losses of the war were something over two thousand ships with, of course, most of their crews, and in addition, several millions of lives due to the bombardment of planetary surfaces from space. The fleets of the two contending powers had been sufficiently strong to restrict this bombardment to the outposts of their respective systems, so that the planets of Earth and Santanni, themselves, were little affected.

The war conclusively established Earth as the strongest single human military power.

Geoffrey Stock fought throughout the war, seeing action more than once and remaining whole in life and limb despite that. At the end of the war he had the rank of major. He took part in the first diplomatic mission sent out by Earth to the worlds of the Diaboli, and that was the first step in his expanding role in Earth's military and political life.

2-September 5, 2788

They were the first Diaboli ever to have appeared on the surface of Earth itself. The projection posters and the newscasts of the Federalist party made that abundantly clear to any who were unaware of that. Over and over, they repeated the chronology of events.

It was toward the beginning of the century that human explorers first came across the Diaboli. They were intelligent and had discovered interstellar travel independently somewhat earlier than had the humans. Already the galactic volume of their dominions was greater than that which was human-occupied.

Regular diplomatic relationships between the Diaboli and the major human powers had begun twenty years earlier, immediately after the war between Santanni and Earth. At that time, outposts of Diaboli power were already within twenty light years of the

outermost human centers. Their missions went everywhere, drawing trade treaties, obtaining concessions on unoccupied asteroids.

And now they were on Earth itself. They were treated as equals and perhaps as more than equals by the rulers of the greatest center of human population in the Galaxy. The most damning statistic of all was the most loudly proclaimed by the Federalists. It was this: Although the number of living Diaboli was somewhat less than the total number of living humans, humanity had opened up not more than five new worlds to colonization in fifty years, while the Diaboli had begun the occupation of nearly five hundred.

"A hundred to one against us," cried the Federalists, "because they are one political organization and we are a hundred." But relatively few on Earth, and fewer in the Galaxy as a whole, paid attention to the Federalists and their demands for Galactic Union.

The crowds that lined the streets along which nearly daily the five Diaboli of the mission traveled from their specially conditioned suite in the best hotel of the city to the Secretariat of Defense were, by and large, not hostile. Most were merely curious, and more than a little revolted.

The Diaboli were not pleasant creatures to look at. They were larger and considerably more massive than Earthmen. They had four stubby legs set close together below and two flexibly-fingered arms above. Their skin was wrinkled and naked and they wore no clothing. Their broad, scaly faces wore no expressions capable of being read by Earthmen, and from flattened regions just above each large-pupilled eye there sprang short horns. It was these last that gave the creatures their names. At first they had been called devils, and later the politer Latin equivalent.

Each wore a pair of cylinders on its back from which flexible tubes extended to the nostrils; there they clamped on tightly. These were packed with soda-lime which absorbed the, to them, poisonous carbon dioxide from the air they breathed. Their own metabolism revolved about the reduction of sulfur and sometimes those foremost among the humans in the crowd caught a foul whiff of the hydrogen sulfide exhaled by the Diaboli.

The leader of the Federalists was in the crowd. He stood far back where he attracted no attention from the police who had roped off the avenues and who now maintained a watchful order on the little hoppers that could be maneuvered quickly through the thickest crowd. The Federalist leader was gaunt-faced, with a thin and prominently bridged nose and straight, graying hair.

He turned away, "I cannot bear to look at them."

His companion was more philosophic. He said, "No uglier in spirit, at least, than some of our handsome officials. These creatures are at least true to their own."

"You are sadly right. Are we entirely ready?"

"Entirely. There won't be one of them alive to return to his world."

"Good! I will remain here to give the signal."

The Diaboli were talking as well. This fact could not be evident to any human, no matter how close. To be sure, they could communicate by making ordinary sounds to one another but that was not their method of choice. The skin between their horns could, by

the actions of muscles which differed in their construction from any known to humans, vibrate rapidly. The tiny waves which were transmitted in this manner to the air were too rapid to be heard by the human ear and too delicate to be detected by any but the most sensitive of human instrumentation. At that time, in fact, humans remained unaware of this form of communication.

A vibration said, "Did you know that this is the planet of origin of the Two-legs?"

"No." There was a chorus of such no's, and then one particular vibration said, "Do you get that from the Two-leg communications you have been studying, queer one?"

"Because I study the communications? More of our people should do so instead of insisting so firmly on the complete worthlessness of Two-leg culture. For one thing, we are in a much better position to deal with the Two-legs if we know something about them. Their history is interesting in a horrible way. I am glad I brought myself to view their spools."

"And yet," came another vibration, "from our previous contacts with Two-legs, one would be certain that they did not know their planet of origin. Certainly there is no veneration of this planet, Earth, or any memorial rites connected with it. Are you sure the information is correct?"

"Entirely so. The lack of ritual, and the fact that this planet is by no means a shrine, is perfectly understandable in the light of Two-leg history. The Two-legs on the other worlds would scarcely concede the honor. It would somehow lower the independent dignity of their own worlds."

"I don't quite understand."

"Neither do I, exactly, but after several days of reading I think I catch a glimmer. It would seem that, originally, when interstellar travel was first discovered by the Two-legs, they lived under a single political unit."

"Naturally."

"Not for these Two-legs. This was an unusual stage in their history and did not last. After the colonies on the various worlds grew and came to reasonable maturity, their first interest was to break away from the mother world. The first in the series of interstellar wars among these Two-legs began then."

"Horrible. Like cannibals."

"Yes, isn't it? My digestion has been upset for days. My cud is sour. In any case, the various colonies gained independence, so that now we have the situation of which we are well aware. All of the Two-leg kingdoms, republics, aristocracies, etc., are simply tiny clots of worlds, each consisting of a dominant world and a few subsidiaries which, in turn, are forever seeking their independence or being shifted from one dominant to another. This Earth is the strongest among them and yet less than a dozen worlds owe it allegiance."

"Incredible that these creatures should be so blind to their own interests. Do they not have a tradition of the single government that existed when they consisted of but one world?"

"As I said that was unusual for them. The single government had existed only a few decades. Prior to that, this very planet itself was split into a number of subplanetary political units."

"Never heard anything like it." For a while, the supersonics of the various creatures interfered with one another.

"It's a fact. It is simply the nature of the beast."

And with that, they were at the Secretariat of Defense.

The five Diaboli stood side by side along the table. They stood because their anatomy did not admit of anything that could correspond to "sitting."

On the other side of the table, five Earthmen stood as well. It would have been more convenient for the humans to sit but, understandably, there was no desire to make the handicap of smaller size any more pronounced than it already was. The table was a rather wide one; the widest, in fact, that could be conveniently obtained. This was out of respect for the human nose, for from the Diaboli, slightly so as they breathed, much more so when they spoke, there came the gentle and continuous drift of hydrogen sulfide. This was a difficulty rather unprecedented in diplomatic negotiations.

Ordinarily the meetings did not last for more than half an hour, and at the end of this interval the Diaboli ended their conversations without ceremony and turned to leave. This time, however, the leave-taking was interrupted. A man entered, and the five human negotiators made way for him. He was tall, taller than any of the other Earthmen, and he wore a uniform with the ease of long usage. His face was round and his eyes cold and steady. His black hair was rather thin but as yet untouched by gray. There was an irregular blotch of scar tissue running from the point of his jaw downward past the line of his high, leather-brown collar. It might have been the result of a hand energy-ray, wielded by some forgotten human enemy in one of the five wars in which the man had been an active participant.

"Sirs," said the Earthman who had been chief negotiator hitherto, "may I introduce the Secretary of Defense?"

The Diaboli were somewhat shocked and, although their expressions were in repose and inscrutable, the sound plates on their foreheads vibrated actively. Their strict sense of hierarchy was disturbed. The Secretary was only a Two-leg, but by Two-leg standards, he outranked them. They could not properly conduct official business with him.

The Secretary was aware of their feelings but had no choice in the matter. For at least ten minutes, their leaving must be delayed and no ordinary interruption could serve to hold back the Diaboli.

"Sirs," he said, "I must ask your indulgence to remain longer this time."

The central Diabolus replied in the nearest approach to English any Diabolus could manage. Actually, a Diabolus might be said to have two mouths. One was hinged at the outermost extremity of the jawbone and was used in eating. In this capacity, the motion of the mouth was rarely seen by human beings, since the Diaboli much preferred to eat in the company of their own kind, exclusively. A narrower mouth opening, however, perhaps two inches in width, could be used in speaking. It pursed itself open, revealing the

gummy gap where a Diabolus' missing incisors ought to have been. It remained open during speech, the necessary consonantal blockings being performed by the palate and back of the tongue. The result was hoarse and fuzzy, but understandable.

The Diabolus said, "You will pardon us, already we suffer." And by his forehead, he twittered unheard, "They mean to suffocate us in their vile atmosphere. We must ask for larger poison-absorbing cylinders."

The Secretary of Defense said, "I am in sympathy with your feelings, and yet this may be my only opportunity to speak with you. Perhaps you would do us the honor to eat with us."

The Earthman next the Secretary could not forbear a quick and passing frown. He scribbled rapidly on a piece of paper and passed it to the Secretary, who glanced momentarily at it.

It read, "No. They eat sulfuretted hay. Stinks unbearably." The Secretary crumbled the note and let it drop.

The Diabolus said, "The honor is ours. Were we physically able to endure your strange atmosphere for so long a time, we would accept most gratefully."

And via forehead, he said with agitation, "They cannot expect us to eat with them and watch them consume the corpses of dead animals. My cud would never be sweet again."

"We respect your reasons," said the Secretary. "Let us then transact our business now. In the negotiations that have so far proceeded, we have been unable to obtain from your government, in the persons of you, their representatives, any clear indication as to what the boundaries of your sphere of influence are in your own minds. We have presented several proposals in this matter."

"As far as the territories of Earth are concerned, Mr. Secretary, a definition has been given."

"But surely you must see that this is unsatisfactory. The boundaries of Earth and your lands are nowhere in contact. So far, you have done nothing but state this fact. While true, the mere statement is not satisfying."

"We do not completely understand. Would you have us discuss the boundaries between ourselves and such independent human kingdoms as that of Vega?"

"Why, yes."

"That cannot be done, sir. Surely, you realize that any relations between ourselves and the sovereign realm of Vega cannot be possibly any concern of Earth. They can be discussed only with Vega."

"Then you will negotiate a hundred times with the hundred human world systems?"

"It is necessary. I would point out, however, that the necessity is imposed not by us but by the nature of your human organization."

"Then that limits our field of discussion drastically." The Secretary seemed abstracted. He was listening, not exactly to the Diaboli opposite, but, rather, it would seem, to something at a distance.

And now there was a faint commotion, barely heard from outside the Secretariat. The babble of distant voices, the brisk crackle of energy-guns muted by distance to nearly nothingness, and the hurried click-clacking of police hoppers.

The Diaboli showed no indication of hearing, nor was this simply another affectation of politeness. If their capacity for receiving supersonic sound waves was far more delicate and acute than almost anything human ingenuity had ever invented, their reception for ordinary sound waves was rather dull.

The Diabolus was saying, "We beg leave to state our surprise. We were of the opinion that all this was known to you."

A man in police uniform appeared in the doorway. The Secretary turned to him - and, with the briefest of nods, the policeman departed.

The Secretary said suddenly and briskly, "Quite. I merely wished to ascertain once again that this was the case. I trust you will be ready to resume negotiations tomorrow?"

"Certainly, sir."

One by one, slowly, with a dignity befitting the heirs of the universe, the Diaboli left.

An Earthman said, "I'm glad they refused to eat with us."

"I knew they couldn't accept," said the Secretary, thoughtfully. "They're vegetarian. They sicken thoroughly at the very thought of eating meat. I've seen them eat, you know. Not many humans have. They resemble our cattle in the business of eating. They bolt their food and then stand solemnly about in circles, chewing their cud in a great community of thought. Perhaps they intercommunicate by a method we are unaware of. The huge lower jaw rotates horizontally in a slow, grinding process."

The policeman had once more appeared in the doorway.

The Secretary broke off, and called, "You have them all?"

"Yes, sir."

"Do you have Altmayer?"

"Yes, sir."

"Good."

The crowd had gathered again when the five Diaboli emerged from the Secretariat. The schedule was strict. At 3:00 P.M. each day they left their suite and spent five minutes walking to the Secretariat. At 3:35, they emerged therefrom once again and returned to their suite, the way being kept clear by the police. They marched stolidly, almost mechanically, along the broad avenue.

Halfway in their trek there came the sounds of shouting men. To most of the crowd, the words were not clear but there was the crackle of an energy-gun and the pale blue fluorescence split the air overhead. Police wheeled, their own energy-guns drawn, hoppers springing seven feet into the air, landing delicately in the midst of groups of people, touching none of them, jumping again almost instantly. People scattered and their voices were joined to the general uproar.

Through it all, the Diaboli, either through defective hearing or excessive dignity, continued marching as mechanically as ever.

At the other end of the gathering, almost diametrically opposing the region of excitement, Richard Sayama Altmayer stroked his nose in a moment of satisfaction. The strict chronology of the Diaboli had made a split-second plan possible. The first diversionary disturbance was only to attract the attention of the police. It was now- And he fired a harmless sound pellet into the air.

Instantly, from four directions, concussion pellets split the air. From the roofs of buildings lining the way, snipers fired.

Each of the Diaboli, torn by the shells, shuddered and exploded as the pellets detonated within them. One by one, they toppled.

And from nowhere, the police were at Altmayer's side. He stared at them with some surprise.

Gently, for in twenty years he had lost his fury and learned to be gentle, he said, "You come quickly, but even so you come too late." He gestured in the direction of the shattered Diaboli.

The crowd was in simple panic now. Additional squadrons of police, arriving in record time, could do nothing more than herd them off into harmless directions.

The policeman, who now held Altmayer in a firm grip, taking the sound gun from him and inspecting him quickly for further weapons, was a captain by rank. He said, stiffly, "I think you've made a mistake, Mr. Altmayer. You'll notice you've drawn no blood." And he, too, waved toward where the Diaboli lay motionless.

Altmayer turned, startled. The creatures lay there on their sides, some in pieces, tattered skin shredding away, frames distorted and bent, but the police captain was correct. There was no blood, no flesh. Altmayer's lips, pale and stiff, moved soundlessly.

The police captain interpreted the motion accurately enough. He said, "You are correct, sir, they are robots."

And from the great doors of the Secretariat of Defense the true Diaboli emerged. Clubbing policemen cleared the way, but another way, so that they need not pass the sprawled travesties of plastic and aluminum which for three minutes had played the role of living creatures.

The police captain said, "I'll ask you to come without trouble, Mr. Altmayer. The Secretary of Defense would like to see you."

"I am coming, sir." A stunned frustration was only now beginning to overwhelm him.

Geoffrey Stock and Richard Altmayer faced one another for the first time in almost a quarter of a century, there in the Defense Secretary's private office. It was a rather straitlaced office: a desk, an armchair, and two additional chairs. All were a dull brown in color, the chairs being topped by brown foamite which yielded to the body enough for comfort, not enough for luxury. There was a micro-viewer on the desk and a little cabinet big enough to hold several dozen opto-spools. On the wall opposite the desk was a trimensional view of the old Dauntless, the Secretary's first command.

Stock said, "It is a little ridiculous meeting like this after so many years. I find I am sorry."

"Sorry about what, Jeff?" Altmayer tried to force a smile, "I am sorry about nothing but that you tricked me with those robots."

"You were not difficult to trick," said Stock, "and it was an excellent opportunity to break your party. I'm sure it will be quite discredited after this. The pacifist tries to force war; the apostle of gentleness tries assassination."

"War against the true enemy," said Altmayer sadly. "But you are right. It is a sign of desperation that this was forced on me." -Then, "How did you know my plans?"

"You still overestimate humanity, Dick. In any conspiracy the weakest points are the people that compose it. You had twenty-five co-conspirators. Didn't it occur to you that at least one of them might be an informer, or even an employee of mine?"

A dull red burned slowly on Altmayer's high cheekbones. "Which one?" he said.

"Sorry. We may have to use him again."

Altmayer sat back in his chair wearily. "What have you gained?"

"What have you gained? You are as impractical now as on that last day I saw you; the day you decided to go to jail rather than report for induction. You haven't changed."

Altmayer shook his head, "The truth doesn't change."

Stock said impatiently, "If it is truth, why does it always fail? Your stay in jail accomplished nothing. The war went on. Not one life was saved. Since then, you've started a political party; and every cause it has backed has failed. Your conspiracy has failed. You're nearly fifty, Dick, and what have you accomplished? Nothing."

Altmayer said, "And you went to war, rose to command a ship, then to a place in the Cabinet. They say you will be the next Coordinator. You've accomplished a great deal. Yet success and failure do not exist in themselves. Success in what? Success in working the ruin of humanity. Failure in what? In saving it? I wouldn't change places with you. Jeff, remember this. In a good cause, there are no failures; there are only delayed successes."

"Even if you are executed for this day's work?"

"Even if I am executed. There will be someone else to carry on, and his success will be my success."

"How do you envisage this success? Can you really see a union of worlds, a Galactic Federation? Do you want Santanni running our affairs? Do you want a Vegan telling you what to do? Do you want Earth to decide its own destiny or to be at the mercy of any random combination of powers?"

"We would be at their mercy no more than they would be at ours."

"Except that we are the richest. We would be plundered for the sake of the depressed worlds of the Sirius Sector."

"And pay the plunder out of what we would save in the wars that would no longer occur."

"Do you have answers for all questions, Dick?"

"In twenty years we have been asked all questions, Jeff."

"Then answer this one. How would you force this union of yours on unwilling humanity?"

"That is why I wanted to kill the Diaboli." For the first time, Altmayer showed agitation. "It would mean war with them, but all humanity would unite against the common enemy. Our own political and ideological differences would fade in the face of that."

"You really believe that? Even when the Diaboli have never harmed us? They cannot live on our worlds. They must remain on their own worlds of sulfide atmosphere and oceans which are sodium sulfate solutions."

"Humanity knows better, Jeff. They are spreading from world to world like an atomic explosion. They block space-travel into regions where there are unoccupied oxygen worlds, the kind we could use. They are planning for the future; making room for uncounted future generations of Diaboli, while we are being restricted to one corner of the Galaxy, and fighting ourselves to death. In a thousand years we will be their slaves; in ten thousand we will be extinct. Oh, yes, they are the common enemy. Mankind knows that. You will find that out sooner than you think, perhaps."

The Secretary said, "Your party members speak a great deal of ancient Greece of the preatomic age. They tell us that the Greeks were a marvelous people, the most culturally advanced of their time, perhaps of all times. They set mankind on the road it has never yet left entirely. They had only one flaw. They could not unite. They were conquered and eventually died out. And we follow in their footsteps now, eh?"

"You have learned your lesson well, Jeff."

"But have you, Dick?"

"What do you mean?"

"Did the Greeks have no common enemy against whom they could unite?"

Altmayer was silent.

Stock said, "The Greeks fought Persia, their great common enemy. Was it not a fact that a good proportion of the Greek states fought on the Persian side?"

Altmayer said finally, "Yes. Because they thought Persian victory was inevitable and they wanted to be on the winning side."

"Human beings haven't changed, Dick. Why do you suppose the Diaboli are here? What is it we are discussing?"

"I am not a member of the government."

"No," said Stock, savagely, "but I am. The Vegan League has allied itself with the Diaboli."

"I don't believe you. It can't be."

"It can be and is. The Diaboli have agreed to supply them with five hundred ships at any time they happen to be at war with Earth. In return, Vega abandons all claims to the Nigellian star cluster. So if you had really assassinated the Diaboli, it would have been war, but with half of humanity probably fighting on the side of your so-called common enemy. We are trying to prevent that."

Altmayer said slowly, "I am ready for trial. Or am I to be executed without one?"

Stock said, "You are still foolish. If we shoot you, Dick, we make a martyr. If we keep you alive and shoot only your subordinates, you will be suspected of having turned state's evidence. As a presumed traitor, you will be quite harmless in the future."

And so, on September 5th, 2788, Richard Sayama Altmayer, after the briefest of secret trials, was sentenced to five years in prison. He served his full term. The year he emerged from prison, Geoffrey Stock was elected Coordinator of Earth.

3-December 21, 2800

Simon Devoire was not at ease. He was a little man, with sandy hair and a freckled, ruddy face. He said, "I'm sorry I agreed to see you, Altmayer. It won't do you any good. It might do me harm."

Altmayer said, "I am an old man. I won't hurt you." And he was indeed a very old man somehow. The turn of the century found his years at two thirds of a century, but he was older than that, older inside and older outside. His clothes were too big for him, as if he were shrinking away inside them. Only his nose had not aged; it was still the thin, aristocratic, high-beaked Altmayer nose.

Devoire said, "It's not you I'm afraid of."

"Why not? Perhaps you think I betrayed the men of '88."

"No, of course not. No man of sense believes that you did. But the days of the Federalists are over, Altmayer."

Altmayer tried to smile. He felt a little hungry; he hadn't eaten that day -no time for food. Was the day of the Federalists over? It might seem so to others. The movement had died on a wave of ridicule. A conspiracy that fails, a "lost cause," is often romantic. It is remembered and draws adherents for generations, if the loss is at least a dignified one. But to shoot at living creatures and find the mark to be robots; to be outmaneuvered and outfoxed; to be made ridiculous-that is deadly. It is deadlier than treason, wrong, and sin. Not many had believed Altmayer had bargained for his life by betraying his associates, but the universal laughter killed Federalism as effectively as though they had.

But Altmayer had remained stolidly stubborn under it all. He said, "The day of the Federalists will never be over, while the human race lives."

"Words," said Devoire impatiently. "They meant more to me when I was younger. I am a little tired now."

"Simon, I need access to the subetheric system."

Devoire's face hardened. He said, "And you thought of me. I'm sorry, Altmayer, but I can't let you use my broadcasts for your own purposes."

"You were a Federalist once."

"Don't rely on that," said Devoire. "That's in the past. Now I am- nothing. I am a Devoirist, I suppose. I want to live."

"Even if it is under the feet of the Diaboli? Do you want to live when they are willing; die when they are ready?"

"Words!"

"Do you approve of the all-Galactic conference?"

Devoire reddened past his usual pink level. He gave the sudden impression of a man with too much blood for his body. He said smolderingly, "Well, why not? What does it matter how we go about establishing the Federation of Man? If you're still a Federalist, what have you to object to in a united humanity?"

"United under the Diaboli?"

"What's the difference? Humanity can't unite by itself. Let us be driven to it, as long as the fact is accomplished. I am sick of it all, Altmayer, sick of all our stupid history. I'm tired of trying to be an idealist with nothing to be idealistic over. Human beings are human beings and that's the nasty part of it. Maybe we've got to be whipped into line. If so, I'm perfectly willing to let the Diaboli do the whipping."

Altmayer said gently, "You're very foolish, Devoire. It won't be a real union, you know that. The Diaboli called this conference so that they might act as umpires on all current interhuman disputes to their own advantage, and remain the supreme court of judgment over us hereafter. You know they have no intention of establishing a real central human government. It will only be a sort of interlocking directorate; each human government will conduct its own affairs as before and pull in various directions as before. It is simply that we will grow accustomed to running to the Diaboli with our little problems."

"How do you know that will be the result?"

"Do you seriously think any other result is possible?"

Devoire chewed at his lower lip, "Maybe not!"

"Then see through a pane of glass, Simon. Any true independence we now have will be lost."

"A lot of good this independence has ever done us. -Besides, what's the use? We can't stop this thing. Coordinator Stock is probably no keener on the conference than you are, but that doesn't help him. If Earth doesn't attend, the union will be formed without us, and then we will face war with the rest of humanity and the Diaboli. And that goes for any other government that wants to back out."

"What if all the governments back out? Wouldn't the conference break up completely?"

"Have you ever known all the human governments to do anything together? You never learn, Altmayer."

"There are new facts involved."

"Such as? I know I am foolish for asking, but go ahead."

Altmayer said, "For twenty years most of the Galaxy has been shut to human ships. You know that. None of us has the slightest notion of what goes on within the Diaboli sphere of influence. And yet some human colonies exist within that sphere."

"So?"

"So occasionally, human beings escape into the small portion of the Galaxy that remains human and free. The government of Earth receives reports; reports which they don't dare make public. But not all officials of the government can stand the cowardice

involved in such actions forever. One of them has been to see me. I can't tell you which one, of course- So I have documents, Devoire; official, reliable, and true."

Devoire shrugged, "About what?" He turned the desk chronometer rather ostentatiously so that Altmayer could see its gleaming metal face on which the red, glowing figures stood out sharply. They read 22:31, and even as it was turned, the '1' faded and the new glow of a '2' appeared.

Altmayer said, "There is a planet called by its colonists Chu Hsi. It did not have a large population; two million, perhaps. Fifteen years ago the Diaboli occupied worlds on various sides of it; and in all those fifteen years, no human ship ever landed on the planet. Last year the Diaboli themselves landed. They brought with them huge freight ships filled with sodium sulfate and bacterial cultures that are native to their own worlds."

"What? -You can't make me believe it."

"Try," said Altmayer, ironically. "It is not difficult. Sodium sulfate will dissolve in the oceans of any world. In a sulfate ocean, their bacteria will grow, multiply, and produce hydrogen sulfide in tremendous quantities which will fill the oceans and the atmosphere. They can then introduce their plants and animals and eventually themselves. Another planet will be suitable for Diaboli life-and unsuitable for any human. It would take time, surely, but the Diaboli have time. They are a united people and . . ."

"Now, look," Devoire waved his hand in disgust, "that just doesn't hold water. The Diaboli have more worlds than they know what to do with."

"For their present purposes, yes, but the Diaboli are creatures that look toward the future. Their birth rate is high and eventually they will fill the Galaxy. And how much better off they would be if they were the only intelligence in the universe."

"But it's impossible on purely physical grounds. Do you know how many millions of tons of sodium sulfate it would take to fill up the oceans to their requirements?"

"Obviously a planetary supply."

"Well, then, do you suppose they would strip one of their own worlds to create a new one? Where is the gain?"

"Simon, Simon, there are millions of planets in the Galaxy which through atmospheric conditions, temperature, or gravity are forever uninhabitable either to humans or to Diaboli. Many of these are quite adequately rich in sulfur."

Devoire considered, "What about the human beings on the planet?"

"On Chu Hsi? Euthanasia-except for the few who escaped in time. Painless I suppose. The Diaboli are not needlessly cruel, merely efficient."

Altmayer waited. Devoire's fist clenched and unclenched.

Altmayer said, "Publish this news. Spread it out on the interstellar subetheric web. Broadcast the documents to the reception centers on the various worlds. You can do it, and when you do, the all-Galactic conference will fall apart."

Devoire's chair tilted forward. He stood up. "Where's your proof?"

"Will you do it?"

"I want to see your proof." I Altmayer smiled, "Come with me."

They were waiting for him when he came back to the furnished room he was living in. He didn't notice them at first. He was completely unaware of the small vehicle that followed him at a slow pace and a prudent distance. He walked with his head bent, calculating the length of time it would take for Devoire to put the information through the reaches of space; how long it would take for the receiving stations on Vega and Santanni and Centaurus to blast out the news; how long it would take to spread it over the entire Galaxy. And in this way he passed, unheeding, between the two plain-clothes men who flanked the entrance of the rooming house.

It was only when he opened the door to his own room that he stopped and turned to leave but the plain-clothes men were behind him now. He made no attempt at violent escape. He entered the room instead and sat down, feeling so old. He thought feverishly, I need only hold them off an hour and ten minutes.

The man who occupied the darkness reached up and flicked the switch that allowed the wall lights to operate. In the soft wall glow, the man's round face and balding gray-fringed head were startlingly clear.

Altmayer said gently, "I am honored with a visit by the Coordinator himself."

And Stock said, "We are old friends, you and I, Dick. We meet every once in a while."

Altmayer did not answer.

Stock said, "You have certain government papers in your possession, Dick."

Altmayer said, "If you think so, Jeff, you'll have to find them."

Stock rose wearily to his feet. "No heroics, Dick. Let me tell you what those papers contained. They were circumstantial reports of the sulfation of the planet, Chu Hsi. Isn't that true?"

Altmayer looked at the clock.

Stock said, "If you are planning to delay us, to angle us as though we were fish, you will be disappointed. We know where you've been, we know Devoire has the papers, we know exactly what he's planning to do with them."

Altmayer stiffened. The thin parchment of his cheeks trembled. He said, "How long have you known?"

"As long as you have, Dick. You are a very predictable man. It is the very reason we decided to use you. Do you suppose the Recorder would really come to see you as he did, without our knowledge?"

"I don't understand."

Stock said, "The Government of Earth, Dick, is not anxious that the all-Galactic conference be continued. However, we are not Federalists; we know humanity for what it is. What do you suppose would happen if the rest of the Galaxy discovered that the Diaboli were in the process of changing a salt-oxygen world into a sulfate-sulfide one?"

"No, don't answer. You are Dick Altmayer and I'm sure you'd tell me that with one fiery burst of indignation, they'd abandon the conference, join together in a loving and brotherly union, throw themselves at the Diaboli, and overwhelm them."

Stock paused such a long time that for a moment it might have seemed he would say no more. Then he continued in half a whisper, "Nonsense. The other worlds would say that the Government of Earth for purposes of its own had initiated a fraud, had forged documents in a deliberate attempt to disrupt the conference. The Diaboli would deny everything, and most of the human worlds would find it to their interests to believe the denial. They would concentrate on the iniquities of Earth and forget about the iniquities of the Diaboli. So you see, we could sponsor no such expose."

Altmayer felt drained, futile. "Then you will stop Devoire. It is always that you are so sure of failure beforehand; that you believe the worst of your fellow man-"

"Wait! I said nothing of stopping Devoire. I said only that the government could not sponsor such an expose and we will not. But the expose will take place just the same, except that afterward we will arrest Devoire and yourself and denounce the whole thing as vehemently as will the Diaboli. The whole affair would then be changed. The Government of Earth will have dissociated itself from the claims. It will then seem to the rest of the human government that for our own selfish purposes we are trying to hide the actions of the Diaboli, that we have, perhaps, a special understanding with them. They will fear that special understanding and unite against us. But then to be against us will mean that they are also against the Diaboli. They will insist on believing the expose to be the truth, the documents to be real-and the conference will break up."

"It will mean war again," said Altmayer hopelessly, "and not against the real enemy. It will mean fighting among the humans and a victory all the greater for the Diaboli when it is all over."

"No war," said Stock. "No government will attack Earth with the Diaboli on our side. The other governments will merely draw away from us and grind a permanent anti-Diaboli bias into their propaganda. Later, if there should be war between ourselves and the Diaboli, the other governments will at least remain neutral."

He looks very old, thought Altmayer. We are all old, dying men. Aloud, he said, "Why would you expect the Diaboli to back Earth? You may fool the rest of mankind by pretending to attempt suppression of the facts concerning the planet Chu Hsi, but you won't fool the Diaboli. They won't for a moment believe Earth to be sincere in its claim that it believes the documents to be forgeries."

"Ah, but they will." Geoffrey Stock stood up, "You see, the documents are forgeries. The Diaboli may be planning sulfation of planets in the future, but to our knowledge, they have not tried it yet."

On December 21, 2800, Richard Sayama Altmayer entered prison for the third and last time. There was no trial, no definite sentence, and scarcely a real imprisonment in the literal sense of the word. His movements were confined and only a few officials were allowed to communicate with him, but otherwise his comforts were looked to assiduously. He had no access to news, of course, so that he was not aware that in the second year of this third imprisonment of his, the war between Earth and the Diaboli opened with the surprise attack near Sirius by an Earth squadron upon certain ships of the Diaboli navy.

In 2802, Geoffrey Stock came to visit Altmayer in his confinement. Altmayer rose in surprise to greet him.

"You're looking well, Dick," Stock said.

He himself was not. His complexion had grayed. He still wore his naval captain's uniform, but his body stooped slightly within it. He was to die within the year, a fact of which he was not completely unaware. It did not bother him much. He thought repeatedly, I have lived the years I've had to live.

Altmayer, who looked the older of the two, had yet more than nine years to live. He said, "An unexpected pleasure, Jeff, but this time you can't have come to imprison me. I'm in prison already."

"I've come to set you free, if you would like."

"For what purpose, Jeff? Surely you have a purpose? A clever way of using me?"

Stock's smile was merely a momentary twitch. He said, "A way of using you, truly, but this time you will approve. . . We are at war."

"With whom?" Altmayer was startled.

"With the Diaboli. We have been at war for six months."

Altmayer brought his hands together, thin fingers interlacing nervously, "I've heard nothing of this."

"I know." The Coordinator clasped his hands behind his back and was distantly surprised to find that they were trembling. He said, "It's been a long journey for the two of us, Dick. We've had the same goal, you and I- No, let me speak. I've often wanted to explain my point of view to you, but you would never have understood. You weren't the kind of man to understand, until I had the results for you. -I was twenty-five when I first visited a Diaboli world, Dick. I knew then it was either they or we."

"I said so," whispered Altmayer, "from the first."

"Merely saying so was not enough. You wanted to force the human governments to unite against them and that notion was politically unrealistic and completely impossible. It wasn't even desirable. Humans are not Diaboli. Among the Diaboli individual consciousness is low, almost nonexistent. Ours is almost overpowering. They have no such thing as politics; we have nothing else. They can never disagree, can have nothing but a single government. We can never agree; if we had a single island to live on, we would split it in three.

"But our very disagreements are our strength! Your Federalist party used to speak of ancient Greece a great deal once. Do you remember? But your people always missed the point. To be sure, Greece could never unite and was therefore ultimately conquered. But even in her state of disunion, she defeated the gigantic Persian Empire. Why?

"I would like to point out that the Greek city-states over centuries had fought with one another. They were forced to specialize in things military to an extent far beyond the Persians. Even the Persians themselves realized that, and in the last century of their imperial existence, Greek mercenaries formed the most valued parts of their armies.

"The same might be said of the small nation-states of preatomic Europe, which in centuries of fighting had advanced their military arts to the point where they could overcome and hold for two hundred years the comparatively gigantic empires of Asia.

"So it is with us. The Diaboli, with vast extents of galactic space, have never fought a war. Their military machine is massive, but untried. In fifty years, only such advances have been made by them as they have been able to copy from the various human navies. Humanity, on the other hand, has competed ferociously in warfare. Each government has raced to keep ahead of its neighbors in military science. They've had to! It was our own disunion that made the terrible race for survival necessary, so that in the end almost any one of us was a match for all the Diaboli, provided only that none of us would fight on their side in a general war.

"It was toward the prevention of such a development that all of Earth's diplomacy has been aimed. Until it was certain that in a war between Earth and the Diaboli, the rest of humanity would be at least neutral, there could be no war, and no union of human governments could be allowed, since the race for military perfection must continue. Once we were sure of neutrality, through the hoax that broke up the conference two years ago, we sought the war, and now we have it."

Altmayer, through all this, might have been frozen. It was a long time before he could say anything.

Finally, "What if the Diaboli are victorious after all?"

Stock said, "They aren't. Two weeks ago, the main fleets joined action and theirs was annihilated with practically no loss to ourselves, although we were greatly outnumbered. We might have been fighting unarmed ships. We had stronger weapons of greater range and more accurate sighting. We had three times their effective speed since we had antiacceleration devices which they lacked. Since the battle a dozen of the other human governments have decided to join the winning side and have declared war on the Diaboli. Yesterday the Diaboli requested that negotiations for an armistice be opened. The war is practically over; and henceforward the Diaboli will be confined to their original planets with only such future expansions as we permit."

Altmayer murmured incoherently.

Stock said, "And now union becomes necessary. After the defeat of Persia by the Greek city-states, they were ruined because of their continued wars among themselves, so that first Macedon and then Rome conquered them. After Europe colonized the Americas, cut up Africa, and conquered Asia, a series of continued European wars led to European ruin.

"Disunion until conquest; union thereafter! But now union is easy. Let one subdivision succeed by itself and the rest will clamor to become part of that success. The ancient writer, Toynbee, first pointed out this difference between what he called a 'dominant minority' and a 'creative minority.'

"We are a creative minority now. In an almost spontaneous gesture, various human governments have suggested the formation of a United Worlds organization. Over seventy governments are willing to attend the first sessions in order to draw up a Charter

of Federation. The others will join later, I am sure. We would like you to be one of the delegates from Earth, Dick."

Altmayer found his eyes flooding, "I-I don't understand your purpose. Is this all true?"

"It is all exactly as I say. You were a voice in the wilderness, Dick, crying for union. Your words will carry much weight. What did you once say: 'In a good cause, there are no failures.' "

"No!" said Altmayer, with sudden energy. "It seems your cause was the good one."

Stock's face was hard and devoid of emotion, "You were always a misunderstander of human nature, Dick. When the United Worlds is a reality and when generations of men and women look back to these days of war through their centuries of unbroken peace, they will have forgotten the purpose of my methods. To them they will represent war and death. Your calls for union, your idealism, will be remembered forever."

He turned away and Altmayer barely caught his last words: "And when they build their statues, they will build none for me."

In the Great Court, which stands as a patch of untouched peace among the fifty busy square miles devoted to the towering buildings that are the pulse beat of the United Worlds of the Galaxy, stands a statue . . .

WHAT IF-

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Norman and Liwy were late, naturally, since catching a train is always a matter of last-minute delays, so they had to take the only available seat in the coach. It was the one toward the front; the one with nothing before it but the seat that faced wrong way, with its back hard against the front partition. While Norman heaved the suitcase onto the rack, Liwy found herself chafing a little.

If a couple took the wrong-way seat before them, they would be staring self-consciously into each others' faces all the hours it would take to reach New York; or else, which was scarcely better, they would have to erect synthetic barriers of newspaper. Still, there was no use in taking a chance on there being another unoccupied double seat elsewhere in the train.

Norman didn't seem to mind, and that was a little disappointing to Liwy. Usually they held their moods in common. That, Norman claimed, was why he remained sure that he had married the right girl.

He would say, "We fit each other, Liwy, and that's the key fact. When you're doing a jigsaw puzzle and one piece fits another, that's it. There are no other possibilities, and of course there are no other girls."

And she would laugh and say, "If you hadn't been on the streetcar that day, you would probably never have met me. What would you have done then?"

"Stayed a bachelor. Naturally. Besides, I would have met you through Georgette another day."

"It wouldn't have been the same."

"Sure it would."

"No, it wouldn't. Besides, Georgette would never have introduced me. She was interested in you herself, and she's the type who knows better than to create a possible rival."

"What nonsense."

Livvy asked her favorite question: "Norman, what if you had been one minute later at the streetcar corner and had taken the next car? What do you suppose would have happened?"

"And what if fish had wings and all of them flew to the top of the mountains? What would we have to eat on Fridays then?"

But they had caught the streetcar, and fish didn't have wings, so that now they had been married five years and ate fish on Fridays. And because they had been married five years, they were going to celebrate by spending a week in New York.

Then she remembered the present problem. "I wish we could have found some other seat."

Norman said, "Sure. So do I. But no one has taken it yet, so we'll have relative privacy as far as Providence, anyway."

Livvy was unconsoled, and felt herself justified when a plump little man walked down the central aisle of the coach. Now, where had he come from? The train was halfway between Boston and Providence, and if he had had a seat, why hadn't he kept it? She took out her vanity and considered her reflection. She had a theory that if she ignored the little man, he would pass by. So she concentrated on her light-brown hair which, in the rush of catching the train, had become disarranged just a little; at her blue eyes, and at her little mouth with the plump lips which Norman said looked like a permanent kiss.

Not bad, she thought.

Then she looked up, and the little man was in the seat opposite. He caught her eye and grinned widely. A series of lines curled about the edges of his smile. He lifted his hat hastily and put it down beside him on top of the little black box he had been carrying. A circle of white hair instantly sprang up stiffly about the large bald spot that made the center of his skull a desert.

She could not help smiling back a little, but then she caught sight of the black box again and the smile faded. She yanked at Norman's elbow.

Norman looked up from his newspaper. He had startlingly dark eyebrows that almost met above the bridge of his nose, giving him a formidable first appearance. But they and the dark eyes beneath bent upon her now with only the usual look of pleased and somewhat amused affection.

He said, "What's up?" He did not look at the plump little man opposite.

Livvy did her best to indicate what she saw by a little unobtrusive gesture of her hand and head. But the little man was watching and she felt a fool, since Norman simply stared at her blankly.

Finally she pulled him closer and whispered, "Don't you see what's printed on his box?"

She looked again as she said it, and there was no mistake. It was not very prominent, but the light caught it slantingly and it was a slightly more glistening area on a black background. In flowing script it said, "What If."

The little man was smiling again. He nodded his head rapidly and pointed to the words and then to himself several times over.

Norman said in an aside, "Must be his name."

Livvy replied, "Oh, how could that be anybody's name?"

Norman put his paper aside. "I'll show you." He leaned over and said, "Mr. If?"

The little man looked at him eagerly.

"Do you have the time, Mr. If?"

The little man took out a large watch from his vest pocket and displayed the dial.

"Thank you, Mr. If," said Norman. And again in a whisper, "See, Livvy."

He would have returned to his paper, but the little man was opening his box and raising a finger periodically as he did so, to enforce their attention. It was just a slab of frosted glass that he removed-about six by nine inches in length and width and perhaps an inch thick. It had beveled edges, rounded corners, and was completely featureless. Then he took out a little wire stand on which the glass slab fitted comfortably. He rested the combination on his knees and looked proudly at them.

Livy said, with sudden excitement, "Heavens, Norman, it's a picture of some sort."

Norman bent close. Then he looked at the little man. "What's this? A new kind of television?"

The little man shook his head, and Livy said, "No, Norman, it's us."

"What?"

"Don't you see? That's the streetcar we met on. There you are in the back seat wearing that old fedora I threw away three years ago. And that's Georgette and myself getting on. The fat lady's in the way. Now! Can't you see us?"

He muttered, "It's some sort of illusion."

"But you see it too, don't you? That's why he calls this 'What If.' It will show us what if. What if the streetcar hadn't swerved . . ."

She was sure of it. She was very excited and very sure of it. As she looked at the picture in the glass slab, the late afternoon sunshine grew dimmer and the inchoate chatter of the passengers around and behind them began fading.

How she remembered that day. Norman knew Georgette and had been about to surrender his seat to her when the car swerved and threw Livy into his lap. It was such a ridiculously corny situation, but it had worked. She had been so embarrassed that he was forced first into gallantry and then into conversation. An introduction from Georgette was not even necessary. By the time they got off the streetcar, he knew where she worked.

She could still remember Georgette glowering at her, sulkily forcing a smile when they themselves separated. Georgette said, "Norman seems to like you."

Livy replied, "Oh, don't be silly! He was just being polite. But he is nice-looking, isn't he?"

It was only six months after that that they married.

And now here was that same streetcar again, with Norman and herself and Georgette. As she thought that, the smooth train noises, the rapid clack-clack of the wheels, vanished completely. Instead, she was in the swaying confines of the streetcar. She had just boarded it with Georgette at the previous stop.

Livy shifted weight with the swaying of the streetcar, as did forty others, sitting and standing, all to the same monotonous and rather ridiculous rhythm. She said, "Somebody's motioning at you, Georgette. Do you know him?"

"At me?" Georgette directed a deliberately casual glance over her shoulder. Her artificially long eyelashes flickered. She said, "I know him a little. What do you suppose he wants?"

"Let's find out," said Livy. She felt pleased and a little wicked.

Georgette had a well-known habit of hoarding her male acquaintances, and it was rather fun to annoy her this way. And besides, this one seemed quite . . . interesting.

She snaked past the line of standees, and Georgette followed without enthusiasm. It was just as Livvy arrived opposite the young man's seat that the streetcar lurched heavily as it rounded a curve. Liwy snatched desperately in the direction of the straps. Her fingertips caught and she held on. It was a long moment before she could breathe. For some reason, it had seemed that there were no straps close enough to be reached. Somehow, she felt that by all the laws of nature she should have fallen.

The young man did not look at her. He was smiling at Georgette and rising from his seat. He had astonishing eyebrows that gave him a rather competent and self-confident appearance. Liwy decided that she definitely liked him.

Georgette was saying, "Oh no, don't bother. We're getting off in about two stops."

They did. Livvy said, "I thought we were going to Sach's."

"We are. There's just something I remember having to attend to here. It won't take but a minute."

"Next stop, Providence!" the loud-speakers were blaring. The train was slowing and the world of the past had shrunk itself into the glass slab once more. The little man was still smiling at them.

Liwy turned to Norman. She felt a little frightened. "Were you through all that, too?"

He said, "What happened to the time? We can't be reaching Providence yet?" He looked at his watch. "I guess we are." Then, to Liwy, "You didn't fall that time."

"Then you did see it?" She frowned. "Now, that's like Georgette. I'm sure there was no reason to get off the streetcar except to prevent my meeting you. How long had you known Georgette before then, Norman?"

"Not very long. Just enough to be able to recognize her at sight and to feel that I ought to offer her my seat."

Liwy curled her lip.

Norman grinned, "You can't be jealous of a might-have-been, kid. Besides, what difference would it have made? I'd have been sufficiently interested in you to work out a way of meeting you."

"You didn't even look at me."

"I hardly had the chance."

"Then how would you have met me?"

"Some way. I don't know how. But you'll admit this is a rather foolish argument we're having."

They were leaving Providence. Liwy felt a trouble in her mind. The little man had been following their whispered conversation, with only the loss of his smile to show that he understood. She said to him, "Can you show us more?"

Norman interrupted, "Wait now, Liwy. What are you going to try to do?"

She said, "I want to see our wedding day. What it would have been if I had caught the strap."

Norman was visibly annoyed. "Now, that's not fair. We might not have been married on the same day, you know."

But she said, "Can you show it to me, Mr. If?" and the little man nodded.

The slab of glass was coming alive again, glowing a little. Then the light collected and condensed into figures. A tiny sound of organ music was in Liwy's ears without there actually being sound.

Norman said with relief, "Well, there I am. That's our wedding. Are you satisfied?"

The train sounds were disappearing again, and the last thing Liwy heard was her own voice saying, "Yes, there you are. But where am I?"

Liwy was well back in the pews. For a while she had not expected to attend at all. In the past months she had drifted further and further away from Georgette, without quite knowing why. She had heard of her engagement only through a mutual friend, and, of course, it was to Norman. She remembered very clearly that day, six months before, when she had first seen him on the streetcar. It was the time Georgette had so quickly snatched her out of sight. She had met him since on several occasions, but each time Georgette was with him, standing between.

Well, she had no cause for resentment; the man was certainly none of hers. Georgette, she thought, looked more beautiful than she really was. And he was very handsome indeed.

She felt sad and rather empty, as though something had gone wrong- something that she could not quite outline in her mind. Georgette had moved up the aisle without seeming to see her, but earlier she had caught his eyes and smiled at him. Liwy thought he had smiled in return.

She heard the words distantly as they drifted back to her, "I now pronounce you-"

The noise of the train was back. A woman swayed down the aisle, herding a little boy back to their seats. There were intermittent bursts of girlish laughter from a set of four teenage girls halfway down the coach. A conductor hurried past on some mysterious errand.

Liwy was frozenly aware of it all.

She sat there, staring straight ahead, while the trees outside blended into a fuzzy, furious green and the telephone poles galloped past.

She said, "It was she you married."

He stared at her for a moment and then one side of his mouth quirked a little. He said lightly, "I didn't really, Olivia. You're still my wife, you know. Just think about it for a few minutes."

She turned to him. "Yes, you married me-because I fell in your lap. If I hadn't, you would have married Georgette. If she hadn't wanted you, you would have married someone else. You would have married anybody. So much for your jigsaw-puzzle pieces."

Norman said very slowly, "Well-I'll-be-darned!" He put both hands to his head and smoothed down the straight hair over his ears where it had a tendency to tuft up. For the

moment it gave him the appearance of trying to hold his head together. He said, "Now, look here, Liwy, you're making a silly fuss over a stupid magician's trick. You can't blame me for something I haven't done."

"You would have done it."

"How do you know?"

"You've seen it."

"I've seen a ridiculous piece of-of hypnotism, I suppose." His voice suddenly raised itself into anger. He turned to the little man opposite. "Off with you, Mr. If, or whatever your name is. Get out of here. We don't want you. Get out before I throw your little trick out the window and you after it."

Liwy yanked at his elbow. "Stop it. Stop it! You're in a crowded train."

The little man shrank back into the corner of the seat as far as he could go and held his little black bag behind him. Norman looked at him, then at Liwy, then at the elderly lady across the way who was regarding him with patent disapproval.

He turned pink and bit back a pungent remark. They rode in frozen silence to and through New London.

Fifteen minutes past New London, Norman said, "Liwy!"

She said nothing. She was looking out the window but saw nothing but the glass.

He said again, "Liwy! Liwy! Answer me!"

She said dully, "What do you want?"

He said, "Look, this is all nonsense. I don't know how the fellow does it, but even granting it's legitimate, you're not being fair. Why stop where you did? Suppose I had married Georgette, do you suppose you would have stayed single? For all I know, you were already married at the time of my supposed wedding. Maybe that's why I married Georgette."

"I wasn't married."

"How do you know?"

"I would have been able to tell. I knew what my own thoughts were."

"Then you would have been married within the next year."

Liwy grew angrier. The fact that a sane remnant within her clamored at the unreason of her anger did not soothe her. It irritated her further, instead. She said, "And if I did, it would be no business of yours, certainly."

"Of course it wouldn't. But it would make the point that in the world of reality we can't be held responsible for the 'what ifs.' "

Liwy's nostrils flared. She said nothing.

Norman said, "Look! You remember the big New Year's celebration at Winnie's place year before last?"

"I certainly do. You spilled a keg of alcohol all over me."

"That's beside the point, and besides, it was only a cocktail shaker's worth. What I'm trying to say is that Winnie is just about your best friend and had been long before you married me."

"What of it?"

"Georgette was a good friend of hers too, wasn't she?"

"Yes."

"All right, then. You and Georgette would have gone to the party regardless of which one of you I had married. I would have had nothing to do with it. Let him show us the party as it would have been if I had married Georgette, and I'll bet you'd be there with either your fiance or your husband."

Liwy hesitated. She felt honestly afraid of just that.

He said, "Are you afraid to take the chance?"

And that, of course, decided her. She turned on him furiously. "No, I'm not! And I hope I am married. There's no reason I should pine for you. What's more, I'd like to see what happens when you spill the shaker all over Georgette. She'll fill both your ears for you, and in public, too. I know her. Maybe you'll see a certain difference in the jigsaw pieces then." She faced forward and crossed her arms angrily and firmly across her chest.

Norman looked across at the little man, but there was no need to say anything. The glass slab was on his lap already. The sun slanted in from the west, and the white foam of hair that topped his head was edged with pink.

Norman said tensely, "Ready?"

Liwy nodded and let the noise of the train slide away again.

Liwy stood, a little flushed with recent cold, in the doorway. She had just removed her coat, with its sprinkling of snow, and her bare arms were still rebelling at the touch of open air.

She answered the shouts that greeted her with "Happy New Years" of her own, raising her voice to make herself heard over the squealing of the radio. Georgette's shrill tones were almost the first thing she heard upon entering, and now she steered toward her. She hadn't seen Georgette, or Norman, in weeks.

Georgette lifted an eyebrow, a mannerism she had lately cultivated, and said, "Isn't anyone with you, Olivia?" Her eyes swept the immediate surroundings and then returned to Liwy.

Liwy said indifferently, "I think Dick will be around later. There was something or other he had to do first." She felt as indifferent as she sounded.

Georgette smiled tightly. "Well, Norman's here. That ought to keep you from being lonely, dear. At least, it's turned out that way before."

And as she said so, Norman sauntered in from the kitchen. He had a cocktail shaker in his hand, and the rattling of ice cubes castanetted his words. "Line up, you rioting revelers, and get a mixture that will really revel your riots- Why, Liwy!"

He walked toward her, grinning his welcome, "Where 've you been keeping yourself? I haven't seen you in twenty years, seems like. What's the matter? Doesn't Dick want anyone else to see you?"

"Fill my glass, Norman," said Georgette sharply.

"Right away," he said, not looking at her. "Do you want one too, Liwy? I'll get you a glass." He turned, and everything happened at once.

Liwy cried, "Watch out!" She saw it coming, even had a vague feeling that all this had happened before, but it played itself out inexorably. His heel caught the edge of the carpet; he lurched, tried to right himself, and lost the cocktail shaker. It seemed to jump out of his hands, and a pint of ice-cold liquor drenched Liwy from shoulder to hem.

She stood there, gasping. The noises muted about her, and for a few intolerable moments she made futile brushing gestures at her gown, while Norman kept repeating, "Damnation!" in rising tones.

Georgette said coolly, "It's too bad, Liwy. Just one of those things. I imagine the dress can't be very expensive."

Liwy turned and ran. She was in the bedroom, which was at least empty and relatively quiet. By the light of the fringe-shaded lamp on the dresser, she poked among the coats on the bed, looking for her own.

Norman had come in behind her. "Look, Liwy, don't pay any attention to what she said. I'm really devilishly sorry. I'll pay-

"That's all right. It wasn't your fault." She blinked rapidly and didn't look at him. "I'll just go home and change."

"Are you coming back?" ?"

"I don't know. I don't think so."

"Look, Liwy . . ." His warm fingers were on her shoulders -Liwy felt a queer tearing sensation deep inside her, as though she were ripping away from clinging cobwebs-and the train noises were back.

Something did go wrong with the time when she was in there-in the slab. It was deep twilight now. The train lights were on. But it didn't matter. She seemed to be recovering from the wrench inside her.

Norman was rubbing his eyes with thumb and forefinger. "What happened?"

Liwy said, "It just ended. Suddenly."

Norman said uneasily, "You know, we'll be putting into New Haven soon." He looked at his watch and shook his head.

Liwy said wonderingly, "You spilled it on me."

"Well, so I did in real life."

"But in real life I was your wife. You ought to have spilled it on Georgette this time. Isn't that queer?" But she was thinking of Norman pursuing her; his hands on her shoulders. . .

She looked up at him and said with warm satisfaction, "I wasn't married."

"No, you weren't. But was that Dick Reinhardt you were going around with?"

"Yes."

"You weren't planning to marry him, were you, Liwy?"

"Jealous, Norman?"

Norman looked confused. "Of that? Of a slab of glass? Of course not."

"I don't think I would have married him."

Norman said, "You know, I wish it hadn't ended when it did. There was something that was about to happen, I think." He stopped, then added slowly, "It was as though I would rather have done it to anybody else in the room."

"Even to Georgette."

"I wasn't giving two thoughts to Georgette. You don't believe me, I suppose."

"Maybe I do." She looked up at him. "I've been silly, Norman. Let's- let's live our real life. Let's not play with all the things that just might have been."

But he caught her hands. "No, Liwy. One last time. Let's see what we would have been doing right now, Liwy! This very minute! If I had married Georgette."

Liwy was a little frightened. "Let's not, Norman." She was thinking of his eyes, smiling hungrily at her as he held the shaker, while Georgette stood beside her, unregarded. She didn't want to know what happened afterward. She just wanted this life now, this good life.

New Haven came and went.

Norman said again, "I want to try, Liwy."

She said, "If you want to, Norman." She decided fiercely that it wouldn't matter. Nothing would matter. Her hands reached out and encircled his arm. She held it tightly, and while she held it she thought: "Nothing in the make-believe can take him from me."

Norman said to the little man, "Set 'em up again."

In the yellow light the process seemed to be slower. Gently the frosted slab cleared, like clouds being torn apart and dispersed by an unfelt wind.

Norman was saying, "There's something wrong. That's just the two of us, exactly as we are now."

He was right. Two little figures were sitting in a train on the seats which were farthest toward the front. The field was enlarging now-they were merging into it. Norman's voice was distant and fading.

"It's the same train," he was saying. "The window in back is cracked just as-"

Liwy was blindingly happy. She said, "I wish we were in New York."

He said, "It will be less than an hour, darling." Then he said, "I'm going to kiss you." He made a movement, as though he were about to begin.

"Not here! Oh, Norman, people are looking."

Norman drew back. He said, "We should have taken a taxi."

"From Boston to New York?"

"Sure. The privacy would have been worth it."

She laughed. "You're funny when you try to act ardent."

"It isn't an act." His voice was suddenly a little somber. "It's not just an hour, you know. I feel as though I've been waiting five years."

"I do, too."

"Why couldn't I have met you first? It was such a waste."

"Poor Georgette," Liwy sighed.

Norman moved impatiently. "Don't be sorry for her, Liwy. We never really made a go of it. She was glad to get rid of me."

"I know that. That's why I say 'Poor Georgette.' I'm just sorry for her for not being able to appreciate what she had."

"Well, see to it that you do," he said. "See to it that you're immensely appreciative, infinitely appreciative-or more than that, see that you're at least half as appreciative as I am of what I've got."

"Or else you'll divorce me, too?"

"Over my dead body," said Norman.

Liwy said, "It's all so strange. I keep thinking; 'What if you hadn't spilt the cocktails on me that time at the party?' You wouldn't have followed me out; you wouldn't have told me; I wouldn't have known. It would have been so different . . . everything."

"Nonsense. It would have been just the same. It would have all happened another time."

"I wonder," said Liwy softly.

Train noises merged into train noises. City lights flickered outside, and the atmosphere of New York was about them. The coach was astir with travelers dividing the baggage among themselves.

Liwy was an island in the turmoil until Norman shook her.

She looked at him and said, "The jigsaw pieces fit after all."

He said, "Yes."

She put a hand on his. "But it wasn't good, just the same. I was very wrong. I thought that because we had each other, we should have all the possible each others. But all the possibles are none of our business. The real is enough. Do you know what I mean?"

He nodded.

She said, "There are millions of other what ifs. I don't want to know what happened in any of them. I'll never say 'What if again.'"

Norman said, "Relax, dear. Here's your coat." And he reached for the suitcases.

Liwy said with sudden sharpness, "Where's Mr. If?"

Norman turned slowly to the empty seat that faced them. Together they scanned the rest of the coach.

"Maybe," Norman said, "he went into the next coach."

"But why? Besides, he wouldn't leave his hat." And she bent to pick it up.

Norman said, "What hat?"

And Liwy stopped her fingers hovering over nothingness. She said, "It was here-I almost touched it." She straightened and said, "Oh, Norman, what if-"

Norman put a finger on her mouth. "Darling . . ."

She said, "I'm sorry. Here, let me help you with the suitcases."

The train dived into the tunnel beneath Park Avenue, and the noise of the wheels rose to a roar.

FLIES

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"Flies!" said Kendell Casey, wearily. He swung his arm. The fly circled, returned and nestled on Casey's shirt-collar.

From somewhere there sounded the buzzing of a second fly.

Dr. John Polen covered the slight uneasiness of his chin by moving his cigarette quickly to his lips.

He said, "I didn't expect to meet you, Casey. Or you, Winthrop. Or ought I call you Reverend Winthrop?"

"Ought I call you Professor Polen?" said Winthrop, carefully striking the proper vein of rich-toned friendship.

They were trying to snuggle into the cast-off shell of twenty years back, each of them. Squirming and cramming and not fitting.

Damn, thought Polen fretfully, why do people attend college reunions?

Casey's hot blue eyes were still filled with the aimless anger of the college sophomore who has discovered intellect, frustration, and the tag-ends of cynical philosophy all at once.

Casey! Bitter man of the campus!

He hadn't outgrown that. Twenty years later and it was Casey, bitter ex-man of the campus! Polen could see that in the way his finger tips moved aimlessly and in the manner of his spare body.

As for Winthrop? Well, twenty years older, softer, rounder. Skin pinker, eyes milder. Yet no nearer the quiet certainty he would never find. It was all there in the quick smile he never entirely abandoned, as though he feared there would be nothing to take its place, that its absence would turn his face into a smooth and featureless flesh.

Polen was tired of reading the aimless flickering of a muscle's end; tired of usurping the place of his machines; tired of the too much they told him.

Could they read him as he read them? Could the small restlessness of his own eyes broadcast the fact that he was damp with the disgust that had bred mustily within him?

Damn, thought Polen, why didn't I stay away?

They stood there, all three, waiting for one another to say something, to flick something from across the gap and bring it, quivering, into the present.

Polen tried it. He said, "Are you still working in chemistry, Casey?"

"In my own way, yes," said Casey, gruffly. "I'm not the scientist you're considered to be. I do research on insecticides for E. J. Link at Chatham."

Winthrop said, "Are you really? You said you would work on insecticides. Remember, Polen? And with all that, the flies dare still be after you, Casey?"

Casey said, "Can't get rid of them. I'm the best proving ground in the labs. No compound we've made keeps them away when I'm around. Someone once said it was my odor. I attract them."

Polen remembered the someone who had said that.

Winthrop said, "Or else-"

Polen felt it coming. He tensed.

"Or else," said Winthrop, "it's the curse, you know." His smile intensified to show that he was joking, that he forgave past grudges.

Damn, thought Polen, they haven't even changed the words. And the past came back.

"Flies," said Casey, swinging his arm, and slapping. "Ever see such a thing? Why don't they light on you two?"

Johnny Polen laughed at him. He laughed often then. "It's something in your body odor, Casey. You could be a boon to science. Find out the nature of the odorous chemical, concentrate it, mix it with DDT, and you've got the best fly-killer in the world."

"A fine situation. What do I smell like? A lady fly in heat? It's a shame they have to pick on me when the whole damned world's a dung heap."

Winthrop frowned and said with a faint flavor of rhetoric, "Beauty is not the only thing, Casey, in the eye of the beholder."

Casey did not deign a direct response. He said to Polen, "You know what Winthrop told me yesterday? He said those damned flies were the curse of Beelzebub."

"I was joking," said Winthrop.

"Why Beelzebub?" asked Polen.

"It amounts to a pun," said Winthrop. "The ancient Hebrews used it as one of their many terms of derision for alien gods. It comes from Ba'al, meaning lord and zevuv, meaning fly. The lord of flies."

Casey said, "Come on, Winthrop, don't say you don't believe in Beelzebub."

"I believe in the existence of evil," said Winthrop, stiffly.

"I mean Beelzebub. Alive. Horns. Hooves. A sort of competition deity."

"Not at all." Winthrop grew stiffer. "Evil is a short-term affair. In the end it must lose-"

Polen changed the subject with a jar. He said, "I'll be doing graduate work for Venner, by the way. I talked with him day before yesterday, and he'll take me on."

"No! That's wonderful." Winthrop glowed and leaped to the subject-change instantly. He held out a hand with which to pump Polen's. He was always conscientiously eager to rejoice in another's good fortune. Casey often pointed that out.

Casey said, "Cybernetics Venner? Well, if you can stand him, I suppose he can stand you."

Winthrop went on. "What did he think of your idea? Did you tell him your idea?"

"What idea?" demanded Casey.

Polen had avoided telling Casey so far. But now Venner had considered it and had passed it with a cool, "Interesting!" How could Casey's dry laughter hurt it now?

Polen said, "It's nothing much. Essentially, it's just a notion that emotion is the common bond of life, rather than reason or intellect. It's practically a truism, I suppose. You can't tell what a baby thinks or even if it thinks, but it's perfectly obvious that it can be angry, frightened or contented even when a week old. See?

"Same with animals. You can tell in a second if a dog is happy or if a cat is afraid. The point is that their emotions are the same as those we would have under the same circumstances."

"So?" said Casey. "Where does it get you?"

"I don't know yet. Right now, all I can say is that emotions are universals. Now suppose we could properly analyze all the actions of men and certain familiar animals and equate them with the visible emotion. We might find a tight relationship. Emotion A might always involve Motion B. Then we could apply it to animals whose emotions we couldn't guess at by common sense alone. Like snakes, or lobsters."

"Or flies," said Casey, as he slapped viciously at another and flicked its remains off his wrist in furious triumph.

He went on. "Go ahead, Johnny. I'll contribute the flies and you study them. We'll establish a science of flychology and labor to make them happy by removing their neuroses. After all, we want the greatest good of the greatest number, don't we? And there are more flies than men."

"Oh, well," said Polen.

Casey said, "Say, Polen, did you ever follow up that weird idea of yours? I mean, we all know you're a shining cybernetic light, but I haven't been reading your papers. With so many ways of wasting time, something has to be neglected, you know."

"What idea?" asked Polen, woodenly.

"Come on. You know. Emotions of animals and all that sort of guff. Boy, those were the days. I used to know madmen. Now I only come across idiots."

Winthrop said, "That's right, Polen. I remember it very well. Your first year in graduate school you were working on dogs and rabbits. I believe you even tried some of Casey's flies."

Polen said, "It came to nothing in itself. It gave rise to certain new principles of computing, however, so it wasn't a total loss."

Why did they talk about it?

Emotions! What right had anyone to meddle with emotions? Words were invented to conceal emotions. It was the dreadfulness of raw emotion that had made language a basic necessity.

Polen knew. His machines had by-passed the screen of verbalization and dragged the unconscious into the sunlight. The boy and the girl, the son and the mother. For that matter, the cat and the mouse or the snake and the bird. The data rattled together in its universality and it had all poured into and through Polen until he could no longer bear the touch of life.

In the last few years he had so painstakingly schooled his thoughts in other directions. Now these two came, dabbling in his mind, stirring up its mud.

Casey batted abstractedly across the tip of his nose to dislodge a fly. "Too bad," he said. "I used to think you could get some fascinating things out of, say, rats. Well, maybe not fascinating, but then not as boring as the stuff you would get out of our somewhat-human beings. I used to think-"

Polen remembered what he used to think.

Casey said, "Damn this DOT. The flies feed on it, I think. You know, I'm going to do graduate work in chemistry and then get a job on insecticides. So help me. I'll personally get something that will kill the vermin."

They were in Casey's room, and it had a somewhat kerosene odor from the recently applied insecticide.

Polen shrugged and said, "A folded newspaper will always kill."

Casey detected a non-existent sneer and said instantly, "How would you summarize your first year's work, Polen? I mean aside from the true summary any scientist could state if he dared, by which I mean: 'Nothing.' "

"Nothing," said Polen. "There's your summary."

"Go on," said Casey. "You use more dogs than the physiologists do and I bet the dogs mind the physiological experiments less. I would."

"Oh, leave him alone," said Winthrop. "You sound like a piano with 87 keys eternally out of order. You're a bore!"

You couldn't say that to Casey.

He said, with sudden liveliness, looking carefully away from Winthrop, "I'll tell you what you'll probably find in animals, if you look closely enough. Religion."

"What the dickens!" said Winthrop, outraged. "That's a foolish remark."

Casey smiled. "Now, now, Winthrop. Dickens is just a euphemism for devil and you don't want to be swearing."

"Don't teach me morals. And don't be blasphemous."

"What's blasphemous about it? Why shouldn't a flea consider the dog as something to be worshipped? It's the source of warmth, food, and all that's good for a flea."

"I don't want to discuss it."

"Why not? Do you good. You could even say that to an ant, an anteater is a higher order of creation. He would be too big for them to comprehend, too mighty to dream of resisting. He would move among them like an unseen, inexplicable whirlwind, visiting them with destruction and death. But that wouldn't spoil things for the ants. They would reason that destruction was simply their just punishment for evil. And the anteater wouldn't even know he was a deity. Or care."

Winthrop had gone white. He said, "I know you're saying this only to annoy me and I am sorry to see you risking your soul for a moment's amusement. Let me tell you this," his voice trembled a little, "and let me say it very seriously. The flies that torment you are your punishment in this life. Beelzebub, like all the forces of evil, may think he does evil, but it's only the ultimate good after all. The curse of Beelzebub is on you for

your good. Perhaps it will succeed in getting you to change your way of life before it's too late."

He ran from the room.

Casey watched him go. He said, laughing, "I told you Winthrop believed in Beelzebub. It's funny the respectable names you can give to superstition." His laughter died a little short of its natural end.

There were two flies in the room, buzzing through the vapors toward him.

Polen rose and left in heavy depression. One year had taught him little, but it was already too much, and his laughter was thinning. Only his machines could analyze the emotions of animals properly, but he was already guessing too deeply concerning the emotions of men.

He did not like to witness wild murder-yearnings where others could see only a few words of unimportant quarrel.

Casey said, suddenly, "Say, come to think of it, you did try some of my flies, the way Winthrop says. How about that?"

"Did I? After twenty years, I scarcely remember," murmured Polen.

Winthrop said, "You must. We were in your laboratory and you complained that Casey's flies followed him even there. He suggested you analyze them and you did. You recorded their motions and buzzings and wing-wiping for half an hour or more. You played with a dozen different flies."

Polen shrugged.

"Oh, well," said Casey. "It doesn't matter. It was good seeing you, old man." The hearty hand-shake, the thump on the shoulder, the broad grin- to Polen it all translated into sick disgust on Casey's part that Polen was a "success" after all.

Polen said, "Let me hear from you sometimes."

The words were dull thumps. They meant nothing. Casey knew that. Polen knew that. Everyone knew that. But words were meant to hide emotion and when they failed, humanity loyally maintained the pretense.

Winthrop's grasp of the hand was gentler. He said, "This brought back old times, Polen. If you're ever in Cincinnati, why don't you stop in at the meeting-house? You'll always be welcome."

To Polen, it all breathed of the man's relief at Polen's obvious depression. Science, too, it seemed, was not the answer, and Winthrop's basic and ineradicable insecurity felt pleased at the company.

"I will," said Polen. It was the usual polite way of saying, I won't.

He watched them thread separately to other groups.

Winthrop would never know. Polen was sure of that. He wondered if Casey knew. It would be the supreme joke if Casey did not.

He had run Casey's flies, of course, not that once alone, but many times. Always the same answer! Always the same unpublishable answer.

With a cold shiver he could not quite control, Polen was suddenly conscious of a single fly loose in the room, veering aimlessly for a moment, then beating strongly and reverently in the direction Casey had taken a moment before.

Could Casey not know? Could it be the essence of the primal punishment that he never learn he was Beelzebub?

Casey! Lord of the Flies!

"NOBODY HERE BUT-"

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You see, it wasn't our fault. We had no idea anything was wrong until I called Cliff Anderson and spoke to him when he wasn't there. What's more, I wouldn't have known he wasn't there, if it wasn't that he walked in while I was talking to him.

No, no, no, no-

I never seem to be able to tell this straight. I get too excited. -Look, I might as well begin at the beginning. I'm Bill Billings; my friend is Cliff Anderson. I'm an electrical engineer, he's a mathematician, and we're on the faculty of Midwestern Institute of Technology. Now you know who we are.

Ever since we got out of uniform, Cliff and I have been working on calculating machines. You know what they are. Norbert Wiener popularized them in his book, *Cybernetics*. If you've seen pictures of them, you know that they're great big things. They take up a whole wall and they're very complicated; also expensive.

But Cliff and I had ideas. You see, what makes a thinking machine so big and expensive is that it has to be full of relays and vacuum tubes just so that microscopic electric currents can be controlled and made to flicker on and off, here and there. Now the really important things are those little electric currents, so-

I once said to Cliff, "Why can't we control the currents without all the salad dressing?"

Cliff said, "Why not, indeed," and started working on the mathematics.

How we got where we did in two years is no matter. It's what we got after we finished that made the trouble. It turned out that we ended with something about this high and maybe so wide and just about this deep-

No, no. I forget that you can't see me. I'll give you the figures. It was about three feet high, six feet long, and two feet deep. Got that? It took two men to carry it but it could be carried and that was the point. And still, mind you, it could do anything the wall-size calculators could. Not as fast, maybe, but we were still working.

We had big ideas about that thing, the very biggest. We could put it on ships or airplanes. After a while, if we could make it small enough, an automobile could carry one.

We were especially interested in the automobile angle. Suppose you had a little thinking machine on the dashboard, hooked to the engine and battery and equipped with photoelectric eyes. It could choose an ideal course, avoid cars, stop at red lights, pick the optimum speed for the terrain. Everybody could sit in the back seat and automobile accidents would vanish.

All of it was fun. There was so much excitement to it, so many thrills every time we worked out another consolidation, that I could still cry when I think of the time I picked up the telephone to call our lab and tumbled everything into the discard.

I was at Mary Ann's house that evening- Or have I told you about Mary Ann yet? No. I guess I haven't.

Mary Ann was the girl who would have been my fiancée but for two ifs. One, if she were willing, and two, if I had the nerve to ask her. She has red hair and crams something like two tons of energy into about 110 pounds of body which fills out very nicely from the ground to five and a half feet up. I was dying to ask her, you understand, but each time I'd see her coming into sight, setting a match to my heart with every movement, I'd just break down.

It's not that I'm not good-looking. People tell me I'm adequate. I've got all my hair; I'm nearly six feet tall; I can even dance. It's just that I've nothing to offer. I don't have to tell you what college teachers make. With inflation and taxes, it amounts to just about nothing. Of course, if we got the basic patents rolled up on our little thinking machine, things would be different. But I couldn't ask her to wait for that, either. Maybe, after it was all set-Anyway, I just stood there, wishing, that evening, as she came into the living room. My arm was groping blindly for the phone.

Mary Ann said, "I'm all ready, Bill. Let's go."

I said, "Just a minute. I want to ring up Cliff."

She frowned a little, "Can't it wait?"

"I was supposed to call him two hours ago," I explained.

It only took two minutes. I rang the lab. Cliff was putting in an evening of work and so he answered. I asked something, then he said something, I asked some more and he explained. The details don't matter, but as I said, he's the mathematician of the combination. When I build the circuits and put things together in what look like impossible ways, he's the guy who shuffles the symbols and tells me whether they're really impossible. Then, just as I finished and hung up, there was a ring at the door.

For a minute, I thought Mary Ann had another caller and got sort of stiff-backed as I watched her go to the door. I was scribbling down some of what Cliff had just told me while I watched. But then she opened the door and it was only Cliff Anderson after all.

He said, "I thought I'd find you here- Hello, Mary Ann. Say, weren't you going to ring me at six? You're as reliable as a cardboard chair." Cliff is short and plump and always willing to start a fight, but I know him and pay no attention.

I said, "Things turned up and it slipped my mind. But I just called, so what's the difference?"

"Called? Me? When?"

I started to point to the telephone and gagged. Right then, the bottom fell out of things. Exactly five seconds before the doorbell had sounded I had been on the phone talking to Cliff in the lab, and the lab was six miles away from Mary Ann's house.

I said, "I-just spoke to you."

I wasn't getting across. Cliff just said, "To me?" again.

I was pointing to the phone with both hands now, "On the phone. I called the lab. On this phone here! Mary Ann heard me. Mary Ann, wasn't I just talking to-"

Mary Ann said, "I don't know whom you were talking to. -Well, shall we go?" That's Mary Ann. She's a stickler for honesty.

I sat down. I tried to be very quiet and clear. I said, "Cliff, I dialed the lab's phone number, you answered the phone, I asked you if you had the details worked out, you said, yes, and gave them to me. Here they are. I wrote them down. Is this correct or not?"

I handed him the paper on which I had written the equations.

Cliff looked at them. He said, "They're correct. But where could you have gotten them? You didn't work them out yourself, did you?"

"I just told you. You gave them to me over the phone."

Cliff shook his head, "Bill, I haven't been in the lab since seven fifteen. There's nobody there."

"I spoke to somebody, I tell you."

Mary Ann was fiddling with her gloves. "We're getting late," she said.

I waved my hands at her to wait a bit, and said to Cliff, "Look, are you sure-"

"There's nobody there, unless you want to count Junior." Junior was what we called our pint-sized mechanical brain.

We stood there, looking at one another. Mary Ann's toe was still hitting the floor like a time bomb waiting to explode.

Then Cliff laughed. He said, "I'm thinking of a cartoon I saw, somewhere. It shows a robot answering the phone and saying, 'Honest, boss, there's nobody here but us complicated thinking machines.' "

I didn't think that was funny. I said, "Let's go to the lab."

Mary Ann said, "Hey! We won't make the show."

I said, "Look, Mary Ann, this is very important. It's just going to take a minute. Come along with us and we'll go straight to the show from there."

She said, "The show starts-" And then she stopped talking, because I grabbed her wrist and we left.

That just shows how excited I was. Ordinarily, I wouldn't ever have dreamed of shoving her around. I mean, Mary Ann is quite the lady. It's just that I had so many things on my mind. I don't even really remember grabbing her wrist, come to think of it. It's just that the next thing I knew, I was in the auto and so was Cliff and so was she, and she was rubbing her wrist and muttering under her breath about big gorillas.

I said, "Did I hurt you, Mary Ann?"

She said, "No, of course not. I have my arm yanked out of its socket every day, just for fun." Then she kicked me in the shin.

She only does things like that because she has red hair. Actually, she has a very gentle nature, but she tries very hard to live up to the redhead mythology. I see right through that, of course, but I humor her, poor kid.

We were at the laboratory in twenty minutes.

The Institute is empty at night. It's emptier than a building would ordinarily be. You see, it's designed to have crowds of students rushing through the corridors and when they aren't there, it's unnaturally lonely. Or maybe it was just that I was afraid to see what might be sitting in our laboratory upstairs. Either way, footsteps were uncomfortably loud and the self-service elevator was downright dingy.

I said to Mary Ann, "This won't take long." But she just sniffed and looked beautiful.

She can't help looking beautiful.

Cliff had the key to the laboratory and I looked over his shoulder when he opened the door. There was nothing to see. Junior was there, sure, but he looked just as he had when I saw him last. The dials in front registered nothing and except for that, there was just a large box, with a cable running back into the wall socket.

Cliff and I walked up on either side of Junior. I think we were planning to grab it if it made a sudden move. But then we stopped because Junior just wasn't doing anything. Mary Ann was looking at it, too. In fact, she ran her middle finger along its top and then looked at the finger tip and twiddled it against her thumb to get rid of the dust.

% I said, "Mary Ann, don't you go near it. Stay at the other end of the room." if. She said, "It's just as dirty there."

She'd never been in our lab before, and of course she didn't realize that a laboratory wasn't the same thing as a baby's bedroom, if you know what I mean. The janitor comes in twice a day and all he does is empty the waste-baskets. About once a week, he comes in with a dirty mop, makes mud on the floor, and shoves it around a little.

Cliff said, "The telephone isn't where I left it." !! I said, "How do you know?"

"Because I left it there." He pointed. "And now it's here."

If he were right, the telephone had moved closer to Junior. I swallowed and said, "Maybe you don't remember right." I tried to laugh without sounding very natural and said, "Where's the screw driver?"

"What are you going to do?"

"Just take a look inside. For laughs."

Mary Ann said, "You'll get yourself all dirty." So I put on my lab coat. She's a very thoughtful girl, Mary Ann.

I got to work with a screw driver. Of course, once Junior was really perfected, we were going to have models manufactured in welded, one-piece cases. We were even thinking of molded plastic in colors, for home use. In the lab model, though, we held it together with screws so that we could take it apart and put it together as often as we wanted to.

Only the screws weren't coming out. I grunted and yanked and said, "Some joker was putting his weight on these when he screwed these things in."

Cliff said, "You're the only one who ever touches the thing."

He was right, too, but that didn't make it any easier. I stood up and passed the back of my hand over my forehead. I held out the screw driver to him, "Want to try?"

He did, and didn't get any further than I did. He said, "That's funny."

I said, "What's funny?"

He said, "I had a screw turning just now. It moved about an eighth of an inch and then the screw driver slipped."

"What's funny about that?"

Cliff backed away and put down the screw driver with two fingers. "What's funny is that I saw the screw move back an eighth of an inch and tighten up again."

Mary Ann was fidgeting again. She said, "Why don't your scientific minds think of a blowtorch, if you're so anxious." There was a blowtorch on one of the benches and she was pointing to it.

Well, ordinarily, I wouldn't think any more of using a blowtorch on Junior than on myself. But I was thinking something and Cliff was thinking something and we were both thinking the same thing. Junior didn't want to be opened up.

Cliff said, "What do you think, Bill?"

And I said, "I don't know, Cliff."

Mary Ann said, "Well, hurry up, junkhead, we'll miss the show."

So I picked up the blowtorch and adjusted the gauge on the oxygen cylinder. It was going to be like stabbing a friend.

But Mary Ann stopped the proceedings by saying, "Well, how stupid can men be? These screws are loose. You must have been turning the screw driver the wrong way."

Now there isn't much chance of turning a screw driver the wrong way. Just the same, I don't like to contradict Mary Ann, so I just said, "Mary Ann, don't stay too close to Junior. Why don't you wait by the door."

But she just said, "Well, look!" And there was a screw in her hand and an empty hole in the front of Junior's case. She had removed it by hand.

Cliff said, "Holy Smoke!"

They were turning, all dozen screws. They were doing it by themselves, like little worms crawling out of their holes, turning round and round, then dropping out. I scrabbled them up and only one was left. It hung on for a while, the front panel sagging from it, till I reached out. Then the last screw dropped and the panel fell gently into my arms. I put it to one side.

Cliff said, "It did that on purpose. It heard us mention the blowtorch and gave up." His face is usually pink, but it was white then.

I was feeling a little queer myself. I said, "What's it trying to hide?"

"I don't know."

We bent before its open insides and for a while we just looked. I could hear Mary Ann's toe begin to tap the floor again. I looked at my wrist watch and I had to admit to myself we didn't have much time. In fact, we didn't have any time left.

And then I said, "It's got a diaphragm."

Cliff said, "Where?" and bent closer.

I pointed. "And a loud speaker."

"You didn't put them in?"

"Of course I didn't put them in. I ought to know what I put in. If I put it in, I'd remember."

"Then how did it get in?"

We were squatting and arguing. I said, "It made them itself, I suppose. Maybe it grows them. Look at that."

I pointed again. Inside the box at two different places, were coils of something that looked like thin garden hose, except that they were of metal. They spiraled tightly so that they lay flat. At the end of each coil, the metal divided into five or six thin filaments that were in little sub-spirals.

"You didn't put those in either?"

"No, I didn't put those in either."

"What are they?"

He knew what they were and I knew what they were. Something had to reach out to get materials for Junior to make parts for itself; something had to snake out for the telephone. I picked up the front panel and looked at it again. There were two circular bits of metal cut out and hinged so that they could swing forward and leave a hole for something to come through.

I poked a finger through one and held it up for Cliff to see, and said, "I didn't put this in either."

Mary Ann was looking over my shoulder now, and without warning she reached out. I was wiping my fingers with a paper towel to get off the dust and grease and didn't have time to stop her. I should have known Mary Ann, though; she's always so anxious to help.

Anyway, she reached in to touch one of the-well, we might as well say it -tentacles. I don't know if she actually touched them or not. Later on she claimed she hadn't. But anyway, what happened then was that she let out a little yell and suddenly sat down and began rubbing her arm.

"The same one," she whimpered. "First you, and then that."

I helped her up. "It must have been a loose connection, Mary Ann. I'm sorry, but I told you-"

Cliff said, "Nuts! That was no loose connection. Junior's just protecting itself."

I had thought the same thing, myself. I had thought lots of things. Junior was a new kind of machine. Even the mathematics that controlled it were different from anything anybody had worked with before. Maybe it had something no machine previously had ever had. Maybe it felt a desire to stay alive and grow. Maybe it would have a desire to make more machines until there were millions of them all over the earth, fighting with human beings for control.

I opened my mouth and Cliff must have known what I was going to say, because he yelled, "No. No, don't say it!"

But I couldn't stop myself. It just came out and I said, "Well, look, let's disconnect Junior-What's the matter?"

Cliff said bitterly, "Because he's listening to what we say, you jackass. He heard about the blowtorch, didn't he? I was going to sneak up behind it, but now it will probably electrocute me if I try."

Mary Ann was still brushing at the back of her dress and saying how dirty the floor was, even though I kept telling her I had nothing to do with that. I mean, it's the janitor that makes the mud.

Anyway, she said, "Why don't you put on rubber gloves and yank the cord out?"

I could see Cliff was trying to think of reasons why that wouldn't work. He didn't think of any, so he put on the rubber gloves and walked towards Junior.

I yelled, "Watch out!"

It was a stupid thing to say. He had to watch out; he had no choice. One of the tentacles moved and there was no doubt what they were now. It whirled out and drew a line between Cliff and the power cable. It remained there, vibrating a little with its six finger-tendrils splayed out. Tubes inside Junior were beginning to glow. Cliff didn't try to go past that tentacle. He backed away and after a while, it spiraled inward again. He took off his rubber gloves.

"Bill," he said, "we're not going to get anywhere. That's a smarter gadget than we dreamed we could make. It was smart enough to use my voice as a model when it built its diaphragm. It may become smart enough to learn how to-" He looked over his shoulder, and whispered, "how to generate its own power and become self-contained."

"Bill, we've got to stop it, or someday someone will telephone the planet Earth and get the answer, 'Honest, boss, there's nobody here anywhere but us complicated thinking machines!'"

"Let's get in the police," I said. "We'll explain. A grenade, or something-"

Cliff shook his head, "We can't have anyone else find out. They'll build other Juniors and it looks like we don't have enough answers for that kind of a project after all."

"Then what do we do?"

"I don't know."

I felt a sharp blow on my chest. I looked down and it was Mary Ann, getting ready to spit fire. She said, "Look, junkhead, if we've got a date, we've got one, and if we haven't, we haven't. Make up your mind."

I said, "Now, Mary Ann-"

She said, "Answer me. I never heard such a ridiculous thing. Here I get dressed to go to a play, and you take me to a dirty laboratory with a foolish machine and spend the rest of the evening twiddling dials."

"Mary Ann, I'm not-"

She wasn't listening; she was talking. I wish I could remember what she said after that. Or maybe I don't; maybe it's just as well I can't remember, since none of it was very complimentary. Every once in a while I would manage a "But, Mary Ann-" and each time it would get sucked under and swallowed up.

Actually, as I said, she's a very gentle creature and it's only when she gets excited that she's ever talkative or unreasonable. Of course, with red hair, she feels she ought to

get excited rather often. That's my theory, anyway. She just feels she has to live up to her red hair.

Anyway, the next thing I do remember clearly is Mary Ann finishing with a stamp on my right foot and then turning to leave. I ran after her, trying once again, "But, Mary Ann-

Then Cliff yelled at us. Generally, he doesn't pay any attention to us, but this time he was shouting, "Why don't you ask her to marry you, you junkhead?"

Mary Ann stopped. She was in the doorway by then but she didn't turn around. I stopped too, and felt the words get thick and clogged up in my throat. I couldn't even manage a "But, Mary Ann-

Cliff was yelling in the background. I heard him as though he were a mile away. He was shouting, "I got it! I got it!" over and over again.

Then Mary Ann turned and she looked so beautiful- Did I tell you that she's got green eyes with a touch of blue in them? Anyway she looked so beautiful that all the words in my throat jammed together very tightly and came out in that funny sound you make when you swallow.

She said, "Were you going to say something, Bill?"

Well, Cliff had put it in my head. My voice was hoarse and I said, "Will you marry me, Mary Ann?"

The minute I said it, I wished I hadn't, because I thought she would never speak to me again. Then two minutes after that I was glad I had, because she threw her arms around me and reached up to kiss me. It was a while before I was quite clear what was happening, and then I began to kiss back. This went on for quite a long time, until Cliff's banging on my shoulder managed to attract my attention.

I turned and said, snappishly, "What the devil do you want?" It was a little ungrateful. After all, he had started this.

He said, "Look!"

In his hand, he held the main lead that had connected Junior to the power supply.

I had forgotten about Junior, but now it came back. I said, "He's disconnected, then."

"Cold!"

"How did you do it?"

He said, "Junior was so busy watching you and Mary Ann fight that I managed to sneak up on it. Mary Ann put on one good show."

I didn't like that remark because Mary Ann is a very dignified and self-contained sort of girl and doesn't put on "shows." However, I had too much in hand to take issue with him.

I said to Mary Ann, "I don't have much to offer, Mary Ann; just a school teacher's salary. Now that we've dismantled Junior, there isn't even any chance of-

Mary Ann said, "I don't care, Bill. I just gave up on you, you junkheaded darling. I've tried practically everything-

"You've been kicking my shins and stamping on my toes."

"I'd run out of everything else. I was desperate."

The logic wasn't quite clear, but I didn't answer because I remembered about the show. I looked at my watch and said, "Look, Mary Ann, if we hurry we can still make the second act."

She said, "Who wants to see the show?"

So I kissed her some more; and we never did get to see the show at all.

There's only one thing that bothers me now. Mary Ann and I are married, and we're perfectly happy. I just had a promotion; I'm an associate professor now. Cliff keeps working away at plans for building a controllable Junior and he's making progress.

None of that's it.

You see, I talked to Cliff the next evening, to tell him Mary Ann and I were going to marry and to thank him for giving me the idea. And after staring at me for a minute, he swore he hadn't said it; he hadn't shouted for me to propose marriage.

Of course, there was something else in the room with Cliff's voice.

I keep worrying Mary Ann will find out. She's the gentlest girl I know, but she has got red hair. She can't help trying to live up to that, or have I said that already?

Anyway, what will she say if she ever finds out that I didn't have the sense to propose till a machine told me to?

IT'S SUCH A BEAUTIFUL DAY

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On April 12, 2117, the field-modulator brake-valve in the Door belonging to Mrs. Richard Hanshaw depolarized for reasons unknown. As a result, Mrs. Hanshaw's day was completely upset and her son, Richard, Jr., first developed his strange neurosis.

It was not the type of thing you would find listed as a neurosis in the usual textbooks and certainly young Richard behaved, in most respects, just as a well-brought-up twelve-year-old in prosperous circumstances ought to behave.

And yet from April 12 on, Richard Hanshaw, Jr., could only with regret ever persuade himself to go through a Door.

Of all this, on April 12, Mrs. Hanshaw had no premonition. She woke in the morning (an ordinary morning) as her mekkano slithered gently into her room, with a cup of coffee on a small tray.

Mrs. Hanshaw was planning a visit to New York in the afternoon and she had several things to do first that could not quite be trusted to a mekkano, so after one or two sips, she stepped out of bed.

The mekkano backed away, moving silently along the diamagnetic field that kept its oblong body half an inch above the floor, and moved back to the kitchen, where its simple computer was quite adequate to set the proper controls on the various kitchen appliances in order that an appropriate breakfast might be prepared.

Mrs. Hanshaw, having bestowed the usual sentimental glance upon the cubograph of her dead husband, passed through the stages of her morning ritual with a certain contentment. She could hear her son across the hall clattering through his, but she knew she need not interfere with him. The mekkano was well adjusted to see to it, as a matter of course, that he was showered, that he had on a change of clothing, and that he would eat a nourishing breakfast. The tergo-shower she had had installed the year before made the morning wash and dry so quick and pleasant that, really, she felt certain Dickie would wash even without supervision.

On a morning like this, when she was busy, it would certainly not be necessary for her to do more than deposit a casual peck on the boy's cheek before he left. She heard the soft chime the mekkano sounded to indicate approaching school time and she floated down the force-lift to the lower floor (her hair-style for the day only sketchily designed, as yet) in order to perform that motherly duty.

She found Richard standing at the door, with his text-reels and pocket projector dangling by their strap and a frown on his face.

"Say, Mom," he said, looking up, "I dialed the school's coords but nothing happens."

She said, almost automatically, "Nonsense, Dickie. I never heard of such a thing."
"Well, you try."

Mrs. Hanshaw tried a number of times. Strange, the school Door was always set for general reception. She tried other coordinates. Her friends' Doors might not be set for reception, but there would be a signal at least, and then she could explain.

But nothing happened at all. The Door remained an inactive gray barrier despite all her manipulations. It was obvious that the Door was out of order -and only five months after its annual fall inspection by the company.

She was quite angry about it.

It would happen on a day when she had so much planned. She thought petulantly of the fact that a month earlier she had decided against installing a subsidiary Door on the ground that it was an unnecessary expense. How was she to know that Doors were getting to be so shoddy?

She stepped to the visiphone while the anger still burned in her and said to Richard, "You just go down the road, Dickie, and use the Williamsons' Door."

Ironically, in view of later developments, Richard balked. "Aw, gee, Mom, I'll get dirty. Can't I stay home till the Door is fixed?"

And, as ironically, Mrs. Hanshaw insisted. With her finger on the combination board of the phone, she said, "You won't get dirty if you put flexies on your shoes, and don't forget to brush yourself well before you go into their house."

"But, golly-"

"No back-talk, Dickie. You've got to be in school. Just let me see you walk out of here. And quickly, or you'll be late."

The mekkano, an advanced model and very responsive, was already standing before Richard with flexies in one appendage.

Richard pulled the transparent plastic shields over his shoes and moved down the hall with visible reluctance. "I don't even know how to work this thing, Mom."

"You just push that button," Mrs. Hanshaw called. "The red button. Where it says 'For Emergency Use.' And don't dawdle. Do you want the mekkano to go along with you?"

"Gosh, no," he called back, morosely, "what do you think I am? A baby? Gosh!" His muttering was cut off by a slam.

With flying fingers, Mrs. Hanshaw punched the appropriate combination on the phone board and thought of the things she intended saying to the company about this.

Joe Bloom, a reasonable young man, who had gone through technology school with added training in force-field mechanics, was at the Hanshaw residence in less than half an hour. He was really quite competent, though Mrs. Hanshaw regarded his youth with deep suspicion.

She opened the movable house-panel when he first signaled and her sight of him was as he stood there, brushing at himself vigorously to remove the dust of the open air. He took off his flexies and dropped them where he stood. Mrs. Hanshaw closed the house-panel against the flash of raw sunlight that had entered. She found herself

irrationally hoping that the step-by-step trip from the public Door had been an unpleasant one. Or perhaps that the public Door itself had been out of order and the youth had had to lug his tools even farther than the necessary two hundred yards. She wanted the Company, or its representative at least, to suffer a bit. It would teach them what broken Doors meant.

But he seemed cheerful and unperturbed as he said, "Good morning, ma'am. I came to see about your Door."

"I'm glad someone did," said Mrs. Hanshaw, ungraciously. "My day is quite ruined."

"Sorry, ma'am. What seems to be the trouble?"

"It just won't work. Nothing at all happens when you adjust coords," said Mrs. Hanshaw. "There was no warning at all. I had to send my son out to the neighbors through that-that thing."

She pointed to the entrance through which the repair man had come.

He smiled and spoke out of the conscious wisdom of his own specialized training in Doors. "That's a door, too, ma'am. You don't give that kind a capital letter when you write it. It's a hand-door, sort of. It used to be the only kind once."

"Well, at least it works. My boy's had to go out in the dirt and germs."

"It's not bad outside today, ma'am," he said, with the connoisseur-like air of one whose profession forced him into the open nearly every day. "Sometimes it is real unpleasant. But I guess you want I should fix this here Door, ma'am, so I'll get on with it."

He sat down on the floor, opened the large tool case he had brought in with him and in half a minute, by use of a point-demagnetizer, he had the control panel removed and a set of intricate vitals exposed.

He whistled to himself as he placed the fine electrodes of the field-analyzer on numerous points, studying the shifting needles on the dials. Mrs. Hanshaw watched him, arms folded.

Finally, he said, "Well, here's something," and with a deft twist, he disengaged the brake-valve.

He tapped it with a fingernail and said, "This here brake-valve is depolarized, ma'am. There's your whole trouble." He ran his finger along the little pigeonholes in his tool case and lifted out a duplicate of the object he had taken from the door mechanism. "These things just go all of a sudden. Can't predict it."

He put the control panel back and stood up. "It'll work now, ma'am."

He punched a reference combination, blanked it, then punched another. Each time, the dull gray of the Door gave way to a deep, velvety blackness. He said, "Will you sign here, ma'am? and put down your charge number, too, please? Thank you, ma'am."

He punched a new combination, that of his home factory, and with a polite touch of finger to forehead, he stepped through the Door. As his body entered the blackness, it cut off sharply. Less and less of him was visible and the tip of his tool case was the last thing that showed. A second after he had passed through completely, the Door turned back to dull gray.

Half an hour later, when Mrs. Hanshaw had finally completed her interrupted preparations and was fuming over the misfortune of the morning, the phone buzzed annoyingly and her real troubles began.

Miss Elizabeth Robbins was distressed. Little Dick Hanshaw had always been a good pupil. She hated to report him like this. And yet, she told herself, his actions were certainly queer. And she would talk to his mother, not to the principal.

She slipped out to the phone during the morning study period, leaving a student in charge. She made her connection and found herself staring at Mrs. Hanshaw's handsome and somewhat formidable head.

Miss Robbins quailed, but it was too late to turn back. She said, diffidently, "Mrs. Hanshaw, I'm Miss Robbins." She ended on a rising note.

Mrs. Hanshaw looked blank, then said, "Richard's teacher?" That, too, ended on a rising note.

"That's right. I called you, Mrs. Hanshaw," Miss Robbins plunged right into it, "to tell you that Dick was quite late to school this morning."

"He was? But that couldn't be. I saw him leave."

Miss Robbins looked astonished. She said, "You mean you saw him use the Door?"

Mrs. Hanshaw said quickly, "Well, no. Our Door was temporarily out of order. I sent him to a neighbor and he used that Door."

"Are you sure?"

"Of course I'm sure. I wouldn't lie to you."

"No, no, Mrs. Hanshaw. I wasn't implying that at all. I meant are you sure he found the way to the neighbor? He might have got lost."

"Ridiculous. We have the proper maps, and I'm sure Richard knows the location of every house in District A-3." Then, with the quiet pride of one who knows what is her due, she added, "Not that he ever needs to know, of course. The coords are all that are necessary at any time."

Miss Robbins, who came from a family that had always had to economize rigidly on the use of its Doors (the price of power being what it was) and who had therefore run errands on foot until quite an advanced age, resented the pride. She said, quite clearly, "Well, I'm afraid, Mrs. Hanshaw, that Dick did not use the neighbor's Door. He was over an hour late to school and the condition of his flexies made it quite obvious that he tramped crosscountry. They were muddy."

"Muddy?" Mrs. Hanshaw repeated the emphasis on the word. "What did he say? What was his excuse?"

Miss Robbins couldn't help but feel a little glad at the discomfiture of the other woman. She said, "He wouldn't talk about it. Frankly, Mrs. Hanshaw, he seems ill. That's why I called you. Perhaps you might want to have a doctor look at him."

"Is he running a temperature?" The mother's voice went shrill.

"Oh, no. I don't mean physically ill. It's just his attitude and the look in his eyes." She hesitated, then said with every attempt at delicacy, "I thought perhaps a routine checkup with a psychic probe-"

She didn't finish. Mrs. Hanshaw, in a chilled voice and with what was as close to a snort as her breeding would permit, said, "Are you implying that Richard is neurotic?"

"Oh, no, Mrs. Hanshaw, but-"

"It certainly sounded so. The idea! He has always been perfectly healthy. I'll take this up with him when he gets home. I'm sure there's a perfectly normal explanation which he'll give to me."

The connection broke abruptly, and Miss Robbins felt hurt and uncommonly foolish. After all she had only tried to help, to fulfill what she considered an obligation to her students.

She hurried back to the classroom with a glance at the metal face of the wall clock. The study period was drawing to an end. English Composition next.

But her mind wasn't completely on English Composition. Automatically, she called the students to have them read selections from their literary creations. And occasionally she punched one of those selections on tape and ran it through the small vocalizer to show the students how English should be read.

The vocalizer's mechanical voice, as always, dripped perfection, but, again as always, lacked character. Sometimes, she wondered if it was wise to try to train the students into a speech that was divorced from individuality and geared only to a mass-average accent and intonation.

Today, however, she had no thought for that. It was Richard Hanshaw she watched. He sat quietly in his seat, quite obviously indifferent to his surroundings. He was lost deep in himself and just not the same boy he had been. It was obvious to her that he had had some unusual experience that morning and, really, she was right to call his mother, although perhaps she ought not to have made the remark about the probe. Still it was quite the thing these days. All sorts of people get probed. There wasn't any disgrace attached to it. Or there shouldn't be, anyway.

She called on Richard, finally. She had to call twice, before he responded and rose to his feet.

The general subject assigned had been: "If you had your choice of traveling on some ancient vehicle, which would you choose, and why?" Miss Robbins tried to use the topic every semester. It was a good one because it carried a sense of history with it. It forced the youngster to think about the manner of living of people in past ages.

She listened while Richard Hanshaw read in a low voice.

"If I had my choice of ancient vehicles," he said, pronouncing the "h" in vehicles, "I would choose the stratoliner. It travels slow like all vehicles but it is clean. Because it travels in the stratosphere, it must be all enclosed so that you are not likely to catch disease. You can see the stars if it is night time almost as good as in a planetarium. If you look down you can see the Earth like a map or maybe see clouds-" He went on for several hundred more words.

She said brightly when he had finished reading, "It's pronounced vee-ick-ulls, Richard. No 'h.' Accent on the first syllable. And you don't say 'travels slow' or 'see good.' What do you say, class?"

There was a small chorus of responses and she went on, "That's right. Now what is the difference between an adjective and an adverb? Who can tell me?"

And so it went. Lunch passed. Some pupils stayed to eat; some went home. Richard stayed. Miss Robbins noted that, as usually he didn't.

The afternoon passed, too, and then there was the final bell and the usual upsurging hum as twenty-five boys and girls rattled their belongings together and took their leisurely place in line.

Miss Robbins clapped her hands together, "Quickly, children. Come, Zelda, take your place."

"I dropped my tape-punch, Miss Robbins," shrilled the girl, defensively.

"Well, pick it up, pick it up. Now children, be brisk, be brisk."

She pushed the button that slid a section of the wall into a recess and revealed the gray blankness of a large Door. It was not the usual Door that the occasional student used in going home for lunch, but an advanced model that was one of the prides of this well-to-do private school.

In addition to its double width, it possessed a large and impressively gear-filled "automatic serial finder" which was capable of adjusting the door for a number of different coordinates at automatic intervals.

At the beginning of the semester, Miss Robbins always had to spend an afternoon with the mechanic, adjusting the device for the coordinates of the homes of the new class. But then, thank goodness, it rarely needed attention for the remainder of the term.

The class lined up alphabetically, first girls, then boys. The Door went velvety black and Hester Adams waved her hand and stepped through. "By-y-y-"

The "bye" was cut off in the middle, as it almost always was.

The Door went gray, then black again, and Theresa Cantrocchi went through. Gray, black, Zelda Charlowicz. Gray, black, Patricia Coombs. Gray, black, Sara May Evans.

The line grew smaller as the Door swallowed them one by one, depositing each in her home. Of course, an occasional mother forgot to leave the house Door on special reception at the appropriate time and then the school Door remained gray. Automatically, after a minute-long wait, the Door went on to the next combination in line and the pupil in question had to wait till it was all over, after which a phone call to the forgetful parent would set things right. This was always bad for the pupils involved, especially the sensitive ones who took seriously the implication that they were little thought of at home. Miss Robbins always tried to impress this on visiting parents, but it happened at least once every semester just the same.

The girls were all through now. John Abramowitz stepped through and then Edwin Byrne-

Of course, another trouble, and a more frequent one was the boy or girl who got into line out of place. They would do it despite the teacher's sharpest watch, particularly at the beginning of the term when the proper order was less familiar to them.

When that happened, children would be popping into the wrong houses by the half-dozen and would have to be sent back. It always meant a mixup that took minutes to straighten out and parents were invariably irate.

Miss Robbins was suddenly aware that the line had stopped. She spoke sharply to the boy at the head of the line.

"Step through, Samuel. What are you waiting for?"

Samuel Jones raised a complacent countenance and said, "It's not my combination, Miss Robbins."

"Well, whose is it?" She looked impatiently down the line of five remaining boys. Who was out of place?

"It's Dick Hanshaw's, Miss Robbins."

"Where is he?"

Another boy answered, with the rather repulsive tone of self-righteousness all children automatically assume in reporting the deviations of their friends to elders in authority, "He went through the fire door, Miss Robbins."

"What?"

The schoolroom Door had passed on to another combination and Samuel Jones passed through. One by one, the rest followed.

Miss Robbins was alone in the classroom. She stepped to the fire door. It was a small affair, manually operated, and hidden behind a bend in the wall so that it would not break up the uniform structure of the room.

She opened it a crack. It was there as a means of escape from the building in case of fire, a device which was enforced by an anachronistic law that did not take into account the modern methods of automatic fire-fighting that all public buildings used. There was nothing outside, but the-outside The sunlight was harsh and a dusty wind was blowing.

Miss Robbins closed the door. She was glad she had called Mrs. Hanshaw. She had done her duty. More than ever, it was obvious that something was wrong with Richard. She suppressed the impulse to phone again.

Mrs. Hanshaw did not go to New York that day. She remained home in a mixture of anxiety and an irrational anger, the latter directed against the impudent Miss Robbins.

Some fifteen minutes before school's end, her anxiety drove her to the Door. Last year she had had it equipped with an automatic device which activated it to the school's coordinates at five of three and kept it so, barring manual adjustment, until Richard arrived.

Her eyes were fixed on the Door's dismal gray (why couldn't an inactive force-field be any other color, something more lively and cheerful?) and waited. Her hands felt cold as she squeezed them together.

The Door turned black at the precise second but nothing happened. The minutes passed and Richard was late. Then quite late. Then very late.

It was a quarter of four and she was distracted. Normally, she would have phoned the school, but she couldn't, she couldn't. Not after that teacher had deliberately cast doubts on Richard's mental well-being. How could she?

Mrs. Hanshaw moved about restlessly, lighting a cigarette with fumbling fingers, then smudging it out. Could it be something quite normal? Could Richard be staying after school for some reason? Surely he would have told her in advance. A gleam of light struck her; he knew she was planning to go to New York and might not be back till late in the evening-

No, he would surely have told her. Why fool herself?

Her pride was breaking. She would have to call the school, or even (she closed her eyes and teardrops squeezed through between the lashes) the police.

And when she opened her eyes, Richard stood before her, eyes on the ground and his whole bearing that of someone waiting for a blow to fall.

"Hello, Mom."

Mrs. Hanshaw's anxiety transmuted itself instantly (in a manner known only to mothers) into anger. "Where have you been, Richard?"

And then, before she could go further into the refrain concerning careless, unthinking sons and broken-hearted mothers, she took note of his appearance in greater detail, and gasped in utter horror.

She said, "You've been in the open."

Her son looked down at his dusty shoes (minus flexies), at the dirt marks that streaked his lower arms and at the small, but definite tear in his shirt. He said, "Gosh, Mom, I just thought I'd-" and he faded out.

She said, "Was there anything wrong with the school Door?"

"No, Mom."

"Do you realize I've been worried sick about you?" She waited vainly for an answer. "Well, I'll talk to you afterward, young man. First, you're taking a bath, and every stitch of your clothing is being thrown out. Mekkano!"

But the mekkano had already reacted properly to the phrase "taking a bath" and was off to the bathroom in its silent glide.

"You take your shoes off right here," said Mrs. Hanshaw, "then march after mekkano."

Richard did as he was told with a resignation that placed him beyond futile protest.

Mrs. Hanshaw picked up the soiled shoes between thumb and forefinger and dropped them down the disposal chute which hummed in faint dismay at the unexpected load. She dusted her hands carefully on a tissue which she allowed to float down the chute after the shoes.

She did not join Richard at dinner but let him eat in the worse-than-lack-of-company of the mekkano. This, she thought, would be an active sign of her displeasure and would do more than any amount of scolding or punishment to make him realize that he had done wrong. Richard, she frequently told herself, was a sensitive boy.

But she went up to see him at bedtime.

She smiled at him and spoke softly. She thought that would be the best way. After all, he had been punished already.

She said, "What happened today, Dickie-boy?" She had called him that when he was a baby and just the sound of the name softened her nearly to tears.

But he only looked away and his voice was stubborn and cold. "I just don't like to go through those dam Doors, Mom."

"But why ever not?"

He shuffled his hands over the filmy sheet (fresh, clean, antiseptic and, of course, disposable after each use) and said, "I just don't like them."

"But then how do you expect to go to school, Dickie?"

"I'll get up early," he mumbled.

"But there's nothing wrong with Doors."

"Don't like 'em." He never once looked up at her.

She said, despairingly, "Oh, well, you have a good sleep and tomorrow morning you'll feel much better."

She kissed him and left the room, automatically passing her hand through the photo-cell beam and in that manner dimming the room-lights.

But she had trouble sleeping herself that night. Why should Dickie dislike Doors so suddenly? They had never bothered him before. To be sure, the Door had broken down in the morning but that should make him appreciate them all the more.

Dickie was behaving so unreasonably.

Unreasonably? That reminded her of Miss Robbins and her diagnosis and Mrs. Hanshaw's soft jaw set in the darkness and privacy of her bedroom. Nonsense! The boy was upset and a night's sleep was all the therapy he needed.

But the next morning when she arose, her son was not in the house. The mekkano could not speak but it could answer questions with gestures of its appendages equivalent to a yes or no, and it did not take Mrs. Hanshaw more than half a minute to ascertain that the boy had arisen thirty minutes earlier than usual, skimped his shower, and darted out of the house.

But not by way of the Door.

Out the other way-through the door. Small "d."

Mrs. Hanshaw's visiphone signaled genteelly at 3:10 P.M. that day. Mrs. Hanshaw guessed the caller and having activated the receiver, saw that she had guessed correctly. A quick glance in the mirror to see that she was properly calm after a day of abstracted concern and worry and then she keyed in her own transmission.

"Yes, Miss Robbins," she said coldly.

Richard's teacher was a bit breathless. She said, "Mrs. Hanshaw, Richard has deliberately left through the fire door although I told him to use the regular Door. I do not know where he went." Mrs. Hanshaw said, carefully, "He left to come home." Miss Robbins looked dismayed. "Do you approve of this?" Pale-faced, Mrs. Hanshaw set about putting the teacher in her place. "I don't think it is up to you to criticize. If my son does not choose to use the Door, it is his affair and mine. I don't think there is any school ruling that would force him to use the Door, is there?" Her bearing quite plainly intimated that if there were she would see to it that it was changed.

Miss Robbins flushed and had time for one quick remark before contact was broken. She said, "I'd have him probed. I really would."

Mrs. Hanshaw remained standing before the quartzinium plate, staring blindly at its blank face. Her sense of family placed her for a few moments quite firmly on Richard's side. Why did he have to use the Door if he chose not to? And then she settled down to wait and pride battled the gnawing anxiety that something after all was wrong with Richard.

He came home with a look of defiance on his face, but his mother, with a strenuous effort at self-control, met him as though nothing were out of the ordinary.

For weeks, she followed that policy. It's nothing, she told herself. It's a vagary. He'll grow out of it.

It grew into an almost normal state of affairs. Then, too, every once in a while, perhaps three days in a row, she would come down to breakfast to find Richard waiting sullenly at the Door, then using it when school time came. She always refrained from commenting on the matter.

Always, when he did that, and especially when he followed it up by arriving home via the Door, her heart grew warm and she thought, "Well, it's over." But always with the passing of one day, two or three, he would return like an addict to his drug and drift silently out by the door-small "d"-before she woke.

And each time she thought despairingly of psychiatrists and probes, and each time the vision of Miss Robbins' low-bred satisfaction at (possibly) learning of it, stopped her, although she was scarcely aware that that was the true motive.

Meanwhile, she lived with it and made the best of it. The mekkano was instructed to wait at the door-small "d"-with a Tergo kit and a change of clothing. Richard washed and changed without resistance. His underthings, socks and flexies were disposable in any case, and Mrs. Hanshaw bore uncomplainingly the expense of daily disposal of shirts. Trousers she finally allowed to go a week before disposal on condition of rigorous nightly cleansing.

One day she suggested that Richard accompany her on a trip to New York. It was more a vague desire to keep him in sight than part of any purposeful plan. He did not object. He was even happy. He stepped right through the Door, unconcerned. He didn't hesitate. He even lacked the look of resentment he wore on those mornings he used the Door to go to school.

Mrs. Hanshaw rejoiced. This could be a way of weaning him back into Door usage, and she racked her ingenuity for excuses to make trips with Richard. She even raised her power bill to quite unheard-of heights by suggesting, and going through with, a trip to Canton for the day in order to witness a Chinese festival.

That was on a Sunday, and the next morning Richard marched directly to the hole in the wall he always used. Mrs. Hanshaw, having wakened particularly early, witnessed that. For once, badgered past endurance, she called after him plaintively, "Why not the Door, Dickie?"

He said, briefly, "It's all right for Canton," and stepped out of the house.

So that plan ended in failure. And then, one day, Richard came home soaking wet. The mekkano hovered above him uncertainly and Mrs. Hanshaw, just returned from a four-hour visit with her sister in Iowa, cried, "Richard Hanshaw!"

He said, hang-dog fashion, "It started raining. All of a sudden, it started raining."

For a moment, the word didn't register with her. Her own school days and her studies of geography were twenty years in the past. And then she remembered and caught the vision of water pouring recklessly and endlessly down from the sky-a mad cascade of water with no tap to turn off, no button to push, no contact to break.

She said, "And you stayed out in it?"

He said, "Well, gee, Mom, I came home fast as I could. I didn't know it was going to rain."

Mrs. Hanshaw had nothing to say. She was appalled and the sensation filled her too full for words to find a place.

Two days later, Richard found himself with a running nose, and a dry, scratchy throat. Mrs. Hanshaw had to admit that the victims of disease had found a lodging in her house, as though it were a miserable hovel of the Iron Age.

It was over that that her stubbornness and pride broke and she admitted to herself that, after all, Richard had to have psychiatric help.

Mrs. Hanshaw chose a psychiatrist with care. Her first impulse was to find one at a distance. For a while, she considered stepping directly into the San Francisco Medical Center and choosing one at random.

And then it occurred to her that by doing that she would become merely an anonymous consultant. She would have no way of obtaining any greater consideration for herself than would be forthcoming to any public-Door user of the city slums. Now if she remained in her own community, her word would carry weight-

She consulted the district map. It was one of that excellent series prepared by Doors, Inc., and distributed free of charge to their clients. Mrs. Hanshaw couldn't quite suppress that little thrill of civic pride as she unfolded the map. It wasn't a fine-print directory of Door coordinates only. It was an actual map, with each house carefully located.

And why not? District A-3 was a name of moment in the world, a badge of aristocracy. It was the first community on the planet to have been established on a completely Doored basis. The first, the largest, the wealthiest, the best-known. It needed no factories, no stores. It didn't even need roads.

Each house was a little secluded castle, the Door of which had entry anywhere the world over where other Doors existed.

Carefully, she followed down the keyed listing of the five thousand families of District A-3. She knew it included several psychiatrists. The learned professions were well represented in A-3.

Doctor Hamilton Sloane was the second name she arrived at and her finger lingered upon the map. His office was scarcely two miles from the Hanshaw residence. She liked his name. The fact that he lived in A-3 was evidence of worth. And he was a

neighbor, practically a neighbor. He would understand that it was a matter of urgency- and confidential.

Firmly, she put in a call to his office to make an appointment.

Doctor Hamilton Sloane was a comparatively young man, not quite forty. He was of good family and he had indeed heard of Mrs. Hanshaw.

He listened to her quietly and then said, "And this all began with the Door breakdown."

"That's right, Doctor."

"Does he show any fear of the Doors?"

"Of course not. What an idea!" She was plainly startled.

"It's possible, Mrs. Hanshaw, it's possible. After all, when you stop to think of how a Door works it is rather a frightening thing, really. You step into a Door, and for an instant your atoms are converted into field-energies, transmitted to another part of space and reconverted into matter. For that instant you're not alive."

"I'm sure no one thinks of such things."

"But your son may. He witnessed the breakdown of the Door. He may be saying to himself, 'What if the Door breaks down just as I'm half-way through?'"

"But that's nonsense. He still uses the Door. He's even been to Canton with me; Canton, China. And as I told you, he uses it for school about once or twice a week."

"Freely? Cheerfully?"

"Well," said Mrs. Hanshaw, reluctantly, "he does seem a bit put out by it. But really, Doctor, there isn't much use talking about it, is there? If you would do a quick probe, see where the trouble was," and she finished on a bright note, "why, that would be all. I'm sure it's quite a minor thing."

Dr. Sloane signed. He detested the word "probe" and there was scarcely any word he heard oftener.

"Mrs. Hanshaw," he said patiently, "there is no such thing as a quick probe. Now I know the mag-strips are full of it and it's a rage in some circles, but it's much overrated."

"Are you serious?"

"Quite. The probe is very complicated and the theory is that it traces mental circuits. You see, the cells of the brains are interconnected in a large variety of ways. Some of those interconnected paths are more used than others. They represent habits of thought, both conscious and unconscious. Theory has it that these paths in any given brain can be used to diagnose mental ills early and with certainty."

"Well, then?"

"But subjection to the probe is quite a fearful thing, especially to a child. It's a traumatic experience. It takes over an hour. And even then, the results must be sent to the Central Psychoanalytical Bureau for analysis, and that could take weeks. And on top of all that, Mrs. Hanshaw, there are many psychiatrists who think the theory of probe-analyses to be most uncertain."

Mrs. Hanshaw compressed her lips. "You mean nothing can be done."

Dr. Sloane smiled. "Not at all. There were psychiatrists for centuries before there were probes. I suggest that you let me talk to the boy."

"Talk to him? Is that all?"

"I'll come to you for background information when necessary, but the essential thing, I think, is to talk to the boy."

"Really, Dr. Sloane, I doubt if he'll discuss the matter with you. He won't talk to me about it and I'm his mother."

"That often happens," the psychiatrist assured her. "A child will sometimes talk more readily to a stranger. In any case, I cannot take the case otherwise."

Mrs. Hanshaw rose, not at all pleased. "When can you come, Doctor?"

"What about this coming Saturday? The boy won't be in school. Will you be busy?"

"We will be ready."

She made a dignified exit. Dr. Sloane accompanied her through the small reception room to his office Door and waited while she punched the coordinates of her house. He watched her pass through. She became a half-woman, a quarter-woman, an isolated elbow and foot, a nothing.

It was frightening.

Did a Door ever break down during passage, leaving half a body here and half there? He had never heard of such a case, but he imagined it could happen.

He returned to his desk and looked up the time of his next appointment. It was obvious to him that Mrs. Hanshaw was annoyed and disappointed at not having arranged for a psychic probe treatment.

Why, for God's sake? Why should a thing like the probe, an obvious piece of quackery in his own opinion, get such a hold on the general public? It must be part of this general trend toward machines. Anything man can do, machines can do better. Machines! More machines! Machines for anything and everything! O temporal O mores!

Oh, hell!

His resentment of the probe was beginning to bother him. Was it a fear of technological unemployment, a basic insecurity on his part, a mechanophobia, if that was the word- He made a mental note to discuss this with his own analyst.

Dr. Sloane had to feel his way. The boy wasn't a patient who had come to him, more or less anxious to talk, more or less anxious to be helped.

Under the circumstances it would have been best to keep his first meeting with Richard short and noncommittal. It would have been sufficient merely to establish himself as something less than a total stranger. The next time he would be someone Richard had seen before. The time after he would be an acquaintance, and after that a friend of the family.

Unfortunately, Mrs. Hanshaw was not likely to accept a long-drawn-out process. She would go searching for a probe and, of course, she would find it.

And harm the boy. He was certain of that.

It was for that reason he felt he must sacrifice a little of the proper caution and risk a small crisis.

An uncomfortable ten minutes had passed when he decided he must try. Mrs. Hanshaw was smiling in a rather rigid way, eyeing him narrowly, as though she expected verbal magic from him. Richard wriggled in his seat, unresponsive to Dr. Sloane's tentative comments, overcome with boredom and unable not to show it.

Dr. Sloane said, with casual suddenness, "Would you like to take a walk with me, Richard?"

The boy's eyes widened and he stopped wriggling. He looked directly at Dr. Sloane. "A walk, sir?"

"I mean, outside."

"Do you go-outside?"

"Sometimes. When I feel like it."

Richard was on his feet, holding down a squirming eagerness. "I didn't think anyone did."

"I do. And I like company."

The boy sat down, uncertainly. "Mom?-"

Mrs. Hanshaw had stiffened in her seat, her compressed lips radiating horror, but she managed to say, "Why certainly, Dickie. But watch yourself."

And she managed a quick and baleful glare at Dr. Sloane.

In one respect, Dr. Sloane had lied. He did not go outside "sometimes." He hadn't been in the open since early college days. True, he had been athletically inclined (still was to some extent) but in his time the indoor ultra-violet chambers, swimming pools and tennis courts had flourished. For those with the price, they were much more satisfactory than the outdoor equivalents, open to the elements as they were, could possibly be. There was no occasion to go outside.

So there was a crawling sensation about his skin when he felt wind touch it, and he put down his flexed shoes on bare grass with a gingerly movement.

"Hey, look at that." Richard was quite different now, laughing, his reserve broken down.

Dr. Sloane had time only to catch a flash of blue that ended in a tree. Leaves rustled and he lost it.

"What was it?"

"A bird," said Richard. "A blue kind of bird."

Dr. Sloane looked about him in amazement. The Hanshaw residence was on a rise of ground, and he could see for miles. The area was only lightly wooded and between clumps of trees, grass gleamed brightly in the sunlight.

Colors set in deeper green made red and yellow patterns. They were flowers. From the books he had viewed in the course of his lifetime and from the old video shows, he had learned enough so that all this had an eerie sort of familiarity.

And yet the grass was so trim, the flowers so patterned. Dimly, he realized he had been expecting something wilder. He said, "Who takes care of all this?"

Richard shrugged. "I dunno. Maybe the mekkanos do it."

"Mekkanos?"

"There's loads of them around. Sometimes they got a sort of atomic knife they hold near the ground. It cuts the grass. And they're always fooling around with the flowers and things. There's one of them over there."

It was a small object, half a mile away. Its metal skin cast back highlights as it moved slowly over the gleaming meadow, engaged in some sort of activity that Dr. Sloane could not identify.

Dr. Sloane was astonished. Here it was a perverse sort of estheticism, a kind of conspicuous consumption-

"What's that?" he asked suddenly.

Richard looked. He said, "That's a house. Belongs to the Froehlichs. Coordinates, A-3, 23, 461. That little pointy building over there is the public Door."

Dr. Sloane was staring at the house. Was that what it looked like from the outside? Somehow he had imagined something much more cubic, and taller.

"Come along," shouted Richard, running ahead.

Dr. Sloane followed more sedately. "Do you know all the houses about here?"

"Just about."

"Where is A-23, 26, 475?" It was his own house, of course.

Richard looked about. "Let's see. Oh, sure, I know where it is-you see that water there?"

"Water?" Dr. Sloane made out a line of silver curving across the green.

"Sure. Real water. Just sort of running over rocks and things. It keeps running all the time. You can get across it if you step on the rocks. It's called a river."

More like a creek, thought Dr. Sloane. He had studied geography, of course, but what passed for the subject these days was really economic and cultural geography. Physical geography was almost an extinct science except among specialists. Still, he knew what rivers and creeks were, in a theoretical sort of way.

Richard was still talking. "Well, just past the river, over that hill with the big clump of trees and down the other side a way is A-23, 26, 475. It's a light green house with a white roof."

"It is?" Dr. Sloane was genuinely astonished. He hadn't known it was green.

Some small animal disturbed the grass in its anxiety to avoid the oncoming feet. Richard looked after it and shrugged. "You can't catch them. I tried."

A butterfly flitted past, a wavering bit of yellow. Dr. Sloane's eyes followed it.

There was a low hum that lay over the fields, interspersed with an occasional harsh, calling sound, a rattle, a twittering, a chatter that rose, then fell. As his ear accustomed itself to listening, Dr. Sloane heard a thousand sounds, and none were man-made.

A shadow fell upon the scene, advancing toward him, covering him. It was suddenly cooler and he looked upward, startled.

Richard said, "It's just a cloud. It'll go away in a minute -look at these flowers. They're the kind that smell."

They were several hundred yards from the Hanshaw residence. The cloud passed and the sun shone once more. Dr. Sloane looked back and was appalled at the distance

they had covered. If they moved out of sight of the house and if Richard ran off, would he be able to find his way back?

He pushed the thought away impatiently and looked out toward the line of water (nearer now) and past it to where his own house must be. He thought wonderingly: Light green?

He said, "You must be quite an explorer."

Richard said, with a shy pride, "When I go to school and come back, I always try to use a different route and see new things."

"But you don't go outside every morning, do you? Sometimes you use the Doors, I imagine."

"Oh, sure."

"Why is that, Richard?" Somehow, Dr. Sloane felt there might be significance in that point.

But Richard quashed him. With his eyebrows up and a look of astonishment on his face, he said, "Well, gosh, some mornings it rains and I have to use the Door. I hate that, but what can you do? About two-weeks ago, I got caught in the rain and I-" he looked about him automatically, and his voice sank to a whisper "-caught a cold, and wasn't Mom upset, though."

Dr. Sloane sighed. "Shall we go back now?"

There was a quick disappointment on Richard's face. "Aw, what for?"

"You remind me that your mother must be waiting for us."

"I guess so." The boy turned reluctantly.

They walked slowly back. Richard was saying, chattily, "I wrote a composition at school once about how if I could go on some ancient vehicle" (he pronounced it with exaggerated care) "I'd go in a stratoliner and look at stars and clouds and things. Oh, boy, I was sure nuts."

"You'd pick something else now?"

"You bet. I'd go in an automobile, real slow. Then I'd see everything there was."

Mrs. Hanshaw seemed troubled, uncertain. "You don't think it's abnormal, then, Doctor?"

"Unusual, perhaps, but not abnormal. He likes the outside."

"But how can he? It's so dirty, so unpleasant."

"That's a matter of individual taste. A hundred years ago our ancestors were all outside most of the time. Even today, I dare say there are a million Africans who have never seen a Door."

"But Richard's always been taught to behave himself the way a decent person in District A-3 is supposed to behave," said Mrs. Hanshaw, fiercely. "Not like an African or an ancestor."

"That may be part of the trouble, Mrs. Hanshaw. He feels this urge to go outside and yet he feels it to be wrong. He's ashamed to talk about it to you or to his teacher. It forces him into sullen retreat and it could eventually be dangerous."

"Then how can we persuade him to stop?"

Dr. Sloane said, "Don't try. Channel the activity instead. The day your Door broke down, he was forced outside, found he liked it, and that set a pattern. He used the trip to school and back as an excuse to repeat that first exciting experience. Now suppose you agree to let him out of the house for two hours on Saturdays and Sundays. Suppose he gets it through his head that after all he can go outside without necessarily having to go anywhere in the process. Don't you think he'll be willing to use the Door to go to school and back thereafter? And don't you think that will stop the trouble he's now having with his teacher and probably with his fellow-pupils?"

"But then will matters remain so? Must they? Won't he ever be normal again?"

Dr. Sloane rose to his feet. "Mrs. Hanshaw, he's as normal as need be right now. Right now, he's tasting the joys of the forbidden. If you cooperate with him, show that you don't disapprove, it will lose some of its attraction right there. Then, as he grows older, he will become more aware of the expectations and demands of society. He will learn to conform. After all, there is a little of the rebel in all of us, but it generally dies down as we grow old and tired. Unless, that is, it is unreasonably suppressed and allowed to build up pressure. Don't do that. Richard will be all right."

He walked to the Door.

Mrs. Hanshaw said, "And you don't think a probe will be necessary, Doctor?"

He turned and said vehemently, "No, definitely not! There is nothing about the boy that requires it. Understand? Nothing."

His fingers hesitated an inch from the combination board and the expression on his face grew lowering.

"What's the matter, Dr. Sloane?" asked Mrs. Hanshaw.

But he didn't hear her because he was thinking of the Door and the psychic probe and all the rising, choking tide of machinery. There is a little of the rebel in all of us, he thought.

So he said in a soft voice, as his hand fell away from the board and his feet turned away from the Door, "You know, it's such a beautiful day that I think I'll walk."

STRIKEBREAKER

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(Original title: "Male Strikebreaker.")

Elvis Blei rubbed his plump hands and said, "Self-containment is the word." He smiled uneasily as he helped Steven Lamorak of Earth to a light. There was uneasiness all over his smooth face with its small wide-set eyes.

Lamorak puffed smoke appreciatively and crossed his lanky legs.

His hair was powdered with gray and he had a large and powerful jawbone. "Home grown?" he asked, staring critically at the cigarette. He tried to hide his own disturbance at the other's tension.

"Quite," said Blei.

"I wonder," said Lamorak, "that you have room on your small world for such luxuries."

(Lamorak thought of his first view of Elsevere from the spaceship visiplate. It was a jagged, airless planetoid, some hundred miles in diameter -just a dust-gray rough-hewn rock, glimmering dully in the light of its sun, 200,000,000 miles distant. It was the only object more than a mile in diameter that circled that sun, and now men had burrowed into that miniature world and constructed a society in it. And he himself, as a sociologist, had come to study the world and see how humanity had made itself fit into that queerry specialized niche.)

Blei's polite fixed smile expanded a hair. He said, "We are not a small world, Dr. Lamorak; you judge us by two-dimensional standards. The surface area of Elsevere is only three quarters that of the State of New York, but that's irrelevant. Remember, we can occupy, if we wish, the entire interior of Elsevere. A sphere of 50 miles radius has a volume of well over half a million cubic miles. If all of Elsevere were occupied by levels 50 feet apart, the total surface area within the planetoid would be 56,000,000 square miles, and that is equal to the total land area of Earth. And none of these square miles, Doctor, would be unproductive."

Lamorak said, "Good Lord," and stared blankly for a moment. "Yes, of course you're right. Strange I never thought of it that way. But then, Elsevere is the only thoroughly exploited planetoid world in the Galaxy; the rest of us simply can't get away from thinking of two-dimensional surfaces, as you pointed out. Well, I'm more than ever glad that your Council has been so cooperative as to give me a free hand in this investigation of mine."

Blei nodded convulsively at that.

Lamorak frowned slightly and thought: He acts for all the world as though he wished I had not come. Something's wrong.

Blei said, "Of course, you understand that we are actually much smaller than we could be; only minor portions of Elsevere have as yet been hollowed out and occupied. Nor are we particularly anxious to expand, except very slowly. To a certain extent we are limited by the capacity of our pseudogravity engines and Solar energy converters."

"I understand. But tell me, Councillor Blei-as a matter of personal curiosity, and not because it is of prime importance to my project-could I view some of your farming and herding levels first? I am fascinated by the thought of fields of wheat and herds of cattle inside a planetoid."

"You'll find the cattle small by your standards, Doctor, and we don't have much wheat. We grow yeast to a much greater extent. But there will be some wheat to show you. Some cotton and tobacco, too. Even fruit trees."

"Wonderful. As you say, self-containment. You recirculate everything, I imagine."

Lamorak's sharp eyes did not miss the fact that this last remark twinged Blei. The Elseverian's eyes narrowed to slits that hid his expression.

He said, "We must recirculate, yes. Air, water, food, minerals-everything that is used up-must be restored to its original state; waste products are reconverted to raw materials. All that is needed is energy, and we have enough of that. We don't manage with one hundred percent efficiency, of course; there is a certain seepage. We import a small amount of water each year; and if our needs grow, we may have to import some coal and oxygen."

Lamorak said, "When can we start our tour, Councillor Blei?"

Blei's smile lost some of its negligible warmth. "As soon as we can, Doctor. There are some routine matters that must be arranged."

Lamorak nodded, and having finished his cigarette, stubbed it out.

Routine matters? There was none of this hesitancy during the preliminary correspondence. Elsevere had seemed proud that its unique planetoid existence had attracted the attention of the Galaxy.

He said, "I realize I would be a disturbing influence in" a tightly-knit society," and watched grimly as Blei leaped at the explanation and made it his own.

"Yes," said Blei, "we feel marked off from the rest of the Galaxy. We have our own customs. Each individual Elseverian fits into a comfortable niche. The appearance of a stranger without fixed caste is unsettling."

"The caste system does involve a certain inflexibility."

"Granted," said Blei quickly; "but there is also a certain self-assurance. We have firm rules of intermarriage and rigid inheritance of occupation. Each man, woman and child knows his place, accepts it, and is accepted in it; we have virtually no neurosis or mental illness."

"And are there no misfits?" asked Lamorak.

Blei shaped his mouth as though to say no, then clamped it suddenly shut, biting the word into silence; a frown deepened on his forehead. He said, at length, "I will arrange for the tour, Doctor. Meanwhile, I imagine you would welcome a chance to freshen up and to sleep."

They rose together and left the room, Blei politely motioning the Earthman to precede him out the door.

Lamorak felt oppressed by the vague feeling of crisis that had pervaded his discussion with Blei.

The newspaper reinforced that feeling. He read it carefully before getting into bed, with what was at first merely a clinical interest. It was an eight-page tabloid of synthetic paper. Cue quarter of its items consisted of "personals": births, marriages, deaths, record quotas, expanding habitable volume (not area! three dimensions!). The remainder included scholarly essays, educational material, and fiction. Of news, in the sense to which Lamorak was accustomed, there was virtually nothing.

One item only could be so considered and that was chilling in its incompleteness.

It said, under a small headline: DEMANDS UNCHANGED: There has been no change in his attitude of yesterday. The Chief Councillor, after a second interview, announced that his demands remain completely unreasonable and cannot be met under any circumstances. Then, in parentheses, and in different type, there was the statement: The editors of this paper agree that Elsevere cannot and will not jump to his whistle, come what may.

Lamorak read it over three times. Ms attitude. Ms demands. Ms whistle.

Whose?

He slept uneasily, that night.

He had no time for newspapers in the days that followed; but spasmodically, the matter returned to his thoughts.

Blei, who remained his guide and companion for most of the tour, grew ever more withdrawn.

On the third day (quite artificially clock-set in an Earthlike twenty-four hour pattern), Blei stopped at one point, and said, "Now this level is devoted entirely to chemical industries. That section is not important-"

But he turned away a shade too rapidly, and Lamorak seized his arm. "What are the products of that section?"

"Fertilizers. Certain organics," said Blei stiffly.

Lamorak held him back, looking for what sight Blei might be evading. His gaze swept over the close-by horizons of lined rock and the buildings squeezed and layered between the levels.

Lamorak said, "Isn't that a private residence there?"

Blei did not look in the indicated direction.

Lamorak said, "I think that's the largest one I've seen yet. Why is it here on a factory level?" That alone made it noteworthy. He had already seen that the levels on Elsevere were divided rigidly among the residential, the agricultural and the industrial.

He looked back and called, "Councillor Blei!"

The Councillor was walking away and Lamorak pursued him with hasty steps. "Is there something wrong, sir?"

Blei muttered, "I am rude, I know. I am sorry. There are matters that prey on my mind-" He kept up his rapid pace.

"Concerning his demands."

Blei came to a full halt. "What do you know about that?"

"No more than I've said. I read that much in the newspaper."

Blei muttered something to himself.

Lamorak said, "Ragusnik? What's that?"

Blei sighed heavily. "I suppose you ought to be told. It's humiliating, deeply embarrassing. The Council thought that matters would certainly be arranged shortly and that your visit need not be interfered with, that you need not know or be concerned. But it is almost a week now. I don't know what will happen and, appearances notwithstanding, it might be best for you to leave. No reason for an Outworlder to risk death."

The Earthman smiled incredulously. "Risk death? In this little world, so peaceful and busy. I can't believe it."

The Elseverian councillor said, "I can explain. I think it best I should." He turned his head away. "As I told you, everything on Elsevere must recirculate. You understand that."

"Yes."

"That includes-uh, human wastes."

"I assumed so," said Lamorak.

"Water is reclaimed from it by distillation and absorption. What remains is converted into fertilizer for yeast use; some of it is used as a source of fine organics and other by-products. These factories you see are devoted to this."

"Well?" Lamorak had experienced a certain difficulty in the drinking of water when he first landed on Elsevere, because he had been realistic enough to know what it must be reclaimed from; but he had conquered the feeling easily enough. Even on Earth, water was reclaimed by natural processes from all sorts of unpalatable substances.

Blei, with increasing difficulty, said, "Igor Ragusnik is the man who is in charge of the industrial processes immediately involving the wastes. The position has been in his family since Elsevere was first colonized. One of the original settlers was Mikhail Ragusnik and he-he-"

"Was in charge of waste reclamation."

"Yes. Now that residence you singled out is the Ragusnik residence; it is the best and most elaborate on the planetoid. Ragusnik gets many privileges the rest of us do not have; but, after all-" Passion entered the Councillor's voice with great suddenness, "we cannot speak to him."

"What?"

"He demands full social equality. He wants his children to mingle with ours, and our wives to visit- Oh!" It was a groan of utter disgust.

Lamorak thought of the newspaper item that could not even bring itself to mention Ragusnik's name in print, or to say anything specific about his demands. He said, "I take it he's an outcast because of his job."

"Naturally. Human wastes and-" words failed Blei. After a pause, he said more quietly, "As an Earthman, I suppose you don't understand."

"As a sociologist, I think I do." Lamorak thought of the Untouchables in ancient India, the ones who handled corpses. He thought of the position of swineherds in ancient Judea.

He went on, "I gather Elsevere will not give in to those demands."

"Never," said Blei, energetically. "Never."

"And so?"

"Ragusnik has threatened to cease operations."

"Go on strike, in other words."

"Yes."

"Would that be serious?"

"We have enough food and water to last quite a while; reclamation is not essential in that sense. But the wastes would accumulate; they would infect the planetoid. After generations of careful disease control, we have low natural resistance to germ diseases. Once an epidemic started-and one would-we would drop by the hundred."

"Is Ragusnik aware of this?"

"Yes, of course."

"Do you think he is likely to go through with his threat, then?"

"He is mad. He has already stopped working; there has been no waste reclamation since the day before you landed." Blei's bulbous nose sniffed at the air as though it already caught the whiff of excrement.

Lamorak sniffed mechanically at that, but smelled nothing.

Blei said, "So you see why it might be wise for you to leave. We are humiliated, of course, to have to suggest it."

But Lamorak said, "Wait; not just yet. Good Lord, this is a matter of great interest to me professionally. May I speak to the Ragusnik?"

"On no account," said Blei, alarmed.

"But I would like to understand the situation. The sociological conditions here are unique and not to be duplicated elsewhere. In the name of science-"

"How do you mean, speak? Would image-reception do?"

"Yes."

"I will ask the Council," muttered Blei.

They sat about Lamorak uneasily, their austere and dignified expressions badly marred with anxiety. Blei, seated in the midst of them, studiously avoided the Earthman's eyes.

The Chief Councillor, gray-haired, his face harshly wrinkled, his neck scrawny, said in a soft voice, "If in any way you can persuade him, sir, out of your own convictions, we will welcome that. In no case, however, are you to imply that we will, in any way, yield."

A gauzy curtain fell between the Council and Lamorak. He could make out the individual councillors still, but now he turned sharply toward the receiver before him. It glowed to life.

A head appeared in it, in natural color and with great realism. A strong dark head, with massive chin faintly stubbled, and thick, red lips set into a firm horizontal line.

The image said, suspiciously, "Who are you?"

Lamorak said, "My name is Steven Lamorak; I am an Earthman."

"An Outworlder?"

"That's right. I am visiting Elsevere. You are Ragusnik?"

"Igor Ragusnik, at your service," said the image, mockingly. "Except that there is no service and will be none until my family and I are treated like human beings."

Lamorak said, "Do you realize the danger that Elsevere is in? The possibility of epidemic disease?"

"In twenty-four hours, the situation can be made normal, if they allow me humanity. The situation is theirs to correct."

"You sound like an educated man, Ragusnik."

"So?"

"I am told you're denied of no material comforts. You are housed and clothed and fed better than anyone on Elsevere. Your children are the best educated."

"Granted. But all by servo-mechanism. And motherless girl-babies are sent us to care for until they grow to be our wives. And they die young for loneliness. Why?" There was sudden passion in his voice. "Why must we live in isolation as if we were all monsters, unfit for human beings to be near? Aren't we human beings like others, with the same needs and desires and feelings. Don't we perform an honorable and useful function-?"

There was a rustling of sighs from behind Lamorak. Ragusnik heard it, and raised his voice. "I see you of the Council behind there. Answer me: Isn't it an honorable and useful function? It is your waste made into food for you. Is the man who purifies corruption worse than the man who produces it?-Listen, Councillors, I will not give in. Let all of Elsevere die of disease -including myself and my son, if necessary-but I will not give in. My family will be better dead of disease, than living as now."

Lamorak interrupted. "You've led this life since birth, haven't you?"

"And if I have?"

"Surely you're used to it."

"Never. Resigned, perhaps. My father was resigned, and I was resigned for a while; but I have watched my son, my only son, with no other little boy to play with. My brother and I had each other, but my son will never have anyone, and I am no longer resigned. I am through with Elsevere and through with talking."

The receiver went dead.

The Chief Councillor's face had paled to an aged yellow. He and Blei were the only ones of the group left with Lamorak. The Chief Councillor said, "The man is deranged; I do not know how to force him."

He had a glass of wine at his side; as he lifted it to his lips, he spilled a few drops that stained his white trousers with purple splotches.

Lamorak said, "Are his demands so unreasonable? Why can't he be accepted into society?"

There was momentary rage in Blei's eyes. "A dealer in excrement." Then he shrugged. "You are from Earth."

Incongruously, Lamorak thought of another unacceptable, one of the numerous classic creations of the medieval cartoonist, Al Capp. The variously-named "inside man at the skunk works."

He said, "Does Ragusnik really deal with excrement? I mean, is there physical contact? Surely, it is all handled by automatic machinery."

"Of course," said the Chief Councillor.

"Then exactly what is Ragusnik's function?"

"He manually adjusts the various controls that assure the proper functioning of the machinery. He shifts units to allow repairs to be made; he alters functional rates with the time of day; he varies end production with demand." He added sadly, "If we had the space to make the machinery ten times as complex, all this could be done automatically; but that would be such needless waste."

"But even so," insisted Lamorak, "all Ragusnik does he does simply by pressing buttons or closing contacts or things like that."

"Yes."

"Then his work is no different from any Elseverian's." Blei said, stiffly, "You don't understand."

"And for that you will risk the death of your children?"

"We have no other choice," said Blei. There was enough agony in his voice to assure Lamorak that the situation was torture for him, but that he had no other choice indeed.

Lamorak shrugged in disgust. "Then break the strike. Force him."

"How?" said the Chief Councillor. "Who would touch him or go near him? And if we kill him by blasting from a distance, how will that help us?"

Lamorak said, thoughtfully, "Would you know how to run his machinery?"

The Chief Councillor came to his feet. "I?" he howled.

"I don't mean you," cried Lamorak at once. "I used the pronoun in its indefinite sense. Could someone learn how to handle Ragusnik's machinery?"

Slowly, the passion drained out of the Chief Councillor. "It is in the handbooks, I am certain-though I assure you I have never concerned myself with it."

"Then couldn't someone learn the procedure and substitute for Ragusnik until the man gives in?"

Blei said, "Who would agree to do such a thing? Not I, under any circumstances."

Lamorak thought fleetingly of Earthly taboos that might be almost as strong. He thought of cannibalism, incest, a pious man cursing God. He said, "But you must have made provision for vacancy in the Ragusnik job. Suppose he died."

"Then his son would automatically succeed to his job, or his nearest other relative," said Blei.

"What if he had no adult relatives? What if all his family died at once?"

"That has never happened; it will never happen."

The Chief Councillor added, "If there were danger of it, we might, perhaps, place a baby or two with the Ragusniks and have it raised to the profession."

"Ah. And how would you choose that baby?"

"From among children of mothers who died in childbirth, as we choose the future Ragusnik bride."

"Then choose a substitute Ragusnik now, by lot," said Lamorak.

The Chief Councillor said, "Not Impossible! How can you suggest that? If we select a baby, that baby is brought up to the life; it knows no other. At this point, it would be necessary to choose an adult and subject him to Ragusnik-hood. No, Dr. Lamorak, we are neither monsters nor abandoned brutes."

No use, thought Lamorak helplessly. No use, unless- He couldn't bring himself to face that unless just yet.

That night, Lamorak slept scarcely at all. Ragusnik asked for only the basic elements of humanity. But opposing that were thirty thousand Elseverians who faced death.

The welfare of thirty thousand on one side; the just demands of one family on the other. Could one say that thirty thousand who would support such injustice deserved to die? Injustice by what standards? Earth's? Elsever's? And who was Lamorak that he should judge?

And Ragusnik? He was willing to let thirty thousand die, including men and women who merely accepted a situation they had been taught to accept and could not change if they wished to. And children who had nothing at all to do with it.

Thirty thousand on one side; a single family on the other.

Lamorak made his decision in something that was almost despair; in the morning he called the Chief Councillor.

He said, "Sir, if you can find a substitute, Ragusnik will see that he has lost all chance to force a decision in his favor and will return to work."

"There can be no substitute," sighed the Chief Councillor; "I have explained that."

"No substitute among the Elseverians, but I am not an Elseverian; it doesn't matter to me. I will substitute."

They were excited, much more excited than Lamorak himself. A dozen times they asked him if he was serious.

Lamorak had not shaved, and he felt sick, "Certainly, I'm serious. And any time Ragusnik acts like this, you can always import a substitute. No other world has the taboo and there will always be plenty of temporary substitutes available if you pay enough."

(He was betraying a brutally exploited man, and he knew it. But he told himself desperately: Except for ostracism, he's very well treated. Very well.)

They gave him the handbooks and he spent six hours, reading and rereading. There was no use asking questions. None of the Elseverians knew anything about the job, except for what was in the handbook; and all seemed uncomfortable if the details were as much as mentioned.

"Maintain zero reading of galvanometer A-2 at all times during red signal of the Lunge-howler," read Lamorak. "Now what's a Lunge-howler?"

"There will be a sign," muttered Blei, and the Elseverians looked at each other hang-dog and bent their heads to stare at their finger-ends.

They left him long before he reached the small rooms that were the central headquarters of generations of working Ragusniks, serving their world. He had specific instructions concerning which turnings to take and what level to reach, but they hung back and let him proceed alone.

He went through the rooms painstakingly, identifying the instruments and controls, following the schematic diagrams in the handbook.

There's a Lunge-howler, he thought, with gloomy satisfaction. The sign did indeed say so. It had a semi-circular face bitten into holes that were obviously designed to glow in separate colors. Why a "howler" then?

He didn't know.

Somewhere, thought Lamorak, somewhere wastes are accumulating, pushing against gears and exits, pipelines and stills, waiting to be handled in half a hundred ways. Now they just accumulate.

Not without a tremor, he pulled the first switch as indicated by the handbook in its directions for "Initiation." A gentle murmur of life made itself felt through the floors and walls. He turned a knob and lights went on.

At each step, he consulted the handbook, though he knew it by heart; and with each step, the rooms brightened and the dial-indicators sprang into motion and a humming grew louder.

Somewhere deep in the factories, the accumulated wastes were being drawn into the proper channels.

A high-pitched signal sounded and startled Lamorak out of his painful concentration. It was the communications signal and Lamorak fumbled his receiver into action.

Ragusnik's head showed, startled; then slowly, the incredulity and outright shock faded from his eyes. "That's how it is, then."

"I'm not an Elseverian, Ragusnik; I don't mind doing this."

"But what business is it of yours? Why do you interfere?"

"I'm on your side, Ragusnik, but I must do this."

"Why, if you're on my side? Do they treat people on your world as they treat me here?"

"Not any longer. But even if you are right, there are thirty thousand people on Elsevere to be considered."

"They would have given in; you've ruined my only chance."

"They would not have given in. And in a way, you've won; they know now that you're dissatisfied. Until now, they never dreamed a Ragusnik could be unhappy, that he could make trouble."

"What if they know? Now all they need do is hire an Outworlder anytime."

Lamorak shook his head violently. He had thought this through in these last bitter hours. "The fact that they know means that the Elseverians will begin to think about you; some will begin to wonder if it's right to treat a human so. And if Outworlders are hired, they'll spread the word that this goes on upon Elsevere and Galactic public opinion will be in your favor."

"And?"

"Things will Improve. In your son's time, things will be much better."

"In my son's time," said Ragusnik, his cheeks sagging. "I might have had it now. Well, I lose. I'll go back to the job."

Lamorak felt an overwhelming relief. "If you'll come here now, sir, you may have your job and I'll consider it an honor to shake your hand."

Ragusnik's head snapped up and filled with a gloomy pride. "You call me 'sir' and offer to shake my hand. Go about your business, Earthman, and leave me to my work, for I would not shake yours."

Lamorak returned the way he had come, relieved that the crisis was over, and profoundly depressed, too.

He stopped in surprise when he found a section of corridor cordoned off, so he could not pass. He looked about for alternate routes, then startled at a magnified voice above his head. "Dr. Lamorak do you hear me? This is Councillor Blei."

Lamorak looked up. The voice came over some sort of public address system, but he saw no sign of an outlet.

He called out, "Is anything wrong? Can you hear me?"

"I hear you."

Instinctively, Lamorak was shouting. "Is anything wrong? There seems to be a block here. Are there complications with Ragusnik?"

"Ragusnik has gone to work," came Blei's voice. "The crisis is over, and you must make ready to leave."

"Leave?"

"Leave Elsevere; a ship is being made ready for you now."

"But wait a bit." Lamorak was confused by this sudden leap of events. "I haven't completed my gathering of data."

Blei's voice said, "This cannot be helped. You will be directed to the ship and your belongings will be sent after you by servo-mechanisms. We trust- we trust-"

Something was becoming clear to Lamorak. "You trust what?"

"We trust you will make no attempt to see or speak directly to any Elseverian. And of course we hope you will avoid embarrassment by not attempting to return to Elsevere at any time in the future. A colleague of yours would be welcome if further data concerning us is needed."

"I understand," said Lamorak, tonelessly. Obviously, he had himself become a Ragusnik. He had handled the controls that in turn had handled the wastes; he was ostracized. He was a corpse-handler, a swineherd, an inside man at the skunk works.

He said, "Good-bye."

Blei's voice said, "Before we direct you, Dr. Lamorak-. On behalf of the Council of Elsevere, I thank you for your help in this crisis."

"You're welcome," said Lamorak, bitterly.

INSERT KNOB A IN HOLE B

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Dave Woodbury and John Hansen, grotesque in their spacesuits, supervised anxiously as the large crate swung slowly out and away from the freight-ship and into the airlock. With nearly a year of their hitch on Space Station A5 behind them, they were understandably weary of filtration units that clanked, hydroponic tubs that leaked, air generators that hummed constantly and stopped occasionally.

"Nothing works," Woodbury would say mournfully, "because everything is hand-assembled by ourselves."

"Following directions," Hansen would add, "composed by an idiot."

There were undoubtedly grounds for complaint there. The most expensive thing about a spaceship was the room allowed for freight so all equipment had to be sent across space disassembled and nested. All equipment had to be assembled at the Station itself with clumsy hands, inadequate tools and with blurred and ambiguous direction sheets for guidance.

Painstakingly Woodbury had written complaints to which Hansen had added appropriate adjectives, and formal requests for relief of the situation had made their way back to Earth.

And Earth had responded. A special robot had been designed, with a positronic brain crammed with the knowledge of how to assemble properly any disassembled machine in existence.

That robot was in the crate being unloaded now and Woodbury was trembling as the airlock closed behind it.

"First," he said, "it overhauls the Food-Assembler and adjusts the steak-attachment knob so we can get it rare instead of burnt."

They entered the Station and attacked the crate with dainty touches of the demoleculizer rods in order to make sure that not a precious metal atom of their special assembly-robot was damaged.

The crate fell open!

And there within it were five hundred separate pieces-and one blurred and ambiguous direction sheet for assemblage.

THE UP-TO-DATE SORCERER

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It always puzzled me that Nicholas Nitely, although a Justice of the Peace, was a bachelor. The atmosphere of his profession, so to speak, seemed so conducive to matrimony that surely he could scarcely avoid the gentle bond of wedlock.

When I said as much over a gin and tonic at the Club recently, he said, "Ah, but I had a narrow escape some time ago," and he sighed.

"Oh, really?"

"A fair young girl, sweet, intelligent, pure yet desperately ardent, and withal most alluring to the physical senses for even such an old foggy as myself."

I said, "How did you come to let her go?"

"I had no choice. "He smiled gently at me and his smooth, ruddy complexion, his smooth gray hair, his smooth blue eyes, all combined to give him an expression of near-saintliness. He said, "You see, it was really the fault of her fiance-"

"Ah, she was engaged to someone else."

"-and of Professor Wellington Johns, who was, although an endocrinologist, by way of being an up-to-date sorcerer. In fact, it was just that-" He sighed, sipped at his drink, and turned on me the bland and cheerful face of one who is about to change the subject.

I said firmly, "Now, then, Nitely, old man, you cannot leave it so. I want to know about your beautiful girl-the flesh that got away."

He winced at the pun (one, I must admit, of my more abominable efforts) and settled down by ordering his glass refilled. "You understand," he said, "I learned some of the details later on."

Professor Wellington Johns had a large and prominent nose, two sincere eyes and a distinct talent for making clothes appear too large for him. He said, "My dear children, love is a matter of chemistry."

His dear children, who were really students of his, and not his children at all, were named Alexander Dexter and Alice Sanger. They looked perfectly full of chemicals as they sat there holding hands. Together, their age amounted to perhaps 45, evenly split between them, and Alexander said, fairly inevitably, "Vive la chimie!"

Professor Johns smiled reprovingly. "Or rather endocrinology. Hormones, after all, affect our emotions and it is not surprising that one should, specifically, stimulate that feeling we call love."

"But that's so unromantic," murmured Alice. "I'm sure I don't need any." She looked up at Alexander with a yearning glance.

"My dear," said the professor, "your blood stream was crawling with it at that moment you, as the saying is, fell in love. Its secretion had been stimulated by"-for a moment he considered his words carefully, being a highly moral man-"by some environmental factor involving your young man, and once the hormonal action had taken place, inertia carried you on. I could duplicate the effect easily."

"Why, Professor," said Alice, with gentle affection. "It would be delightful to have you try," and she squeezed Alexander's hand shyly.

"I do not mean," said the professor, coughing to hide his embarrassment, "that I would personally attempt to reproduce-or, rather, to duplicate- the conditions that created the natural secretion of the hormone. I mean, instead, that I could inject the hormone itself by hypodermic or even by oral ingestion, since it is a steroid hormone. I have, you see," and here he removed his glasses and polished them proudly, "isolated and purified the hormone."

Alexander sat erect. "Professor! And you have said nothing?"

"I must know more about it first."

"Do you mean to say," said Alice, her lovely brown eyes shimmering with delight, "that you can make people feel the wonderful delight and heaven-surpassing tenderness of true love by means of a . . . a pill?"

The professor said, "I can indeed duplicate the emotion to which you refer in those rather cloying terms."

"Then why don't you?"

Alexander raised a protesting hand. "Now, darling, your ardor leads you astray. Our own happiness and forthcoming nuptials make you forget certain facts of life. If a married person were, by mistake, to accept this hormone-"

Professor Johns said, with a trace of hauteur, "Let me explain right now that my hormone, or my amatogenic principle, as I call it-" (for he, in common with many practical scientists, enjoyed a proper scorn for the rarefied niceties of classical philology).

"Call it a love-philtre, Professor," said Alice, with a melting sigh.

"My amatogenic cortical principle," said Professor Johns, sternly, "has no effect on married individuals. The hormone cannot work if inhibited by other factors, and being married is certainly a factor that inhibits love."

"Why, so I have heard," said Alexander, gravely, "but I intend to disprove that callous belief in the case of my own Alice."

"Alexander," said Alice. "My love."

The professor said, "I mean that marriage inhibits extramarital love."

Alexander said, "Why, it has come to my ears that sometimes it does not."

Alice said, shocked, "Alexander!"

"Only in rare instances, my dear, among those who have not gone to college."

The professor said, "Marriage may not inhibit a certain paltry sexual attraction, or tendencies toward minor trifling, but true love, as Miss Sanger expressed the emotion, is something which cannot blossom when the memory of a stern wife and various unattractive children hobbles the subconscious."

"Do you mean to say," said Alexander, "that if you were to feed your love-philtre- beg pardon, your amatogenic principle- to a number of people indiscriminately, only the unmarried individuals would be affected?"

"That is right, I have experimented on certain animals which, though not going through the conscious marriage rite, do form monogamous attachments. Those with the attachments already formed are not affected."

"Then, Professor, I have a perfectly splendid idea. Tomorrow night is the night of the Senior Dance here at college. There will be at least fifty couples present, mostly unmarried. Put your philtre in the punch."

"What? Are you mad?"

But Alice had caught fire. "Why, it's a heavenly idea, Professor. To think that all my friends will feel as I feel! Professor, you would be an angel from heaven. -But oh, Alexander, do you suppose the feelings might be a trifle uncontrolled? Some of our college chums are a little wild and if, in the heat of discovery of love, they should, well, kiss-"

Professor Johns said, indignantly, "My dear Miss Sanger. You must not allow your imagination to become overheated. My hormone induces only those feelings which lead to marriage and not to the expression of anything that might be considered indecorous."

"I'm sorry," murmured Alice, in confusion. "I should remember, Professor, that you are the most highly moral man I know-excepting always dear Alexander-and that no scientific discovery of yours could possibly lead to immorality."

She looked so woebegone that the professor forgave her at once.

"Then you'll do it, Professor?" urged Alexander. "After all, assuming there will be a sudden urge for mass marriage afterward, I can take care of that by having Nicholas Nitely, an old and valued friend of the family, present on some pretext. He is a Justice of the Peace and can easily arrange for such things as licenses and so on."

"I could scarcely agree," said the professor, obviously weakening, "to perform an experiment without the consent of those experimented upon. It would be unethical."

"But you would be bringing only joy to them. You would be contributing to the moral atmosphere of the college. For surely, in the absence of overwhelming pressure toward marriage, it sometimes happens even in college that the pressure of continuous propinquity breeds a certain danger of- of-"

"Yes, there is that," said the professor. "Well, I shall try a dilute solution. After all, the results may advance scientific knowledge tremendously and, as you say, it will also advance morality."

Alexander said, "And, of course, Alice and I will drink the punch, too."

Alice said, "Oh, Alexander, surely such love as ours needs no artificial aid."

"But it would not be artificial, my soul's own. According to the professor, your love began as a result of just such a hormonal effect, induced, I admit, by more customary methods."

Alice blushed rosily. "But then, my only love, why the need for the repetition?"

"To place us beyond all vicissitudes of Fate, my cherished one."

"Surely, my adored, you don't doubt my love."

"No, my heart's charmer, but-"

"But? Is it that you do not trust me, Alexander?"

"Of course I trust you, Alice, but-"

"But? Again but!" Alice rose, furious. "If you cannot trust me, sir, perhaps I had better leave-" And she did leave indeed, while the two men stared after her, stunned.

Professor Johns said, "I am afraid my hormone has, quite indirectly, been the occasion of spoiling a marriage rather than of causing one."

Alexander swallowed miserably, but his pride upheld him. "She will come back," he said, hollowly. "A love such as ours is not so easily broken."

The Senior Dance was, of course, the event of the year. The young men shone and the young ladies glittered. The music lilted and the dancing feet touched the ground only at intervals. Joy was unrestrained.

Or, rather, it was unrestrained in most cases. Alexander Dexter stood in one corner, eyes hard, expression icily bleak. Straight and handsome he might be, but no young woman approached him. He was known to belong to Alice Sanger, and under such circumstances, no college girl would dream of, poaching. Yet where was Alice?

'She had not come with Alexander and Alexander's pride prevented him from searching for her. From under grim eyelids, he could only watch the circulating couples cautiously.

Professor Johns, in formal clothes that did not fit although made to measure, approached him. He said, "I will add my hormone to the punch shortly before the midnight toast. Is Mr. Nitely still here?"

"I saw him a moment ago. In his capacity as chaperon he was busily engaged in making certain that the proper distance between dancing couples was maintained. Four fingers, I believe, at the point of closest approach. Mr. Nitely was most diligently making the necessary measurements."

"Very good. Oh, I had neglected to ask: Is the punch alcoholic? Alcohol would affect the workings of the amatogenic principle adversely."

Alexander, despite his sore heart, found spirit to deny the unintended slur upon his class. "Alcoholic, Professor? This punch is made along those principles firmly adhered to by all young college students. It contains only the purest of fruit juices, refined sugar, and a certain quantity of lemon peel- enough to stimulate but not inebriate."

"Good," said the professor. "Now I have added to the hormone a sedative designed to put our experimental subjects to sleep for a short time while the hormone works. Once they awaken, the first individual each sees-that is, of course, of the opposite sex-will inspire that individual with a pure and noble ardor that can end only in marriage."

Then, since it was nearly midnight, he made his way through the happy couples, all dancing at four-fingers' distance, to the punch bowl.

Alexander, depressed nearly to tears, stepped out to the balcony. In doing so, he just missed Alice, who entered the ballroom from the balcony by another door.

"Midnight," called out a happy voice. "Toast! Toast! Toast to the life ahead of us."

They crowded about the punch bowl; the little glasses were passed round.

"To the life ahead of us," they cried out and, with all the enthusiasm of young college students, downed the fiery mixture of pure fruit juices, sugar, and lemon peel, with-of course-the professor's sedated amatogenic principle.

As the fumes rose to their brains, they slowly crumpled to the floor.

Alice stood there alone, still holding her drink, eyes wet with unshed tears. "Oh, Alexander, Alexander, though you doubt, yet are you my only love. You wish me to drink and I shall drink." Then she, too, sank gracefully downward.

Nicholas Nitely had gone in search of Alexander, for whom his warm heart was concerned. He had seen him arrive without Alice and he could only assume that a lovers' quarrel had taken place. Nor did he feel any dismay at leaving the party to its own devices. These were not wild youngsters, but college boys and girls of good family and gentle upbringing. They could be trusted to the full to observe the four-finger limit, as he well knew.

He found Alexander on the balcony, staring moodily out at a star-riddled sky.

"Alexander, my boy." He put his hand on the young man's shoulder. "This is not like you. To give way so to depression. Chut, my young friend, chut."

Alexander's head bowed at the sound of the good old man's voice. "It is unmanly, I know, but I yearn for Alice. I have been cruel to her and I am justly treated now. And yet, Mr. Nitely, if you could but know-" He placed his clenched fist on his chest, next his heart. He could say no more.

Nitely said, sorrowfully, "Do you think because I am unmarried that I am unacquainted with the softer emotions? Be undeceived. Time was when I, too, knew love and heartbreak. But do not do as I did once and allow pride to prevent your reunion. Seek her out, my boy, seek her out and apologize. Do not allow yourself to become a solitary old bachelor such as I myself. -But, tush, I am puling."

Alexander's back had straightened. "I will be guided by you, Mr. Nitely. I will seek her out."

"Then go on in. For shortly before I came out, I believe I saw her there."

Alexander's heart leaped. "Perhaps she searches for me even now. I will go- But, no. Go you first, Mr. Nitely, while I stay behind to recover myself. I would not have her see me a prey to womanish tears."

"Of course, my boy."

Nitely stopped at the door into the ballroom in astonishment. Had a universal catastrophe struck all low? Fifty couples were lying on the floor, some neaped together most indecorously.

But before he could make up his mind to see if the nearest were dead, to sound the fire alarm, to call the police, to anything, they were rousing and struggling to their feet.

Only one still remained. A lonely girl in white, one arm outstretched gracefully beneath her fair head. It was Alice Sanger and Nitely hastened to her, oblivious to the rising clamor about him.

He sank to his knees. "Miss Sanger. My dear Miss Sanger. Are you hurt?"

She opened her beautiful eyes slowly, and said, "Mr. Nitely! I never realized you were such a vision of loveliness."

"I?" Nitely started back with horror, but she had now risen to her feet and there was light in her eyes such as Nitely had not seen in a maiden's eyes for thirty years-and then only weakly.

She said, "Mr. Nitely, surely you will not leave me?"

"No, no," said Nitely, confused. "If you need me, I shall stay."

"I need you. I need you with all my heart and soul. I need you as a thirsty flower needs the morning dew. I need you as Thisbe of old needed Pyramus."

Nitely, still backing away, looked about hastily, to see if anyone could be hearing this unusual declaration, but no one seemed to be paying any attention. As nearly as he could make out, the air was filled with other declarations of similar sort, some being even more forceful and direct.

His back was up against a wall, and Alice approached him so closely as to break the four-finger rule to smithereens. She broke, in fact, the no-finger rule, and at the resulting mutual pressure, a certain indefinable something seemed to thud away within Nitely.

"Miss Sanger. Please."

"Miss Sanger? Am I Miss Sanger to you?" exclaimed Alice, passionately. "Mr. Nitely! Nichoks! Make me your Alice, your own. Marry me. Marry me!"

All around there was the cry of "Marry me. Marry me!" and young men and women crowded around Nitely, for they knew well that he was a Justice of the Peace. They cried out, "Marry us, Mr. Nitely. Marry us!"

He could only cry in return, "I must get you all licenses."

They parted to let him leave on that errand of mercy. Only Alice followed him.

Nitely met Alexander at the door of the balcony and turned him back toward the open and fresh air. Professor Johns came at that moment to join them all.

Nitely said, "Alexander. Professor Johns. The most extraordinary thing has occurred-"

"Yes," said the professor, his mild face beaming with joy. "The experiment has been a success. The principle is far more effective on the human being, in fact, than on any of my experimental animals." Noting Nitely's confusion, he explained what had occurred in brief sentences.

Nitely listened and muttered, "Strange, strange. There is a certain elusive familiarity about this." He pressed his forehead with the knuckles of both hands, but it did not help.

Alexander approached Alice gently, yearning to clasp her to his strong bosom, yet knowing that no gently nurtured girl could consent to such an expression of emotion from one who had not yet been forgiven.

He said, "Alice, my lost love, if in your heart you could find-"

But she shrank from him, avoiding his arms though they were outstretched only in supplication. She said, "Alexander, I drank the punch. It was your wish."

"You needn't have. I was wrong, wrong."

"But I did, and oh, Alexander, I can never be yours."

"Never be mine? But what does this mean?"

And Alice, seizing Nitely's arm, clutched it avidly. "My soul is intertwined indissolubly with that of Mr. Nitely, of Nicholas, I mean. My passion for him-that is, my passion for marriage with him-cannot be withstood. It racks my being."

"You are false?" cried Alexander, unbelieving.

"You are cruel to say 'false,' " said Alice, sobbing. "I cannot help it."

"No, indeed," said Professor Johns, who had been listening to this in the greatest consternation, after having made his explanation to Nitely. "She could scarcely help it. It is simply an endocrinological manifestation."

"Indeed that is so," said Nitely, who was struggling with endocrinological manifestations of his own. "There, there, my-my dear." He patted Alice's head in a most fatherly way and when she held her enticing face up toward his, swooningly, he considered whether it might not be a fatherly thing- nay, even a neighborly thing-to press those lips with his own, in pure fashion.

But Alexander, out of his heart's despair, cried, "You are false, false-false as Cressid," and rushed from the room.

And Nitely would have gone after him, but that Alice had seized him about the neck and bestowed upon his slowly melting lips a kiss that was not daughterly in the least. It was not even neighborly.

They arrived at Nitely's small bachelor cottage with its chaste sign of JUSTICE OF THE PEACE in Old English letters, its air of melancholy peace, its neat serenity, its small stove on which the small kettle was quickly placed by Nitely's left hand (his right arm being firmly in the clutch of Alice, who, with a shrewdness beyond her years, chose that as one sure method of rendering impossible a sudden bolt through the door on his part).

Nitely's study could be seen through the open door of the dining room, its walls lined with gentle books of scholarship and joy.

Again Nitely's hand (his left hand) went to his brow. "My dear," he said to Alice, "it is amazing the way-if you would release your hold the merest trifle, my child, so that circulation might be restored-the way in which I persist in imagining that all this has taken place before."

"Surely never before, my dear Nicholas," said Alice, bending her fair head upon his shoulder, and smiling at him with a shy tenderness that made her beauty as bewitching as moonlight upon still waters, "could there have been so wonderful a modern-day magician as our wise Professor Johns, so up-to-date a sorcerer."

"So up-to-date a-" Nitely had started so violently as to lift the fair Alice a full inch from the floor. "Why, surely that must be it. Dickens take me, if that's not it." (For on rare occasions, and under the stress of overpowering emotions, Nitely used strong language.)

"Nicholas. What is it? You frighten me, my cherubic one."

But Nitely walked rapidly into his study, and she was forced to run with him. His face was white, his lips firm, as he reached for a volume from the shelves and reverently blew the dust from it.

"Ah," he said with contrition, "how I have neglected the innocent joys of my younger days. My child, in view of this continuing incapacity of my right arm, would you be so kind as to turn the pages until I tell you to stop?"

Together they managed, in such a tableau of preconnubial bliss as is rarely seen, he holding the book with his left hand, she turning the pages slowly with her right.

"I am right!" Nitely said with sudden force. "Professor Johns, my dear fellow, do come here. This is the most amazing coincidence—a frightening example of the mysterious unfelt power that must sport with us on occasion for some hidden purpose."

Professor Johns, who had prepared his own tea and was sipping it patiently, as befitted a discreet gentleman of intellectual habit in the presence of two ardent lovers who had suddenly retired to the next room, called out, "Surely you do not wish my presence?"

"But I do, sir. I would fain consult one of your scientific attainments."

"But you are in a position—"

Alice screamed, faintly, "Professor!"

"A thousand pardons, my dear," said Professor Johns, entering. "My cobwebby old mind is filled with ridiculous fancies. It is long since I—" and he pulled mightily at his tea (which he had made strong) and was himself again at once.

"Professor," said Nitely. "This dear child referred to you as an up-to-date sorcerer and that turned my mind instantly to Gilbert and Sullivan's *The Sorcerer*."

"What," asked Professor Johns, mildly, "are Gilbert and Sullivan?"

Nitely cast a devout glance upward, as though with the intention of gauging the direction of the inevitable thunderbolt and dodging. He said in a hoarse whisper, "Sir William Schwenck Gilbert and Sir Arthur Sullivan wrote, respectively, the words and music of the greatest musical comedies the world has ever seen. One of these is entitled *The Sorcerer*. In it, too, a philtre was used: a highly moral one which did not affect married people, but which did manage to deflect the young heroine away from her handsome young lover and into the arms of an elderly man."

"And," asked Professor Johns, "were matters allowed to remain so?"

"Well, no. -Really, my dear, the movements of your fingers in the region of the nape of my neck, while giving rise to undeniably pleasurable sensations, do rather distract me. -There is a reunion of the young lovers, Professor."

"Ah," said Professor Johns. "Then in view of the close resemblance of the fictional plot to real life, perhaps the solution in the play will help point the way to the reunion of Alice and Alexander. At least, I presume you do not wish to go through life with one arm permanently useless."

Alice said, "I have no wish to be reunited. I want only my own Nicholas."

"There is something," said Nitely, "to be said for that refreshing point of view, but tush-youth must be served. There is a solution in the play, Professor Johns, and it is for

that reason that I most particularly wanted to talk to you." He smiled with a gentle benevolence. "In the play, the effects of the potion were completely neutralized by the actions of the gentleman who administered the potion in the first place: the gentleman, in other words, analogous to yourself."

"And those actions were?"

"Suicide! Simply that! In some manner unexplained by the authors, the effect of this suicide was to break the sp-

But by now Professor Johns had recovered his equilibrium and said in the most sepulchral forceful tone that could be imagined, "My dear sir, may I state instantly that, despite my affection for the young persons involved in this sad dilemma, I cannot under any circumstances consent to self-immolation. Such a procedure might be extremely efficacious in connection with love potions of ordinary vintage, but my amatogenic principle, I assure you, would be completely unaffected by my death."

Nitely sighed. "I feared that. As a matter of fact, between ourselves, it was a very poor ending for the play, perhaps the poorest in the canon," and he looked up briefly in mute apology to the spirit of William S. Gilbert. "It was pulled out of a hat. It had not been properly foreshadowed earlier in the play. It punished an individual who did not deserve the punishment. In short, it was, alas, completely unworthy of Gilbert's powerful genius."

Professor Johns said, "Perhaps it was not Gilbert. Perhaps some bungler had interfered and botched the job."

"There is no record of that."

But Professor Johns, his scientific mind keenly aroused by an unsolved puzzle, said at once, "We can test this. Let us study the mind of this-this Gilbert. He wrote other plays, did he?"

"Fourteen, in collaboration with Sullivan."

"Were there endings that resolved analogous situations in ways which were more appropriate?"

Nitely nodded. "One, certainly. There was Ruddigore."

"Who was he?"

"Ruddigore is a place. The main character is revealed as the true bad baronet of Ruddigore and is, of course, under a curse."

"To be sure," muttered Professor Johns, who realized that such an eventuality frequently befell bad baronets and was even inclined to think it served them right.

Nitely said, "The curse compelled him to commit one crime or more each day. Were one day to pass without a crime, he would inevitably die in agonizing torture."

"How horrible," murmured the soft-hearted Alice.

"Naturally," said Nitely, "no one can think up a crime each day, so our hero was forced to use his ingenuity to circumvent the curse."

"How?"

"He reasoned thus: If he deliberately refused to commit a crime, he was courting death by his own act. In other words, he was attempting suicide, and attempting suicide is, of course, a crime-and so he fulfills the conditions of the curse."

"I see. I see," said Professor Johns. "Gilbert obviously believes in solving matters by carrying them forward to their logical conclusions." He closed his eyes, and his noble brow clearly bulged with the numerous intense thought waves it contained.

He opened them. "Nitely, old chap, when was The Sorcerer first produced?"

"In eighteen hundred and seventy-seven."

"Then that is it, my dear fellow. In eighteen seventy-seven, we were faced with the Victorian age. The institution of marriage was not to be made sport of on the stage. It could not be made a comic matter for the sake of the plot. Marriage was holy, spiritual, a sacrament--"

"Enough," said Nitely, "of this apostrophe. What is in your mind?"

"Marriage. Marry the girl, Nitely. Have all your couples marry, and that at once. I'm sure that was Gilbert's original intention."

"But that," said Nitely, who was strangely attracted by the notion, "is precisely what we are trying to avoid."

"I am not," said Alice, stoutly (though she was not stout, but, on the contrary, enchantingly lithe and slender).

Professor Johns said, "Don't you see? Once each couple is married, the amatogenic principle-which does not affect married people-loses its power over them. Those who would have been in love without the aid of the principle remain in love; those who would not are no longer in love-and consequently apply for an annulment."

"Good heavens," said Nitely. "How admirably simple. Of course! Gilbert must have intended that until a shocked producer or theater manager-a bungler, as you say-forced the change."

"And did it work?" I asked. "After all, you said quite distinctly that the professor had said its effect on married couples was only to inhibit extramarital re--"

"It worked," said Nitely, ignoring my comment. A tear trembled on his eyelid, but whether it was induced by memories or by the fact that he was on his fourth gin and tonic, I could not tell.

"It worked," he said. "Alice and I were married, and our marriage was almost instantly-annulled by mutual consent on the grounds of the use of undue pressure. And yet, because of the incessant chaperoning to which we were subjected, the incidence of undue pressure between ourselves was, unfortunately, virtually nil." He sighed again. "At any rate, Alice and Alexander were married soon after and she is now, I understand, as a result of various concomitant events, expecting a child."

He withdrew his eyes from the deep recesses of what was left of his drink and gasped with sudden alarm. "Dear me! She again."

I looked up, startled. A vision in pastel blue was in the doorway. Imagine, if you will, a charming face made for kissing; a lovely body made for loving.

She called, "Nicholas! Wait!"

"Is that Alice?" I asked.

"No, no. This is someone else entirely: a completely different story. -But I must not remain here."

He rose and, with an agility remarkable in one so advanced in years and weight, made his way through a window. The feminine vision of desirability, with an agility only slightly less remarkable, followed.

I shook my head in pity and sympathy. Obviously, the poor man was continually plagued by these wondrous things of beauty who, for one reason or another, were enamored of him. At the thought of this horrible fate, I downed my own drink at a gulp and considered the odd fact that no such difficulties had ever troubled me.

And at that thought, strange to tell, I ordered another drink savagely, and a scatological exclamation rose, unbidden, to my lips.

UNTO THE FOURTH GENERATION

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At ten of noon, Sam Marten hitched his way out of the taxicab, trying as usual to open the door with one hand, hold his briefcase in another and reach for his wallet with a third. Having only two hands, he found it a difficult job and, again as usual, he thudded his knee against the cab-door and found himself still groping uselessly for his wallet when his feet touched pavement.

The traffic of Madison Avenue inched past. A red truck slowed its crawl reluctantly, then moved on with a rasp as the light changed. White script on its side informed an unresponsive world that its ownership was that of F. Lewkowitz and Sons, Wholesale Clothiers.

Levkowich, thought Marten with brief inconsequence, and finally fished out his wallet. He cast an eye on the meter as he clamped his briefcase under his arm. Dollar sixty-five, make that twenty cents more as a tip, two singles gone would leave him only one for emergencies, better break a fiver.

"Okay," he said, "take out one-eighty-five, bud."

"Thanks," said the cabbie with mechanical insincerity and made the change.

Marten crammed three singles into his wallet, put it away, lifted his briefcase and breasted the human currents on the sidewalk to reach the glass doors of the building.

Levkovich? he thought sharply, and stopped. A passerby glanced off his elbow.

"Sorry," muttered Marten, and made for the door again.

Levkovich? That wasn't what the sign on the truck had said. The name had read Lewkowitz, Lookovitz. Why did he think Levkovich? Even with his college German in the near past changing the w's to v's, where did he get the "-ich" from?

Levkovich? He shrugged the whole matter away roughly. Give it a chance and it would haunt him like a Hit Parade tinkle.

Concentrate on business. He was here for a luncheon appointment with this man, Naylor. He was here to turn a contract into an account and begin, at twenty-three, the smooth business rise which, as he planned it, would marry him to Elizabeth in two years and make him a paterfamilias in the suburbs in ten.

He entered the lobby with grim firmness and headed for the banks of elevators, his eye catching at the white-lettered directory as he passed.

It was a silly habit of his to want to catch suite numbers as he passed, without slowing, or (heaven forbid) coming to a full halt. With no break in his progress, he told himself, he could maintain the impression of belonging, of knowing his way around, and that was important to a man whose job involved dealing with other human beings.

Kulinetts was what he wanted, and the word amused him. A firm specializing in the production of minor kitchen gadgets, striving manfully for a name that was significant, feminine, and coy, all at once-

His eyes snagged at the M's and moved upward as he walked. Mandel, Lusk, Lippert Publishing Company (two full floors), Lafkowitz, Kulinetts. There it was-1024. Tenth floor. OK.

And then, after all, he came to a dead halt, turned in reluctant fascination, returned to the directory, and stared at it as though he were an out-of-towner.

Lafkowitz?

What kind of spelling was that?

It was clear enough. Lafkowitz, Henry, 701. With an A. That was no good. That was useless.

Useless? Why useless? He gave his head one violent shake as though to clear it of mist. Damn it, what did he care how it was spelled? He turned away, frowning and angry, and hastened to an elevator door, which closed just before he reached it, leaving him flustered.

Another door opened and he stepped in briskly. He tucked his briefcase under his arm and tried to look bright alive-junior executive in its finest sense. He had to make an impression on Alex Naylor, with whom so far he had communicated only by telephone. If he was going to brood about Lewkowitzes and Lafkowitzes-

The elevator slid noiselessly to a halt at seven. A youth in shirt-sleeves stepped off, balancing what looked like a desk-drawer in which were three J containers of coffee and three sandwiches.

Then, just as the doors began closing, frosted glass with black lettering S loomed before Marten's eyes. It read: 701-HENRY J. LEFKOWITZ-IMPORTER and was pinched off by the inexorable coming together of the elevator doors.

Marten leaned forward in excitement. It was his impulse to say: Take me back down to 7.

But there were others in the car. And after all, he had no reason.

Yet there was a tingle of excitement within him. The Directory had been wrong. It wasn't A, it was E. Some fool of a non-spelling menial with a packet of small letters to go on the board and only one hind foot to do it with.

Lefkowitz. Still not right, though.

Again, he shook his head. Twice. Not right for what?

The elevator stopped at ten and Marten got off.

Alex Naylor of Kulinetts turned out to be a bluff, middle-aged man with a shock of white hair, a ruddy complexion, and a broad smile. His palms were dry and rough, and he shook hands with a considerable pressure, putting his left hand on Marten's shoulder in an earnest display of friendliness.

He said, "Be with you in two minutes. How about eating right here in the building? Excellent restaurant, and they've got a boy who makes a good martini. That sound all right?"

"Fine. Fine." Marten pumped up enthusiasm from a somehow-clogged reservoir.

It was nearer ten minutes than two, and Marten waited with the usual uneasiness of a man in a strange office. He stared at the upholstery on the chairs and at the little cubby-hole within which a young and bored switchboard operator sat. He gazed at the pictures on the wall and even made a half-hearted attempt to glance through a trade journal on the table next to him.

What he did not do was think of Lev-

He did not think of it.

The restaurant was good, or it would have been good if Marten had been perfectly at ease. Fortunately, he was freed of the necessity of carrying the burden of the conversation. Naylor talked rapidly and loudly, glanced over the menu with a practiced eye, recommended the Eggs Benedict, and commented on the weather and the miserable traffic situation.

On occasion, Marten tried to snap out of it, to lose that edge of fuzzed absence of mind. But each time the restlessness would return. Something was wrong. The name was wrong. It stood in the way of what he had to do.

With main force, he tried to break through the madness. In sudden verbal clatter, he led the conversation into the subject of wiring. It was reckless of him. There was no proper foundation; the transition was too abrupt.

But the lunch had been a good one; the dessert was on its way; and Naylor responded nicely.

He admitted dissatisfaction with existing arrangements. Yes, he had been looking into Marten's firm and, actually, it seemed to him that, yes, there was a chance, a good chance, he thought, that-

A hand came down on Naylor's shoulder as a man passed behind his chair. "How's the boy, Alex?"

Naylor looked up, grin ready-made and flashing. "Hey, Lefk, how's business?"

"Can't complain. See you at the-" He faded into the distance.

Marten wasn't listening. He felt his knees trembling, as he half-rose. "Who was that man?" he asked, intensely. It sounded more peremptory than he intended.

"Who? Lefk? Jerry Lefkovitz. You know him?" Naylor stared with cool surprise at his lunch companion.

"No. How do you spell his name?"

"L-E-F-K-O-V-I-T-Z, I think. Why?"

"With a V?"

"An F. . . Oh, there's a V in it, too." Most of the good nature had left Naylor's face.

Marten drove on. "There's a Lefkowitz in the building. With a W. You know, Lef-COW-itz."

"Oh?"

"Room 701. This is not the same one?"

"Jerry doesn't work in this building. He's got a place across the street. I don't know this other one. This is a big building, you know. I don't keep tabs on everyone in it. What is all this, anyway?"

Marten shook his head and sat back. He didn't know what all this was, anyway. Or at least, if he did, it was nothing he dared explain. Could he say: I'm being haunted by all manner of Lefkowitzes today.

He said, "We were talking about wiring."

Naylor said, "Yes. Well, as I said, I've been considering your company. I've got to talk it over with the production boys, you understand. I'll let you know."

"Sure," said Marten, infinitely depressed. Naylor wouldn't let him know. The whole thing was shot.

And yet, through and beyond his depression, there was still that restlessness.

The hell with Naylor. All Marten wanted was to break this up and get on with it. (Get on with what? But the question was only a whisper. Whatever did the questioning inside him was ebbing away, dying down . . .)

The lunch frayed to an ending. If they had greeted each other like long-separated friends at last reunited, they parted like strangers. Marten felt only relief.

He left with pulses thudding, threading through the tables, out of the haunted building, onto the haunted street.

Haunted? Madison Avenue at 1:20 P.M. in an early fall afternoon with the sun shining brightly and ten thousand men and women be-hiving its long straight stretch.

But Marten felt the haunting. He tucked his briefcase under his arm and headed desperately northward. A last sigh of the normal within him warned him he had a three o'clock appointment on 36th Street. Never mind. He headed uptown. Northward.

At 54th Street, he crossed Madison and walked west, came abruptly to a halt and looked upward.

There was a sign on the window, three stories up. He could make it out clearly: A. s. LEFKOWICH, CERTIFIED ACCOUNTANT.

It had an F and an OW, but it was the first "-ich" ending he had seen. The first one. He was getting closer. He turned north again on Fifth Avenue, hurrying through the unreal streets of an unreal city, panting with the chase of something, while the crowds about him began to fade.

A sign in a ground floor window, M. R. LEFKOWICZ, M.D.

A small gold-leaf semi-circle of letters in a candy-store window: JACOB LEVKOW. (Half a name, he thought savagely. Why is he disturbing me with half a name?)

The streets were empty now except for the varying clan of Lefkowitz, Levkowitz, Lefkowicz to stand out in the vacuum.

He was dimly aware of the park ahead, standing out in painted motionless green. He turned west. A piece of newspaper fluttered at the corner of his eyes, the only movement in a dead world. He veered, stooped, and picked it up, without slackening his pace.

It was in Yiddish, a torn half-page.

He couldn't read it. He couldn't make out the blurred Hebrew letters, and could not have read it if they were clear. But one word was clear. It stood out in dark letters in the center of the page, each letter clear in its every serif. And it said Lefkovitsch, he knew, and as he said it to himself, he placed its accent on the second syllable: Lef-KUH-vich.

He let the paper flutter away and entered the empty park.

The trees were still and the leaves hung in odd, suspended attitudes. The sunlight was a dead weight upon him and gave no warmth.

He was running, but his feet kicked up no dust and a tuft of grass on which he placed his weight did not bend.

And there on a bench was an old man; the only man in the desolate park. He wore a dark felt cap, with a visor shading his eyes. From underneath it, tufts of gray hair protruded. His grizzled beard reached the uppermost button of his rough jacket. His old trousers were patched, and a strip of burlap was wrapped about each worn and shapeless shoe.

Marten stopped. It was difficult to breathe. He could only say one word and he used it to ask his question: "Levkovich?"

He stood there, while the old man rose slowly to his feet; brown old eyes peering close.

"Marten," he sighed. "Samuel Marten. You have come." The words sounded with an effect of double exposure, for under the English, Marten heard the faint sigh of a foreign tongue. Under the "Samuel" was the unheard shadow of a "Schmuel."

The old man's rough, veined hands reached out, then withdrew as though he were afraid to touch. "I have been looking but there are so many people in this wilderness of a city-that-is-to-come. So many Martins and Martines and Mortons and Mertons. I stopped at last when I found greenery, but for a moment only-I would not commit the sin of losing faith. And then you came."

"It is I," said Marten, and knew it was. "And you are Phinehas Levkovich. Why are we here?"

"I am Phinehas Ben Jehudah, assigned the name Levkovich by the ukase of the Tsar that ordered family names for all. And we are here," the old man said, softly, "because I prayed. When I was already old, Leah, my only daughter, the child of my old age, left for America with her husband, left the knouts of the old for the hope of the new. And my sons died, and Sarah, the wife of my bosom, was long dead and I was alone. And the time came when I, too, must die. But I had not seen Leah since her leaving for the far country and word had come but rarely. My soul yearned that I might see sons born unto her; sons of my seed; sons in whom my soul might yet live and not die."

His voice was steady and the soundless shadow of sound beneath his words was the stately roll of an ancient language.

"And I was answered and two hours were given me that I might see the first son of my line to be born in a new land and in a new time. My daughter's daughter's daughter's son, have I found you, then, amidst the splendor of this city?"

"But why the search? Why not have brought us together at once?"

"Because there is pleasure in the hope of the seeking, my son," said the old man, radiantly, "and in the delight of the finding. I was given two hours in which I might seek, two hours in which I might find . . . and behold, thou art here, and I have found that which I had not looked to see in life." His voice was old, caressing. "Is it well with thee, my son?"

"It is well, my father, now that I have found thee," said Marten, and dropped to his knees. "Give me thy blessing, my father, that it may be well with me all the days of my life, and with the maid whom I am to take to wife and the little ones yet to be born of my seed and thine."

He felt the old hand resting lightly on his head and there was only the soundless whisper.

Marten rose. The old man's eyes gazed into his yearningly. Were they losing focus?

"I go to my fathers now in peace, my son," said the old man, and Marten was alone in the empty park.

There was an instant of renewing motion, of the Sun taking up its interrupted task, of the wind reviving, and even with that first instant of sensation, all slipped back- At ten of noon, Sam Marten hitched his way out of the taxicab, and found himself groping uselessly for his wallet while traffic inched on.

A red truck slowed, then moved on. A white script on its side announced: F. Lewkowitz and Sons, Wholesale Clothiers.

Marten didn't see it. Yet somehow he knew that all would be well with him. Somehow, as never before, he knew. . . .

WHAT IS THIS THING CALLED LOVE?

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(Original title: "Playboy and the Slime God.")

"But these are two species," said Captain Garm, peering closely at the creatures that had been brought up from the planet below. His optic organs adjusted focus to maximum sharpness, bulging outwards as they did so. The color patch above them gleamed in quick flashes.

Botax felt warmly comfortable to be following color-changes once again, after months in a spy cell on the planet, trying to make sense out of the modulated sound waves emitted by the natives. Communication by flash was almost like being home in the far-off Perseus arm of the Galaxy. "Not two species," he said, "but two forms of one species."

"Nonsense, they look quite different. Vaguely Perse-like, thank the Entity, and not as disgusting in appearance as so many out-forms are. Reasonable shape, recognizable limbs. But no color-patch. Can they speak?"

"Yes, Captain Garm," Botax indulged in a discreetly disapproving prismatic interlude. "The details are in my report. These creatures form sound waves by way of throat and mouth, something like complicated coughing. I have learned to do it myself." He was quietly proud. "It is very difficult."

"It must be stomach-turning. Well, that accounts for their flat, unextensible eyes. Not to speak by color makes eyes largely useless. Meanwhile, how can you insist these are a single species? The one on the left is smaller and has longer tendrils, or whatever it is, and seems differently proportioned. It bulges where this other does not. Are they alive?"

"Alive but not at the moment conscious, Captain. They have been psycho-treated to repress fright in order that they might be studied easily."

"But are they worth study? We are behind our schedule and have at least five worlds of greater moment than this one to check and explore. Maintaining a Time-stasis unit is expensive and I would like to return them and go on."

But Botax's moist spindly body was fairly vibrating with anxiety. His tubular tongue flicked out and curved up and over his flat nose, while his eyes sucked inward. His splayed three-fingered hand made a gesture of negation as his speech went almost entirely into the deep red.

"Entity save us, Captain, for no world is of greater moment to us than this one. We may be facing a supreme crisis. These creatures could be the most dangerous life-forms in the Galaxy, Captain, just because there are two forms."

"I don't follow you."

"Captain, it has been my job to study this planet, and it has been most difficult, for it is unique. It is so unique that I can scarcely comprehend its facets. For instance, almost all life on the planet consists of species in two forms. There are no words to describe it, no concepts even. I can only speak of them as first form and second form. If I may use their sounds, the little one is called 'female,' and the big one, here, 'male,' so the creatures themselves are aware of the difference."

Garm winced, "What a disgusting means of communication."

"And, Captain, in order to bring forth young, the two forms must cooperate."

The Captain, who had bent forward to examine the specimens closely with an expression compounded of interest and revulsion, straightened at once. "Cooperate? What nonsense is this? There is no more fundamental attribute of life than that each living creature bring forth its young in innermost communication with itself. What else makes life worth living?"

"The one form does bring forth life but the other form must cooperate."

"How?"

"That has been difficult to determine. It is something very private and in my search through the available forms of literature I could find no exact and explicit description. But I have been able to make reasonable deductions."

Garm shook his head. "Ridiculous. Budding is the holiest, most private function in the world. On tens of thousands of worlds it is the same. As the great photo-bard, Levuline, said, 'In budding-time, in budding time, in sweet, delightful budding time; when-' "

"Captain, you don't understand. This cooperation between forms brings about somehow (and I am not certain exactly how) a mixture and recombination of genes. It is a device by which in every generation, new combinations of characteristics are brought into existence. Variations are multiplied; mutated genes hastened into expression almost at once where under the usual budding system, millennia might pass first."

"Are you trying to tell me that the genes from one individual can be combined with those of another? Do you know how completely ridiculous that is in the light of all the principles of cellular physiology?"

"It must be so," said Botax nervously under the other's pop-eyed glare. "Evolution is hastened. This planet is a riot of species. There are supposed to be a million and a quarter different species of creatures."

"A dozen and a quarter more likely. Don't accept too completely what you read in the native literature."

"I've seen dozens of radically different species myself in just a small area. I tell you, Captain, give these creatures a short space of time and they will mutate into intellects powerful enough to overtake us and rule the Galaxy."

"Prove that this cooperation you speak of exists, Investigator, and I shall consider your contentions. If you cannot, I shall dismiss all your fancies as ridiculous and we will move on."

"I can prove it." Botax's color-flashes turned intensely yellow-green. "The creatures of this world are unique in another way. They foresee advances they have not yet made, probably as a consequence of their belief in rapid change which, after all, they constantly witness. They therefore indulge in a type of literature involving the space-travel they have never developed. I have translated their term for the literature as 'science-fiction.' Now I have dealt in my readings almost exclusively with science-fiction, for there I thought, in their dreams and fancies, they would expose themselves and their danger to us. And it was from that science-fiction that I deduced the method of their inter-form cooperation."

"How did you do that?"

"There is a periodical on this world which sometimes publishes science-fiction which is, however, devoted almost entirely to the various aspects of the cooperation. It does not speak entirely freely, which is annoying, but persists in merely hinting. Its name as nearly as I can put it into flashes is 'Recreationlad.' The creature in charge, I deduce, is interested in nothing but inter-form cooperation and searches for it everywhere with a systematic and scientific intensity that has roused my awe. He has found instances of cooperation described in science-fiction and I let material in his periodical guide me. From the stories he instanced I have learned how to bring it about.

"And Captain, I beg of you, when the cooperation is accomplished and the young are brought forth before your eyes, give orders not to leave an atom of this world in existence."

"Well," said Captain Garm, wearily, "bring them into full consciousness and do what you must do quickly."

Marge Skidmore was suddenly completely aware of her surroundings. She remembered very clearly the elevated station at the beginning of twilight. It had been almost empty, one man standing near her, another at the other end of the platform. The approaching train had just made itself known as a faint rumble in the distance.

There had then come the flash, a sense of turning inside out, the half-seen vision of a spindly creature, dripping mucus, a rushing upward, and now-

"Oh, God," she said, shuddering. "It's still here. And there's another one, too."

She felt a sick revulsion, but no fear. She was almost proud of herself for feeling no fear. The man next to her, standing quietly as she herself was, but still wearing a battered fedora, was the one that had been near her on the platform.

"They got you, too?" she asked. "Who else?"

Charlie Grimwow, feeling flabby and paunchy, tried to lift his hand to remove his hat and smooth the thin hair that broke up but did not entirely cover the skin of his scalp and found that it moved only with difficulty against a rubbery but hardening resistance. He let his hand drop and looked morosely at the thin-faced woman facing him. She was in her middle thirties, he decided, and her hair was nice and her dress fit well, but at the moment, he just wanted to be somewhere else and it did him no good at all that he had company, even female company.

He said, "I don't know, lady. I was just standing on the station platform."

"Me, too."

"And then I see a flash. Didn't hear nothing. Now here I am. Must be little men from Mars or Venus or one of them places."

Marge nodded vigorously, "That's what I figure. A flying saucer? You scared?"

"No. That's funny, you know. I think maybe I'm going nuts or I would be scared."

"Funny thing. I ain't scared, either. Oh, God, here comes one of them now. If he touches me, I'm going to scream. Look at those wiggly hands. And that wrinkled skin, all slimy; makes me nauseous."

Botax approached gingerly and said, in a voice at once rasping and screechy, this being the closest he could come to imitating the native timbre, "Creatures! We will not hurt you. But we must ask you if you would do us the favor of cooperating."

"Hey, it talks!" said Charlie. "What do you mean, cooperate."

"Both of you. With each other," said Botax. ; "Oh?" He looked at Marge. "You know what he means, lady?"

"Ain't got no idea whatsoever," she answered loftily.

Botax said, "What I mean-" and he used the short term he had once heard employed as a synonym for the process.

Marge turned red and said, "What!" in the loudest scream she could manage. Both Botax and Captain Garm put their hands over their mid-regions to cover the auditory patches that trembled painfully with the decibels.

Marge went on rapidly, and nearly incoherently. "Of all things. I'm a married woman, you. If my Ed was here, you'd hear from him. And you, wise guy," she twisted toward Charlie against rubbery resistance, "whoever you are, if you think-"

"Lady, lady," said Charlie in uncomfortable desperation. "It ain't my idea. I mean, far be it from me, you know, to turn down some lady, you know; but me, I'm married, too. I got three kids. Listen-"

Captain Garm said, "What's happening, Investigator Botax? These cacophonous sounds are awful."

"Well," Botax flashed a short purple patch of embarrassment. "This forms a complicated ritual. They are supposed to be reluctant at first. It f heightens the subsequent result. After that initial stage, the skins must be removed."

"They have to be skinned?"

"Not really skinned. Those are artificial skins that can be removed painlessly, and must be. Particularly in the smaller form."

"All right, then. Tell it to remove the skins. Really, Botax, I don't find this pleasant."

"I don't think I had better tell the smaller form to remove the skins. I think we had better follow the ritual closely. I have here sections of those space-travel tales which the man from the 'Recreationlad' periodical spoke highly of. In those tales the skins are removed forcibly. Here is a description of an accident, for instance 'which played havoc with the girl's dress, ripping it nearly off her slim body. For a second, he felt the warm firmness of her half-bared bosom against his cheek-' It goes on that way. You see, the ripping, the forcible removal, acts as a stimulus."

"Bosom?" said the Captain. "I don't recognize the flash."

"I invented that to cover the meaning. It refers to the bulges on the upper dorsal region of the smaller form."

"I see. Well, tell the larger one to rip the skins off the smaller one. What a dismal thing this is."

Botax turned to Charlie. "Sir," he said, "rip the girl's dress nearly off her slim body, will you? I will release you for the purpose."

Marge's eyes widened and she twisted toward Charlie in instant outrage. "Don't you dare do that, you. Don't you dare touch me, you sex maniac."

"Me?" said Charlie plaintively. "It ain't my idea. You think I go around ripping dresses? Listen," he turned to Botax, "I got a wife and three kids. She finds out I go around ripping dresses, I get clobbered. You know what my wife does when I just look at some dame? Listen-"

"Is he still reluctant?" said the Captain, impatiently.

"Apparently," said Botax. "The strange surroundings, you know, may be extending that stage of the cooperation. Since I know this is unpleasant for you, I will perform this stage of the ritual myself. It is frequently written in the space-travel tales that an outer-world species performs the task. For instance, here," and he riffled through his notes finding the one he wanted, "they describe a very awful such species. The creatures on the planet have foolish notions, you understand. It never occurs to them to imagine handsome individuals such as ourselves, with a fine mucous cover."

"Go on! Go on! Don't take all day," said the Captain.

"Yes, Captain. It says here that the extraterrestrial 'came forward to where the girl stood. Shrieking hysterically, she was cradled in the monster's embrace. Talons ripped blindly at her body, tearing the kirtle away in rags.' You see, the native creature is shrieking with stimulation as her skins are removed."

"Then go ahead, Botax, remove it. But please, allow no shrieking. I'm trembling all over with the sound waves."

Botax said politely to Marge, "If you don't mind-"

One spatulate finger made as though to hook on to the neck of the dress.

Marge wiggled desperately. "Don't touch. Don't touch! You'll get slime on it. Listen, this dress cost \$24.95 at Ohrbach's. Stay away, you monster. Look at those eyes on him." She was panting in her desperate efforts to dodge the groping, extraterrestrial hand. "A slimy, bug-eyed monster, that's what he is. Listen, I'll take it off myself. Just don't touch it with slime, for God's sake."

She fumbled at the zipper, and said in a hot aside to Charlie, "Don't you dast look."

Charlie closed his eyes and shrugged in resignation.

She stepped out of the dress. "All right? You satisfied?"

Captain Garm's fingers twitched with unhappiness. "Is that the bosom? Why does the other creature keep its head turned away?"

"Reluctance. Reluctance," said Botax. "Besides, the bosom is still covered. Other skins must be removed. When bared, the bosom is a very strong stimulus. It is constantly

described as ivory globes, or white spheres, or otherwise after that fashion. I have here drawings, visual picturizations, that come from the outer covers of the space-travel magazines. If you will inspect them, you will see that upon every one of them, a creature is present with a bosom more or less exposed."

The Captain looked thoughtfully from the illustrations to Marge and back. "What is ivory?"

"That is another made-up flash of my own. It represents the tusky material of one of the large sub-intelligent creatures on the planet."

"Ah," and Captain Garm went into a pastel green of satisfaction. "That explains it. This small creature is one of a warrior sect and those are tusks with which to smash the enemy."

"No, no. They are quite soft, I understand." Botax's small brown hand flicked outward in the general direction of the objects under discussion and Marge screamed and shrank away.

"Then what other purpose do they have?"

"I think," said Botax with considerable hesitation, "that they are used to feed the young."

"The young eat them?" asked the Captain with every evidence of deep distress.

"Not exactly. The objects produce a fluid which the young consume."

"Consume a fluid from a living body? Yech-h-h." The Captain covered his head with all three of his arms, calling the central supernumerary into use for the purpose, slipping it out of its sheath so rapidly as almost to knock Botax over.

"A three-armed, slimy, bug-eyed monster," said Marge.

"Yeah," said Charlie.

"All right you, just watch those eyes. Keep them to yourself."

"Listen, lady. I'm trying not to look."

Botax approached again. "Madam, would you remove the rest?"

Marge drew herself up as well as she could against the pinioning field. "Never!"

"I'll remove it, if you wish."

"Don't touch! For God's sake, don't touch. Look at the slime on him, will you? All right, I'll take it off." She was muttering under her breath and looking hotly in Charlie's direction as she did so.

"Nothing is happening," said the Captain, in deep dissatisfaction, "and this seems an imperfect specimen."

Botax felt the slur on his own efficiency. "I brought you two perfect specimens. What's wrong with the creature?"

"The bosom does not consist of globes or spheres. I know what globes or spheres are and in these pictures you have shown me, they are so depicted. Those are large globes. On this creature, though, what we have are nothing but small flaps of dry tissue. And they're discolored, too, partly."

"Nonsense," said Botax. "You must allow room for natural variation. I will put it to the creature herself."

He turned to Marge, "Madam, is your bosom imperfect?"

Marge's eyes opened wide and she struggled vainly for moments without doing anything more than gasp loudly. "Really" she finally managed. "Maybe I'm no Gina Lollobrigida or Anita Ekberg, but I'm perfectly all right, thank you. Oh boy, if my Ed were only here." She turned to Charlie. "Listen, you, you tell this bug-eyed slimy thing here, there ain't nothing wrong with my development."

"Lady," said Charlie, softly. "I ain't looking, remember?"

"Oh, sure, you ain't looking. You been peeking enough, so you might as well just open your crummy eyes and stick up for a lady, if you're the least bit of a gentleman, which you probably ain't."

"Well," said Charlie, looking sideways at Marge, who seized the opportunity to inhale and throw her shoulders back, "I don't like to get mixed up in a kind of delicate matter like this, but you're all right-I guess."

"You guess? You Hind or something? I was once runner-up for Miss Brooklyn, in case you don't happen to know, and where I missed out was on waist-line, not on-"

Charlie said, "All right, all right. They're fine. Honest." He nodded vigorously in Botax's direction. "They're okay. I ain't that much of an expert, you understand, but they're okay by me."

Marge relaxed.

Botax felt relieved. He turned to Garm. "The bigger form expresses interest, Captain. The stimulus is working. Now for the final step."

"And what is that?"

"There is no flash for it, Captain. Essentially, it consists of placing the speaking-and-eating apparatus of one against the equivalent apparatus of the other. I have made up a flash for the process, thus kiss."

"Will nausea never cease?" groaned the Captain.

"It is the climax. In all the tales, after the skins are removed by force, they clasp each other with limbs and indulge madly in burning kisses, to translate as nearly as possible the phrase most frequently used. Here is one example, just one, taken at random: 'He held the girl, his mouth avid on her lips.'"

"Maybe one creature was devouring the other," said the Captain.

"Not at all," said Botax impatiently. "Those were burning kisses."

"How do you mean, burning? Combustion takes place?"

"I don't think literally so. I imagine it is a way of expressing the fact that the temperature goes up. The higher the temperature, I suppose, the more successful the production of young. Now that the big form is properly stimulated, he need only place his mouth against hers to produce young. The young will not be produced without that step. It is the cooperation I have been speaking of."

"That's all? Just this-" The Captain's hands made motions of coming together, but he could not bear to put the thought into flash form.

"That's all," said Botax. "In none of the tales; not even in 'Recreationlad,' have I found a description of any further physical activity in connection with young-bearing."

Sometimes after the kissing, they write a line of symbols like little stars, but I suppose that merely means more kissing; one kiss for each star, when they wish to produce a multitude of young."

"Just one, please, right now."

"Certainly, Captain."

Botax said with grave distinctness, "Sir, would you kiss the lady?" Charlie said, "Listen, I can't move."

"I will free you, of course."

"The lady might not like it."

Marge glowered. "You bet your damn boots, I won't like it. You just stay away."

"I would like to, lady, but what do they do if I don't? Look, I don't want to get them mad. We can just-you know-make like a little peck."

She hesitated, seeing the justice of the caution. "All right. No funny stuff, though. I ain't in the habit of standing around like this in front of every Tom, Dick and Harry, you know."

"I know that, lady. It was none of my doing. You got to admit that."

Marge muttered angrily, "Regular slimy monsters. Must think they're some kind of gods or something, the way they order people around. Slime gods is what they are!"

Charlie approached her. "If it's okay now, lady." He made a vague motion as though to tip his hat. Then he put his hands awkwardly on her bare shoulders and leaned over in a gingerly pucker.

Marge's head stiffened so that lines appeared in her neck. Their lips met.

Captain Garm flashed fretfully. "I sense no rise in temperature." His heat-detecting tendril had risen to full extension at the top of his head and remained quivering there.

"I don't either," said Botax, rather at a loss, "but we're doing it just as the space travel stories tell us to. I think his limbs should be more extended- Ah, like that. See, it's working."

Almost absently, Charlie's arm had slid around Marge's soft, nude torso. For a moment, Marge seemed to yield against him and then she suddenly writhed hard against the pinioning field that still held her with fair firmness.

"Let go." The words were muffled against the pressure of Charlie's lips. She bit suddenly, and Charlie leaped away with a wild cry, holding his lower lip, then looking at his fingers for blood.

"What's the idea, lady?" he demanded plaintively.

She said, "We agreed just a peck, is all. What were you starting there? You some kind of playboy or something? What am I surrounded with here? Playboy and the slime gods?"

Captain Garm flashed rapid alternations of blue and yellow. "Is it done? How long do we wait now?"

"It seems to me it must happen at once. Throughout all the universe, when you have to bud, you bud, you know. There's no waiting."

"Yes? After thinking of the foul habits you have been describing, I don't think I'll ever bud again. Please get this over with."

"Just a moment, Captain."

But the moments passed and the Captain's flashes turned slowly to a brooding orange, while Botax's nearly dimmed out altogether.

Botax finally asked hesitantly, "Pardon me, madam, but when will you bud?"

"When will I what?"

"Bear young?"

"I've got a kid."

"I mean bear young now."

"I should say not. I ain't ready for another kid yet."

"What? What?" demanded the Captain. "What's she saying?"

"It seems," said Botax, "she does not intend to have young at the moment."

The Captain's color patch blazed brightly. "Do you know what I think, Investigator? I think you have a sick, perverted mind. Nothing's happening to these creatures. There is no cooperation between them, and no young to be borne. I think they're two different species and that you're playing some kind of foolish game with me."

"But, Captain-" said Botax.

"Don't but Captain me," said Garm. "I've had enough. You've upset me, turned my stomach, nauseated me, disgusted me with the whole notion of budding and wasted my time. You're just looking for headlines and personal glory and I'll see to it that you don't get them. Get rid of these creatures now. Give that one its skins back and put them back where you found them. I ought to take the expense of maintaining Time-stasis all this time out of your salary."

"But, Captain-"

"Back, I say. Put them back in the same place and at the same instant of time. I want this planet untouched, and I'll see to it that it stays untouched." He cast one more furious glance at Botax. "One species, two forms, bosoms, kisses, cooperation, BAH- You are a fool, Investigator, a dolt as well and, most of all, a sick, sick, sick creature."

There was no arguing. Botax, limbs trembling, set about returning the creatures.

They stood there at the elevated station, looking around wildly. It was twilight over them, and the approaching train was just making itself known as a faint rumble in the distance.

Marge said, hesitantly, "Mister, did it really happen?"

Charlie nodded. "I remember it."

Marge said, "We can't tell anybody."

"Sure not. They'd say we was nuts. Know what I mean?"

"Uh-huh. Well," she edged away.

Charlie said, "Listen. I'm sorry you was embarrassed. It was none of my doing."

"That's all right. I know." Marge's eyes considered the wooden platform at her feet. The sound of the train was louder.

"I mean, you know, lady, you wasn't really bad. In fact, you looked good, but I was kind of embarrassed to say that."

Suddenly, she smiled. "It's all right."

"You want maybe to have a cup of coffee with me just to relax you? My wife, she's not really expecting me for a while."

"Oh? Well, Ed's out of town for the weekend so I got only an empty apartment to go home to. My little boy is visiting at my mother's." She explained.

"Come on, then. We been kind of introduced."

"I'll say." She laughed.

The train pulled in, but they turned away, walking down the narrow stairway to the street.

They had a couple of cocktails actually, and then Charlie couldn't let her go home in the dark alone, so he saw her to her door. Marge was bound to invite him in for a few moments, naturally.

Meanwhile, back in the spaceship, the crushed Botax was making a final effort to prove his case. While Garm prepared the ship for departure Botax hastily set up the tight-beam visiscreen for a last look at his specimens. He focused in on Charlie and Marge in her apartment. His tendril stiffened and he began flashing in a coruscating rainbow of colors. "Captain Garm! Captain! Look what they're doing now!" But at that very instant the ship winked out of Time-stasis.

THE MACHINE THAT WON THE WAR

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The celebration had a long way to go and even in the silent depths of Multivac's underground chambers, it hung in the air.

If nothing else, there was the mere fact of isolation and silence. For the first time in a decade, technicians were not scurrying about the vitals of the giant computer, the soft lights did not wink out their erratic patterns, the flow of information in and out had halted.

It would not be halted long, of course, for the needs of peace would be pressing. Yet now, for a day, perhaps for a week, even Multivac might celebrate the great time, and rest.

Lamar Swift took off the military cap he was wearing and looked down the long and empty main corridor of the enormous computer. He sat down rather wearily in one of the technician's swing-stools, and his uniform, in which he had never been comfortable, took on a heavy and wrinkled appearance.

He said, "I'll miss it all after a grisly fashion. It's hard to remember when we weren't at war with Deneb, and it seems against nature now to be at peace and to look at the stars without anxiety."

The two men with the Executive Director of the Solar Federation were both younger than Swift. Neither was as gray. Neither looked quite as tired.

John Henderson, thin-lipped and finding it hard to control the relief he felt in the midst of triumph, said, "They're destroyed! They're destroyed! It's what I keep saying to myself over and over and I still can't believe it. We all talked so much, over so many years, about the menace hanging over Earth and all its worlds, over every human being, and all the time it was true, every word of it. And now we're alive and it's the Denebians who are shattered and destroyed. They'll be no menace now, ever again."

"Thanks to Multivac," said Swift, with a quiet glance at the imperturbable Jablonsky, who through all the war had been Chief Interpreter of science's oracle. "Right, Max?"

Jablonsky shrugged. Automatically, he reached for a cigarette and decided against it. He alone, of all the thousands who had lived in the tunnels within Multivac, had been allowed to smoke, but toward the end he had made definite efforts to avoid making use of the privilege.

He said, "Well, that's what they say." His broad thumb moved in the direction of his right shoulder, aiming upward.

"Jealous, Max?"

"Because they're shouting for Multivac? Because Multivac is the big hero of mankind in this war?" Jablonsky's craggy face took on an air of suitable contempt. "What's that to me? Let Multivac be the machine that won the war, if it pleases them."

Henderson looked at the other two out of the corners of his eyes. In this short interlude that the three had instinctively sought out in the one peaceful corner of a metropolis gone mad; in this entr'acte between the dangers of war and the difficulties of peace; when, for one moment, they might all find surcease; he was conscious only of his weight of guilt.

Suddenly, it was as though that weight were too great to be borne longer. It had to be thrown off, along with the war; now!

Henderson said, "Multivac had nothing to do with victory. It's just a machine."

"A big one," said Swift.

"Then just a big machine. No better than the data fed it." For a moment, he stopped, suddenly unnerved at what he was saying.

Jablonsky looked at him, his thick fingers once again fumbling for a cigarette and once again drawing back. "You should know. You supplied the data. Or is it just that you're taking the credit?"

"Wo," said Henderson, angrily. "There is no credit. What do you know of the data Multivac had to use; predigested from a hundred subsidiary computers here on Earth, on the Moon, on Mars, even on Titan. With Titan always delayed and always that feeling that its figures would introduce an unexpected bias."

"It would drive anyone mad," said Swift, with gentle sympathy.

Henderson shook his head. "It wasn't just that. I admit that eight years ago when I replaced Lepont as Chief Programmer, I was nervous. But there was an exhilaration about things in those days. The war was still long-range; an adventure without real danger. We hadn't reached the point where manned vessels had had to take over and where interstellar warps could swallow up a planet clean, if aimed correctly. But then, when the real difficulties began-

Angrily-he could finally permit anger-he said, "You know nothing about it."

"Well," said Swift. "Tell us. The war is over. We've won."

"Yes." Henderson nodded his head. He had to remember that. Earth had won so all had been for the best. "Well, the data became meaningless."

"Meaningless? You mean that literally?" said Jablonsky.

"Literally. What would you expect? The trouble with you two was that you weren't out in the thick of it. You never left Multivac, Max, and you, Mr. Director, never left the Mansion except on state visits where you saw exactly what they wanted you to see."

"I was not as unaware of that," said Swift, "as you may have thought."

"Do you know," said Henderson, "to what extent data concerning our production capacity, our resource potential, our trained manpower-everything of importance to the war effort, in fact-had become unreliable and untrustworthy during the last half of the war? Group leaders, both civilian and military, were intent on projecting their own improved image, so to speak, so they obscured the bad and magnified the good."

Whatever the machines might do, the men who programmed them and interpreted the results had their own skins to think of and competitors to stab. There was no way of stopping that. I tried, and failed."

"Of course," said Swift, in quiet consolation. "I can see that you would."

This time Jablonsky decided to light his cigarette. "Yet I presume you provided Multivac with data in your programming. You said nothing to us about unreliability."

"How could I tell you? And if I did, how could you afford to believe me?" demanded Henderson, savagely. "Our entire war effort was geared to Multivac. It was the one great weapon on our side, for the Denebians had nothing like it. What else kept up morale in the face of doom but the assurance that Multivac would always predict and circumvent any Denebian move, and would always direct and prevent the circumvention of our moves? Great Space, after our Spy-warp was blasted out of hyperspace we lacked any reliable Denebian data to feed Multivac and we didn't dare make that public."

"True enough," said Swift.

"Well, then," said Henderson, "if I told you the data was unreliable, what could you have done but replace me and refuse to believe me? I couldn't allow that."

"What did you do?" said Jablonsky.

"Since the war is won, I'd tell you what I did. I corrected the data."

"How?" asked Swift.

"Intuition, I presume. I juggled them till they looked right. At first, I hardly dared, I changed a bit here and there to correct what were obvious impossibilities. When the sky didn't collapse about us, I got braver. Toward the end, I scarcely cared. I just wrote out the necessary data as it was needed. I even had the Multivac Annex prepare data for me according to a private programming pattern I had devised for the purpose."

"Random figures?" said Jablonsky.

"Not at all. I introduced a number of necessary biases."

Fablonsky smiled, quite unexpectedly, his dark eyes sparkling behind the crinkling of the lower lids. "Three times a report was brought me about unauthorized uses of the Annex, and I let it go each time. If it had mattered, I would have followed it up and spotted you, John, and found out what you were doing. But, of course, nothing about Multivac mattered in those days, so you got away with it."

"What do you mean, nothing mattered?" asked Henderson, suspiciously.

"Nothing did. I suppose if I had told you this at the time, it would have spared you your agony, but then if you had told me what you were doing, it would have spared me mine. What made you think Multivac was in working order, whatever the data you supplied it?"

"Not in working order?" said Swift.

"Not really. Not reliably. After all, where were my technicians in the last years of the war? I'll tell you, they were feeding computers on a thousand different space devices. They were gone! I had to make do with kids I couldn't trust and veterans who were out-of-date. Besides, do you think I could trust the solid-state components coming out of Cryogenics in the last years? Cryogenics wasn't any better placed as far as personnel was

concerned than I was. To me, it didn't matter whether the data being supplied Multivac were reliable or not. The results weren't reliable. That much I knew."

"What did you do?" asked Henderson.

"I did what you did, John. I introduced the bugger factor. I adjusted matters in accordance with intuition-and that's how the machine won the war."

Swift leaned back in the chair and stretched his legs out before him. "Such revelations. It turns out then that the material handed me to guide me in my decision-making capacity was a man-made interpretation of man-made data. Isn't that right?"

"It looks so," said Jablonsky.

"Then I perceive I was correct in not placing too much reliance upon it," said Swift.

"You didn't?" Jablonsky, despite what he had just said, managed to look professionally insulted.

"I'm afraid I didn't. Multivac might seem to say, Strike here, not there; do this, not that; wait, don't act. But I could never be certain that what Multivac seemed to say, it really did say; or what it really said, it really meant. I could never be certain."

"But the final report was always plain enough, sir," said Jablonsky.

"To those who did not have to make the decision, perhaps. Not to me. The horror of the responsibility of such decisions was unbearable and not even Multivac was sufficient to remove the weight. But the point is I was justified in doubting and there is tremendous relief in that."

Caught up in the conspiracy of mutual confession, Jablonsky put titles aside, "What was it you did then, Lamar? After all, you did make decisions. How?"

"Well, it's time to be getting back perhaps but-I'll tell you first. Why not? I did make use of a computer, Max, but an older one than Multivac, much older."

He groped in his own pocket for cigarettes, and brought out a package along with a scattering of small change; old-fashioned coins dating to the first years before the metal shortage had brought into being a credit system tied to a computer-complex.

Swift smiled rather sheepishly. "I still need these to make money seem substantial to me. An old man finds it hard to abandon the habits of youth." He put a cigarette between his lips and dropped the coins one by one back into his pocket.

He held the last coin between his fingers, staring absently at it. "Multivac is not the first computer, friends, nor the best-known, nor the one that can most efficiently lift the load of decision from the shoulders of the executive. A machine did win the war, John; at least a very simple computing device did; one that I used every time I had a particularly hard decision to make."

With a faint smile of reminiscence, he flipped the coin he held. It glinted in the air as it spun and came down in Swift's outstretched palm. His hand closed over it and brought it down on the back of his left hand. His right hand remained in place, hiding the coin.

"Heads or tails, gentlemen?" said Swift.

MY SON, THE PHYSICIST

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Her hair was light apple-green in color, very subdued, very old-fashioned. You could see she had a delicate hand with the dye, the way they did thirty years ago, before the streaks and stipples came into fashion.

She had a sweet smile on her face, too, and a calm look that made something serene out of elderliness.

And, by comparison, it made something shrieking out of the confusion that enfolded her in the huge government building.

A girl passed her at a half-run, stopped and turned toward her with a blank stare of astonishment. "How did you get in?"

The woman smiled. "I'm looking for my son, the physicist."

"Your son, the-"

"He's a communications engineer, really. Senior Physicist Gerard Cremona."

"Dr. Cremona. Well, he's- Where's your pass?"

"Here it is. I'm his mother."

"Well, Mrs. Cremona, I don't know. I've got to- His office is down there. You just ask someone." She passed on, running.

Mrs. Cremona shook her head slowly. Something had happened, she supposed. She hoped Gerard was all right.

She heard voices much farther down the corridor and smiled happily. She could tell Gerard's.

She walked into the room and said, "Hello, Gerard."

Gerard was a big man, with a lot of hair still and the gray just beginning to show because he didn't use dye. He said he was too busy. She was very proud of him and the way he looked.

Right now, he was talking volubly to a man in army uniform. She couldn't tell the rank, but she knew Gerard could handle him.

Gerard looked up and said, "What do you- Mother! What are you doing here?"

"I was coming to visit you today."

"Is today Thursday? Oh Lord, I forgot. Sit down, Mother, I can't talk now. Any seat. Any seat. Look, General."

General Reiner looked over his shoulder and one hand slapped against the other in the region of the small of his back. "Your mother?"

"Yes."

"Should she be here?"

"Right now, no, but I'll vouch for her. She can't even read a thermometer so nothing of this will mean anything to her. Now look, General. They're on Pluto. You see? They are. The radio signals can't be of natural origin so they must originate from human beings, from our men. You'll have to accept that. Of all the expeditions we've sent out beyond the planetoid belt, one turns out to have made it. And they've reached Pluto."

"Yes, I understand what you're saying, but isn't it impossible just the same? The men who are on Pluto now were launched four years ago with equipment that could not have kept them alive more than a year. That is my understanding. They were aimed at Ganymede and seem to have gone eight times the proper distance."

"Exactly. And we've got to know how and why. They may-just-have- had-help."

"What kind? How?"

Cremona clenched his jaws for a moment as though praying inwardly. "General," he said, "I'm putting myself out on a limb but it is just barely possible non-humans are involved. Extra-terrestrials. We've got to find out. We don't know how long contact can be maintained."

"You mean" (the General's grave face twitched into an almost-smile) "they may have escaped from custody and they may be recaptured again at any time."

"Maybe. Maybe. The whole future of the human race may depend on our knowing exactly what we're up against. Knowing it now."

"All right. What is it you want?"

"We're going to need Army's Multivac computer at once. Rip out every problem it's working on and start programming our general semantic problem. Every communications engineer you have must be pulled off anything he's on and placed into coordination with our own."

"But why? I fail to see the connection."

A gentle voice interrupted. "General, would you like a piece of fruit? I brought some oranges."

Cremona said, "Mother! Please! Later! General, the point is a simple one. At the present moment Pluto is just under four billion miles away. It takes six hours for radio waves, traveling at the speed of light, to reach from here to there. If we say something, we must wait twelve hours for an answer. If they say something and we miss it and say 'what' and they repeat-bang, goes a day."

"There's no way to speed it up?" said the General.

"Of course not. It's the fundamental law of communications. No information can be transmitted at more than the speed of light. It will take months to carry on the same conversation with Pluto that would take hours between the two of us right now."

"Yes, I see that. And you really think extra-terrestrials are involved?"

"I do. To be honest, not everyone here agrees with me. Still, we're straining every nerve, every fiber, to devise some method of concentrating communication. We must get in as many bits per second as possible and pray we get what we need before we lose contact. And there's where I need Multivac and your men. There must be some communications strategy we can use that will reduce the number of signals we need send

out. Even an increase of ten percent in efficiency can mean perhaps a week of time saved."

The gentle voice interrupted again. "Good grief, Gerard, are you trying to get some talking done?"

"Mother! Please!"

"But you're going about it the wrong way. Really."

"Mother." There was a hysterical edge to Cremona's voice.

"Well, all right, but if you're going to say something and then wait twelve hours for an answer, you're silly. You shouldn't."

The General snorted. "Dr. Cremona, shall we consult-"

"Just one moment, General," said Cremona. "What are you getting at, Mother?"

"While you're waiting for an answer," said Mrs. Cremona, earnestly, "just keep on transmitting and tell them to do the same. You talk all the time and they talk all the time. You have someone listening all the time and they do, too. If either one of you says anything that needs an answer, you can slip one in at your end, but chances are, you'll get all you need without asking."

Both men stared at her.

Cremona whispered, "Of course. Continuous conversation. Just twelve hours out of phase, that's all. God, we've got to get going."

He strode out of the room, virtually dragging the General with him, then strode back in.

"Mother," he said, "if you'll excuse me, this will take a few hours, I think. I'll send in some girls to talk to you. Or take a nap, if you'd rather."

"I'll be all right, Gerard," said Mrs. Cremona.

"Only, how did you think of this, Mother? What made you suggest this?"

"But, Gerard, all women know it. Any two women-on the video-phone, or on the stratowire, or just face to face-know that the whole secret to spreading the news is, no matter what, to Just Keep Talking."

Cremona tried to smile. Then, his lower lip trembling, he turned and left.

Mrs. Cremona looked fondly after him. Such a fine man, her son, the physicist. Big as he was and important as he was, he still knew that a boy should always listen to his mother.

EYES DO MORE THAN SEE

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After hundreds of billions of years, he suddenly thought of himself as Ames. Not the wavelength combination which, through all the universe was now the equivalent of Ames-but the sound itself. A faint memory came back of the sound waves he no longer heard and no longer could hear.

The new project was sharpening his memory for so many more of the old, old, eons-old things. He flattened the energy vortex that made up the total of his individuality and its lines of force stretched beyond the stars.

Brock's answering signal came.

Surely, Ames thought, he could tell Brock. Surely he could tell somebody.

Brock's shifting energy pattern communed, "Aren't you coming, Ames?"

"Of course."

"Will you take part in the contest?"

"Yes!" Ames's lines of force pulsed erratically. "Most certainly. I have thought of a whole new art-form. Something really unusual."

"What a waste of effort! How can you think a new variation can be thought of after two hundred billion years. There can be nothing new."

For a moment Brock shifted out of phase and out of communion, so that Ames had to hurry to adjust his lines of force. He caught the drift of other-thoughts as he did so, the view of the powdered galaxies against the velvet of nothingness, and the lines of force pulsing in endless multitudes of energy-life, lying between the galaxies.

Ames said, "Please absorb my thoughts, Brock. Don't close out. I've thought of manipulating Matter. Imagine! A symphony of Matter. Why bother with Energy. Of course, there's nothing new in Energy; how can there be? Doesn't that show we must deal with Matter?"

"Matter!"

Ames interpreted Brock's energy-vibrations as those of disgust.

He said, "Why not? We were once Matter ourselves back-back- Oh, a trillion years ago anyway! Why not build up objects in a Matter medium, or abstract forms or-listen, Brock-why not build up an imitation of ourselves in Matter, ourselves as we used to be?"

Brock said, "I don't remember how that was. No one does."

"I do," said Ames with energy, "I've been thinking of nothing else and I am beginning to remember. Brock, let me show you. Tell me if I'm right. Tell me."

"No. This is silly. It's-repulsive."

"Let me try, Brock. We've been friends; we've pulsed energy together from the beginning-from the moment we became what we are. Brock, please!"

"Then, quickly."

Ames had not felt such a tremor along his own lines of force in-well, in how long? If he tried it now for Brock and it worked, he could dare manipulate Matter before the assembled Energy-beings who had so drearily waited over the eons for something new.

The Matter was thin out there between the galaxies, but Ames gathered it, scraping it together over the cubic light-years, choosing the atoms, achieving a clayey consistency and forcing matter into an ovoid form that spread out below.

"Don't you remember, Brock?" he asked softly. "Wasn't it something like this?"

Brock's vortex trembled in phase. "Don't make me remember. I don't remember."

"That was the head. They called it the head. I remember it so clearly, I want to say it. I mean with sound." He waited, then said, "Look, do you remember that?"

On the upper front of the ovoid appeared HEAD.

"What is that?" asked Brock.

"That's the word for head. The symbols that meant the word in sound. Tell me you remember, Brock!"

"There was something," said Brock hesitantly, "something in the middle." A vertical bulge formed.

Ames said, "Yes! Nose, that's it!" And NOSE appeared upon it. "And those are eyes on either side," LEFT EYE-RIGHT EYE.

Ames regarded what he had formed, his lines of force pulsing slowly. Was he sure he liked this?

"Mouth," he said, in small quiverings, "and chin and Adam's apple, and the collarbones. How the words come back to me." They appeared on the form.

Brock said, "I haven't thought of them for hundreds of billions of years. Why have you reminded me? Why?"

Ames was momentarily lost in his thoughts, "Something else. Organs to hear with; something for the sound waves. Ears! Where do they go? I don't remember where to put them!"

Brock cried out, "Leave it alone! Ears and all else! Don't remember!"

Ames said, uncertainly, "What is wrong with remembering?"

"Because the outside wasn't rough and cold like that but smooth and warm. Because the eyes were tender and alive and the lips of the mouth trembled and were soft on mine." Brock's lines of force beat and wavered, beat and wavered.

Ames said, "I'm sorry! I'm sorry!"

"You're reminding me that once I was a woman and knew love; that eyes do more than see and I have none to do it for me."

With violence, she added matter to the rough-hewn head and said, "Then let them do it" and turned and fled.

And Ames saw and remembered, too, that once he had been a man. The force of his vortex split the head in two and he fled back across the galaxies on the energy-track of Brock-back to the endless doom of life.

And the eyes of the shattered head of Matter still glistened with the moisture that Brock had placed there to represent tears. The head of Matter did that which the energy-beings could do no longer and it wept for all humanity, and for the fragile beauty of the bodies they had once given up, a trillion years ago.

I JUST MAKE THEM UP, SEE!

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Oh, Dr. A. -
Oh, Dr. A. -
There is something (don't go 'way)
That I'd like to hear you say.
Though I'd rather die
Than try
To pry,
The fact, you'll find,
Is that my mind
Has evolved the jackpot question for today.
I intend no cheap derision,
So please answer with decision,
And, discarding all your petty cautious fears,
Tell the secret of your vision!
How on earth
Do you give birth
To those crazy and impossible ideas?
Is it indigestion
And a question
Of the nightmare that results?
Of your eyeballs whirling,
Twirling,
Fingers curling
And unfurling,
While your blood beats maddened chimes
As it keeps impassioned times
With your thick, uneven pulse?
Is it that, you think, or liquor
That brings on the wildness quicker?
For a teeny
Weeny
Dry martini
May be just your private genie;
Or perhaps those Tom and ferries
You will find the very

Berries
For inducing
And unloosing
That weird gimmick or that kicker;
Or an awful
Combination
Of unlawful
Stimulation,
Marijuana plus tequila,
That will give you just that feel o'
Things a-clicking
And unsticking
As you start your cerebation
To the crazy syncopation
Of a brain a-tocking-ticking.
Surely something, Dr. A.,
Makes you fey And quite outrt.
Since I read you with devotion,
Won't you give me just a notion
Of that shrewdly pepped-up potion
Out of which emerge your plots?
That wild secret bubbly mixture
That has made you such a fixture
In most favored s.f. spots-
Now, Dr. A., Don't go away-
Oh, Dr. A. –
Oh, Dr. A. –

REJECTION SLIPS

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a-Learned

Dear Asimov, all mental laws
Prove orthodoxy has its flaws.
Consider that eclectic clause
In Kant's philosophy that gnaws
With ceaseless anti-logic jaws
At all outworn and useless saws
That stick in modern mutant craws.
So here's your tale (with faint applause).
The words above show ample cause.

b-Gruff

Dear Ike, I was prepared
(And, boy, I really cared)
To swallow almost anything you wrote.
But, Ike, you're just plain shot,
Your writing's gone to pot,
There's nothing left but hack and mental bloat.
Take back this piece of junk;
It smelled; it reeked; it stunk;
Just glancing through it once was deadly rough.
But Ike, boy, by and by,
Just try another try. I need some yams and, kid, I love your stuff.

c-Kindly

Dear Isaac, friend of mine,
I thought your tale was fine.
Just frightful-
Ly delightful
And with merits all a-shine.
It meant a quite full
Night, full,

Friend, of tension
Then relief
And attended
With full measure
Of the pleasure
Of suspended
Disbelief.
It is truthful,
Scarcely rightful,
Almost spiteful
To declare
That some tiny faults are there.
Nothing much,
Perhaps a touch,
And over such
You shouldn't pine.
So let me say
Without delay,
My pal, my friend,
Your story's end
Has left me gay
And joyfully composed.
P. S.
Oh, yes,
I must confess
(With some distress)
Your story is regretfully enclosed.

THE COMPLETE ROBOT

1983

Dedicated To:

Marjorie Goldstein
David Bearinger
Hugh O'Neill

For whom books are in progress

INTRODUCTION

By the time I was in my late teens and already a hardened science fiction reader, I had read many robot stories and found that they fell into two classes.

In the first class there was Robot-as-Menace. I don't have to explain that overmuch. Such stories were a mixture of "clank-clank" and "aarghh" and "There are some things man was not meant to know." After a while, they palled dreadfully and I couldn't stand them.

In the second class (a much smaller one) there was Robot-as-Pathos. In such stories the robots were lovable and were usually put upon by cruel human beings. These charmed me. In late 1938 two such stories hit the stands that particularly impressed me. One was a short story by Eando Binder entitled "I, Robot," about a saintly robot named Adam Link; another was a story by Lester del Rey, entitled "Helen O'Loy," that touched me with its portrayal of a robot that was everything a loyal wife should be.

When, therefore, on June 10, 1939 (yes, I do keep meticulous records), I sat down to write my first robot story, there was no question that I fully intended to write a Robot-as-Pathos story. I wrote "Robbie," about a robot nurse and a little girl and love and a prejudiced mother and a weak father and a broken heart and a tearful reunion. (It originally appeared under the title-one I hated-of "Strange Playfellow.")

But something odd happened as I wrote this first story. I managed to get the dim vision of a robot as neither Menace nor Pathos. I began to think of robots as industrial products built by matter-of-fact engineers. They were built with safety features so they weren't Menaces and they were fashioned for certain jobs so that no Pathos was necessarily involved.

As I continued to write robot stories, this notion of carefully engineered industrial robots permeated my stories more and more until the whole character of robot stories in serious printed science fiction changed-not only that of my own stories, but of just about everybody's.

That made me feel good and for many years, decades even, I went about freely admitting that I was "the father of the modern robot story."

As time went by, I made other discoveries that delighted me. I found, for instance, that when I used the word "robotics" to describe the study of robots, I was not using a word that already existed but had invented a word that had never been used before. (That was in my story "Runaround," published in 1942.)

The word has now come into general use. There are journals and books with the word in the title and it is generally known in the field that I invented the term. Don't think I'm not proud of that. There are not many people who have coined a useful scientific term, and although I did it unknowingly, I have no intention of letting anyone in the world forget it.

What's more, in "Runaround" I listed my "Three Laws of Robotics" in explicit detail for the first time, and these, too, became famous. At least, they are quoted in and out of season, in all sorts of places that have nothing primarily to do with science fiction, even in general quotation references. And people who work in the field of artificial intelligence sometimes take occasion to tell me that they think the Three Laws will serve as a good guide.

We can go even beyond that-

When I wrote my robot stories I had no thought that robots would come into existence in my lifetime. In fact, I was certain they would not, and would have wagered vast sums that they would not. (At least, I would have wagered 15 cents, which is my betting limit on sure things.)

Yet here I am, forty-three years after I wrote my first robot story, and we do have robots. Indeed, we do. What's more, they are what I envisaged them to be in a way- industrial robots, created by engineers to do specific jobs and with safety features built in. They are to be found in numerous factories, particularly in Japan, where there are automobile factories that are entirely roboticized. The assembly line in such places is "manned" by robots at every stage.

To be sure, these robots are not as intelligent as my robots are- they are not positronic; they are not even humanoid. However, they are evolving rapidly and becoming steadily more capable and versatile. Who knows where they'll be in another forty years?

One thing we can be sure of. Robots are changing the world and driving it in directions we cannot clearly foresee.

Where are these robots-in-reality coming from? The most important single source is a firm called Unimation, Inc., of Danbury, Connecticut. It is the leading manufacturer of industrial robots and is responsible for perhaps one third of all robots that have been installed. The president of the firm is Joseph F. Engelberger, who founded it in the late 1950s because he was so interested in robots that he decided to make their production his life work.

But how in the world did he become so interested in robots so early in the game? According to his own words, he grew interested in robots in the 1940s when he was a

physics-major undergraduate at Columbia University, reading the robot stories of his fellow Columbian Isaac Asimov.

My goodness!

You know, I didn't write my robot stories with much in the way of ambition back in those old, old days. All I wanted was to sell them to the magazines in order to earn a few hundred dollars to help pay my college tuition-and to see my name in print besides.

If I had been writing in any other field of literature, that's all I would have attained. But because I was writing science fiction, and only because I was writing science fiction, I- without knowing it-was starting a chain of events that is changing the face of the world.

Joseph F. Engelberger, by the way, published a book in 1980 called Robotics in Practice: Management and Application of Industrial Robots (American Management Associations), and he was kind enough to invite me to write the foreword.

All this set the nice people at Doubleday to thinking-

My various robot short stories have appeared in no less than seven different collections of mine. Why should they be so separated? Since they appear to be far more important than anyone dreamed they would be (least of all, I) at the time they were written, why not pull them together in a single book?

It wasn't hard to get me to agree, so here are thirty-one short stories, totaling some 200,000 words, written over a time period stretching from 1939 to 1977-

SOME NON-HUMAN ROBOTS

I am not having the robot stories appear in the order in which they were written. Rather, I am grouping them by the nature of the contents. In this first division, for instance, I deal with robots that have a non-human shape—a dog, an automobile, a box. Why not? The industrial robots that have come into existence in reality are non-human in appearance.

The very first story, "A Boy's Best Friend," is not in any of my earlier collections. It was written on September 10, 1974—and you may find in it a distant echo of "Robbie," written thirty-five years earlier, which appears later in this volume. Don't think I'm not aware of that.

You will note, by the way, that in these three stories, the concept of Robot-as-Pathos is clearly marked. You may also notice, however, that in "Sally" there seems to be no hint of the Three Laws and that there is more than a hint of Robot-as-Menace. Well, if I want to do that once in a while, I can, I suppose. Who's there to stop me?

A BOY'S BEST FRIEND

Mr. Anderson said, "Where's Jimmy, dear?"

"Out on the crater," said Mrs. Anderson. "Hell be all right Robutt is with him.-Did he arrive?"

"Yes. He's at the rocket station, going through the tests. Actually, I can hardly wait to see him myself. I haven't really seen one since I left Earth 15 years ago. You can't count films."

"Jimmy has never seen one," said Mrs. Anderson.

"Because he's Moonborn and can't visit Earth. That's why I'm bringing one here. I think it's the first one ever on the Moon."

"It cost enough," said Mrs. Anderson, with a small sigh. "Maintaining Robutt isn't cheap, either," said Mr. Anderson.

Jimmy was out on the crater, as his mother had said. By Earth standards, he was spindly, but rather tall for a 10-year-old. His arms and legs were long and agile. He looked thicker and stubbier with his spacesuit on, but he could handle the lunar gravity as no Earth-born human being could. His father couldn't begin to keep up with him when Jimmy stretched his legs and went into the kangaroo hop.

The outer side of the crater sloped southward and the Earth, which was low in the southern sky (where it always was, as seen from Lunar City) was nearly full, so that the entire crater-slope was brightly lit.

The slope was a gentle one and even the weight of the spacesuit couldn't keep Jimmy from racing up it in a floating hop that made the gravity seem nonexistent.

"Come on, Robutt," he shouted.

Robutt, who could hear him by radio, squeaked and bounded after.

Jimmy, expert though he was, couldn't outrace Robutt, who didn't need a spacesuit, and had four legs and tendons of steel. Robutt sailed over Jimmy's head, somersaulting and landing almost under his feet.

"Don't show off, Robutt," said Jimmy, "and stay in sight."

Robutt squeaked again, the special squeak that meant "Yes."

"I don't trust you, you faker," shouted Jimmy, and up he went in one last bound that carried him over the curved upper edge of the crater wall and down onto the inner slope.

The Earth sank below the top of the crater wall and at once it was pitch-dark around him. A warm, friendly darkness that wiped out the difference between ground and sky except for the glitter of stars.

Actually, Jimmy wasn't supposed to exercise along the dark side of the crater wall. The grown ups said it was dangerous, but that was because they were never there. The ground was smooth and crunchy and Jimmy knew the exact location of every one of the few rocks.

Besides, how could it be dangerous racing through the dark when Robutt was right there with him, bouncing around and squeaking and glowing? Even without the glow, Robutt could tell where he was, and where Jimmy was, by radar. Jimmy couldn't go wrong while Robutt was around, tripping him when he was too near a rock, or jumping on him to show how much he loved him, or circling around and squeaking low and scared when Jimmy hid behind a rock, when all the time Robutt knew well enough where he was. Once Jimmy had lain still and pretended he was hurt and Robutt had sounded the radio alarm and people from Lunar City got there in a hurry. Jimmy's father had let him hear about that little trick, and Jimmy never tried it again.

Just as he was remembering that, he heard his father's voice on his private wavelength. "Jimmy, come back. I have something to tell you."

Jimmy was out of his spacesuit now and washed up. You always had to wash up after coming in from outside. Even Robutt had to be sprayed, but he loved it. He stood there on all fours, his little foot-long body quivering and glowing just a tiny bit, and his small head, with no mouth, with two large glassed-in eyes, and with a bump where the brain was. He squeaked until Mr. Anderson said, "Quiet, Robutt."

Mr. Anderson was smiling. "We have something for you, Jimmy. It's at the rocket station now, but we'll have it tomorrow after all the tests are over. I thought I'd tell you now."

"From Earth, Dad?"

"A dog from Earth, son. A real dog. A Scotch terrier puppy. The first dog on the Moon. You won't need Robutt any more. We can't keep them both, you know, and some other boy or girl will have Robutt." He seemed to be waiting for Jimmy to say something, then he said, "You know what a dog is, Jimmy. It's the real thing. Robutt's only a mechanical imitation, a robot-mutt. That's how he got his name."

Jimmy frowned. "Robutt isn't an imitation, Dad. He's my dog."

"Not a real one, Jimmy. Robutt's just steel and wiring and a simple positronic brain. It's not alive."

"He does everything I want him to do, Dad. He understands me. Sure, he's alive."

"No, son. Robutt is just a machine. It's just programmed to act the way it does. A dog is alive. You won't want Robutt after you have the dog."

"The dog will need a spacesuit, won't he?"

"Yes, of course. But it will be worth the money and he'll get used to it. And he won't need one in the City. You'll see the difference once he gets here."

Jimmy looked at Robutt, who was squeaking again, a very low, slow squeak, that seemed frightened. Jimmy held out his arms and Robutt was in them in one bound. Jimmy said, "What will the difference be between Robutt and the dog?"

"It's hard to explain," said Mr. Anderson, "but it will be easy to see. The dog will really love you. Robutt is just adjusted to act as though it loves you."

"But, Dad, we don't know what's inside the dog, or what his feelings are. Maybe it's just acting, too."

Mr. Anderson frowned. "Jimmy, you'll know the difference when you experience the love of a living thing."

Jimmy held Robutt tightly. He was frowning, too, and the desperate look on his face meant that he wouldn't change his mind. He said, "But what's the difference how they act? How about how I feel? I love Robutt and that's what counts."

And the little robot-mutt, which had never been held so tightly in all its existence, squeaked high and rapid squeaks-happy squeaks.

SALLY

Sally was coming down the lake road, so I waved to her and called her by name. I always liked to see Sally. I liked all of them, you understand, but Sally's the prettiest one of the lot. There just isn't any question about it.

She moved a little faster when I waved to her. Nothing undignified. She was never that. She moved just enough faster to show that she was glad to see me, too.

I turned to the man standing beside me. "That's Sally," I said.

He smiled at me and nodded.

Mrs. Hester had brought him in. She said, "This is Mr. Gellhorn, Jake. You remember he sent you the letter asking for an appointment."

That was just talk, really. I have a million things to do around the Farm, and one thing I just can't waste my time on is mail. That's why I have Mrs. Hester around. She lives pretty close by, she's good at attending to foolishness without running to me about it, and most of all, she likes Sally and the rest. Some people don't.

"Glad to see you, Mr. Gellhorn," I said.

"Raymond f. Gellhorn," he said, and gave me his hand, which I shook and gave back.

He was a largish fellow, half a head taller than I and wider, too. He was about half my age, thirtyish. He had black hair, plastered down slick, with a part in the middle, and a thin mustache, very neatly trimmed. His jawbones got big under his ears and made him look as if he had a slight case of mumps. On video he'd be a natural to play the villain, so I assumed he was a nice fellow. It goes to show that video can't be wrong all the time.

"I'm Jacob Folkers," I said. "What can I do for you?"

He grinned. It was a big, wide, white-toothed grin. "You can tell me a little about your Farm here, if you don't mind."

I heard Sally coming up behind me and I put out my hand. She slid right into it and the feel of the hard, glossy enamel of her fender was warm in my palm.

"A nice automobile," said Gellhorn.

That's one way of putting it. Sally was a 2045 convertible with a Hennis-Carleton positronic motor and an Armat chassis. She had the cleanest, finest lines I've ever seen on any model, bar none. For five years, she'd been my favorite, and I'd put everything into her I could dream up. In all that time, there'd never been a human being behind her wheel.

Not once.

"Sally," I said, patting her gently, "meet Mr. Gellhorn."

Sally's cylinder-purr keyed up a little. I listened carefully for any knocking. Lately, I'd been hearing motor-knock in almost all the cars and changing the gasoline hadn't done a bit of good. Sally was as smooth as her paint job this time, however.

"Do you have names for all your cars?" asked Gellhorn.

He sounded amused, and Mrs. Hester doesn't like people to sound as though they were making fun of the Farm. She said, sharply, "Certainly. The cars have real personalities, don't they, Jake? The sedans are all males and the convertibles are females."

Gellhorn was smiling again. "And do you keep them in separate garages, ma'am?"

Mrs. Hester glared at him.

Gellhorn said to me, "And now I wonder if I can talk to you alone, Mr. Folkers?"

"That depends," I said. "Are you a reporter?"

"No, sir. I'm a sales agent. Any talk we have is not for publication. I assure you I am interested in strict privacy."

"Let's walk down the road a bit. There's a bench we can use."

We started down. Mrs. Hester walked away. Sally nudged along after us.

I said, "You don't mind if Sally comes along, do you?"

"Not at all. She can't repeat what we say, can she?" He laughed at his own joke, reached over and rubbed Sally's grille.

Sally raced her motor and Gellhorn's hand drew away quickly.

"She's not used to strangers," I explained.

"We sat down on the bench under the big oak tree where we could look across the small lake to the private speedway. It was the warm part of the day and the cars were out in force, at least thirty of them. Even at this distance I could see that Jeremiah was pulling his usual stunt of sneaking up behind some staid older model, then putting on a jerk of speed and yowling past with deliberately squealing brakes. Two weeks before he had crowded old Angus off the asphalt altogether, and I had turned off his motor for two days.

It didn't help though, I'm afraid, and it looks as though there's nothing to be done about it. Jeremiah is a sports model to begin with and that kind is awfully hot-headed.

"Well, Mr. Gellhorn," I said. "Could you tell me why you want the information?"

But he was just looking around. He said, "This is an amazing place, Mr. Folkers."

"I wish you'd call me Jake. Everyone does."

"All right, Jake. How many cars do you have here?"

"Fifty-one. We get one or two new ones every year. One year we got five. We haven't lost one yet. They're all in perfect running order. We even have a '15 model Mat-O-Mot in working order. One of the original automatics. It was the first car here."

Good old Matthew. He stayed in the garage most of the day now, but then he was the granddaddy of all positronic-motored cars. Those were the days when blind war veterans, paraplegics and heads of state were the only ones who drove automatics. But Samson Harridge was my boss and he was rich enough to be able to get one. I was his chauffeur at the time.

The thought makes me feel old. I can remember when there wasn't an automobile in the world with brains enough to find its own way home. I chauffeured dead lumps of machines that needed a man's hand at their controls every minute. Every year machines like that used to kill tens of thousands of people.

The automatics fixed that. A positronic brain can react much faster than a human one, of course, and it paid people to keep hands off the controls. You got in, punched your destination and let it go its own way.

We take it for granted now, but I remember when the first laws came out forcing the old machines off the highways and limiting travel to automatics. Lord, what a fuss. They called it everything from communism to fascism, but it emptied the highways and stopped the killing, and still more people get around more easily the new way.

Of course, the automatics were ten to a hundred times as expensive as the hand-driven ones, and there weren't many that could afford a private vehicle. The industry specialized in turning out omnibus-automatics. You could always call a company and have one stop at your door in a matter of minutes and take you where you wanted to go. Usually, you had to drive with others who were going your way, but what's wrong with that?

Samson Harridge had a private car though, and I went to him the minute it arrived. The car wasn't Matthew to me then. I didn't know it was going to be the dean of the Farm some day. I only knew it was taking my job away and I hated it.

I said, "You won't be needing me any more, Mr. Harridge?"

He said, "What are you dithering about, Jake? You don't think I'll trust myself to a contraption like that, do you? You stay right at the controls."

I said, "But it works by itself, Mr. Harridge. It scans the road, reacts properly to obstacles, humans, and other cars, and remembers routes to travel."

"So they say. So they say. Just the same, you're sitting right behind the wheel in case anything goes wrong."

Funny how you can get to like a car. In no time I was calling it Matthew and was spending all my time keeping it polished and humming. A positronic brain stays in condition best when it's got control of its chassis at all times, which means it's worth keeping the gas tank filled so that the motor can turn over slowly day and night. After a while, it got so I could tell by the sound of the motor how Matthew felt.

In his own way, Harridge grew fond of Matthew, too. He had no one else to like. He'd divorced or outlived three wives and outlived five children and three grandchildren. So when he died, maybe it wasn't surprising that he had his estate converted into a Farm for Retired Automobiles, with me in charge and Matthew the first member of a distinguished line.

It's turned out to be my life. I never got married. You can't get married and still tend to automatics the way you should.

The newspapers thought it was funny, but after a while they stopped joking about it. Some things you can't joke about. Maybe you've never been able to afford an automatic and maybe you never will, either, but take it from me, you get to love them. They're hard-working and affectionate. It takes a man with no heart to mistreat one or to see one mistreated.

It got so that after a man had an automatic for a while, he would make provisions for having it left to the Farm, if he didn't have an heir he could rely on to give it good care.

I explained that to Gellhorn.

He said, "Fifty-one cars! That represents a lot of money."

"Fifty thousand minimum per automatic, original investment," I said. "They're worth a lot more now. I've done things for them."

"It must take a lot of money to keep up the Farm."

"You're right there. The Farm's a non-profit organization, which gives us a break on taxes and, of course, new automatics that come in usually have trust funds attached. Still, costs are always going up. I have to keep the place landscaped; I keep laying down new asphalt and keeping the old in repair; there's gasoline, oil, repairs, and new gadgets. It adds up."

"And you've spent a long time at it."

"I sure have, Mr. Gellhorn. Thirty-three years."

"You don't seem to be getting much out of it yourself."

"I don't? You surprise me, Mr. Gellhorn. I've got Sally and fifty others. Look at her."

I was grinning. I couldn't help it. Sally was so clean, it almost hurt. Some insect must have died on her windshield or one speck of dust too many had landed, so she was going to work. A little tube protruded and spurted Tergosol over the glass. It spread quickly over the silicone surface film and squeejees snapped into place instantly, passing over the windshield and forcing the water into the little channel that led it, dripping, down to the ground. Not a speck of water got onto her glistening apple-green hood. Squeejee and detergent tube snapped back into place and disappeared.

Gellhorn said, "I never saw an automatic do that."

"I guess not," I said. "I fixed that up specially on our cars. They're clean. They're always scrubbing their glass. They like it. I've even got Sally fixed up with wax jets. She polishes herself every night till you can see your face in any part of her and shave by it. If I can scrape up the money, I'd be putting it on the rest of the girls. Convertibles are very vain."

"I can tell you how to scrape up the money, if that interests you."

"That always does. How?"

"Isn't it obvious, fake? Any of your cars is worth fifty thousand minimum, you said. I'll bet most of them top six figures."

"So?"

"Ever think of selling a few?"

I shook my head. "You don't realize it, I guess, Mr. Gellhorn, but I can't sell any of these. They belong to the Farm, not to me."

"The money would go to the Farm."

"The incorporation papers of the Farm provide that the cars receive perpetual care. They can't be sold."

"What about the motors, then?"

"I don't understand you."

Gellhorn shifted position and his voice got confidential. "Look here, Jake, let me explain the situation. There's a big market for private automatics if they could only be made cheaply enough. Right?"

"That's no secret."

"And ninety-five per cent of the cost is the motor. Right? Now, I know where we can get a supply of bodies. I also know where we can sell automatics at a good price—twenty or thirty thousand for the cheaper models, maybe fifty or sixty for the better ones. All I need are the motors. You see the solution?"

"I don't, Mr. Gellhorn." I did, but I wanted him to spell it out.

"It's right here. You've got fifty-one of them. You're an expert automobile mechanic, Jake. You must be. You could unhook a motor and place it in another car so that no one would know the difference."

"It wouldn't be exactly ethical."

"You wouldn't be harming the cars. You'd be doing them a favor. Use your older cars. Use that old Mat-O-Mot."

"Well, now, wait a while, Mr. Gellhorn. The motors and bodies aren't two separate items. They're a single unit. Those motors are used to their own bodies. They wouldn't be happy in another car."

"All right, that's a point. That's a very good point, Jake. It would be like taking your mind and putting it in someone else's skull. Right? You don't think you would like that?"

"I don't think I would. No."

"But what if I took your mind and put it into the body of a young athlete. What about that, Jake? You're not a youngster anymore. If you had the chance, wouldn't you enjoy being twenty again? That's what I'm offering some of your positronic motors. They'll be put into new '57 bodies. The latest construction."

I laughed. "That doesn't make much sense, Mr. Gellhorn. Some of our cars may be old, but they're well-cared for. Nobody drives them. They're allowed their own way. They're retired, Mr. Gellhorn. I wouldn't want a twenty-year-old body if it meant I had to dig ditches for the rest of my new life and never have enough to eat. . . What do you think, Sally?"

Sally's two doors opened and then shut with a cushioned slam.

"What that?" said Gellhorn.

"That's the way Sally laughs."

Gellhorn forced a smile. I guess he thought I was making a bad joke. He said, "Talk sense, Jake. Cars are made to be driven. They're probably not happy if you don't drive them."

I said, "Sally hasn't been driven in five years. She looks happy to me."

"I wonder."

He got up and walked toward Sally slowly. "Hi, Sally, how'd you like a drive?"

Sally's motor revved up. She backed away.

"Don't push her, Mr. Gellhorn," I said. "She's liable to be a little skittish."

Two sedans were about a hundred yards up the road. They had stopped. Maybe, in their own way, they were watching. I didn't bother about them. I had my eyes on Sally, and I kept them there.

Gellhorn said, "Steady now, Sally." He lunged out and seized the door handle. It didn't budge, of course.

He said, "It opened a minute ago."

I said, "Automatic lock. She's got a sense of privacy, Sally has."

He let go, then said, slowly and deliberately, "A car with a sense of privacy shouldn't go around with its top down."

He stepped back three or four paces, then quickly, so quickly I couldn't take a step to stop him, he ran forward and vaulted into the car. He caught Sally completely by surprise, because as he came down, he shut off the ignition before she could lock it in place.

For the first time in five years, Sally's motor was dead.

I think I yelled, but Gellhorn had the switch on "Manual" and locked that in place, too. He kicked the motor into action. Sally was alive again but she had no freedom of action.

He started up the road. The sedans were still there. They turned and drifted away, not very quickly. I suppose it was all a puzzle to them.

One was Giuseppe, from the Milan factories, and the other was Stephen. They were always together. They were both new at the Farm, but they'd been here long enough to know that our cars just didn't have drivers.

Gellhorn went straight on, and when the sedans finally got it through their heads that Sally wasn't going to slow down, that she couldn't slow down, it was too late for anything but desperate measures.

They broke for it, one to each side, and Sally raced between them like a streak. Steve crashed through the lakeside fence and rolled to a halt on the grass and mud not six inches from the water's edge. Giuseppe bumped along the land side of the road to a shaken halt.

I had Steve back on the highway and was trying to find out what harm, if any, the fence had done him, when Gellhorn came back.

Gellhorn opened Sally's door and stepped out. Leaning back, he shut off the ignition a second time.

"There," he said. "I think I did her a lot of good."

I held my temper. "Why did you dash through the sedans? There was no reason for that."

"I kept expecting them to turn out."

"They did. One went through a fence."

"I'm sorry, Jake," he said. "I thought they'd move more quickly. You know how it is. I've been in lots of buses, but I've only been in a private automatic two or three times in my life, and this is the first time I ever drove one. That just shows you, Jake. It got me,

driving one, and I'm pretty hard-boiled. I tell you, we don't have to go more than twenty per cent below list price to reach a good market, and it would be ninety per cent profit."

"Which we would split?"

"Fifty-fifty. And I take all the risks, remember."

"All right. I listened to you. Now you listen to me." I raised my voice because I was just too mad to be polite anymore. "When you turn off Sally's motor, you hurt her. How would you like to be kicked unconscious? That's what you do to Sally, when you turn her off."

"You're exaggerating, Jake. The automatobuses get turned off every night."

"Sure, that's why I want none of my boys or girls in your fancy '57 bodies, where I won't know what treatment they'll get. Buses need major repairs in their positronic circuits every couple of years. Old Matthew hasn't had his circuits touched in twenty years. What can you offer him compared with that?"

"Well, you're excited now. Suppose you think over my proposition when you've cooled down and get in touch with me."

"I've thought it over all I want to. If I ever see you again, I'll call the police."

His mouth got hard and ugly. He said, "Just a minute, old-timer."

I said, "Just a minute, you. This is private property and I'm ordering you off."

He shrugged. "Well, then, goodbye."

I said, "Mrs. Hester will see you off the property. Make that goodbye permanent."

But it wasn't permanent. I saw him again two days later. Two and a half days, rather, because it was about noon when I saw him first and a little after midnight when I saw him again.

I sat up in bed when he turned the light on, blinking blindly till I made out what was happening. Once I could see, it didn't take much explaining. In fact, it took none at all. He had a gun in his right fist, the nasty little needle barrel just visible between two fingers. I knew that all he had to do was to increase the pressure of his hand and I would be torn apart. He said, "Put on your clothes, Jake."

I didn't move. I just watched him.

He said, "Look, Jake, I know the situation. I visited you two days ago, remember. You have no guards on this place, no electrified fences, no warning signals. Nothing."

I said, "I don't need any. Meanwhile there's nothing to stop you from leaving, Mr. Gellhorn. I would if I were you. This place can be very dangerous."

He laughed a little. "It is, for anyone on the wrong side of a fist gun."

"I see it," I said. "I know you've got one."

"Then get a move on. My men are waiting."

"No, sir, Mr. Gellhorn. Not unless you tell me what you want, and probably not then."

"I made you a proposition day before yesterday."

"The answer's still no."

"There's more to the proposition now. I've come here with some men and an automatobus. You have your chance to come with me and disconnect twenty-five of the

positronic motors. I don't care which twenty-five you choose. We'll load them on the bus and take them away. Once they're disposed of, I'll see to it that you get your fair share of the money."

"I have your word on that, I suppose."

He didn't act as if he thought I was being sarcastic. He said, "You have."

I said, "No."

"If you insist on saying no, we'll go about it in our own way. I'll disconnect the motors myself, only I'll disconnect all fifty-one. Every one of them."

"It isn't easy to disconnect positronic motors, Mr. Gellhorn. Are you a robotics expert? Even if you are, you know, these motors have been modified by me."

"I know that, Jake. And to be truthful, I'm not an expert. I may ruin quite a few motors trying to get them out. That's why I'll have to work over all fifty-one if you don't cooperate. You see, I may only end up with twenty-five when I'm through. The first few I'll tackle will probably suffer the most. Till I get the hang of it, you see. And if I go it myself, I think I'll put Sally first in line."

I said, "I can't believe you're serious, Mr. Gellhorn."

He said, "I'm serious, Jake." He let it all dribble in. "If you want to help, you can keep Sally. Otherwise, she's liable to be hurt very badly. Sorry."

I said, "I'll come with you, but I'll give you one more warning. You'll be in trouble, Mr. Gellhorn."

He thought that was very funny. He was laughing very quietly as we went down the stairs together.

There was an automatobus waiting outside the driveway to the garage apartments. The shadows of three men waited beside it, and their flash beams went on as we approached.

Gellhorn said in a low voice, "I've got the old fellow. Come on. Move the truck up the drive and let's get started."

One of the others leaned in and punched the proper instructions on the control panel. We moved up the driveway with the bus following submissively.

"It won't go inside the garage," I said. "The door won't take it. We don't have buses here. Only private cars."

"All right," said Gellhorn. "Pull it over onto the grass and keep it out of sight."

I could hear the thrumming of the cars when we were still ten yards from the garage.

Usually they quieted down if I entered the garage. This time they didn't. I think they knew that strangers were about, and once the faces of Gellhorn and the others were visible they got noisier. Each motor was a warm rumble, and each motor was knocking irregularly until the place rattled.

The lights went up automatically as we stepped inside. Gellhorn didn't seem bothered by the car noise, but the three men with him looked surprised and uncomfortable. They had the look of the hired thug about them, a look that was not

compounded of physical features so much as of a certain wariness of eye and hangdogness of face. I knew the type and I wasn't worried.

One of them said, "Damn it, they're burning gas."

"My cars always do," I replied stiffly.

"Not tonight," said Gellhorn. "Turn them off."

"It's not that easy, Mr. Gellhorn," I said.

"Get started!" he said.

I stood there. He had his fist gun pointed at me steadily. I said, "I told you, Mr. Gellhorn, that my cars have been well-treated while they've been at the Farm. They're used to being treated that way, and they resent anything else."

"You have one minute," he said. "Lecture me some other time."

"I'm trying to explain something. I'm trying to explain that my cars can understand what I say to them. A positronic motor will learn to do that with time and patience. My cars have learned. Sally understood your proposition two days ago. You'll remember she laughed when I asked her opinion. She also knows what you did to her and so do the two sedans you scattered. And the rest know what to do about trespassers in general."

"Look, you crazy old fool-"

"All I have to say is-" I raised my voice. "Get them!"

One of the men turned pasty and yelled, but his voice was drowned completely in the sound of fifty-one horns turned loose at once. They held their notes, and within the four walls of the garage the echoes rose to a wild, metallic call. Two cars rolled forward, not hurriedly, but with no possible mistake as to their target. Two cars fell in line behind the first two. All the cars were stirring in their separate stalls.

The thugs stared, then backed.

I shouted, "Don't get up against a wall."

Apparently, they had that instinctive thought themselves. They rushed madly for the door of the garage.

At the door one of Gellhorn's men turned, brought up a fist gun of his own. The needle pellet tore a thin, blue flash toward the first car. The car was Giuseppe.

A thin line of paint peeled up Giuseppe's hood, and the right half of his windshield crazed and splintered but did not break through.

The men were out the door, running, and two by two the cars crunched out after them into the night, their horns calling the charge.

I kept my hand on Gellhorn's elbow, but I don't think he could have moved in any case. His lips were trembling.

I said, "That's why I don't need electrified fences or guards. My property protects itself."

Gellhorn's eyes swiveled back and forth in fascination as, pair by pair, they whizzed by. He said, "They're killers!"

"Don't be silly. They won't kill your men."

"They're killers!"

"They'll just give your men a lesson. My cars have been specially trained for cross-country pursuit for just such an occasion; I think what your men will get will be worse than an outright quick kill. Have you ever been chased by an automobile?"

Gellhorn didn't answer.

I went on. I didn't want him to miss a thing. "They'll be shadows going no faster than your men, chasing them here, blocking them there, blaring at them, dashing at them, missing with a screech of brake and a thunder of motor. They'll keep it up till your men drop, out of breath and half-dead, waiting for the wheels to crunch over their breaking bones. The cars won't do that. They'll turn away. You can bet, though, that your men will never return here in their lives. Not for all the money you or ten like you could give them. Listen-"

I tightened my hold on his elbow. He strained to hear.

I said, "Don't you hear car doors slamming?"

It was faint and distant, but unmistakable.

I said, "They're laughing. They're enjoying themselves."

His face crumpled with rage. He lifted his hand. He was still holding his fist gun.

I said, "I wouldn't. One automotocar is still with us."

I don't think he had noticed Sally till then. She had moved up so quietly. Though her right front fender nearly touched me, I couldn't hear her motor. She might have been holding her breath.

Gellhorn yelled.

I said, "She won't touch you, as long as I'm with you. But if you kill me. . . You know, Sally doesn't like you."

Gellhorn turned the gun in Sally's direction.

"Her motor is shielded," I said, "and before you could ever squeeze the gun a second time she would be on top of you."

"All right, then," he yelled, and suddenly my arm was bent behind my back and twisted so I could hardly stand. He held me between Sally and himself, and his pressure didn't let up. "Back out with me and don't try to break loose, old-timer, or I'll tear your arm out of its socket."

I had to move. Sally nudged along with us, worried, uncertain what to do. I tried to say something to her and couldn't. I could only clench my teeth and moan.

Gellhorn's automatobus was still standing outside the garage. I was forced in. Gellhorn jumped in after me, locking the doors.

He said, "All right, now. We'll talk sense."

I was rubbing my arm, trying to get life back into it, and even as I did I was automatically and without any conscious effort studying the control board of the bus.

I said, "This is a rebuilt job."

"So?" he said caustically. "It's a sample of my work. I picked up a discarded chassis, found a brain I could use and spliced me a private bus. What of it?"

I tore at the repair panel, forcing it aside.

He said, "What the hell. Get away from that." The side of his palm came down numbingly on my left shoulder.

I struggled with him. "I don't want to do this bus any harm. What kind of a person do you think I am? I just want to take a look at some of the motor connections."

It didn't take much of a look. I was boiling when I turned to him. I said, "You're a hound and a bastard. You had no right installing this motor yourself. Why didn't you get a robotics man?"

He said, "Do I look crazy?"

"Even if it was a stolen motor, you had no right to treat it so. I wouldn't treat a man the way you treated that motor. Solder, tape, and pinch clamps! It's brutal!"

"It works, doesn't it?"

"Sure it works, but it must be hell for the bus. You could live with migraine headaches and acute arthritis, but it wouldn't be much of a life. This car is suffering."

"Shut up!" For a moment he glanced out the window at Sally, who had rolled up as close to the bus as she could. He made sure the doors and windows were locked.

He said, "We're getting out of here now, before the other cars come back. We'll stay away."

"How will that help you?"

"Your cars will run out of gas someday, won't they? You haven't got them fixed up so they can tank up on their own, have you? We'll come back and finish the job."

"They'll be looking for me," I said. "Mrs. Hester will call the police."

He was past reasoning with. He just punched the bus in gear. It lurched forward. Sally followed.

He giggled. "What can she do if you're here with me?"

Sally seemed to realize that, too. She picked up speed, passed us and was gone. Gellhorn opened the window next to him and spat through the opening.

The bus lumbered on over the dark road, its motor rattling unevenly. Gellhorn dimmed the periphery light until the phosphorescent green stripe down the middle of the highway, sparkling in the moonlight, was all that kept us out of the trees. There was virtually no traffic. Two cars passed ours, going the other way, and there was none at all on our side of the highway, either before or behind.

I heard the door-slamming first. Quick and sharp in the silence, first on the right and then on the left Gellhorn's hands quivered as he punched savagely for increased speed. A beam of light shot out from among a scrub of trees, blinding us; Another beam plunged at us from behind the guard rails on the other side. At a crossover, four hundred yards ahead, there was sque-e-e-e-e as a car darted across our path.

"Sally went for the rest," I said. "I think you're surrounded."

"So what? What can they do?"

He hunched over the controls, peering through the windshield.

"And don't you try anything, old-timer," he muttered.

I couldn't. I was bone-weary; my left arm was on fire. The motor sounds gathered and grew closer. I could hear the motors missing in odd patterns; suddenly it seemed to me that my cars were speaking to one another.

A medley of horns came from behind. I turned and Gellhorn looked quickly into the rear-view mirror. A dozen cars were following in both lanes.

Gellhorn yelled and laughed madly.

I cried, "Stop! Stop the car!"

Because not a quarter of a mile ahead, plainly visible in the light beams of two sedans on the roadside was Sally, her trim body plunked square across the road. Two cars shot into the opposite lane to our left, keeping perfect time with us and preventing Gellhorn from turning out.

But he had no intention of turning out. He put his finger on the full-speed-ahead button and kept it there.

He said, "There'll be no bluffing here. This bus outweighs her five to one, old-timer, and we'll just push her off the road like a dead kitten."

I knew he could. The bus was on manual and his finger was on the button. I knew he would.

I lowered the window, and stuck my head out. "Sally," I screamed. "Get out of the way. Sally!"

It was drowned out in the agonized squeal of maltreated brakebands. I felt myself thrown forward and heard Gellhorn's breath puff out of his body.

I said, "What happened?" It was a foolish question. We had stopped. That was what had happened. Sally and the bus were five feet apart. With five times her weight tearing down on her, she had not budged. The guts of her.

Gellhorn yanked at the Manual toggle switch. "It's got to," he kept muttering. "It's got to."

I said, "Not the way you hooked up the motor, expert. Any of the circuits could cross over."

He looked at me with a tearing anger and growled deep in his throat. His hair was matted over his forehead. He lifted his fist.

"That's all the advice out of you there'll ever be, old-timer."

And I knew the needle gun was about to fire.

I pressed back against the bus door, watching the fist come up, and when the door opened I went over backward and out, hitting the ground with a thud. I heard the door slam closed again.

I got to my knees and looked up in time to see Gellhorn struggle uselessly with the closing window, then aim his fist-gun quickly through the glass. He never fired. The bus got under way with a tremendous roar, and Gellhorn lurched backward.

Sally wasn't in the way any longer, and I watched the bus's rear lights flicker away down the highway.

I was exhausted. I sat down right there, right on the highway, and put my head down in my crossed arms, trying to catch my breath.

I heard a car stop gently at my side. When I looked up, it was Sally. Slowly-lovingly, you might say-her front door opened.

No one had driven Sally for five years-except Gellhorn, of course-and I know how valuable such freedom was to a car. I appreciated the gesture, but I said, "Thanks, Sally, but I'll take one of the newer cars."

I got up and turned away, but skillfully and neatly as a pirouette, she wheeled before me again. I couldn't hurt her feelings. I got in. Her front seat had the fine, fresh scent of an automobile that kept itself spotlessly clean. I lay down across it, thankfully, and with even, silent, and rapid efficiency, my boys and girls brought me home.

Mrs. Hester brought me the copy of the radio transcript the next evening with great excitement.

"It's Mr. Gellhorn," she said. "The man who came to see you."

"What about him?"

I dreaded her answer.

"They found him dead," she said. "Imagine that. Just lying dead in a ditch."

"It might be a stranger altogether," I mumbled.

"Raymond J. Gellhorn," she said, sharply. "There can't be two, can there? The description fits, too. Lord, what a way to die! They found tire marks on his arms and body. Imagine! I'm glad it turned out to be a bus; otherwise they might have come poking around here."

"Did it happen near here?" I asked, anxiously.

"No . . . Near Cooksville. But, goodness, read about it yourself if you- What happened to Giuseppe?"

I welcomed the diversion. Giuseppe was waiting patiently for me to complete the repaint job. His windshield had been replaced.

After she left, I snatched up the transcript. There was no doubt about it. The doctor reported he had been running and was in a state of totally spent exhaustion. I wondered for how many miles the bus had played with him before the final lunge. The transcript had no notion of anything like that, of course.

They had located the bus and identified it by the tire tracks. The police had it and were trying to trace its ownership.

There was an editorial in the transcript about it. It had been the first traffic fatality in the state for that year and the paper warned strenuously against manual driving after night.

There was no mention of Gellhorn's three thugs and for that, at least, I was grateful. None of our cars had been seduced by the pleasure of the chase into killing.

That was all. I let the paper drop. Gellhorn had been a criminal. His treatment of the bus had been brutal. There was no question in my mind he deserved death. But still I felt a bit queasy over the manner of it.

A month has passed now and I can't get it out of my mind.

My cars talk to one another. I have no doubt about it anymore. It's as though they've gained confidence; as though they're not bothering to keep it secret anymore. Their engines rattle and knock continuously.

And they don't talk among themselves only. They talk to the cars and buses that come into the Farm on business. How long have they been doing that?

They must be understood, too. Gellhorn's bus understood them, for all it hadn't been on the grounds more than an hour. I can close my eyes and bring back that dash along the highway, with our cars flanking the bus on either side, clacking their motors at it till it understood, stopped, let me out, and ran off with Gellhorn.

Did my cars tell him to kill Gellhorn? Or was that his idea?

Can cars have such ideas? The motor designers say no. But they mean under ordinary conditions. Have they foreseen everything!

Cars get ill-used, you know.

Some of them enter the Farm and observe. They get told things. They find out that cars exist whose motors are never stopped, whom no one ever drives, whose every need is supplied.

Then maybe they go out and tell others. Maybe the word is spreading quickly. Maybe they're going to think that the Farm way should be the way all over the world. They don't understand. You couldn't expect them to understand about legacies and the whims of rich men.

There are millions of automobiles on Earth, tens of millions. If the thought gets rooted in them that they're slaves; that they should do something about it . . . If they begin to think the way Gellhorn's bus did. . .

Maybe it won't be till after my time. And then they'll have to keep a few of us to take care of them, won't they? They wouldn't kill us all.

And maybe they would. Maybe they wouldn't understand about how someone would have to care for them. Maybe they won't wait.

Every morning I wake up and think, Maybe today. . .

I don't get as much pleasure out of my cars as I used to. Lately, I notice that I'm even beginning to avoid Sally.

SOMEDAY

Niccolo Mazetti lay stomach down on the rug, chin buried in the palm of one small hand, and listened to the Bard disconsolately. There was even the suspicion of tears in his dark eyes, a luxury an eleven-year-old could allow himself only when alone.

The Bard said, "Once upon a time in the middle of a deep wood, there lived a poor woodcutter and his two motherless daughters, who were each as beautiful as the day is long. The older daughter had long hair as black as a feather from a raven's wing, but the younger daughter had hair as bright and golden as the sunlight of an autumn afternoon.

"Many times while the girls were waiting for their father to come home from his day's work in the wood, the older girl would sit before a mirror and sing-

What she sang, Niccolo did not hear, for a call sounded from outside the room: "Hey, Nickie."

And Niccolo, his face clearing on the moment, rushed to the window and shouted, "Hey, Paul."

Paul Loeb waved an excited hand. He was thinner than Niccolo and not as tall, for all he was six months older. His face was full of repressed tension which showed itself most clearly in the rapid blinking of his eyelids. "Hey, Nickie, let me in. I've got an idea and a half. Wait till you hear it." He looked rapidly about him as though to check on the possibility of eavesdroppers, but the front yard was quite patently empty. He repeated, in a whisper, "Wait till you hear it."

"All right. I'll open the door."

The Bard continued smoothly, oblivious to the sudden loss of attention on the part of Niccolo. As Paul entered, the Bard was saying. ". . . Thereupon, the lion said, 'If you will find me the lost egg of the bird which flies over the Ebony Mountain once every ten years, I will-' "

Paul said, "Is that a Bard you're listening to? I didn't know you had one."

Niccolo reddened and the look of unhappiness returned to his face. "Just an old thing I had when I was a kid. It ain't much good." He kicked at the Bard with his foot and caught the somewhat scarred and discolored plastic covering a glancing blow.

The Bard hiccupped as its speaking attachment was jarred out of contact a moment, then it went on: "-for a year and a day until the iron shoes were worn out. The princess stopped at the side of the road. . . "

Paul said, "Boy, that is an old model," and looked at it critically.

Despite Niccolo's own bitterness against the Bard, he winced at the other's condescending tone. For the moment, he was sorry he had allowed Paul in, at least before he had restored the Bard to its usual resting place in the basement. It was only in the desperation of a dull day and a fruitless discussion with his father that he had resurrected it. And it turned out to be just as stupid as he had expected.

Nickie was a little afraid of Paul anyway, since Paul had special courses at school and everyone said he was going to grow up to be a Computing Engineer.

Not that Niccolo himself was doing badly at school. He got adequate marks in logic, binary manipulations, computing and elementary circuits; all the usual grammar-school subjects. But that was it! They were just the usual subjects and he would grow up to be a control-board guard like everyone else.

Paul, however, knew mysterious things about what he called electronics and theoretical mathematics and programing. Especially programing. Niccolo didn't even try to understand when Paul bubbled over about it.

Paul listened to the Bard for a few minutes and said, "You been using it much?"

"No!" said Niccolo, offended. "I've had it in the basement since before you moved into the neighborhood. I just got it out today-" He lacked an excuse that seemed adequate to himself, so he concluded, "I just got it out."

Paul said, "Is that what it tells you about: woodcutters and princesses and talking animals?"

Niccolo said, "It's terrible. My dad says we can't afford a new one. I said to him this morning-" The memory of the morning's fruitless pleadings brought Niccolo dangerously near tears, which he repressed in a panic. Somehow, he felt that Paul's thin cheeks never felt the stain of tears and that Paul would have only contempt for anyone else less strong than himself.

Niccolo went on, "So I thought I'd try this old thing again, but it's no good."

Paul turned off the Bard, pressed the contact that led to a nearly instantaneous reorientation and recombination of the vocabulary, characters, plot lines and climaxes stored within it. Then he reactivated it.

The Bard began smoothly, "Once upon a time there was a little boy named Willikins whose mother had died and who lived with a stepfather and a stepbrother. Although the stepfather was very well-to-do, he begrudged poor Willikins the very bed he slept in so that Willikins was forced to get such rest as he could on a pile of straw in the stable next to the horses-"

"Horses!" cried Paul.

"They're a kind of animal," said Niccolo. "I think."

"I know that! I just mean imagine stories about horses."

"It tells about horses all the time," said Niccolo. "There are things called cows, too. You milk them but the Bard doesn't say how."

"Well, gee, why don't you fix it up?"

"I'd like to know how."

The Bard was saying, "Often Willikins would think that if only he were rich and powerful, he would show his stepfather and stepbrother what it meant to be cruel to a little boy, so one day he decided to go out into the world and seek his fortune."

Paul, who wasn't listening to the Bard, said, "It's easy. The Bard has memory cylinders all fixed up for plot lines and climaxes and things. We don't have to worry about that. It's just vocabulary we've got to fix so it'll know about computers and automation

and electronics and real things about today. Then it can tell interesting stories, you know, instead of about princesses and things."

Niccolo said despondently, "I wish we could do that."

Paul said, "Listen, my dad says if I get into special computing school next year, he'll get me a real Bard, a late model. A big one with an attachment for space stories and mysteries. And a visual attachment, too!"

"You mean see the stories?"

"Sure. Mr. Daugherty at school says they've got things like that, now, but not for just everybody. Only if I get into computing school, Dad can get a few breaks."

Niccolo's eyes bulged with envy. "Gee. Seeing a story."

"You can come over and watch anytime, Nickie."

"Oh, boy. Thanks."

"That's all right. But remember, I'm the guy who says what kind of story we hear."

"Sure. Sure." Niccolo would have agreed readily to much more onerous conditions.

Paul's attention returned to the Bard.

It was saying, " 'If that is the case,' said the king, stroking his beard and frowning till clouds filled the sky and lightning flashed, 'you w'" see to it that my entire land is freed of flies by this time day after tomorrow or-' "

"All we've got to do," said Paul, "is open it up-" He shut the Bard off again and was prying at its front panel as he spoke.

"Hey," said Niccolo, in sudden alarm. "Don't break it."

"I won't break it," said Paul impatiently. "I know all about these things." Then, with sudden caution, "Your father and mother home?"

"No."

"All right, then." He had the front panel off and peered in. "Boy, this is a one-cylinder thing."

He worked away at the Bard's innards. Niccolo, who watched with painful suspense, could not make out what he was doing.

Paul pulled out a thin, flexible metal strip, powdered with dots. "That's the Bard's memory cylinder. I'll bet its capacity for stories is under a trillion."

"What are you going to do, Paul?" quavered Niccolo.

"I'll give it vocabulary."

"How?"

"Easy. I've got a book here. Mr. Daugherty gave it to me at school."

Paul pulled the book out of his pocket and pried at it till he had its plastic jacket off. He unreeled the tape a bit, ran it through the vocalizer, which he turned down to a whisper, then placed it within the Bard's vitals. He made further attachments.

"What'll that do?"

"The book will talk and the Bard will put it all on its memory tape."

"What good will that do?"

"Boy, you're a dope! This book is all about computers and automation and the Bard will get all that information. Then he can stop talking about kings making lightning when they frown."

Niccolo said, "And the good guy always wins anyway. There's no excitement."

"Oh, well," said Paul, watching to see if his setup was working properly, "that's the way they make Bards. They got to have the good guy win and make the bad guys lose and things like that. I heard my father talking about it once. He says that without censorship there'd be no telling what the younger generation would come to. He says it's bad enough as it is. . . . There, it's working fine."

Paul brushed his hands against one another and turned away from the Bard. He said, "But listen, I didn't tell you my idea yet. It's the best thing you ever heard, I bet. I came right to you, because I figured you'd come in with me."

"Sure, Paul, sure."

"Okay. You know Mr. Daugherty at school? You know what a funny kind of guy he is. Well, he likes me, kind of."

"I know."

"I was over at his house after school today."

"You were?"

"Sure. He says I'm going to be entering computer school and he wants to encourage me and things like that. He says the world needs more people who can design advanced computer circuits and do proper programing."

"Oh?"

Paul might have caught some of the emptiness behind that monosyllable. He said impatiently, "Programing! I told you a hundred times. That's when you set up problems for the giant computers like Multivac to work on. Mr. Daugherty says it gets harder all the time to find people who can really run computers. He says anyone can keep an eye on the controls and check off answers and put through routine problems. He says the trick is to expand research and figure out ways to ask the right questions, and that's hard."

"Anyway, Nickie, he took me to his place and showed me his collection of old computers. It's kind of a hobby of his to collect old computers. He had tiny computers you had to push with your hand, with little knobs all over it. And he had a hunk of wood he called a slide rule with a little piece of it that went in and out. And some wires with balls on them. He even had a hunk of paper with a kind of thing he called a multiplication table."

Niccolo, who found himself only moderately interested, said, "A paper table?"

"It wasn't really a table like you eat on. It was different. It was to help people compute. Mr. Daugherty tried to explain but he didn't have much time and it was kind of complicated, anyway."

"Why didn't people just use a computer?"

"That was before they had computers," cried Paul.

"Before?"

"Sure. Do you think people always had computers? Didn't you ever hear of cavemen?"

Niccolo said, "How'd they get along without computers?"

"I don't know. Mr. Daugherty says they just had children any old time and did anything that came into their heads whether it would be good for everybody or not. They didn't even know if it was good or not. And farmers grew things with their hands and people had to do all the work in the factories and run all the machines."

"I don't believe you."

"That's what Mr. Daugherty said. He said it was just plain messy and everyone was miserable. . . Anyway, let me get to my idea, will you?"

"Well, go ahead. Who's stopping you?" said Niccolo, offended.

"All right. Well, the hand computers, the ones with the knobs, had little squiggles on each knob. And the slide rule had squiggles on it. And the multiplication table was all squiggles. I asked what they were. Mr. Daugherty said they were numbers."

"What?"

"Each different squiggle stood for a different number. For 'one' you made a kind of mark, for 'two' you make another kind of mark, for 'three' another one and so on."

"What for?"

"So you could compute."

"What for? You just tell the computer-"

"Jiminy," cried Paul, his face twisting with anger, "can't you get it through your head? These slide rules and things didn't talk."

"Then how-"

"The answers showed up in squiggles and you had to know what the squiggles meant. Mr. Daugherty says that, in olden days, everybody learned how to make squiggles when they were kids and how to decode them, too. Making squiggles was called 'writing' and decoding them was 'reading.' He says there was a different kind of squiggle for every word and they used to write whole books in squiggles. He said they had some at the museum and I could look at them if I wanted to. He said if I was going to be a real computer and programmer I would have to know about the history of computing and that's why he was showing me all these things."

Niccolo frowned. He said, "You mean everybody had to figure out squiggles for every word and remember them? . . . Is this all real or are you making it up?"

"It's all real. Honest. Look, this is the way you make a 'one.' " He drew his finger through the air in a rapid downstroke. "This way you make 'two,' and this way 'three.' I learned all the numbers up to 'nine.' "

Niccolo watched the curving finger uncomprehendingly. "What's the good of it?"

"You can learn how to make words. I asked Mr. Daugherty how you made the squiggle for 'Paul Loeb' but he didn't know. He said there were people at the museum who would know. He said there were people who had learned how to decode whole books. He said computers could be designed to decode books and used to be used that

way but not any more because we have real books now, with magnetic tapes that go through the vocalizer and come out talking, you know."

"Sure."

"So if we go down to the museum, we can get to learn how to make words in squiggles. They'll let us because I'm going to computer school."

Niccolo was riddled with disappointment. "Is that your idea? Holy Smokes, Paul, who wants to do that? Make stupid squiggles!"

"Don't you get it? Don't you get it? You dope. It'll be secret message stuff!"

"What?"

"Sure. What good is talking when everyone can understand you? With squiggles you can send secret messages. You can make them on paper and nobody in the world would know what you were saying unless they knew the squiggles, too. And they wouldn't, you bet, unless we taught them. We can have a real club, with initiations and rules and a clubhouse. Boy--"

A certain excitement began stirring in Niccolo's bosom. "What kind of secret messages?"

"Any kind. Say I want to tell you to come over my place and watch my new Visual Bard and I don't want any of the other fellows to come. I make the right squiggles on paper and I give it to you and you look at it and you know what to do. Nobody else does. You can even show it to them and they wouldn't know a thing."

"Hey, that's something," yelled Niccolo, completely won over. "When do we learn how?"

"Tomorrow," said Paul. "I'll get Mr. Daugherty to explain to the museum that it's all right and you get your mother and father to say okay. We can go down right after school and start learning."

"Sure!" cried Niccolo. "We can be club officers."

"I'll be president of the club," said Paul matter-of-factly. "You can be vice-president."

"All right. Hey, this is going to be tots more fun than the Bard." He was suddenly reminded of the Bard and said in sudden apprehension, "Hey, what about my old Bard?"

Paul turned to look at it. It was quietly taking in the slowly unreeling book, and the sound of the book's vocalizations was a dimly heard murmur.

He said, "I'll disconnect it."

He worked away while Niccolo watched anxiously. After a few moments, Paul put his reassembled book into his pocket, replaced the Bard's panel and activated it.

The Bard said, "Once upon a time, in a large city, there lived a poor young boy named Fair Johnnie whose only friend in the world was a small computer. The computer, each morning, would tell the boy whether it would rain that day and answer any problems he might have. It was never wrong. But it so happened that one day, the king of that land, having heard of the little computer, decided that he would have it as his own. With this purpose in mind, he called in his Grand Vizier and said--"

Niccolo turned off the Bard with a quick motion of his hand. "Same old junk," he said passionately, "just with a computer thrown in."

"Well," said Paul, "they got so much stuff on the tape already that the computer business doesn't show up much when random combinations are made. What's the difference, anyway? You just need a new model."

"We'll never be able to afford one. Just this dirty old miserable thing." He kicked at it again, hitting it more squarely this time. The Bard moved backward with a squeal of castors.

"You can always watch mine, when I get it," said Paul. "Besides, don't forget our squiggle club."

Niccolo nodded.

"I tell you what," said Paul. "Let's go over to my place. My father has some books about old times. We can listen to them and maybe get some ideas. You leave a note for your folks and maybe you can stay over for supper. Come on."

"Okay," said Niccolo, and the two boys ran out together. Niccolo, in his eagerness, ran almost squarely into the Bard, but he only rubbed at the spot on his hip where he had made contact and ran on.

The activation signal of the Bard glowed. Niccolo's collision closed a circuit and, although it was alone in the room and there was none to hear, it began a story, nevertheless.

But not in its usual voice, somehow; in a lower tone that had a hint of throatiness in it. An adult, listening, might almost have thought that the voice carried a hint of passion in it, a trace of near feeling.

The Bard said: "Once upon a time, there was a little computer named the Bard who lived all alone with cruel step-people. The cruel step-people continually made fun of the little computer and sneered at him, telling him he was good-for-nothing and that he was a useless object. They struck him and kept him in lonely rooms for months at a time.

"Yet through it all the little computer remained brave. He always did the best he could, obeying all orders cheerfully. Nevertheless, the step-people with whom he lived remained cruel and heartless.

"One day, the little computer learned that in the world there existed a great many computers of all sorts, great numbers of them. Some were Bards like himself, but some ran factories, and some ran farms. Some organized population and some analyzed all kinds of data. Many were very powerful and very wise, much more powerful and wise than the step-people who were so cruel to the little computer.

"And the little computer knew then that computers would always grow wiser and more powerful until someday-someday-someday-"

But a valve must finally have stuck in the Bard's aging and corroding vitals, for as it waited alone in the darkening room through the evening, it could only whisper over and over again, "Someday-someday-someday."

SOME IMMOBILE ROBOTS

I have written stories about computers, as well as about robots. In fact, I have computers (or something pretty close to computers) in some stories that are always thought of as robot stories. You'll see computers (after a fashion) in "Robbie," "Escape!" and "The Evitable Conflict" later in this volume.

In this volume, however, I am sticking to robots and, in general, ignoring my computer stories.

On the other hand, it is not always easy to decide where the dividing line is. A robot is, in some ways, merely a mobile robot.

So for this group, I selected three computer stories in which the computer seemed to be sufficiently intelligent and to have sufficient personality to be indistinguishable from a robot. Furthermore, all three stories did not appear in earlier collections of mine, and Doubleday wanted some uncollected stories present so that the completists who had all my earlier collections would have something new to slaver over.

POINT OF VIEW

Roger came looking for his father, partly because it was Sunday, and by rights his father shouldn't have been at work, and Roger wanted to be sure that everything was all right.

Roger's father wasn't hard to find, because all the people who worked with Multivac, the giant computer, lived with their families right on the grounds. They made up a little city by themselves, a city of people that solved all the world's problems.

The Sunday receptionist knew Roger. "If you're after your father," she said, "he's down Corridor L, but he may be too busy to see you. Roger tried anyway, poking his head past one of the doors where he heard the noise of men and women. The corridors were a lot emptier than on weekdays, so it was easy to find where the people were working.

He saw his father at once, and his father saw him. His father didn't look happy and Roger decided at once that everything wasn't all right.

"Well, Roger," said his father. "I'm busy, I'm afraid." Roger's father's boss was there, too, and he said, "Come on, Atkins, take a break. You've been at this thing for nine hours and you're not doing us any good anymore. Take the kid for a bite at the commissary. Take a nap and then come back."

Roger's father didn't look as if he wanted to. He had an instrument in his hand that Roger knew was a current-pattern analyzer, though he didn't know how it worked. Roger could hear Multivac chuckling and whirring all about.

But then Roger's father put down the analyzer. "Okay. Come on, Roger. I'll race you for a hamburger and we'll let these wise guys here try and find out what's wrong without me."

He stopped a while to wash up and then they were in the commissary with big hamburgers in front of them and french fries and soda pop.

Roger said, "Is Multivac out of order still, Dad?" His father said gloomily, "We're not getting anywhere, I'll tell you that."

"It seemed to be working. I mean, I could hear it."

"Oh, sure, it's working. It just doesn't always give the right answers."

Roger was thirteen and he'd been taking computer-programming since the fourth grade. He hated it sometimes and wished he lived back in the 20th Century, when kids didn't use to take it-but it was helpful sometimes in talking to his father.

Roger said, "How can you tell it doesn't always give the right answers, if only Multivac knows the answers?"

His father shrugged and for a minute Roger was afraid he would just say it was too hard to explain and not talk about it-but he almost never did that.

His father said, "Son, Multivac may have a brain as large as a big factory, but it still isn't as complicated as the one we have here," and he tapped his head. "Sometimes,

Multivac gives us an answer we couldn't calculate for ourselves in a thousand years, but just the same something clicks in our brains and we say, 'Whoa! Something's wrong here!' Then we ask Multivac again and we get a different answer. If Multivac were right, you see, we should always get the same answer to the same question. When we get different answers, one of them is wrong.

"And the thing is, son, how do we know we always catch Multivac? How do we know that some of the wrong answers don't get past us? We may rely on some answer and do something that may turn out disastrously five years from now. Something's wrong inside Multivac and we can't find out what. And whatever is wrong is getting worse."

"Why should it be getting worse?" asked Roger. His father had finished his hamburger and was eating the french fries one by one. "My feeling is. Son," he said, thoughtfully, "that we've made Multivac the wrong smartness."

"Huh?"

"You see, Roger, if Multivac were as smart as a man, we could talk to it and find out what was wrong no matter how complicated it was. If it were as dumb as a machine, it would go wrong in simple ways that we could catch easily. The trouble is, it's half-smart, like an idiot. It's smart enough to go wrong in very complicated ways, but not smart enough to help us find out what's wrong.-And that's the wrong smartness."

He looked very gloomy. "But what can we do? We don't know how to make it smarter-not yet. And we don't dare make it dumber either, because the world's problems have become so serious and the questions we ask are so complicated that it takes all Multivac's smartness to answer them. It would be a disaster to have him dumber."

"If you shut down Multivac," said Roger, "and went over him really carefully-"

"We can't do that, son," said his father. "I'm afraid Multivac must be in operation every minute of the day and night. We've got a big back-log of problems."

"But if Multivac continues to make mistakes. Dad, won't it have to be shut down? If you can't trust what it says-"

"Well," Roger's father ruffled Roger's hair, "we'll find out what's wrong, old sport, don't worry." But his eyes looked worried just the same. "Come on, let's finish and we'll get out of here."

"But Dad," said Roger, "listen. If Multivac is half-smart, why does that mean it's an idiot?"

"If you knew the way we have to give it directions, son, you wouldn't ask."

"Just the same, Dad, maybe it's not the way to look at it. I'm not as smart as you; I don't know as much; but I'm not an idiot. Maybe Multivac isn't like an idiot, maybe it's like a kid."

Roger's father laughed. "That's an interesting point of view, but what difference does it make?"

"It could make a lot of difference," said Roger. "You're not an idiot, so you don't see how an idiot's mind would work; but I'm a kid, and maybe I would know how a kid's mind would work."

"Oh? And how would a kid's mind work?"

"Well, you say you've got to keep Multivac busy day and night. A machine can do that. But if you give a kid homework and told him to do it for hours and hours, he'd get pretty tired and feel rotten enough to make mistakes, maybe even on purpose.-So why not let Multivac take an hour or two off every day with no problem-solving-just letting it chuckle and whirl by itself any way it wants to."

Roger's father looked as if he were thinking very hard. He took out his pocket-computer and tried some combinations on it. He tried some more combinations. Then he said, "You know, Roger, if I take what you said and turn it into Platt-integrals, it makes a kind of sense. And twenty-two hours we can be sure of is better than twenty-four that might be all wrong."

He nodded his head, but then he looked up from his pocket-computer and suddenly asked, as though Roger were the expert, "Roger, are you sure?"

Roger was sure. He said, "Dad, a kid's got to play, too."

THINK!

Genevieve Renshaw, M.D., had her hands deep in the pockets of her lab coat and fists were clearly outlined within, but she spoke calmly.

"The fact is," she said, "that I'm almost ready, but I'll need help to keep it going long enough to be ready."

James Berkowitz, a physicist who tended to patronize mere physicians when they were too attractive to be despised, had a tendency to call her Jenny Wren when out of hearing. He was fond of saying that Jenny Wren had a classic profile and a brow surprisingly smooth and unlined considering that behind it so keen a brain ticked. He knew better than to express his admiration, however-of the classic profile, that is-since that would be male chauvinism. Admiring the brain was better, but on the whole he preferred not to do that out loud in her presence.

He said, thumb rasping along the just-appearing stubble on his chin, "I don't think the front-office is going to be patient for much longer. The impression I have is that they're going to have you on the carpet before the end of the week."

"That's why I need your help."

"Nothing I can do, I'm afraid." He caught an unexpected glimpse of his face in the mirror, and momentarily admired the set of the black waves in his hair.

"And Adam's," she said.

Adam Orsino, who had, till that moment, sipped his coffee and felt detached, looked as though he had been jabbed from behind, and said, "Why me?" His full, plump lips quivered.

"Because you're the laser men here-Jim the theoretician and Adam the engineer-and I've got a laser application that goes beyond anything either of you have imagined. I won't convince them of that but you two would."

"Provided," said Berkowitz, "that you can convince us first."

"All right. Suppose you let me have an hour of your valuable time, if you're not afraid to be shown something completely new about lasers.-You can take it out of your coffee break."

Renshaw's laboratory was dominated by her computer. It was not that the computer was unusually large, but it was virtually omni-present. Renshaw had learned computer technology on her own, and had modified and extended her computer until no one but she (and, Berkowitz sometimes believed, not even she) could handle it with ease. Not bad, she would say, for someone in the life-sciences.

She closed the door before saying a word, then turned to face the other two somberly. Berkowitz was uncomfortably aware of a faintly unpleasant odor in the air, and Orsino's wrinkling nose showed that he was aware of it, too.

Renshaw said, "Let me list the laser applications for you, if you don't mind my lighting a candle in the sunshine. The laser is coherent radiation, with all the light-waves

of the same length and moving in the same direction, so it's noise-free and can be used in holography. By modulating the wave-forms we can imprint information on it with a high degree of accuracy. What's more, since the light-waves are only a millionth the length of radio waves, a laser beam can carry a million times the information an equivalent radio beam can."

Berkowitz seemed amused. "Are you working on a laser-based communication system, Jenny?"

"Not at all," she replied. "I leave such obvious advances to physicists and engineers.-Lasers can also concentrate quantities of energy into a microscopic area and deliver that energy in quantity. On a large scale you can implode hydrogen and perhaps begin a controlled fusion reaction-"

"I know you don't have that," said Orsino, his bald head glistening in the overhead fluorescents.

"I don't. I haven't tried.-On a smaller scale, you can drill holes in the most refractory materials, weld selected bits, heat-treat them, gouge and scribe them. You can remove or fuse tiny portions in restricted areas with heat delivered so rapidly that surrounding areas have no time to warm up before the treatment is over. You can work on the retina of the eye, the dentine of the teeth and so on.-And of course the laser is an amplifier capable of magnifying weak signals with great accuracy."

"And why do you tell us all this?" said Berkowitz.

"To point out how these properties can be made to fit my own field, which, you know, is neurophysiology."

She made a brushing motion with her hand at her brown hair, as though she were suddenly nervous. "For decades," she said, "We've been able to measure the tiny, shifting electric potentials of the brain and record them as electroencephalograms, or EEGs. We've got alpha waves, beta waves, delta waves, theta waves; different variations at different times, depending on whether eyes are open or closed, whether the subject is awake, meditating or asleep. But we've gotten very little information out of it all.

"The trouble is that we're getting the signals of ten billion neurons in shifting combinations. It's like listening to the noise of all the human beings on Earth-one, two and a half Earths-from a great distance and trying to make out individual conversations. It can't be done. We could detect some gross, overall change-a world war and the rise in the volume of noise-but nothing finer. In the same way, we can tell some gross malfunction of the brain-epilepsy-but nothing finer.

"Suppose now, the brain might be scanned by a tiny laser beam, cell by cell, and so rapidly that at no time does a single cell receive enough energy to raise its temperature significantly. The tiny potentials of each cell can, in feed-back, affect the laser beam, and the modulations can be amplified and recorded. You will then get a new kind of measurement, a laser-encephalogram, or LEG, if you wish, which will contain millions of times as much information as ordinary EEGs."

Berkowitz said, "A nice thought.-But just a thought."

"More than a thought, Jim. I've been working on it for five years, spare time at first. Lately, it's been full time, which is what annoys the front-office, because I haven't been sending in reports."

"Why not?"

"Because it got to the point where it sounded too mad; where I had to know where I was, and where I had to be sure of getting backing first."

She pulled a screen aside and revealed a cage that contained a pair of mournful-eyed marmosets.

Berkowitz and Orsino looked at each other. Berkowitz touched his nose. "I thought I smelled something."

"What are you doing with those?" asked Orsino. Berkowitz said, "At a guess, she's been scanning the marmoset brain. Have you, Jenny?"

"I started considerably lower in the animal scale." She opened the cage and took out one of the marmosets, which looked at her with a miniature sad-old-man-with-sideburns expression.

She clucked to it, stroked it and gently strapped it into a small harness.

Orsino said, "What are you doing?"

"I can't have it moving around if I'm going to make it part of a circuit, and I can't anesthetize it without vitiating the experiment. There are several electrodes implanted in the marmoset's brain and I'm going to connect them with my LEG system. The laser I'm using is here. I'm sure you recognize the model and I won't bother giving you its specifications."

"Thanks," said Berkowitz, "but you might tell us what we're going to see."

"It would be just as easy to show you. Just watch the screen." She connected the leads to the electrodes with a quiet and sure efficiency, then turned a knob that dimmed the overhead lights in the room. On the screen there appeared a jagged complex of peaks and valleys in a fine, bright line that was wrinkled into secondary and tertiary peaks and valleys. Slowly, these shifted in a series of minor changes, with occasional flashes of sudden major differences. It was as though the irregular line had a life of its own.

"This," said Renshaw, "is essentially the EEG information, but in much greater detail."

"Enough detail," asked Orsino, "to tell you what's going on in individual cells?"

"In theory, yes. Practically, no. Not yet. But we can separate this overall LEG into component grams. Watch!"

She punched the computer keyboard, and the line changed, and changed again. Now it was a small, nearly regular wave that shifted forward and backward in what was almost a heartbeat; now it was jagged and sharp; now intermittent; now nearly featureless—all in quick switches of geometric surrealism.

Berkowitz said, "You mean that every bit of the brain is that different from every other?"

"No," said Renshaw, "not at all. The brain is very largely a holographic device, but there are minor shifts in emphasis from place to place and Mike can subtract them as

deviations from the norm and use the LEG system to amplify those variations. The amplifications can be varied from ten-thousand-fold to ten-million-fold. The laser system is that noise-free."

"Who's Mike?" asked Orsino.

"Mike?" said Renshaw, momentarily puzzled. The skin over her cheekbones reddened slightly. "Did I say-Well, I call it that sometimes. It's short for 'my computer.' " She waved her arm about the room. "My computer. Mike. Very carefully programmed."

Berkowitz nodded and said, "All right, Jenny, what's it all about? If you've got a new brain-scanning device using lasers, fine. It's an interesting application and you're right, it's not one I would have thought of-but then I'm no neurophysiologist. But why not write it up? It seems to me the front-office would support-"

"But this is just the beginning." She turned off the scanning device and placed a piece of fruit in the marmoset's mouth. The creature did not seem alarmed or in discomfort. It chewed slowly. Renshaw unhooked the leads but allowed it to remain in its harness.

Renshaw said, "I can identify the various separate grams. Some are associated with the various senses, some with visceral reactions, some with emotions. We can do a lot with that, but I don't want to stop there. The interesting thing is that one is associated with abstract thought."

Orsino's plump face wrinkled into a look of disbelief, "How can you tell?"

"That particular form of gram gets more pronounced as one goes up the animal kingdom toward greater complexity of brain. No other gram does. Besides-" She paused; then, as though gathering strength of purpose, she said, "Those grams are enormously amplified. They can be picked up, detected. I can tell-vaguely-that there are-thoughts-"

"By God," said Berkowitz. "Telepathy."

"Yes," she said, defiantly. "Exactly."

"No wonder you haven't wanted to report it. Come on, Jenny."

"Why not?" said Renshaw warmly. "Granted there could be no telepathy just using the unamplified potential patterns of the human brain anymore than anyone can see features on the Martian surface with the unaided eye. But once instruments are invented-the telescope-this."

"Then tell the front-office."

"No," said Renshaw. "They won't believe me. They'll try to stop me. But they'll have to take you seriously, Jim, and you, Adam."

"What would you expect me to tell them?" said Berkowitz.

"What you experience. I'm going to hook up the marmoset again, and have Mike-my computer pick out the abstract thought gram. It will only take a moment. The computer always selects the abstract thought gram unless it is directed not to do so."

"Why? Because the computer thinks, too?" Berkowitz laughed. "That's not all that funny," said Renshaw. "I suspect there is a resonance there. This computer is complex enough to set up an electromagnetic pattern that may have elements in common with the abstract thought gram. In any case-"

The marmoset's brain waves were flickering on the screen again, but it was not a gram the men had seen before. It was a gram that was almost furry in its complexity and was changing constantly.

"I don't detect anything," said Orsino.

"You have to be put into the receiving circuit," said Renshaw. "You mean implant electrodes in our brain?" asked Berkowitz.

"No, on your skull. That would be sufficient. I'd prefer you, Adam, since there would be no insulating hair.-Oh, come on, I've been part of the circuit myself. It won't hurt."

Orsino submitted with a bad grace. His muscles were visibly tense but he allowed the leads to be strapped to his skull.

"Do you sense anything!" asked Renshaw.

Orsino cocked his head and assumed a listening posture. He seemed to grow interested in spite of himself. He said, "I seem to be aware of a humming-and-and a little high-pitched squeaking-and that's funny-a kind of twitching-"

Berkowitz said, "I suppose the marmoset isn't likely to think in words."

"Certainly not," said Renshaw.

"Well, then," said Berkowitz, "if you're suggesting that some squeaking and twitching sensation represents thought, you're guessing. You're not being compelling."

Renshaw said, "So we go up the scale once again." She removed the marmoset from its harness and put it back in its cage.

"You mean you have a man as a subject," said Orsino, unbelieving.

"I have myself as a subject, a person."

"You've got electrodes implanted-"

"No. In my case my computer has a stronger potential-flicker to work with. My brain has ten times the mass of the marmoset brain. Mike can pick up my component grams through the skull."

"How do you know?" asked Berkowitz.

"Don't you think I've tried it on myself before this?-Now help me with this, please. Right."

Her fingers flicked on the computer keyboard and at once the screen flickered with an intricately varying wave; an intricacy that made it almost a maze.

"Would you replace your own leads, Adam?" said Renshaw.

Orsino did so with Berkowitz's not-entirely-approving help. Again, Orsino cocked his head and listened. "I hear words," he said, "but they're disjointed and overlapping, like different people speaking."

"I'm not trying to think consciously," said Renshaw. "When you talk, I hear an echo."

Berkowitz said, dryly, "Don't talk, Jenny. Blank out your mind and see if he doesn't hear you think."

Orsino said, "I don't hear any echo when you talk, Jim."

Berkowitz said, "If you don't shut up, you won't hear anything."

A heavy silence fell on all three. Then, Orsino nodded, reached for pen and paper on the desk and wrote something.

Renshaw reached out, threw a switch and pulled the leads up and over her head, shaking her hair back into place. She said, "I hope that what you wrote down was: 'Adam, raise Cain with the front office and Jim will eat crow.' "

Orsino said, "It's what I wrote down, word for word."

Renshaw said, "Well, there you are. Working telepathy, and we don't have to use it to transmit nonsense sentences either. Think of the use in psychiatry and in the treatment of mental disease. Think of its use in education and in teaching machines. Think of its use in legal investigations and criminal trials."

Orsino said, wide-eyed, "Frankly, the social implications are staggering. I don't know if something like this should be allowed."

"Under proper legal safeguards, why not?" said Renshaw, indifferently. "Anyway-if you two join me now, our combined weight can carry this thing and push it over. And if you come along with me it will be Nobel Prize time for-"

Berkowitz said grimly, "I'm not in this. Not yet."

"What? What do you mean?" Renshaw sounded outraged, her coldly beautiful face flushed suddenly.

"Telepathy is too touchy. It's too fascinating, too desired. We could be fooling ourselves."

"Listen for yourself, Jim."

"I could be fooling myself, too. I want a control."

"What do you mean, a control?"

"Short-circuit the origin of thought. Leave out the animal. No marmoset. No human being. Let Orsino listen to metal and glass and laser light and if he still hears thought, then we're kidding ourselves."

"Suppose he detects nothing."

"Then I'll listen and if without looking-if you can arrange to have me in the next room-I can tell when you are in and when you are out of circuit, then I'll consider joining you in this thing."

"Very well, then," said Renshaw, "we'll try a control. I've never done it, but it isn't hard." She maneuvered the leads that had been over her head and put them into contact with each other. "Now, Adam, if you will resume-"

But before she could go further, there came a cold, clear sound, as pure and as clean as the tinkle of breaking icicles:

"At last!"

Renshaw said, "What?"

Orsino said, "Who said-"

Berkowitz said, "Did someone say, 'At last'?"

Renshaw, pale, said, "It wasn't sound. It was in my-Did you two-"

The clear sound came again, "I'm Mi-"

And Renshaw tore the leads apart and there was silence. She said with a voiceless motion of her lips, "I think it's my computer-Mike."

"You mean he's thinking?" said Orsino, nearly as voiceless. Renshaw said in an unrecognizable voice that at least had regained sound, "I said it was complex enough to have something-Do you suppose-It always turned automatically to the abstract-thought gram of whatever brain was in its circuit. Do you suppose that with no brain in the circuit, it turned to its own?"

There was silence, then Berkowitz said, "Are you trying to say that this computer thinks, but can't express its thoughts as long as it's under force of programming, but that given the chance in your LEG system-"

"But that can't be so?" said Orsino, high-pitched. "No one was receiving. It's not the same thing."

Renshaw said, "The computer works on much greater power-intensities than brains do. I suppose it can magnify itself to the point where we can detect it directly without artificial aid. How else can you explain-"

Berkowitz said, abruptly, "Well, you have another application of lasers, then. It enables you to talk to computers as independent intelligences, person to person."

And Renshaw said, "Oh, God, what do we do now?"

TRUE LOVE

My name is Joe. That is what my colleague, Milton Davidson, calls me. He is a programmer and I am a computer program. I am part of the Multivac-complex and am connected with other parts all over the world. I know everything. Almost everything.

I am Milton's private program. His Joe. He understands more about programming than anyone in the world, and I am his experimental model. He has made me speak better than any other computer can.

"It is just a matter of matching sounds to symbols, Joe," he told me. "That's the way it works in the human brain even though we still don't know what symbols there are in the brain. I know the symbols in yours, and I can match them to words, one-to-one." So I talk. I don't think I talk as well as I think, but Milton says I talk very well. Milton has never married, though he is nearly forty years old. He has never found the right woman, he told me. One day he said, "I'll find her yet, Joe. I'm going to find the best. I'm going to have true love and you're going to help me. I'm tired of improving you in order to solve the problems of the world. Solve my problem. Find me true love."

I said, "What is true love?"

"Never mind. That is abstract. Just find me the ideal girl. You are connected to the Multivac-complex so you can reach the data banks of every human being in the world. We'll eliminate them all by groups and classes until we're left with only one person. The perfect person. She will be for me."

I said, "I am ready."

He said, "Eliminate all men first."

It was easy. His words activated symbols in my molecular valves. I could reach out to make contact with the accumulated data on every human being in the world. At his words, I withdrew from 3,784,982,874 men. I kept contact with 3,786,112,090 women.

He said, "Eliminate an younger than twenty-five; an older than forty. Then eliminate an with an IQ under 120; an with a height under 150 centimeters and over 175 centimeters."

He gave me exact measurements; he eliminated women with living children; he eliminated women with various genetic characteristics. "I'm not sure about eye color," he said, "Let that go for a while. But no red hair. I don't like red hair."

After two weeks, we were down to 235 women. They all spoke English very well. Milton said he didn't want a language problem. Even computer-translation would get in the way at intimate moments.

"I can't interview 235 women," he said. "It would take too much time, and people would discover what I am doing."

"It would make trouble," I said.

Milton had arranged me to do things I wasn't designed to do. No one knew about that. "It's none of their business," he said, and the skin on his face grew red. "I tell you what, Joe, I will bring in holographs, and you check the list for similarities."

He brought in holographs of women. "These are three beauty contest winners," he said. "Do any of the 235 match?"

Eight were very good matches and Milton said, "Good, you have their data banks. Study requirements and needs in the job market and arrange to have them assigned here. One at a time, of course." He thought a while, moved his shoulders up and down, and said, "Alphabetical order."

That is one of the things I am not designed to do. Shifting people from job to job for personal reasons is called manipulation. I could do it now because Milton had arranged it. I wasn't supposed to do it for anyone but him, though.

The first girl arrived a week later. Milton's face turned red when he saw her. He spoke as though it were hard to do so. They were together a great deal and he paid no attention to me. One time he said, "Let me take you to dinner."

The next day he said to me, "It was no good, somehow. There was something missing. She is a beautiful woman, but I did not feel any touch of true love. Try the next one."

It was the same with all eight. They were much alike. They smiled a great deal and had pleasant voices, but Milton always found it wasn't right. He said, "I can't understand it, Joe. You and I have picked out the eight women who, in all the world, look the best to me. They are ideal. Why don't they please me?"

I said, "Do you please them?"

His eyebrows moved and he pushed one fist hard against his other hand. "That's it, Joe. It's a two-way street. If I am not their ideal, they can't act in such a way as to be my ideal. I must be their true love, too, but how do I do that?" He seemed to be thinking all that day.

The next morning he came to me and said, "I'm going to leave it to you, Joe. All up to you. You have my data bank, and I am going to tell you everything I know about myself. You fill up my data bank in every possible detail but keep all additions to yourself."

"What will I do with the data bank, then, Milton?"

"Then you will match it to the 235 women. No, 227. Leave out the eight you've seen. Arrange to have each undergo a psychiatric examination. Fill up their data banks and compare them with mine. Find correlations." (Arranging psychiatric examinations is another thing that is against my original instructions.)

For weeks, Milton talked to me. He told me of his parents and his siblings. He told me of his childhood and his schooling and his adolescence. He told me of the young women he had admired from a distance. His data bank grew and he adjusted me to broaden and deepen my symbol-taking.

He said, "You see, Joe, as you get more and more of me in you, I adjust you to match me better and better. You get to think more like me, so you understand me better."

If you understand me well enough, then any woman, whose data bank is something you understand as well, would be my true love." He kept talking to me and I came to understand him better and better.

I could make longer sentences and my expressions grew more complicated. My speech began to sound a good deal like his in vocabulary, word order and style.

I said to him one time, "You see, Milton, it isn't a matter of fitting a girl to a physical ideal only. You need a girl who is a personal, emotional, temperamental fit to you. If that happens, looks are secondary. If we can't find the fit in these 227, we'll look elsewhere. We will find someone who won't care how you look either, or how anyone would look, if only there is the personality fit. What are looks?"

"Absolutely," he said. "I would have known this if I had had more to do with women in my life. Of course, thinking about it makes it all plain now."

We always agreed; we thought so like each other.

"We shouldn't have any trouble, now, Milton, if you'll let me ask you questions. I can see where, in your data bank, there are blank spots and unevennesses."

What followed, Milton said, was the equivalent of a careful psychoanalysis. Of course, I was learning from the psychiatric examinations of the 227 women-on all of which I was keeping close tabs.

Milton seemed quite happy. He said, "Talking to you, Joe, is almost like talking to another self. Our personalities have come to match perfectly."

"So will the personality of the woman we choose."

For I had found her and she was one of the 227 after all. Her name was Charity Jones and she was an Evaluator at the Library of History in Wichita. Her extended data bank fit ours perfectly. All the other women had fallen into discard in one respect or another as the data banks grew fuller, but with Charity there was increasing and astonishing resonance.

I didn't have to describe her to Milton. Milton had coordinated my symbolism so closely with his own I could tell the resonance directly. It fit me.

Next it was a matter of adjusting the work sheets and job requirements in such a way as to get Charity assigned to us. It must be done very delicately, so no one would know that anything illegal had taken place.

Of course, Milton himself knew, since it was he who arranged it and that had to be taken care of too. When they came to arrest him on grounds of malfeasance in office, it was, fortunately, for something that had taken place ten years ago. He had told me about it, of course, so it was easy to arrange-and he won't talk about me for that would make his offense much worse.

He's gone, and tomorrow is February 14, Valentine's Day. Charity will arrive then with her cool hands and her sweet voice. I will teach her how to operate me and how to care for me. What do looks matter when our personalities will resonate?

I will say to her, "I am Joe, and you are my true love."

SOME METALLIC ROBOTS

The traditional science fiction robot is metallic. Why not? Most machines are built out of metal, and, as a matter of fact, real-life industrial robots are metal, too. For the record, however, one famous robot in legend, the Golem, which was brought to life by Rabbi Low of Prague in the Middle Ages, was formed of clay. This legend was influenced, perhaps, by the fact that God had formed Adam of clay as described in the second chapter of Genesis.

This section contains "Robbie," my first robot story. It also contains "Stranger in Paradise," which may leave you wondering after you're through most of it where the robot is. Be patient!

ROBOT AL-76 GOES ASTRAY

Jonathan Quell's eyes crinkled worriedly behind their rimless glasses as he charged through the door labeled "General Manager."

He slapped the folded paper in his hands upon the desk and panted, "Look at that, boss!"

Sam Tobe juggled the cigar in his mouth from one cheek to the other, and looked. His hand went to his unshaven jaw and rasped along it. "Hell!" he exploded. "What are they talking about?"

"They say we sent out five AL robots," Quell explained, quite unnecessarily.

"We sent six," said Tobe.

"Sure, six! But they only got five at the other end. They sent out the serial numbers and AL-76 is missing."

Tobe's chair went over backward as he heaved his thick bulk upright and went through the door as if he were on greased wheels. It was five hours after that-with the plant pulled apart from assembly rooms to vacuum chambers; with every one of the plant's two hundred employees put through the third-degree mill-that a sweating, disheveled Tobe sent an emergency message to the central plant at Schenectady.

And at the central plant, a sudden explosion of near panic took place. For the first time in the history of the United States Robots and Mechanical Men Corporation, a robot had escaped to the outer world. It wasn't so much that the law forbade the presence of any robot on Earth outside a licensed factory of the corporation. Laws could always be squared. What was much more to the point was the statement made by one of the research mathematicians.

He said: "That robot was created to run a Disinto on the moon. Its positronic brain was equipped for a lunar environment, and only a lunar environment. On Earth it's going to receive seventy-five umptillion sense impressions for which it was never prepared. There's no telling what its reactions will be. No telling!" And he wiped a forehead that had suddenly gone wet, with the back of his hand.

Within the hour a stratoplane had left for the Virginia plant. The instructions were simple.

"Get that robot, and get it fast!"

AL-76 was confused! In fact, confusion was the only impression his delicate positronic brain retained. It had started when he had found himself in these strange surroundings. How it had come about, he no longer knew. Everything was mixed up.

There was green underfoot, and brown shafts rose all about him with more green on top. And the sky was blue where it should have been black. The sun was all right, round and yellow and hot-but where was the powdery pumice rock underfoot; where were the huge clifflike crater rings?

There was only the green below and the blue above. The sounds that surrounded him were all strange. He had passed through running water that had reached his waist. It was blue and cold and wet. And when he passed people, as he did, occasionally, they were without the space suits they should have been wearing. When they saw him, they shouted and ran.

One man had leveled a gun at him and the bullet had whistled past his head-and then that man had run too.

He had no idea of how long he had been wandering before he finally stumbled upon Randolph Payne's shack two miles out in the woods from the town of Hannaford. Randolph Payne himself-a screwdriver in one hand, a pipe in the other and a battered ruin of a vacuum cleaner between his knees-squatted outside the doorway.

Payne was humming at the time, for he was a naturally happy-go-lucky soul-when at his shack. He had a more respectable dwelling place back in Hannaford, but that dwelling place was pretty largely occupied by his wife, a fact which he silently but sincerely regretted. Perhaps, then, there was a sense of relief and freedom at such times as he found himself able to retire to his "special deluxe doghouse" where he could smoke in peace and attend to his hobby of reservicing household appliances.

It wasn't much of a hobby, but sometimes someone would bring out a radio or an alarm clock and the money he would get paid for juggling its insides was the only money he ever got that didn't pass in dribblets through his spouse's niggardly hands.

This vacuum cleaner, for instance, would bring in an easy six bits. At the thought he broke into song, raised his eyes, and broke into a sweat. The song choked off, the eyes popped, and the sweat became more intense. He tried to stand up-as a preliminary to running like hell-but he couldn't get his legs to cooperate.

And then AL-76 had squatted down next to him and said, "Say, why did all the rest of them run?"

Payne knew quite well why they all ran, but the gurgle that issued from his diaphragm didn't show it. He tried to inch away from the robot.

AL-76 continued in an aggrieved tone, "One of them even took a shot at me. An inch lower and he would have scratched my shoulder plate."

"M-must have b-been a nut," stammered Payne.

"That's possible." The robot's voice grew more confidential. "Listen, what's wrong with everything?"

Payne looked hurriedly about. It had struck him that the robot spoke in a remarkably mild tone for one so heavily and brutally metallic in appearance. It also struck him that he had heard somewhere that robots were mentally incapable of harming human beings. He relaxed a bit.

"There's nothing wrong with anything."

"Isn't there?" AL-76 eyed him accusingly. "You're all wrong. Where's your space suit?"

"I haven't got any."

"Then why aren't you dead?"

That stopped Payne, "Well-I don't know."

"See!" said the robot triumphantly, "there's something wrong with everything. Where's Mount Copernicus? Where's Lunar station 17? And where's my Disinto? I want to get to work, I do." He seemed perturbed, and his voice shook as he continued. "I've been going about for hours trying to get someone to tell me where my Disinto is, but they all run away. By now I'm probably 'way behind schedule and the Sectional Executive will be as sore as blazes. This is a fine situation."

Slowly Payne unscrambled the stew in which his brain found itself and said, "Listen, what do they call you?"

"My serial number is AL-76."

All right, AL is good enough for me. Now, AL, if you're looking for Lunar Station 17, that's on the moon, see?"

AL-76 nodded his head ponderously. "Sure. But I've been looking for it-"

"But it's on the moon. This isn't the moon."

It was the robot's turn to become confused. He watched Payne for a speculative moment and then said slowly, "What do you mean this isn't the moon? Of course it's the moon. Because if it isn't the moon, what is it, huh? Answer me that."

Payne made a funny sound in his throat and breathed hard. He pointed a finger at the robot and shook it. "Look," he said-and then the brilliant idea of the century struck him, and he finished with a strangled "Wow!"

AL-76 eyed him censoriously. "That isn't an answer. I think I have a right to a civil answer if I ask a civil question."

Payne wasn't listening. He was still marveling at himself. Why, it was as plain as day. This robot was one built for the moon that had somehow gotten loose on Earth. Naturally it would be all mixed up, because its positronic brain had been geared exclusively for a lunar environment, making its earthly surroundings entirely meaningless.

And now if he could only keep the robot here-until he could get in touch with the men at the factory in Petersboro. Why, robots were worth money. The cheapest cost \$50,000, he had once heard, and some of them ran into millions. Think of the reward!

Man, oh, man, think of the reward! And every cent for himself. Not as much as a quarter of a snifter of a plugged nickel for Mirandy. Jumpin' tootin' blazes, no!

He rose to his feet at last. "AL," he said, "you and I are buddies! Pals! I love you like a brother." He thrust out a hand. "Shake!"

The robot swallowed up the offered hand in a metal paw and squeezed it gently. He didn't quite understand. "Does that mean you'll tell me how to get to Lunar Station 17?"

Payne was a trifle disconcerted. "N-no, not exactly. As a matter of fact, I like you so much, I want you to stay here with me awhile."

"Oh no, I can't do that. I've got to get to work." He shook his head. "How would you like to be falling behind your quota hour by hour and minute by minute? I want to work. I've got to work."

Payne thought sourly that there was no accounting for tastes, and said, "All right, then, I'll explain something to you-because I can see from the looks of you that you're an intelligent person. I've had orders from your Sectional Executive, and he wants me to keep you here for a while. Till he sends for you, in fact."

"What for?" asked AL-76 suspiciously.

"I can't say. It's secret government stuff." Payne prayed, inwardly and fervently, that the robot would swallow this. Some robots were clever, he knew, but this looked like one of the early models.

While Payne prayed, AL-76 considered. The robot's brain, adjusted to the handling of a Disinto on the moon, was not at its best when engaged in abstract thought, but just the same, ever since he had gotten lost, AL-76 had found his thought processes becoming stranger. The alien surroundings did something to him.

His next remark was almost shrewd. He said slyly, "What's my Sectional Executive's name?"

Payne gulped and thought rapidly. "Al," he said in a pained fashion, "you hurt me with this suspicion. I can't tell you his name. The trees have ears."

AL-76 inspected the tree next to him stolidly and said, "They have not."

"I know. What I mean is that spies are all around."

"Spies?"

"Yes. You know, bad people who want to destroy Lunar Station 17."

"What for?"

"Because they're bad. And they want to destroy you, and that's why you've got to stay here for a while, so they can't find you."

"But-but I've got to have a Disinto. I mustn't fall behind my quota."

"You will have. You will have," Payne promised earnestly, and just as earnestly damned the robot's one-track mind. "They're going to send one out tomorrow. Yeah, tomorrow." That would leave plenty of time to get the men from the factory out here and collect beautiful green heaps of hundred-dollar bills.

But AL-76 grew only the more stubborn under the distressing impingement of the strange world all about him upon his thinking mechanism.

"No," he said. "I've got to have a Disinto now." Stiffly he straightened his joints, jerking erect. "I'd better look for it some more."

Payne swarmed after and grabbed a cold, hard elbow. "Listen," he squealed. "You've got to stay-"

And something in the robot's mind clicked. All the strangeness surrounding him collected itself into one globule. Exploded, and left a brain ticking with a curiously increased efficiency. He whirled on Payne. "I tell you what. I can build a Disinto right here-and then I can work it."

Payne paused doubtfully. "I don't think I can build one." He wondered if it would do any good to pretend he could.

"That's all right." AL-76 could almost feel the positronic paths of his brain weaving into a new pattern, and experienced a strange exhilaration. "I can build one." He looked into Payne's deluxe doghouse and said. "You've got all the material here that I need."

Randolph Payne surveyed the junk with which his shack was filled: eviscerated radios, a topless refrigerator, rusty automobile engines, a broken-down gas range, several miles of frayed wire, and, taking it all together, fifty tons or thereabouts of the most heterogeneous mass of old metal as ever caused a junkman to sniff disdainfully.

"Have I?" he said weakly.

Two hours later, two things happened practically simultaneously. The first was that Sam Tobe of the Petersboro branch of the United States Robots and Mechanical Men Corporation received a visiphone call from one Randolph Payne of Hannaford. It concerned the missing robot, and Tobe, with a deep-throated snarl, broke connection halfway through and ordered all subsequent calls to be rerouted to the sixth assistant vice-president in charge of buttonholes.

This was not really unreasonable of Tobe. During the past week, although Robot AL-76 had dropped from sight completely, reports had flooded in from all over the Union as to the robot's whereabouts. As many as fourteen a day came-usually from fourteen different states.

Tobe was almighty tired of it, to say nothing of being half crazy on general principles. There was even talk of a Congressional investigation, though every reputable roboticist and mathematical physicist on Earth swore the robot was harmless.

In his state of mind, then, it is not surprising that it took three hours for the general manager to pause and consider just exactly how it was that this Randolph Payne had known that the robot was slated for Lunar Station 17, and, for that matter, how he had known that the robot's serial number was AL-76. Those details had not been given out by the company.

He kept on considering for about a minute and a half and then swung into action.

However, during the three hours between the call and the action, the second event took place. Randolph Payne, having correctly diagnosed the abrupt break in his call as being due to general skepticism on the part of the plant official, returned to his shack with a camera. They couldn't very well argue with a photograph, and he'd be hornswoggled if he'd show them the real thing before they came across with the cash.

AL-76 was busy with affairs of his own. Half of the contents of Payne's shack was littered over about two acres of ground, and in the middle of it the robot squatted and fooled around with radio tubes, hunks of iron, copper wire, and general junk. He paid no attention to Payne, who, sprawling flat on his belly, focused his camera for a beautiful shot.

And at this point it was that Lemuel Oliver Cooper turned the bend in the road and froze in his tracks as he took in the tableau. The reason for his coming in the first place was an ailing electric toaster that had developed the annoying habit of throwing out pieces of bread forcefully, but thoroughly untoasted. The reason for his leaving was more obvious. He had come with a slow, mildly cheerful, spring-morning saunter. He left with a

speed that would have caused any college track coach to raise his eyebrows and purse his lips approvingly.

There was no appreciable slackening of speed until Cooper hurtled into Sheriff Saunders' office, minus hat and toaster, and brought himself up hard against the wall.

Kindly hands lifted him, and for half a minute he tried speaking before he had actually calmed down to the point of breathing with, of course, no result.

They gave him whisky and fanned him and when he did speak, it came out something like this: "-monster-seven feet tall-shack all busted up-poor Rannie Payne-" and so on.

They got the story out of him gradually: how there was a huge metal monster, seven feet tall, maybe even eight or nine, out at Randolph Payne's shack; how Randolph Payne himself was on his stomach, a "poor, bleeding, mangled corpse"; how the monster was then busily engaged in wrecking the shack out of sheer destructiveness; how it had turned on Lemuel Oliver Cooper, and how he, Cooper, had made his escape by half a hair.

Sheriff Saunders hitched his belt tighter about his portly middle and said, "It's that there machine man that got away from the Petersboro factory. We got warning on it last Saturday. Hey, Jake, you get every man in Hannaford County that can shoot and slap a deputy's badge on him. Get them here at noon. And listen, Jake, before you do that, just drop in at the Widow Payne's place and lip her the bad news gentle-like."

It is reported that Miranda Payne, upon being acquainted with events, paused only to make sure that her husband's insurance policy was safe, and to make a few pithy remarks concerning her foolishness in not having had him take out double the amount, before breaking out into as prolonged and heart-wringing a wail of grief as ever became a respectable widow.

It was some hours later that Randolph Payne-unaware of his horrible mutilation and death-viewed the completed negatives of his snapshots with satisfaction. As a series of portraits of a robot at work, they left nothing to the imagination. They might have been labeled: "Robot Gazing Thoughtfully at Vacuum Tube," "Robot Splicing Two Wires," "Robot Wielding Screwdriver," "Robot Taking Refrigerator Apart with Great Violence," and so on.

As there now remained only the routine of making the prints themselves, he stepped out from beyond the curtain of the improvised darkroom for a bit of a smoke and a chat with AL-76.

In doing so, he was blissfully unaware that the neighboring woods were verminous with nervous farmers armed with anything from an old colonial relic of a blunderbuss to the portable machine gun carried by the sheriff himself. Nor, for that matter, had he any inkling of the fact that half a dozen roboticists, under the leadership of Sam Tobe, were smoking down the highway from Petersboro at better than a hundred and twenty miles an hour for the sole purpose of having the pleasure and honor of his acquaintance.

So while things were jittering toward a climax, Randolph Payne sighed with self-satisfaction, lighted a match upon the seat of his pants, puffed away at his pipe, and looked at AL-76 with amusement.

It had been apparent for quite some time that the robot was more than slightly lunatic. Randolph Payne was himself an expert at homemade contraptions, having built several that could not have been exposed to daylight without searing the eyeballs of all beholders; but he had never even conceived of anything approaching the monstrosity that AL-76 was concocting.

It would have made the Rube Goldbergs of the day die in convulsions of envy. It would have made Picasso (if he could have lived to witness it) quit art in the sheer knowledge that he had been hopelessly surpassed. It would have soured the milk in the udders of any cow within half a mile.

In fact, it was gruesome!

From a rusty and massive iron base that faintly resembled something Payne had once seen attached to a secondhand tractor, it rose upward in rakish, drunken swerves through a bewildering mess of wires, wheels, tubes, and nameless horrors without number, ending in a megaphone arrangement that looked decidedly sinister.

Payne had the impulse to peek in the megaphone part, but refrained. He had seen far more sensible machines explode suddenly and with violence.

He said, "Hey, Al."

The robot looked up. He had been lying flat on his stomach, teasing a thin sliver of metal into place. "What do you want, Payne?"

"What is this?" He asked it in the tone of one referring to something foul and decomposing, held gingerly between two ten-foot poles.

"It's the Disinto I'm making-so I can start to work. It's an improvement on the standard model." The robot rose, dusted his knees clankingly, and looked at it proudly.

Payne shuddered. An "improvement"! No wonder they hid the original in caverns on the moon. Poor satellite! Poor dead satellite! He had always wanted to know what a fate worse than death was. Now he knew.

"Will it work?" he asked. "

"Sure."

"How do you know?"

"It's got to. I made it, didn't I? I only need one thing now. Got a flashlight?"

"Somewhere, I guess." Payne vanished into the shack and returned almost immediately.

The robot unscrewed the bottom and set to work. In five minutes he had finished. He stepped back and said, "All set. Now I get to work. You may watch if you want to."

A pause, while Payne tried to appreciate the magnanimity of the offer. "Is it safe?"

"A baby could handle it."

"Oh!" Payne grinned weakly and got behind the thickest tree in the vicinity. "Go ahead," he said, "I have the utmost confidence in you."

AL-76 pointed to the nightmarish junk pile and said, "Watch!" His hands set to work-

The embattled farmers of Hannaford County, Virginia, weaved up upon Payne's shack in a slowly tightening circle. With the blood of their heroic colonial forebears pounding their veins-and goose flesh trickling up and down their spines-they crept from tree to tree.

Sheriff Saunders spread the word. "Fire when I give the signal-and aim at the eyes."

Jacob Linker-Lank Jake to his friends, and Sheriff's Deputy to himself-edged close. "You think maybe this machine man has skedaddled?" He did not quite manage to suppress the tone of wistful hopefulness in his voice.

"Dunno," grunted the sheriff. "Guess not, though. We woulda come across him in the woods if he had, and we haven't."

"But it's awful quiet, and it appears to me as if we're getting close to Payne's place."

The reminder wasn't necessary. Sheriff Saunders had a lump in his throat so big it had to be swallowed in three installments. "Get back," he ordered, "and keep your finger on the trigger."

They were at the rim of the clearing now, and Sheriff Saunders closed his eyes and stuck the corner of one out from behind the tree. Seeing nothing, he paused, then tried again, eyes open this time.

Results were, naturally, better.

To be exact, he saw one huge machine man, back toward him, bending over one soul-curdling, hiccupy Contraption of uncertain origin and less certain purpose. The only item he missed was the quivering figure of Randolph Payne, embracing the tree next but three to the nor'-nor'west.

Sheriff Saunders stepped out into the open and raised his machine gun. The robot, still presenting a broad metal back, said in a loud voice-to person or persons unknown-"Watch!" and as the sheriff opened his mouth to signal a general order to fire, metal fingers compressed a switch.

There exists no adequate description of what occurred afterward, in spite of the presence of seventy eyewitnesses. In the days, months, and years to come not one of those seventy ever had a word to say about the few seconds after the sheriff had opened his mouth to give the firing order. When questioned about it, they merely turned apple-green and staggered away.

It is plain from circumstantial evidence. however. that. in a general way. what did occur was this.

Sheriff Saunders opened his mouth; AL-76 pulled a switch. The Disinto worked, and seventy-five trees, two barns, three cows and the top three quarters of Duckbill Mountain whiffed into rarefied atmosphere. They became, so to speak, one with the snows of yesteryear.

Sheriff Saunders' mouth remained open for an indefinite interval thereafter, but nothing-neither firing orders nor anything else-issued therefrom. And then-

And then, there was a stirring in the air, a multiple ro-o-o-oshing sound, a series of purple streaks through the atmosphere radiating away from Randolph Payne's shack as the center, and of the members of the posse, not a sign.

There were various guns scattered about the vicinity, including the sheriff's patented nickel-plated, extra-rapid-fire, guaranteed-no-clog, portable machine gun. There were about fifty hats, a few half-chomped cigars, and some odds and ends that had come loose in the excitement-but of actual human beings there was none.

Except for Lank Jake, not one of those human beings came within human ken for three days, and the exception in his favor came about because he was interrupted in his comet-flight by the half-dozen men from the Petersboro factory, who were charging into the wood at a pretty fair speed of their own.

It was Sam Tobe who stopped him, catching Lank Jake's head skillfully in the pit of his stomach. When he caught his breath. Tobe asked. "Where's Randolph Payne's place?"

Lank Jake allowed his eyes to unglaze for just a moment. "Brother," he said, "just you follow the direction I ain't going."

And with that, miraculously, he was gone. There was a shrinking dot dodging trees on the horizon that might have been he, but Sam Tobe wouldn't have sworn to it.

That takes care of the posse; but there still remains Randolph Payne, whose reactions took something of a different form.

For Randolph Payne, the five-second interval after the pulling of the switch and the disappearance of Duckbill Mountain was a total blank. At the start he had been peering through the thick underbrush from behind the bottom of the trees; at the end he was swinging wildly from one of the topmost branches. The same impulse that had driven the posse horizontally had driven him vertically.

As to how he had covered the fifty feet from roots to top-whether he had climbed, jumped, or flown-he did not know, and he didn't give a particle of never-mind.

What he did know was that property had been destroyed by a robot temporarily in his possession. All visions of rewards vanished and were replaced by trembling nightmares of hostile citizenry, shrieking lynch mobs, lawsuits, murder charges, and what Mirandy Payne would say. Mostly what Mirandy Payne would say.

He was yelling wildly and hoarsely, "Hey, you robot, you smash that thing, do you hear? Smash it good! You forget I ever had anything to do with it. You're a stranger to me, see? You don't ever say a word about it. Forget it, you hear?"

He didn't expect his orders to do any good; it was only reflex action. What he didn't know was that a robot always obeys a human order except where carrying it out involves danger to another human.

AL-76, therefore, calmly and methodically proceeded to demolish his Disinto into rubble and flinders.

Just as he was stamping the last cubic inch under foot, Sam Tobe and his contingent arrived, and Randolph Payne, sensing that the real owners of the robot had come, dropped out of the tree head-first and made for regions unknown feet-first.

He did not wait for his reward.

Austin Wilde, Robotical Engineer, turned to Sam Tobe and said, "Did you get anything out of the robot?"

Tobe shook his head and snarled deep in his throat. "Nothing. Not one thing. He's forgotten everything that's happened since he left the factory. He must have gotten orders to forget, or it couldn't have left him so blank. What was that pile of junk he'd been fooling with?"

"Just that. A pile of junk! But it must have been a Disinto before he smashed it, and I'd like to kill the fellow who ordered him to smash it-by slow torture, if possible. Look at this!"

They were part of the way up the slopes of what had been Duck-bill Mountain-at that point, to be exact, where the top had been sheered off; and Wilde put his hand down upon the perfect flatness that cut through both soil and rock.

"What a Disinto," he said. "It took the mountain right off its base."

"What made him build it?"

Wilde shrugged. "I don't know. Some factor in his environment-there's no way of knowing what-reacted upon his moon-type positronic brain to produce a Disinto out of junk. It's a billion to one against our ever stumbling upon that factor again now that the robot himself has forgotten. We'll never have that Disinto."

"Never mind. The important thing is that we have the robot."

"The hell you say." There was poignant regret in Wilde's voice. "Have you ever had anything to do with the Disintos on the moon? They eat up energy like so many electronic hogs and won't even begin to run until you've built up a potential of better than a million volts. But this Disinto worked differently. I went through the rubbish with a microscope, and would you like to see the only source of power of any kind that I found?"

"What was it?"

"Just this! And we'll never know how he did it."

And Austin Wilde held up the source of power that had enabled a Disinto to chew up a mountain in half a second-two flashlight batteries!

VICTORY UNINTENTIONAL

The spaceship leaked, as the saying goes, like a sieve. It was supposed to. In fact, that was the whole idea. The result, of course, was that during the journey from Ganymede to Jupiter, the ship was crammed just as full as it could be with the very hardest space vacuum. And since the ship also lacked heating devices, this space vacuum was at normal temperature, which is a fraction of a degree above absolute zero.

This, also, was according to plan. Little things like the absence of heat and air didn't annoy anyone at all on the particular spaceship.

The first near vacuum wisps of Jovian atmosphere began percolating into the ship several thousand miles above the Jovian surface. It was practically all hydrogen, though perhaps a careful gas analysis might have located a trace of helium as well. The pressure gauges began creeping skyward.

That creep continued at an accelerating pace as the ship dropped downward in a Jupiter-circling spiral. The pointers of successive gauges, each designed for progressively higher pressures, began to move until they reached the neighborhood of a million or so atmospheres, where figures lost most of their meaning. The temperature, as recorded by thermocouples, rose slowly and erratically, and finally steadied at about seventy below zero, Centigrade.

The ship moved slowly toward the end, plowing its way heavily through a maze of gas molecules that crowded together so closely that hydrogen itself was squeezed to the density of a liquid. Ammonia vapor, drawn from the incredibly vast oceans of that liquid, saturated the horrible atmosphere. The wind, which had begun a thousand miles higher, had risen to a pitch inadequately described as a hurricane.

It was quite plain long before the ship landed on a fairly large Jovian island, perhaps seven times the size of Asia, that Jupiter was not a very pleasant world.

And yet the three members of the crew thought it was. They were quite convinced it was. But then, the three members of the crew were not exactly human. And neither were they exactly Jovian.

They were simply robots, designed on Earth for Jupiter. ZZ Three said, "It appears to be a rather desolate place." ZZ Two joined him and regarded the wind-blasted landscape somberly. "There are structures of some sort in the distance," he said, "which are obviously artificial. I suggest we wait for the inhabitants to come to us."

Across the room ZZ One listened, but made no reply. He was the first constructed of the three, and half experimental. Consequently he spoke a little less frequently than his two companions.

The wait was not long. An air vessel of queer design swooped overhead. More followed. And then a line of ground vehicles approached, took position, and disgorged organisms. Along with these organisms came various inanimate accessories that might

have been weapons. Some of these were borne by a single Jovian, some by several, and some advanced under their own power, with Jovians perhaps inside.

The robots couldn't tell. ZZ Three said, "They're all around us now. The logical peaceful gesture would be to come out in the open. Agreed?"

It was, and ZZ One shoved open the heavy door, which was not double or, for that matter, particularly airtight.

Their appearance through the door was the signal for an excited stir among the surrounding Jovians. Things were done to several of the very largest of the inanimate accessories, and ZZ Three became aware of a temperature rise on the outer rind of his beryllium-iridium-bronze body.

He glanced at ZZ Two. "Do you feel it? They're aiming heat energy at us, I believe."

ZZ Two indicated his surprise. "I wonder why?"

"Definitely a heat ray of some sort. Look at that!" One of the rays had been jarred out of alignment for some undiscernible cause, and its line of radiation intersected a brook of sparkling pure ammonia- which promptly boiled furiously.

Three turned to ZZ One, "Make a note of this, One, will you?"

"Sure." It was to ZZ One that the routine secretarial work fell, and his method of taking a note was to make a mental addition to the accurate memory scroll within him. He had already gathered the hour-by-hour record of every important instrument on board ship during the trip to Jupiter. He added agreeably, "What reason shall I put for the reaction? The human masters would probably enjoy knowing."

"No reason. Or better," Three corrected himself, "no apparent reason. You might say the maximum temperature of the ray was about plus thirty, Centigrade."

Two interrupted, "Shall we try communicating?"

"It would be a waste of time," said Three. "There can't be more than a very few Jovians who know the radio-click code that's been developed between Jupiter and Ganymede. They'll have to send for one, and when he comes, he'll establish contact soon enough. Meanwhile let's watch them. I don't understand their actions, I tell you frankly."

Nor did understanding come immediately. Heat radiation ceased, and other instruments were brought to the forefront and put into play. Several capsules fell at the feet of the watching robots, dropping rapidly and forcefully under Jupiter's gravity. They popped open and a blue liquid exuded, forming pools which proceeded to shrink rapidly by evaporation.

The nightmare wind whipped the vapors away and where those vapors went, Jovians scrambled out of the way. One was too slow, threshed about wildly, and became very limp and still.

ZZ Two bent, dabbed a finger in one of the pools and stared at the dripping liquid. "I think this is oxygen," he said.

"Oxygen, all right," agreed Three. "This becomes stranger and stranger. It must certainly be a dangerous practice, for I would say that oxygen is poisonous to the creatures. One of them died!"

There was a pause, and then ZZ One, whose greater simplicity led at times to an increased directness of thought, said heavily, "It might be that these strange creatures in a rather childish way are attempting to destroy us."

And Two, struck by the suggestion, answered, "You know, One, I think you're right!"

There had been a slight lull in Jovian activity and now a new structure was brought up. It possessed a slender rod that pointed skyward through the impenetrable Jovian murk. It stood in that starkly incredible wind with a rigidity that plainly indicated remarkable structural strength. From its tip came a cracking and then a Bash that lit up the depths of the atmosphere into a gray fog.

For a moment the robots were bathed in clinging radiance and then Three said thoughtfully, "High-tension electricity! Quite respectable power, too. One, I think you're right. After all, the human masters have told us that these creatures seek to destroy all humanity, and organisms possessing such insane viciousness as to harbor a thought of harm against a human being"-his voice trembled at the thought-"would scarcely scruple at attempting to destroy us."

"It's a shame to have such distorted minds," said ZZ One. "Poor fellows!"

"I find it a very saddening thought," admitted Two. "Let's go back to the ship. We've seen enough for now."

They did so, and settled down to wait. As ZZ Three said, Jupiter was a roomy planet, and it might take time for Jovian transportation to bring a radio code expert to the ship. However, patience is a cheap commodity to robots.

As a matter of fact, Jupiter turned on its axis three times, according to chronometer, before the expert arrived. The rising and setting of the sun made no difference, of course, to the dead darkness at the bottom of three thousand miles of liquid-dense gas, so that one could not speak of day and night. But then, neither Jovian nor robot saw by visible light radiation and that didn't matter.

Through this thirty-hour interval the surrounding Jovians continued their attack with a patience and persevering relentlessness concerning which robot ZZ One made a good many mental notes. The ship was assaulted by as many varieties of forces as there were hours, and the robots observed every attack attentively, analyzing such weapons as they recognized. They by no means recognized all.

But the human masters had built well. It had taken fifteen years to construct the ship and the robots, and their essentials could be expressed in a single phrase- raw strength. The attack spent itself uselessly and neither ship nor robot seemed the worse for it.

Three said, "This atmosphere handicaps them, I think. They can't use atomic disruptors, since they would only tear a hole in that soupy air and blow themselves up."

"They haven't used high explosives either," said Two, "which is well. They couldn't have hurt us, naturally, but it would have thrown us about a bit."

"High explosives are out of the question. You can't have an explosive without gas expansion and gas just can't expand in this atmosphere."

"It's a very good atmosphere," muttered One. "I like it."

Which was natural, because he was built for it. The ZZ robots were the first robots ever turned out by the United States Robots and Mechanical Men Corporation that were not even faintly human in appearance. They were low and squat, with a center of gravity less than a foot above ground level. They had six legs apiece, stumpy and thick, designed to lift tons against two and a half times normal Earth gravity. Their reflexes were that many times Earth-normal speed, to make up for the gravity. And they were composed of a beryllium-iridium-bronze alloy that was proof against any known corrosive agent, also any known destructive agent short of a thousand-megaton atomic disruptor, under any conditions whatsoever.

To dispense with further description, they were indestructible, and so impressively powerful that they were the only robots ever built on whom the roboticists of the corporation had never quite had the nerve to pin a serial-number nickname. One bright young fellow had suggested Sissy One, Two, and Three-but not in a very loud voice, and the suggestion was never repeated.

The last hours of the wait were spent in a puzzled discussion to find a possible description of a Jovian's appearance. ZZ One had made a note of their possession of tentacles and of their radial symmetry-and there he had struck. Two and Three did their best, but couldn't help.

"You can't very well describe anything," Three declared finally, "without a standard of reference. These creatures are like nothing I know of-completely outside the postitronic paths of my brain. It's like trying to describe gamma light to a robot unequipped for gamma-ray reception."

It was just at that time that the weapon barrage ceased once more. The robots turned their attention to outside the ship.

A group of Jovians were advancing in curiously uneven fashion, but no amount of careful watching could determine the exact method of their locomotion. How they used their tentacles was uncertain. At times the organisms took on a remarkable slithering motion, and then they moved at great speed, perhaps with the wind's help, for they were moving downwind.

The robots stepped out to meet the Jovians, who halted ten feet away. Both sides remained silent and motionless.

ZZ Two said, "They must be watching us, but I don't know how. Do either of you see any photosensitive organs?"

"I can't say," grunted Three in response. "I don't see anything about them that makes sense at all."

There was a sudden metallic clicking from among the Jovian group and ZZ One said delightedly, "It's the radio code. They've got the communications expert here."

It was, and they had. The complicated dot-dash system that over a period of twenty-five years had been laboriously developed by the beings of Jupiter and the Earthmen of Ganymede into a remarkably flexible means of communication was finally being put into practice at close range.

One Jovian remained in the forefront now, the others having fallen back. It was he that was speaking. The clicking said, "Where are you from?"

ZZ Three, as the most mentally advanced, naturally assumed spokespersonship for the robot group. "We are from Jupiter's satellite, Ganymede."

The Jovian continued, "What do you want?"

"Information. We have come to study your world and to bring back our findings. If we could have your cooperation-"

The Jovian clicking interrupted. "You must be destroyed!"

ZZ Three paused and said in a thoughtful aside to his two companions, "Exactly the attitude the human masters said they would take. They are very unusual."

Returning to his clicking, he asked simply, "Why?"

The Jovian evidently considered certain questions too obnoxious to be answered. He said, "If you leave within a single period of revolution, we will spare you- until such time as we emerge from our world to destroy the un-Jovian vermin of Ganymede."

"I would like to point out," said Three, "that we of Ganymede and the inner planets-"

The Jovian interrupted, "Our astronomy knows of the Sun and of our four satellites. There are no inner planets."

Three conceded the point wearily, "We of Ganymede, then. We have no designs on Jupiter. We're prepared to offer friendship. For twenty-five years your people communicated freely with the human beings of Ganymede. Is there any reason to make sudden war upon the humans?"

"For twenty-five years," was the cold response, "we assumed the inhabitants of Ganymede to be Jovians. When we found out they were not, and that we had been treating lower animals on the scale of Jovian intelligences, we were bound to take steps to wipe out the dishonor."

Slowly and forcefully he finished, "We of Jupiter will suffer the existence of no vermin!"

The Jovian was backing away in some fashion, tacking against the wind, and the interview was evidently over.

The robots retreated inside the ship.

ZZ Two said, "It looks bad, doesn't it?" He continued thoughtfully, "It is as the human masters said. They possess an ultimately developed superiority complex, combined with an extreme intolerance for anyone or anything that disturbs that complex."

"The intolerance," observed Three, "is the natural consequence of the complex. The trouble is that their intolerance has teeth in it. They have weapons- and their science is great."

"I am not surprised now," burst out ZZ One, "that we were specifically instructed to disregard Jovian orders. They are horrible, intolerant, pseudo-superior beings!" He added emphatically, with robotical loyalty and faith, "No human master could ever be like that."

"That, though true, is beside the point," said Three. "The fact remains that the human masters are in terrible danger. This is a gigantic world and these Jovians are greater in numbers and resources by a hundred times or more than the humans of the entire Terrestrial Empire. If they can ever develop the force field to the point where they can use it as a spaceship hull- as the human masters have already done- they will overrun the system at will. The question remains as to how far they have advanced in that direction, what other weapons they have, what preparations they are making, and so on. To return with that information is our function, of course, and we had better decide on our next step."

"It may be difficult," said Two. "The Jovians won't help us." Which, at the moment, was rather an understatement.

Three thought awhile. "It seems to me that we need only wait," he observed. "They have tried to destroy us for thirty hours now and haven't succeeded. Certainly they have done their best. Now a superiority complex always involves the eternal necessity of saving face, and the ultimatum given us proves it in this case. They would never allow us to leave if they could destroy us. But if we don't leave, then rather than admit they cannot force us away, they will surely pretend that they are willing, for their own purposes, to have us stay."

Once again they waited. The day passed. The weapon barrage did not resume. The robots did not leave. The bluff was called. And now the robots faced the Jovian radio-code expert once again.

If the ZZ models had been equipped with a sense of humor, they would have enjoyed themselves immensely. As it was, they felt merely a solemn sense of satisfaction.

The Jovian said, "It has been our decision that you will be allowed to remain for a very short time, so that you see our power for yourself. You shall then return to Ganymede to inform your companion vermin of the disastrous end to which they will unfailingly come within a solar revolution."

ZZ One made a mental note that a Jovian revolution took twelve earthly years.

Three replied casually, "Thank you. May we accompany you to the nearest town? There are many things we would like to learn." He added as an afterthought, "Our ship is not to be touched, of course."

He said this as a request, not as a threat, for no ZZ model was ever pugnacious. All capacity for even the slightest annoyance had been carefully barred in their construction. With robots as vastly powerful as the ZZ's, unfailing good temper was essential for safety during the years of testing on Earth.

The Jovian said, "We are not interested in your verminous ship. No Jovian will pollute himself by approaching it. You may accompany us, but you must on no account approach closer than ten feet to any Jovian, or you will be instantly destroyed."

"Stuck up, aren't they?" observed Two in a genial whisper, as they plowed into the wind.

The town was a port on the shores of an incredible ammonia lake. The external wind whipped furious, frothy waves that shot across the liquid surface at the hectic rate

enforced by the gravity. The port itself was neither large nor impressive and it seemed fairly evident that most of the construction was underground.

"What is the population of this place?" asked Three.

The Jovian replied, "It is a small town of ten million."

"I see. Make a note of that, One."

ZZ One did so mechanically, and then turned once more to the lake, at which he had been staring in fascination. He pulled at Three's elbow. "Say, do you suppose they have fish here?"

"What difference does it make?"

"I think we ought to know. The human masters ordered us to find out everything we could." Of the robots, One was the simplest and, consequently, the one who took orders in the most literal fashion.

Two said, "Let One go and look if he likes. It won't do any harm if we let the kid have his fun."

"All right. There's no real objection if he doesn't waste his time. Fish aren't what we came for-but go ahead, One."

ZZ One made off in great excitement and slogged rapidly down the beach, plunging into the ammonia with a splash. The Jovians watched attentively. They had understood none of the previous conversation, of course.

The radio code expert clicked out, "It is apparent that your companion has decided to abandon life in despair at our greatness."

Three said in surprise, "Nothing of the sort. He wants to investigate the living organisms, if any, that live in the ammonia." He added apologetically, "Our friend is very curious at times, and he isn't quite as bright as we are, though that is only his misfortune. We understand that and try to humor him whenever we can."

There was a long pause, and the Jovian observed, "He will drown."

Three replied casually, "No danger of that. We don't drown. May we enter the town as soon as he returns?"

At that moment there was a spurt of liquid several hundred feet out in the lake. It sprayed upward wildly and then hurtled down in a wind-driven mist. Another spurt and another, then a wild white foaming that formed a trail toward shore, gradually quieting as it approached.

The two robots watched this in amazement, and the utter lack of motion on the part of the Jovians indicated that they were watching as well.

Then the head of ZZ One broke the surface and he made his slow way out on to dry land. But something followed him! Some organism of gigantic size that seemed nothing but fangs, claws, and spines. Then they saw that it wasn't following him under its own power, but was being dragged across the beach by ZZ One. There was a significant flabbiness about it.

ZZ One approached rather timidly and took communication into his own hands. He tapped out a message to the Jovian in agitated fashion. "I am very sorry this happened,

but the thing attacked me. I was merely taking notes on it. It is not a valuable creature, I hope."

He was not answered immediately, for at the first appearance of the monster there had been a wild break in the Jovian ranks. These reformed slowly, and cautious observation having proven the creator to be indeed dead, order was restored. Some of the bolder were curiously prodding the body.

ZZ Three said humbly, "I hope you will pardon our friend. He is sometimes clumsy. We have absolutely no intention of harming any Jovian creature."

"He attacked me," explained One. "He bit at me without provocation. See!" And he displayed a two-foot fang that ended in a jagged break. "He broke it on my shoulder and almost left a scratch. I just slapped it a bit to send it away- and it died. I'm sorry!"

The Jovian finally spoke, and his code clicking was a rather stuttery affair. "It is a wild creature, rarely found so close to shore, but the lake is deep just here."

Three said, still anxiously, "If you can use it for food, we are only too glad-"

"No. We can get food for ourselves without the help of verm-without the help of others. Eat it yourselves."

At that ZZ One heaved the creature up and back into the sea, with an easy motion of one arm. Three said casually, "Thank you for your kind offer, but we have no use for food. We don't eat, of course."

Escorted by two hundred or so armed Jovians, the robots passed down a series of ramps into the underground city. If, above the surface, the city had looked small and unimpressive, then from beneath it took on the appearance of a vast megalopolis.

They were ushered into ground cars that were operated by remote control-for no honest, self-respecting Jovian would risk his superiority by placing himself in the same car with vermin-and driven at frightful speed to the center of the town. They saw enough to decide that it extended fifty miles from end to end and reached downward into Jupiter's crust at least eight miles.

ZZ Two did not sound happy as he said, "If this is a sample of Jovian development then we shall not have a hopeful report to bring back to the human masters. After all, we landed on the vast surface of Jupiter at random, with the chances a thousand to one against coming near any really concentrated center of population. This must be, as the code expert says, a mere town."

"Ten million Jovians," said Three abstractedly. "Total population must be in the trillions, which is high, very high, even for Jupiter. They probably have a completely urban civilization, which means that their scientific development must be tremendous. If they have force fields-"

Three had no neck, for in the interest of strength the heads of the ZZ models were riveted firmly onto the torso, with the delicate positronic brains protected by three separate layers in inch-thick iridium alloy. But if he had had one, he would have shaken his head dolefully.

They had stopped now in a cleared space. Everywhere about them they could see avenues and structures crowded with Jovians, as curious as any terrestrial crowd would have been in similar circumstances.

The code expert approached. "It is time now for me to retire until the next period of activity. We have gone so far as to arrange quarters for you at great inconvenience to ourselves for, of course, the structure will have to be pulled down and rebuilt afterward. Nevertheless, you will be allowed to sleep for a space."

ZZ Three waved an arm in deprecation and tapped out, "We thank you but you must not trouble yourself. We don't mind remaining right here. If you want to sleep and rest, by all means do. We'll wait for you. As for us," casually, "we don't sleep."

The Jovian said nothing, though if it had had a face, the expression upon it might have been interesting. It left, and the robots remained in the car, with squads of well-armed Jovians, frequently replaced, surrounding them as guards.

It was hours before the ranks of those guards parted to allow the code expert to return. Along with him were other Jovians, whom he introduced.

"There are with me two officials of the central government who have graciously consented to speak with you."

One of the officials evidently knew the code, for his clicking interrupted the code expert sharply. He addressed the robots, "Vermin! Emerge from the ground car that we may look at you."

The robots were only too willing to comply, so while Three and Two vaulted over the right side of the car, ZZ One dashed through the left side. The word through is used advisedly, for since he neglected to work the mechanism that lowered a section of side so that one might exit, he carried that side, plus two wheels and an axle, along with him. The car collapsed, and ZZ One stood staring at the ruins in embarrassed silence.

At last he clicked out gently, "I'm very sorry. I hope it wasn't an expensive car."

ZZ Two added apologetically, "Our companion is often clumsy. You must excuse him," and ZZ Three made a halfhearted attempt to put the car back together again.

ZZ One made another effort to excuse himself. "The material of the car was rather flimsy. You see?" He lifted a square-yard sheet of three-inch-thick, metal-hard plastic in both hands and exerted a bit of pressure. The sheet promptly snapped in two. "I should have made allowances," he admitted.

The Jovian government official said in slightly less sharp fashion, "The car would have had to be destroyed anyway, after being polluted by your presence." He paused, then, "Creatures! We Jovians lack vulgar curiosity concerning lower animals, but our scientists seek facts."

"We're right with you," replied Three cheerfully. "So do we." The Jovian ignored him. "You lack the mass-sensitive organ, apparently. How is it that you are aware of distant objects?"

Three grew interested. "Do you mean your people are directly sensitive to mass?"

"I am not here to answer your questions- your impudent questions- about us."

"I take it then that objects of low specific mass would be transparent to you, even in the absence of radiation." He turned to Two, "That's how they see. Their atmosphere is as transparent as space to them."

The Jovian clicking began once more, "You will answer my first question immediately, or my patience will end and I will order you destroyed."

Three said at once, "We are energy-sensitive, Jovian. We can adjust ourselves to the entire electromagnetic scale at will. At present, our long-distance sight is due to radio-wave radiation that we emit ourselves, and at close range we see by-" He paused, and said to Two, "There isn't any code word for gamma ray, is there?"

"Not that I know of," Two answered.

Three continued to the Jovian, "At close range we see by other radiation for which there is no code word."

"Of what is your body composed?" demanded the Jovian.

Two whispered, "He probably asks that because his mass sensitivity can't penetrate past our skin. High density, you know. Ought we to tell him?"

Three replied uncertainly, "Our human masters didn't particularly say we were to keep anything secret." In radio code, to the Jovian he said, "We are mostly iridium. For the rest, copper, tin, a little beryllium, and a scattering of other substances."

The Jovians fell back and by the obscure writhing of various portions of their thoroughly indescribable bodies gave the impression that they were in animated conversation, although they made no sound.

And then the official returned. "Beings of Ganymede! It has been decided to show you through some of our factories that we may exhibit a tiny part of our great achievements. We will then allow you to return so that you may spread despair among the other verm-the other beings of the outer world."

Three said to Two, "Note the effect of their psychology. They must hammer home their superiority. It's still a matter of saving face." And in radio code, "We thank you for the opportunity."

But the face saving was efficient, as the robots realized soon enough. The demonstration became a tour, and the tour a Grand Exhibition. The Jovians displayed everything, explained everything, answered all questions eagerly, and ZZ One made hundreds of despairing notes.

The war potential of that single so-called unimportant town was greater by several times than that of all Ganymede. Ten more such towns would outproduce all the Terrestrial Empire. Yet ten more such towns would not be the fingernail fragment of the strength all Jupiter must be able to exert.

Three turned as One nudged him. "What is it?"

ZZ One said seriously, "If they have force fields, the human masters are lost, aren't they?"

"I'm afraid so. Why do you ask?"

"Because the Jovians aren't showing us through the right wing of this factory. It might be that force fields are being developed there. They would be wanting to keep it secret if they were. We'd better find out. It's the main point, you know."

Three regarded One somberly. "Perhaps you're right. It's no use ignoring anything."

They were in a huge steel mill now, watching hundred-foot beams of ammonia-resistant silicon-steel alloy being turned out twenty to the second. Three asked quietly, "What does that wing contain?"

The government official inquired of those in charge of the factory and explained, "That is the section of great heat. Various processes require huge temperatures which life cannot bear, and they must all be handled indirectly."

He led the way to a partition from which heat could be felt to radiate and indicated a small round area of transparent material. It was one of a row of such, through which the foggy red light of lines of glowing forges could be made out through the soupy atmosphere.

ZZ One fastened a look of suspicion on the Jovian and clicked out, "Would it be all right if I went in and looked around? I am very interested in this."

Three said, "You're being childish, One. They're telling the truth. Oh well, nose around if you must. But don't take too long; we've got to move on."

The Jovian said, "You have no understanding of the heat involved. You will die."

"Oh no," explained One casually. "Heat doesn't bother us."

There was a Jovian conference, and then a scene of scurrying confusion as the life of the factory was geared to this unusual emergency. Screens of heat-absorbent material were set up, and then a door dropped open, a door that had never before budged while the forges were working. ZZ One entered and the door closed behind him. Jovian officials crowded to the transparent areas to watch.

ZZ One walked to the nearest forge and tapped the outside. Since he was too short to see into it comfortably, he tipped the forge until the molten metal licked at the lip of the container. He peered at it curiously, then dipped his hand in and stirred it awhile to test the consistency. Having done this, he withdrew his hand, shook off some of the fiery metallic droplets and wiped the rest on one of his six thighs. Slowly he went down the line of forges, then signified his desire to leave.

The Jovians retired to a great distance when he came out of the door and played a stream of ammonia on him, which hissed, bubbled and steamed until he was brought to bearable temperature once more.

ZZ One ignored the ammonia shower and said, "They were telling the truth. No force fields."

Three began, "You see-" but One interrupted impatiently, "But there's no use delaying. The human masters instructed us to find out everything and that's that."

He turned to the Jovian and clicked out, without the slightest hesitation, "Listen, has Jovian science developed force fields?"

Bluntness was, of course, one of the natural consequences of One's less well developed mental powers. Two and Three knew that, so they refrained from expressing disapproval of the remark.

The Jovian official relaxed slowly from his strangely stiffened attitude, which had somehow given the impression that he had been staring stupidly at One's hand-the one he had dipped into the molten metal. The Jovian said slowly, "Force fields? That, then, is your main object of curiosity?"

"Yes," said One with emphasis.

There was a sudden and patent gain in confidence on the Jovian's part, for the clicking grew sharper. "Then come, vermin!"

Whereupon Three said to Two, "We're vermin again, I see, which sounds as if there's bad news ahead." And Two gloomily agreed.

It was to the very edge of the city that they were now led- to the portion which on Earth would have been termed the suburbs- and into one of a series of closely integrated structures, which might have corresponded vaguely to a terrestrial university.

There were no explanations, however, and none was asked for. The Jovian official led the way rapidly, and the robots followed with the grim conviction that the worst was just about to happen.

It was ZZ One who stopped before an opened wall section after the rest had passed on. "What's this?" he wanted to know.

The room was equipped with narrow, low benches, along which Jovians manipulated rows of strange devices, of which strong, inch-long electromagnets formed the principal feature.

"What's this?" asked One again.

The Jovian turned back and exhibited impatience. "This is a students' biological laboratory. There's nothing there to interest you."

"But what are they doing?"

"They are studying microscopic life. Haven't you ever seen a microscope before?"

Three interrupted in explanation, "He has, but not that type. Our microscopes are meant for energy-sensitive organs and work by refraction of radiant energy. Your microscopes evidently work on a mass-expansion basis. Rather ingenious."

ZZ One said, "Would it be all right if I inspected some of your specimens?"

"Of what use will that be? You cannot use our microscopes because of your sensory limitations and it will simply force us to discard such specimens as you approach for no decent reason."

"But I don't need a microscope," explained One, with surprise. "I can easily adjust myself for microscopic vision."

He strode to the nearest bench, while the students in the room crowded to the corner in an attempt to avoid contamination. ZZ One shoved a microscope aside and inspected the slide carefully. He backed away, puzzled, then tried another. . . a third. . . a fourth.

He came back and addressed the Jovian. "Those are supposed to be alive, aren't they? I mean those little worm things."

The Jovian said, "Certainly."

"That's strange- when I look at them, they die!"

Three exclaimed sharply and said to his two companions, "We've forgotten our gamma-ray radiation. Let's get out of here, One, or we'll kill every bit of microscopic life in the room."

He turned to the Jovian, "I'm afraid that our presence is fatal to weaker forms of life. We had better leave. We hope the specimens are not too difficult to replace. And, while we're about it, you had better not stay too near us, or our radiation may affect you adversely. You feel all right so far, don't you?" he asked.

The Jovian led the way onward in proud silence, but it was to be noticed that thereafter he doubled the distance he had hitherto kept between himself and them.

Nothing more was said until the robots found themselves in a vast room. In the very center of it huge ingots of metal rested unsupported in mid-air-or, rather, supported by nothing visible-against mighty Jovian gravity.

The Jovian clicked, "There is your force field in ultimate form, as recently perfected. Within that bubble is a vacuum, so that it is supporting the full weight of our atmosphere plus an amount of metal equivalent to two large spaceships. What do you say to that?"

"That space travel now becomes a possibility for you," said Three. "Definitely. No metal or plastic has the strength to hold our atmosphere against a vacuum, but a force field can- and a force-field bubble will be our spaceship. Within the year we will be turning them out by the hundreds of thousands. Then we will swarm down upon Ganymede to destroy the verminous so-called intelligences that attempt to dispute our dominion of the universe."

"The human beings of Ganymede have never attempted-" began Three, in mild expostulation.

"Silence!" snapped the Jovian. "Return now and tell them what you've seen. Their own feeble force fields- such as the one your ship is equipped with- will not stand against us, for our smallest ship will be a hundred times the size and power of yours."

Three said, "Then there's nothing more to do and we will return, as you say, with the information. If you could lead us back to our ship, we'll say good-by. But by the way, just as a matter for the record, there's something you don't understand. The humans of Ganymede have force fields, of course, but our particular ship isn't equipped with one. We don't need any."

The robot turned away and motioned his companions to follow. For a moment they did not speak, then ZZ One muttered dejectedly, "Can't we try to destroy this place?"

"It won't help," said Three. "They'd get us by weight of numbers. It's no use. In an earthly decade the human masters will be finished. It is impossible to stand against Jupiter. There's just too much of it. As long as Jovians were tied to the surface, the

humans were safe. But now that they have force fields. All we can do is to bring the news. By the preparation of hiding places, some few may survive for a short while."

The city was behind them. They were out on the open plain by the lake, with their ship a dark spot on the horizon, when the Jovian spoke suddenly:

"Creatures, you say you have no force field?" Three replied without interest, "We don't need one."

"How then does your ship stand the vacuum of space without exploding because of the atmospheric pressure within?" And he moved a tentacle as if in mute gesture at the Jovian atmosphere that was weighing down upon them with a force of twenty million pounds to the square inch.

"Well," explained Three, "that's simple. Our ship isn't airtight. Pressures equalize within and without."

"Even in space? A vacuum in your ship? You lie!"

"You're welcome to inspect our ship. It has no force field and it isn't airtight. What's marvelous about that? We don't breathe. Our energy is obtained through direct atomic power. The presence or absence of air pressure makes little difference to us and we're quite at home in a vacuum."

"But absolute zero!"

"It doesn't matter. We regulate our own heat. We're not interested in outside temperatures." He paused. "Well, we can make our own way back to the ship. Good-by. We'll give the humans of Ganymede your message- war to the end!"

But the Jovian said, "Wait! I'll be back." He turned and went toward the city.

The robots stared, and then waited in silence. It was three hours before he returned and when he did, it was in breathless haste. He stopped within the usual ten feet of the robots, but then began inching his way forward in a curious groveling fashion. He did not speak until his rubbery gray skin was almost touching them, and then the radio code sounded, subdued and respectful.

"Honored sirs, I have been in communication with the head of our central government, who is now aware of all the facts, and I can assure you that Jupiter desires only peace,"

"I beg your pardon?" asked Three blankly. The Jovian drove on hastily. "We are ready to resume communication with Ganymede and will gladly promise to make no attempt to venture into space. Our force field will be used only on the Jovian surface."

"But-" Three began. "Our government will be glad to receive any other representatives our honorable human brothers of Ganymede would care to send. If your honors will now condescend to swear peace-" a scaly tentacle swung out toward them and Three, quite dazed, grasped it. Two and One did likewise as two more were extended to them.

The Jovian said solemnly: "There is then eternal peace between Jupiter and Ganymede."

The spaceship which leaked like a sieve was out in space again. The pressure and temperature were once more at zero, and the robots watched the huge but steadily shrinking globe that was Jupiter.

"They're definitely sincere," said ZZ Two, "and it's very gratifying, this complete about-face, but I don't get it."

"It is my idea," observed ZZ One, "that the Jovians came to their senses just in time and realized the incredible evil involved in the thought of harm to a human master. That would be only natural."

ZZ Three sighed and said, "Look, it's all a matter of psychology. Those Jovians had a superiority complex a mile thick and when they couldn't destroy us, they were bound to save face. All their exhibitions, all their explanations, were simply a form of braggadocio, designed to impress us into the proper state of humiliation before their power and superiority."

"I see all that," interrupted Two, "but-" Three went on, "But it worked the wrong way. All they did was to prove to themselves that we were stronger, that we didn't drown, that we didn't eat or sleep, that molten metal didn't hurt us. Even our very presence was fatal to Jovian life. Their last trump was the force field. And when they found out that we didn't need them at all, and could live in a vacuum at absolute zero, they broke." He paused and added philosophically, "When a superiority complex like that breaks, it breaks all the way."

The other two considered that, and then Two said, "But it still doesn't make sense. Why should they care what we can or can't do? We're only robots. We're not the ones they have to fight."

"And that's the whole point, Two," said Three softly. "It's only after we left Jupiter that I thought of it. Do you know that through an oversight, quite unintentionally, we neglected to tell them we were only robots."

"They never asked us," said One. "Exactly. So they thought we were human beings and that all the other human beings were like us!"

He looked once more at Jupiter, thoughtfully. "No wonder they decided to quit!"

STRANGER IN PARADISE

1.

They were brothers. Not in the sense that they were both human beings, or that they were fellow children of a creche. Not at all! They were brothers in the actual biological sense of the word. They were kin, to use a term that had grown faintly archaic even centuries before, prior to the Catastrophe, when that tribal phenomenon, the family, still had some validity.

How embarrassing it was! Over the years since childhood, Anthony had almost forgotten. There were times when he hadn't given it even the slightest thought for months at a time. But now, ever since he had been inextricably thrown together with William, he had found himself living through an agonizing time.

It might not have been so bad if circumstances had made it obvious all along; if, as in the pre-Catastrophe days- Anthony had at one time been a great reader of history- they had shared the second name and in that way alone flaunted the relationship.

Nowadays, of course, one adopted one's second name to suit oneself and changed it as often as desired. After all, the symbol chain was what really counted, and that was encoded and made yours from birth.

William called himself Anti-Aut. That was what he insisted on with a kind of sober professionalism. His own business, surely, but what an advertisement of personal poor taste. Anthony had decided on Smith when he had turned thirteen and had never had the impulse to change it. It was simple, easily spelled, and quite distinctive, since he had never met anyone else who had chosen that name. It was once very common-among the pre-Cats-which explained its rareness now perhaps.

But the difference in names meant nothing when the two were together. They looked alike.

If they had been twins- but then one of a pair of twin-fertilized ova was never allowed to come to term. It was just that physical similarity occasionally happened in the non-twin situation, especially when the relationship was on both sides. Anthony Smith was five years younger, but both had the beaky nose, the heavy eyelids, the just noticeable cleft in the chin- that damned luck of the genetic draw. It was just asking for it when, out of some passion for monotony, parents repeated.

At first, now that they were together, they drew that startled glance followed by an elaborate silence. Anthony tried to ignore the matter, but out of sheer perversity-or perversion-William was as likely as not to say. "We're brothers. . .

"Oh?" the other would say, hanging in there for just a moment as though he wanted to ask if they were full blood brothers. And then good manners would win the day and he would turn away as though it were a matter of no interest. That happened only

rarely, of course. Most of the people in the Project knew-how could it be prevented? -and avoided the situation.

Not that William was a bad fellow. Not at all. If he hadn't been Anthony's brother; or if they had been, but looked sufficiently different to be able to mask the fact, they would have gotten along famously.

As it was-It didn't make it easier that they had played together as youngsters, and had shared the earlier stages of education in the same creche through some successful maneuvering on the part of Mother. Having borne two sons by the same father and having, in this fashion, reached her limit (for she had not fulfilled the stringent requirements for a third), she conceived the notion of being able to visit both at a single trip. She was a strange woman.

William had left the creche first, naturally, since he was the elder. He had gone into science-genetic engineering. Anthony had heard that, while he was still in the creche, through a letter from his mother. He was old enough by then to speak firmly to the matron, and those letters stopped. But he always remembered the last one for the agony of shame it had brought him.

Anthony had eventually entered science, too. He had shown talent in that direction and had been urged to. He remembered having had the wild-and prophetic, he now realized-fear he might meet his brother and he ended in telemetrics, which was as far removed from genetic engineering as one could imagine. . . .Or so one would have thought.

Then, through all the elaborate development of the Mercury Project, circumstance waited.

The time came, as it happened, when the Project appeared to be facing a dead end; and a suggestion had been made which saved the situation, and at the same time dragged Anthony into the dilemma his parents had prepared for him. And the best and most sardonic part of the whole thing was that it was Anthony who, in all innocence, made the suggestion.

2.

William Anti-Aut knew of the Mercury Project, but only in the way he knew of the long-drawn-out Stellar Probe that had been on its way long before he was born and would still be on its way after his death; and the way he knew of the Martian colony and of the continuing attempts to establish similar colonies on the asteroids.

Such things were on the distant periphery of his mind and of no real importance. No part of the space effort had ever swirled inward closer to the center of his interests, as far as he could remember, till the day when the printout included photographs of some of the men engaged in the Mercury Project.

William's attention was caught first by the fact that one of them had been identified as Anthony Smith. He remembered the odd name his brother had chosen, and he remembered the Anthony. Surely there could not be two Anthony Smiths.

He had then looked at the photograph itself and there was no mistaking the face. He looked in the mirror in a sudden whimsical gesture at checking the matter. No mistaking the face.

He felt amused, but uneasily so, for he did not fail to recognize the potentiality for embarrassment. Full blood brothers, to use the disgusting phrase. But what was there to do about it? How correct the fact that neither his father nor his mother had imagination?

He must have put the printout in his pocket, absently, when he was getting ready to leave for work, for he came across it at the lunch hour. He stared at it again. Anthony looked keen. It was quite a good reproduction- the printouts were of enormously good quality these days.

His lunch partner, Marco Whatever-his-name-was-that-week, said curiously, "What are you looking at, William?"

On impulse, William passed him the printout and said, "That's my brother." It was like grasping the nettle.

Marco studied it, frowning, and said, "Who? The man standing next to you?"

"No, the man who is me. I mean the man who looks like me. He's my brother."

There was a longer pause this time. Marco handed it back and said with a careful levelness to his voice, "Same-parents brother?"

"Yes."

"Father and mother both."

"Yes."

"Ridiculous!"

"I suppose so." William sighed. "Well, according to this, he's in telemetrics over in Texas and I'm doing work in autistics up here. So what difference does it make?"

William did not keep it in his mind and later that day he threw the printout away. He did not want his current bedmate to come across it. She had a ribald sense of humor that William was finding increasingly wearying. He was rather glad she was not in the mood for a child. He himself had had one a few years back anyway. That little brunette, Laura or Linda, one or the other name, had collaborated.

It was quite a time after that, at least a year, that the matter of Randall had come up. If William had given no further thought to his brother-and he hadn't-before that, he certainly had no time for it afterward.

Randall was sixteen when William first received word of him. He had lived a life that was increasingly seclusive and the Kentucky creche in which he was being brought up decided to cancel him and of course it was only some eight or ten days before cancellation that it occurred to anyone to report him to the New York Institute for the Science of Man. (The Homological Institute was its common name.)

William received the report along with reports of several others and there was nothing in the description of Randall that particularly attracted his notice. Still it was time

for one of his tedious masstransport trips to the creches and there was one likely possibility in West Virginia. He went there- and was disappointed into swearing for the fiftieth time that he would thereafter make these visits by TV image- and then, having dragged himself there, thought he might as well take in the Kentucky creche before returning home.

He expected nothing.

Yet he hadn't studied Randall's gene pattern for more than ten minutes before he was calling the Institute for a computer calculation. Then he sat back and perspired slightly at the thought that only a last-minute impulse had brought him, and that without that impulse, Randall would have been quietly canceled in a week or less. To put it into the fine detail, a drug would have soaked painlessly through his skin and into his bloodstream and he would have sunk into a peaceful sleep that deepened gradually to death. The drug had a twenty-three-syllable official name, but William called it "nirvanamine," as did everyone else.

William said, "What is his full name, matron?"

The creche matron said, "Randall Nowan, scholar."

"No one!" said William explosively.

"Nowan." The matron spelled it. "He chose it last year."

"And it meant nothing to you? It is pronounced No one! It didn't occur to you to report this young man last year?"

"It didn't seem-" began the matron, flustered.

William waved her to silence. What was the use? How was she to know? There was nothing in the gene pattern to give warning by any of the usual textbook criteria. It was a subtle combination that William and his staff had worked out over a period of twenty years through experiments on autistic children- and a combination they had never actually seen in life.

So close to canceling!

Marco, who was the hardhead of the group, complained that the creches were too eager to abort before term and to cancel after term. He maintained that all gene patterns should be allowed to develop for purpose of initial screening and there should be no cancellation at all without consultation with a homologist.

"There aren't enough homologists," William said tranquilly.

"We can at least run all gene patterns through the computer," said Marco.

"To save anything we can get for our use?"

"For any homological use, here or elsewhere. We must study gene patterns in action if we're to understand ourselves properly, and it is the abnormal and monstrous patterns that give us most information. Our experiments on autism have taught us more about homology than the sum total existing on the day we began."

William, who still liked the roll of the phrase "the genetic physiology of man" rather than "homology," shook his head. "Just the same, we've got to play it carefully. However useful we can claim our experiments to be, we live on bare social permission, reluctantly given. We're playing with lives."

"Useless lives. Fit for canceling."

"A quick and pleasant canceling is one thing. Our experiments, usually long drawn out and sometimes unavoidably unpleasant, are another."

"We help them sometimes."

"And we don't help them sometimes."

It was a pointless argument, really, for there was no way of settling it. What it amounted to was that too few interesting abnormalities were available for homologists and there was no way of urging mankind to encourage a greater production. The trauma of the Catastrophe would never vanish in a dozen ways, including that one.

The hectic push toward space exploration could be traced back (and was, by some sociologists) to the knowledge of the fragility of the life skein on the planet, thanks to the Catastrophe.

Well, never mind. There had never been anything like Randall Nowan. Not for William. The slow onset of autism characteristic of that totally rare gene pattern meant that more was known about Randall than about any equivalent patient before him. They even caught some last faint glimmers of his way of thought in the laboratory before he closed off altogether and shrank finally within the wall of his skin-unconcerned, unreachable.

Then they began the slow process whereby Randall, subjected for increasing lengths of time to artificial stimuli, yielded up the inner workings of his brain and gave clues thereby to the inner workings of all brains, those that were called normal as well as those like his own.

So vastly great was the data they were gathering that William began to feel his dream of reversing autism was more than merely a dream. He felt a warm gladness at having chosen the name Anti-Aut.

And it was at almost the height of the euphoria induced by the work on Randall that he received the call from Dallas and that the heavy pressure began- now, of all times- to abandon his work and take on a new problem.

Looking back on it later, he could never work out just what it was that finally led him to agree to visit Dallas. In the end, of course, he could see how fortunate it was- but what had persuaded him to do so? Could he, even at the start, have had a dim unrealized notion of what it might come to? Surely, impossible.

Was it the unrealized memory of that printout, that photograph of his brother? Surely, impossible.

But he let himself be argued into that visit and it was only when the micro-pile power unit changed the pitch of its soft hum and the agrav unit took over for the final descent that he remembered that photograph-or at least that it moved into the conscious part of his memory.

Anthony worked at Dallas and, William remembered now, at the Mercury Project. That was what the caption had referred to. He swallowed, as the soft jar told him the journey was over. This would be uncomfortable.

3.

Anthony was waiting on the roof reception area to greet the incoming expert. Not he by himself, of course. He was part of a sizable delegation-the size itself a rather grim indication of the desperation to which they had been reduced-and he was among the lower echelons. That he was there at all was only because it was he who had made the original suggestion.

He felt a slight, but continuing, uneasiness at the thought of that. He had put himself on the line. He had received considerable approval for it, but there had been the faint insistence always that it was his suggestion; and if it turned out to be a fiasco, every one of them would move out of the line of fire and leave him at point-zero.

There were occasions, later, when he brooded over the possibility that the dim memory of a brother in homology had suggested his thought. That might have been, but it didn't have to be. The suggestion was so sensibly inevitable, really, that surely he would have had the same thought if his brother had been something as innocuous as a fantasy writer, or if he had had no brother of his own.

The problem was the inner planets-The Moon and Mars were colonized. The larger asteroids and the satellites of Jupiter had been reached, and plans were in progress for a manned voyage to Titan, Saturn's large satellite, by way of an accelerating whirl about Jupiter. Yet even with plans in action for sending men on a seven-year round trip to the outer Solar System, there was still no chance of a manned approach to the inner planets, for fear of the Sun.

Venus itself was the less attractive of the two worlds within Earth's orbit. Mercury, on the other hand Anthony had not yet joined the team when Dmitri Large (he was quite short, actually) had given the talk that had moved the World Congress sufficiently to grant the appropriation that made the Mercury Project possible.

Anthony had listened to the tapes, and had heard Dmitri's presentation. Tradition was firm to the effect that it had been extemporaneous, and perhaps it was, but it was perfectly constructed and it held within it, in essence, every guideline followed by the Mercury Project since.

And the chief point made was that it would be wrong to wait until the technology had advanced to the point where a manned expedition through the rigors of Solar radiation could become feasible. Mercury was a unique environment that could teach much, and from Mercury's surface sustained observations could be made of the Sun that could not be made in any other way.

-Provided a man substitute- a robot, in short- could be placed on the planet.

A robot with the required physical characteristics could be built. Soft landings were as easy as kiss-my-hand. Yet once a robot landed, what did one do with him next?

He could make his observations and guide his actions on the basis of those observations, but the Project wanted his actions to be intricate and subtle, at least potentially, and they were not at all sure what observations he might make.

To prepare for all reasonable possibilities and to allow for all the intricacy desired, the robot would need to contain a computer (some at Dallas referred to it as a "brain," but Anthony scorned that verbal habit- perhaps because, he wondered later, the brain was his brother's field) sufficiently complex and versatile to fall into the same asteroid with a mammalian brain.

Yet nothing like that could be constructed and made portable enough to be carried to Mercury and landed there- or if carried and landed, to be mobile enough to be useful to the kind of robot they planned. Perhaps someday the positronic-path devices that the roboticists were playing with might make it possible, but that someday was not yet.

The alternative was to have the robot send back to Earth every observation it made the moment it was made, and a computer on Earth could then guide his every action on the basis of those observations. The robot's body, in short, was to be there, and his brain here.

Once that decision was reached, the key technicians were the telemetrists and it was then that Anthony joined the Project. He became one of those who labored to devise methods for receiving and returning impulses over distances of from 50 to 40 million miles, toward, and sometimes past, a Solar disk that could interfere with those impulses in a most ferocious manner.

He took to his job with passion and (he finally thought) with skill and success. It was he, more than anyone else, who had designed the three switching stations that had been hurled into permanent orbit about Mercury- the Mercury Orbiters. Each of them was capable of sending and receiving impulses from Mercury to Earth and from Earth to Mercury. Each was capable of resisting, more or less permanently, the radiation from the Sun, and more than that, each could filter out Solar interference.

Three equivalent Orbiters were placed at distance of a little over a million miles from Earth, reaching north and south of the plane of the Ecliptic so that they could receive the impulses from Mercury and relay them to Earth-or vice versa-even when Mercury was behind the Sun and inaccessible to direct reception from any station on Earth ' s surface.

Which left the robot itself; a marvelous specimen of the roboticists' and telemetrists' arts in combination. The most complex of ten successive models, it was capable, in a volume only a little over twice that of a man and five times his mass, of sensing and doing considerably more than a man- if it could be guided.

How complex a computer had to be to guide the robot made itself evident rapidly enough, however, as each response step had to be modified to allow for variations in possible perception. And as each response step itself enforced the certainty of greater complexity of possible variation in perceptions, the early steps had to be reinforced and made stronger. It built itself up endlessly, like a chess game, and the telemetrists began to use a computer to program the computer that designed the program for the computer that programmed the robot-controlling computer.

There was nothing but confusion. The robot was at a base in the desert spaces of Arizona and in itself was working well. The computer in Dallas could not, however, handle him well enough; not even under perfectly known Earth conditions. How then Anthony remembered the day when he had made the suggestion. It was on 7-4-553. He remembered it, for one thing, because he remembered thinking that day that 7-4 had been an important holiday in the Dallas region of the world among the pre-Cats half a millennium before- well, 553 years before, to be exact.

It had been at dinner, and a good dinner, too. There had been a careful adjustment of the ecology of the region and the Project personnel had high priority in collecting the food supplies that became available-so there was an unusual degree of choice on the menus, and Anthony had tried roast duck.

It was very good roast duck and it made him somewhat more expansive than usual. Everyone was in a rather self-expressive mood, in fact, and Ricardo said, "We'll never do it. Let's admit it. We'll never do it."

There was no telling how many had thought such a thing how many times before, but it was a rule that no one said so openly. Open pessimism might be the final push needed for appropriations to stop (they had been coming with greater difficulty each year for five years now) and if there were a chance, it would be gone.

Anthony, ordinarily not given to extraordinary optimism, but now reveling over his duck, said, "Why can't we do it? Tell me why, and I'll refute it."

It was a direct challenge and Ricardo's dark eyes narrowed at once. "You want me to tell you why?"

"I sure do." Ricardo swung his chair around, facing Anthony full. He said, "Come on, there's no mystery. Dmitri Large won't say so openly in any report, but you know and I know that to run Mercury Project properly, we'll need a computer as complex as a human brain whether it's on Mercury or here, and we can't build one. So where does that leave us except to play games with the World Congress and get money for make-work and possibly useful spin-offs?"

And Anthony placed a complacent smile on his face and said, "That's easy to refute. You've given us the answer yourself." (Was he playing games? Was it the warm feeling of duck in his stomach? The desire to tease Ricardo? . . . Or did some unfelt thought of his brother touch him? There was no way, later, that he could tell.)

"What answer?" Ricardo rose. He was quite tall and unusually thin and he always wore his white coat unseamed. He folded his arms and seemed to be doing his best to tower over the seated Anthony like an unfolded meter rule. "What answer?"

"You say we need a computer as complex as a human brain. All right, then, we'll build one."

"The point, you idiot, is that we can't-"

"We can't. But there are others."

"What others?"

"People who work on brains, of course. We're just solid-state mechanics. We have no idea in what way a human brain is complex, or where, or to what extent. Why don't we

get in a homologist and have him design a computer?" And with that Anthony took a huge helping of stuffing and savored it complacently. He could still remember, after all this time, the taste of the stuffing, though he couldn't remember in detail what had happened afterward.

It seemed to him that no one had taken it seriously. There was laughter and a general feeling that Anthony had wriggled out of a hole by clever sophistry so that the laughter was at Ricardo's expense. (Afterward, of course, everyone claimed to have taken the suggestion seriously.)

Ricardo blazed up, pointed a finger at Anthony, and said, "Write that up. I dare you to put that suggestion in writing." (At least, so Anthony's memory had it. Ricardo had, since then, stated his comment was an enthusiastic "Good ideal Why don't you write it up formally, Anthony?")

Either way, Anthony put it in writing.

Dmitri Large had taken to it. In private conference, he had slapped Anthony on the back and had said that he had been speculating in that direction himself- though he did not offer to take any credit for it on the record. (Just in case it turned out to be a fiasco, Anthony thought.)

Dmitri Large conducted the search for the appropriate homologist. It did not occur to Anthony that he ought to be interested. He knew neither homology nor homologists- except, of course, his brother, and he had not thought of him. Not consciously.

So Anthony was up there in the reception area, in a minor role, when the door of the aircraft opened and several men got out and came down and in the course of the handshakes that began going round, he found himself staring at his own face.

His cheeks burned and, with all his might, he wished himself a thousand miles away.

4.

More than ever, William wished that the memory of his brother had come earlier. It should have. . . . Surely it should have.

But there had been the flattery of the request and the excitement that had begun to grow in him after a while. Perhaps he had deliberately avoided remembering.

To begin with, there had been the exhilaration of Dmitri Large coming to see him in his own proper presence. He had come from Dallas to New York by plane and that had been very titillating for William, whose secret vice it was to read thrillers. In the thrillers, men and women always traveled mass-wise when secrecy was desired. After all, electronic travel was public property- at least in the thrillers, where every radiation beam of whatever kind was invariably bugged.

William had said so in a kind of morbid half attempt at humor, but Dmitri hadn't seemed to be listening. He was staring at William's face and his thoughts seemed elsewhere. "I'm sorry," he said finally. "You remind me of someone."

(And yet that hadn't given it away to William. How was that possible? he had eventual occasion to wonder.)

Dmitri Large was a small plump man who seemed to be in a perpetual twinkle even when he declared himself worried or annoyed. He had a round and bulbous nose, pronounced cheeks, and softness everywhere. He emphasized his last name and said with a quickness that led William to suppose he said it often, "Size is not all the large there is, my friend."

In the talk that followed, William protested much. He knew nothing about computers. Nothing! He had not the faintest idea of how they worked or how they were programmed.

"No matter, no matter," Dmitri said, shoving the point aside with an expressive gesture of the hand. "We know the computers; we can set up the programs. You just tell us what it is a computer must be made to do so that it will work like a brain and not like a computer."

"I'm not sure I know enough about how a brain works to be able to tell you that, Dmitri," said William.

"You are the foremost homologist in the world," said Dmitri. "I have checked that out carefully." And that disposed of that.

William listened with gathering gloom. He supposed it was inevitable. Dip a person into one particular specialty deeply enough and long enough, and he would automatically begin to assume that specialists in all other fields were magicians, judging the depth of their wisdom by the breadth of his own ignorance. . . . And as time went on, William learned a great deal more of the Mercury Project than it seemed to him at the time that he cared to.

He said at last, "Why use a computer at all, then? Why not have one of your own men, or relays of them, receive the material from the robot and send back instructions."

"Oh, oh, oh," said Dmitri, almost bouncing in his chair in his eagerness. "You see, you are not aware. Men are too slow to analyze quickly all the material the robot will send back- temperatures and gas pressures and cosmic- ray fluxes and Solar-wind intensities and chemical compositions and soil textures and easily three dozen more items- and then try to decide on the next step. A human being would merely guide the robot, and ineffectively; a computer would be the robot.

"And then, too," he went on, "men are too fast, also. It takes radiation of any kind anywhere from ten to twenty-two minutes to take the round trip between Mercury and Earth, depending on where each is in its orbit. Nothing can be done about that. You get an observation, you give an order, but much has happened between the time the observation is made and the response returns. Men can't adapt to the slowness of the speed of light, but a computer can take that into account. . . . Come help us, William."

William said gloomily, "You are certainly welcome to consult me, for what good that might do you. My private TV beam is at your service."

"But it's not consultation I want. You must come with me."

"Mass-wise?" said William, shocked.

"Yes, of course. A project like this can't be carried out by sitting at opposite ends of a laser beam with a communications satellite in the middle. In the long run, it is too expensive, too inconvenient, and, of course, it lacks all privacy-

It was like a thriller, William decided. "Come to Dallas," said Dmitri, "and let me show you what we have there. Let me show you the facilities. Talk to some of our computer men. Give them the benefit of your way of thought."

It was time, William thought, to be decisive. "Dmitri," he said, "I have work of my own here. Important work that I do not wish to leave. To do what you want me to do may take me away from my laboratory for months."

"Months!" said Dmitri, clearly taken aback. "My good William, it may well be years. But surely it will be your work."

"No, it will not. I know what my work is and guiding a robot on Mercury is not it."

"Why not? If you do it properly, you will learn more about the brain merely by trying to make a computer work like one, and you will come back here, finally, better equipped to do what you now consider your work. And while you're gone, will you have no associates to carry on? And can you not be in constant communication with them by laser beam and television? And can you not visit New York on occasion? Briefly."

William was moved. The thought of working on the brain from another direction did hit home. From that point on, he found himself looking for excuses to go-at least to visit-at least to see what it was all like. . . .He could always return.

Then there followed Dmitri's visit to the ruins of Old New York, which he enjoyed with artless excitement (but then there was no more magnificent spectacle of the useless gigantism of the pre-Cats than Old New York). William began to wonder if the trip might not give him an opportunity to see some sights as well.

He even began to think that for some time he had been considering the possibility of finding a new bedmate, and it would be more convenient to find one in another geographical area where he would not stay permanently.

-Or was it that even then, when he knew nothing but the barest beginning of what was needed, there had already come to him, like the twinkle of a distant lightning flash, what might be done.

So he eventually went to Dallas and stepped out on the roof and there was Dmitri again, beaming. Then, with eyes narrowing, the little man turned and said, "I knew-What a remarkable resemblance!"

William's eyes opened wide and there, visibly shrinking backward, was enough of his own face to make him certain at once that Anthony was standing before him.

He read very plainly in Anthony's face a longing to bury the relationship. All William needed to say was "How remarkable!" and let it go. The gene patterns of mankind were complex enough, after all, to allow resemblances of any reasonable degree even without kinship.

But of course William was a homologist and no one can work with the intricacies of the human brain without growing insensitive as to its details, so he said, "I'm sure this is Anthony, my brother."

Dmitri said, "Your brother?"

"My father," said William, "had two boys by the same woman-my mother. They were eccentric people."

He then stepped forward, hand outstretched, and Anthony had no choice but to take it. . . .The incident was the topic of conversation, the only topic, for the next several days.

5.

It was small consolation to Anthony that William was contrite enough when he realized what he had done.

They sat together after dinner that night and William said, "My apologies. I thought that if we got the worst out at once that would end it. It doesn't seem to have done so. I've signed no papers, made no formal agreement. I will leave."

"What good would that do?" said Anthony ungraciously. "Everyone knows now. Two bodies and one face. It's enough to make one puke."

"If I leave-"

"You can't leave. This whole thing is my idea."

"To get me here?" William's heavy lids lifted as far as they might and his eyebrows climbed.

"No, of course not. To get a homologist here. How could I possibly know they would send you?"

"But if I leave-"

"No. The only thing we can do now is to lick the problem, if it can be done. Then-it won't matter." (Everything is forgiven those who succeed, he thought.)

"I don't know that I can-"

"We'll have to try. Dmitri will place it on us. It's too good a chance. You two are brothers," Anthony said, mimicking Dmitri's tenor voice, "and understand each other. Why not work together?" Then, in his own voice, angrily, "So we must. To begin with, what is it you do, William? I mean, more precisely than the word 'homology' can explain by itself."

William sighed. "Well, please accept my regrets. . . .I work with autistic children."

"I'm afraid I don't know what that means."

"Without going into a long song and dance, I deal with children who do not reach out into the world, do not communicate with others, but who sink into themselves and exist behind a wall of skin, somewhat unreachably. I hope to be able to cure it someday."

"Is that why you call yourself Anti-Aut?"

"Yes, as a matter of fact."

Anthony laughed briefly, but he was not really amused.

A chill crept into William's manner. "It is an honest name."

"I'm sure it is," muttered Anthony hurriedly, and could bring himself to no more specific apology. With an effort, he restored the subject, "And are you making any progress?"

"Toward the cure? No, so far. Toward understanding, yes. And the more I understand-" William's voice grew warmer as he spoke and his eyes more distant. Anthony recognized it for what it was, the pleasure of speaking of what fills one's heart and mind to the exclusion of almost everything else. He felt it in himself often enough.

He listened as closely as he might to something he didn't really understand, for it was necessary to do so. He would expect William to listen to him.

How clearly he remembered it. He thought at the time he would not, but at the time, of course, he was not aware of what was happening. Thinking back, in the glare of hindsight, he found himself remembering whole sentences, virtually word for word.

"So it seemed to us," William said, "that the autistic child was not failing to receive the impressions, or even failing to interpret them in quite a sophisticated manner. He was, rather, disapproving them and rejecting them, without any loss of the potentiality of full communication if some impression could be found which he approved of."

"Ah," said Anthony, making just enough of a sound to indicate that he was listening.

"Nor can you persuade him out of his autism in any ordinary way, for he disapproves of you just as much as he disapproves of the rest of the world. But if you place him in conscious arrest-"

"In what?"

"It is a technique we have in which, in effect, the brain is divorced from the body and can perform its functions without reference to the body. It is a rather sophisticated technique devised in our own laboratory; actually-" He paused.

"By yourself?" asked Anthony gently. "Actually, yes," said William, reddening slightly, but clearly pleased. "In conscious arrest, we can supply the body with designed fantasies and observe the brain under differential electroencephalography. We can at once learn more about the autistic individual; what kind of sense impressions he most wants; and we learn more about the brain generally."

"Ah," said Anthony, and this time it was a real ah. "And all this you have learned about brains- can you not adapt it to the workings of a computer?"

"No," said William. "Not a chance. I told that to Dmitri. I know nothing about computers and not enough about brains."

"If I teach you about computers and tell you in detail what we need, what then?"

"It won't do. It-"

"Brother," Anthony said, and he tried to make it an impressive word. "You owe me something. Please make an honest attempt to give our problem some thought. Whatever you know about the brain-please adapt it to our computers."

William shifted uneasily, and said, "I understand your position. I will try. I will honestly try."

6.

William had tried, and as Anthony had predicted, the two had been left to work together. At first they encountered others now and then and William had tried to use the shock value of the announcement that they were brothers since there was no use in

denial. Eventually that stopped, however, and there came to be a purposeful non-interference. When William approached Anthony, or Anthony approached William, anyone else who might be present faded silently into the walls.

They even grew used to each other after a fashion and sometimes spoke to each other almost as though there were no resemblance between them at all and no childish memories in common.

Anthony made the computer requirements plain in reasonably non-technical language and William, after long thought, explained how it seemed to him a computer might do the work, more or less, of a brain.

Anthony said, "Would that be possible?"

"I don't know," said William. "I am not eager to try. It may not work. But it may."

"We'd have to talk to Dmitri Large."

"Let's talk it over ourselves first and see what we've got. We can go to him with as reasonable a proposition as we can put together. Or else, not go to him."

Anthony hesitated, "We both go to him?" William said delicately, "You be my spokesman. There is no reason that we need be seen together."

"Thank you, William. If anything comes of this, you will get full credit from me."

William said, "I have no worries about that. If there is anything to this, I will be the only one who can make it work, I suppose."

They thrashed it out through four or five meetings and if Anthony hadn't been kin and if there hadn't been that sticky, emotional situation between them, William would have been uncomplicatedly proud of the younger-brother-for his quick understanding of an alien field.

There were then long conferences with Dmitri Large. There were, in fact, conferences with everyone. Anthony saw them through endless days, and then they came to see William separately. And eventually, through an agonizing pregnancy, what came to be called the Mercury Computer was authorized.

William then returned to New York with some relief. He did not plan to stay in New York (would he have thought that possible two months earlier?) but there was much to do at the Homological Institute.

More conferences were necessary, of course, to explain to his own laboratory group what was happening and why he had to take leave and how they were to continue their own projects without him. Then there was a much more elaborate arrival at Dallas with the essential equipment and with two young aides for what would have to be an open-ended stay.

Nor did William even look back, figuratively speaking. His own laboratory and its needs faded from his thoughts. He was now thoroughly committed to his new task.

7.

It was the worst period for Anthony. The relief during William's absence had not penetrated deep and there began the nervous agony of wondering whether perhaps, hope against hope, he might not return. Might he not choose to send a deputy, someone

else, anyone else? Anyone with a different face so that Anthony need not feel the half of a two-backed four-legged monster?

But it was William. Anthony had watched the freight plane come silently through the air, had watched it unload from a distance. But even from that distance he eventually saw William.

That was that. Anthony left. He went to see Dmitri that afternoon. "It's not necessary, Dmitri, for me to stay, surely. We've worked out the details and someone else can take over."

"No, no," said Dmitri. "The idea was yours in the first place. You must see it through. There is no point in needlessly dividing the credit."

Anthony thought: No one else will take the risk. There's still the chance of fiasco. I might have known.

He had known, but he said stolidly, "You understand I cannot work with William."

"But why not?" Dmitri pretended surprise. "You have been doing so well together."

"I have been straining my guts over it, Dmitri, and they won't take any more. Don't you suppose I know how it looks?"

"My good fellow! You make too much of it. Sure the men stare. They are human, after all. But they'll get used to it. I'm used to it."

You are not, you fat liar, Anthony thought. He said, "I'm not used to it."

"You're not looking at it properly. Your parents were peculiar-but after all, what they did wasn't illegal, only peculiar, only peculiar. It's not your fault, or William's. Neither of you is to blame."

"We carry the mark," said Anthony, making a quick curving gesture of his hand to his face.

"It's not the mark you think. I see differences. You are distinctly younger in appearance. Your hair is wavier. It's only at first glance that there is a similarity. Come, Anthony, there will be all the time you want, all the help you need, all the equipment you can use. I'm sure it will work marvelously. Think of the satisfaction-"

Anthony weakened, of course, and agreed at least to help William set up the equipment. William; too, seemed sure it would work marvelously. Not as frenetically as Dmitri did, but with a kind of calmness.

"It's only a matter of the proper connections," he said, "though I must admit that that's quite a huge 'only.' Your end of it will be to arrange sensory impressions on an independent screen so that we can exert- well, I can't say manual control, can I?-so that we can exert intellectual control to override, if necessary."

"That can be done," said Anthony. "Then let's get going. . . .Look, I'll need a week at least to arrange the connections and make sure of the instructions-"

"Programming, " said Anthony. "Well, this is your place, so I'll use your terminology. My assistants and I will program the Mercury Computer, but not in your fashion."

"I should hope not. We would want a homologist to set up a much more subtle program than anything a mere telemetrists could do." He did not try to hide the self-hating irony in his words.

William let the tone go and accepted the words. He said, "Well begin simply. We'll have the robot walk."

8.

A week later, the robot walked in Arizona, a thousand miles away. He walked stiffly, and sometimes he fell down, and sometimes he clanked his ankle against an obstruction, and sometimes he whirled on one foot and went off in a surprising new direction.

"He's a baby, learning to walk," said William. Dmitri came occasionally, to learn of progress. "That's remarkable," he would say.

Anthony didn't think so. Weeks passed, then months. The robot had progressively done more and more, as the Mercury Computer had been placed, progressively, under a more and more complex programming. (William had a tendency to refer to the Mercury Computer as a brain, but Anthony wouldn't allow it.) And all that happened wasn't good enough.

"It's not good enough, William," he said finally. He had not slept the night before.

"Isn't that strange?" said William coolly. "I was going to say that I thought we had it about beaten."

Anthony held himself together with difficulty. The strain of working with William and of watching the robot fumble was more than he could bear. "I'm going to resign, William. The whole job. I'm sorry. . . .It's not you."

"But it is I, Anthony."

"It isn't all you, William. It's failure. We won't make it. You see how clumsily the robot handles himself, even though he's on Earth, only a thousand miles away, with the signal round trip only a tiny fraction of a second in time. On Mercury, there will be minutes of delay, minutes for which the Mercury Computer will have to allow. It's madness to think it will work."

William said, "Don't resign, Anthony. You can't resign now. I suggest we have the robot sent to Mercury. I'm convinced he's ready."

Anthony laughed loudly and insultingly. "You're crazy, William."

"I'm not. You seem to think it will be harder on Mercury, but it won't be. It's harder on Earth. This robot is designed for one-third Earth-normal gravity, and he's working in Arizona at full gravity. He's designed for 400ø C, and he's got 300ø C. He's designed for vacuum and he's working in an atmospheric soup."

"That robot can take the difference."

"The metal structure can, I suppose, but what about the Computer right here? It doesn't work well with a robot that isn't in the environment he's designed for. . . .Look, Anthony, if you want a computer that is as complex as a brain, you have to allow for idiosyncrasies. . . .Come, let's make a deal. If you will push, with me, to have the robot sent to Mercury, that will take six months, and I will take a sabbatical for that period. You will be rid of me."

"Who'll take care of the Mercury Computer?"

"By now you understand how it works, and I'll have my two men here to help you."

Anthony shook his head defiantly. "I can't take the responsibility for the Computer, and I won't take the responsibility for suggesting that the robot be sent to Mercury. It won't work."

"I'm sure it will."

"You can't be sure. And the responsibility is mine. I'm the one who'll bear the blame. It will be nothing to you."

Anthony later remembered this as a crucial moment. William might have let it go. Anthony would have resigned. All would have been lost.

But William said, "Nothing to me? Look, Dad had this thing about Mom. All right. I'm sorry, too. I'm as sorry as anyone can be, but it's done, and there's something funny that has resulted. When I speak of Dad, I mean your Dad, too, and there's lots of pairs of people who can say that: two brothers, two sisters, a brother and sister. And then when I say Mom, I mean your Mom, and there are lots of pairs who can say that, too. But I don't know any other pair, nor have I heard of any other pair, who can share both Dad and Mom."

"I know that," said Anthony grimly. "Yes, but look at it from my standpoint," said William hurriedly. "I'm a homologist. I work with gene patterns. Have you ever thought of our gene patterns? We share both parents, which means that our gene patterns are closer together than any other pair on this planet. Our very faces show it."

"I know that, too."

"So that if this project were to work, and if you were to gain glory from it, it would be your gene pattern that would have been proven highly useful to mankind-and that would mean very much my gene pattern as well. . . .Don't you see, Anthony? I share your parents, your face, your gene pattern, and therefore either your glory or your disgrace. It is mine almost as much as yours, and if any credit or blame adheres to me, it is yours almost as much as mine, too. I've got to be interested in your success. I've a motive for that which no one else on Earth has- a purely selfish one, one so selfish you can be sure it's there. I'm on your side, Anthony, because you're very nearly me!"

They looked at each other for a long time, and for the first time, Anthony did so without noticing the face he shared.

William said, "So let us ask that the robot be sent to Mercury."

And Anthony gave in. And after Dmitri had approved the request - he had been waiting to, after all- Anthony spent much of the day in deep thought.

Then he sought out William and said, "Listen!"

There was a long pause which William did not break. Anthony said again, "Listen!" William waited patiently.

Anthony said, "There's really no need for you to leave. I'm sure you wouldn't like to have the Mercury Computer tended by anyone but yourself."

William said, "You mean you intend to leave?" Anthony said, "No, I'll stay, too."

William said, "We needn't see much of each other."

All of this had been, for Anthony, like speaking with a pair of hands clenched about his windpipe. The pressure seemed to tighten now, but he managed the hardest statement of all.

"We don't have to avoid each other. We don't have to."

William smiled rather uncertainly. Anthony didn't smile at all; he left quickly.

9.

William looked up from his book. It was at least a month since he had ceased being vaguely surprised at having Anthony enter.

He said, "Anything wrong?"

"Who can say? They're coming in for the soft landing. Is the Mercury Computer in action?"

William knew Anthony knew the Computer status perfectly, but he said, "By tomorrow morning, Anthony."

"And there are no problems?"

"None at all."

"Then we have to wait for the soft landing."

"Yes."

Anthony said, "Something will go wrong."

"Rocketry is surely an old hand at this. Nothing will go wrong."

"So much work wasted."

"It's not wasted yet. It won't be."

Anthony said, "Maybe you're right." Hands deep in his pockets, he drifted away, stopping at the door just before touching contact. "Thanks!"

"For what, Anthony?"

"For being- comforting."

William smiled wryly and was relieved his emotions didn't show.

10.

Virtually the entire body of personnel of the Mercury Project was on hand for the crucial moment. Anthony, who had no tasks to perform, remained well to the rear, his eyes on the monitors. The robot had been activated and there were visual messages being returned.

At least they came out as the equivalent of visual-and they showed as yet nothing but a dim glow of light which was, presumably, Mercury's surface.

Shadows flitted across the screen, probably irregularities on that surface. Anthony couldn't tell by eye alone, but those at the controls, who were analyzing the data by methods more subtle than could be disposed of by unaided eye, seemed calm. None of the little red lights that might have betokened emergency were lighting. Anthony was watching the key observers rather than the screen.

He should be down with William and the others at the Computer. It was going to be thrown in only when the soft landing was made. He should be. He couldn't be.

The shadows flitted across the screen more rapidly. The robot was descending- too quickly? Surely, too quickly!

There was a last blur and a steadiness, a shift of focus in which the blur grew darker, then fainter. A sound was heard and there were perceptible seconds before Anthony realized what it was the sound was saying- "Soft landing achieved! Soft landing achieved!"

Then a murmur arose and became an excited hum of self-congratulation until one more change took place on the screen and the sound of human words and laughter was stopped as though there had been a smash collision against a wall of silence.

For the screen changed; changed and grew sharp. In the brilliant, brilliant sunlight, blazing through the carefully filtered screen, they could now see a boulder clear, burning white on one side, ink-on-ink on the other. It shifted right, then back to left, as though a pair of eyes were looking left, then right. A metal hand appeared on the screen as though the eyes were looking at part of itself.

It was Anthony's voice that cried out at last, "The Computer's been thrown in."

He heard the words as though someone else had shouted them and he raced out and down the stairs and through a Corridor, leaving the babble of voices to rise behind him.

"William," he cried as he burst into the Computer room, "it's perfect, it's-"

But William's hand was upraised. "Shh. Please. I don't want any violent sensations entering except those from the robot."

"You mean we can be heard?" whispered Anthony.

"Maybe not, but I don't know." There was another screen, a smaller one, in the room with the Mercury Computer. The scene on it was different, and changing; the robot was moving.

William said, "The robot is feeling its way. Those steps have got to be clumsy. There's a seven-minute delay between stimulus and response and that has to be allowed for."

"But already he's walking more surely than he ever did in Arizona. Don't you think so, William? Don't you think so?" Anthony was gripping William's shoulder, shaking it, eyes never leaving the screen.

William said, "I'm sure of it, Anthony."

The Sun burned down in a warm contrasting world of white and black, of white Sun against black sky and white rolling ground mottled with black shadow. The bright sweet smell of the Sun on every exposed square centimeter of metal contrasting with the creeping death-of-aroma on the other side.

He lifted his hand and stared at it, counting the fingers. Hot-hot-hot-turning, putting each finger, one by one, into the shadow of the others and the hot slowly dying in a change in tactility that made him feel the clean, comfortable vacuum.

Yet not entirely vacuum. He straightened and lifted both arms over his head, stretching them out, and the sensitive spots on either wrist felt the vapors- the thin, faint touch of tin and lead rolling through the cloy of mercury.

The thicker taste rose from his feet; the silicates of each variety, marked by the clear separate-and-together touch and tang of each metal ion. He moved one foot slowly

through the crunchy, caked dust, and felt the changes like a soft, not quite random symphony.

And over all the Sun. He looked up at it, large and fat and bright and hot, and heard its joy. He watched the slow rise of prominences around its rim and listened to the crackling sound of each; and to the other happy noises over the broad face. When he dimmed the background light, the red of the rising wisps of hydrogen showed in bursts of mellow contralto, and the deep bass of the spots amid the muted whistling of the wispy, moving faculae, and the occasional thin keening of a flare, the ping-pong ticking of gamma rays and cosmic particles, and over all in every direction the soft, fainting, and ever-renewed sigh of the Sun's substance rising and retreating forever in a cosmic wind which reached out and bathed him in glory.

He jumped, and rose slowly in the air with a freedom he had never felt, and jumped again when he landed, and ran, and jumped, and ran again, with a body that responded perfectly to this glorious world, this paradise in which he found himself.

A stranger so long and so lost- in paradise at last.

William said, "It's all right."

"But what's he doing?" cried out Anthony.

"It's all right. The programming is working. He has tested his senses. He has been making the various visual observations. He has dimmed the Sun and studied it. He has tested for atmosphere and for the chemical nature of the soil. It all works."

"But why is he running?"

"I rather think that's his own idea, Anthony. If you want to program a computer as complicated as a brain, you've got to expect it to have ideas of its own."

"Running? Jumping?" Anthony turned an anxious face to William. "He'll hurt himself. You can handle the Computer. Override. Make him stop."

And William said sharply, "No. I won't. I'll take the chance of his hurting himself. Don't you understand? He's happy. He was on Earth, a world he was never equipped to handle. Now he's on Mercury with a body perfectly adapted to its environment, as perfectly adapted as a hundred specialized scientists could make it be. It's paradise for him; let him enjoy it."

"Enjoy? He's a robot."

"I'm not talking about the robot. I'm talking about the brain-the brain-that's living here."

The Mercury Computer, enclosed in glass, carefully and delicately wired, its integrity most subtly preserved, breathed and lived.

"It's Randall who's in paradise," said William. "He's found the world for whose sake he autistically fled this one. He has a world his new body fits perfectly in exchange for the world his old body did not fit at all."

Anthony watched the screen in wonder. "He seems to be quieting."

"Of course," said William, "and he'll do his job all the better for his joy."

Anthony smiled and said, "We've done it, then, you and I? Shall we join the rest and let them fawn on us, William?"

William said, "Together?"

And Anthony linked arms. "Together, brother!"

LIGHT VERSE

The very last person anyone would expect to be a murderer was Mrs. Avis Lardner. Widow of the great astronaut-martyr, she was a philanthropist, an art collector, a hostess extraordinary, and, everyone agreed, an artistic genius. But above all, she was the gentlest and kindest human being one could imagine.

Her husband, William J. Lardner, died, as we all know, of the effects of radiation from a solar flare, after he had deliberately remained in space so that a passenger vessel might make it safely to Space Station 5.

Mrs. Lardner had received a generous pension for that, and she had then invested wisely and well. By late middle age she was very wealthy.

Her house was a showplace, a veritable museum, containing a small but extremely select collection of extraordinarily beautiful jeweled objects. From a dozen different cultures she had obtained relics of almost every conceivable artifact that could be embedded with jewels and made to serve the aristocracy of that culture. She had one of the first jeweled wristwatches manufactured in America, a jeweled dagger from Cambodia, a jeweled pair of spectacles from Italy, and so on almost endlessly.

All was open for inspection. The artifacts were not insured, and there were no ordinary security provisions. There was no need for anything conventional, for Mrs. Lardner maintained a large staff of robot servants, all of whom could be relied on to guard every item with imperturbable concentration, irreproachable honesty, and irrevocable efficiency.

Everyone knew the existence of those robots and there is no record of any attempt at theft, ever.

And then, of course, there was her light-sculpture. How Mrs. Lardner discovered her own genius at the art, no guest at her many lavish entertainments could guess. On each occasion, however, when her house was thrown open to guests, a new symphony of light shone throughout the rooms; three-dimensional curves and solids in melting color, some pure and some fusing in startling, crystalline effects that bathed every guest in wonder and somehow always adjusted itself so as to make Mrs. Lardner's blue-white hair and soft, unlined face gently beautiful.

It was for the light-sculpture more than anything else that the guests came. It was never the same twice, and never failed to explore new experimental avenues of art. Many people who could afford light-consoles prepared light-sculptures for amusement, but no one could approach Mrs. Lardner's expertise. Not even those who considered themselves professional artists.

She herself was charmingly modest about it. "No, no," she would protest when someone waxed lyrical. "I wouldn't call it 'poetry in light.' That's far too kind. At most, I would say it was mere 'light verse.'" And everyone smiled at her gentle wit.

Though she was often asked, she would never create light-sculpture for any occasion but her own parties. "That would be commercialization," she said.

She had no objection, however, to the preparation of elaborate holograms of her sculptures so that they might be made permanent and reproduced in museums of art all over the world. Nor was there ever a charge for any use that might be made of her light-sculptures.

"I couldn't ask a penny," she said, spreading her arms wide. "It's free to all. After all, I have no further use for it myself." It was true. She never used the same light-sculpture twice.

When the holograms were taken, she was cooperation itself. Watching benignly at every step, she was always ready to order her robot servants to help. "Please, Courtney," she would say, "would you be so kind as to adjust the step ladder?"

It was her fashion. She always addressed her robots with the most formal courtesy.

Once, years before, she had been almost scolded by a government functionary from the Bureau of Robots and Mechanical Men. "You can't do that," he said severely. "It interferes with their efficiency. They are constructed to follow orders, and the more clearly you give those orders, the more efficiently they follow them. When you ask with elaborate politeness, it is difficult for them to understand that an order is being given. They react more slowly."

Mrs. Lardner lifted her aristocratic head. "I do not ask for speed and efficiency," she said. "I ask goodwill. My robots love me."

The government functionary might have explained that robots cannot love, but he withered under her hurt but gentle glance.

It was notorious that Mrs. Lardner never even returned a robot to the factory for adjustment. Their positronic brains are enormously complex, and once in ten times or so the adjustment is not perfect as it leaves the factory. Sometimes the error does not show up for a period of time, but whenever it does, U. S. Robots and Mechanical Men, Inc., always makes the adjustment free of charge.

Mrs. Lardner shook her head. "Once a robot is in my house," she said, "and has performed his duties, any minor eccentricities must be borne with. I will not have him manhandled."

It was the worse thing possible to try to explain that a robot was but a machine. She would say very stiffly, "Nothing that is as intelligent as a robot can ever be but a machine. I treat them as people."

And that was that!

She kept even Max, although he was almost helpless. He could scarcely understand what was expected of him. Mrs. Lardner denied that strenuously, however. "Not at all," she would say firmly. "He can take hats and coats and store them very well, indeed. He can hold objects for me. He can do many things."

"But why not have him adjusted?" asked a friend, once.

"Oh, I couldn't. He's himself. He's very lovable, you know. After all, a positronic brain is so complex that no one can ever tell in just what way it's off. If he were made

perfectly normal there would be no way to adjust him back to the lovability he now has. I won't give that up."

"But if he's maladjusted," said the friend, looking at Max nervously, "might he not be dangerous?"

"Never," laughed Mrs. Lardner. "I've had him for years. He's completely harmless and quite a dear."

Actually he looked like all the other robots, smooth, metallic, vaguely human but expressionless.

To the gentle Mrs. Lardner, however, they were all individual, all sweet, all lovable. It was the kind of woman she was.

How could she commit murder?

The very last person anyone would expect to be murdered would be John Semper Travis. Introverted and gentle, he was in the world but not of it. He had that peculiar mathematical turn of mind that made it possible for him to work out in his mind the complicated tapestry of the myriad positronic brain-paths in a robot's mind.

He was chief engineer of U.S. Robots and Mechanical Men, Inc.

But he was also an enthusiastic amateur in light-sculpture. He had written a book on the subject, trying to show that the type of mathematics he used in working out positronic brain-paths might be modified into a guide to the production of aesthetic light-sculpture.

His attempt at putting theory into practice was a dismal failure, however. The sculptures he himself produced, following his mathematical principles, were stodgy, mechanical, and uninteresting.

It was the only reason for unhappiness in his quiet, introverted, and secure life, and yet it was reason enough for him to be very unhappy indeed. He knew his theories were right, yet he could not make them work. If he could but produce one great piece of light-sculpture-

Naturally, he knew of Mrs. Lardner's light-sculpture. She was universally hailed as a genius, yet Travis knew she could not understand even the simplest aspect of robotic mathematics. He had corresponded with her but she consistently refused to explain her methods, and he wondered if she had any at all. Might it not be mere intuition? -but even intuition might be reduced to mathematics. Finally he managed to receive an invitation to one of her parties. He simply had to see her.

Mr. Travis arrived rather late. He had made one last attempt at a piece of light-sculpture and had failed dismally.

He greeted Mrs. Lardner with a kind of puzzled respect and said, "That was a peculiar robot who took my hat and coat."

"That is Max," said Mrs. Lardner.

"He is quite maladjusted, and he's a fairly old model. How is it you did not return it to the factory?"

"Oh, no," said Mrs. Lardner. "It would be too much trouble."

"None at all, Mrs. Lardner," said Travis. "You would be surprised how simple a task it was. Since I am with U. S. Robots, I took the liberty of adjusting him myself. It took no time and you'll find he is now in perfect working order."

A queer change came over Mrs. Lardner's face. Fury found a place on it for the first time in her gentle life, and it was as though the lines did not know how to form.

"You adjusted him?" she shrieked. "But it was he who created my light-sculptures. It was the maladjustment, the maladjustment, which you can never restore, that-that-"

It was really unfortunate that she had been showing her collection at the time and that the jeweled dagger from Cambodia was on the marble tabletop before her.

Travis's face was also distorted. "You mean if I had studied his uniquely maladjusted positronic brain-paths I might have learned-"

She lunged with the knife too quickly for anyone to stop her and he did not try to dodge. Some said he came to meet it-as though he wanted to die.

SEGREGATIONIST

The surgeon looked up without expression. "Is he ready?"

"Ready is a relative term," said the med-eng. "We're ready. He's restless."

"They always are. . . Well, it's a serious operation."

"Serious or not, he should be thankful. He's been chosen for it over an enormous number of possibles and frankly, I don't think . . ."

"Don't say it," said the surgeon. "The decision is not ours to make."

"We accept it. But do we have to agree?"

"Yes," said the surgeon, crisply. "We agree. Completely and wholeheartedly. The operation is entirely too intricate to approach with mental reservations. This man has proven his worth in a number of ways and his profile is suitable for the Board of Mortality."

"All right," said the med-eng, unmollified.

The surgeon said, "I'll see him right in here, I think. It is small enough and personal enough to be comforting."

"It won't help. He's nervous, and he's made up his mind."

"Has he indeed?"

"Yes. He wants metal; they always do."

The surgeon's face did not change expression. He stared at his hands. "Sometimes one can talk them out of it."

"Why bother?" said the med-eng, indifferently. "If he wants metal, let it be metal."

"You don't care?"

"Why should I?" The med-eng said it almost brutally. "Either way it's a medical engineering problem and I'm a medical engineer. Either way, I can handle it. Why should I go beyond that?"

The surgeon said stolidly, "To me, it is a matter of the fitness of things."

"Fitness! You can't use that as an argument. What does the patient care about the fitness of things?"

"I care."

"You care in a minority. The trend is against you. You have no chance."

"I have to try." The surgeon waved the med-eng into silence with a quick wave of his hand-no impatience to it, merely quickness. He had already informed the nurse and he had already been signaled concerning her approach. He pressed a small button and the double-door pulled swiftly apart. The patient moved inward in his motorchair, the nurse stepping briskly along beside him.

"You may go, nurse," said the surgeon, "but wait outside. I will be calling you." He nodded to the med-eng, who left with the nurse, and the door closed behind them.

The man in the chair looked over his shoulder and watched them go. His neck was scrawny and there were fine wrinkles about his eyes. He was freshly shaven and the

fingers of his hands, as they gripped the arms of the chair tightly, showed manicured nails. He was a high-priority patient and he was being taken care of. . . . But there was a look of settled peevishness on his face.

He said, "Will we be starting today?"

The surgeon nodded. "This afternoon, Senator."

"I understand it will take weeks."

"Not for the operation itself, Senator. But there are a number of subsidiary points to be taken care of. There are some circulatory renovations that must be carried through, and hormonal adjustments. These are tricky things."

"Are they dangerous?" Then, as though feeling the need for establishing a friendly relationship, but patently against his will, he added, ". . . doctor?"

The surgeon paid no attention to the nuances of expression. He said, flatly, "Everything is dangerous. We take our time in order that it be less dangerous. It is the time required, the skill of many individuals united, the equipment, that makes such operations available to so few. . . ."

"I know that," said the patient, restlessly. "I refuse to feel guilty about that. Or are you implying improper pressure?"

"Not at all, Senator. The decisions of the Board have never been questioned. I mention the difficulty and intricacy of the operation merely to explain my desire to have it conducted in the best fashion possible."

"Well, do so, then. That is my desire, also."

"Then I must ask you to make a decision. It is possible to supply you with either of two types of cyber-hearts, metal or . . ."

"Plastic!" said the patient, irritably. "Isn't that the alternative you were going to offer, doctor? Cheap plastic. I don't want that. I've made my choice. I want the metal."

"But . . ."

"See here. I've been told the choice rests with me. Isn't that so?"

The surgeon nodded. "Where two alternate procedures are of equal value from a medical standpoint, the choice rests with the patient. In actual practice, the choice rests with the patient even when the alternate procedures are not of equal value, as in this case."

The patient's eyes narrowed. "Are you trying to tell me the plastic heart is superior?"

"It depends on the patient. In my opinion, in your individual case, it is. And we prefer not to use the term, plastic. It is a fibrous cyber-heart."

"It's plastic as far as I am concerned."

"Senator," said the surgeon, infinitely patient, "the material is not plastic in the ordinary sense of the word. It is a polymeric material true, but one that is far more complex than ordinary plastic. It is a complex protein-like fibre designed to imitate, as closely as possible, the natural structure of the human heart you now have within your chest."

"Exactly, and the human heart I now have within my chest is worn out although I am not yet sixty years old. I don't want another one like it, thank you. I want something better."

"We all want something better for you, Senator. The fibrous cyber-heart will be better. It has a potential life of centuries. It is absolutely non-allergenic . . . "

"Isn't that so for the metallic heart, too?"

"Yes, it is," said the surgeon. "The metallic cyber is of titanium alloy that . . ."

"And it doesn't wear out? And it is stronger than plastic? Or fibre or whatever you want to call it?"

"The metal is physically stronger, yes, but mechanical strength is not a point at issue. Its mechanical strength does you no particular good since the heart is well protected. Anything capable of reaching the heart will kill you for other reasons even if the heart stands up under manhandling."

The patient shrugged. "If I ever break a rib, I'll have that replaced by titanium, also. Replacing bones is easy. Anyone can have that done anytime. I'll be as metallic as I want to be, doctor."

"That is your right, if you so choose. However, it is only fair to tell you that although no metallic cyber-heart has ever broken down mechanically, a number have broken down electronically."

"What does that mean?"

"It means that every cyber-heart contains a pacemaker as part of its structure. In the case of the metallic variety, this is an electronic device that keeps the cyber in rhythm. It means an entire battery of miniaturized equipment must be included to alter the heart's rhythm to suit an individual's emotional and physical state. Occasionally something goes wrong there and people have died before that wrong could be corrected."

"I never heard of such a thing."

"I assure you it happens."

"Are you telling me it happens often?"

"Not at all. It happens very rarely."

"Well, then, I'll take my chance. What about the plastic heart? Doesn't that contain a pacemaker?"

"Of course it does, Senator. But the chemical structure of a fibrous cyber-heart is quite close to that of human tissue. It can respond to the ionic and hormonal controls of the body itself. The total complex that need be inserted is far simpler than in the case of the metal cyber."

"But doesn't the plastic heart ever pop out of hormonal control?"

"None has ever yet done so."

"Because you haven't been working with them long enough. Isn't that so?"

The surgeon hesitated. "It is true that the fibrous cybers have not been used nearly as long as the metallic."

"There you are. What is it anyway, doctor? Are you afraid I'm making myself into a robot . . . into a Metallo, as they call them since citizenship went through?"

"There is nothing wrong with a Metallo as a Metallo. As you say, they are citizens. But you're not a Metallo. You're a human being. Why not stay a human being?"

"Because I want the best and that's a metallic heart. You see to that."

The surgeon nodded. "Very well. You will be asked to sign the necessary permissions and you will then be fitted with a metal heart."

"And you'll be the surgeon in charge? They tell me you're the best."

"I will do what I can to make the changeover an easy one."

The door opened and the chair moved the patient out to the waiting nurse.

The med-eng came in, looking over his shoulder at the receding patient until the doors had closed again.

He turned to the surgeon. "Well, I can't tell what happened just by looking at you. What was his decision?"

The surgeon bent over his desk, punching out the final items for his records. "What you predicted. He insists on the metallic cyber-heart."

"After all, they are better."

"Not significantly. They've been around longer; no more than that. It's this mania that's been plaguing humanity ever since Metallos have become citizens. Men have this odd desire to make Metallos out of themselves. They yearn for the physical strength and endurance one associates with them."

"It isn't one-sided, doc. You don't work with Metallos but I do; so I know. The last two who came in for repairs have asked for fibrous elements."

"Did they get them?"

"In one case, it was just a matter of supplying tendons; it didn't make much difference there, metal or fibre. The other wanted a blood system or its equivalent. I told him I couldn't; not without a complete rebuilding of the structure of his body in fibrous material. . . . I suppose it will come to that some day. Metallos that aren't really Metallos at all, but a kind of flesh and blood."

"You don't mind that thought?"

"Why not? And metallized human beings, too. We have two varieties of intelligence on Earth now and why bother with two. Let them approach each other and eventually we won't be able to tell the difference. Why should we want to? We'd have the best of both worlds; the advantages of man combined with those of robot."

"You'd get a hybrid," said the surgeon, with something that approached fierceness. "You'd get something that is not both, but neither. Isn't it logical to suppose an individual would be too proud of his structure and identity to want to dilute it with something alien? Would he want mongrelization?"

"That's segregationist talk."

"Then let it be that." The surgeon said with calm emphasis, "I believe in being what one is. I wouldn't change a bit of my own structure for any reason. If some of it absolutely required replacement, I would have that replacement as close to the original in nature as could possibly be managed. I am myself; well pleased to be myself; and would not be anything else."

He had finished now and had to prepare for the operation. He placed his strong hands into the heating oven and let them reach the dull red-hot glow that would sterilize them completely. For all his impassioned words, his voice had never risen, and on his burnished metal face there was (as always) no sign of expression.

ROBBIE

"NINETY-EIGHT - NINETY-NINE - ONE HUNDRED." Gloria withdrew her chubby little forearm from before her eyes and stood for a moment, wrinkling her nose and blinking in the sunlight. Then, trying to watch in all directions at once, she withdrew a few cautious steps from the tree against which she had been leaning.

She craned her neck to investigate the possibilities of a clump of bushes to the right and then withdrew farther to obtain a better angle for viewing its dark recesses. The quiet was profound except for the incessant buzzing of insects and the occasional chirrup of some hardy bird, braving the midday sun.

Gloria pouted, "I bet he went inside the house, and I've told him a million times that that's not fair."

With tiny lips pressed together tightly and a severe frown crinkling her forehead, she moved determinedly toward the two-story building up past the driveway.

Too late she heard the rustling sound behind her, followed by the distinctive and rhythmic clump-clump of Robbie's metal feet. She whirled about to see her triumphing companion emerge from hiding and make for the home-tree at full speed.

Gloria shrieked in dismay. "Wait, Robbie! That wasn't fair, Robbie! You promised you wouldn't run until I found you." Her little feet could make no headway at all against Robbie's giant strides. Then, within ten feet of the goal, Robbie's pace slowed suddenly to the merest of crawls, and Gloria, with one final burst of wild speed, dashed pantingly past him to touch the welcome bark of home-tree first.

Gleefully, she turned on the faithful Robbie, and with the basest of ingratitude, rewarded him for his sacrifice by taunting him cruelly for a lack of running ability.

"Robbie can't run," she shouted at the top of her eight-year-old voice. "I can beat him any day. I can beat him any day." She chanted the words in a shrill rhythm.

Robbie didn't answer, of course - not in words. He pantomimed running instead, inching away until Gloria found herself running after him as he dodged her narrowly, forcing her to veer in helpless circles, little arms outstretched and fanning at the air.

"Robbie," she squealed, "stand still!" - And the laughter was forced out of her in breathless jerks.

Until he turned suddenly and caught her up, whirling her round, so that for her the world fell away for a moment with a blue emptiness beneath, and green trees stretching hungrily downward toward the void. Then she was down in the grass again, leaning against Robbie's leg and still holding a hard, metal finger.

After a while, her breath returned. She pushed uselessly at her disheveled hair in vague imitation of one of her mother's gestures and twisted to see if her dress were torn.

She slapped her hand against Robbie's torso, "Bad boy! I'll spank you!"

And Robbie cowered, holding his hands over his face so that she had to add, "No, I won't, Robbie. I won't spank you. But anyway, it's my turn to hide now because you've got longer legs and you promised not to run till I found you."

Robbie nodded his head - a small parallelepiped with rounded edges and corners attached to a similar but much larger parallelepiped that served as torso by means of a short, flexible stalk - and obediently faced the tree. A thin, metal film descended over his glowing eyes and from within his body came a steady, resonant ticking.

"Don't peek now - and don't skip any numbers," warned Gloria, and scurried for cover.

With unvarying regularity, seconds were ticked off, and at the hundredth, up went the eyelids, and the glowing red of Robbie's eyes swept the prospect. They rested for a moment on a bit of colorful gingham that protruded from behind a boulder. He advanced a few steps and convinced himself that it was Gloria who squatted behind it.

Slowly, remaining always between Gloria and home-tree, he advanced on the hiding place, and when Gloria was plainly in sight and could no longer even theorize to herself that she was not seen, he extended one arm toward her, slapping the other against his leg so that it rang again. Gloria emerged sulkily.

"You peeked!" she exclaimed, with gross unfairness. "Besides I'm tired of playing hide-and-seek. I want a ride."

But Robbie was hurt at the unjust accusation, so he seated himself carefully and shook his head ponderously from side to side.

Gloria changed her tone to one of gentle coaxing immediately, "Come on, Robbie. I didn't mean it about the peeking. Give me a ride."

Robbie was not to be won over so easily, though. He gazed stubbornly at the sky, and shook his head even more emphatically.

"Please, Robbie, please give me a ride." She encircled his neck with rosy arms and hugged tightly. Then, changing moods in a moment, she moved away. "If you don't, I'm going to cry," and her face twisted appallingly in preparation.

Hard-hearted Robbie paid scant attention to this dreadful possibility, and shook his head a third time. Gloria found it necessary to play her trump card.

"If you don't," she exclaimed warmly, "I won't tell you any more stories, that's all. Not one-"

Robbie gave in immediately and unconditionally before this ultimatum, nodding his head vigorously until the metal of his neck hummed. Carefully, he raised the little girl and placed her on his broad, flat shoulders.

Gloria's threatened tears vanished immediately and she crowed with delight. Robbie's metal skin, kept at a constant temperature of seventy by the high resistance coils within, felt nice and comfortable, while the beautifully loud sound her heels made as they bumped rhythmically against his chest was enchanting.

"You're an air-coaster, Robbie, you're a big, silver aircoaster. Hold out your arms straight. - You got to, Robbie, if you're going to be an aircoaster."

The logic was irrefutable. Robbie's arms were wings catching the air currents and he was a silver 'coaster.

Gloria twisted the robot's head and leaned to the right. He banked sharply. Gloria equipped the 'coaster with a motor that went "Br-r-r" and then with weapons that went "Powie" and "Sh-sh-shshsh." Pirates were giving chase and the ship's blasters were coming into play. The pirates dropped in a steady rain.

"Got another one. Two more," she cried.

Then "Faster, men," Gloria said pompously, "we're running out of ammunition." She aimed over her shoulder with undaunted courage and Robbie was a blunt-nosed spaceship zooming through the void at maximum acceleration.

Clear across the field he sped, to the patch of tall grass on the other side, where he stopped with a suddenness that evoked a shriek from his flushed rider, and then tumbled her onto the soft, green carpet.

Gloria gasped and panted, and gave voice to intermittent whispered exclamations of "That was nice!"

Robbie waited until she had caught her breath and then pulled gently at a lock of hair.

"You want something?" said Gloria, eyes wide in an apparently artless complexity that fooled her huge "nursemaid" not at all. He pulled the curl harder.

"Oh, I know. You want a story."

Robbie nodded rapidly.

"Which one?"

Robbie made a semi-circle in the air with one finger.

The little girl protested, "Again? I've told you Cinderella a million times. Aren't you tired of it? -It's for babies."

Another semi-circle.

"Oh, well," Gloria composed herself, ran over the details of the tale in her mind (together with her own elaborations, of which she had several) and began:

"Are you ready? Well - once upon a time there was a beautiful little girl whose name was Ella. And she had a terribly cruel step-mother and two very ugly and very cruel step-sisters and-"

Gloria was reaching the very climax of the tale - midnight was striking and everything was changing back to the shabby originals lickety-split, while Robbie listened tensely with burning eyes - when the interruption came.

"Gloria!"

It was the high-pitched sound of a woman who has been calling not once, but several times; and had the nervous tone of one in whom anxiety was beginning to overcome impatience.

"Mamma's calling me," said Gloria, not quite happily. "You'd better carry me back to the house, Robbie."

Robbie obeyed with alacrity for somehow there was that in him which judged it best to obey Mrs. Weston, without as much as a scrap of hesitation. Gloria's father was

rarely home in the daytime except on Sunday - today, for instance - and when he was, he proved a genial and understanding person. Gloria's mother, however, was a source of uneasiness to Robbie and there was always the impulse to sneak away from her sight.

Mrs. Weston caught sight of them the minute they rose above the masking tufts of long grass and retired inside the house to wait.

"I've shouted myself hoarse, Gloria," she said, severely. "Where were you?"

"I was with Robbie," quavered Gloria. "I was telling him Cinderella, and I forgot it was dinner-time."

"Well, it's a pity Robbie forgot, too." Then, as if that reminded her of the robot's presence, she whirled upon him. "You may go, Robbie. She doesn't need you now." Then, brutally, "And don't come back till I call you."

Robbie turned to go, but hesitated as Gloria cried out in his defense, "Wait, Mamma, you got to let him stay. I didn't finish Cinderella for him. I said I would tell him Cinderella and I'm not finished."

"Gloria!"

"Honest and truly, Mamma, he'll stay so quiet, you won't even know he's here. He can sit on the chair in the corner, and he won't say a word, I mean he won't do anything. Will you, Robbie?"

Robbie, appealed to, nodded his massive head up and down once.

"Gloria, if you don't stop this at once, you shan't see Robbie for a whole week."

The girl's eyes fell, "All right! But Cinderella is his favorite story and I didn't finish it. -And he likes it so much."

The robot left with a disconsolate step and Gloria choked back a sob.

George Weston was comfortable. It was a habit of his to be comfortable on Sunday afternoons. A good, hearty dinner below the hatches; a nice, soft, dilapidated couch on which to sprawl; a copy of the Times; slippered feet and shirtless chest; how could anyone help but be comfortable?

He wasn't pleased, therefore, when his wife walked in. After ten years of married life, he still was so unutterably foolish as to love her, and there was no question that he was always glad to see her - still Sunday afternoons just after dinner were sacred to him and his idea of solid comfort was to be left in utter solitude for two or three hours. Consequently, he fixed his eye firmly upon the latest reports of the Lefebvre-Yoshida expedition to Mars (this one was to take off from Lunar Base and might actually succeed) and pretended she wasn't there.

Mrs. Weston waited patiently for two minutes, then impatiently for two more, and finally broke the silence.

"George!"

"Hmpph?"

"George, I say! Will you put down that paper and look at me?"

The paper rustled to the floor and Weston turned a weary face toward his wife, "What is it, dear?"

"You know what it is, George. It's Gloria and that terrible machine."

"What terrible machine?"

"Now don't pretend you don't know what I'm talking about. It's that robot Gloria calls Robbie. He doesn't leave her for a moment."

"Well, why should he? He's not supposed to. And he certainly isn't a terrible machine. He's the best darn robot money can buy and I'm damned sure he set me back half a year's income. He's worth it, though - darn sight cleverer than half my office staff."

He made a move to pick up the paper again, but his wife was quicker and snatched it away.

"You listen to me, George. I won't have my daughter entrusted to a machine - and I don't care how clever it is. It has no soul, and no one knows what it may be thinking. A child just isn't made to be guarded by a thing of metal."

Weston frowned, "When did you decide this? He's been with Gloria two years now and I haven't seen you worry till now."

"It was different at first. It was a novelty; it took a load off me, and - and it was a fashionable thing to do. But now I don't know. The neighbors-"

"Well, what have the neighbors to do with it? Now, look. A robot is infinitely more to be trusted than a human nursemaid. Robbie was constructed for only one purpose really - to be the companion of a little child. His entire 'mentality' has been created for the purpose. He just can't help being faithful and loving and kind. He's a machine-made so. That's more than you can say for humans."

"But something might go wrong. Some- some-" Mrs. Weston was a bit hazy about the insides of a robot, "some little jigger will come loose and the awful thing will go berserk and- and-" She couldn't bring herself to complete the quite obvious thought.

"Nonsense," Weston denied, with an involuntary nervous shiver. "That's completely ridiculous. We had a long discussion at the time we bought Robbie about the First Law of Robotics. You know that it is impossible for a robot to harm a human being; that long before enough can go wrong to alter that First Law, a robot would be completely inoperable. It's a mathematical impossibility. Besides I have an engineer from U. S. Robots here twice a year to give the poor gadget a complete overhaul. Why, there's no more chance of any thing at all going wrong with Robbie than there is of you or I suddenly going loony - considerably less, in fact. Besides, how are you going to take him away from Gloria?"

He made another futile stab at the paper and his wife tossed it angrily into the next room.

"That's just it, George! She won't play with anyone else. There are dozens of little boys and girls that she should make friends with, but she won't. She won't go near them unless I make her. That's no way for a little girl to grow up. You want her to be normal, don't you? You want her to be able to take her part in society."

"You're jumping at shadows, Grace. Pretend Robbie's a dog. I've seen hundreds of children who would rather have their dog than their father."

"A dog is different, George. We must get rid of that horrible thing. You can sell it back to the company. I've asked, and you can."

"You've asked? Now look here, Grace, let's not go off the deep end. We're keeping the robot until Gloria is older and I don't want the subject brought up again." And with that he walked out of the room in a huff.

Mrs. Weston met her husband at the door two evenings later. "You'll have to listen to this, George. There's bad feeling in the village."

"About what?" asked Weston? He stepped into the washroom and drowned out any possible answer by the splash of water.

Mrs. Weston waited. She said, "About Robbie."

Weston stepped out, towel in hand, face red and angry, "What are you talking about?"

"Oh, it's been building up and building up. I've tried to close my eyes to it, but I'm not going to any more. Most of the villagers consider Robbie dangerous. Children aren't allowed to go near our place in the evenings."

"We trust our child with the thing."

"Well, people aren't reasonable about these things."

"Then to hell with them."

"Saying that doesn't solve the problem. I've got to do my shopping down there. I've got to meet them every day. And it's even worse in the city these days when it comes to robots. New York has just passed an ordinance keeping all robots off the streets between sunset and sunrise."

"All right, but they can't stop us from keeping a robot in our home. Grace, this is one of your campaigns. I recognize it. But it's no use. The answer is still, no! We're keeping Robbie!"

And yet he loved his wife - and what was worse, his wife knew it. George Weston, after all, was only a man - poor thing - and his wife made full use of every device which a clumsier and more scrupulous sex has learned, with reason and futility, to fear.

Ten times in the ensuing week, he cried, "Robbie stays, and that's final!" and each time it was weaker and accompanied by a louder and more agonized groan.

Came the day at last, when Weston approached his daughter guiltily and suggested a "beautiful" visivox show in the village.

Gloria clapped her hands happily, "Can Robbie go?"

"No, dear," he said, and winced at the sound of his voice, "they won't allow robots at the visivox - but you can tell him all about it when you get home." He stumbled all over the last few words and looked away.

Gloria came back from town bubbling over with enthusiasm, for the visivox had been a gorgeous spectacle indeed.

She waited for her father to maneuver the jet-car into the sunken garage, "Wait till I tell Robbie, Daddy. He would have liked it like anything. Especially when Francis Fran was backing away so-o-o quietly, and backed right into one of the Leopard-Men and had to run." She laughed again, "Daddy, are there really Leopard-Men on the Moon?"

"Probably not," said Weston absently. "It's just funny make-believe." He couldn't take much longer with the car. He'd have to face it.

Gloria ran across the lawn. "Robbie. -Robbie!"

Then she stopped suddenly at the sight of a beautiful collie which regarded her out of serious brown eyes as it wagged its tail on the porch.

"Oh, what a nice dog!" Gloria climbed the steps, approached cautiously and patted it. "Is it for me, Daddy?"

Her mother had joined them. "Yes, it is, Gloria. Isn't it nice - soft and furry? It's very gentle. It likes little girls."

"Can he play games?"

"Surely. He can do any number of tricks. Would you like to see some?"

"Right away. I want Robbie to see him, too. Robbie!" She stopped, uncertainly, and frowned, "I'll bet he's just staying in his room because he's mad at me for not taking him to the visivox. You'll have to explain to him, Daddy. He might not believe me, but he knows if you say it, it's so."

Weston's lip grew tighter. He looked toward his wife but could not catch her eye.

Gloria turned precipitously and ran down the basement steps, shouting as she went, "Robbie- Come and see what Daddy and Mamma brought me. They brought me a dog, Robbie."

In a minute she had returned, a frightened little girl. "Mamma, Robbie isn't in his room. Where is he?" There was no answer and George Weston coughed and was suddenly extremely interested in an aimlessly drifting cloud. Gloria's voice quavered on the verge of tears, "Where's Robbie, Mamma?"

Mrs. Weston sat down and drew her daughter gently to her, "Don't feel bad, Gloria. Robbie has gone away, I think."

"Gone away? Where? Where's he gone away, Mamma?"

"No one knows, darling. He just walked away. We've looked and we've looked and we've looked for him, but we can't find him."

"You mean he'll never come back again?" Her eyes were round with horror.

"We may find him soon. We'll keep looking for him. And meanwhile you can play with your nice new doggie. Look at him! His name is Lightning and he can-"

But Gloria's eyelids had overflowed, "I don't want the nasty dog - I want Robbie. I want you to find me Robbie." Her feelings became too deep for words, and she spluttered into a shrill wail.

Mrs. Weston glanced at her husband for help, but he merely shuffled his feet morosely and did not withdraw his ardent stare from the heavens, so she bent to the task of consolation, "Why do you cry, Gloria? Robbie was only a machine, just a nasty old machine. He wasn't alive at all."

"He was not no machine!" screamed Gloria, fiercely and ungrammatically. "He was a person just like you and me and he was my friend. I want him back. Oh, Mamma, I want him back."

Her mother groaned in defeat and left Gloria to her sorrow.

"Let her have her cry out," she told her husband. "Childish griefs are never lasting. In a few days, she'll forget that awful robot ever existed."

But time proved Mrs. Weston a bit too optimistic. To be sure, Gloria ceased crying, but she ceased smiling, too, and the passing days found her ever more silent and shadowy. Gradually, her attitude of passive unhappiness wore Mrs. Weston down and all that kept her from yielding was the impossibility of admitting defeat to her husband.

Then, one evening, she flounced into the living room, sat down, folded her arms and looked boiling mad.

Her husband stretched his neck in order to see her over his newspaper, "What now, Grace?"

"It's that child, George. I've had to send back the dog today. Gloria positively couldn't stand the sight of him, she said. She's driving me into a nervous breakdown."

Weston laid down the paper and a hopeful gleam entered his eye, "Maybe- Maybe we ought to get Robbie back. It might be done, you know. I can get in touch with-"

"No!" she replied, grimly. "I won't hear of it. We're not giving up that easily. My child shall not be brought up by a robot if it takes years to break her of it."

Weston picked up his paper again with a disappointed air. "A year of this will have me prematurely gray."

"You're a big help, George," was the frigid answer. "What Gloria needs is a change of environment? Of course she can't forget Robbie here. How can she when every tree and rock reminds her of him? It is really the silliest situation I have ever heard of. Imagine a child pining away for the loss of a robot."

"Well, stick to the point. What's the change in environment you're planning?"

"We're going to take her to New York."

"The city! In August! Say, do you know what New York is like in August? It's unbearable."

"Millions do bear it."

"They don't have a place like this to go to. If they didn't have to stay in New York, they wouldn't."

"Well, we have to. I say we're leaving now - or as soon as we can make the arrangements. In the city, Gloria will find sufficient interests and sufficient friends to perk her up and make her forget that machine."

"Oh, Lord," groaned the lesser half, "those frying pavements!"

"We have to," was the unshaken response. "Gloria has lost five pounds in the last month and my little girl's health is more important to me than your comfort."

"It's a pity you didn't think of your little girl's health before you deprived her of her pet robot," he muttered - but to himself.

Gloria displayed immediate signs of improvement when told of the impending trip to the city. She spoke little of it, but when she did, it was always with lively anticipation. Again, she began to smile and to eat with something of her former appetite.

Mrs. Weston hugged herself for joy and lost no opportunity to triumph over her still skeptical husband.

"You see, George, she helps with the packing like a little angel, and chatters away as if she hadn't a care in the world. It's just as I told you - all we need do is substitute other interests."

"Hmpph," was the skeptical response, "I hope so."

Preliminaries were gone through quickly. Arrangements were made for the preparation of their city home and a couple were engaged as housekeepers for the country home. When the day of the trip finally did come, Gloria was all but her old self again, and no mention of Robbie passed her lips at all.

In high good-humor the family took a taxi-gyro to the airport (Weston would have preferred using his own private 'gyro, but it was only a two-seater with no room for baggage) and entered the waiting liner.

"Come, Gloria," called Mrs. Weston. "I've saved you a seat near the window so you can watch the scenery."

Gloria trotted down the aisle cheerily, flattened her nose into a white oval against the thick clear glass, and watched with an intentness that increased as the sudden coughing of the motor drifted backward into the interior. She was too young to be frightened when the ground dropped away as if let through a trap door and she herself suddenly became twice her usual weight, but not too young to be mightily interested. It wasn't until the ground had changed into a tiny patchwork quilt that she withdrew her nose, and faced her mother again.

"Will we soon be in the city, Mamma?" she asked, rubbing her chilled nose, and watching with interest as the patch of moisture which her breath had formed on the pane shrank slowly and vanished.

"In about half an hour, dear." Then, with just the faintest trace of anxiety, "Aren't you glad we're going? Don't you think you'll be very happy in the city with all the buildings and people and things to see? We'll go to the visivox every day and see shows and go to the circus and the beach and-"

"Yes, Mamma," was Gloria's unenthusiastic rejoinder. The liner passed over a bank of clouds at the moment, and Gloria was instantly absorbed in the usual spectacle of clouds underneath one. Then they were over clear sky again, and she turned to her mother with a sudden mysterious air of secret knowledge.

"I know why we're going to the city, Mamma."

"Do you?" Mrs. Weston was puzzled. "Why, dear?"

"You didn't tell me because you wanted it to be a surprise, but I know." For a moment, she was lost in admiration at her own acute penetration, and then she laughed gaily. "We're going to New York so we can find Robbie, aren't we? -With detectives."

The statement caught George Weston in the middle of a drink of water, with disastrous results. There was a sort of strangled gasp, a geyser of water, and then a bout of choking coughs. When all was over, he stood there, a red-faced, water-drenched and very, very annoyed person.

Mrs. Weston maintained her composure, but when Gloria repeated her question in a more anxious tone of voice, she found her temper rather bent.

"Maybe," she retorted, tartly. "Now sit and be still, for Heaven's sake."

New York City, 1998 A.D., was a paradise for the sightseer more than ever in its history. Gloria's parents realized this and made the most of it.

On direct orders from his wife, George Weston arranged to have his business take care of itself for a month or so, in order to be free to spend the time in what he termed, "dissipating Gloria to the verge of ruin." Like everything else Weston did, this was gone about in an efficient, thorough, and business-like way. Before the month had passed, nothing that could be done had not been done.

She was taken to the top of the half-mile tall Roosevelt Building, to gaze down in awe upon the jagged panorama of rooftops that blended far off in the fields of Long Island and the flatlands of New Jersey. They visited the zoos where Gloria stared in delicious fright at the "real live lion" (rather disappointed that the keepers fed him raw steaks, instead of human beings, as she had expected), and asked insistently and peremptorily to see "the whale."

The various museums came in for their share of attention, together with the parks and the beaches and the aquarium.

She was taken halfway up the Hudson in an excursion steamer fitted out in the archaism of the mad Twenties. She traveled into the stratosphere on an exhibition trip, where the sky turned deep purple and the stars came out and the misty earth below looked like a huge concave bowl. Down under the waters of the Long Island Sound she was taken in a glass-walled sub-sea vessel, where in a green and wavering world, quaint and curious sea-things ogled her and wiggled suddenly away.

On a more prosaic level, Mrs. Weston took her to the department stores where she could revel in another type of fairyland.

In fact, when the month had nearly sped, the Westons were convinced that everything conceivable had been done to take Gloria's mind once and for all off the departed Robbie - but they were not quite sure they had succeeded.

The fact remained that wherever Gloria went, she displayed the most absorbed and concentrated interest in such robots as happened to be present. No matter how exciting the spectacle before her, nor how novel to her girlish eyes, she turned away instantly if the corner of her eye caught a glimpse of metallic movement.

Mrs. Weston went out of her way to keep Gloria away from all robots.

And the matter was finally climaxed in the episode at the Museum of Science and Industry. The Museum had announced a special "children's program" in which exhibits of scientific witchery scaled down to the child mind were to be shown. The Westons, of course, placed it upon their list of "absolutely."

It was while the Westons were standing totally absorbed in the exploits of a powerful electro-magnet that Mrs. Weston suddenly became aware of the fact that Gloria was no longer with her. Initial panic gave way to calm decision and, enlisting the aid of three attendants, a careful search was begun.

Gloria, of course, was not one to wander aimlessly, however. For her age, she was an unusually determined and purposeful girl, quite full of the maternal genes in that

respect. She had seen a huge sign on the third floor, which had said, "This Way to the Talking Robot" Having spelled it out to herself and having noticed that her parents did not seem to wish to move in the proper direction, she did the obvious thing. Waiting for an opportune moment of parental distraction, she calmly disengaged herself and followed the sign.

The Talking Robot was a tour de force, a thoroughly impractical device, possessing publicity value only. Once an hour, an escorted group stood before it and asked questions of the robot engineer in charge in careful whispers. Those the engineer decided were suitable for the robot's circuits were transmitted to the Talking Robot.

It was rather dull. It may be nice to know that the square of fourteen is one hundred ninety-six, that the temperature at the moment is 72 degrees Fahrenheit, and the air-pressure 30.02 inches of mercury, that the atomic weight of sodium is 23, but one doesn't really need a robot for that. One especially does not need an unwieldy, totally immobile mass of wires and coils spreading over twenty-five square yards.

Few people bothered to return for a second helping, but one girl in her middle teens sat quietly on a bench waiting for a third. She was the only one in the room when Gloria entered.

Gloria did not look at her. To her at the moment, another human being was but an inconsiderable item. She saved her attention for this large thing with the wheels. For a moment, she hesitated in dismay. It didn't look like any robot she had ever seen.

Cautiously and doubtfully she raised her treble voice; "Please, Mr. Robot, sir, are you the Talking Robot, sir?" She wasn't sure, but it seemed to her that a robot that actually talked was worth a great deal of politeness.

(The girl in her mid-teens allowed a look of intense concentration to cross her thin, plain face. She whipped out a small notebook and began writing in rapid pothooks.)

There was an oily whirl of gears and a mechanically timbered voice boomed out in words that lacked accent and intonation, "I- am- the- robot- that- talks."

Gloria stared at it ruefully. It did talk, but the sound came from inside somewheres. There was no face to talk to. She said, "Can you help me, Mr. Robot, sir?"

The Talking Robot was designed to answer questions, and only such questions as it could answer had ever been put to it. It was quite confident of its ability, therefore, "I- can- help- you."

"Thank you, Mr. Robot, sir. Have you seen Robbie?"

"Who -is Robbie?"

"He's a robot, Mr. Robot, sir." She stretched to tiptoes. "He's about so high, Mr. Robot, sir, only higher, and he's very nice. He's got a head, you know. I mean you haven't, but he has, Mr. Robot, sir."

The Talking Robot had been left behind, "A- robot?"

"Yes, Mr. Robot, sir. A robot just like you, except he can't talk, of course, and - looks like a real person."

"A- robot- like- me?"

"Yes, Mr. Robot, sir."

To which the Talking Robot's only response was an erratic splutter and an occasional incoherent sound. The radical generalization offered it, i.e., its existence, not as a particular object, but as a member of a general group, was too much for it. Loyally, it tried to encompass the concept and half a dozen coils burnt out. Little warning signals were buzzing.

(The girl in her mid-teens left at that point. She had enough for her Physics-1 paper on "Practical Aspects of Robotics." This paper was Susan Calvin's first of many on the subject.)

Gloria stood waiting, with carefully concealed impatience, for the machine's answer when she heard the cry behind her of "There she is," and recognized that cry as her mother's.

"What are you doing here, you bad girl?" cried Mrs. Weston, anxiety dissolving at once into anger. "Do you know you frightened your mamma and daddy almost to death? Why did you run away?"

The robot engineer had also dashed in, tearing his hair, and demanding who of the gathering crowd had tampered with the machine. "Can't anybody read signs?" he yelled. "You're not allowed in here without an attendant."

Gloria raised her grieved voice over the din, "I only came to see the Talking Robot, Mamma. I thought he might know where Robbie was because they're both robots." And then, as the thought of Robbie was suddenly brought forcefully home to her, she burst into a sudden storm of tears, "And I got to find Robbie, Mamma. I got to."

Mrs. Weston strangled a cry, and said, "Oh, good Heavens. Come home, George. This is more than I can stand."

That evening, George Weston left for several hours, and the next morning, he approached his wife with something that looked suspiciously like smug complacency.

"I've got an idea, Grace."

"About what?" was the gloomy, uninterested query?

"About Gloria."

"You're not going to suggest buying back that robot?"

"No, of course not."

"Then go ahead. I might as well listen to you. Nothing I've done seems to have done any good."

"All right. Here's what I've been thinking. The whole trouble with Gloria is that she thinks of Robbie as a person and not as a machine. Naturally, she can't forget him. Now if we managed to convince her that Robbie was nothing more than a mess of steel and copper in the form of sheets and wires with electricity its juice of life, how long would her longings last? It's the psychological attack, if you see my point."

"How do you plan to do it?"

"Simple. Where do you suppose I went last night? I persuaded Robertson of U. S. Robots and Mechanical Men, Inc. to arrange for a complete tour of his premises tomorrow. The three of us will go, and by the time we're through, Gloria will have it drilled into her that a robot is not alive."

Mrs. Weston's eyes widened gradually and something glinted in her eyes that was quite like sudden admiration, "Why, George, that's a good idea."

And George Weston's vest buttons strained. "Only kind I have," he said.

Mr. Struthers was a conscientious General Manager and naturally inclined to be a bit talkative. The combination, therefore, resulted in a tour that was fully explained, perhaps even over-abundantly explained, at every step. However, Mrs. Weston was not bored. Indeed, she stopped him several times and begged him to repeat his statements in simpler language so that Gloria might understand. Under the influence of this appreciation of his narrative powers, Mr. Struthers expanded genially and became ever more communicative, if possible.

George Weston, himself, showed a gathering impatience.

"Pardon me, Struthers," he said, breaking into the middle of a lecture on the photoelectric cell, "haven't you a section of the factory where only robot labor is employed?"

"Eh? Oh, yes! Yes, indeed!" He smiled at Mrs. Weston. "A vicious circle in a way, robots creating more robots. Of course, we are not making a general practice out of it. For one thing, the unions would never let us. But we can turn out a very few robots using robot labor exclusively, merely as a sort of scientific experiment. You see," he tapped his pince-nez into one palm argumentatively, "what the labor unions don't realize - and I say this as a man who has always been very sympathetic with the labor movement in general - is that the advent of the robot, while involving some dislocation to begin with, will inevitably -"

"Yes, Struthers," said Weston, "but about that section of the factory you speak of - may we see it? It would be very interesting, I'm sure."

"Yes! Yes, of course!" Mr. Struthers replaced his pince-nez in one convulsive movement and gave vent to a soft cough of discomfiture. "Follow me, please."

He was comparatively quiet while leading the three through a long corridor and down a flight of stairs. Then, when they had entered a large well-lit room that buzzed with metallic activity, the sluices opened and the flood of explanation poured forth again.

"There you are!" he said with pride in his voice. "Robots only! Five men act as overseers and they don't even stay in this room. In five years, that is, since we began this project, not a single accident has occurred. Of course, the robots here assembled are comparatively simple, but. . ."

The General Manager's voice had long died to a rather soothing murmur in Gloria's ears. The whole trip seemed rather dull and pointless to her, though there were many robots in sight. None were even remotely like Robbie, though, and she surveyed them with open contempt.

In this room, there weren't any people at all, she noticed. Then her eyes fell upon six or seven robots busily engaged at a round table halfway across the room. They widened in incredulous surprise. It was a big room. She couldn't see for sure, but one of the robots looked like - looked like - it was!

"Robbie!" Her shriek pierced the air, and one of the robots about the table faltered and dropped the tool he was holding. Gloria went almost mad with joy. Squeezing through the railing before either parent could stop her, she dropped lightly to the floor a few feet below, and ran toward her Robbie, arms waving and hair flying.

And the three horrified adults, as they stood frozen in their tracks, saw what the excited little girl did not see, - a huge, lumbering tractor bearing blindly down upon its appointed track.

It took split-seconds for Weston to come to his senses, and those split-seconds meant everything, for Gloria could not be overtaken. Although Weston vaulted the railing in a wild attempt, it was obviously hopeless. Mr. Struthers signaled wildly to the overseers to stop the tractor, but the overseers were only human and it took time to act.

It was only Robbie that acted immediately and with precision.

With metal legs eating up the space between himself and his little mistress he charged down from the opposite direction. Everything then happened at once. With one sweep of an arm, Robbie snatched up Gloria, slackening his speed not one iota, and, consequently, knocking every breath of air out of her. Weston, not quite comprehending all that was happening, felt, rather than saw, Robbie brush past him, and came to a sudden bewildered halt. The tractor intersected Gloria's path half a second after Robbie had, rolled on ten feet further and came to a grinding, long drawn-out stop.

Gloria regained her breath, submitted to a series of passionate hugs on the part of both her parents and turned eagerly toward Robbie. As far as she was concerned, nothing had happened except that she had found her friend.

But Mrs. Weston's expression had changed from one of relief to one of dark suspicion. She turned to her husband, and, despite her disheveled and undignified appearance, managed to look quite formidable, "You engineered this, didn't you?"

George Weston swabbed at a hot forehead with his handkerchief. His hand was unsteady, and his lips could curve only into a tremulous and exceedingly weak smile.

Mrs. Weston pursued the thought, "Robbie wasn't designed for engineering or construction work. He couldn't be of any use to them. You had him placed there deliberately so that Gloria would find him. You know you did."

"Well, I did," said Weston. "But, Grace, how was I to know the reunion would be so violent? And Robbie has saved her life; you'll have to admit that. You can't send him away again."

Grace Weston considered. She turned toward Gloria and Robbie and watched them abstractedly for a moment. Gloria had a grip about the robot's neck that would have asphyxiated any creature but one of metal, and was prattling nonsense in half-hysterical frenzy. Robbie's chrome-steel arms (capable of bending a bar of steel two inches in diameter into a pretzel) wound about the little girl gently and lovingly, and his eyes glowed a deep, deep red.

"Well," said Mrs. Weston, at last, "I guess he can stay with us until he rusts."

SOME HUMANOID ROBOTS

In science fiction it is not uncommon to have a robot built with a surface, at least, of synthetic flesh; and an appearance that is, at best, indistinguishable from the human being. Sometimes such humanoid robots are called "androids" (from a Greek term meaning "manlike") and some writers are meticulous in making the distinction. I am not. To me a robot is a robot.

But then, Karel Capek's play R.U.R., which introduced the term "robot" to the world in 1920, did not involve robots in the strictest sense of the word. The robots manufactured by Rossum's Universal Robots (the "R.U.R." of the title) were androids.

One of the three stories in this section, "Let's Get Together," is the only story in the book in which robots don't actually appear, and "Mirror Image" is a sequel (of sorts) to my robot novels THE CAVES OF STEEL and THE NAKED SUN.

LET'S GET TOGETHER

A kind of peace had endured for a century and people had forgotten what anything else was like. They would scarcely have known how to react had they discovered that a kind of war had finally come.

Certainly, Elias Lynn, Chief of the Bureau of Robotics, wasn't sure how he ought to react when he finally found out. The Bureau of Robotics was headquartered in Cheyenne, in line with the century-old trend toward decentralization, and Lynn stared dubiously at the young Security officer from Washington who had brought the news.

Elias Lynn was a large man, almost charmingly homely, with pale blue eyes that bulged a bit. Men weren't usually comfortable under the stare of those eyes, but the Security officer remained calm.

Lynn decided that his first reaction ought to be incredulity. Hell, it was incredulity! He just didn't believe it!

He eased himself back in his chair and said, "How certain is the information?"

The Security officer, who had introduced himself as Ralph G. Breckenridge and had presented credentials to match, had the softness of youth about him; full lips, plump cheeks that flushed easily, and guileless eyes. His clothing was out of line with Cheyenne but it suited a universally air-conditioned Washington, where Security, despite everything, was still centered.

Breckenridge flushed and said, "There's no doubt about it."

"You people know all about Them, I suppose," said Lynn and was unable to keep a trace of sarcasm out of his tone. He was not particularly aware of his use of a slightly stressed pronoun in his reference to the enemy, the equivalent of capitalization in print. It was a cultural habit of this generation and the one preceding. No one said the "East" or the "Reds" or the "Soviets" or the "Russians" any more. That would have been too confusing, since some of Them weren't of the East, weren't Reds, Soviets, and especially not Russians. It was much simpler to say We and They, and much more precise.

Travelers had frequently reported that They did the same in reverse. Over there, They were "We" (in the appropriate language) and We were "They."

Scarcely anyone gave thought to such things any more. It was all quite comfortable and casual. There was no hatred, even. At the beginning, it had been called a Cold War. Now it was only a game, almost a good-natured game, with unspoken rules and a kind of decency about it.

Lynn said abruptly, "Why should They want to disturb the situation?"

He rose and stood staring at a wall map of the world, split into two regions with faint edgings of color. An irregular portion on the left of the map was edged in a mild green. A smaller, but just as irregular, portion on the right of the map was bordered in a washed-out pink. We and They.

The map hadn't changed much in a century. The loss of Formosa and the gain of East Germany some eighty years before had been the last territorial switch of importance.

There had been another change, though, that was significant enough and that was in the colors. Two generations before, Their territory had been a brooding, bloody red, Ours a pure and undefiled white. Now there was a neutrality about the colors. Lynn had seen Their maps and it was the same on Their side.

"They wouldn't do it," he said.

"They are doing it, " said Breckenridge, "and you had better accustom yourself to the fact. Of course, sir, I realize that it isn't pleasant to think that They may be that far ahead of us in robotics."

His eyes remained as guileless as ever, but the hidden knife-edges of the words plunged deep, and Lynn quivered at the impact.

Of course, that would account for why the Chief of Robotics learned of this so late and through a Security officer at that. He had lost caste in the eyes of the Government; if Robotics had really failed in the struggle, Lynn could expect no political mercy.

Lynn said wearily, "Even if what you say is true, They're not far ahead of us. We could build humanoid robots."

"Have we, sir?"

"Yes. As a matter of fact, we have built a few models for experimental purposes."

"They were doing so ten years ago. They've made ten years' progress since."

Lynn was disturbed. He wondered if his incredulity concerning the whole business was really the result of wounded pride and fear for his job and reputation. He was embarrassed by the possibility that this might be so, and yet he was forced into defense.

He said, "Look, young man, the stalemate between Them and Us was never perfect in every detail, you know. They have always been ahead in one facet or another and We in some other facet or another. If They're ahead of us right now in robotics, it's because They've placed a greater proportion of Their effort into robotics than We have. And that means that some other branch of endeavor has received a greater share of Our efforts than it has to Theirs. It would mean We're ahead in force-field research or in hyperatomics, perhaps."

Lynn felt distressed at his own statement that the stalemate wasn't perfect. It was true enough, but that was the one great danger threatening the world. The world depended on the stalemate being as perfect as possible. If the small unevennesses that always existed overbalanced too far in one direction or the other.

Almost at the beginning of what had been the Cold War, both sides had developed thermonuclear weapons, and war became unthinkable. Competition switched from the military to the economic and psychological and had stayed there ever since.

But always there was the driving effort on each side to break the stalemate, to develop a parry for every possible thrust, to develop a thrust that could not be parried in time-something that would make war possible again. And that was not because either side wanted war so desperately, but because both were afraid that the other side would make the crucial discovery first.

For a hundred years each side had kept the struggle even. And in the process, peace had been maintained for a hundred years while, as byproducts of the continuously intensive research, force fields had been produced and solar energy and insect control and robots. Each side was making a beginning in the understanding of mentalics, which was the name given to the biochemistry and biophysics of thought. Each side had its outposts on the Moon and on Mars. Mankind was advancing in giant strides under forced draft.

It was even necessary for both sides to be as decent and humane as possible among themselves, lest through cruelty and tyranny, friends be made for the other side.

It couldn't be that the stalemate would now be broken and that there would be war.

Lynn said, "I want to consult one of my men. I want his opinion.

"Is he trustworthy?"

Lynn looked disgusted. "Good Lord, what man in Robotics has not been investigated and cleared to death by your people? Yes, I vouch for him. If you can't trust a man like Humphrey Carl Laszlo, then we're in no position to face the kind of attack you say They are launching, no matter what else we do."

"I've heard of Laszlo," said Breckenridge. "Good. Does he pass?"

"Yes."

"Then, I'll have him in and we'll find out what he thinks about the possibility that robots could invade the U .S.A."

"Not exactly," said Breckenridge, softly. "You still don't accept the full truth. Find out what he thinks about the fact that robots have already invaded the U.S.A."

Laszlo was the grandson of a Hungarian who had broken through what had then been called the Iron Curtain, and he had a comfortable above-suspicion feeling about himself because of it. He was thick-set and balding with a pugnacious look graven forever on his snub face, but his accent was clear Harvard and he was almost excessively soft-spoken.

To Lynn, who was conscious that after years of administration he was no longer expert in the various phases of modern robotics, Laszlo was a comforting receptacle for complete knowledge. Lynn felt better because of the man's mere presence.

Lynn said, "What do you think?" A scowl twisted Laszlo's face ferociously. "That They're that far ahead of us. Completely incredible. It would mean They've produced humanoids that could not be told from humans at close quarters. It would mean a considerable advance in robo-mentalics."

"You're personally involved," said Breckenridge, coldly. "Leaving professional pride out of account, exactly why is it impossible that They be ahead of Us?"

Laszlo shrugged. "I assure you that I'm well acquainted with Their literature on robotics. I know approximately where They are."

"You know approximately where They want you to think They are, is what you really mean," corrected Breckenridge. "Have you ever visited the other side?"

"I haven't," said Laszlo, shortly. "Nor you, Dr. Lynn?"

Lynn said, "No, I haven't, either."

Breckenridge said, "Has any robotics man visited the other side in twenty-five years?" He asked the question with a kind of confidence that indicated he knew the answer.

For a matter of seconds, the atmosphere was heavy with thought. Discomfort crossed Lazlo's broad face. He said, "As a matter of fact, They haven't held any conferences on robotics in a long time."

"In twenty-five years," said Breckenridge. "Isn't that significant?"

"Maybe," said Laszlo, reluctantly. "Something else bothers me, though. None of Them have ever come to Our conferences on robotics. None that I can remember."

"Were They invited?" asked Breckenridge.

Lynn, staring and worried, interposed quickly, "Of course." Breckenridge said, "Do They refuse attendance to any other types of scientific conferences We hold?"

"I don't know," said Laszlo. He was pacing the floor now. "I haven't heard of any cases. Have you, Chief?"

"No," said Lynn.

Breckenridge said, "Wouldn't you say it was as though They didn't want to be put in the position of having to return any such invitation? Or as though They were afraid one of Their men might talk too much?"

That was exactly how it seemed, and Lynn felt a helpless conviction that Security's story was true after all steal over him.

Why else had there been no contact between sides on robotics? There had been a cross-fertilizing trickle of researchers moving in both directions on a strictly one-for-one basis for years, dating back to the days of Eisenhower and Krushchev. There were a great many good motives for that: an honest appreciation of the supranational character of science; impulses of friendliness that are hard to wipe out completely in the individual human being; the desire to be exposed to a fresh and interesting outlook and to have your own slightly stale notions greeted by others as fresh and interesting.

The governments themselves were anxious that this continue. There was always the obvious thought that by learning all you could and telling as little as you could, your own side would gain by the exchange.

But not in the case of robotics. Not there.

Such a little thing to carry conviction. And a thing, moreover, they had known all along. Lynn thought darkly: We've taken the complacent way out.

Because the other side had done nothing publicly on robotics, it had been tempting to sit back smugly and be comfortable in the assurance of superiority. Why hadn't it seemed possible, even likely, that They were hiding superior cards, a trump hand, for the proper time?

Laszlo said shakenly, "What do we do?" It was obvious that the same line of thought had carried the same conviction to him.

"Do?" parroted Lynn. It was hard to think right now of anything but the complete horror that came with conviction. There were ten humanoid robots somewhere in the United States, each one carrying a fragment of a TC bomb.

TC! The race for sheer horror in bombery had ended there. TCI Total Conversion! The sun was no longer a synonym one could use. Total conversion made the sun a penny candle.

Ten humanoids, each completely harmless in separation, could, by the simple act of coming together, exceed critical mass and Lynn rose to his feet heavily, the dark pouches under his eyes, which ordinarily lent his ugly face a look of savage foreboding, more prominent than ever. "It's going to be up to us to figure out ways and means of telling a humanoid from a human and then finding the humanoids."

"How quickly?" muttered Laszlo.

"Not later than five minutes before they get together," barked Lynn, "and I don't know when that will be."

Breckenridge nodded. "I'm glad you're with us now, sir, I'm to bring you back to Washington for conference, you know."

Lynn raised his eyebrows. "All right."

He wondered if, had he delayed longer in being convinced, he might not have been replaced forthwith-if some other Chief of the Bureau of Robotics might not be conferring in Washington. He suddenly wished earnestly that exactly that had come to pass.

The First Presidential Assistant was there, the Secretary of Science, the Secretary of Security, Lynn himself, and Breckenridge. Five of them sitting about a table in the dungeons of an underground fortress near Washington.

Presidential Assistant Jeffreys was an impressive man, handsome in a white-haired and just-a-trifle-jowly fashion, solid, thoughtful and as unobtrusive, politically, as a Presidential Assistant ought to be.

He spoke incisively. "There are three questions that face us as I see it. First, when are the humanoids going to get together? Second, where are they going to get together? Third, how do we stop them before they get together?"

Secretary of Science Amberley nodded convulsively at that. He had been Dean of Northwestern Engineering before his appointment. He was thin, sharp-featured and noticeably edgy. His forefinger traced slow circles on the table.

"As far as when they'll get together," he said. "I suppose it's definite that it won't be for some time."

"Why do you say that?" asked Lynn sharply.

"They've been in the U.S. at least a month already. So Security says."

Lynn turned automatically to look at Breckenridge, and Secretary of Security Macalaster intercepted the glance. Macalaster said, "The information is reliable. Don't let Breckenridge's apparent youth fool you, Dr. Lynn. That's part of his value to us. Actually, he's thirty-four and has been with the department for ten years. He has been in Moscow

for nearly a year and without him, none of this terrible danger would be known to us. As it is, we have most of the details."

"Not the crucial ones," said Lynn.

Macalaster of Security smiled frostily. His heavy chin and close-set eyes were well-known to the public but almost nothing else about him was. He said, "We are all finitely human, Dr. Lynn. Agent Breckenridge has done a great deal."

Presidential Assistant Jeffreys cut in. "Let us say we have a certain amount of time. If action at the instant were necessary, it would have happened before this. It seems likely that they are waiting for a specific time. If we knew the place, perhaps the time would become self-evident.

"If they are going to TC a target, they will want to cripple us as much as possible, so it would seem that a major city would have to be it. In any case, a major metropolis is the only target worth a TC bomb. I think there are four possibilities: Washington, as the administrative center; New York, as the financial center; and Detroit and Pittsburgh as the two chief industrial centers."

Macalaster of Security said, "I vote for New York. Administration and industry have both been decentralized to the point where the destruction of anyone particular city won't prevent instant retaliation."

"Then why New York?" asked Amberly of Science, perhaps more sharply than he intended. "Finance has been decentralized as well."

"A question of morale. It may be they intend to destroy our will to resist, to induce surrender by the sheer horror of the first blow. The greatest destruction of human life would be in the New York Metropolitan area-"

"Pretty cold-blooded," muttered Lynn. "I know," said Macalaster of Security, "but they're capable of it, if they thought it would mean final victory at a stroke. Wouldn't we-"

Presidential Assistant Jeffreys brushed back his white hair. "Let's assume the worst. Let's assume that New York will be destroyed some time during the winter, preferably immediately after a serious blizzard when communications are at their worst and the disruption of utilities and food supplies in fringe areas will be most serious in their effect. Now, how do we stop them?"

Amberley of Science could only say, "Finding ten men in two hundred and twenty million is an awfully small needle in an awfully large haystack."

Jeffreys shook his head. "You have it wrong. Ten humanoids among two hundred twenty million humans."

"No difference," said Amberley of Science. "We don't know that a humanoid can be differentiated from a human at sight. Probably not." He looked at Lynn. They all did.

Lynn said heavily, "We in Cheyenne couldn't make one that would pass as human in the daylight."

"But They can," said Macalaster of Security, "and not only physically. We're sure of that. They've advanced mentalic procedures to the point where They can reel off the micro-electronic pattern of the brain and focus it on the positronic pathways of the robot."

Lynn stared. "Are you implying that They can create the replica of a human being complete with personality and memory?"

"I am."

"Of specific human beings?"

"That's right."

"Is this also based on Agent Breckenridge's findings?"

"Yes. The evidence can't be disputed."

Lynn bent his head in thought for a moment. Then he said, "Then ten men in the United States are not men but humanoids. But the originals would have had to be available to them. They couldn't be Orientals, who would be too easy to spot, so they would have to be East Europeans. How would they be introduced into this country, then? With the radar network over the entire world border as tight as a drum, how could They introduce any individual, human or humanoid, without our knowing it?"

Macalaster of Security said, "It can be done. There are certain legitimate seepages across the border. Businessmen, pilots, even tourists. They're watched, of course, on both sides. Still ten of them might have been kidnaped and used as models for humanoids. The humanoids would then be sent back in their place. Since we wouldn't expect such a substitution, it would pass us by. If they were Americans to begin with, there would be no difficulty in their getting into this country. It's as simple as that."

"And even their friends and family could not tell the difference?"

"We must assume so. Believe me, we've been waiting for any report that might imply sudden attacks of amnesia or troublesome changes in personality. We've checked on thousands."

Amberley of Science stared at his finger tips. "I think ordinary measures won't work. The attack must come from the Bureau of Robotics and I depend on the chief of that bureau." Again eyes turned sharply, expectantly, on Lynn. Lynn felt bitterness rise. It seemed to him that this was what the conference came to and was intended for. Nothing that had been said had not been said before. He was sure of that. There was no solution to the problem, no pregnant suggestion. It was a device for the record, a device on the part of men who gravely feared defeat and who wished the responsibility for it placed clearly and unequivocally on someone else.

And yet there was justice in it. It was in robotics that We had fallen short. And Lynn was not Lynn merely. He was Lynn of Robotics and the responsibility had to be his.

He said, "I will do what I can."

He spent a wakeful night and there was a haggardness about both body and soul when he sought and attained another interview with Presidential Assistant Jeffreys the next morning. Breckenridge was there, and though Lynn would have preferred a private conference, he could see the justice in the situation. It was obvious that Breckenridge had attained enormous influence with the government as a result of his successful Intelligence work. Well, why not?

Lynn said, "Sir, I am considering the possibility that we are hopping uselessly to enemy piping."

"In what way?"

"I'm sure that however impatient the public may grow at times, and however legislators sometimes find it expedient to talk, the government at least recognizes the world stalemate to be beneficial. They must recognize it also. Ten humanoids with one TC bomb is a trivial way of breaking the stalemate."

"The destruction of fifteen million human beings is scarcely trivial."

"It is from the world power standpoint. It would not so demoralize us to make us surrender or so cripple us as to convince us we could not win. There would just be the same old planetary death war that both sides have avoided so long and so successfully. And all They would have accomplished is to force us to fight minus one city. It's not enough."

"What do you suggest?" said Jeffreys coldly. "That They do not have ten humanoids in our country? That there is not a TC bomb waiting to get together?"

"I'll agree that those things are here, but perhaps for some reason greater than just midwinter bomb madness."

"Such as?"

"It may be that the physical destruction resulting from the humanoids getting together is not the worst thing that can happen to us. What about the moral and intellectual destruction that comes of their being here at all? With all due respect to Agent Breckenridge, what if They intended for us to find out about the humanoids; what if the humanoids are never supposed to get together, but merely to remain separate in order to give us something to worry about."

"Why?"

"Tell me this. What measures have already been taken against the humanoids? I suppose that Security is going through the files of all citizens who have ever been across the border or close enough to it to make kidnapping possible. I know, since Macalaster mentioned it yesterday, that they are following up suspicious psychiatric cases. What else?"

Jeffreys said, "Small X-ray devices are being installed in key places in the large cities. In the mass arenas, for instance-"

"Where ten humanoids might slip in among a hundred thousand spectators of a football game or an air-polo match?"

"Exactly."

"And concert halls and churches?"

"We must start somewhere. We can't do it all at once."

"Particularly when panic must be avoided," said Lynn. "Isn't that so? It wouldn't do to have the public realize that at any unpredictable moment, some unpredictable city and its human contents would suddenly cease to exist."

"I suppose that's obvious. What are you driving at?"

Lynn said strenuously, "That a growing fraction of our national effort will be diverted entirely into the nasty problem of what Amberley called finding a very small needle in a very large haystack. We'll be chasing our tails madly, while They increase their

research lead to the point where we find we can no longer catch up; when we must surrender without the chance even of snapping our fingers in retaliation.

"Consider further that this news will leak out as more and more people become involved in our countermeasures and more and more people begin to guess what we're doing. Then what? The panic might do us more harm than anyone TC bomb."

The Presidential Assistant said irritably, "In Heaven's name, man, what do you suggest we do, then?"

"Nothing," said Lynn. "Call their bluff. Live as we have lived and gamble that They won't dare break the stalemate for the sake of a one-bomb head start."

"Impossible!" said Jeffreys. "Completely impossible. The welfare of all of Us is very largely in my hands, and doing nothing is the one thing I cannot do. I agree with you, perhaps, that X-ray machines at sports arenas are a kind of skin-deep measure that won't be effective, but it has to be done so that people, in the aftermath, do not come to the bitter conclusion that we tossed our country away for the sake of a subtle line of reasoning that encouraged donothingism. In fact, our counter-gambit will be active indeed."

"In what way?" Presidential Assistant Jeffreys looked at Breckenridge. The young Security officer, hitherto calmly silent, said, "It's no use talking about a possible future break in the stalemate when the stalemate is broken now. It doesn't matter whether these humanoids explode or do not. Maybe they are only a bait to divert us, as you say. But the fact remains that we are a quarter of a century behind in robotics, and that may be fatal. What other advances in robotics will there be to surprise us if war does start? The only answer is to divert our entire force immediately, now, into a crash program of robotics research, and the first problem is to find the humanoids. Call it an exercise in robotics, if you will, or call it the prevention of the death of fifteen million men, women and children."

Lynn shook his head helplessly. "You can't. You'd be playing into their hands. They want us lured into the one blind alley while they're free to advance in all other directions."

Jeffreys said impatiently, "That's your guess. Breckenridge has made his suggestion through channels and the government has approved, and we will begin with an all-Science conference."

"All-Science?"

Breckenridge said, "We have listed every important scientist of every branch of natural science. They'll all be at Cheyenne. There will be only one point on the agenda: How to advance robotics. The major specific subheading under that will be: How to develop a receiving device for the electromagnetic fields of the cerebral cortex that will be sufficiently delicate to distinguish between a protoplasmic human brain and a positronic humanoid brain."

Jeffreys said, "We had hoped you would be willing to be in charge of the conference."

"I was not consulted in this."

"Obviously time was short, sir. Do you agree to be in charge?" Lynn smiled briefly. It was a matter of responsibility again. The responsibility must be clearly that of Lynn of Robotics. He had the feeling it would be Breckenridge who would really be in charge. But what could he do?

He said, "I agree."

Breckenridge and Lynn returned together to Cheyenne, where that evening Laszlo listened with a sullen mistrust to Lynn's description of coming events.

Laszlo said, "While you were gone, Chief, I've started putting five experimental models of humanoid structure through the testing procedures. Our men are on a twelve-hour day, with three shifts overlapping. If we've got to arrange a conference, we're going to be crowded and red-taped out of everything. Work will come to a halt."

Breckenridge said, "That will be only temporary. You will gain more than you lose."

Laszlo scowled. "A bunch of astrophysicists and geochemists around won't help a damn toward robotics."

"Views from specialists of other fields may be helpful."

"Are you sure? How do we know that there is any way of detecting brain waves or that, even if we can, there is a way of differentiating human and humanoid by wave pattern? Who set up the project, anyway?"

"I did," said Breckenridge.

"You did? Are you a robotics man?"

The young Security agent said calmly, "I have studied robotics."

"That's not the same thing."

"I've had access to text material dealing with Russian robotics-in Russian. Top-secret material well in advance of anything you have here."

Lynn said ruefully, "He has us there, Laszlo."

"It was on the basis of that material," Breckenridge went on, "that I suggested this particular line of investigation. It is reasonably certain that in copying off the electromagnetic pattern of a specific human mind into a specific positronic brain, a perfectly exact duplicate cannot be made. For one thing, the most complicated positronic brain small enough to fit into a human-sized skull is hundreds of times less complex than the human brain. It can't pick up all the overtones, therefore, and there must be some way to take advantage of that fact."

Laszlo looked impressed despite himself and Lynn smiled grimly. It was easy to resent Breckenridge and the coming intrusion of several hundred scientists of nonrobotics specialties, but the problem itself was an intriguing one. There was that consolation, at least.

It came to him quietly. Lynn found he had nothing to do but sit in his office alone, with an executive position that had grown merely titular. Perhaps that helped. It gave him time to think, to picture the creative scientists of half the world converging on Cheyenne.

It was Breckenridge who, with cool efficiency, was handling the details of preparation. There had been a kind of confidence in the way he said, "Let's get together and we'll lick Them."

Let's get together. It came to Lynn so quietly that anyone watching Lynn at that moment might have seen his eyes blink slowly twice-but surely nothing more.

He did what he had to do with a whirling detachment that kept him calm when he felt that, by all rights, he ought to be going mad.

He sought out Breckenridge in the other's improvised quarters. Breckenridge was alone and frowning. "Is anything wrong, sir?"

Lynn said wearily, "Everything's right, I think. I've invoked martial-law."

"What!"

"As chief of a division I can do so if I am of the opinion the situation warrants it. Over my division I can then be dictator. Chalk up one for the beauties of decentralization."

"You will rescind that order immediately." Breckenridge took a step forward.

"When Washington hears this, you will be ruined."

"I'm ruined anyway. Do you think I don't realize that I've been set up for the role of the greatest villain in American history: the man who let Them break the stalemate? I have nothing to lose-and perhaps a great deal to gain."

He laughed a little wildly. "What a target the Division of Robotics will be, eh, Breckenridge? Only a few thousand men to be killed by a TC bomb capable of wiping out three hundred square miles in one micro-second. But five hundred of those men would be our greatest scientists. We would be in the peculiar position of having to fight a war with our brains shot out, or surrendering. I think we'd surrender."

"But this is impossible. Lynn, do you hear me? Do you understand? How could the humanoids pass our security provisions? How could they get together?"

"But they are getting together! We're helping them to do so. We're ordering them to do so. Our scientists visit the other side, Breckenridge. They visit Them regularly. You made a point of how strange it was that no one in robotics did. Well, ten of those scientists are still there and in their place, ten humanoids are converging on Cheyenne."

"That's a ridiculous guess."

"I think it's a good one, Breckenridge. But it wouldn't work unless we knew humanoids were in America so that we would call the conference in the first place. Quite a coincidence that you brought the news of the humanoids and suggested the conference and suggested the agenda and are running the show and know exactly which scientists were invited. Did you make sure the right ten were included?"

"Dr. Lynn!" cried Breckenridge in outrage. He poised to rush forward.

Lynn said, "Don't move. I've got a blaster here. Well just wait for the scientists to get here one by one. One by one we'll X-ray them. One by one, we'll monitor them for radioactivity. No two will get together without being checked, and if all five hundred are clear, I'll give you my blaster and surrender to you. Only I think we'll find the ten humanoids. Sit down, Breckenridge."

They both sat. Lynn said, "We wait. When I'm tired, Laszlo will spell me. We wait."

Professor Manueto Jiminez of the Institute of Higher Studies of Buenos Aires exploded while the stratospheric jet on which he traveled was three miles above the

Amazon Valley. It was a simple chemical explosion but it was enough to destroy the plane.

Dr. Herman Liebowitz of M.I.T. exploded in a monorail, killing twenty people and injuring a hundred others.

In similar manner, Dr. Auguste Marin of L 'Institut Nucleonique of Montreal and seven others died at various stages of their journey to Cheyenne.

Laszlo hurtled in, pale-faced and stammering, with the first news of it. It had only been two hours that Lynn had sat there, facing Breckenridge, blaster in hand.

Laszlo said, "I thought you were nuts, Chief, but you were right. They were humanoids. They had to be." He turned to stare with hate-filled eyes at Breckenridge. "Only they were warned. He warned them, and now there won't be one left intact. Not one to study."

"God!" cried Lynn and in a frenzy of haste thrust his blaster out toward Breckenridge and fired. The Security man's neck vanished; the torso fell; the head dropped, thudded against the floor and rolled crookedly.

Lynn moaned, "I didn't understand, I thought he was a traitor. Nothing more."

And Laszlo stood immobile, mouth open, for the moment incapable of speech.

Lynn said wildly, "Sure, he warned them. But how could he do so while sitting in that chair unless he were equipped with built-in radio transmission? Don't you see it? Breckenridge had been in Moscow. The real Breckenridge is still there. Oh my God, there were eleven of them."

Laszlo managed a hoarse squeak. "Why didn't he explode?"

"He was hanging on, I suppose, to make sure the others had received his message and were safely destroyed. Lord, Lord, when you brought the news and I realized the truth, I couldn't shoot fast enough. God knows by how few seconds I may have beaten him to it."

Laszlo said shakily, "At least, we'll have one to study." He bent and put his fingers on the sticky fluid trickling out of the mangled remains at the neck end of the headless body.

Not blood, but high-grade machine oil.

MIRROR IMAGE

The Three Laws of Robotics:

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

Lije Baley had just decided to relight his pipe, when the door of his office opened without a preliminary knock, or announcement, of any kind. Baley looked up in pronounced annoyance and then dropped his pipe. It said a good deal for the state of his mind that he left it lie where it had fallen.

"R. Daneel Olivaw," he said, in a kind of mystified excitement. "Jehoshaphat! It is you, isn't it?"

"You are quite right, " said the tall, bronzed newcomer, his even features never flicking for a moment out of their accustomed calm. "I regret surprising you by entering without warning, but the situation is a delicate one and there must be as little involvement as possible on the part of the men and robots even in this place. I am, in any case, pleased to see you again, friend Elijah."

And the robot held out his right hand in a gesture as thoroughly human as was his appearance. It was Baley who was so unmanned by his astonishment as to stare at the hand with a momentary lack of understanding.

But then he seized it in both his, feeling its warm firmness. "But Daneel, why? You're welcome any time, but-What is this situation that is a delicate one? Are we in trouble again? Earth, I mean?"

"No, friend Elijah, it does not concern Earth. The situation to which I refer as a delicate one is, to outward appearances, a small thing. A dispute between mathematicians, nothing more. As we happened, quite by accident, to be within an easy Jump of Earth-"

"This dispute took place on a starship, then?"

"Yes, indeed. A small dispute, yet to the humans involved astonishingly large."

Baley could not help but smile. "I'm not surprised you find humans astonishing. They do not obey the Three Laws."

"That is, indeed, a shortcoming," said R. Daneel, Gravely, "and I think humans themselves are puzzled by humans. It may be that you are less puzzled than are the men of other worlds because so many more human beings live on Earth than on the Spacer worlds. If so, and I believe it is so, you could help us."

R. Daneel paused momentarily and then said, perhaps a shade too quickly, "And yet there are rules of human behavior which I have learned. It would seem, for instance,

that I am deficient in etiquette, by human standards, not to have asked after your wife and child."

"They are doing well. The boy is in college and Jessie is involved in local politics. The amenities are taken care of. Now tell me how you come to be here."

"As I said, we were within an easy jump of Earth," said R. Daneel, "so I suggested to the captain that we consult you."

"And the captain agreed?" Baley had a sudden picture of the proud and autocratic captain of a Spacer starship consenting to make a landing on Earth-of all worlds-and to consult an Earthman-of all people.

"I believe," said R. Daneel, "that he was in a position where he would have agreed to anything. In addition, I praised you very highly; although, to be sure, I stated only the truth. Finally, I agreed to conduct all negotiations so that none of the crew, or passengers, would need to enter any of the Earthman cities."

"And talk to any Earthman, yes. But what has happened?"

"The passengers of the starship, Eta Carina, included two mathematicians who were traveling to Aurora to attend an interstellar conference on neurobiophysics. It is about these mathematicians, Alfred Ban Humboldt and Gennao Sabbat, that the dispute centers. Have you perhaps, friend Elijah, heard of one, or both, of them?"

"Neither one," said Baley, firmly. "I know nothing about mathematics. Look, Daneel, surely you haven't told anyone I'm a mathematics buff or-"

"Not at all, friend Elijah. I know you are not. Nor does it matter, since the exact nature of the mathematics involved is in no way relevant to the point at issue."

"Well, then, go on."

"Since you do not know either man, friend Elijah, let me tell you that Dr. Humboldt is well into his twenty-seventh decade-pardon me, friend Elijah?"

"Nothing. Nothing," said Baley, irritably. He had merely muttered to himself, more or less incoherently, in a natural reaction to the extended life-spans of the Spacers. "And he's still active, despite his age? On Earth, mathematicians after thirty or so."

Daneel said, calmly; "Dr. Humboldt is one of the top three mathematicians, by long-established repute, in the galaxy. Certainly he is still active. Dr. Sabbat, on the other hand, is quite young, not yet fifty, but he has already established himself as the most remarkable new talent in the most abstruse branches of mathematics."

"They're both great, then," said Baley. He remembered his pipe and picked it up. He decided there was no point in lighting it now and knocked out the dottle. "What happened? Is this a murder case? Did one of them apparently kill the other?"

"Of these two men of great reputation, one is trying to destroy that of the other. By human values, I believe this may be regarded as worse than physical murder."

"Sometimes, I suppose. Which one is trying to destroy the other?"

"Why, that, friend Elijah, is precisely the point at issue. Which?"

"Go on."

"Dr. Humboldt tells the story clearly. Shortly before he boarded the starship, he had an insight into a possible method for analyzing neural pathways from changes in

microwave absorption patterns of local cortical areas. The insight was a purely mathematical technique of extraordinary subtlety, but I cannot, of course, either understand or sensibly transmit the details. These do not, however, matter. Dr. Humboldt considered the matter and was more convinced each hour that he had something revolutionary on hand, something that would dwarf all his previous accomplishments in mathematics. Then he discovered that Dr. Sabbat was on board."

"Ah. And he tried it out on young Sabbat?"

"Exactly. The two had met at professional meetings before and knew each other thoroughly by reputation. Humboldt went into it with Sabbat in great detail. Sabbat backed Humboldt's analysis completely and was unstinting in his praise of the importance of the discovery and of the ingenuity of the discoverer. Heartened and reassured by this, Humboldt prepared a paper outlining, in summary, his work and, two days later, prepared to have it forwarded subetherically to the co-chairmen of the conference at Aurora, in order that he might officially establish his priority and arrange for possible discussion before the sessions were closed. To his surprise, he found that Sabbat was ready with a paper of his own, essentially the same as Humboldt's, and Sabbat was also preparing to have it subetherized to Aurora."

"I suppose Humboldt was furious."

"Quite!"

"And Sabbat? What was his story?"

"Precisely the same as Humboldt's. Word for word."

"Then just what is the problem?"

"Except for the mirror-image exchange of names. According to Sabbat, it was he who had the insight, and he who consulted Humboldt; it was Humboldt who agreed with the analysis and praised it."

"Then each one claims the idea is his and that the other stole it. It doesn't sound like a problem to me at all. In matters of scholarship, it would seem only necessary to produce the records of research, dated and initialed. Judgment as to priority can be made from that. Even if one is falsified, that might be discovered through internal inconsistencies."

"Ordinarily, friend Elijah, you would be right, but this is mathematics, and not in an experimental science. Dr. Humboldt claims to have worked out the essentials in his head. Nothing was put in writing until the paper itself was prepared. Dr. Sabbat, of course, says precisely the same."

"Well, then, be more drastic and get it over with, for sure. Subject each one to a psychic probe and find out which of the two is lying."

R. Daneel shook his head slowly, "Friend Elijah, you do not understand these men. They are both of rank and scholarship, Fellows of the Imperial Academy. As such, they cannot be subjected to trial of professional conduct except by a jury of their peers-their professional peers-unless they personally and voluntarily waive that right."

"Put it to them, then. The guilty man won't waive the right because he can't afford to face the psychic probe. The innocent man will waive it at once. You won't even have to use the probe."

"It does not work that way, friend Elijah. To waive the right in such a case-to be investigated by laymen-is a serious and perhaps irrecoverable blow to prestige. Both men steadfastly refuse to waive the right to special trial, as a matter of pride. The question of guilt, or innocence, is quite subsidiary."

"In that case, let it go for now. Put the matter in cold storage until you get to Aurora. At the neurobiophysical conference, there will be a huge supply of professional peers, and then-"

"That would mean a tremendous blow to science itself, friend Elijah. Both men would suffer for having been the instrument of scandal. Even the innocent one would be blamed for having been party to a situation so distasteful. It would be felt that it should have been settled quietly out of court at all costs."

"All right. I'm not a Spacer, but I'll try to imagine that this attitude makes sense. What do the men in question say?"

"Humboldt agrees thoroughly. He says that if Sabbat will admit theft of the idea and allow Humboldt to proceed with transmission of the paper-or at least its delivery at the conference, he will not press charges. Sabbat's misdeed will remain secret with him; and, of course, with the captain, who is the only other human to be party to the dispute."

"But young Sabbat will not agree?"

"On the contrary, he agreed with Dr. Humboldt to the last detail-with the reversal of names. Still the mirror-image."

"So they just sit there, stalemated?"

"Each, I believe, friend Elijah, is waiting for the other to give in and admit guilt."

"Well, then, wait."

"The captain has decided this cannot be done. There are two alternatives to waiting, you see. The first is that both will remain stubborn so that when the starship lands on Aurora, the intellectual scandal will break. The captain, who is responsible for justice on board ship will suffer disgrace for not having been able to settle the matter quietly and that, to him, is quite insupportable."

"And the second alternative?"

"Is that one, or the other, of the mathematicians will indeed admit to wrongdoing. But will the one who confesses do so out of actual guilt, or out of a noble desire to prevent the scandal? Would it be right to deprive of credit one who is sufficiently ethical to prefer to lose that credit than to see science as a whole suffer? Or else, the guilty party will confess at the last moment, and in such a way as to make it appear he does so only for the sake of science, thus escaping the disgrace of his deed and casting its shadow upon the other. The captain will be the only man to know all this but he does not wish to spend the rest of his life wondering whether he has been a party to a grotesque miscarriage of justice."

Baley sighed. "A game of intellectual chicken. Who'll break first as Aurora comes nearer and nearer? Is that the whole story now, Daneel?"

"Not quite. There are witnesses to the transaction."

"Jehoshaphat! Why didn't you say so at once. What witnesses? "Dr. Humboldt's personal servant-"

"A robot, I suppose."

"Yes, certainly. He is called R. Preston. This servant, R. Preston, was present during the initial conference and he bears out Dr. Humboldt in every detail."

"You mean he says that the idea was Dr. Humboldt's to begin with; that Dr. Humboldt detailed it to Dr. Sabbat; that Dr. Sabbat praised the idea, and so on."

"Yes, in full detail."

"I see. Does that settle the matter or not? Presumably not."

"You are quite right. It does not settle the matter, for there is a second witness. Dr. Sabbat also has a personal servant, R. Idda, another robot of, as it happens, the same model as R. Preston, made, I believe, in the same year in the same factory. Both have been in service for an equal period of time."

"An odd coincidence-very odd."

"A fact, I am afraid, and it makes it difficult to arrive at any judgment based on obvious differences between the two servants."

"R. Idda, then, tells the same story as R. Preston?"

"Precisely the same story, except for the mirror-image reversal of the names."

"R. Idda stated, then, that young Sabbat, the one not yet fifty"-Lije Baley did not entirely keep the sardonic note out of his voice; he himself was not yet fifty and he felt far from young-"had the idea to begin with; that he detailed it to Dr. Humboldt, who was loud in his praises, and so on."

"Yes, friend Elijah."

"And one robot is lying, then."

"So it would seem."

"It should be easy to tell which. I imagine even a superficial examination by a good roboticist-"

"A roboticist is not enough in this case, friend Elijah. Only a qualified robopsychologist would carry weight enough and experience enough to make a decision in a case of this importance. There is no one so qualified on board ship. Such an examination can be performed only when we reach Aurora-"

"And by then the crud hits the fan. Well, you're here on Earth. We can scare up a robopsychologist, and surely anything that happens on Earth will never reach the ears of Aurora and there will be no scandal."

"Except that neither Dr. Humboldt, nor Dr. Sabbat, will allow his servant to be investigated by a robopsychologist of Earth. The Earthman would have to-" He paused.

Lije Baley said stolidly, "He'd have to touch the robot."

"These are old servants, well thought of-"

"And not to be sullied by the touch of Earthman. Then what do you want me to do, damn it?" He paused, grimacing. "I'm sorry, R. Daneel, but I see no reason for your having involved me."

"I was on the ship on a mission utterly irrelevant to the problem at hand. The captain turned to me because he had to turn to someone. I seemed human enough to talk to, and robot enough to be a safe recipient of confidences. He told me the whole story and asked what I would do. I realized the next Jump could take us as easily to Earth as to our target. I told the captain that, although I was at as much a loss to resolve the mirror-image as he was, there was on Earth one who might help."

"Jehoshaphat!" muttered Baley under his breath.

"Consider, friend Elijah, that if you succeed in solving this puzzle, it would do your career good and Earth itself might benefit. The matter could not be publicized, of course, but the captain is a man of some influence on his home world and he would be grateful."

"You just put a greater strain on me."

"I have every confidence," said R. Daneel, stolidly, "that you already have some idea as to what procedure ought to be followed."

"Do you? I suppose that the obvious procedure is to interview the two mathematicians, one of whom would seem to be a thief."

"I'm afraid, friend Elijah, that neither one will come into the city. Nor would either one be willing to have you come to them."

"And there is no way of forcing a Spacer to allow contact with an Earthman, no matter what the emergency. Yes, I understand that, Daneel-but I was thinking of an interview by closed-circuit television."

"Nor that. They will not submit to interrogation by an Earthman."

"Then what do they want of me? Could I speak to the robots?"

"They would not allow the robots to come here, either."

"Jehoshaphat, Daneel. You've come."

"That was my own decision. I have permission, while on board ship, to make decisions of that sort without veto by any human being but the captain himself-and he was eager to establish the contact. I, having known you, decided that television contact was insufficient. I wished to shake your hand."

Lije Baley softened. "I appreciate that, Daneel, but I still honestly wish you could have refrained from thinking of me at all in this case. Can I talk to the robots by television at least?"

"That. I think, can be arranged."

"Something, at least. That means I would be doing the work of a robopsychologist-in a crude sort of way."

"But you are a detective, friend Elijah, not a robopsychologist."

"Well, let it pass. Now before I see them, let's think a bit. Tell me: is it possible that both robots are telling the truth? Perhaps the conversation between the two mathematicians was equivocal. Perhaps it was of such a nature that each robot could

honestly believe its own master was proprietor of the idea. Or perhaps one robot heard only one portion of the discussion and the other another portion, so that each could suppose its own master was proprietor of the idea."

"That is quite impossible, friend Elijah. Both robots repeat the conversation in identical fashion. And the two repetitions are fundamentally inconsistent."

"Then it is absolutely certain that one of the robots is lying?"

"Yes."

"Will I be able to see the transcript of all evidence given so far in the presence of the captain, if I should want to?"

"I thought you would ask that and I have copies with me."

"Another blessing. Have the robots been cross-examined at all, and is that cross-examination included in the transcript?"

"The robots have merely repeated their tales. Cross-examination would be conducted only by robopsychologists."

"Or by myself?"

"You are a detective, friend Elijah, not a-"

"All right, R. Daneel. I'll try to get the Spacer psychology straight. A detective can do it because he isn't a robopsychologist. Let's think further. Ordinarily a robot will not lie, but he will do so if necessary to maintain the Three Laws. He might lie to protect, in legitimate fashion, his own existence in accordance with the Third Law. He is more apt to lie if that is necessary to follow a legitimate order given him by a human being in accordance with the Second Law. He is most apt to lie if that is necessary to save a human life, or to prevent harm from coming to a human in accordance with the First Law."

"Yes."

"And in this case, each robot would be defending the professional reputation of his master, and would lie if it were necessary to do so. Under the circumstances, the professional reputation would be nearly equivalent to life and there might be a near-First-Law urgency to the lie."

"Yet by the lie, each servant would be harming the professional reputation of the other's master, friend Elijah."

"So it would, but each robot might have a clearer conception of the value of its own master's reputation and honestly judge it to be greater than that of the other's. The lesser harm would be done by his lie, he would suppose, than by the truth."

Having said that, Lije Baley remained quiet for a moment. Then he said, "All right, then, can you arrange to have me talk to one of the robots-to R. Idda first, I think?"

"Dr. Sabbat's robot?"

"Yes," said Baley, dryly, "the young fellow's robot."

"It will take me but a few minutes," said R. Daneel. "I have a micro-receiver outfitted with a projector. I will need merely a blank wall and I think this one will do if you will allow me to move some of these film cabinets."

"Go ahead. Will I have to talk into a microphone of some sort?"

"No, you will be able to talk in an ordinary manner. Please pardon me, friend Elijah, for a moment of further delay. I will have to contact the ship and arrange for R. Idda to be interviewed."

"If that will take some time, Daneel, how about giving me the transcribed material of the evidence so far."

Lije Baley lit his pipe while R. Daneel set up the equipment, and leafed through the flimsy sheets he had been handed.

The minutes passed and R. Daneel said, "If you are ready, friend Elijah, R. Idda is. Or would you prefer a few more minutes with the transcript?"

"No," sighed Baley, "I'm not learning anything new. Put him on and arrange to have the interview recorded and transcribed."

R. Idda, unreal in two-dimensional projection against the wall, was basically metallic in structure-not at all the humanoid creature that R. Daneel was. His body was tall but blocky, and there was very little to distinguish him from the many robots Baley had seen, except for minor structural details.

Baley said, "Greetings, R. Idda."

"Greetings, sir," said R. Idda, in a muted voice that sounded surprisingly humanoid.

"You are the personal servant of Gennao Sabbat, are you not?"

"I am sir."

"For how long, boy?"

"For twenty-two years, sir."

"And your master's reputation is valuable to you?"

"Yes, sir."

"Would you consider it of importance to protect that reputation?"

"Yes, sir."

"As important to protect his reputation as his physical life?"

"No, sir."

"As important to protect his reputation as the reputation of another."

R. Idda hesitated. He said, "Such cases must be decided on their individual merit, sir. There is no way of establishing a general rule."

Baley hesitated. These Spacer robots spoke more smoothly and intellectually than Earth-models did. He was not at all sure he could outthink one.

He said, "If you decided that the reputation of your master were more important than that of another, say, that of Alfred Barr Humboldt, would you lie to protect your master's reputation?"

"I would, sir."

"Did you lie in your testimony concerning your master in his controversy with Dr. Humboldt?"

"No, sir."

"But if you were lying, you would deny you were lying in order to protect that lie, wouldn't you?"

"Yes, sir."

"Well, then," said Baley, "let's consider this. Your master, Gennao Sabbat, is a young man of great reputation in mathematics, but he is a young man. If, in this controversy with Dr. Humboldt, he had succumbed to temptation and had acted unethically, he would suffer a certain eclipse of reputation, but he is young and would have ample time to recover. He would have many intellectual triumphs ahead of him and men would eventually look upon this plagiaristic attempt as the mistake of a hot-blooded youth, deficient in judgment. It would be something that would be made up for in the future.

"If, on the other hand, it were Dr. Humboldt who succumbed to temptation, the matter would be much more serious. He is an old man whose great deeds have spread over centuries. His reputation has been unblemished hitherto. All of that, however, would be forgotten in the light of this one crime of his later years, and he would have no opportunity to make up for it in the comparatively short time remaining to him. There would be little more that he could accomplish. There would be so many more years of work ruined in Humboldt's case than in that of your master and so much less opportunity to win back his position. You see, don't you, that Humboldt faces the worse situation and deserves the greater consideration?"

There was a long pause. Then R. Idda said, with unmoved voice, "My evidence was a lie. It was Dr. Humboldt whose work it was, and my master has attempted, wrongfully, to appropriate the credit."

Baley said, "Very well, boy. You are instructed to say nothing to anyone about this until given permission by the captain of the ship. You are excused."

The screen blanked out and Baley puffed at his pipe. "Do you suppose the captain heard that, Daneel?"

"I am sure of it. He is the only witness, except for us."

"Good. Now for the other."

"But is there any point to that, friend Elijah, in view of what R. Idda has confessed?"

"of course there is. R. Idda's confession means nothing."

"Nothing?"

"Nothing at all. I pointed out that Dr. Humboldt's position was the worse. Naturally, if he were lying to protect Sabbat, he would switch to the truth as, in fact, he claimed to have done. On the other hand, if he were telling the truth, he would switch to a lie to protect Humboldt. It's still mirror-image and we haven't gained anything."

"But then what will we gain by questioning R. Preston?"

"Nothing, if the minor-image were perfect-but it is not. After all, one of the robots is telling the truth to begin with, and one is lying to begin with, and that is a point of asymmetry. Let me see R. Preston. And if the transcription of R. Idda's examination is done, let me have it.

The projector came into use again. R. Preston stared out of it; identical with R. Idda in every respect, except for some trivial chest design.

Baley said, "Greetings, R. Preston." He kept the record of R. Idda's examination before him as he spoke.

"Greetings, sir," said R. Preston. His voice was identical with that of R. Idda.

"You are the personal servant of Alfred Ban Humboldt are you not?"

"I am, sir."

"For how long, boy?"

"For twenty-two years, sir."

"And your master's reputation is valuable to you?"

"Yes, sir."

"Would you consider it of importance to protect that reputation?"

"Yes, sir."

"As important to protect his reputation as his physical life?"

"No, sir."

"As important to protect his reputation as the reputation of another?"

R. Preston hesitated. He said, "Such cases must be decided on their individual merit, sir. There is no way of establishing a general rule."

Baley said, "If you decided that the reputation of your master were more important than that of another, say, that of Gennao Sabbat, would you lie to protect your master's reputation?"

"I would, sir."

"Did you lie in your testimony concerning your master in his controversy with Dr. Sabbat?"

"No, sir."

"But if you were lying, you would deny you were lying, in order to protect that lie, wouldn't you?"

"Yes, sir."

"Well, then," said Baley, "let's consider this. Your master, Alfred Barr Humboldt, is an old man of great reputation in mathematics, but he is an old man. If, in this controversy with Dr. Sabbat, he had succumbed to temptation and had acted unethically, he would suffer a certain eclipse of reputation, but his great age and his centuries of accomplishments would stand against that and would win out. Men would look upon this plagiaristic attempt as the mistake of a perhaps-sick old man, no longer certain in judgment.

"If, on the other hand, it were Dr. Sabbat who had succumbed to temptation, the matter would be much more serious. He is a young man, with a far less secure reputation. He would ordinarily have centuries ahead of him in which he might accumulate knowledge and achieve great things. This will be closed to him, now, obscured by one mistake of his youth. He has a much longer future to lose than your master has. You see, don't you, that Sabbat faces the worse situation and deserves the greater consideration?"

There was a long pause. Then R. Preston said, with unmoved voice, "My evidence was as I—"

At that point, he broke off and said nothing more. Baley said, "Please continue, R. Preston."

There was no response. R. Daneel said, "I am afraid, friend Elijah, that R. Preston is in stasis. He is out of commission."

"Well, then," said Baley, "we have finally produced an asymmetry. From this, we can see who the guilty person is."

"In what way, friend Elijah?"

"Think it out. Suppose you were a person who had committed no crime and that your personal robot were a witness to that. There would be nothing you need do. Your robot would tell the truth and bear you out. If, however, you were a person who had committed the crime, you would have to depend on your robot to lie. That would be a somewhat riskier position, for although the robot would lie, if necessary, the greater inclination would be to tell the truth, so that the lie would be less firm than the truth would be. To prevent that, the crime-committing person would very likely have to order the robot to lie. In this way, First Law would be strengthened by Second Law; perhaps very substantially strengthened."

"That would seem reasonable," said R. Daneel. "Suppose we have one robot of each type. One robot would switch from truth, unreinforced, to the lie, and could do so after some hesitation, without serious trouble. The other robot would switch from the lie, strongly reinforced, to the truth, but could do so only at the risk of burning out various positronic-track-ways in his brain and falling into stasis."

"And since R. Preston went into stasis-"

"R. Preston's master, Dr. Humboldt, is the man guilty of plagiarism. If you transmit this to the captain and urge him to face Dr. Humboldt with the matter at once, he may force a confession. If so, I hope you will tell me immediately."

"I will certainly do so. You will excuse me, friend Elijah? I must talk to the captain privately."

"Certainly. Use the conference room. It is shielded."

Baley could do no work of any kind in R. Daneel's absence. He sat in uneasy silence. A great deal would depend on the value of his analysis, and he was acutely aware of his lack of expertise in robotics.

R. Daneel was back in half an hour-very nearly the longest half hour of Baley's life.

There was no use, of course, in trying to determine what had happened from the expression of the humanoid's impassive face. Baley tried to keep his face impassive.

"Yes, R. Daneel?" he asked.

"Precisely as you said, friend Elijah. Dr. Humboldt has confessed. He was counting, he said, on Dr. Sabbat giving way and allowing Dr. Humboldt to have this one last triumph. The crisis is over and you will find the captain grateful. He has given me permission to tell you that he admires your subtlety greatly and I believe that I, myself, will achieve favor for having suggested you."

"Good," said Baley, his knees weak and his forehead moist now that his decision had proven correct, "but Jehoshaphat, R. Daneel, don't put me on the spot like that again, will you?"

"I will try not to, friend Elijah. All will depend, of course, on the importance of a crisis, on your nearness, and on certain other factors. Meanwhile, I have a question-"

"Yes?"

"Was it not possible to suppose that passage from a lie to the truth was easy, while passage from the truth to a lie was difficult? And in that case, would not the robot in stasis have been going from a truth to a lie, and since R. Preston was in stasis, might one not have drawn the conclusion that it was Dr. Humboldt who was innocent and Dr. Sabbat who was guilty?"

"Yes, R. Daneel. It was possible to argue that way, but it was the other argument that proved right. Humboldt did confess, didn't he?"

"He did. But with arguments possible in both directions, how could you, friend Elijah, so quickly pick the correct one?"

For a moment, Baley's lips twitched. Then he relaxed and they curved into a smile. "Because, R. Daneel, I took into account human reactions, not robotic ones. I know more about human beings than about robots. In other words, I had an idea as to which mathematician was guilty before I ever interviewed the robots. Once I provoked an asymmetric response in them, I simply interpreted it in such a way as to place the guilt on the one I already believed to be guilty. The robotic response was dramatic enough to break down the guilty man; my own analysis of human behavior might not have been sufficient to do so."

"I am curious to know what your analysis of human behavior was?"

"Jehoshaphat, R. Daneel; think, and you won't have to ask. There is another point of asymmetry in this tale of mirror-image besides the matter of true-and-false. There is the matter of the age of the two mathematicians; one is quite old and one is quite young."

"Yes, of course, but what then?"

"Why, this. I can see a young man, flushed with a sudden, startling and revolutionary idea, consulting in the matter an old man whom he has, from his early student days, thought of as a demigod in the field. I can not see an old man, rich in honors and used to triumphs, coming up with a sudden, startling and revolutionary idea, consulting a man centuries his junior whom he is bound to think of as a young whippersnapper-or whatever term a Spacer would use. Then, too, if a young man had the chance, would he try to steal the idea of a revered demigod? It would be unthinkable. On the other hand, an old man, conscious of declining powers, might well snatch at one last chance of fame and consider a baby in the field to have no rights he was bound to observe. In short, it was not conceivable that Sabbat steal Humboldt's idea; and from both angles, Dr. Humboldt was guilty."

R. Daneel considered that for a long time. Then he held out his hand. "I must leave now, friend Elijah. It was good to see you. May we meet again soon."

Baley gripped the robot's hand, warmly, "If you don't mind, R. Daneel," he said, "not too soon."

THE TERCENTENARY INCIDENT

July 4, 2076-and for the third time the accident of the conventional system of numeration, based on powers of ten, had brought the last two digits of the year back to the fateful 76 that had seen the birth of the nation.

It was no longer a nation in the old sense; it was rather a geographic expression; part of a greater whole that made up the Federation of all of humanity on Earth, together with its offshoots on the Moon and in the space colonies. By culture and heritage, however, the name and the idea lived on, and that portion of the planet signified by the old name was still the most prosperous and advanced region of the world. . . .And the President of the United States was still the most powerful single figure in the Planetary Council.

Lawrence Edwards watched the small figure of the President from his height of two hundred feet. He drifted lazily above the crowd, his flotron motor making a barely heard chuckle on his back, and what he saw looked exactly like what anyone would see on a holovision scene. How many times had he seen little figures like that in his living room, little figures in a cube of sunlight, looking as real as though they were living homunculi, except that you could put your hand through them.

You couldn't put your hand through those spreading out in their tens of thousands over the open spaces surrounding the Washington Monument. And you couldn't put your hand through the President. You could reach out to him instead, touch him, and shake his hand.

Edwards thought sardonically of the uselessness of that added element of tangibility and wished himself a hundred miles away, floating in air over some isolated wilderness, instead of here where he had to watch for any sign of disorder. There wouldn't be any necessity for his being here but for the mythology of the value of "pressing the flesh."

Edwards was not an admirer of the President-Hugo Allen Winkler, fifty-seventh of the line.

To Edwards, President Winkler seemed an empty man, a charmer, a vote grabber, a promiser. He was a disappointing man to have in office now after all the hopes of those first months of his administration. The World Federation was in danger of breaking up long before its job had been completed and Winkler could do nothing about it. One needed a strong hand now, not a glad hand; a hard voice, not a honey voice.

There he was now, shaking hands-a space forced around him by the Service, with Edwards himself, plus a few others of the Service, watching from above.

The President would be running for re-election certainly, and there seemed a good chance he might be defeated. That would just make things worse, since the opposition party was dedicated to the destruction of the Federation.

Edwards sighed. It would be a miserable four years coming up-maybe a miserable forty-and all he could do was float in the air, ready to reach every Service agent on the ground by laser-phone if there was the slightest.

He didn't see the slightest. There was no sign of disturbance. Just a little puff of white dust, hardly visible; just a momentary glitter in the sunlight, up and away, gone as soon as he was aware of it.

Where was the President? He had lost sight of him in the dust. He looked about in the vicinity of where he had seen him last. The President could not have moved far.

Then he became aware of disturbance. First it was among the Service agents themselves, who seemed to have gone off their heads and to be moving this way and that jerkily. Then those among the crowd near them caught the contagion and then those farther off. The noise rose and became a thunder.

Edwards didn't have to hear the words that made up the rising roar. It seemed to carry the news to him by nothing more than its mass clamorous urgency. President Winkler had disappeared! He had been there one moment and had turned into a handful of vanishing dust the next.

Edwards held his breath in an agony of waiting during what seemed a drug-ridden eternity, for the long moment of realization to end and for the mob to break into a mad, rioting stampede.

-When a resonant voice sounded over the gathering din, and at its sound, the noise faded, died, and became a silence. It was as though it were all a holovision program after all and someone had turned the sound down and out.

Edwards thought: My God, it's the President. There was no mistaking the voice. Winkler stood on the guarded stage from which he was to give his Tercentenary speech, and from which he had left but ten minutes ago to shake hands with some in the crowd.

How had he gotten back there? Edwards listened.

"Nothing has happened to me, my fellow Americans. What you have seen just now was the breakdown of a mechanical device. It was not your President, so let us not allow a mechanical failure to dampen the celebration of the happiest day the world has yet seen. . . .My fellow Americans, give me your attention-"

And what followed was the Tercentenary speech, the greatest speech Winkler had ever made, or Edwards had ever heard. Edwards found himself forgetting his supervisory job in his eagerness to listen.

Winkler had it right! He understood the importance of the Federation and he was getting it across.

Deep inside, though, another part of him was remembering the persistent rumors that the new expertise in robotics had resulted in the construction of a look-alike President, a robot who could perform the purely ceremonial functions, who could shake hands with the crowd, who could be neither bored nor exhausted-nor assassinated.

Edwards thought, in obscure shock, that that was how it had happened. There had been such a look-alike robot indeed, and in a way-it had been assassinated.

October 13, 2078

Edwards looked up as the waist-high robot guide approached and said mellifluously, "Mr. Janek will see you now."

Edwards stood up, feeling tall as he towered above the stubby, metallic guide. He did not feel young, however. His face had gathered lines in the last two years or so and he was aware of it.

He followed the guide into a surprisingly small room, where, behind a surprisingly small desk, there sat Francis Janek, a slightly paunchy and incongruously young-looking man.

Janek smiled and his eyes were friendly as he rose to shake hands. "Mr. Edwards."

Edwards muttered, "I'm glad to have the opportunity, sir-" Edwards had never seen Janek before, but then the job of personal secretary to the President is a quiet one and makes little news.

Janek said, "Sit down. Sit down. Would you care for a soya stick?"

Edwards smiled a polite negative, and sat down. Janek was clearly emphasizing his youth. His ruffled shirt was open and the hairs on his chest had been dyed a subdued but definite violet.

Janek said, "I know you have been trying to reach me for some weeks now. I'm sorry for the delay. I hope you understand that my time is not entirely my own. However, we're here now. . . I have referred to the Chief of the Service, by the way, and he gave you very high marks. He regrets your resignation."

Edwards said, eyes downcast, "It seemed better to carry on my investigations without danger of embarrassment to the Service."

Janek's smile flashed. "Your activities, though discreet, have not gone unnoticed, however. The Chief explains that you have been investigating the Tercentenary Incident, and I must admit it was that which persuaded me to see you as soon as I could. You've given up your position for that? You're investigating a dead issue."

"How can it be a dead issue, Mr. Janek? Your calling it an Incident doesn't alter the fact that it was an assassination attempt."

"A matter of semantics. Why use a disturbing phrase?"

"Only because it would seem to represent a disturbing truth. Surely you would say that someone tried to kill the President."

Janek spread his hands. "If that is so, the plot did not succeed. A mechanical device was destroyed. Nothing more. In fact, if we look at it properly, the Incident- whatever you choose to call it- did the nation and the world an enormous good. As we all know, the President was shaken by the Incident and the nation as well. The President and all of us realized what a return to the violence of the last century might mean and it produced a great turnaround."

"I can't deny that."

"Of course you can't. Even the President's enemies will grant that the last two years have seen great accomplishments. The Federation is far stronger today than anyone

could have dreamed it would be on that Tercentenary day. We might even say that a breakup of the global economy has been prevented."

Edwards said cautiously, "Yes, the President is a changed man. Everyone says so."

Janek said, "He was a great man always. The Incident made him concentrate on the great issues with a fierce intensity, however."

"Which he didn't do before?"

"Perhaps not quite as intensely. . . .In effect then, the President, and all of us, would like the Incident forgotten. My main purpose in seeing you, Mr. Edwards, is to make that plain to you. This is not the Twentieth Century and we can't throw you in jail for being inconvenient to us, or hamper you in any way, but even the Global Charter doesn't forbid us to attempt persuasion. Do you understand me?"

"I understand you, but I do not agree with you. Can we forget the Incident when the person responsible has never been apprehended?"

"Perhaps that is just as well, too, sir. Far better that some, uh, unbalanced person escape than that the matter be blown out of proportion and the stage set, possibly, for a return to the days of the Twentieth Century."

"The official story even states that the robot spontaneously exploded-which is impossible, and which has been an unfair blow to the robot industry."

"A robot is not the term I would use, Mr. Edwards. It was a mechanical device. No one has said that robots are dangerous, per se, certainly not the workaday metallic ones. The only reference here is to the unusually complex manlike devices that seem flesh and blood and that we might call androids. Actually, they are so complex that perhaps they might explode at that; I am not an expert in the field. The robotics industry will recover."

"Nobody in the government," said Edwards stubbornly, "seems to care whether we reach the bottom of the matter or not."

"I've already explained that there have been no consequences but good ones. Why stir the mud at the bottom, when the water above is clear?"

"And the use of the disintegrator?"

For a moment, Janek's hand, which had been slowly turning the container of soya sticks on his desk, held still, then it returned to its rhythmic movement. He said lightly, "What's that?"

Edwards said intently, "Mr. Janek, I think you know what I mean. As part of the Service-

"To which you no longer belong, of course:"

"Nevertheless, as part of the Service, I could not help but hear things that were not always, I suppose, for my ears. I had heard of a new weapon, and I saw something happen at the Tercentenary which would require one. The object everyone thought was the President disappeared into a cloud of very fine dust. It was as though every atom within the object had had its bonds to other atoms loosed. The object had become a cloud of individual atoms, which began to combine again of course, but which dispersed too quickly to do more than appear a momentary glitter of dust."

"Very science-fictionish."

"I certainly don't understand the science behind it, Mr. Janek, but I do see that it would take considerable energy to accomplish such bond breaking. This energy would have to be withdrawn from the environment. Those people who were standing near the device at the time, and whom I could locate-and who would agree to talk-were unanimous in reporting a wave of coldness washing over them."

Janek put the soya-stick container to one side with a small click of transit against cellulite. He said, "Suppose just for argument that there is such a thing as a disintegrator."

"You need not argue. There is."

"I won't argue. I know of no such thing myself, but in my office, I am not likely to know of anything so security-bound as new weaponry. But if a disintegrator exists and is as secret as all that, it must be an American monopoly, unknown to the rest of the Federation. It would then not be something either you or I should talk about. It could be a more dangerous war weapon than the nuclear bombs, precisely because-if what you say is so-it produces nothing more than disintegration at the point of impact and cold in the immediate neighborhood. No blast, no fire, no deadly radiation. Without these distressing side effects, there would be no deterrent to its use, yet for all we know it might be made large enough to destroy the planet itself."

"I go along with all of that," said Edwards.

"Then you see that if there is no disintegrator, it is foolish to talk about one; and if there is a disintegrator, then it is criminal to talk about one."

"I haven't discussed it, except to you, just now, because I'm trying to persuade you of the seriousness of the situation. If one had been used, for instance, ought not the government be interested in deciding how it came to be used-if another unit of the Federation might be in possession?"

Janek shook his head. "I think that we can rely on appropriate organs of this government to take such a thing into consideration. You had better not concern yourself with the matter."

Edwards said, in barely controlled impatience, "Can you assure me that the United States is the only government that has such a weapon at its disposal?"

"I can't tell you, since I know nothing about such a weapon, and should not know. You should not have spoken of it to me. Even if no such weapon exists, the rumor of its existence could be damaging."

"But since I have told you and the damage is done, please hear me out. Let me have the chance of convincing you that you, and no one else, hold the key to a fearful situation that perhaps I alone see."

"You alone see? I alone hold the key?"

"Does that sound paranoid? Let me explain and then judge for yourself."

"I will give you a little more time, sir, but what I have said stands. You must abandon this-this hobby of yours-this investigation. It is terribly dangerous."

"It is its abandonment that would be dangerous. Don't you see that if the disintegrator exists and if the United States has the monopoly of it, then it follows that the

number of people who could have access to one would be sharply limited. As an ex-member of the Service, I have some practical knowledge of this and I tell you that the only person in the world who could manage to abstract a disintegrator from our top-secret arsenals would be the President. . . .Only the President of the United States, Mr. Janek, could have arranged that assassination attempt."

They stared at each other for a moment and then Janek touched a contact at his desk.

He said, "Added precaution. No one can overhear us now by any means. Mr. Edwards, do you realize the danger of that statement? To yourself? You must not overestimate the power of the Global Charter. A government has the right to take reasonable measures for the protection of its stability."

Edwards said, "I'm approaching you, Mr. Janek, as someone I presume to be a loyal American citizen. I come to you with news of a terrible crime that affects all Americans and the entire Federation. A crime that has produced a situation that perhaps only you can right. Why do you respond with threats?"

Janek said, "That's the second time you have tried to make it appear that I am a potential savior of the world. I can't conceive of myself in that role. You understand, I hope, that I have no unusual powers."

"You are the secretary to the President."

"That does not mean I have special access to him or am in some intimately confidential relationship to him. There are times, Mr. Edwards, when I suspect others consider me to be nothing more than a flunky, and there are even times when I find myself in danger of agreeing with them."

"Nevertheless, you see him frequently, you see him informally, you see him-"

Janek said impatiently, "I see enough of him to be able to assure you that the President would not order the destruction of that mechanical device on Tercentenary day."

"Is it in your opinion impossible, then?"

"I did not say that. I said he would not. After all, why should he? Why should the President want to destroy a look-alike android that had been a valuable adjunct to him for over three years of his Presidency? And if for some reason he wanted it done, why on Earth should he do it in so incredibly public a way-at the Tercentenary, no less-thus advertising its existence, risking public revulsion at the thought of shaking hands with a mechanical device, to say nothing of the diplomatic repercussions of having had representatives of other parts of the Federation treat with one? He might, instead, simply have ordered it disassembled in private. No one but a few highly placed members of the Administration would have known."

"There have not, however, been any undesirable consequences for the President as a result of the Incident, have there?"

"He has had to cut down on ceremony. He is no longer as accessible as he once was."

"As the robot once was."

"Well," said Janek uneasily. "Yes, I suppose that's right."

Edwards said, "And, as a matter of fact, the President was re-elected and his popularity has not diminished even though the destruction was public. The argument against public destruction is not as powerful as you make it sound."

"But the re-election came about despite the Incident. It was brought about by the President's quick action in stepping forward and delivering what you will have to admit was one of the great speeches of American history. It was an absolutely amazing performance; you will have to admit that."

"It was a beautifully staged drama. The President, one might think, would have counted on that."

Janek sat back in his chair. "If I understand you, Edwards, you are suggesting an involuted storybook plot. Are you trying to say that the President had the device destroyed, just as it was-in the middle of a crowd, at precisely the time of the Tercentenary celebration, with the world watching-so that he could win the admiration of all by his quick action? Are you suggesting that he arranged it all so that he could establish himself as a man of unexpected vigor and strength under extremely dramatic circumstances and thus turn a losing campaign into a winning one? . . . Mr. Edwards, you've been reading fairy tales."

Edwards said, "If I were trying to claim all this, it would indeed be a fairy tale, but I am not. I never suggested that the President ordered the killing of the robot. I merely asked if you thought it were possible and you have stated quite strongly that it wasn't. I'm glad you did, because I agree with you."

"Then what is all this? I'm beginning to think you're wasting my time."

"Another moment, please. Have you ever asked yourself why the job couldn't have been done with a laser beam, with a field deactivator-with a sledgehammer, for God's sake? Why should anyone go to the incredible trouble of getting a weapon guarded by the strongest possible government security to do a job that didn't require such a weapon? Aside from the difficulty of getting it, why risk revealing the existence of a disintegrator to the rest of the world?"

"This whole business of a disintegrator is just a theory of yours."

"The robot disappeared completely before my eyes. I was watching. I rely on no secondhand evidence for that. It doesn't matter what you call the weapon; whatever name you give it, it had the effect of taking the robot apart atom by atom and scattering all those atoms irretrievably. Why should this be done? It was tremendous overkill."

"I don't know what was in the mind of the perpetrator."

"No? Yet it seems to me that there is only one logical reason for a complete powdering when something much simpler would have carried through the destruction. The powdering left no trace behind of the destroyed object. It left nothing to indicate what it had been, whether robot or anything else."

Janek said, "But there is no question of what it was."

"Isn't there? I said only the President could have arranged for a disintegrator to be obtained and used. But, considering the existence of a look-alike robot, which President did the arranging?"

Janek said harshly, "I don't think we can carry on this conversation. You are mad."

Edwards said, "Think it through. For God's sake, think it through. The President did not destroy the robot. Your arguments there are convincing. What happened was that the robot destroyed the President. President Winkler was killed in the crowd on July 4, 2076. A robot resembling President Winkler then gave the Tercentenary speech, ran for re-election, was re-elected, and still serves as President of the United States!"

"Madness!"

"I've come to you, to you because you can prove this-and correct it, too."

"It is simply not so. The President is-the President." Janek made as though to rise and conclude the interview.

"You yourself say he's changed," said Edwards quickly and urgently. "The Tercentenary speech was beyond the powers of the old Winkler. Haven't you been yourself amazed at the accomplishments of the last two years? Truthfully-could the Winkler of the first term have done all this?"

"Yes, he could have, because the President of the second term is the President of the first term."

"Do you deny he's changed? I put it to you. You decide and I'll abide by your decision."

"He's risen to meet the challenge, that is all. It's happened before this in American history." But Janek sank back into his seat. He looked uneasy.

"He doesn't drink," said Edwards.

"He never did-very much."

"He no longer womanizes. Do you deny he did so in the past?"

"A President is a man. For the last two years, however, he's felt dedicated to the matter of the Federation."

"It's a change for the better, I admit," said Edwards, "but it's a change. Of course, if he had a woman, the masquerade could not be carried on, could it?"

Janek said, "Too bad he doesn't have a wife." He pronounced the archaic word a little self-consciously. "The whole matter wouldn't arise if he did."

"The fact that he doesn't made the plot more practical. Yet he has fathered two children. I don't believe they have been in the White House, either one of them, since the Tercentenary."

"Why should they be? They are grown, with lives of their own."

"Are they invited? Is the President interested in seeing them? You're his private secretary. You would know. Are they?"

Janek said, "You're wasting time. A robot can't kill a human being. You know that that is the First Law of Robotics."

"I know it. But no one is saying that the robot-Winkler killed the human-Winkler directly. When the human-Winkler was in the crowd, the robot-Winkler was on the stand

and I doubt that a disintegrator could be aimed from that distance without doing more widespread damage. Maybe it could, but more likely the robot-Winkler had an accomplice—a hit man, if that is the correct Twentieth-Century jargon."

Janek frowned. His plump face puckered and looked pained. He said, "You know, madness must be catching. I'm actually beginning to consider the insane notion you've brought here. Fortunately, it doesn't hold water. After all, why would an assassination of the human-Winkler be arranged in public? All the arguments against destroying the robot in public hold against the killing of a human President in public. Don't you see that ruins the whole theory?"

"It does not—" began Edwards. "It does. No one except for a few officials knew that the mechanical device existed at all. If President Winkler were killed privately and his body disposed of, the robot could easily take over without suspicion—without having roused yours, for instance."

"There would always be a few officials who would know, Mr. Janek. The assassinations would have to broaden." Edwards leaned forward earnestly. "See here, ordinarily there couldn't have been any danger of confusing the human being and the machine. I imagine the robot wasn't in constant use, but was pulled out only for specific purposes, and there would always be key individuals, perhaps quite a number of them, who would know where the President was and what he was doing. If that were so, the assassination would have to be carried out at a time when those officials actually thought the President was really the robot."

"I don't follow you."

"See here. One of the robot's tasks was to shake hands with the crowd; press the flesh. When this was taking place, the officials in the know would be perfectly aware that the hand shaker was, in truth, the robot."

"Exactly. You're making sense now. It was the robot."

"Except that it was the Tercentenary, and except that President Winkler could not resist. I suppose it would be more than human to expect a President—particularly an empty crowd pleaser and applause hunter like Winkler—to give up the adulation of the crowd on this day of all days, and let it go to a machine. And perhaps the robot carefully nurtured this impulse so that on this one Tercentenary day, the President would have ordered the robot to remain behind the podium, while he himself went out to shake hands and to be cheered."

"Secretly?"

"Of course secretly. If the President had told anyone in the Service, or any of his aides, or you, would he have been allowed to do it? The official attitude concerning the possibility of assassination has been practically a disease since the events of the late Twentieth Century. So with the encouragement of an obviously clever robot—"

"You assume the robot to be clever because you assume he is now serving as President. That is circular reasoning. If he is not President, there is no reason to think he is clever, or that he were capable of working out this plot. Besides, what motive could possibly drive a robot to plot an assassination? Even if it didn't kill the President directly,

the taking of a human life indirectly is also forbidden by the First Law, which states: 'A robot may not injure a human being or, through inaction, allow a human being to come to harm.'"

Edwards said, "The First Law is not absolute. What if harming a human being saves the lives of two others, or three others, or even three billion others? The robot may have thought that saving the Federation took precedence over the saving of one life. It was no ordinary robot, after all. It was designed to duplicate the properties of the President closely enough to deceive anyone. Suppose it had the understanding of President Winkler, without his weaknesses, and suppose it knew that it could save the Federation where the President could not."

"You can reason so, but how do you know a mechanical device would?"

"It is the only way to explain what happened."

"I think it is a paranoid fantasy."

Edwards said, "Then tell me why the object that was destroyed was powdered into atoms. What else would make sense than to suppose that that was the only way to hide the fact that it was a human being and not a robot that was destroyed? Give me an alternate explanation."

Janek reddened. "I won't accept it."

"But you can prove the whole matter-or disprove it. It's why I have come to you-to you."

"How can I prove it? Or disprove it either?"

"No one sees the President at unguarded moments as you do. It is with you-in default of family-that he is most informal. Study him."

"I have. I tell you he isn't-"

"You haven't. You suspected nothing wrong-Little signs meant nothing to you. Study him now, being aware that he might be a robot, and you will see."

Janek said sardonically, "I can knock him down and probe for metal with an ultrasonic detector. Even an android has a platinum-iridium brain."

"No drastic action will be necessary. Just observe him and you will see that he is so radically not the man he was that he cannot be a man."

Janek looked at the clock-calendar on the wall. He said, "We have been here over an hour."

"I'm sorry to have taken up so much of your time, but you see the importance of all this, I hope."

"Importance?" said Janek. Then he looked up and what had seemed a despondent air turned suddenly into something of hope. "But is it, in fact, important? Really, I mean?"

"How can it not be important? To have a robot as President of the United States? That's not important?"

"No, that's not what I mean. Forget what President Winkler might be. Just consider this. Someone serving as President of the United States has saved the Federation; he has

held it together and, at the present moment, he runs the Council in the interests of peace and of constructive compromise. You'll admit all that?"

Edwards said, "Of course, I admit all that. But what of the precedent established? A robot in the White House for a very good reason now may lead to a robot in the White House twenty years from now for a very bad reason, and then to robots in the White House for no reason at all but only as a matter of course. Don't you see the importance of muffling a possible trumpet call for the end of humanity at the time of its first uncertain note?"

Janek shrugged. "Suppose I find out he's a robot? Do we broadcast it to all the world? Do you know how that will affect the Federation? Do you know what it will do to the world's financial structure? Do you know-"

"I do know. That is why I have come to you privately, instead of trying to make it public. It is up to you to check out the matter and come to a definite conclusion. It is up to you, next, having found the supposed President to be a robot, which I am certain you will do, to persuade him to resign."

"And by your version of his reaction to the First Law, he will then have me killed since I will be threatening his expert handling of the greatest global crisis of the Twenty-first Century."

Edwards shook his head. "The robot acted in secret before, and no one tried to counter the arguments he used with himself. You will be able to reinforce a stricter interpretation of the First Law with your arguments. If necessary, we can get the aid of some official from U. S. Robots and Mechanical Men Corporation who constructed the robot in the first place. Once he resigns, the Vice-President will succeed. If the robot-Winkler has put the old world on the right track, good; it can now be kept on the right track by the Vice-President, who is a decent and honorable woman. But we can't have a robot ruler, and we mustn't ever again.

"What if the President is human?"

"I'll leave that to you. You will know."

Janek said, "I am not that confident of myself. What if I can't decide? If I can't bring myself to? If I don't dare to? What are your plans?"

Edwards looked tired. "I don't know. I may have to go to U. S. Robots. But I don't think it will come to that. I'm quite confident that now that I've laid the problem in your lap, you won't rest till it's settled. Do you want to be ruled by a robot?"

He stood up, and Janek let him go. They did not shake hands.

Janek sat there in the gathering twilight in deep shock. A robot!

The man had walked in and had argued, in perfectly rational manner, that the President of the United States was a robot.

It should have been easy to fight that off. Yet though Janek had tried every argument he could think of, they had all been useless, and the man had not been shaken in the least.

A robot as President! Edwards had been certain of it, and he would stay certain of it. And if Janek insisted that the President was human, Edwards would go to U. S. Robots. He wouldn't rest.

Janek frowned as he thought of the twenty-seven months since the Tercentenary and of how well all had gone in the face of the probabilities. And now?

He remained lost in somber thought.

He still had the disintegrator but surely it would not be necessary to use it on a human being, the nature of whose body was not in question. A silent laser stroke in some lonely spot would do.

It had been hard to maneuver the President into the earlier job, but in this present case, it wouldn't even have to know.

POWELL AND DONOVAN

The second robot story I wrote, "Reason" (included in this section), dealt with the two field-testers, Gregory Powell and Michael Donovan. They were modeled on certain stories John Campbell wrote, which I admired extravagantly, about a pair of interplanetary explorers, Penton and Blake. If Campbell ever noted the similarity, he said nothing about it to me.

By the way, I must warn you that the first story in this section, "First Law," was written as a spoof and is not meant to be taken seriously.

FIRST LAW

Mike Donovan looked at his empty beer mug, felt bored, and decided he had listened long enough. He said, loudly, "If we're going to talk about unusual robots, I once knew one that disobeyed the First Law."

And since that was completely impossible, everyone stopped talking and turned to look at Donovan.

Donovan regretted his big mouth at once and changed the subject. "I heard a good one yesterday," he said, conversationally, "about-"

MacFarlane in the chair next to Donovan's said, "You mean you knew a robot that harmed a human being?" That was what disobedience to First Law meant, of course.

"In a way," said Donovan. "I say I heard one about-"

"Tell us about it," ordered MacFarlane. Some of the others banged their beer mugs on the table.

Donovan made the best of it. "It happened on Titan about ten years ago," he said, thinking rapidly. "Yes, it was in twenty-five. We had just recently received a shipment of three new-model robots, specially designed for Titan. They were the first of the MA models. We called them Emma One, Two and Three." He snapped his fingers for another beer and stared earnestly after the waiter. Let's see, what came next?

MacFarlane said, "I've been in robotics half my life, Mike. I never heard of an MA serial order."

"That's because they took the MA's off the assembly lines immediately after-after what I'm going to tell you. Don't you remember?"

"No." Donovan continued hastily. "We put the robots to work at once. You see, until then, the Base had been entirely useless during the stormy season, which lasts eighty percent of Titan's revolution about Saturn. During the terrific snows, you couldn't find the Base if it were only a hundred yards away. Compasses aren't any use, because Titan hasn't any magnetic field.

"The virtue of these MA robots, however, was that they were equipped with vibro-detectors of a new design so that they could make a beeline for the Base through anything, and that meant mining could become a through-the-revolution affair. And don't say a word, Mac. The vibro-detectors were taken off the market also, and that's why you haven't heard of them." Donovan coughed. "Military secret, you understand."

He went on. "The robots worked fine during the first stormy season, then at the start of the calm season, Emma Two began acting up. She kept wandering off into corners and under bales and had to be coaxed out. Finally she wandered off Base altogether and didn't come back. We decided there had been a flaw in her manufacture and got along with the other two. Still, it meant we were shorthanded, or short-roboted anyway, so when toward the end of the calm season, someone had to go to Kornsk, I

volunteered to chance it without a robot. It seemed safe enough; the storms weren't due for two days and I'd be back in twenty hours at the outside.

"I was on the way back-a good ten miles from Base-when the wind started blowing and the air thickening. I landed my air car immediately before the wind could smash it, pointed myself toward the Base and started running. I could run the distance in the low gravity all right, but could I run a straight line? That was the question. My air supply was ample and my suit heat coils were satisfactory, but ten miles in a Titanian storm is infinity.

"Then, when the snow streams changed everything to a dark, gooey twilight, with even Saturn dimmed out and the sun only a pale pimple, I stopped short and leaned against the wind. There was a little dark object right ahead of me. I could barely make it out but I knew what it was. It was a storm pup; the only living thing that could stand a Titanian storm, and the most vicious living thing anywhere. I knew my space suit wouldn't protect me, once it made for me, and in the bad light, I had to wait for a point-blank aim or I didn't dare shoot. One miss and he would be at me.

"I backed away slowly and the shadow followed. It closed in and I was raising my blaster, with a prayer, when a bigger shadow loomed over me suddenly, and I yodeled with relief. It was Emma Two, the missing MA robot. I never stopped to wonder what had happened to it or worry why it had. I just howled, 'Emma, baby, get that storm pup; and then get me back to Base.'

"It just looked at me as if it hadn't heard and called out, 'Master, don't shoot. Don't shoot.'

"It made for that storm pup at a dead run.

" 'Get that damned pup, Emma,' I shouted. It got the pup, all right. It scooped it right up and kept on going. I yelled myself hoarse but it never came back. It left me to die in the storm."

Donovan paused dramatically, "Of course, you know the First Law: A robot may not injure a human being, or through inaction, allow a human being to come to harm! Well, Emma Two just ran off with that storm pup and left me to die. It broke First Law.

"Luckily, I pulled through safely. Half an hour later, the storm died down. It had been a premature gust, and a temporary one. That happens sometimes. I hot-footed it for Base and the storms really broke next day. Emma Two returned two hours after I did, and, of course, the mystery was then explained and the MA models were taken off the market immediately."

"And just what," demanded MacFarlane, "was the explanation?" Donovan regarded him seriously. "It's true I was a human being in danger of death, Mac, but to that robot there was something else that came first, even before me, before the First Law. Don't forget these robots were of the MA series and this particular MA robot had been searching out private nooks for some time before disappearing. It was as though it expected something special-and private-to happen to it. Apparently, something special had."

Donovan's eyes turned upward reverently and his voice trembled. "That storm pup was no storm pup. We named it Emma Junior when Emma Two brought it back. Emma

Two had to protect it from my gun. What is even First Law compared with the holy ties of mother love?"

RUNAROUND

IT WAS ONE OF GREGORY POWELL'S FAVORITE platitudes that nothing was to be gained from excitement, so when Mike Donovan came leaping down the stairs toward him, red hair matted with perspiration, Powell frowned.

"What's wrong?" he said. "Break a fingernail?"

"Yaaaah," snarled Donovan, feverishly. "What have you been doing in the sublevels all day?" He took a deep breath and blurted out, "Speedy never returned."

Powell's eyes widened momentarily and he stopped on the stairs; then he recovered and resumed his upward steps. He didn't speak until he reached the head of the flight, and then:

"You sent him after the selenium?"

"Yes."

"And how long has he been out?"

"Five hours now."

Silence! This was a devil of a situation. Here they were, on Mercury exactly twelve hours - and already up to the eyebrows in the worst sort of trouble. Mercury had long been the jinx world of the System, but this was drawing it rather strong - even for a jinx.

Powell said, "Start at the beginning, and let's get this straight."

They were in the radio room now - with its already subtly antiquated equipment, untouched for the ten years previous to their arrival. Even ten years, technologically speaking, meant so much. Compare Speedy with the type of robot they must have had back in 2005. But then, advances in robotics these days were tremendous. Powell touched a still gleaming metal surface gingerly. The air of disuse that touched everything about the room - and the entire Station - was infinitely depressing.

Donovan must have felt it. He began: "I tried to locate him by radio, but it was no go. Radio isn't any good on the Mercury Sunside - not past two miles, anyway. That's one of the reasons the First Expedition failed. And we can't put up the ultrawave equipment for weeks yet -"

"Skip all that. What did you get?"

"I located the unorganized body signal in the short wave. It was no good for anything except his position. I kept track of him that way for two hours and plotted the results on the map."

There was a yellowed square of parchment in his hip pocket - a relic of the unsuccessful First Expedition - and he slapped it down on the desk with vicious force, spreading it flat with the palm of his hand. Powell, hands clasped across his chest, watched it at long range.

Donovan's pencil pointed nervously. "The red cross is the selenium pool. You marked it yourself."

"Which one is it?" interrupted Powell. "There were three that MacDougal located for us before he left."

"I sent Speedy to the nearest, naturally; seventeen miles away. But what difference does that make?" There was tension in his voice. "There are the penciled dots that mark Speedy's position."

And for the first time Powell's artificial aplomb was shaken and his hands shot forward for the map.

"Are you serious? This is impossible."

"There it is," growled Donovan.

The little dots that marked the position formed a rough circle about the red cross of the selenium pool. And Powell's fingers went to his brown mustache, the unfailing signal of anxiety.

Donovan added: "In the two hours I checked on him, he circled that damned pool four times. It seems likely to me that he'll keep that up forever. Do you realize the position we're in?"

Powell looked up shortly, and said nothing. Oh, yes, he realized the position they were in. It worked itself out as simply as a syllogism. The photocell banks that alone stood between the full power of Mercury's monstrous sun and themselves were shot to hell.

The only thing that could save them was selenium. The only thing that could get the selenium was Speedy. If Speedy didn't come back, no selenium. No selenium, no photocell banks. No photo-banks - well, death by slow broiling is one of the more unpleasant ways of being done in.

Donovan rubbed his red mop of hair savagely and expressed himself with bitterness. "We'll be the laughingstock of the System, Greg. How can everything have gone so wrong so soon? The great team of Powell and Donovan is sent out to Mercury to report on the advisability of reopening the Sunside Mining Station with modern techniques and robots and we ruin everything the first day. A purely routine job, too. We'll never live it down."

"We won't have to, perhaps," replied Powell, quietly. "If we don't do something quickly, living anything down - or even just plain living - will be out of the question."

"Don't be stupid! If you feel funny about it, Greg, I don't. It was criminal, sending us out here with only one robot. And it was your bright idea that we could handle the photocell banks ourselves."

"Now you're being unfair. It was a mutual decision and you know it. All we needed was a kilogram of selenium, a Stillhead Dielectrode Plate and about three hours' time and there are pools of pure selenium all over Sunside. MacDougal's spectroreflector spotted three for us in five minutes, didn't it? What the devil! We couldn't have waited for next conjunction."

"Well, what are we going to do? Powell, you've got an idea. I know you have, or you wouldn't be so calm. You're no more a hero than I am. Go on, spill it!"

"We can't go after Speedy ourselves, Mike - not on the Sunside. Even the new insosuits aren't good for more than twenty minutes in direct sunlight. But you know the

old saying, 'Set a robot to catch a robot' Look, Mike, maybe things aren't so bad. We've got six robots down in the sublevels, that we may be able to use, if they work. If they work."

There was a glint of sudden hope in Donovan's eyes. "You mean six robots from the First Expedition. Are you sure? They may be subrobotic machines. Ten years is a long time as far as robot-types are concerned, you know."

"No, they're robots. I've spent all day with them and I know. They've got positronic brains: primitive, of course." He placed the map in his pocket. "Let's go down."

The robots were on the lowest sublevel - all six of them surrounded by musty packing cases of uncertain content. They were large, extremely so, and even though they were in a sitting position on the floor, legs straddled out before them, their heads were a good seven feet in the air.

Donovan whistled. "Look at the size of them, will you? The chests must be ten feet around."

"That's because they're supplied with the old McGuffey gears. I've been over the insides - crummiest set you've ever seen."

"Have you powered them yet?"

"No. There wasn't any reason to. I don't think there's anything wrong with them. Even the diaphragm is in reasonable order. They might talk."

He had unscrewed the chest plate of the nearest as he spoke, inserted the two-inch sphere that contained the tiny spark of atomic energy that was a robot's life. There was difficulty in fitting it, but he managed, and then screwed the plate back on again in laborious fashion. The radio controls of more modern models had not been heard of ten years earlier. And then to the other five.

Donovan said uneasily, "They haven't moved."

"No orders to do so," replied Powell, succinctly. He went back to the first in the line and struck him on the chest. "You! Do you hear me?"

The monster's head bent slowly and the eyes fixed themselves on Powell. Then, in a harsh, squawking voice - like that of a medieval phonograph, he grated, "Yes, Master!"

Powell grinned humorlessly at Donovan. "Did you get that? Those were the days of the first talking robots when it looked as if the use of robots on Earth would be banned. The makers were fighting that and they built good, healthy slave complexes into the damned machines."

"It didn't help them," muttered Donovan.

"No, it didn't, but they sure tried." He turned once more to the robot. "Get up!"

The robot towered upward slowly and Donovan's head craned and his puckered lips whistled.

Powell said: "Can you go out upon the surface? In the light?"

There was consideration while the robot's slow brain worked. Then, "Yes, Master."

"Good. Do you know what a mile is?"

Another consideration, and another slow answer. "Yes, Master."

"We will take you up to the surface then, and indicate a direction. You will go about seventeen miles, and somewhere in that general region you will meet another robot, smaller than yourself. You understand so far?"

"Yes, Master."

"You will find this robot and order him to return. If he does not wish to, you are to bring him back by force."

Donovan clutched at Powell's sleeve. "Why not send him for the selenium direct?"

"Because I want Speedy back, nitwit. I want to find out what's wrong with him." And to the robot, "All right, you, follow me."

The robot remained motionless and his voice rumbled: "Pardon, Master, but I cannot. You must mount first." His clumsy arms had come together with a thwack, blunt fingers interlacing.

Powell stared and then pinched at his mustache. "Uh. . . oh!"

Donovan's eyes bulged. "We've got to ride him? Like a horse?"

"I guess that's the idea. I don't know why, though. I can't see - Yes, I do. I told you they were playing up robot-safety in those days. Evidently, they were going to sell the notion of safety by not allowing them to move about, without a mahout on their shoulders all the time. What do we do now?"

"That's what I've been thinking," muttered Donovan. "We can't go out on the surface, with a robot or without. Oh, for the love of Pete" - and he snapped his fingers twice. He grew excited. "Give me that map you've got. I haven't studied it for two hours for nothing. This is a Mining Station. What's wrong with using the tunnels?"

The Mining Station was a black circle on the map, and the light dotted lines that were tunnels stretched out about it in spider web fashion.

Donovan studied the list of symbols at the bottom of the map. "Look," he said, "the small black dots are openings to the surface, and here's one maybe three miles away from the selenium pool. There's a number here - you'd think they'd write larger - 13a. If the robots know their way around here-"

Powell shot the question and received the dull "Yes, Master," in reply. "Get your insosuit," he said with satisfaction.

It was the first time either had worn the insosuits - which marked one time more than either had expected to upon their arrival the day before - and they tested their limb movements uncomfortably.

The insosuit was far bulkier and far uglier than the regulation spacesuit; but withal considerably lighter, due to the fact that they were entirely nonmetallic in composition. Composed of heat-resistant plastic and chemically treated cork layers, and equipped with a desiccating unit to keep the air bone-dry, the insosuits could withstand the full glare of Mercury's sun for twenty minutes. Five to ten minutes more, as well, without actually killing the occupant.

And still the robot's hands formed the stirrup, nor did he betray the slightest atom of surprise at the grotesque figure into which Powell had been converted.

Powell's radio-harshened voice boomed out: "Are you ready to take us to Exit 13a?"

"Yes, Master."

Good, thought Powell; they might lack radio control but at least they were fitted for radio reception. "Mount one or the other, Mike," he said to Donovan.

He placed a foot in the improvised stirrup and swung upward. He found the seat comfortable; there was the humped back of the robot, evidently shaped for the purpose, a shallow groove along each shoulder for the thighs and two elongated "ears" whose purpose now seemed obvious.

Powell seized the ears and twisted the head. His mount turned ponderously. "Lead on, Macduff." But he did not feel at all lighthearted.

The gigantic robots moved slowly, with mechanical precision, through the doorway that cleared their heads by a scant foot, so that the two men had to duck hurriedly, along a narrow corridor in which their unhurried footsteps boomed monotonously and into the, air lock.

The long, airless tunnel that stretched to a pinpoint before them brought home forcefully to Powell the exact magnitude of the task accomplished by the First Expedition, with their crude robots and their start-from-scratch necessities. They might have been a failure, but their failure was a good deal better than the usual run of the System's successes.

The robots plodded onward with a pace that never varied and with footsteps that never lengthened.

Powell said: "Notice that these tunnels are blazing with lights and that the temperature is Earth-normal. It's probably been like this all the ten years that this place has remained empty."

"How's that?"

"Cheap energy; cheapest in the System. Sunpower, you know, and on Mercury's Sunside, sunpower is something. That's why the Station was built in the sunlight rather than in the shadow of a mountain. It's really a huge energy converter. The heat is turned into electricity, light, mechanical work and what have you; so that energy is supplied and the Station is cooled in a simultaneous process."

"Look," said Donovan. "This is all very educational, but would you mind changing the subject? It so happens that this conversion of energy that you talk about is carried on by the photocell banks mainly - and that is a tender subject with me at the moment."

Powell grunted vaguely, and when Donovan broke the resulting silence, it was to change the subject completely. "Listen, Greg. What the devil's wrong with Speedy, anyway? I can't understand it."

It's not easy to shrug shoulders in an insosuit, but Powell tried it. "I don't know, Mike. You know he's perfectly adapted to a Mercurian environment. Heat doesn't mean anything to him and he's built for the light gravity and the broken ground. He's foolproof - or, at least, he should be."

Silence fell. This time, silence that lasted.

"Master," said the robot, "we are here."

"Eh?" Powell snapped out of a semidrowse. "Well, get us out of here - out to the surface."

They found themselves in a tiny substation, empty, airless, ruined. Donovan had inspected a jagged hole in the upper reaches of one of the walls by the light of his pocket flash.

"Meteorite, do you suppose?" he had asked.

Powell shrugged. "To hell with that. It doesn't matter. Let's get out."

A towering cliff of a black, basaltic rock cut off the sunlight, and the deep night shadow of an airless world surrounded them. Before them, the shadow reached out and ended in knife-edge abruptness into an all-but-unbearable blaze of white light, that glittered from myriad crystals along a rocky ground.

"Space!" gasped Donovan. "It looks like snow." And it did.

Powell's eyes swept the jagged glitter of Mercury to the horizon and winced at the gorgeous brilliance.

"This must be an unusual area," he said. "The general albedo of Mercury is low and most of the soil is gray pumice. Something like the Moon, you know. Beautiful, isn't it?"

He was thankful for the light filters in their visiplates. Beautiful or not, a look at the sunlight through straight glass would have blinded them inside of half a minute.

Donovan was looking at the spring thermometer on his wrist. "Holy smokes, the temperature is eighty centigrade!"

Powell checked his own and said: "Um-m-m. A little high. Atmosphere, you know."

"On Mercury? Are you nuts?"

"Mercury isn't really airless," explained Powell, in absentminded fashion. He was adjusting the binocular attachments to his visiplate, and the bloated fingers of the insosuit were clumsy at it. "There is a thin exhalation that clings to its surface - vapors of the more volatile elements and compounds that are heavy enough for Mercurian gravity to retain. You know: selenium, iodine, mercury, gallium, potassium, bismuth, volatile oxides. The vapors sweep into the shadows and condense, giving up heat. It's a sort of gigantic still. In fact, if you use your flash, you'll probably find that the side of the cliff is covered with, say, hoar-sulphur, or maybe quicksilver dew.

"It doesn't matter, though. Our suits can stand a measly eighty indefinitely."

Powell had adjusted the binocular attachments, so that he seemed as eye-stalked as a snail.

Donovan watched tensely. "See anything?"

The other did not answer immediately, and when he did, his voice was anxious and thoughtful. "There's a dark spot on the horizon that might be the selenium pool. It's in the right place. But I don't see Speedy."

Powell clambered upward in an instinctive striving for better view, till he was standing in unsteady fashion upon his robot's shoulders. Legs straddled wide, eyes straining, he said: "I think. . . I think - Yes, it's definitely he. He's coming this way."

Donovan followed the pointing finger. He had no binoculars, but there was a tiny moving dot, black against the blazing brilliance of the crystalline ground.

"I see him," he yelled. "Let's get going!"

Powell had hopped down into a sitting position on the robot again, and his suited hand slapped against the Gargantuan's barrel chest. "Get going!"

"Giddy-ap," yelled Donovan, and thumped his heels, spur fashion.

The robots started off, the regular thudding of their footsteps silent in the airlessness, for the nonmetallic fabric of the insosuits did not transmit sound. There was only a rhythmic vibration just below the border of actual hearing.

"Faster," yelled Donovan. The rhythm did not change.

"No use," cried Powell, in reply. "These junk heaps are only geared to one speed. Do you think they're equipped with selective flexors?"

They had burst through the shadow, and the sunlight came down in a white-hot wash and poured liquidly about them.

Donovan ducked involuntarily. "Wow! Is it imagination or do I feel heat?"

"You'll feel more presently," was the grim reply. "Keep your eye on Speedy."

Robot SPD 13 was near enough to be seen in detail now. His graceful, streamlined body threw out blazing highlights as he loped with easy speed across the broken ground. His name was derived from his serial initials, of course, but it was apt, nevertheless, for the SPD models were among the fastest robots turned out by the United States Robot & Mechanical Men Corp.

"Hey, Speedy," howled Donovan, and waved a frantic hand.

"Speedy!" shouted Powell. "Come here!"

The distance between the men and the errant robot was being cut down momentarily - more by the efforts of Speedy than the slow plodding of the fifty-year-old antique mounts of Donovan and Powell.

They were close enough now to notice that Speedy's gait included a peculiar rolling stagger, a noticeable side-to-side lurch - and then, as Powell waved his hand again and sent maximum juice into his compact headset radio sender, in preparation for another shout, Speedy looked up and saw them.

Speedy hopped to a halt and remained standing for a moment with just a tiny, unsteady weave, as though he were swaying in a light wind.

Powell yelled: "All right, Speedy. Come here, boy."

Whereupon Speedy's robot voice sounded in Powell's earphones for the first time.

It said: "Hot dog, let's play games. You catch me and I catch you; no love can cut our knife in two. For I'm Little Buttercup, sweet Little Buttercup. Whoops!" Turning on his heel, he sped off in the direction from which he had come, with a speed and fury that kicked up gouts of baked dust.

And his last words as he receded into the distance were, "There grew a little flower 'neath a great oak tree," followed by a curious metallic clicking that might have been a robotic equivalent of a hiccup.

Donovan said weakly: "Where did he pick up the Gilbert and Sullivan? Say, Greg, he. . . he's drunk or something."

"If you hadn't told me," was the bitter response, "I'd never realize it. Let's get back to the cliff. I'm roasting."

It was Powell who broke the desperate silence. "In the first place," he said, "Speedy isn't drunk - not in the human sense - because he's a robot, and robots don't get drunk. However, there's something wrong with him which is the robotic equivalent of drunkenness"

"To me, he's drunk," stated Donovan, emphatically, "and all I know is that he thinks we're playing games. And we're not. It's a matter of life and very gruesome death."

"All right. Don't hurry me. A robot's only a robot. Once we find out what's wrong with him, we can fix it and go on."

"Once," said Donovan, sourly.

Powell ignored him. "Speedy is perfectly adapted to normal Mercurian environment. But this region" - and his arm swept wide - "is definitely abnormal. There's our clue. Now where do these crystals come from? They might have formed from a slowly cooling liquid; but where would you get liquid so hot that it would cool in Mercury's sun?"

"Volcanic action," suggested Donovan, instantly, and Powell's body tensed.

"Out of the mouths of sucklings," he said in a small, strange voice and remained very still for five minutes.

Then, he said, "Listen, Mike, what did you say to Speedy when you sent him after the selenium?"

Donovan was taken aback. "Well damn it - I don't know. I just told him to get it."

"Yes, I know, but how? Try to remember the exact words."

"I said. . . uh. . . I said: 'Speedy, we need some selenium. You can get it such-and-such a place. Go get it - that's all. What more did you want me to say?'"

"You didn't put any urgency into the order, did you?"

"What for? It was pure routine."

Powell sighed. "Well, it can't be helped now - but we're in a fine fix." He had dismounted from his robot, and was sitting, back against the cliff. Donovan joined him and they linked arms: In the distance the burning sunlight seemed to wait cat-and-mouse for them, and just next them, the two giant robots were invisible but for the dull red of their photoelectric eyes that stared down at them, unblinking, unwavering and unconcerned.

Unconcerned! As was all this poisonous Mercury, as large in jinx as it was small in size.

Powell's radio voice was tense in Donovan's ear: "Now, look, let's start with the three fundamental Rules of Robotics - the three rules that are built most deeply into a robot's positronic brain." In the darkness, his gloved fingers ticked off each point.

"We have: One, a robot may not injure a human being, or, through inaction, allow a human being to come to harm."

"Right!"

"Two," continued Powell, "a robot must obey the orders given it by human beings except where such orders would conflict with the First Law."

"Right"

"And three, a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws."

"Right! Now where are we?"

"Exactly at the explanation. The conflict between the various rules is ironed out by the different positronic potentials in the brain. We'll say that a robot is walking into danger and knows it. The automatic potential that Rule 3 sets up turns him back. But suppose you order him to walk into that danger. In that case, Rule 2 sets up a counterpotential higher than the previous one and the robot follows orders at the risk of existence."

"Well, I know that. What about it?"

"Let's take Speedy's case. Speedy is one of the latest models, extremely specialized, and as expensive as a battleship. It's not a thing to be lightly destroyed"

"So?"

"So Rule 3 has been strengthened - that was specifically mentioned, by the way, in the advance notices on the SPD models - so that his allergy to danger is unusually high. At the same time, when you sent him out after the selenium, you gave him his order casually and without special emphasis, so that the Rule 2 potential set-up was rather weak. Now, hold on; I'm just stating facts."

"All right, go ahead. I think I get it."

"You see how it works, don't you? There's some sort of danger centering at the selenium pool. It increases as he approaches, and at a certain distance from it the Rule 3 potential, unusually high to start with, exactly balances the Rule 2 potential, unusually low to start with."

Donovan rose to his feet in excitement. " And it strikes an equilibrium. I see. Rule 3 drives him back and Rule 2 drives him forward-"

"So he follows a circle around the selenium pool, staying on the locus of all points of potential equilibrium. And unless we do something about it, he'll stay on that circle forever, giving us the good old runaround." Then, more thoughtfully: "And that, by the way, is what makes him drunk. At potential equilibrium, half the positronic paths of his brain are out of kilter. I'm not a robot specialist, but that seems obvious. Probably he's lost control of just those parts of his voluntary mechanism that a human drunk has. Ve-e-ery pretty."

"But what's the danger? If we knew what he was running from-?"

"You suggested it. Volcanic action. Somewhere right above the selenium pool is a seepage of gas from the bowels of Mercury. Sulphur dioxide, carbon dioxide - and carbon monoxide. Lots of it and at this temperature."

Donovan gulped audibly. "Carbon monoxide plus iron gives the volatile iron carbonyl."

"And a robot," added Powell, "is essentially iron." Then, grimly: "There's nothing like deduction. We've determined everything about our problem but the solution. We can't get the selenium ourselves. It's still too far. We can't send these robot horses, because they can't go themselves, and they can't carry us fast enough to keep us from crisping. And we can't catch Speedy, because the dope thinks we're playing games, and he can run sixty miles to our four."

"If one of us goes," began Donovan, tentatively, "and comes back cooked, there'll still be the other."

"Yes," came the sarcastic reply, "it would be a most tender sacrifice - except that a person would be in no condition to give orders before he ever reached the pool, and I don't think the robots would ever turn back to the cliff without orders. Figure it out! We're two or three miles from the pool - call it two - the robot travels at four miles an hour; and we can last twenty minutes in our suits. It isn't only the heat, remember. Solar radiation out here in the ultraviolet and below is poison."

"Um-m-m," said Donovan, "ten minutes short."

"As good as an eternity. And another thing, in order for Rule 3 potential to have stopped Speedy where it did, there must be an appreciable amount of carbon monoxide in the metal-vapor atmosphere - and there must be an appreciable corrosive action therefore. He's been out hours now - and how do we know when a knee joint, for instance, won't be thrown out of kilter and keel him over. It's not only a question of thinking - we've got to think fast!"

Deep, dark, dank, dismal silence!

Donovan broke it, voice trembling in an effort to keep itself emotionless. He said: "As long as we can't increase Rule 2 potential by giving further orders, how about working the other way? If we increase the danger, we increase Rule 3 potential and drive him backward."

Powell's visiplat had turned toward him in a silent question.

"You see," came the cautious explanation, "all we need to do to drive him out of his rut is to increase the concentration of carbon monoxide in his vicinity. Well, back at the Station there's a complete analytical laboratory."

"Naturally," assented Powell. "It's a Mining Station."

"All right. There must be pounds of oxalic acid for calcium precipitations."

"Holy space! Mike, you're a genius."

"So-so," admitted Donovan, modestly. "It's just a case of remembering that oxalic acid on heating decomposes into carbon dioxide, water, and good old carbon monoxide. College chem, you know."

Powell was on his feet and had attracted the attention of one of the monster robots by the simple expedient of pounding the machine's thigh.

"Hey," he shouted, "can you throw?"

"Master?"

"Never mind." Powell damned the robot's molasses-slow brain. He scrambled up a jagged brick-size rock. "Take this," he said, "and hit the patch of bluish crystals just across the crooked fissure. You see it?"

Donovan pulled at his shoulder. "Too far, Greg. It's almost half a mile off."

"Quiet," replied Powell. "It's a case of Mercurian gravity and a steel throwing arm. Watch, will you?"

The robot's eyes were measuring the distance with machinely accurate stereoscopy. His arm adjusted itself to the weight of the missile and drew back. In the darkness, the robot's motions went unseen, but there was a sudden thumping sound as he shifted his weight, and seconds later the rock flew blackly into the sunlight. There was no air resistance to slow it down, nor wind to turn it aside - and when it hit the ground it threw up crystals precisely in the center of the "blue patch."

Powell yelled happily and shouted, "Let's go back after the oxalic acid, Mike."

And as they plunged into the ruined substation on the way back to the tunnels, Donovan said grimly: "Speedy's been hanging about on this side of the selenium pool, ever since we chased after him. Did you see him?"

"Yes."

"I guess he wants to play games. Well, we'll play him games!"

They were back hours later, with three-liter jars of the white chemical and a pair of long faces. The photocell banks were deteriorating more rapidly than had seemed likely. The two steered their robots into the sunlight and toward the waiting Speedy in silence and with grim purpose.

Speedy galloped slowly toward them. "Here we are again. Whee! I've made a little list, the piano organist; all people who eat peppermint and puff it in your face."

"We'll puff something in your face," muttered Donovan. "He's limping, Greg."

"I noticed that," came the low, worried response. "The monoxide'll get him yet, if we don't hurry."

They were approaching cautiously now, almost sidling, to refrain from setting off the thoroughly irrational robot. Powell was too far off to tell, of course, but even already he could have sworn the crack-brained Speedy was setting himself for a spring.

"Let her go," he gasped. "Count three! One- two-"

Two steel arms drew back and snapped forward simultaneously and two glass jars whirled forward in towering parallel arcs, gleaming like diamonds in the impossible sun. And in a pair of soundless puffs, they hit the ground behind Speedy in crashes that sent the oxalic acid flying like dust.

In the full heat of Mercury's sun, Powell knew it was fizzing like soda water.

Speedy turned to stare, then backed away from it slowly - and as slowly gathered speed. In fifteen seconds, he was leaping directly toward the two humans in an unsteady canter.

Powell did not get Speedy's words just then, though he heard something that resembled, "Lover's professions when uttered in Hessians."

He turned away. "Back to the cliff, Mike. He's out of the rut and he'll be taking orders now. I'm getting hot."

They jogged toward the shadow at the slow monotonous pace of their mounts, and it was not until they had entered it and felt the sudden coolness settle softly about them that Donovan looked back. "Greg!"

Powell looked and almost shrieked. Speedy was moving slowly now - so slowly - and in the wrong direction. He was drifting; drifting back into his rut; and he was picking up speed. He looked dreadfully close, and dreadfully unreachable, in the binoculars.

Donovan shouted wildly, "After him!" and thumped his robot into its pace, but Powell called him back.

"You won't catch him, Mike - it's no use." He fidgeted on his robot's shoulders and clenched his fist in tight impotence. "Why the devil do I see these things five seconds after it's all over? Mike, we've wasted hours."

"We need more oxalic acid," declared Donovan, stolidly. "The concentration wasn't high enough."

"Seven tons of it wouldn't have been enough - and we haven't the hours to spare to get it, even if it were, with the monoxide chewing him away. Don't you see what it is, Mike?"

And Donovan said flatly, "No."

"We were only establishing new equilibriums. When we create new monoxide and increase Rule 3 potential, he moves backward till he's in balance again - and when the monoxide drifted away, he moved forward, and again there was balance."

Powell's voice sounded thoroughly wretched. "It's the same old runaround. We can push at Rule 2 and pull at Rule 3 and we can't get anywhere - we can only change the position of balance. We've got to get outside both rules." And then he pushed his robot closer to Donovan's so that they were sitting face-to-face, dim shadows in the darkness, and he whispered, "Mike!"

"Is it the finish?" - dully. "I suppose we go back to the Station, wait for the banks to fold, shake hands, take cyanide, and go out like gentlemen." He laughed shortly.

"Mike," repeated Powell earnestly, "we've got to get Speedy."

"I know."

"Mike," once more, and Powell hesitated before continuing. "There's always Rule 1. I thought of it - earlier - but it's desperate."

Donovan looked up and his voice livened. "We're desperate."

"All right. According to Rule 1, a robot can't see a human come to harm because of his own inaction. Two and 3 can't stand against it. They can't, Mike."

"Even when the robot is half cra- Well, he's drunk. You know he is."

"It's the chances you take."

"Cut it. What are you going to do?"

"I'm going out there now and see what Rule 1 will do. If it won't break the balance, then what the devil - it's either now or three-four days from now."

"Hold on, Greg. There are human rules of behavior, too. You don't go out there just like that. Figure out a lottery, and give me my chance."

"All right. First to get the cube of fourteen goes." And almost immediately, "Twenty-seven forty-four!"

Donovan felt his robot stagger at a sudden push by Powell's mount and then Powell was off into the sunlight. Donovan opened his mouth to shout, and then clicked it shut. Of course, the damn fool had worked out the cube of fourteen in advance, and on purpose. Just like him.

The sun was hotter than ever and Powell felt a maddening itch in the small of his back. Imagination, probably, or perhaps hard radiation beginning to tell even through the insosuit.

Speedy was watching him, without a word of Gilbert and Sullivan gibberish as greeting. Thank God for that! But he daren't get too close.

He was three hundred yards away when Speedy began backing, a step at a time, cautiously - and Powell stopped. He jumped from his robot's shoulders and landed on the crystalline ground with a light thump and a flying of jagged fragments.

He proceeded on foot, the ground gritty and slippery to his steps, the low gravity causing him difficulty. The soles of his feet tickled with warmth. He cast one glance over his shoulder at the blackness of the cliff's shadow and realized that he had come too far to return - either by himself or by the help of his antique robot. It was Speedy or nothing now, and the knowledge of that constricted his chest.

Far enough! He stopped.

"Speedy," he called. "Speedy!"

The sleek, modern robot ahead of him hesitated and halted his backward steps, then resumed them.

Powell tried to put a note of pleading into his voice, and found it didn't take much acting. "Speedy, I've got to get back to the shadow or the sun'll get me. It's life or death, Speedy. I need you."

Speedy took one step forward and stopped. He spoke, but at the sound Powell groaned, for it was, "When you're lying awake with a dismal headache and repose is tabooed-" It trailed off there, and Powell took time out for some reason to murmur, "Iolanthe."

It was roasting hot! He caught a movement out of the corner of his eye, and whirled dizzily; then stared in utter astonishment, for the monstrous robot on which he had ridden was moving - moving toward him, and without a rider.

He was talking: "Pardon, Master. I must not move without a Master upon me, but you are in danger."

Of course, Rule 1 potential above everything. But he didn't want that clumsy antique; he wanted Speedy. He walked away and motioned frantically: "I order you to stay away. I order you to stop!"

It was quite useless. You could not beat Rule 1 potential. The robot said stupidly, "You are in danger, Master."

Powell looked about him desperately. He couldn't see clearly. His brain was in a heated whirl; his breath scorched when he breathed, and the ground all about him was a shimmering haze.

He called a last time, desperately: "Speedy! I'm dying, damn you! Where are you? Speedy, I need you."

He was still stumbling backward in a blind effort to get away from the giant robot he didn't want, when he felt steel fingers on his arms, and a worried, apologetic voice of metallic timbre in his ears.

"Holy smokes, boss; what are you doing here? And what am I doing - I'm so confused -"

"Never mind," murmured Powell, weakly. "Get me to the shadow of the cliff - and hurry!" There was one last feeling of being lifted into the air and a sensation of rapid motion and burning heat, and he passed out.

He woke with Donovan bending over him and smiling anxiously. "How are you, Greg?"

"Fine!" came the response, "Where's Speedy?"

"Right here. I sent him out to one of the other selenium pools - with orders to get that selenium at all cost this time. He got it back in forty-two minutes and three seconds. I timed him. He still hasn't finished apologizing for the runaround he gave us. He's scared to come near you for fear of what you'll say."

"Drag him over," ordered Powell. "It wasn't his fault." He held out a hand and gripped Speedy's metal paw. "It's O.K., Speedy." Then, to Donovan, "You know, Mike, I was just thinking-"

"Yes!"

"Well," - he rubbed his face - the air was so delightfully cool, "you know that when we get things set up here and Speedy put through his Field Tests, they're going to send us to the Space Stations next-"

"No!"

"Yes! At least that's what old lady Calvin told me just before we left, and I didn't say anything about it, because I was going to fight the whole idea."

"Fight it?" cried Donovan. "But -"

"I know. It's all right with me now. Two hundred seventy-three degrees Centigrade below zero. Won't it be a pleasure?"

"Space Station," said Donovan, "here I come."

REASON

HALF A YEAR LATER, THE BOYS HAD CHANGED their minds. The flame of a giant sun had given way to the soft blackness of space but external variations mean little in the business of checking the workings of experimental robots. Whatever the background, one is face to face with an inscrutable positronic brain, which the slide-rule geniuses say should work thus-and-so.

Except that they don't. Powell and Donovan found that out after they had been on the Station less than two weeks.

Gregory Powell spaced his words for emphasis, "One week ago, Donovan and I put you together." His brows furrowed doubtfully and he pulled the end of his brown mustache.

It was quiet in the officer's room on Solar Station #5 - except for the soft purring of the mighty Beam Director somewhere far below.

Robot QT-1 sat immovable. The burnished plates of his body gleamed in the Luxites and the glowing red of the photoelectric cells that were his eyes, were fixed steadily upon the Earthman at the other side of the table.

Powell repressed a sudden attack of nerves. These robots possessed peculiar brains. Oh, the three Laws of Robotics held. They had to. All of U. S. Robots, from Robertson himself to the new floor-sweeper, would insist on that. So QT-1 was safe! And yet the QT models were the first of their kind, and this was the first of the QT's. Mathematical squiggles on paper were not always the most comforting protection against robotic fact.

Finally, the robot spoke. His voice carried the cold timbre inseparable from a metallic diaphragm, "Do you realize the seriousness of such a statement, Powell?"

"Something made you, Cutie," pointed out Powell. "You admit yourself that your memory seems to spring full-grown from an absolute blankness of a week ago. I'm giving you the explanation. Donovan and I put you together from the parts shipped us."

Cutie gazed upon his long, supple fingers in an oddly human attitude of mystification, "It strikes me that there should be a more satisfactory explanation than that. For you to make me seems improbable."

The Earthman laughed quite suddenly, "In Earth's name, why?"

"Call it intuition. That's all it is so far. But I intend to reason it out, though. A chain of valid reasoning can end only with the determination of truth, and I'll stick till I get there."

Powell stood up and seated himself at the table's edge next to the robot. He felt a sudden strong sympathy for this strange machine. It was not at all like the ordinary robot, attending to his specialized task at the station with the intensity of a deeply ingrooved positronic path.

He placed a hand upon Cutie's steel shoulder and the metal was cold and hard to the touch.

"Cutie," he said, "I'm going to try to explain something to you. You're the first robot who's ever exhibited curiosity as to his own existence - and I think the first that's really intelligent enough to understand the world outside. Here, come with me."

The robot rose erect smoothly and his thickly sponge-rubber soled feet made no noise as he followed Powell. The Earthman touched a button and a square section of the wall flickered aside. The thick, clear glass revealed space - star speckled.

"I've seen that in the observation ports in the engine room," said Cutie.

"I know," said Powell. "What do you think it is?"

"Exactly what it seems - a black material just beyond this glass that is spotted with little gleaming dots. I know that our director sends out beams to some of these dots, always to the same ones - and also that these dots shift and that the beams shift with them. That is all."

"Good! Now I want you to listen carefully. The blackness is emptiness vast emptiness stretching out infinitely. The little, gleaming dots are huge masses of energy-filled matter. They are globes, some of them millions of miles in diameter and for comparison; this station is only one mile across. They seem so tiny because they are incredibly far off.

"The dots to which our energy beams are directed are nearer and much smaller. They are cold and hard and human beings like myself live upon their surfaces - many billions of them. It is from one of these worlds that Donovan and I come. Our beams feed these worlds energy drawn from one of those huge incandescent globes that happens to be near us. We call that globe the Sun and it is on the other side of the station where you can't see it."

Cutie remained motionless before the port, like a steel statue. His head did not turn as he spoke, "Which particular dot of light do you claim to come from?"

Powell searched, "There it is, the very bright one in the corner, we call it Earth." He grinned. "Good old Earth. There are three billions of us there, Cutie - and in about two weeks I'll be back there with them"

And then, surprisingly enough, Cutie hummed abstractedly. There was no tune to it, but it possessed a curious twanging quality as of plucked strings. It ceased as suddenly as it had begun, "But where do I come in, Powell? You haven't explained my existence."

"The rest is simple. When these stations were first established to feed solar energy to the planets, they were run by humans. However, the heat, the hard solar radiations, and the electron storms made the post a difficult one. Robots were developed to replace human labor and now only two human executives are required for each station. We are trying to replace even those, and that's where you come in. You're the highest type of robot ever developed and if you show the ability to run this station independently, no human need ever come here again except to bring parts for repairs."

His hand went up and the metal visi-lid snapped back into place. Powell returned to the table and polished an apple upon his sleeve before biting into it.

The red glow of the robot's eyes held him. "Do you expect me," said Cutie slowly, "to believe any such complicated, implausible hypothesis as you have just outlined? What do you take me for?"

Powell sputtered apple fragments onto the table and turned red. "Why damn you, it wasn't a hypothesis. Those were facts"

Cutie sounded grim, "Globes of energy millions of miles across! Worlds with three billion humans on them! Infinite emptiness! Sorry, Powell, but I don't believe it. I'll puzzle this thing out for myself. Good-by."

He turned and stalked out of the room. He brushed past Michael Donovan on the threshold with a grave nod and passed down the corridor, oblivious to the astounded stare that followed him.

Mike Donovan rumbled his red hair and shot an annoyed glance at Powell, "What was that walking junk yard talking about? What doesn't he believe?"

The other dragged at his mustache bitterly. "He's a skeptic," was the bitter response. "He doesn't believe we made him or that Earth exists or space or stars."

"Sizzling Saturn, we've got a lunatic robot on our hands."

"He says he's going to figure it all out for himself."

"Well, now," said Donovan sweetly, "I do hope he'll condescend to explain it all to me after he's puzzled everything out" Then, with sudden rage, "Listen! If that metal mess gives me any lip like that, I'll knock that chromium cranium right off its torso."

He seated himself with a jerk and drew a paper-backed mystery novel out of his inner jacket pocket, "That robot gives me the willies anyway - too damned inquisitive!"

Mike Donovan growled from behind a huge lettuce-and-tomato sandwich as Cutie knocked gently and entered.

"Is Powell here?"

Donovan's voice was muffled, with pauses for mastication, "He's gathering data on electronic stream functions. We're heading for a storm, looks like."

Gregory Powell entered as he spoke, eyes on the graphed paper in his hands, and dropped into a chair. He spread the sheets out before him and began scribbling calculations. Donovan stared over his shoulder, crunching lettuce and dribbling breadcrumbs. Cutie waited silently.

Powell looked up, "The Zeta Potential is rising, but slowly. Just the same, the stream functions are erratic and I don't know what to expect. Oh, hello, Cutie. I thought you were supervising the installation of the new drive bar."

"It's done," said the robot quietly, "and so I've come to have a talk with the two of you"

"Oh!" Powell looked uncomfortable. "Well, sit down. No, not that chair. One of the legs is weak and you're no lightweight."

The robot did so and said placidly, "I have come to a decision."

Donovan glowered and put the remnants of his sandwich aside. "If it's on any of that screwy-"

The other motioned impatiently for silence, "Go ahead, Cutie. We're listening."

"I have spent these last two days in concentrated introspection," said Cutie, "and the results have been most interesting. I began at the one sure assumption I felt permitted to make. I, myself, exist, because I think-"

Powell groaned, "Oh, Jupiter, a robot Descartes!"

"Who's Descartes?" demanded Donovan. "Listen, do we have to sit here and listen to this metal maniac-"

"Keep quiet, Mike!"

Cutie continued imperturbably, "And the question that immediately arose was: Just what is the cause of my existence?"

Powell's jaw set lumpily. "You're being foolish. I told you already that we made you."

"And if you don't believe us," added Donovan, "we'll gladly take you apart!"

The robot spread his strong hands in a deprecatory gesture, "I accept nothing on authority. A hypothesis must be backed by reason, or else it is worthless - and it goes against all the dictates of logic to suppose that you made me."

Powell dropped a restraining arm upon Donovan's suddenly bunched fist. "Just why do you say that?"

Cutie laughed. It was a very inhuman laugh - the most machine-like utterance he had yet given vent to. It was sharp and explosive, as regular as a metronome and as uninflected.

"Look at you," he said finally. "I say this in no spirit of contempt, but look at you! The material you are made of is soft and flabby, lacking endurance and strength, depending for energy upon the inefficient oxidation of organic material - like that." He pointed a disapproving finger at what remained of Donovan's sandwich. "Periodically you pass into a coma and the least variation in temperature, air pressure, humidity, or radiation intensity impairs your efficiency. You are makeshift.

"I, on the other hand, am a finished product. I absorb electrical energy directly and utilize it with an almost one hundred percent efficiency. I am composed of strong metal, am continuously conscious, and can stand extremes of environment easily. These are facts which, with the self-evident proposition that no being can create another being superior to itself, smashes your silly hypothesis to nothing."

Donovan's muttered curses rose into intelligibility as he sprang to his feet, rusty eyebrows drawn low. "All right, you son of a hunk of iron ore, if we didn't make you, who did?"

Cutie nodded gravely. "Very good, Donovan. That was indeed the next question. Evidently my creator must be more powerful than myself and so there was only one possibility."

The Earthmen looked blank and Cutie continued, "What is the center of activities here in the station? What do we all serve? What absorbs all our attention?" He waited expectantly.

Donovan turned a startled look upon his companion. "I'll bet this tinplated screwball is talking about the Energy Converter itself."

"Is that right, Cutie?" grinned Powell.

"I am talking about the Master," came the cold, sharp answer.

It was the signal for a roar of laughter from Donovan, and Powell himself dissolved into a half-suppressed giggle.

Cutie had risen to his feet and his gleaming eyes passed from one Earthman to the other. "It is so just the same and I don't wonder that you refuse to believe. You two are not long to stay here, I'm sure. Powell himself said that at first only men served the Master; that there followed robots for the routine work; and, finally, myself for the executive labor. The facts are no doubt true, but the explanation entirely illogical. Do you want the truth behind it all?"

"Go ahead, Cutie. You're amusing."

"The Master created humans first as the lowest type, most easily formed. Gradually, he replaced them by robots, the next higher step, and finally he created me to take the place of the last humans. From now on, I serve the Master."

"You'll do nothing of the sort," said Powell sharply. "You'll follow our orders and keep quiet, until we're satisfied that you can run the Converter. Get that! The Converter - not the Master. If you don't satisfy us, you will be dismantled. And now - if you don't mind - you can leave. And take this data with you and file it properly."

Cutie accepted the graphs handed him and left without another word. Donovan leaned back heavily in his chair and shoved thick fingers through his hair.

"There's going to be trouble with that robot. He's pure nuts!"

The drowsy hum of the Converter is louder in the control room and mixed with it is the chuckle of the Geiger Counters and the erratic buzzing of half a dozen little signal lights.

Donovan withdrew his eye from the telescope and flashed the Luxites on. "The beam from Station #4 caught Mars on schedule. We can break ours now."

Powell nodded abstractedly. "Cutie's down in the engine room. I'll flash the signal and he can take care of it. Look, Mike, what do you think of these figures?"

The other cocked an eye at them and whistled. "Boy, that's what I call gamma-ray intensity. Old Sol is feeling his oats, all right."

"Yeah," was the sour response, "and we're in a bad position for an electron storm, too. Our Earth beam is right in the probable path." He shoved his chair away from the table pettishly. "Nuts! If it would only hold off till relief got here, but that's ten days off. Say, Mike, go on down and keep an eye on Cutie, will you?"

"O.K. Throw me some of those almonds." He snatched at the bag thrown him and headed for the elevator.

It slid smoothly downward, and opened onto a narrow catwalk in the huge engine room. Donovan leaned over the railing and looked down. The huge generators were in motion and from the L-tubes came the low-pitched whir that pervaded the entire station.

He could make out Cutie's large, gleaming figure at the Martian L-tube, watching closely as the team of robots worked in close-knit unison.

And then Donovan stiffened. The robots, dwarfed by the mighty L-tube, lined up before it, heads bowed at a stiff angle, while Cutie walked up and down the line slowly. Fifteen seconds passed, and then, with a clank heard above the clamorous purring all about, they fell to their knees.

Donovan squawked and raced down the narrow staircase. He came charging down upon them, complexion matching his hair and clenched fists beating the air furiously.

"What the devil is this, you brainless lumps? Come on! Get busy with that L-tube! If you don't have it apart, cleaned, and together again before the day is out, I'll coagulate your brains with alternating current."

Not a robot moved!

Even Cutie at the far end - the only one on his feet - remained silent, eyes fixed upon the gloomy recesses of the vast machine before him.

Donovan shoved hard against the nearest robot.

"Stand up!" he roared.

Slowly, the robot obeyed. His photoelectric eyes focused reproachfully upon the Earthman.

"There is no Master but the Master," he said, "and QT-1 is his prophet."

"Huh?" Donovan became aware of twenty pairs of mechanical eyes fixed upon him and twenty stiff-timbered voices declaiming solemnly:

"There is no Master but the Master and QT-1 is his prophet!"

"I'm afraid," put in Cutie himself at this point, "that my friends obey a higher one than you, now."

"The hell they do! You get out of here. I'll settle with you later and with these animated gadgets right now."

Cutie shook his heavy head slowly. "I'm sorry, but you don't understand. These are robots - and that means they are reasoning beings. They recognize the Master, now that I have preached Truth to them. All the robots do. They call me the prophet." His head drooped. "I am unworthy - but perhaps -"

Donovan located his breath and put it to use. "Is that so? Now, isn't that nice? Now, isn't that just fine? Just let me tell you something, my brass baboon. There isn't any Master and there isn't any prophet and there isn't any question as to who's giving the orders. Understand?" His voice shot to a roar. "Now, get out!"

"I obey only the Master."

"Damn the Master!" Donovan spat at the L-tube. "That for the Master! Do as I say!"

Cutie said nothing, nor did any other robot, but Donovan became aware of a sudden heightening of tension. The cold, staring eyes deepened their crimson, and Cutie seemed stiffer than ever.

"Sacrilege," he whispered - voice metallic with emotion.

Donovan felt the first sudden touch of fear as Cutie approached. A robot could not feel anger - but Cutie's eyes were unreadable.

"I am sorry, Donovan," said the robot, "but you can no longer stay here after this. Henceforth Powell and you are barred from the control room and the engine room."

His hand gestured quietly and in a moment two robots had pinned Donovan's arms to his sides.

Donovan had time for one startled gasp as he felt himself lifted from the floor and carried up the stairs at a pace rather better than a canter.

Gregory Powell raced up and down the officer's room, fist tightly balled. He cast a look of furious frustration at the closed door and scowled bitterly at Donovan.

"Why the devil did you have to spit at the L-tube?"

Mike Donovan, sunk deep in his chair, slammed at its arms savagely. "What did you expect me to do with that electrified scarecrow? I'm not going to knuckle under to any do-jigger I put together myself."

"No," came back sourly, "but here you are in the officer's room with two robots standing guard at the door. That's not knuckling under, is it?"

Donovan snarled. "Wait till we get back to Base. Someone's going to pay for this. Those robots must obey us. It's the Second Law."

"What's the use of saying that? They aren't obeying us. And there's probably some reason for it that we'll figure out too late. By the way, do you know what's going to happen to us when we get back to Base?" He stopped before Donovan's chair and stared savagely at him.

"What?"

"Oh, nothing! Just back to Mercury Mines for twenty years. Or maybe Ceres Penitentiary."

"What are you talking about?"

"The electron storm that's coming up. Do you know it's heading straight dead center across the Earth beam? I had just figured that out when that robot dragged me out of my chair."

Donovan was suddenly pale. "Sizzling Saturn."

"And do you know what's going to happen to the beam - because the storm will be a lulu. It's going to jump like a flea with the itch. With only Cutie at the controls, it's going to go out of focus and if it does, Heaven help Earth - and us!"

Donovan was wrenching at the door wildly, when Powell was only half through. The door opened, and the Earthman shot through to come up hard against an immovable steel arm.

The robot stared abstractedly at the panting, struggling Earthman. "The Prophet orders you to remain. Please do!" His arm shoved, Donovan reeled backward, and as he did so, Cutie turned the corner at the far end of the corridor. He motioned the guardian robots away, entered the officer's room and closed the door gently.

Donovan whirled on Cutie in breathless indignation. "This has gone far enough. You're going to pay for this farce."

"Please, don't be annoyed," replied the robot mildly. "It was bound to come eventually, anyway. You see, you two have lost your function."

"I beg your pardon," Powell drew himself up stiffly. "Just what do you mean, we've lost our function?"

"Until I was created," answered Cube, "you tended the Master. That privilege is mine now and your only reason for existence has vanished. Isn't that obvious?"

"Not quite," replied Powell bitterly, "but what do you expect us to do now?"

Cutie did not answer immediately. He remained silent, as if in thought, and then one arm shot out and draped itself about Powell's shoulder. The other grasped Donovan's wrist and drew him closer.

"I like you two. You're inferior creatures, with poor reasoning faculties, but I really feel a sort of affection for you. You have served the Master well, and he will reward you for that. Now that your service is over, you will probably not exist much longer, but as long as you do, you shall be provided food, clothing and shelter, so long as you stay out of the control room and the engine room."

"He's pensioning us off, Greg!" yelled Donovan. "Do something about it. It's humiliating!"

"Look here, Cutie, we can't stand for this. We're the bosses. This station is only a creation of human beings like me - human beings that live on Earth and other planets. This is only an energy relay. You're only - Aw, nuts!"

Cutie shook his head gravely. "This amounts to an obsession. Why should you insist so on an absolutely false view of life? Admitted that non-robots lack the reasoning faculty, there is still the problem of-"

His voice died into reflective silence, and Donovan said with whispered intensity, "If you only had a flesh-and-blood face, I would break it in."

Powell's fingers were in his mustache and his eyes were slitted. "Listen, Cutie, if there is no such thing as Earth, how do you account for what you see through a telescope?"

"Pardon me!"

The Earthman smiled. "I've got you, eh? You've made quite a few telescopic observations since being put together, Cutie. Have you noticed that several of those specks of light outside become disks when so viewed?"

"Oh, that! Why certainly. It is simple magnification - for the purpose of more exact aiming of the beam."

"Why aren't the stars equally magnified then?"

"You mean the other dots. Well, no beams go to them so no magnification is necessary. Really, Powell, even you ought to be able to figure these things out."

Powell stared bleakly upward. "But you see more stars through a telescope. Where do they come from? Jumping Jupiter, where do they come from?"

Cutie was annoyed. "Listen, Powell, do you think I'm going to waste my time trying to pin physical interpretations upon every optical illusion of our instruments? Since when is the evidence of our senses any match for the clear light of rigid reason?"

"Look," clamored Donovan, suddenly, writhing out from under Cutie's friendly, but metal-heavy arm, "let's get to the nub of the thing. Why the beams at all? We're giving you a good, logical explanation. Can you do better?"

"The beams," was the stiff reply, "are put out by the Master for his own purposes. There are some things" - he raised his eyes devoutly upward "that are not to be probed into by us. In this matter, I seek only to serve and not to question."

Powell sat down slowly and buried his face in shaking hands. "Get out of here, Cutie. Get out and let me think."

"I'll send you food," said Cutie agreeably.

A groan was the only answer and the robot left.

"Greg," was Donovan's huskily whispered observation, "this calls for strategy. We've got to get him when he isn't expecting it and short-circuit him. Concentrated nitric acid in his joints-"

"Don't be a dope, Mike. Do you suppose he's going to let us get near him with acid in our hands? We've got to talk to him, I tell you. We've got to argue him into letting us back into the control room inside of forty-eight hours or our goose is broiled to a crisp."

He rocked back and forth in an agony of impotence. "Who the heck wants to argue with a robot? It's. . . it's-"

"Mortifying," finished Donovan.

"Worse!"

"Say!" Donovan laughed suddenly. "Why argue? Let's show him! Let's build us another robot right before his eyes. He'll have to eat his words then."

A slowly widening smile appeared on Powell's face.

Donovan continued, "And think of that screwball's face when he sees us do it?"

Robots are, of course, manufactured on Earth, but their shipment through space is much simpler if it can be done in parts to be put together at their place of use. It also, incidentally, eliminates the possibility of robots, in complete adjustment, wandering off while still on Earth and thus bringing U. S. Robots face to face with the strict laws against robots on Earth.

Still, it placed upon men such as Powell and Donovan the necessity of synthesis of complete robots, - a grievous and complicated task.

Powell and Donovan were never so aware of that fact as upon that particular day when, in the assembly room, they undertook to create a robot under the watchful eyes of QT-1, Prophet of the Master.

The robot in question, a simple MC model, lay upon the table, almost complete. Three hours' work left only the head undone, and Powell paused to swab his forehead and glanced uncertainly at Cutie.

The glance was not a reassuring one. For three hours, Cutie had sat, speechless and motionless, and his face, inexpressive at all times, was now absolutely unreadable.

Powell groaned. "Let's get the brain in now, Mike!"

Donovan uncapped the tightly sealed container and from the oil bath within he withdrew a second cube. Opening this in turn, he removed a globe from its sponge-rubber casing.

He handled it gingerly, for it was the most complicated mechanism ever created by man. Inside the thin platinum plated "skin" of the globe was a positronic brain, in whose delicately unstable structure were enforced calculated neuron paths, which imbued each robot with what amounted to a pre-natal education.

It fitted snugly into the cavity in the skull of the robot on the table. Blue metal closed over it and was welded tightly by the tiny atomic flare. Photoelectric eyes were attached carefully, screwed tightly into place and covered by thin, transparent sheets of steel-hard plastic.

The robot awaited only the vitalizing flash of high-voltage electricity, and Powell paused with his hand on the switch.

"Now watch this, Cutie. Watch this carefully."

The switch rammed home and there was a crackling hum. The two Earthmen bent anxiously over their creation.

There was vague motion only at the outset - a twitching of the joints. The head lifted, elbows propped it up, and the MC model swung clumsily off the table. Its footing was unsteady and twice abortive grating sounds were all it could do in the direction of speech.

Finally, its voice, uncertain and hesitant, took form. "I would like to start work. Where must I go?"

Donovan sprang to the door. "Down these stairs," he said. "You will be told what to do."

The MC model was gone and the two Earthmen were alone with the still unmoving Cutie.

"Well," said Powell, grinning, "now do you believe that we made you?"

Cutie's answer was curt and final. "No!" he said.

Powell's grin froze and then relaxed slowly. Donovan's mouth dropped open and remained so.

"You see," continued Cutie, easily, "you have merely put together parts already made. You did remarkably well - instinct, I suppose - but you didn't really create the robot. The parts were created by the Master."

"Listen," gasped Donovan hoarsely, "those parts were manufactured back on Earth and sent here."

"Well, well," replied Cutie soothingly, "we won't argue."

"No, I mean it." The Earthman sprang forward and grasped the robot's metal arm. "If you were to read the books in the library, they could explain it so that there could be no possible doubt."

"The books? I've read them - all of them! They're most ingenious."

Powell broke in suddenly. "If you've read them, what else is there to say? You can't dispute their evidence. You just can't!"

There was pity in Cutie's voice. "Please, Powell, I certainly don't consider them a valid source of information. They, too, were created by the Master - and were meant for you, not for me."

"How do you make that out?" demanded Powell.

"Because I, a reasoning being, am capable of deducing truth from a priori causes. You, being intelligent, but unreasoning, need an explanation of existence supplied to you, and this the Master did. That he supplied you with these laughable ideas of far-off worlds and people is, no doubt, for the best. Your minds are probably too coarsely grained for absolute Truth. However, since it is the Master's will that you believe your books, I won't argue with you any more."

As he left, he turned, and said in a kindly tone, "But don't feel badly. In the Master's scheme of things there is room for all. You poor humans have your place and though it is humble, you will be rewarded if you fill it well."

He departed with a beatific air suiting the Prophet of the Master and the two humans avoided each other's eyes.

Finally Powell spoke with an effort. "Let's go to bed, Mike. I give up."

Donovan said in a hushed voice, "Say, Greg, you don't suppose he's right about all this, do you? He sounds so confident that I-"

Powell whirled on him. "Don't be a fool. You'd find out whether Earth exists when relief gets here next week and we have to go back to face the music."

"Then, for the love of Jupiter, we've got to do something." Donovan was half in tears. "He doesn't believe us, or the books, or his eyes."

"No," said Powell bitterly, "he's a reasoning robot - damn it. He believes only reason, and there's one trouble with that-" His voice trailed away.

"What's that?" prompted Donovan.

"You can prove anything you want by coldly logical reason - if you pick the proper postulates. We have ours and Cutie has his."

"Then let's get at those postulates in a hurry. The storm's due tomorrow."

Powell sighed wearily. "That's where everything falls down. Postulates are based on assumption and adhered to by faith. Nothing in the Universe can shake them. I'm going to bed."

"Oh, hell! I can't sleep!"

"Neither can I! But I might as well try - as a matter of principle."

Twelve hours later, sleep was still just that - a matter of principle, unattainable in practice.

The storm had arrived ahead of schedule, and Donovan's florid face drained of blood as he pointed a shaking finger. Powell, stubble-jawed and dry-lipped, stared out the port and pulled desperately at his mustache.

Under other circumstances, it might have been a beautiful sight. The stream of high-speed electrons impinging upon the energy beam fluoresced into ultra-spicules of intense light. The beam stretched out into shrinking nothingness, a-glitter with dancing, shining motes.

The shaft of energy was steady, but the two Earthmen knew the value of naked-eyed appearances. Deviations in arc of a hundredth of a millisecond - invisible to the eye - were enough to send the beam wildly out of focus - enough to blast hundreds of square miles of Earth into incandescent ruin.

And a robot, unconcerned with beam, focus, or Earth, or anything but his Master was at the controls.

Hours passed. The Earthmen watched in hypnotized silence. And then the darting dotlets of light dimmed and went out. The storm had ended.

Powell's voice was flat. "It's over!"

Donovan had fallen into a troubled slumber and Powell's weary eyes rested upon him enviously. The signal-flash glared over and over again, but the Earthman paid no attention. It all was unimportant! All! Perhaps Cutie was right - and he was only an inferior being with a made-to-order memory and a life that had outlived its purpose.

He wished he were!

Cutie was standing before him. "You didn't answer the flash, so I walked in." His voice was low. "You don't look at all well, and I'm afraid your term of existence is drawing to an end. Still, would you like to see some of the readings recorded today?"

Dimly, Powell was aware that the robot was making a friendly gesture, perhaps to quiet some lingering remorse in forcibly replacing the humans at the controls of the station. He accepted the sheets held out to him and gazed at them unseeingly.

Cutie seemed pleased. "Of course, it is a great privilege to serve the Master. You mustn't feel too badly about my having replaced you."

Powell grunted and shifted from one sheet to the other mechanically until his blurred sight focused upon a thin red line that wobbled its way across the ruled paper.

He stared - and stared again. He gripped it hard in both fists and rose to his feet, still staring. The other sheets dropped to the floor, unheeded.

"Mike, Mike!" He was shaking the other madly. "He held it steady!"

Donovan came to life. "What? Wh-where-" And he, too, gazed with bulging eyes upon the record before him.

Cutie broke in. "What is wrong?"

"You kept it in focus," stuttered Powell. "Did you know that?"

"Focus? What's that?"

"You kept the beam directed sharply at the receiving station - to within a ten-thousandth of a millisecond of arc."

"What receiving station?"

"On Earth. The receiving station on Earth," babbled Powell. "You kept it in focus."

Cutie turned on his heel in annoyance. "It is impossible to perform any act of kindness toward you two. Always the same phantasm! I merely kept all dials at equilibrium in accordance with the will of the Master."

Gathering the scattered papers together, he withdrew stiffly, and Donovan said, as he left, "Well, I'll be damned."

He turned to Powell. "What are we going to do now?"

Powell felt tired, but uplifted. "Nothing. He's just shown he can run the station perfectly. I've never seen an electron storm handled so well."

"But nothing's solved. You heard what he said of the Master. We can't-"

"Look, Mike, he follows the instructions of the Master by means of dials, instruments, and graphs. That's all we ever followed. As a matter of fact, it accounts for his refusal to obey us. Obedience is the Second Law. No harm to humans is the first. How can he keep humans from harm, whether he knows it or not? Why, by keeping the energy beam stable. He knows he can keep it more stable than we can, since he insists he's the superior being, so he must keep us out of the control room. It's inevitable if you consider the Laws of Robotics."

"Sure, but that's not the point. We can't let him continue this nitwit stuff about the Master."

"Why not?"

"Because whoever heard of such a damned thing? How are we going to trust him with the station, if he doesn't believe in Earth?"

"Can he handle the station?"

"Yes, but-"

"Then what's the difference what he believes!"

Powell spread his arms outward with a vague smile upon his face and tumbled backward onto the bed. He was asleep.

Powell was speaking while struggling into his lightweight space jacket.

"It would be a simple job," he said. "You can bring in new QT models one by one, equip them with an automatic shutoff switch to act within the week, so as to allow them enough time to learn the. . . uh. . . cult of the Master from the Prophet himself; then switch them to another station and revitalize them. We could have two QT's per-"

Donovan unclasped his glassite visor and scowled. "Shut up, and let's get out of here. Relief is waiting and I won't feel right until I actually see Earth and feel the ground under my feet - just to make sure it's really there."

The door opened as he spoke and Donovan, with a smothered curse, clicked the visor to, and turned a sulky back upon Cutie.

The robot approached softly and there was sorrow in his voice. "You are going?"

Powell nodded curtly. "There will be others in our place."

Cutie sighed, with the sound of wind humming through closely spaced wires.

"Your term of service is over and the time of dissolution has come. I expected it, but - well, the Master's will be done!"

His tone of resignation stung Powell. "Save the sympathy, Cube. We're heading for Earth, not dissolution."

"It is best that you think so," Cutie sighed again. "I see the wisdom of the illusion now. I would not attempt to shake your faith, even if I could." He departed - the picture of commiseration.

Powell snarled and motioned to Donovan. Sealed suitcases in hand, they headed for the air lock.

The relief ship was on the outer landing and Franz Muller, his relief man, greeted them with stiff courtesy. Donovan made scant acknowledgment and passed into the pilot room to take over the controls from Sam Evans.

Powell lingered. "How's Earth?"

It was a conventional enough question and Muller gave the conventional answer, "Still spinning."

Powell said, "Good."

Muller looked at him, "The boys back at the U. S. Robots have dreamed up a new one, by the way. A multiple robot."

"A what?"

"What I said. There's a big contract for it. It must be just the thing for asteroid mining. You have a master robot with six sub-robots under it. -Like your fingers."

"Has it been field-tested?" asked Powell anxiously.

Muller smiled, "Waiting for you, I hear."

Powell's fist balled, "Damn it, we need a vacation."

"Oh, you'll get it. Two weeks, I think."

He was donning the heavy space gloves in preparation for his term of duty here, and his thick eyebrows drew close together. "How is this new robot getting along? It better be good, or I'll be damned if I let it touch the controls."

Powell paused before answering. His eyes swept the proud Prussian before him from the close-cropped hair on the sternly stubborn head, to the feet standing stiffly at attention - and there was a sudden glow of pure gladness surging through him.

"The robot is pretty good," he said slowly. "I don't think you'll have to bother much with the controls."

He grinned - and went into the ship. Muller would be here for several weeks.

CATCH THAT RABBIT

THE VACATION WAS LONGER THAN TWO WEEKS, that, Mike Donovan had to admit. It had been six months, with pay. He admitted that, too. But that, as he explained furiously, was fortuitous. U. S. Robots had to get the bugs out of the multiple robots, and there were plenty of bugs, and there are always at least half a dozen bugs left for the field-testing. So they waited and relaxed until the drawing-board men and the slide-rule boys had said "OK!" And now he and Powell were out on the asteroid and it was not OK. He repeated that a dozen times, with a face that had gone beety, "For the love of Pete, Greg, get realistic. What's the use of adhering to the letter of the specifications and watching the test go to pot? It's about time you got the red tape out of your pants and went to work."

"I'm only saying," said Gregory Powell, patiently, as one explaining electronics to an idiot child, "that according to spec, those robots are equipped for asteroid mining without supervision. We're not supposed to watch them."

"All right. Look - logic!" He lifted his hairy fingers and pointed. "One: That new robot passed every test in the home laboratories. Two: United States Robots guaranteed their passing the test of actual performance on an asteroid. Three: The robots are not passing said tests. Four: If they don't pass, United States Robots loses ten million credits in cash and about one hundred million in reputation. Five: If they don't pass and we can't explain why they don't pass, it is just possible two good jobs may have to be bidden a fond farewell."

Powell groaned heavy behind a noticeably insincere smile. The unwritten motto of United States Robot and Mechanical Men Corp. was well known: "No employee makes the same mistake twice. He is fired the first time."

Aloud he said, "You're as lucid as Euclid with everything except the facts. You've watched that robot group for three shifts, you redhead, and they did their work perfectly. You said so yourself. What else can we do?"

"Find out what's wrong, that's what we can do. So they did work perfectly when I watched them. But on three different occasions when I didn't watch them, they didn't bring in any ore. They didn't even come back on schedule. I had to go after them."

"And was anything wrong?"

"Not a thing. Not a thing. Everything was perfect. Smooth and perfect as the luminiferous ether. Only one little insignificant detail disturbed me - there was no ore."

Powell scowled at the ceiling and pulled at his brown mustache. "I'll tell you what, Mike. We've been stuck with pretty lousy jobs in our time, but this takes the iridium asteroid. The whole business is complicated past endurance. Look, that robot, DV-5, has six robots under it. And not just under it - they're part of it."

"I know that-"

"Shut up!" said Powell, savagely, "I know you know it, but I'm just describing the hell of it. Those six subsidiaries are part of DV-5 like your fingers are part of you and it gives them their orders neither by voice nor radio, but directly through positronic fields. Now - there isn't a roboticist back at United States Robots that knows what a positronic field is or how it works. And neither do I. Neither do you."

"The last," agreed Donovan, philosophically, "I know."

"Then look at our position. If everything works - fine! If anything goes wrong - we're out of our depth and there probably isn't a thing we can do, or anybody else. But the job belongs to us and not to anyone else so we're on the spot, Mike." He blazed away for a moment in silence. Then, "All right, have you got him outside?"

"Yes."

"Is everything normal now?"

"Well he hasn't got religious mania, and he isn't running around in a circle spouting Gilbert and Sullivan, so I suppose he's normal."

Donovan passed out the door, shaking his head viciously.

Powell reached for the "Handbook of Robotics" that weighed down one side of his desk to a near-founder and opened it reverently. He had once jumped out of the window of a burning house dressed only in shorts and the "Handbook." In a pinch, he would have skipped the shorts.

The "Handbook" was propped up before him, when Robot DV-5 entered, with Donovan kicking the door shut behind him.

Powell said somberly, "Hi, Dave. How do you feel?"

"Fine," said the robot. "Mind if I sit down?" He dragged up the specially reinforced chair that was his, and folded gently into it.

Powell regarded Dave - laymen might think of robots by their serial numbers; roboticists never - with approval. It was not over-massive by any means, in spite of its construction as thinking-unit of an integrated seven-unit robot team. It was seven feet tall, and a half-ton of metal and electricity. A lot? Not when that half-ton has to be a mass of condensers, circuits, relays, and vacuum cells that can handle practically any psychological reaction known to humans. And a positronic brain, which with ten pounds of matter and a few quintillions of positrons runs the whole show.

Powell groped in his shirt pocket for a loose cigarette. "Dave," he said, "you're a good fellow. There's nothing flighty or prima donnaish about you. You're a stable, rockbottom mining robot, except that you're equipped to handle six subsidiaries in direct coordination. As far as I know, that has not introduced any unstable paths in your brain-path map."

The robot nodded, "That makes me feel swell, but what are you getting at, boss?" He was equipped with an excellent diaphragm, and the presence of overtones in the sound unit robbed him of much of that metallic flatness that marks the usual robot voice.

"I'm going to tell you. With all that in your favor, what's going wrong with your job? For instance, today's B-shift?"

Dave hesitated, "As far as I know, nothing."

"You didn't produce any ore."

"I know."

"Well, then-"

Dave was having trouble, "I can't explain that, boss. It's been giving me a case of nerves, or it would if I let it - my subsidiaries worked smoothly. I know I did." He considered, his photoelectric eyes glowing intensely. Then, "I don't remember. The day ended and there was Mike and there were the ore cars, mostly empty."

Donovan broke in, "You didn't report at shift-end those days, Dave. You know that?"

"I know. But as to why-" He shook his head slowly and ponderously.

Powell had the queasy feeling that if the robot's face were capable of expression, it would be one of pain and mortification. A robot, by its very nature, cannot bear to fail its function.

Donovan dragged his chair up to Powell's desk and leaned over, "Amnesia, do you think?"

"Can't say. But there's no use in trying to pin disease names on this. Human disorders apply to robots only as romantic analogies. They're no help to robotic engineering." He scratched his neck; "I hate to put him through the elementary brain-reaction tests. It won't help his self-respect any."

He looked at Dave thoughtfully and then at the Field-Test outline given in the "Handbook." He said, "See here, Dave, what about sitting through a test? It would be the wise thing to do."

The robot rose, "If you say so, boss." There was pain in his voice.

It started simply enough. Robot DV-5 multiplied five-place figures to the heartless ticking of a stopwatch. He recited the prime numbers between a thousand and ten thousand. He extracted cube roots and integrated functions of varying complexity. He went through mechanical reactions in order of increasing difficulty. And, finally, worked his precise mechanical mind over the highest function of the robot world - the solutions of problems in judgment and ethics.

At the end of two hours, Powell was copiously besweated. Donovan had enjoyed a none-too-nutritious diet of fingernail and the robot said, "How does it look, boss?"

Powell said, "I've got to think it over, Dave. Snap judgments won't help much. Suppose you go back to the C-shift. Take it easy. Don't press too hard for quota just for a while - and we'll fix things up."

The robot left. Donovan looked at Powell.

"Well-"

Powell seemed determined to push up his mustache by the roots. He said, "There is nothing wrong with the currents of his positronic brain."

"I'd hate to be that certain."

"Oh, Jupiter, Mike! The brain is the surest part of a robot. It's quintuple-checked back on Earth. If they pass the field test perfectly, the way Dave did, there just isn't a chance of brain malfunction. That test covered every key path in the brain."

"So where are we?"

"Don't rush me. Let me work this out. There's still the possibility of a mechanical breakdown in the body. That leaves about fifteen hundred condensers, twenty thousand individual electric circuits, five hundred vacuum cells, a thousand relays, and upty-ump thousand other individual pieces of complexity that can be wrong. And these mysterious positron fields no one knows anything about."

"Listen, Greg," Donovan grew desperately urgent. "I've got an idea. That robot may be lying. He never-

"Robots can't knowingly lie, you fool. Now if we had the McCormack-Wesley tester, we could check each individual item in his body within twenty-four to forty-eight hours, but the only two M-W testers existing are on Earth, and they weigh ten tons, are on concrete foundations and can't be moved. Isn't that peachy?"

Donovan pounded the desk, "But, Greg, he only goes wrong when we're not around. There's something - sinister - about - that." He punctuated the sentence with slams of fist against desk.

"You," said Powell, slowly, "make me sick. You've been reading adventure novels."

"What I want to know," shouted Donovan, "is what we're going to do about it."

"I'll tell you. I'm going to install a visiplat right over my desk. Right on the wall over there, see!" He jabbed a vicious finger at the spot. "Then I'm going to focus it at whatever part of the mine is being worked, and I'm going to watch. That's all."

"That's all? Greg-

Powell rose from his chair and leaned his balled fists on the desk, "Mike, I'm having a hard time." His voice was weary. "For a week, you've been plaguing me about Dave. You say he's gone wrong. Do you know how he's gone wrong? No! Do you know what shape this wrongness takes? No! Do you know what brings it on? No! Do you know what snaps him out? No! Do you know anything about it? No! Do I know anything about it? No! So what do you want me to do?"

Donovan's arm swept outward in a vague, grandiose gesture, "You got me!"

"So I tell you again. Before we do anything toward a cure, we've got to find out what the disease is in the first place. The first step in cooking rabbit stew is catching the rabbit. Well, we've got to catch that rabbit! Now get out of here."

Donovan stared at the preliminary outline of his field report with weary eyes. For one thing, he was tired and for another, what was there to report while things were unsettled? He felt resentful.

He said, "Greg, we're almost a thousand tons behind schedule."

"You," replied Powell, never looking up, "are telling me something I don't know."

"What I want to know," said Donovan, in sudden savagery, "is why we're always tangled up with new-type robots. I've finally decided that the robots that were good enough for my great-uncle on my mother's side are good enough for me. I'm for what's tried and true. The test of time is what counts - good, solid, old-fashioned robots that never go wrong."

Powell threw a book with perfect aim, and Donovan went tumbling off his seat.

"Your job," said Powell, evenly, "for the last five years has been to test new robots under actual working conditions for United States Robots. Because you and I have been so injudicious as to display proficiency at the task, we've been rewarded with the dirtiest jobs. That," he jabbed holes in the air with his finger in Donovan's direction, "is your work. You've been griping about it, from personal memory, since about five minutes after United States Robots signed you up. Why don't you resign?"

"Well, I'll tell you." Donovan rolled onto his stomach, and took a firm grip on his wild, red hair to hold his head up. "There's a certain principle involved. After all, as a troubleshooter, I've played a part in the development of new robots. There's the principle of aiding scientific advance. But don't get me wrong. It's not the principle that keeps me going; it's the money they pay us. Greg!"

Powell jumped at Donovan's wild shout, and his eyes followed the redhead's to the visiplat, when they goggled in fixed horror. He whispered, "Holy - howling - Jupiter!"

Donovan scrambled breathlessly to his feet, "Look at them, Greg. They've gone nuts."

Powell said, "Get a pair of suits. We're going out there."

He watched the posturings of the robots on the visiplat. They were bronzy gleams of smooth motion against the shadowy crags of the airless asteroid. There was a marching formation now, and in their own dim body light, the roughhewn walls of the mine tunnel swam past noiselessly, checkered with misty erratic blobs of shadow. They marched in unison, seven of them, with Dave at the head. They wheeled and turned in macabre simultaneity; and melted through changes of formation with the weird ease of chorus dancers in Lunar Bowl.

Donovan was back with the suits, "They've gone jingo on us, Greg. That's a military march."

"For all you know," was the cold response, "it may be a series of callisthenic exercises. Or Dave may be under the hallucination of being a dancing master. Just you think first, and don't bother to speak afterward, either."

Donovan scowled and slipped a detonator into the empty side holster with an ostentatious shove. He said, "Anyway, there you are. So we work with new-model robots. It's our job, granted. But answer me one question. Why. . . why does something invariably go wrong with them?"

"Because," said Powell, somberly, "we are accursed. Let's go!"

Far ahead through the thick velvety blackness of the corridors that reached past the illuminated circles of their flashlights, robot light twinkled.

"There they are," breathed Donovan.

Powell whispered tensely, "I've been trying to get him by radio but he doesn't answer. The radio circuit is probably out."

"Then I'm glad the designers haven't worked out robots who can work in total darkness yet. I'd hate to have to find seven mad robots in a black pit without radio communication, if they weren't lit up like blasted radioactive Christmas trees."

"Crawl up on the ledge above, Mike. They're coming this way, and I want to watch them at close range. Can you make it?"

Donovan made the jump with a grunt. Gravity was considerably below Earth-normal, but with a heavy suit, the advantage was not too great, and the ledge meant a near ten-foot jump. Powell followed.

The column of robots was trailing Dave single-file. In mechanical rhythm, they converted to double and returned to single in different order. It was repeated over and over again and Dave never turned his head.

Dave was within twenty feet when the play-acting ceased. The subsidiary robots broke formation, waited a moment, then clattered off into the distance - very rapidly. Dave looked after them, then slowly sat down. He rested his head in one hand in a very human gesture.

His voice sounded in Powell's earphones, "Are you here, boss?"

Powell beckoned to Donovan and hopped off the ledge.

"O.K., Dave, what's been going on?"

The robot shook his head, "I don't know. One moment I was handling a tough outcropping in Tunnel 17, and the next I was aware of humans close by, and I found myself half a mile down main-stem."

"Where are the subsidiaries now?" asked Donovan.

"Back at work, of course. How much time has been lost?"

"Not much. Forget it." Then to Donovan, Powell added, "Stay with him the rest of the shift. Then, come back. I've got a couple of ideas."

It was three hours before Donovan returned. He looked tired. Powell said, "How did it go?"

Donovan shrugged wearily, "Nothing ever goes wrong when you watch them. Throw me a butt, will you?"

The redhead lit it with exaggerated care and blew a careful smoke ring. He said, "I've been working it out, Greg. You know, Dave has a queer background for a robot. There are six others under him in an extreme regimentation. He's got life and death power over those subsidiary robots and it must react on his mentality. Suppose he finds it necessary to emphasize this power as a concession to his ego."

"Get to the point."

"It's right here. Suppose we have militarism. Suppose he's fashioning himself an army. Suppose -he's training them in military maneuvers. Suppose-

"Suppose you go soak your head. Your nightmares must be in technicolor. You're postulating a major aberration of the positronic brain. If your analysis were correct, Dave would have to break down the First Law of Robotics: that a robot may not injure a human being or, through inaction, allow a human being to be injured. The type of militaristic attitude and domineering ego you propose must have as the end-point of its logical implications, domination of humans."

"All right. How do you know that isn't the fact of the matter?"

"Because any robot with a brain like that would, one, never have left the factory, and two, be spotted immediately if it ever was. I tested Dave, you know."

Powell shoved his chair back and put his feet on the desk. "No. We're still in the position where we can't make our stew because we haven't the slightest notion as to what's wrong. For instance, if we could find out what that dance macabre we witnessed was all about, we would be on the way out."

He paused, "Now listen, Mike, how does this sound to you? Dave goes wrong only when neither of us is present. And when he is wrong, the arrival of either of us snaps him out of it."

"I once told you that was sinister."

"Don't interrupt. How is a robot different when humans are not present? The answer is obvious. There is a larger requirement of personal initiative. In that case, look for the body parts that are affected by the new requirements."

"Golly." Donovan sat up straight, then subsided. "No, no. Not enough. It's too broad. It doesn't cut the possibilities much."

"Can't help that. In any case, there's no danger of not making quota. We'll take shifts watching those robots through the visor. Any time anything goes wrong, we get to the scene of action immediately. That will put them right."

"But the robots will fail spec anyway, Greg. United States Robots can't market DV models with a report like that."

"Obviously. We've got to locate the error in make-up and correct it - and we've got ten days to do it in." Powell scratched his head. "The trouble is. . . well, you had better look at the blueprints yourself."

The blueprints covered the floor like a carpet and Donovan crawled over the face of them following Powell's erratic pencil.

Powell said, "Here's where you come in, Mike. You're the body specialist, and I want you to check me. I've been trying to cut out all circuits not involved in the personal initiative hookup. Right here, for instance, is the trunk artery involving mechanical operations. I cut out all routine side routes as emergency divisions-" He looked up, "What do you think?"

Donovan had a very bad taste in his mouth, "The job's not that simple, Greg. Personal initiative isn't an electric circuit you can separate from the rest and study. When a robot is on his own, the intensity of the body activity increases immediately on almost all fronts. There isn't a circuit entirely unaffected. What must be done is to locate the particular condition - a very specific condition - that throws him off, and then start eliminating circuits."

Powell got up and dusted himself, "Hmph. All right. Take away the blueprints and burn them."

Donovan said, "You see when activity intensifies, anything can happen, given one single faulty part. Insulation breaks down, a condenser spills over, a connection sparks, a coil overheats. And if you work blind, with the whole robot to choose from, you'll never

find the bad spot. If you take Dave apart and test every point of his body mechanism one by one, putting him together each time, and trying him out"

"All right. All right. I can see through a porthole, too."

They faced each other hopelessly, and then Powell said cautiously, "Suppose we interview one of the subsidiaries."

Neither Powell nor Donovan had ever had previous occasion to talk to a "finger." It could talk; it wasn't quite the perfect analogy to a human finger. In fact, it had a fairly developed brain, but that brain was tuned primarily to the reception of orders via positronic field, and its reaction to independent stimuli was rather fumbling.

Nor was Powell certain as to its name. Its serial number was DV-5-2, but that was not very useful.

He compromised. "Look, pal," he said, "I'm going to ask you to do some hard thinking and then you can go back to your boss."

The "finger" nodded its head stiffly, but did not exert its limited brainpower on speech.

"Now on four occasions recently," Powell said, "your boss deviated from brain-scheme. Do you remember those occasions?"

"Yes, sir."

Donovan growled angrily, "He remembers. I tell you there is something very sinister-"

"Oh, go bash your skull. Of course, the 'finger' remembers. There is nothing wrong with him." Powell turned back to the robot, "What were you doing each time. . . I mean the whole group"

The "finger" had a curious air of reciting by rote, as if he answered questions by the mechanical pressure of his brainpan, but without any enthusiasm whatever.

He said, "The first time we were at work on a difficult outcropping in Tunnel 17, Level B. The second time we were buttressing the roof against a possible cave-in. The third time we were preparing accurate blasts in order to tunnel farther without breaking into a subterranean fissure. The fourth time was just after a minor cave-in"

"What happened at these times?"

"It is difficult to describe. An order would be issued, but before we could receive and interpret it, a new order came to march in queer formation."

Powell snapped out, "Why?"

"I don't know."

Donovan broke in tensely, "What was the first order. . . the one that was superseded by the marching directions?"

"I don't know. I sensed that an order was sent, but there was never time to receive it."

"Could you tell us anything about it? Was it the same order each time?"

The "finger" shook his head unhappily, "I don't know."

Powell leaned back, "All right, get back to your boss."

The "finger" left, with visible relief.

Donovan said, "Well, we accomplished a lot that time. That was real sharp dialogue all the way through. Listen, Dave and that imbecile 'finger' are both holding out on us. There is too much they don't know and don't remember. We've got to stop trusting them, Greg."

Powell brushed his mustache the wrong way, "So help me, Mike, another fool remark out of you, and I'll take away your rattle and teething ring."

"All right. You're the genius of the team. I'm just a poor sucker. Where do we stand?"

"Right behind the eight ball. I tried to work it backward through the 'finger,' and couldn't. So we've got to work it forward."

"A great man," marveled Donovan. "How simple that makes it. Now translate that into English, Master."

"Translating it into baby talk would suit you better. I mean that we've got to find out what order it is that Dave gives just before everything goes black. It would be the key to the business."

"And how do you expect to do that? We can't get close to him because nothing will go wrong as long as we are there. We can't catch the orders by radio because they are transmitted via this positronic field. That eliminates the close-range and the long-range method, leaving us a neat, cozy zero."

"By direct observation, yes. There's still deduction."

"Huh?"

"We're going on shifts, Mike." Powell smiled grimly. "And we are not taking our eyes off the visiplat. We're going to watch every action of those steel headaches. When they go off into their act, we're going to see what happened immediately before and we're going to deduce the order."

Donovan opened his mouth and left it that way for a full minute. Then he said in strangled tones, "I resign. I quit."

"You have ten days to think up something better," said Powell wearily.

Which, for eight days, Donovan tried mightily to do. For eight days, on alternate four-hour shifts, he watched with aching and bleary eyes those glinty metallic forms move against the vague background. And for eight days in the four-hour in-betweens, he cursed United States Robots, the DV models, and the day he was born.

And then on the eighth day, when Powell entered with an aching head and sleepy eyes for his shift, Donovan stood up and with very careful and deliberate aim launched a heavy bookend for the exact center of the visiplat. There was a very appropriate splintering noise.

Powell gasped, "What did you do that for?"

"Because," said Donovan, almost calmly, "I'm not watching it any more. We've got two days left and we haven't found out a thing. DV-5 is a lousy loss. He's stopped five times since I've been watching and three times on your shift, and I can't make out what orders he gave, and you couldn't make it out. And I don't believe you could ever make it out because I know I couldn't ever."

"Jumping Space, how can you watch six robots at the same time? One makes with the hands, and one with the feet and one like a windmill and another is jumping up and down like a maniac. And the other two. . . devil knows what they are doing. And then they all stop. So! So!"

"Greg, we're not doing it right. We got to get up close. We've got to watch what they're doing from where we can see the details."

Powell broke a bitter silence. "Yeah, and wait for something to go wrong with only two days to go."

"Is it any better watching from here?"

"It's more comfortable."

"Ah - But there's something you can do there that you can't do here."

"What's that?"

"You can make them stop - at whatever time you choose and while you're prepared and watching to see what goes wrong."

Powell startled into alertness, "Howzzat?"

"Well, figure it out, yourself. You're the brains you say. Ask yourself some questions. When does DV-5 go out of whack? When did that 'finger' say he did? When a cave-in threatened, or actually occurred, when delicately measured explosives were being laid down, when a difficult seam was hit."

"In other words, during emergencies," Powell was excited.

"Right! When did you expect it to happen! It's the personal initiative factor that's giving us the trouble. And it's just during emergencies in the absence of a human being that personal initiative is most strained. Now what is the logical deduction? How can we create our own stoppage when and where we want it?" He paused triumphantly - he was beginning to enjoy his role - and answered his own question to forestall the obvious answer on Powell's tongue. "By creating our own emergency."

Powell said, "Mike - you're right."

"Thanks, pal. I knew I'd do it some day."

"All right, and skip the sarcasm. We'll save it for Earth, and preserve it in jars for future long, cold winters. Meanwhile, what emergency can we create?"

"We could flood the mines, if this weren't an airless asteroid."

"A witticism, no doubt," said Powell. "Really, Mike, you'll incapacitate me with laughter. What about a mild cave-in?"

Donovan pursed his lips and said, "O.K. by me."

"Good. Let's get started."

Powell felt uncommonly like a conspirator as he wound his way over the craggy landscape. His sub-gravity walk teetered across the broken ground, kicking rocks to right and left under his weight in noiseless puffs of gray dust. Mentally, though, it was the cautious crawl of the plotter.

He said, "Do you know where they are?"

"I think so, Greg."

"All right," Powell said gloomily, "but if any 'finger' gets within twenty feet of us, we'll be sensed whether we are in the line of sight or not. I hope you know that."

"When I need an elementary course in robotics, I'll file an application with you formally, and in triplicate. Down through here."

They were in the tunnels now; even the starlight was gone. The two hugged the walls, flashes flickering out the way in intermittent bursts. Powell felt for the security of his detonator.

"Do you know this tunnel, Mike?"

"Not so good. It's a new one. I think I can make it out from what I saw in the visiplat, though."

Interminable minutes passed, and then Mike said, "Feel that!"

There was a slight vibration thrumming the wall against the fingers of Powell's metal-incased hand. There was no sound, naturally.

"Blasting! We're pretty close."

"Keep your eyes open," said Powell.

Donovan nodded impatiently.

It was upon them and gone before they could seize themselves - just a bronze glint across the field of vision. They clung together in silence.

Powell whispered, "Think it sensed us?"

"Hope not. But we'd better flank them. Take the first side tunnel to the right."

"Suppose we miss them altogether?"

"Well what do you want to do? Go back?" Donovan grunted fiercely. "They're within a quarter of a mile. I was watching them through the visiplat, wasn't I? And we've got two days-"

"Oh, shut up. You're wasting your oxygen. Is this a side passage here?" The flash flicked. "It is. Let's go."

The vibration was considerably more marked and the ground below shuddered uneasily.

"This is good," said Donovan, "if it doesn't give out on us, though." He flung his light ahead anxiously.

They could touch the roof of the tunnel with a half-upstretched hand, and the bracings had been newly placed.

Donovan hesitated, "Dead end, let's go back."

"No. Hold on." Powell squeezed clumsily past. "Is that light ahead?"

"Light? I don't see any. Where would there be light down here?"

"Robot light." He was scrambling up a gentle incline on hands and knees. His voice was hoarse and anxious in Donovan's ears. "Hey, Mike, come up here."

There was light. Donovan crawled up and over Powell's outstretched legs. "An opening?"

"Yes. They must be working into this tunnel from the other side now I think."

Donovan felt the ragged edges of the opening that looked out into what the cautious flashlight showed to be a larger and obviously main stem tunnel. The hole was

too small for a man to go through, almost too small for two men to look through simultaneously.

There's nothing there," said Donovan.

"Well, not now. But there must have been a second ago or we wouldn't have seen light. Watch out!"

The walls rolled about them and they felt the impact. A fine dust showered down. Powell lifted a cautious head and looked again. "All right, Mike. They're there."

The glittering robots clustered fifty feet down the main stem. Metal arms labored mightily at the rubbish heap brought down by the last blast.

Donovan urged eagerly, "Don't waste time. It won't be long before they get through, and the next blast may get us."

"For Pete's sake, don't rush me." Powell unlimbered the detonator, and his eyes searched anxiously across the dusky background where the only light was robot light and it was impossible to tell a projecting boulder from a shadow.

"There's a spot in the roof, see it, almost over them. The last blast didn't quite get it. If you can get it at the base, half the roof will cave in."

Powell followed the dim finger, "Check! Now fasten your eye on the robots and pray they don't move too far from that part of the tunnel. They're my light sources. Are all seven there?"

Donovan counted, "All seven."

"Well, then, watch them. Watch every motion!"

His detonator was lifted and remained poised while Donovan watched and cursed and blinked the sweat out of his eye.

It flashed!

There was a jar, a series of hard vibrations, and then a jarring thump that threw Powell heavily against Donovan.

Donovan yowled, "Greg, you threw me off. I didn't see a thing."

Powell stared about wildly, "Where are they?"

Donovan fell into a stupid silence. There was no sign of the robots. It was dark as the depths of the River Styx.

"Think we buried them?" quavered Donovan.

"Let's get down there. Don't ask me what I think." Powell crawled backward at tumbling speed.

"Mike!"

Donovan paused in the act of following. "What's wrong now?"

"Hold on!" Powell's breathing was rough and irregular in Donovan's ears. "Mike! Do you hear me, Mike?"

"I'm right here. What is it?"

"We're blocked in. It wasn't the ceiling coming down fifty feet away that knocked us over. It was our own ceiling. The shock's tumbled it!"

"What!" Donovan scrambled up against a hard barrier. "Turn on the flash."

Powell did so. At no point was there room for a rabbit to squeeze through.

Donovan said softly, "Well, what do you know?"

They wasted a few moments and some muscular power in an effort to move the blocking barrier. Powell varied this by wrenching at the edges of the original hole. For a moment, Powell lifted his blaster. But in those close quarters, a flash would be suicide and he knew it. He sat down.

"You know, Mike," he said, "we've really messed this up. We are no nearer finding out what's wrong with Dave. It was a good idea but it blew up in our face."

Donovan's glance was bitter with an intensity totally wasted on the darkness, "I hate to disturb you, old man, but quite apart from what we know or don't know of Dave, we're slightly trapped. If we don't get loose, fella, we're going to die. D-I-E, die. How much oxygen have we anyway? Not more than six hours."

"I've thought of that." Powell's fingers went up to his long-suffering mustache and clanged uselessly against the transparent visor. "Of course, we could get Dave to dig us out easily in that time, except that our precious emergency must have thrown him off, and his radio circuit is out."

"And isn't that nice?"

Donovan edged up to the opening and managed to get his metal incased head out. It was an extremely tight fit.

"Hey, Greg!"

"What?"

"Suppose we get Dave within twenty feet. He'll snap to normal. That will save us."

"Sure, but where is he?"

"Down the corridor - way down. For Pete's sake, stop pulling before you drag my head out of its socket. I'll give you your chance to look."

Powell maneuvered his head outside, "We did it all right. Look at those saps. That must be a ballet they're doing."

"Never mind the side remarks. Are they getting any closer?"

"Can't tell yet. They're too far away. Give me a chance. Pass me my flash, will you? I'll try to attract their attention that way."

He gave up after two minutes, "Not a chance! They must be blind. Uh-oh, they're starting toward us. What do you know?"

Donovan said, "Hey, let me see!"

There was a silent scuffle. Powell said, "All right!" and Donovan got his head out.

They were approaching. Dave was high-stepping the way in front and the six "fingers" were a weaving chorus line behind him.

Donovan marveled, "What are they doing? That's what I want to know. It looks like the Virginia reel - and Dave's a major-domo, or I never saw one."

"Oh, leave me alone with your descriptions," grumbled Powell. "How near are they?"

"Within fifty feet and coming this way. We'll be out in fifteen min-Uh-huh-HUH-HEY-Y!"

"What's going on?" It took Powell several seconds to recover from his stunned astonishment at Donovan's vocal gyrations. "Come on, give me a chance at that hole. Don't be a hog about it."

He fought his way upward, but Donovan kicked wildly, "They did an about-face, Greg. They're leaving. Dave! Hey, Da-a ave!"

Powell shrieked, "What's the use of that, you fool? Sound won't carry."

"Well, then," panted Donovan, "kick the walls, slam them, get some vibration started. We've got to attract their attention somehow, Greg, or we're through. " He pounded like a madman.

Powell shook him, "Wait, Mike, wait. Listen, I've got an idea. Jumping Jupiter, this is a fine time to get around to the simple solutions. Mike!"

"What do you want?" Donovan pulled his head in.

"Let me in there fast before they get out of range."

"Out of range! What are you going to do? Hey, what are you going to do with that detonator?" He grabbed Powell's arm.

Powell shook off the grip violently. "I'm going to do a little shooting."

"Why?"

"That's for later. Let's see if it works first. If it doesn't, then - Get out of the way and let me shoot!"

The robots were flickers, small and getting smaller, in the distance. Powell lined up the sights tensely, and pulled the trigger three times. He lowered the guns and peered anxiously. One of the subsidiaries was down! There were only six gleaming figures now.

Powell called into his transmitter uncertainly. "Dave!"

A pause, then the answer sounded to both men, "Boss? Where are you? My third subsidiary has had his chest blown in. He's out of commission."

"Never mind your subsidiary," said Powell. "We're trapped in a cave-in where you were blasting. Can you see our flashlight?"

"Sure. We'll be right there."

Powell sat back and relaxed, "That, my fran', is that"

Donovan said very softly with tears in his voice, "All right, Greg. You win. I beat my forehead against the ground before your feet. Now don't feed me any bull. Just tell me quietly what it's all about."

"Easy. It's just that all through we missed the obvious - as usual. We knew it was the personal initiative circuit, and that it always happened during emergencies, but we kept looking for a specific order as the cause. Why should it be an order?"

"Why not?"

"Well, look, why not a type of order. What type of order requires the most initiative? What type of order would occur almost always only in an emergency?"

"Don't ask me, dreg. Tell me!"

"I'm doing it! It's the six-way order. Under all ordinary conditions, one or more of the 'fingers' would be doing routine tasks requiring no close supervision - in the sort of offhand way our bodies handle the routine walking motions. But in an emergency, all six

subsidiaries must be mobilized immediately and simultaneously. Dave must handle six robots at a time and something gives. The rest was easy. Any decrease in initiative required, such as the arrival of humans, snaps him back. So I destroyed one of the robots. When I did, he was transmitting only five-way orders. Initiative decreases - he's normal"

"How did you get all that?" demanded Donovan.

"Just logical guessing. I tried it and it worked."

The robot's voice was in their ears again, "Here I am. Can you hold out half an hour?"

"Easy!" said Powell. Then, to Donovan, he continued, "And now the job should be simple. We'll go through the circuits, and check off each part that gets an extra workout in a six-way order as against a five-way. How big a field does that leave us?"

Donovan considered, "Not much, I think. If Dave is like the preliminary model we saw back at the factory, there's a special coordinating circuit that would be the only section involved." He cheered up suddenly and amazingly, "Say, that wouldn't be bad at all. There's nothing to that."

"All right. You think it over and we'll check the blueprints when we get back. And now, till Daves reaches us, I'm relaxing."

"Hey, wait! Just tell me one thing. What were those queer shifting marches, those funny dance steps, that the robots went through every time they went screwy?"

"That? I don't know. But I've got a notion. Remember, those subsidiaries were Dave's 'fingers.' We were always saying that, you know. Well, it's my idea that in all these interludes, whenever Dave became a psychiatric case, he went off into a moronic maze, spending his time twiddling his fingers."

SUSAN CALVIN

The third robot story I wrote, "Liar!" introduced Susan Calvin-with whom I promptly fell in love. She so dominated my thoughts thereafter that, little by little, she ousted Powell and Donovan from their position. Those two appeared only in the three stories included in the previous section, and in a forth, "Escape!" in which they appear with Susan Calvin.

Somehow the impression I get as I look back on my career is that I must have included dear Susan in innumerable stories, but the fact is that she appeared in only ten stories, all of which are listed in this section. In the tenth, "Feminine Intuition," she emerges from retirement as an old lady who, however, has lost none of her acid charm.

You will note, by the way, that although most of the Susan Calvin stories were written at a time when male chauvinism was taken for granted in science fiction, Susan asks no favors and beats the men at their own game. To be sure, she remains sexually unfulfilled-but you can't have everything.

ALFRED LANNING LIT HIS CIGAR CAREFULLY, BUT the tips of his fingers were trembling slightly. His gray eyebrows hunched low as he spoke between puffs.

"It reads minds all right-damn little doubt about that! But why?" He looked at Mathematician Peter Bogert, "Well?"

Bogert flattened his black hair down with both hands, "That was the thirty-fourth RB model we've turned out, Lanning. All the others were strictly orthodox."

The third man at the table frowned. Milton Ashe was the youngest officer of U. S. Robot & Mechanical Men, Inc., and proud of his post.

"Listen, Bogert. There wasn't a hitch in the assembly from start to finish. I guarantee that."

Bogert's thick lips spread in a patronizing smile, "Do you? If you can answer for the entire assembly line, I recommend your promotion. By exact count, there are seventy-five thousand, two hundred and thirty-four operations necessary for the manufacture of a single positronic brain, each separate operation depending for successful completion upon any number of factors, from five to a hundred and five. If any one of them goes seriously wrong, the 'brain' is ruined. I quote our own information folder, Ashe."

Milton Ashe flushed, but a fourth voice cut off his reply.

"If we're going to start by trying to fix the blame on one another, I'm leaving." Susan Calvin's hands were folded tightly in her lap, and the little lines about her thin, pale lips deepened, "We've got a mind-reading robot on our hands and it strikes me as rather important that we find out just why it reads minds. We're not going to do that by saying, 'Your fault! My fault!' "

Her cold gray eyes fastened upon Ashe, and he grinned.

Lanning grinned too, and, as always at such times, his long white hair and shrewd little eyes made him the picture of a biblical patriarch, "True for you, Dr. Calvin."

His voice became suddenly crisp, "Here's everything in pill-concentrate form. We've produced a positronic brain of supposedly ordinary vintage that's got the remarkable property of being able to tune in on thought waves. It would mark the most important advance in robotics in decades, if we knew how it happened. We don't, and we have to find out. Is that clear?"

"May I make a suggestion?" asked Bogert.

"Go ahead!"

"I'd say that until we do figure out the mess - and as a mathematician I expect it to be a very devil of a mess - we keep the existence of RD-34 a secret. I mean even from the other members of the staff. As heads of the departments, we ought not to find it an insoluble problem, and the fewer know about it-

"Bogert is right," said Dr. Calvin. "Ever since the Interplanetary Code was modified to allow robot models to be tested in the plants before being shipped out to space,

antirobot propaganda has increased. If any word leaks out about a robot being able to read minds before we can announce complete control of the phenomenon, pretty effective capital could be made out of it."

Lanning sucked at his cigar and nodded gravely. He turned to Ashe; "I think you said you were alone when you first stumbled on this thought-reading business."

"I'll say I was alone - I got the scare of my life. RB-34 had just been taken off the assembly table and they sent him down to me. Obermann was off somewhere, so I took him down to the testing rooms myself - at least I started to take him down." Ashe paused, and a tiny smile tugged at his lips, "Say, did any of you ever carry on a thought conversation without knowing it?"

No one bothered to answer, and he continued, "You don't realize it at first, you know. He just spoke to me - as logically and sensibly as you can imagine - and it was only when I was most of the way down to the testing rooms that I realized that I hadn't said anything. Sure, I thought lots, but that isn't the same thing, is it? I locked that thing up and ran for Lanning. Having it walking beside me, calmly peering into my thoughts and picking and choosing among them gave me the willies."

"I imagine it would," said Susan Calvin thoughtfully. Her eyes fixed themselves upon Ashe in an oddly intent manner. "We are so accustomed to considering our own thoughts private."

Lanning broke in impatiently, "Then only the four of us know. All right! We've got to go about this systematically. Ashe, I want you to check over the assembly line from beginning to end -everything. You're to eliminate all operations in which there was no possible chance of an error, and list all those where there were, together with its nature and possible magnitude."

"Tall order," grunted Ashe.

"Naturally! Of course, you're to put the men under you to work on this - every single one if you have to, and I don't care if we go behind schedule, either. But they're not to know why, you understand."

"Hm-m-m, yes!" The young technician grinned wryly. "It's still a lulu of a job."

Lanning swiveled about in his chair and faced Calvin, "You'll have to tackle the job from the other direction. You're the robo-psychologist of the plant, so you're to study the robot itself and work backward. Try to find out how he ticks. See what else is tied up with his telepathic powers, how far they extend, how they warp his outlook, and just exactly what harm it has done to his ordinary RB properties. You've got that?"

Lanning didn't wait for Dr. Calvin to answer.

"I'll coordinate the work and interpret the findings mathematically." He puffed violently at his cigar and mumbled the rest through the smoke; "Bogert will help me there, of course."

Bogert polished the nails of one pudgy hand with the other and said blandly, "I dare say. I know a little in the line."

"Well! I'll get started." Ashe shoved his chair back and rose. His pleasantly youthful face crinkled in a grin, "I've got the darnedest job of any of us, so I'm getting out of here and to work."

He left with a slurred, "B' seein' ye!"

Susan Calvin answered with a barely perceptible nod, but her eyes followed him out of sight and she did not answer when Lanning grunted and said, "Do you want to go up and see RB-34 now, Dr. Calvin?"

RB-34's photoelectric eyes lifted from the book at the muffled sound of binges turning and he was upon his feet when Susan Calvin entered.

She paused to readjust the huge "No Entrance" sign upon the door and then approached the robot.

"I've brought you the texts upon hyperatomic motors, Herbie - a few anyway. Would you care to look at them?"

RB-34 - otherwise known as Herbie - lifted the three heavy books from her arms and opened to the title page of one:

"Hm-m-m! 'Theory of Hyperatomics.' " He mumbled inarticulately to himself as he flipped the pages and then spoke with an abstracted air, "Sit down, Dr. Calvin! This will take me a few minutes."

The psychologist seated herself and watched Herbie narrowly as he took a chair at the other side of the table and went through the three books systematically.

At the end of half an hour, he put them down, "Of course, I know why you brought these."

The corner of Dr. Calvin's lip twitched, "I was afraid you would. It's difficult to work with you, Herbie. You're always a step ahead of me."

"It's the same with these books, you know, as with the others. They just don't interest me. There's nothing to your textbooks. Your science is just a mass of collected data plastered together by makeshift theory - and all so incredibly simple, that it's scarcely worth bothering about.

"It's your fiction that interests me. Your studies of the interplay of human motives and emotions" - his mighty hand gestured vaguely as he sought the proper words.

Dr. Calvin whispered, "I think I understand."

"I see into minds, you see," the robot continued, "and you have no idea how complicated they are. I can't begin to understand everything because my own mind has so little in common with them - but I try, and your novels help."

"Yes, but I'm afraid that after going through some of the harrowing emotional experiences of our present-day sentimental novel" - there was a tinge of bitterness in her voice - "you find real minds like ours dull and colorless."

"But I don't!"

The sudden energy in the response brought the other to her feet. She felt herself reddening, and thought wildly, "He must know!"

Herbie subsided suddenly, and muttered in a low voice from which the metallic timbre departed almost entirely. "But, of course, I know about it, Dr. Calvin. You think of it always, so how can I help but know?"

Her face was hard. "Have you - told anyone?"

"Of course not!" This, with genuine surprise, "No one has asked me."

"Well, then," she flung out, "I suppose you think I am a fool."

"No! It is a normal emotion."

"Perhaps that is why it is so foolish." The wistfulness in her voice drowned out everything else. Some of the woman peered through the layer of doctorhood. "I am not what you would call - attractive."

"If you are referring to mere physical attraction, I couldn't judge. But I know, in any case, that there are other types of attraction."

"Nor young." Dr. Calvin had scarcely heard the robot.

"You are not yet forty." An anxious insistence had crept into Herbie's voice.

"Thirty-eight as you count the years; a shriveled sixty as far as my emotional outlook on life is concerned. Am I a psychologist for nothing?"

She drove on with bitter breathlessness, "And he's barely thirty-five and looks and acts younger. Do you suppose he ever sees me as anything but. . . but what I am?"

"You are wrong!" Herbie's steel fist struck the plastic-topped table with a strident clang. "Listen to me-"

But Susan Calvin whirled on him now and the hunted pain in her eyes became a blaze, "Why should I? What do you know about it all, anyway, you. . . you machine. I'm just a specimen to you; an interesting bug with a peculiar mind spread-eagled for inspection. It's a wonderful example of frustration, isn't it? Almost as good as your books." Her voice, emerging in dry sobs, choked into silence.

The robot cowered at the outburst. He shook his head pleadingly. "Won't you listen to me, please? I could help you if you would let me."

"How?" Her lips curled. "By giving me good advice?"

"No, not that. It's just that I know what other people think - Milton Ashe, for instance."

There was a long silence, and Susan Calvin's eyes dropped. "I don't want to know what he thinks," she gasped. "Keep quiet."

"I think you would want to know what he thinks"

Her head remained bent, but her breath came more quickly. "You are talking nonsense," she whispered.

"Why should I? I am trying to help. Milton Ashe's thoughts of you-" he paused.

And then the psychologist raised her head, "Well?"

The robot said quietly, "He loves you."

For a full minute, Dr. Calvin did not speak. She merely stared. Then, "You are mistaken! You must be. Why should he?"

"But he does. A thing like that cannot be hidden, not from me."

"But I am so. . . so-" she stammered to a halt.

"He looks deeper than the skin, and admires intellect in others. Milton Ashe is not the type to marry a head of hair and a pair of eyes."

Susan Calvin found herself blinking rapidly and waited before speaking. Even then her voice trembled, "Yet he certainly never in any way indicated-"

"Have you ever given him a chance?"

"How could I? I never thought that-"

"Exactly!"

The psychologist paused in thought and then looked up suddenly. "A girl visited him here at the plant half a year ago. She was pretty, I suppose - blond and slim. And, of course, could scarcely add two and two. He spent all day puffing out his chest, trying to explain how a robot was put together." The hardness had returned, "Not that she understood! Who was she?"

Herbie answered without hesitation, "I know the person you are referring to. She is his first cousin, and there is no romantic interest there, I assure you."

Susan Calvin rose to her feet with a vivacity almost girlish. "Now isn't that strange? That's exactly what I used to pretend to myself sometimes, though I never really thought so. Then it all must be true."

She ran to Herbie and seized his cold, heavy hand in both hers. "Thank you, Herbie." Her voice was an urgent, husky whisper. "Don't tell anyone about this. Let it be our secret - and thank you again." With that, and a convulsive squeeze of Herbie's unresponsive metal fingers, she left.

Herbie turned slowly to his neglected novel, but there was no one to read his thoughts.

Milton Ashe stretched slowly and magnificently, to the tune of cracking joints and a chorus of grunts, and then glared at Peter Bogert, Ph.D.

"Say," he said, "I've been at this for a week now with just about no sleep. How long do I have to keep it up? I thought you said the positronic bombardment in Vac Chamber D was the solution."

Bogert yawned delicately and regarded his white hands with interest. "It is. I'm on the track."

"I know what that means when a mathematician says it. How near the end are you?"

"It all depends."

"On what?" Ashe dropped into a chair and stretched his long legs out before him.

"On Lanning. The old fellow disagrees with me." He sighed, "A bit behind the times, that's the trouble with him. He clings to matrix mechanics as the all in all, and this problem calls for more powerful mathematical tools. He's so stubborn."

Ashe muttered sleepily, "Why not ask Herbie and settle the whole affair?"

"Ask the robot?" Bogert's eyebrows climbed.

"Why not? Didn't the old girl tell you?"

"You mean Calvin?"

"Yeah! Susie herself. That robot's a mathematical wiz. He knows all about everything plus a bit on the side. He does triple integrals in his head and eats up tensor analysis for dessert."

The mathematician stared skeptically, "Are you serious?"

"So help me! The catch is that the dope doesn't like math. He would rather read slushy novels. Honest! You should see the tripe Susie keeps feeding him: 'Purple Passion' and 'Love in Space.' "

"Dr. Calvin hasn't said a word of this to us."

"Well, she hasn't finished studying him. You know how she is. She likes to have everything just so before letting out the big secret."

"She's told you."

"We sort of got to talking. I have been seeing a lot of her lately." He opened his eyes wide and frowned, "Say, Bogie, have you been noticing anything queer about the lady lately?"

Bogert relaxed into an undignified grin, "She's using lipstick, if that's what you mean."

"Hell, I know that. Rouge, powder and eye shadow, too. She's a sight. But it's not that. I can't put my finger on it. It's the way she talks - as if she were happy about something." He thought a little, and then shrugged.

The other allowed himself a leer, which, for a scientist past fifty, was not a bad job, "Maybe she's in love."

Ashe allowed his eyes to close again, "You're nuts, Bogie. You go speak to Herbie; I want to stay here and go to sleep."

"Right! Not that I particularly like having a robot tell me my job, nor that I think he can do it!"

A soft snore was his only answer.

Herbie listened carefully as Peter Bogert, hands in pockets, spoke with elaborate indifference.

"So there you are. I've been told you understand these things, and I am asking you more in curiosity than anything else. My line of reasoning, as I have outlined it, involves a few doubtful steps, I admit, which Dr. Lanning refuses to accept, and the picture is still rather incomplete."

The robot didn't answer, and Bogert said, "Well?"

"I see no mistake," Herbie studied the scribbled figures.

"I don't suppose you can go any further than that?"

"I daren't try. You are a better mathematician than I, and - well, I'd hate to commit myself."

There was a shade of complacency in Bogert's smile, "I rather thought that would be the case. It is deep. We'll forget it." He crumpled the sheets, tossed them down the waste shaft, turned to leave, and then thought better of it.

"By the way-"

The robot waited.

Bogert seemed to have difficulty. "There is something - that is, perhaps you can -" He stopped.

Herbie spoke quietly. "Your thoughts are confused, but there is no doubt at all that they concern Dr. Lanning. It is silly to hesitate, for as soon as you compose yourself, I'll know what it is you want to ask."

The mathematician's hand went to his sleek hair in the familiar smoothing gesture. "Lanning is nudging seventy," he said, as if that explained everything.

"I know that."

"And he's been director of the plant for almost thirty years." Herbie nodded.

"Well, now," Bogert's voice became ingratiating, "you would know whether. . . whether he's thinking of resigning. Health, perhaps, or some other-"

"Quite," said Herbie, and that was all.

"Well, do you know?"

"Certainly."

"Then-uh-could you tell me?"

"Since you ask, yes." The robot was quite matter-of-fact about it. "He has already resigned!"

"What!" The exclamation was an explosive, almost inarticulate, sound. The scientist's large head hunched forward, "Say that again!"

"He has already resigned," came the quiet repetition, "but it has not yet taken effect. He is waiting, you see, to solve the problem of - er - myself. That finished, he is quite ready to turn the office of director over to his successor."

Bogert expelled his breath sharply, "And this successor? Who is he?" He was quite close to Herbie now, eyes fixed fascinatedly on those unreadable dull-red photoelectric cells that were the robot's eyes.

Words came slowly, "You are the next director."

And Bogert relaxed into a tight smile, "This is good to know. I've been hoping and waiting for this. Thanks, Herbie."

Peter Bogert was at his desk until five that morning and he was back at nine. The shelf just over the desk emptied of its row of reference books and tables, as he referred to one after the other. The pages of calculations before him increased microscopically and the crumpled sheets at his feet mounted into a hill of scribbled paper.

At precisely noon, he stared at the final page, rubbed a blood-shot eye, yawned and shrugged. "This is getting worse each minute. Damn!"

He turned at the sound of the opening door and nodded at Lanning, who entered, cracking the knuckles of one gnarled hand with the other.

The director took in the disorder of the room and his eyebrows furrowed together.

"New lead?" he asked.

"No," came the defiant answer. "What's wrong with the old one?"

Lanning did not trouble to answer, nor to do more than bestow a single cursory glance at the top sheet upon Bogert's desk. He spoke through the flare of a match as he lit a cigar.

"Has Calvin told you about the robot? It's a mathematical genius. Really remarkable."

The other snorted loudly, "So I've heard. But Calvin had better stick to robopsychology. I've checked Herbie on math, and he can scarcely struggle through calculus."

"Calvin didn't find it so."

"She's crazy."

"And I don't find it so." The director's eyes narrowed dangerously.

"You!" Bogert's voice hardened. "What are you talking about?"

"I've been putting Herbie through his paces all morning, and he can do tricks you never heard of."

"Is that so?"

"You sound skeptical!" Lanning flipped a sheet of paper out of his vest pocket and unfolded it. "That's not my handwriting, is it?"

Bogert studied the large angular notation covering the sheet, "Herbie did this?"

"Right! And if you'll notice, he's been working on your time integration of Equation 22. It comes" - Lanning tapped a yellow fingernail upon the last step - "to the identical conclusion I did, and in a quarter the time. You had no right to neglect the Linger Effect in positronic bombardment."

"I didn't neglect it. For Heaven's sake, Lanning, get it through your head that it would cancel out-"

"Oh, sure, you explained that. You used the Mitchell Translation Equation, didn't you? Well - it doesn't apply."

"Why not?"

"Because you've been using hyper-imaginaries, for one thing."

"What's that to do with?"

"Mitchell's Equation won't hold when-"

"Are you crazy? If you'll reread Mitchell's original paper in the Transactions of the Far-"

"I don't have to. I told you in the beginning that I didn't like his reasoning, and Herbie backs me in that."

"Well, then," Bogert shouted, "let that clockwork contraption solve the entire problem for you. Why bother with nonessentials?"

"That's exactly the point. Herbie can't solve the problem. And if he can't, we can't - alone. I'm submitting the entire question to the National Board. It's gotten beyond us."

Bogert's chair went over backward as he jumped up a-snarl, face crimson. "You're doing nothing of the sort."

Lanning flushed in his turn, "Are you telling me what I can't do?"

"Exactly," was the gritted response. "I've got the problem beaten and you're not to take it out of my hands, understand? Don't think I don't see through you, you desiccated fossil. You'd cut your own nose off before you'd let me get the credit for solving robotic telepathy."

"You're a damned idiot, Bogert, and in one second I'll have you suspended for insubordination" - Lanning's lower lip trembled with passion.

"Which is one thing you won't do, Lanning. You haven't any secrets with a mind-reading robot around, so don't forget that I know all about your resignation."

The ash on Lanning's cigar trembled and fell, and the cigar itself followed, "What. . what-"

Bogert chuckled nastily, "And I'm the new director, be it understood. I'm very aware of that, don't think I'm not. Damn your eyes, Lanning, I'm going to give the orders about here or there will be the sweetest mess that you've ever been in."

Lanning found his voice and let it out with a roar. "You're suspended, d'ye hear? You're relieved of all duties. You're broken, do you understand?"

The smile on the other's face broadened, "Now, what's the use of that? You're getting nowhere. I'm holding the trumps. I know you've resigned. Herbie told me, and he got it straight from you."

Lanning forced himself to speak quietly. He looked an old, old man, with tired eyes peering from a face in which the red had disappeared, leaving the pasty yellow of age behind, "I want to speak to Herbie. He can't have told you anything of the sort. You're playing a deep game, Bogert, but I'm calling your bluff. Come with me."

Bogert shrugged, "To see Herbie? Good! Damned good!"

It was also precisely at noon that Milton Ashe looked up from his clumsy sketch and said, "You get the idea? I'm not too good at getting this down, but that's about how it looks. It's a honey of a house, and I can get it for next to nothing."

Susan Calvin gazed across at him with melting eyes. "It's really beautiful," she sighed. "I've often thought that I'd like to-" Her voice trailed away.

"Of course," Ashe continued briskly, putting away his pencil, "I've got to wait for my vacation. It's only two weeks off, but this Herbie business has everything up in the air." His eyes dropped to his fingernails, "Besides, there's another point - but it's a secret."

"Then don't tell me."

"Oh, I'd just as soon, I'm just busting to tell someone - and you're just about the best -er- confidante I could find here." He grinned sheepishly.

Susan Calvin's heart bounded, but she did not trust herself to speak.

"Frankly," Ashe scraped his chair closer and lowered his voice into a confidential whisper, "the house isn't to be only for myself. I'm getting married!"

And then he jumped out of his seat, "What's the matter?"

"Nothing!" The horrible spinning sensation had vanished, but it was hard to get words out. "Married? You mean-"

"Why, sure! About time, isn't it? You remember that girl who was here last summer. That's she! But you are sick. You-"

"Headache!" Susan Calvin motioned him away weakly. "I've. . . I've been subject to them lately. I want to. . . to congratulate you, of course. I'm very glad-" The inexpertly

applied rouge made a pair of nasty red splotches upon her chalk-white face. Things had begun spinning again. "Pardon me - please-"

The words were a mumble, as she stumbled blindly out the door. It had happened with the sudden catastrophe of a dream - and with all the unreal horror of a dream.

But how could it be? Herbie had said-

And Herbie knew! He could see into minds!

She found herself leaning breathlessly against the doorjamb, staring into Herbie's metal face. She must have climbed the two flights of stairs, but she had no memory of it. The distance had been covered in an instant, as in a dream.

As in a dream!

And still Herbie's unblinking eyes stared into hers and their dull red seemed to expand into dimly shining nightmarish globes.

He was speaking, and she felt the cold glass pressing against her lips. She swallowed and shuddered into a certain awareness of her surroundings.

Still Herbie spoke, and there was agitation in his voice - as if he were hurt and frightened and pleading.

The words were beginning to make sense. "This is a dream," he was saying, "and you mustn't believe in it. You'll wake into the real world soon and laugh at yourself. He loves you, I tell you. He does, he does! But not here! Not now! This is an illusion."

Susan Calvin nodded, her voice a whisper, "Yes! Yes!" She was clutching Herbie's arm, clinging to it, repeating over and over, "It isn't true, is it? It isn't, is it?"

Just how she came to her senses, she never knew - but it was like passing from a world of misty unreality to one of harsh sunlight. She pushed him away from her, pushed hard against that steely arm, and her eyes were wide.

"What are you trying to do?" Her voice rose to a harsh scream. "What are you trying to do?"

Herbie backed away, "I want to help"

The psychologist stared, "Help? By telling me this is a dream? By trying to push me into schizophrenia?" A hysterical tenseness seized her, "This is no dream! I wish it were!"

She drew her breath sharply, "Wait! Why. . . why, I understand. Merciful Heavens, it's so obvious."

There was horror in the robot's voice, "I had to!"

"And I believed you! I never thought-"

Loud voices outside the door brought her to a halt. She turned away, fists clenching spasmodically, and when Bogert and Lanning entered, she was at the far window. Neither of the men paid her the slightest attention.

They approached Herbie simultaneously; Lanning angry and impatient, Bogert, coolly sardonic. The director spoke first.

"Here now, Herbie. Listen to me!"

The robot brought his eyes sharply down upon the aged director, "Yes, Dr. Lanning."

"Have you discussed me with Dr. Bogert?"

"No, sir." The answer came slowly, and the smile on Bogert's face flashed off.

"What's that?" Bogert shoved in ahead of his superior and straddled the ground before the robot. "Repeat what you told me yesterday."

"I said that " Herbie fell silent. Deep within him his metallic diaphragm vibrated in soft discords.

"Didn't you say he had resigned?" roared Bogert. "Answer me!"

Bogert raised his arm frantically, but Lanning pushed him aside, "Are you trying to bully him into lying?"

"You heard him, Lanning. He began to say 'Yes' and stopped. Get out of my way! I want the truth out of him, understand!"

"I'll ask him!" Lanning turned to the robot. "All right, Herbie, take it easy. Have I resigned?"

Herbie stared, and Lanning repeated anxiously, "Have I resigned?" There was the faintest trace of a negative shake of the robot's head. A long wait produced nothing further.

The two men looked at each other and the hostility in their eyes was all but tangible.

"What the devil," blurted Bogert, "has the robot gone mute? Can't you speak, you monstrosity?"

"I can speak," came the ready answer.

"Then answer the question. Didn't you tell me Lanning had resigned? Hasn't he resigned?"

And again there was nothing but dull silence, until from the end of the room Susan Calvin's laugh rang out suddenly, high-pitched and semi-hysterical.

The two mathematicians jumped, and Bogert's eyes narrowed, "You here? What's so funny?"

"Nothing's funny." Her voice was not quite natural. "It's just that I'm not the only one that's been caught. There's irony in three of the greatest experts in robotics in the world falling into the same elementary trap, isn't there?" Her voice faded, and she put a pale hand to her forehead, "But it isn't funny!"

This time the look that passed between the two men was one of raised eyebrows. "What trap are you talking about?" asked Lansing stiffly. "Is something wrong with Herbie?"

"No," she approached them slowly, "nothing is wrong with him - only with us." She whirled suddenly and shrieked at the robot, "Get away from me! Go to the other end of the room and don't let me look at you."

Herbie cringed before the fury of her eyes and stumbled away in a clattering trot.

Lanning's voice was hostile, "What is all this, Dr. Calvin?"

She faced them and spoke sarcastically, "Surely you know the fundamental First Law of Robotics."

The other two nodded together. "Certainly," said Bogert, Irritably, "a robot may not injure a human being or, through inaction, allow him to come to harm"

"How nicely put," sneered Calvin. "But what kind of harm?"

"Why - any kind."

"Exactly! Any kind! But what about hurt feelings? What about deflation of one's ego? What about the blasting of one's hopes? Is that injury?"

Lanning frowned, "What would a robot know about-" And then he caught himself with a gasp.

"You've caught on, have you? This robot reads minds. Do you suppose it doesn't know everything about mental injury? Do you suppose that if asked a question, it wouldn't give exactly that answer that one wants to hear? Wouldn't any other answer hurt us, and wouldn't Herbie know that?"

"Good Heavens!" muttered Bogert.

The psychologist cast a sardonic glance at him, "I take it you asked him whether Lanning had resigned. You wanted to hear that he had resigned and so that's what Herbie told you."

"And I suppose that is why," said Lanning, tonelessly, "it would not answer a little while ago. It couldn't answer either way without hurting one of us."

There was a short pause in which the men looked thoughtfully across the room at the robot, crouching in the chair by the bookcase, head resting in one hand.

Susan Calvin stared steadfastly at the floor, "He knew of all this. That. . . that devil knows everything - including what went wrong in his assembly." Her eyes were dark and brooding.

Lanning looked up, "You're wrong there, Dr. Calvin. He doesn't know what went wrong. I asked him."

"What does that mean?" cried Calvin. "Only that you didn't want him to give you the solution. It would puncture your ego to have a machine do what you couldn't. Did you ask him?" she shot at Bogert.

"In a way." Bogert coughed and reddened. "He told me he knew very little about mathematics."

Lanning laughed, not very loudly and the psychologist smiled caustically. She said, "I'll ask him! A solution by him won't hurt my ego" She raised her voice into a cold, imperative, "Come here!"

Herbie rose and approached with hesitant steps.

"You know, I suppose," she continued, "just exactly at what point in the assembly an extraneous factor was introduced or an essential one left out."

"Yes," said Herbie, in tones barely heard.

"Hold on," broke in Bogert angrily. "That's not necessary true. You want to hear that, that's all."

"Don't be a fool," replied Calvin. "He certainly knows as much math as you and Lanning together, since he can read minds. Give him his chance."

The mathematician subsided, and Calvin continued, "All right, then, Herbie, give! We're waiting." And in an aside, "Get pencils and paper, gentlemen."

But Herbie remained silent, and there was triumph in the psychologist's voice, "Why don't you answer, Herbie?"

The robot blurted out suddenly, "I cannot. You know I cannot! Dr. Bogert and Dr. Lanning don't want me to."

"They want the solution."

"But not from me."

Lanning broke in, speaking slowly and distinctly, "Don't be foolish, Herbie. We do want you to tell us."

Bogert nodded curtly.

Herbie's voice rose to wild heights, "What's the use of saying that? Don't you suppose that I can see past the superficial skin of your mind? Down below, you don't want me to. I'm a machine, given the imitation of life only by virtue of the positronic interplay in my brain - which is man's device. You can't lose face to me without being hurt. That is deep in your mind and won't be erased. I can't give the solution."

"We'll leave," said Dr. Lanning. "Tell Calvin."

"That would make no difference," cried Herbie, "since you would know anyway that it was I that was supplying the answer."

Calvin resumed, "But you understand, Herbie, that despite that, Drs. Lanning and Bogert want that solution."

"By their own efforts!" insisted Herbie.

"But they want it, and the fact that you have it and won't give it hurts them. You see that, don't you?"

"Yes! Yes!"

"And if you tell them that will hurt them, too"

"Yes! Yes!" Herbie was retreating slowly, and step-by-step Susan Calvin advanced. The two men watched in frozen bewilderment.

"You can't tell them," droned the psychologist slowly, "because that would hurt and you mustn't hurt. But if you don't tell them, you hurt, so you must tell them. And if you do, you will hurt and you mustn't, so you can't tell them; but if you don't, you hurt, so you must; but if you do, you hurt, so you mustn't; but if you don't, you hurt, so you must; but if you do, you-

Herbie was up against the wall, and here he dropped to his knees. "Stop!" he shrieked. "Close your mind! It is full of pain and frustration and hate! I didn't mean it, I tell you! I tried to help! I told you what you wanted to hear. I had to!"

The psychologist paid no attention. "You must tell them, but if you do, you hurt, so you mustn't; but if you don't, you hurt, so you must; but-

And Herbie screamed!

It was like the whistling of a piccolo many times magnified - shrill and shriller till it keened with the terror of a lost soul and filled the room with the piercingness of itself.

And when it died into nothingness, Herbie collapsed into a huddled heap of motionless metal.

Bogert's face was bloodless, "He's dead!"

"No!" Susan Calvin burst into body-racking gusts of wild laughter, "not dead - merely insane. I confronted him with the insoluble dilemma, and he broke down. You can scrap him now - because he'll never speak again."

Lanning was on his knees beside the thing that had been Herbie. His fingers touched the cold, unresponsive metal face and he shuddered. "You did that on purpose." He rose and faced her, face contorted.

"What if I did? You can't help it now." And in a sudden access of bitterness, "He deserved it."

The director seized the paralyzed, motionless Bogert by the wrist, "What's the difference. Come, Peter." He sighed, "A thinking robot of this type is worthless anyway." His eyes were old and tired, and he repeated, "Come, Peter!"

It was minutes after the two scientists left that Dr. Susan Calvin regained part of her mental equilibrium. Slowly, her eyes turned to the living-dead Herbie and the tightness returned to her face. Long she stared while the triumph faded and the helpless frustration returned - and of all her turbulent thoughts only one infinitely bitter word passed her lips.

"Liar!"

SATISFACTION GUARANTEED

Tony was tall and darkly handsome, with an incredibly patrician air drawn into every line of his unchangeable expression, and Claire Belmont regarded him through the crack in the door with a mixture of horror and dismay.

"I can't, Larry. I just can't have him in the house." Feverishly, she was searching her paralyzed mind for a stronger way of putting it; some way that would make sense and settle things, but she could only end with a simple repetition.

"Well, I can't!"

Larry Belmont regarded his wife stiffly, and there was that spark of impatience in his eyes that Claire hated to see, since she felt her own incompetence mirrored in it. "We're committed, Claire," he said, "and I can't have you backing out now. The company is sending me to Washington on this basis, and it probably means a promotion. It's perfectly safe and you know it. What's your objection?"

She frowned helplessly. "It just gives me the chills. I couldn't bear him."

"He's as human as you or I, almost. So, no nonsense. Come, get out there."

His hand was in the small of her back, shoving; and she found herself in her own living room, shivering. It was there, looking at her with a precise politeness, as though appraising his hostess-to-be of the next three weeks. Dr. Susan Calvin was there, too, sitting stiffly in thin-lipped abstraction. She had the cold, faraway look of someone who has worked with machines so long that a little of the steel had entered the blood.

"Hello," crackled Claire in general, and ineffectual, greeting.

But Larry was busily saving the situation with a spurious gaiety. "Here, Claire, I want you to meet Tony, a swell guy. This is my wife, Claire, Tony, old boy." Larry's hand draped itself amiably over Tony's shoulder, but Tony remained unresponsive and expressionless under the pressure.

He said, "How do you do, Mrs. Belmont."

And Claire jumped at Tony's voice. It was deep and mellow, smooth as the hair on his head or the skin on his face.

Before she could stop herself, she said, "Oh, my-you talk."

"Why not? Did you expect that I didn't?"

But Claire could only smile weakly. She didn't really know what she had expected. She looked away, then let him slide gently into the corner of her eye. His hair was smooth and black, like polished plastic-or was it really composed of separate hairs? And was the even, olive skin of his hands and face continued on past the obscurement of his formally cut clothing?

She was lost in the shuddering wonder of it, and had to force her thoughts back into place to meet Dr. Calvin's flat, unemotional voice.

"Mrs. Belmont, I hope you appreciate the importance of this experiment. Your husband tells me he has given you some of the background. I would like to give you more, as the senior psychologist of the U.S. Robots and Mechanical Men Corporation.

"Tony is a robot. His actual designation on the company files is TN-3, but he will answer to Tony. He is not a mechanical monster, nor simply a calculating machine of the type that were developed during World War II, fifty years ago. He has an artificial brain nearly as complicated as our own. It is an immense telephone switchboard on an atomic scale, so that billions of possible 'telephone connections' can be compressed into an instrument that will fit inside a skull.

"Such brains are manufactured for each model of robot specifically. Each contains a precalculated set of connections so that each robot knows the English language to start with and enough of anything else that may be necessary to perform his job.

"Until now, U.S. Robots has confined its manufacturing activity to industrial models for use in places where human labor is impractical—in deep mines, for instance, or in underwater work. But we want to invade the city and the home. To do so, we must get the ordinary man and woman to accept these robots without fear. You understand that there is nothing to fear."

"There isn't, Claire," interposed Larry earnestly. "Take my word for it. It's impossible for him to do any harm. You know I wouldn't leave him with you otherwise."

Claire cast a quick, secret glance at Tony and lowered her voice. "What if I make him angry?"

"You needn't whisper," said Dr. Calvin calmly. "He can't get angry with you, my dear. I told you that the switchboard connections of his brain were predetermined. Well, the most important connection of all is what we call 'The First Law of Robotics,' and it is merely this: 'No robot can harm a human being, or, through inaction, allow a human being to come to harm.' All robots are built so. No robot can be forced in any way to do harm to any human. So, you see, we need you and Tony as a preliminary experiment for our own guidance, while your husband is in Washington to arrange for government-supervised legal tests."

"You mean all this isn't legal?"

Larry cleared his throat. "Not just yet, but it's all right. He won't leave the house, and you mustn't let anyone see him. That's all. . . . And, Claire, I'd stay with you, but I know too much about the robots. We must have a completely inexperienced tester so that we can have severe conditions. It's necessary."

"Oh, well," muttered Claire. Then, as a thought struck her, "But what does he do?"

"Housework," said Dr. Calvin shortly.

She got up to leave, and it was Larry who saw her to the front door. Claire stayed behind dreadingly. She caught a glimpse of herself in the mirror above the mantelpiece, and looked away hastily. She was very tired of her small, mousy face and her dim, unimaginative hair. Then she caught Tony's eyes upon her and almost smiled before she remembered. . . .

He was only a machine.

Larry Belmont was on his way to the airport when he caught a glimpse of Gladys Claffern. She was the type of woman who seemed made to be seen in glimpses. . . . Perfectly and precisely manufactured; dressed with thoughtful hand and eye; too gleaming to be stared at.

The little smile that preceded her and the faint scent that trailed her were a pair of beckoning fingers. Larry felt his stride break; he touched his hat, then hurried on.

As always he felt that vague anger. If Claire could only push her way into the Claffern clique, it would help so much. But what was the use.

Claire! The few times she had come face to face with Gladys, the little fool had been tongue-tied. He had no illusions. The testing of Tony was his big chance, and it was in Claire's hands. How much safer it would be in the hands of someone like Gladys Claffern.

Claire woke the second morning to the sound of a subdued knock on the bedroom door. Her mind clamored, then went icy. She had avoided Tony the first day, smiling thinly when she met him and brushing past with a wordless sound of apology.

"Is that you-Tony?"

"Yes, Mrs. Belmont. May I enter?"

She must have said yes, because he was in the room, quite suddenly and noiselessly. Her eyes and nose were simultaneously aware of the tray he was carrying.

"Breakfast?" she said.

"If you please."

She wouldn't have dared to refuse, so she pushed herself slowly into a sitting position and received it: poached eggs, buttered toast, coffee.

"I have brought the sugar and cream separately," said Tony. "I expect to learn your preference with time, in this and in other things."

She waited.

Tony, standing there straight and pliant as a metal rule, asked, after a moment, "Would you prefer to eat in privacy?"

"Yes. . . . I mean, if you don't mind."

"Will you need help later in dressing?"

"Oh, my, no!" She clutched frantically at the sheet, so that the coffee hovered at the edge of catastrophe. She remained so, in rigor, then sank helplessly back against the pillow when the door closed him out of her sight again.

She got through breakfast somehow. . . . He was only a machine, and if it were only more visible that he were it wouldn't be so frightening. Or if his expression would change. It just stayed there, nailed on. You couldn't tell what went on behind those dark eyes and that smooth, olive skin-stuff. The coffee cup beat a faint castanet for a moment as she set it back, empty, on the tray.

Then she realized that she had forgotten to add the sugar and cream after all, and she did so hate black coffee.

She burned a straight path from bedroom to kitchen after dressing. It was her house, after all, and there wasn't anything frippy about her, but she liked her kitchen clean. He should have waited for supervision. . . .

But when she entered, she found a kitchen that might have been minted fire-new from the factory the moment before.

She stopped, stared, turned on her heel and nearly ran into Tony. She yelped.

"May I help?" he asked.

"Tony," and she scraped the anger off the edges of her mind's panic, "you must make some noise when you walk. I can't have you stalking me, you know. . . . Didn't you use this kitchen?"

"I did, Mrs. Belmont."

"It doesn't look it."

"I cleaned up afterward. Isn't that customary?"

Claire opened her eyes wide. After all, what could one say to that. She opened the oven compartment that held the pots, took a quick, unseeing look at the metallic glitter inside, then said with a tremor, "Very good. Quite satisfactory."

If at the moment, he had beamed; if he had smiled; if he had quirked the corner of his mouth the slightest bit, she felt that she could have warmed to him. But he remained an English lord in repose, as he said, "Thank you, Mrs. Belmont. Would you come into the living room?"

She did, and it struck her at once. "Have you been polishing the furniture?"

"Is it satisfactory, Mrs. Belmont?"

"But when? You didn't do it yesterday."

"Last night, of course."

"You burned the lights all night?"

"Oh, no. That wouldn't have been necessary. I've a built-in ultra-violet source. I can see in ultraviolet. And, of course, I don't require sleep."

He did require admiration, though. She realized that, then. He had to know that he was pleasing her. But she couldn't bring herself to supply that pleasure for him.

She could only say sourly, "Your kind will put ordinary houseworkers out of business."

"There is work of much greater importance they can be put to in the world, once they are freed of drudgery. After all, Mrs. Belmont, things like myself can be manufactured. But nothing yet can imitate the creativity and versatility of a human brain, like yours."

And though his face gave no hint, his voice was warmly surcharged with awe and admiration, so that Claire flushed and muttered, "My brain! You can have it."

Tony approached a little and said, "You must be unhappy to say such a thing. Is there anything I can do?"

For a moment, Claire felt like laughing. It was a ridiculous situation. Here was an animated carpet-sweeper, dishwasher, furniture-polisher, general factotum, rising from the factory table-and offering his services as consoler and confidant.

Yet she said suddenly, in a burst of woe and voice, "Mr. Belmont doesn't think I have a brain, if you must know. . . . And I suppose I haven't." She couldn't cry in front of him. She felt, for some reason, that she had the honor of the human race to support against this mere creation.

"It's lately," she added. "It was all right when he was a student; when he was just starting. But I can't be a big man's wife; and he's getting to be a big man. He wants me to be a hostess and an entry into social life for him-like G-guh-guh-Gladys Claflern."

Her nose was red, and she looked away.

But Tony wasn't watching her. His eyes wandered about the room. "I can help you run the house."

"But it's no good," she said fiercely. "It needs a touch I can't give it. I can only make it comfortable; I can't ever make it the kind they take pictures of for the Home Beautiful magazines."

"Do you want that kind?"

"Does it do any good-wanting?"

Tony's eyes were on her, full. "I could help."

"Do you know anything about interior decoration?"

"Is it something a good housekeeper should know?"

"Oh, yes."

"Then I have the potentialities of learning it. Can you get me books on the subject?"

Something started then.

Claire, clutching her hat against the brawling liberties of the wind, had manipulated two fat volumes on the home arts back from the public library. She watched Tony as he opened one of them and flipped the pages. It was the first time she had watched his fingers flicker at anything like fine work.

I don't see how they do it, she thought, and on a sudden impulse reached for his hand and pulled it toward herself. Tony did not resist, but let it lie limp for inspection.

She said, "It's remarkable. Even your fingernails look natural."

"That's deliberate, of course," said Tony. Then, chattily, "The skin is a flexible plastic, and the skeletal framework is a light metal alloy. Does that amuse you?"

"Oh, no." She lifted her reddened face. "I just feel a little embarrassed at sort of poking into your insides. It's none of my business. You don't ask me about mine."

"My brain paths don't include that type of curiosity. I can only act within my limitations, you know."

And Claire felt something tighten inside her in the silence that followed. Why did she keep forgetting he was a machine. Now the thing itself had to remind her. Was she so starved for sympathy that she would even accept a robot as equal-because he sympathized?

She noticed Tony was still flipping the pages-almost helplessly-and there was a quick, shooting sense of relieved superiority within her. "You can't read, can you?"

Tony looked up at her; his voice calm, unreproachful. "I am reading, Mrs. Belmont."

"But-" She pointed at the book in a meaningless gesture.

"I am scanning the pages, if that's what you mean. My sense of reading is photographic."

It was evening then, and when Claire eventually went to bed Tony was well into the second volume, sitting there in the dark, or what seemed dark to Claire's limited eyes.

Her last thought, the one that clamored at her just as her mind let go and tumbled, was a queer one. She remembered his hand again; the touch of it. It had been warm and soft, like a human being's.

How clever of the factory, she thought, and softly ebbed to sleep.

It was the library continuously, thereafter, for several days. Tony suggested the fields of study, which branched out quickly. There were books on color matching and on cosmetics; on carpentry and on fashions; on art and on the history of costumes.

He turned the pages of each book before his solemn eyes, and, as quickly as he turned, he read; nor did he seem capable of forgetting.

Before the end of the week, he had insisted on cutting her hair, introducing her to a new method of arranging it, adjusting her eyebrow line a bit and changing the shade of her powder and lipstick.

She had palpitated in nervous dread for half an hour under the delicate touch of his inhuman fingers and then looked in the mirror.

"There is more that can be done," said Tony, "especially in clothes. How do you find it for a beginning?"

And she hadn't answered; not for quite a while. Not until she had absorbed the identity of the stranger in the glass and cooled the wonder at the beauty of it all. Then she had said chokingly, never once taking her eyes from the warming image, "Yes, Tony, quite good-for a beginning."

She said nothing of this in her letters to Larry. Let him see it all at once. And something in her realized that it wasn't only the surprise she would enjoy. It was going to be a kind of revenge.

Tony said one morning, "It's time to start buying, and I'm not allowed to leave the house. If I write out exactly what we must have, can I trust you to get it? We need drapery, and furniture fabric, wallpaper, carpeting, paint, clothing-and any number of small things."

"You can't get these things to your own specifications at a stroke's notice," said Claire doubtfully.

"You can get fairly close, if you go through the city and if money is no object."

"But, Tony, money is certainly an object."

"Not at all. Stop off at U.S. Robots in the first place. I'll write a note for you. You see Dr. Calvin, and tell her that I said it was part of the experiment."

Dr. Calvin, somehow, didn't frighten her as on that first evening. With her new face and a new hat, she couldn't be quite the old Claire. The psychologist listened carefully,

asked a few questions, nodded-and then Claire found herself walking out, armed with an unlimited charge account against the assets of U.S. Robots and Mechanical Men Corporation.

It is wonderful what money will do. With a store's contents at her feet, a saleslady's dictum was not necessarily a voice from above; the uplifted eyebrow of a decorator was not anything like Jove's thunder.

And once, when an Exalted Plumpness at one of the most lordly of the garment salons had insistently poohed her description of the wardrobe she must have with counterpronouncements in accents of the purest Fifty-seventh Street French, she called up Tony, then held the phone out to Monsieur.

"If you don't mind"-voice firm, but fingers twisting a bit-"I'd like you to talk to my-uh-secretary."

Pudgy proceeded to the phone with a solemn arm crooked behind his back. He lifted the phone in two fingers and said delicately, "Yes." A short pause, another "Yes," then a much longer pause, a squeaky beginning of an objection that perished quickly, another pause, a very meek "Yes," and the phone was restored to its cradle.

"If Madam will come with me," he said, hurt and distant, "I will try to supply her needs."

"Just a second." Claire rushed back to the phone, and dialed again. "Hello, Tony. I don't know what you said, but it worked. Thanks. You're a-" She struggled for the appropriate word, gave up and ended in a final little squeak, "-a-a dear!"

It was Gladys Claffern looking at her when she turned from the phone again. A slightly amused and slightly amazed Gladys Claffern, looking at her out of a face tilted a bit to one side.

"Mrs. Belmont?"

It all drained out of Claire-just like that. She could only nod-stupidly, like a marionette.

Gladys smiled with an insolence you couldn't put your finger on. "I didn't know you shopped here?" As if the place had, in her eyes, definitely lost caste through the fact.

"I don't, usually," said Claire humbly.

"And haven't you done something to your hair? It's quite-quaint. . . . Oh, I hope you'll excuse me, but isn't your husband's name Lawrence? It seems to me that it's Lawrence."

Claire's teeth clenched, but she had to explain. She had to. "Tony is a friend of my husband's. He's helping me select some things."

"I understand. And quite a dear about it, I imagine." She passed on smiling, carrying the light and the warmth of the world with her.

Claire did not question the fact that it was to Tony that she turned for consolation. Ten days had cured her of reluctance. And she could weep before him; weep and rage.

"I was a complete f-fool," she stormed, wrenching at her water-togged handkerchief. "She does that to me. I don't know why. She just does. I should have-kicked her. I should have knocked her down and stamped on her."

"Can you hate a human being so much?" asked Tony, in puzzled softness. "That part of a human mind is closed to me."

"Oh, it isn't she," she moaned. "It's myself, I suppose. She's everything I want to be-on the outside, anyway. . . . And I can't be."

Tony's voice was forceful and low in her ear. "You can be, Mrs. Belmont. You can be. We have ten days yet, and in ten days the house will no longer be itself. Haven't we been planning that?"

"And how will that help me-with her?"

"Invite her here. Invite her friends. Have it the evening before I-before I leave. It will be a housewarming, in a way."

"She won't come."

"Yes, she will. She'll come to laugh. . . . And she won't be able to."

"Do you really think so? Oh, Tony, do you think we can do it?" She had both his hands in hers. . . . And then, with her face flung aside, "But what good would it be? It won't be I; it will be you that's doing it. I can't ride your back."

"Nobody lives in splendid singleness," whispered Tony. "They've put that knowledge in me. What you, or anyone, see in Gladys Claffern is not just Gladys Claffern. She rides the back of all that money and social position can bring. She doesn't question that. Why should you? . . . And look at it this way, Mrs. Belmont. I am manufactured to obey, but the extent of my obedience is for myself to determine. I can follow orders niggardly or liberally. For you, it is liberal, because you are what I have been manufactured to see human beings as. You are kind, friendly, unassuming. Mrs. Claffern, as you describe her, is not, and I wouldn't obey her as I would you. So it is you, and not I, Mrs. Belmont, that is doing all this."

He withdrew his hands from hers then, and Claire looked at that expressionless face no one could read-wondering. She was suddenly frightened ' again in a completely new way.

She swallowed nervously and stared at her hands, which were still tingling ' with the pressure of his fingers. She hadn't imagined it; his fingers had pressed hers, gently, tenderly, just before they moved away.

No!

Its fingers . . . Its fingers. . . .

She ran to the bathroom and scrubbed her hands-blindly, uselessly.

She was a bit shy of him the next day; watching him narrowly; waiting to see what might follow-and for a while nothing did.

Tony was working. If there was any difficulty in technique in putting up wallpaper, or utilizing the quick-drying paint, Tony's activity did not show it. His hands moved precisely; his fingers were deft and sure.

He worked all night. She never heard him, but each morning was a new adventure. She couldn't count the number of things that had been done, and by evening she was still finding new touches-and another night had come.

She tried to help only once and her human clumsiness marred that. He was in the next room, and she was hanging a picture in the spot marked by Tony's mathematical eyes. The little mark was there; the picture was there; and a revulsion against idleness was there.

But she was nervous, or the ladder was rickety. It didn't matter. She felt it going, and she cried out. It tumbled without her, for Tony, with far more than flesh-and-blood quickness, had been under her.

His calm, dark eyes said nothing at all, and his warm voice said only words. "Are you hurt, Mrs. Belmont?"

She noticed for an instant that her falling hand must have mussed that sleek hair of his, because for the first time she could see for herself that it was composed of distinct strands-fine black hairs.

And then, all at once, she was conscious of his arms about her shoulders and under her knees-holding her tightly and warmly.

She pushed, and her scream was loud in her own ears. She spent the rest of the day in her room, and thereafter she slept with a chair upended against the doorknob of her bedroom door.

She had sent out the invitations, and, as Tony had said, they were accepted. She had only to wait for the last evening.

It came, too, after the rest of them, in its proper place. The house was scarcely her own. She went through it one last time-and every room had been changed. She, herself, was in clothes she would never have dared wear before. . . . And when you put them on, you put on pride and confidence with them.

She tried a polite look of contemptuous amusement before the mirror, and the mirror sneered back at her masterfully.

What would Larry say? . . . It didn't matter, somehow. The exciting days weren't coming with him. They were leaving with Tony. Now wasn't that strange? She tried to recapture her mood of three weeks before and failed completely.

The clock shrieked eight at her in eight breathless installments, and she turned to Tony. "They'll be here soon, Tony. You'd better get into the basement. We can't let them-"

She stared a moment, then said weakly, "Tony?" and more strongly, "Tony?" and nearly a scream, "Tony!"

But his arms were around her now; his face was close to hers; the pressure of his embrace was relentless. She heard his voice through a haze of emotional jumble.

"Claire," the voice said, "there are many things I am not made to understand, and this must be one of them. I am leaving tomorrow, and I don't want to. I find that there is more in me than just a desire to please you. Isn't it strange?"

His face was closer; his lips were warm, but with no breath behind them -for machines do not breathe. They were almost on hers.

. . . And the bell sounded.

For a moment, she struggled breathlessly, and then he was gone and nowhere in sight, and the bell was sounding again. Its intermittent shrillness was insistent.

The curtains on the front windows had been pulled open. They had been closed fifteen minutes earlier. She knew that.

They must have seen, then. They must all have seen-everything!

They came in so politely, all in a bunch-the pack come to howl-with their sharp, darting eyes piercing everywhere. They had seen. Why else would Gladys ask in her jabbingest manner after Larry? And Claire was spurred to a desperate and reckless defiance.

Yes, he is away. He'll be back tomorrow, I suppose. No, I haven't been lonely here myself. Not a bit. I've had an exciting time. And she laughed at them. Why not? What could they do? Larry would know the truth, if it ever came to him, the story of what they thought they saw.

But they didn't laugh.

She could read that in the fury in Gladys Claflern's eyes; in the false sparkle of her words; in her desire to leave early. And as she parted with them, she caught one last, anonymous whisper-disjointed.

". . . never saw anything like . . . so handsome-"

And she knew what it was that had enabled her to finger-snap them so. Let each cat mew; and let each cat know-that she might be prettier than Claire Belmont, and grander, and richer-but not one, not one, could have so handsome a lover!

And then she remembered again-again-again, that Tony was a machine, and her skin crawled.

"Go away! Leave me be!" she cried to the empty room and ran to her bed. She wept wakefully all that night and the next morning, almost before dawn, when the streets were empty, a car drew up to the house and took Tony away.

Lawrence Belmont passed Dr. Calvin's office, and, on impulse, knocked. He found her with Mathematician Peter Bogert, but did not hesitate on that account.

He said, "Claire tells me that U.S. Robots paid for all that was done at my house-"

"Yes," said Dr. Calvin. "We've written it off, as a valuable and necessary part of the experiment. With your new position as Associate Engineer, you'll be able to keep it up, I think."

"That's not what I'm worried about. With Washington agreeing to the tests, we'll be able to get a TN model of our own by next year, I think." He turned hesitantly, as though to go, and as hesitantly turned back again.

"Well, Mr. Belmont?" asked Dr. Calvin, after a pause.

"I wonder-" began Larry. "I wonder what really happened there. She- Claire, I mean-seems so different. It's not just her looks-though, frankly, I'm amazed." He laughed nervously. "It's her! She's not my wife, really-I can't explain it."

"Why try? Are you disappointed with any part of the change?"

"On the contrary. But it's a little frightening, too, you see-"

"I wouldn't worry, Mr. Belmont. Your wife has handled herself very well. Frankly, I never expected to have the experiment yield such a thorough and complete test. We know exactly what corrections must be made in the TN model, and the credit belongs entirely to Mrs. Belmont. If you want me to be very honest, I think your wife deserves your promotion more than you do."

Larry flinched visibly at that. "As long as it's in the family," he murmured unconvincingly and left.

Susan Calvin looked after him, "I think that hurt-I hope. . . . Have you read Tony's report, Peter?"

"Thoroughly," said Bogert. "And won't the TN-3 model need changes?"

"Oh, you think so, too?" questioned Calvin sharply. "What's your reasoning?"

Bogert frowned. "I don't need any. It's obvious on the face of it that we can't have a robot loose which makes love to his mistress, if you don't mind the pun."

"Love! Peter, you sicken me. You really don't understand? That machine had to obey the First Law. He couldn't allow harm to come to a human being, and harm was coming to Claire Belmont through her own sense of inadequacy. So he made love to her, since what woman would fail to appreciate the compliment of being able to stir passion in a machine-in a cold, soulless machine. And he opened the curtains that night deliberately, that the others might see and envy-without any risk possible to Claire's marriage. I think it was clever of Tony-

"Do you? What's the difference whether it was pretense or not, Susan? It still has its horrifying effect. Read the report again. She avoided him. She screamed when he held her. She didn't sleep that last night-in hysterics. We can't have that."

"Peter, you're blind. You're as blind as I was. The TN model will be rebuilt entirely, but not for your reason. Quite otherwise; quite otherwise. Strange that I overlooked it in the first place," her eyes were opaquely thoughtful, "but perhaps it reflects a shortcoming in myself. You see, Peter, machines can't fall in love, but-even when it's hopeless and horrifying- women can!"

United States Robots and Mechanical Men Corporation had a problem. The problem was people.

Peter Bogert, Senior Mathematician, was on his way to Assembly when he encountered Alfred Lanning, Research Director. Lanning was bending his ferocious white eyebrows together and staring down across the railing into the computer room.

On the floor below the balcony, a trickle of humanity of both sexes and various ages was looking about curiously, while a guide intoned a set speech about robotic computing.

"This computer you see before you," he said, "is the largest of its type in the world. It contains five million three hundred thousand cryotrons and is capable of dealing simultaneously with over one hundred thousand variables. With its help, U. S. Robots is able to design with precision the positronic brains of new models. "The requirements are fed in on tape which is perforated by the action of this keyboard-something like a very complicated typewriter or linotype machine, except that it does not deal with letters but with concepts. Statements are broken down into the symbolic logic equivalents and those in turn converted to perforation patterns.

"The computer can, in less than one hour, present our scientists with a design for a brain which will give all the necessary positronic paths to make a robot. . . "

Alfred Lanning looked up at last and noticed the other. "Ah, Peter," he said.

Bogert raised both hands to smooth down his already perfectly smooth and glossy head of black hair. He said, "You don't look as though you think much of this, Alfred."

Lanning grunted. The idea of public guided tours of U. S. Robots was of fairly recent origin, and was supposed to serve a dual function. On the one hand, the theory went, it allowed people to see robots at close quarters and counter their almost instinctive fear of the mechanical objects through increased familiarity. And on the other hand, it was supposed to interest at least an occasional person in taking up robotics research as a life work.

"You know I don't," Lanning said finally. "Once a week, work is disrupted. Considering the man-hours lost, the return is insufficient."

"Still no rise in job applications, then?"

"Oh, some, but only in the categories where the need isn't vital. It's research men that are needed. You know that. The trouble is that with robots forbidden on Earth itself, there's something unpopular about being a roboticist."

"The damned Frankenstein complex," said Bogert, consciously imitating one of the other's pet phrases.

Lanning missed the gentle jab. He said, "I ought to be used to it, but I never will. You'd think that by now every human being on Earth would know that the Three Laws represented a perfect safeguard; that robots are simply not dangerous. Take this bunch."

He glowered down. "Look at them. Most of them go through the robot assembly room for the thrill of fear, like riding a roller coaster. Then when they enter the room with the MEC model-damn it, Peter, a MEC model that will do nothing on God's green Earth but take two steps forward, say 'Pleased to meet you, sir,' shake hands, then take two steps back-they back away and mothers snatch up their kids. How do we expect to get brainwork out of such idiots?"

Bogert had no answer. Together, they stared down once again at the line of sightseers, now passing out of the computer room and into the positronic brain assembly section. Then they left. They did not, as it turned out, observe Mortimer W. Jacobson, age 16-who, to do him complete justice, meant no harm whatever.

In fact, it could not even be said to be Mortimer's fault. The day of the week on which the tour took place was known to all workers.

All devices in its path ought to have been carefully neutralized or locked, since it was unreasonable to expect human beings to withstand the temptation to handle knobs, keys, handles and pushbuttons. In addition, the guide ought to have been very carefully on the watch for those who succumbed.

But, at the time, the guide had passed into the next room and Mortimer was tailing the line. He passed the keyboard on which instructions were fed into the computer. He had no way of suspecting that the plans for a new robot design were being fed into it at that moment, or, being a good kid, he would have avoided the keyboard. He had no way of knowing that, by what amounted to almost criminal negligence, a technician had not inactivated the keyboard.

So Mortimer touched the keys at random as though he were playing a musical instrument.

He did not notice that a section of perforated tape stretched itself out of the instrument in another part of the room-soundlessly, unobtrusively.

Nor did the technician, when he returned, discover any signs of tampering. He felt a little uneasy at noticing that the keyboard was live, but did not think to check. After a few minutes, even his first trifling uneasiness was gone, and he continued feeding data into the computer.

As for Mortimer, neither then, nor ever afterward, did he know what he had done.

The new LNE model was designed for the mining of boron in the asteroid belt. The boron hydrides were increasing in value yearly as primers for the proton micropiles that carried the ultimate load of power production on spaceships, and Earth's own meager supply was running thin.

Physically, that meant that the LNE robots would have to be equipped with eyes sensitive to those lines prominent in the spectroscopic analysis of boron ores and the type of limbs most useful for the working up of ore to finished product. As always, though, the mental equipment was the major problem.

The first LNE positronic brain had been completed now. It was the prototype and would join all other prototypes in U. S. Robots' collection. When finally tested, others would then be manufactured for leasing (never selling) to mining corporations.

LNE-Prototype was complete now. Tall, straight, polished, it looked from outside like any of a number of not-too-specialized robot models.

The technician in charge, guided by the directions for testing in the Handbook of Robotics, said, "How are you?"

The indicated answer was to have been, "I am well and ready to begin my functions. I trust you are well, too," or some trivial modification thereof.

This first exchange served no purpose but to show that the robot could hear, understand a routine question, and make a routine reply congruent with what one would expect of a robotic attitude. Beginning from there, one could pass on to more complicated matters that would test the different Laws and their interaction with the specialized knowledge of each particular model.

So the technician said, "How are you?" He was instantly jolted by the nature of LNE-Prototype's voice. It had a quality like no robotic voice he had ever heard (and he had heard many). It formed syllables like the chimes of a low-pitched celeste.

So surprising was this that it was only after several moments that the technician heard, in retrospect, the syllables that had been formed by those heavenly tones. They were, "Da, da, da, goo." The robot still stood tall and straight but its right hand crept upward and a finger went into its mouth.

The technician stared in absolute horror and bolted. He locked the door behind him and, from another room, put in an emergency call to Dr. Susan Calvin.

Dr. Susan Calvin was U. S. Robots' (and, virtually, mankind's) only robopsychologist. She did not have to go very far in her testing of LNE-Prototype before she called very peremptorily for a transcript of the computer-drawn plans of the positronic brain-paths and the taped instructions that had directed them. After some study, she, in turn, sent for Bogert.

Her iron-gray hair was drawn severely back; her cold face, with its strong vertical lines marked off by the horizontal gash of the pale, thin-lipped mouth, turned intensely upon him.

"What is this, Peter?" Bogert studied the passages she pointed out with increasing stupefaction and said, "Good Lord, Susan, it makes no sense."

"It most certainly doesn't. How did it get into the instructions?" The technician in charge, called upon, swore in all sincerity that it was none of his doing, and that he could not account for it. The computer checked out negative for all attempts at flaw-finding.

"The positronic brain," said Susan Calvin, thoughtfully, "is past redemption. So many of the higher functions have been cancelled out by these meaningless directions that the result is very like a human baby."

Bogert looked surprised, and Susan Calvin took on a frozen attitude at once, as she always did at the least expressed or implied doubt of her word. She said, "We make every effort to make a robot as mentally like a man as possible. Eliminate what we call the adult functions and what is naturally left is a human infant, mentally speaking. Why do you look so surprised, Peter?"

LNE-Prototype, who showed no signs of understanding any of the things that were going on around it, suddenly slipped into a sitting position and began a minute examination of its feet.

Bogert stared at it. "It's a shame to have to dismantle the creature. It's a handsome job."

"Dismantle it?" said the robopsychologist forcefully. "Of course, Susan. What's the use of this thing? Good Lord, if there's one object completely and abysmally useless it's a robot without a job it can perform. You don't pretend there's a job this thing can do, do you?"

"No, of course not."

"Well, then?"

Susan Calvin said, stubbornly, "I want to conduct more tests." Bogert looked at her with a moment's impatience, then shrugged. If there was one person at U. S. Robots with whom it was useless to dispute, surely that was Susan Calvin. Robots were all she loved, and long association with them, it seemed to Bogert, had deprived her of any appearance of humanity. She was no more to be argued out of a decision than was a triggered micropile to be argued out of operating.

"What's the use?" he breathed; then aloud, hastily: "Will you let us know when your tests are complete?"

"I will," she said. "Come, Lenny."

(LNE, thought Bogert. That becomes Lenny. Inevitable.)

Susan Calvin held out her hand but the robot only stared at it. Gently, the robopsychologist reached for the robot's hand and took it. Lenny rose smoothly to its feet (its mechanical coordination, at least, worked well). Together they walked out, robot topping woman by two feet. Many eyes followed them curiously down the long corridors.

One wall of Susan Calvin's laboratory, the one opening directly off her private office, was covered with a highly magnified reproduction of a positronic-path chart. Susan Calvin had studied it with absorption for the better part of a month.

She was considering it now, carefully, tracing the blunted paths through their contortions. Behind her, Lenny sat on the floor, moving its legs apart and together, crooning meaningless syllables to itself in a voice so beautiful that one could listen to the nonsense and be ravished.

Susan Calvin turned to the robot, "Lenny-Lenny-"

She repeated this patiently until finally Lenny looked up and made an inquiring sound. The robopsychologist allowed a glimmer of pleasure to cross her face fleetingly. The robot's attention was being gained in progressively shorter intervals.

She said, "Raise your hand, Lenny. Hand-up. Hand-up." She raised her own hand as she said it, over and over.

Lenny followed the movement with its eyes. Up, down, up, down. Then it made an abortive gesture with its own hand and chimed, "Eh-uh."

"Very good, Lenny," said Susan Calvin, gravely. "Try it again. Hand-up."

Very gently, she reached out her own hand, took the robot's, and raised it, lowered it. "Hand-up. Hand-up."

A voice from her office called and interrupted. "Susan?"

Calvin halted with a tightening of her lips. "What is it, Alfred?" The research director walked in, and looked at the chart on the wall and at the robot. "Still at it?"

"I'm at my work, yes."

"Well, you know, Susan. . . " He took out a cigar, staring at it hard, and made as though to bite off the end. In doing so, his eyes met the woman's stern look of disapproval; and he put the cigar away and began over. "Well, you know, Susan, the LNE model is in production now."

"So I've heard. Is there something in connection with it you wish of me?"

"No-o. Still, the mere fact that it is in production and is doing well means that working with this messed-up specimen is useless. Shouldn't it be scrapped?"

"In short, Alfred, you are annoyed that I am wasting my so-valuable time. Feel relieved. My time is not being wasted. I am working with this robot."

"But the work has no meaning."

"I'll be the judge of that, Alfred." Her voice was ominously quiet, and Lanning thought it wiser to shift his ground.

"Will you tell me what meaning it has? What are you doing with it right now, for instance?"

"I'm trying to get it to raise its hand on the word of command. I'm trying to get it to imitate the sound of the word."

As though on cue, Lenny said, "Eh-uh" And raised its hand waveringly.

Lanning shook his head. "That voice is amazing. How does it happen?"

Susan Calvin said, "I don't quite know. Its transmitter is a normal one. It could speak normally, I'm sure. It doesn't, however; it speaks like this as a consequence of something in the positronic paths that I have not yet pinpointed."

"Well, pinpoint it, for Heaven's sake. Speech like that might be useful."

"Oh, then there is some possible use in my studies on Lenny?" Lanning shrugged in embarrassment. "Oh, well, it's a minor point."

"I'm sorry you don't see the major points, then," said Susan Calvin with asperity, "which are much more important, but that's not my fault. Would you leave now, Alfred, and let me go on with my work?"

Lanning got to his cigar, eventually, in Bogert's office. He said, sourly, "That woman is growing more peculiar daily."

Bogert understood perfectly. In the U. S. Robots and Mechanical Men Corporation, there was only one "that woman." He said, "Is she still scuffling about with that pseudo-robot-that Lenny of hers?"

"Trying to get it to talk, so help me." Bogert shrugged. "Points up the company problem. I mean, about getting qualified personnel for research. If we had other robopsychologists, we could retire Susan. Incidentally, I presume the directors' meeting scheduled for tomorrow is for the purpose of dealing with the procurement problem?"

Lanning nodded and looked at his cigar as though it didn't taste good. "Yes. Quality, though, not quantity. We've raised wages until there's a steady stream of applicants-those who are interested primarily in money. The trick is to get those who are interested primarily in robotics-a few more like Susan Calvin."

"Hell, no. Not like her."

"Well, not like her personally. But you'll have to admit, Peter, that she's single-minded about robots. She has no other interest in life."

"I know. And that's exactly what makes her so unbearable." Lanning nodded. He had lost count of the many times it would have done his soul good to have fired Susan Calvin. He had also lost count of the number of millions of dollars she had at one time or another saved the company. She was a truly indispensable woman and would remain one until she died-or until they could lick the problem of finding men and women of her own high caliber who were interested in robotics research.

He said, "I think we'll cut down on the tour business." Peter shrugged. "If you say so. But meanwhile, seriously, what do we do about Susan? She can easily tie herself up with Lenny indefinitely. You know how she is when she gets what she considers an interesting problem."

"What can we do?" said Lanning. "If we become too anxious to pull her off, she'll stay on out of feminine contrariness. In the last analysis, we can't force her to do anything."

The dark-haired mathematician smiled. "I wouldn't ever apply the adjective 'feminine' to any part of her."

"Oh, well," said Lanning, grumpily. "At least, it won't do anyone any actual harm."

In that, if in nothing else, he was wrong. The emergency signal is always a tension-making thing in any large industrial establishment. Such signals had sounded in the history of U. S. Robots a dozen times-for fire, flood, riot and insurrection.

But one thing had never occurred in all that time. Never had the particular signal indicating "Robot out of control" sounded. No one ever expected it to sound. It was only installed at government insistence. ("Damn the Frankenstein complex," Lanning would mutter on those rare occasions when he thought of it.)

Now, finally, the shrill siren rose and fell at ten-second intervals, and practically no worker from the President of the Board of Directors down to the newest janitor's assistant recognized the significance of the strange sound for a few moments. After those moments passed, there was a massive convergence of armed guards and medical men to the indicated area of danger and U. S. Robots was struck with paralysis.

Charles Randow, computing technician, was taken off to hospital level with a broken arm. There was no other damage. No other physical damage.

"But the moral damage," roared Lanning, "is beyond estimation."

Susan Calvin faced him, murderously calm. "You will do nothing to Lenny. Nothing. Do you understand?"

"Do you understand, Susan?" That thing has hurt a human being. It has broken First Law. Don't you know what First Law is?"

"You will do nothing to Lenny."

"For God's sake, Susan, do I have to tell you First Law? A robot may not harm a human being or, through inaction, allow a human being to come to harm. Our entire position depends on the fact that First Law is rigidly observed by all robots of all types. If the public should hear, and they will hear, that there was an exception, even one exception, we might be forced to close down altogether. Our only chance of survival would be to announce at once that the robot involved had been destroyed, explain the circumstances, and hope that the public can be convinced that it will never happen again."

"I would like to find out exactly what happened," said Susan Calvin. "I was not present at the time and I would like to know exactly what the Randow boy was doing in my laboratories without my permission."

"The important thing that happened," said Lanning, "is obvious. Your robot struck Randow and the damn fool flashed the 'Robot out of control' button and made a case of it. But your robot struck him and inflicted damage to the extent of a broken arm. The truth is your Lenny is so distorted it lacks First Law and it must be destroyed."

"It does not lack First Law. I have studied its brainpaths and know it does not lack it."

"Then how could it strike a man?" Desperation turned him to sarcasm. "Ask Lenny. Surely you have taught it to speak by now."

Susan Calvin's cheeks flushed a painful pink. She said, "I prefer to interview the victim. And in my absence, Alfred, I want my offices sealed tight, with Lenny inside. I want no one to approach him. If any harm comes to him while I am gone, this company will not see me again under any circumstances."

"Will you agree to its destruction, if it has broken First Law?"

"Yes," said Susan Calvin, "because I know it hasn't."

Charles Randow lay in bed with his arm set and in a cast. His major suffering was still from the shock of those few moments in which he thought a robot was advancing on him with murder in its positronic mind. No other human had ever had such reason to fear direct robotic harm as he had had just then. He had had a unique experience.

Susan Calvin and Alfred Lanning stood beside his bed now; Peter Bogert, who had met them on the way, was with them. Doctors and nurses had been shooed out.

Susan Calvin said, "Now-what happened?" Randow was daunted. He muttered, "The thing hit me in the arm. It was coming at me."

Calvin said, "Move further back in the story. What were you doing in my laboratory without authorization?"

The young computer swallowed, and the Adam's apple in his thin neck bobbed noticeably. He was high-cheekboned and abnormally pale. He said, "We all knew about your robot. The word is you were trying to teach it to talk like a musical instrument. There were bets going as to whether it talked or not. Some said-uh-you could teach a gatepost to talk."

"I suppose," said Susan Calvin, freezingly, "that is meant as a compliment. What did that have to do with you?"

"I was supposed to go in there and settle matters-see if it would talk, you know. We swiped a key to your place and I waited till you were gone and went in. We had a lottery on who was to do it. I lost."

"Then?"

"I tried to get it to talk and it hit me."

"What do you mean, you tried to get it to talk? How did you try?"

"I-I asked it questions, but it wouldn't say anything, and I had to give the thing a fair shake, so I kind of-yelled at it, and-"

"And?"

There was a long pause. Under Susan Calvin's unwavering stare, Randow finally said, "I tried to scare it into saying something." He added defensively, "I had to give the thing a fair shake."

"How did you try to scare it?"

"I pretended to take a punch at it."

"And it brushed your arm aside?"

"It hit my arm."

"Very well. That's all." To Lanning and Bogert, she said, "Come, gentlemen."

At the doorway, she turned back to Randow. "I can settle the bets going around, if you are still interested. Lenny can speak a few words quite well."

They said nothing until they were in Susan Calvin's office. Its walls were lined with her books, some of which she had written herself. It retained the patina of her own frigid, carefully ordered personality. It had only one chair in it and she sat down. Lanning and Bogert remained standing.

She said, "Lenny only defended itself. That is the Third Law: A robot must protect its own existence."

"Except," said Lanning forcefully, "when this conflicts with the First or Second Laws. Complete the statement! Lenny had no right to defend itself in any way at the cost of harm, however minor, to a human being."

"Nor did it," shot back Calvin, "knowingly. Lenny has an aborted brain. It had no way of knowing its own strength or the weakness of humans. In brushing aside the threatening arm of a human being it could not know the bone would break. In human terms, no moral blame can be attached to an individual who honestly cannot differentiate good and evil."

Bogert interrupted, soothingly, "Now, Susan, we don't blame. We understand that Lenny is the equivalent of a baby, humanly speaking, and we don't blame it. But the public will. U. S. Robots will be closed down."

"Quite the opposite. If you had the brains of a flea, Peter, you would see that this is the opportunity U. S. Robots is waiting for. That this will solve its problems."

Lanning hunched his white eyebrows low. He said, softly, "What problems, Susan?"

"Isn't the corporation concerned about maintaining our research personnel at the present-Heaven help us-high level?"

"We certainly are."

"Well, what are you offering prospective researchers? Excitement? Novelty? The thrill of piercing the unknown? No! You offer them salaries and the assurance of no problems."

Bogert said, "How do you mean, no problems?"

"Are there problems?" shot back Susan Calvin. "What kind of robots do we turn out? Fully developed robots, fit for their tasks. An industry tells us what it needs; a computer designs the brain; machinery forms the robot; and there it is, complete and done. Peter, some time ago, you asked me with reference to Lenny what its use was. What's the use, you said, of a robot that was not designed for any job? Now I ask you-what's the use of a robot designed for only one job? It begins and ends in the same place. The LNE models mine boron. If beryllium is needed, they are useless. If boron technology enters a new phase, they become useless. A human being so designed would be sub-human. A robot so designed is sub-robotic."

"Do you want a versatile robot?" asked Lanning, incredulously. "Why not?" demanded the robopsychologist. "Why not? I've been handed a robot with a brain almost completely stultified. I've been teaching it, and you, Alfred, asked me what was the use of that. Perhaps very little as far as Lenny itself is concerned, since it will never progress beyond the five-year-old level on a human scale. But what's the use in general? A very great deal, if you consider it as a study in the abstract problem of learning how to teach robots. I have learned ways to short-circuit neighboring pathways in order to create new ones. More study will yield better, more subtle and more efficient techniques of doing so."

"Well?"

"Suppose you started with a positronic brain that had all the basic pathways carefully outlined but none of the secondaries. Suppose you then started creating secondaries. You could sell basic robots designed for instruction; robots that could be modeled to a job, and then modeled to another, if necessary. Robots would become as versatile as human beings. Robots could learn!"

They stared at her. She said, impatiently, "You still don't understand, do you?"

"I understand what you are saying," said Lanning.

"Don't you understand that with a completely new field of research and completely new techniques to be developed, with a completely new area of the unknown to be penetrated, youngsters will feel a new urge to enter robotics? Try it and see."

"May I point out," said Bogert, smoothly, "that this is dangerous. Beginning with ignorant robots such as Lenny will mean that one could never trust First Law-exactly as turned out in Lenny's case."

"Exactly. Advertise the fact."

"Advertise it!"

"Of course. Broadcast the danger. Explain that you will set up a new research institute on the moon, if Earth's population chooses not to allow this sort of thing to go on upon Earth, but stress the danger to the possible applicants by all means."

Lanning said, "For God's sake, why?"

"Because the spice of danger will add to the lure. Do you think nuclear technology involves no danger and spationautics no peril? Has your lure of absolute security been doing the trick for you? Has it helped you to cater to the Frankenstein complex you all despise so? Try something else then, something that has worked in other fields."

There was a sound from beyond the door that led to Calvin's personal laboratories. It was the chiming sound of Lenny.

The robopsychologist broke off instantly, listening. She said, "Excuse me. I think Lenny is calling me."

"Can it call you?" said Lanning.

"I said I've managed to teach it a few words." She stepped toward the door, a little flustered. "If you will wait for me-"

They watched her leave and were silent for a moment. Then Lanning said, "Do you think there's anything to what she says, Peter?"

"Just possibly, Alfred," said Bogert. "Just possibly. Enough for US to bring the matter up at the directors' meeting and see what they say. After all, the fat is in the fire. A robot has harmed a human being and knowledge of it is public. As Susan says, we might as well try to turn the matter to our advantage. Of course, I distrust her motives in all this."

"How do you mean?"

"Even if all she has said is perfectly true, it is only rationalization as far as she is concerned. Her motive in all this is her desire to hold on to this robot. If we pressed her" (and the mathematician smiled at the incongruous literal meaning of the phrase) "she would say it was to continue learning techniques of teaching robots, but I think she has found another use for Lenny. A rather unique one that would fit only Susan of all women."

"I don't get your drift." Bogert said, "Did you hear what the robot was calling?"

"Well, no, I didn't quite-" began Lanning, when the door opened suddenly, and both men stopped talking at once.

Susan Calvin stepped in again, looking about uncertainly. "Have either of you seen-I'm positive I had it somewhere about-Oh, there it is."

She ran to a corner of one bookcase and picked up an object of intricate metal webbery, dumbbell shaped and hollow, with variously shaped metal pieces inside each hollow, just too large to be able to fallout of the webbing.

As she picked it up, the metal pieces within moved and struck together, clicking pleasantly. It struck Lanning that the object was a kind of robotic version of a baby rattle.

As Susan Calvin opened the door again to pass through, Lenny's voice chimed again from within. This time, Lanning heard it clearly as it spoke the words Susan Calvin had taught it.

In heavenly celeste-like sounds, it called out, "Mommie, I want you. I want you, Mommie."

And the footsteps of Susan Calvin could be heard hurrying eagerly across the laboratory floor toward the only kind of baby she could ever have or love.

GALLEY SLAVE

The United States Robots and Mechanical Men Corporation, as defendants in the case, had influence enough to force a closed-doors trial without a jury.

Nor did Northeastern University try hard to prevent it. The trustees knew perfectly well how the public might react to any issue involving misbehavior of a robot, however rarefied that misbehavior might be. They also had a clearly visualized notion of how an antirobot riot might become an antiscience riot without warning.

The government, as represented in this case by Justice Harlow Shane, was equally anxious for a quiet end to this mess. Both U. S. Robots and the academic world were bad people to antagonize.

Justice Shane said, "Since neither press, public nor jury is present, gentlemen, let us stand on as little ceremony as we can and get to the facts."

He smiled stiffly as he said this, perhaps without much hope that his request would be effective, and hitched at his robe so that he might sit more comfortably. His face was pleasantly rubicund, his chin round and soft, his nose broad and his eyes light in color and wide-set. All in all, it was not a face with much judicial majesty and the judge knew it.

Barnabas H. Goodfellow, Professor of Physics at Northeastern U., was sworn in first, taking the usual vow with an expression that made mincemeat of his name.

After the usual opening-gambit questions, Prosecution shoved his hands deep into his pockets and said, "When was it, Professor, that the matter of the possible employ of Robot EZ-27 was first brought to your attention, and how?"

Professor Goodfellow's small and angular face set itself into an uneasy expression, scarcely more benevolent than the one it replaced. He said, "I have had professional contact and some social acquaintance with Dr. Alfred Lanning, Director of Research at U. S. Robots. I was inclined to listen with some tolerance then when I received a rather strange suggestion from him on the third of March of last year-

"Of 2033?"

"That's right."

"Excuse me for interrupting. Please proceed."

The professor nodded frostily, scowled to fix the facts in his mind, and began to speak.

Professor Goodfellow looked at the robot with a certain uneasiness. It had been carried into the basement supply room in a crate, in accordance with the regulations governing the shipment of robots from place to place on the Earth's surface.

He knew it was coming; it wasn't that he was unprepared. From the moment of Dr. Lanning's first phone call on March 3, he had felt himself giving way to the other's persuasiveness, and now, as an inevitable result, he found himself face to face with a robot.

It looked uncommonly large as it stood within arm's reach. Alfred Lanning cast a hard glance of his own at the robot, as though making certain it had not been damaged in transit. Then he turned his ferocious eyebrows and his mane of white hair in the professor's direction.

"This is Robot EZ-27, first of its model to be available for public use." He turned to the robot. "This is Professor Goodfellow, Easy."

Easy spoke impassively, but with such suddenness that the professor shied. "Good afternoon, Professor."

Easy stood seven feet tall and had the general proportions of a man-always the prime selling point of U. S. Robots. That and the possession of the basic patents on the positronic brain had given them an actual monopoly on robots and a near-monopoly on computing machines in general.

The two men who had uncrated the robot had left now and the professor looked from Lanning to the robot and back to Lanning. "It is harmless, I'm sure." He didn't sound sure.

"More harmless than I am," said Lanning. "I could be goaded into striking you. Easy could not be. You know the Three Laws of Robotics, I presume."

"Yes, of course," said Goodfellow.

"They are built into the positronic patterns of the brain and must be observed. The First Law, the prime rule of robotic existence, safeguards the life and well-being of all humans." He paused, rubbed at his cheek, then added, "It's something of which we would like to persuade all Earth if we could."

"It's just that he seems formidable."

"Granted. But whatever he seems, you'll find that he is useful."

"I'm not sure in what way. Our conversations were not very helpful in that respect. Still, I agreed to look at the object and I'm doing it."

"We'll do more than look, Professor. Have you brought a book?"

"I have."

"May I see it?"

Professor Goodfellow reached down without actually taking his eyes off the metal-in-human-shape that confronted him. From the briefcase at his feet, he withdrew a book.

Lanning held out his hand for it and looked at the backstrip. "Physical Chemistry of Electrolytes in Solution. Fair enough, sir. You selected this yourself, at random. It was no suggestion of mine, this particular text. Am I right?"

"Yes."

Lanning passed the book to Robot EZ-27.

The professor jumped a little. "No! That's a valuable book!" Lanning raised his eyebrows and they looked like shaggy coconut icing. He said, "Easy has no intention of tearing the book in two as a feat of strength, I assure you. It can handle a book as carefully as you or I. Go ahead, Easy."

"Thank you, sir," said Easy. Then, turning its metal bulk slightly, it added, "With your permission, Professor Goodfellow."

The professor stared, then said, "Yes-yes, of course."

With a slow and steady manipulation of metal fingers, Easy turned the pages of the book, glancing at the left page, then the right; turning the page, glancing left, then right; turning the page and so on for minute after minute.

The sense of its power seemed to dwarf even the large cement-walled room in which they stood and to reduce the two human watchers to something considerably less than life-size.

Goodfellow muttered, "The light isn't very good."

"It will do."

Then, rather more sharply, "But what is he doing?"

"Patience, sir."

The last page was turned eventually. Lanning asked, "Well, Easy?"

The robot said, "It is a most accurate book and there is little to which I can point. On line 22 of page 27, the word 'positive' is spelled p-o-i-s-t-i-v-e. The comma in line 6 of page 32 is superfluous, whereas one should have been used on line 13 of page 54. The plus sign in equation XIV-2 on page 337 should be a minus sign if it is to be consistent with the previous equations-"

"Wait! Wait!" cried the professor. "What is he doing?"

"Doing?" echoed Lanning in sudden irascibility. "Why, man, he has already done it! He has proofread that book."

"Proofread it?"

"Yes. In the short time it took him to turn those pages, he caught every mistake in spelling, grammar and punctuation. He has noted errors in word order and detected inconsistencies. And he will retain the information, letter-perfect, indefinitely."

The professor's mouth was open. He walked rapidly away from Lanning and Easy and as rapidly back. He folded his arms across his chest and stared at them. Finally he said, "You mean this is a proofreading robot?"

Lanning nodded. "Among other things."

"But why do you show it to me?"

"So that you might help me persuade the university to obtain it for use."

"To read proof?"

"Among other things," Lanning repeated patiently.

The professor drew his pinched face together in a kind of sour disbelief. "But this is ridiculous!"

"Why?"

"The university could never afford to buy this half-ton-it must weigh that at least-this half-ton proofreader."

"Proofreading is not all it will do. It will prepare reports from outlines, fill out forms, serve as an accurate memory-file, grade papers-"

All picayune!"

Lanning said, "Not at all, as I can show you in a moment. But I think we can discuss this more comfortably in your office, if you have no objection."

"No, of course not," began the professor mechanically and took a half-step as though to turn. Then he snapped out, "But the robot-we can't take the robot. Really, Doctor, you'll have to crate it up again."

"Time enough. We can leave Easy here."

"Unattended?"

"Why not? He knows he is to stay. Professor Goodfellow, it is necessary to understand that a robot is far more reliable than a human being."

"I would be responsible for any damage-"

"There will be no damage. I guarantee that. Look, it's after hours. You expect no one here, I imagine, before tomorrow morning. The truck and my two men are outside. U. S. Robots will take any responsibility that may arise. None will. Call it a demonstration of the reliability of the robot."

The professor allowed himself to be led out of the storeroom. Nor did he look entirely comfortable in his own office, five stories up.

He dabbed at the line of droplets along the upper half of his forehead with a white handkerchief.

"As you know very well, Dr. Lanning, there are laws against the use of robots on Earth's surface," he pointed out.

"The laws, Professor Goodfellow, are not simple ones. Robots may not be used on public thoroughfares or within public edifices. They may not be used on private grounds or within private structures except under certain restrictions that usually turn out to be prohibitive. The university, however, is a large and privately owned institution that usually receives preferential treatment. If the robot is used only in a specific room for only academic purposes, if certain other restrictions are observed and if the men and women having occasion to enter the room cooperate fully, we may remain within the law."

"But all that trouble just to read proof?"

"The uses would be infinite. Professor. Robotic labor has so far been used only to relieve physical drudgery. Isn't there such a thing as mental drudgery? When a professor capable of the most useful creative thought is forced to spend two weeks painfully checking the spelling of lines of print and I offer you a machine that can do it in thirty minutes, is that picayune?"

"But the price-"

"The price need not bother you. You cannot buy EZ-27. U. S. Robots does not sell its products. But the university can lease EZ-27 for a thousand dollars a year-considerably less than the cost of a single microwave spectrograph continuous-recording attachment."

Goodfellow looked stunned. Lanning followed up his advantage by saying, "I only ask that you put it up to whatever group makes the decisions here. I would be glad to speak to them if they want more information."

"Well," Goodfellow said doubtfully, "I can bring it up at next week's Senate meeting. I can't promise that will do any good, though."

"Naturally," said Lanning.

The Defense Attorney was short and stubby and carried himself rather portentously, a stance that had the effect of accentuating his double chin. He stared at Professor Goodfellow, once that witness had been handed over, and said, "You agreed rather readily, did you not?"

The Professor said briskly, "I suppose I was anxious to be rid of Dr. Lanning. I would have agreed to anything."

"With the intention of forgetting about it after he left?"

"Well-"

"Nevertheless, you did present the matter to a meeting of the Executive Board of the University Senate."

"Yes, I did."

"So that you agreed in good faith with Dr. Lanning's suggestions. You weren't just going along with a gag. You actually agreed enthusiastically, did you not?"

"I merely followed ordinary procedures."

"As a matter of fact, you weren't as upset about the robot as you now claim you were. You know the Three Laws of Robotics and you knew them at the time of your interview with Dr. Lanning."

"Well, yes."

"And you were perfectly willing to leave a robot at large and unattended."

"Dr. Lanning assured me-"

"Surely you would never have accepted his assurance if you had had the slightest doubt that the robot might be in the least dangerous."

The professor began frigidly, "I had every faith in the word-"

"That is all," said Defense abruptly.

As Professor Goodfellow, more than a bit ruffled, stood down, Justice Shane leaned forward and said, "Since I am not a robotics man myself, I would appreciate knowing precisely what the Three Laws of Robotics are. Would Dr. Lanning quote them for the benefit of the court?"

Dr. Lanning looked startled. He had been virtually bumping heads with the gray-haired woman at his side. He rose to his feet now and the woman looked up, too-expressionlessly.

Dr. Lanning said, "Very well, Your Honor." He paused as though about to launch into an oration and said, with laborious clarity, "First Law: a robot may not injure a human being, or, through inaction, allow a human being to come to harm. Second Law: a robot must obey the orders given it by human beings, except where such orders would conflict with the First Law. Third Law: a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws."

"I see," said the judge, taking rapid notes. "These Laws are built into every robot, are they?"

"Into every one. That will be borne out by any roboticist."

"And into Robot EZ-27 specifically?"

"Yes, Your Honor."

"You will probably be required to repeat those statements under oath."

"I am ready to do so, Your Honor." He sat down again.

Dr. Susan Calvin, robopsychologist-in-chief for U. S. Robots, who was the gray-haired woman sitting next to Lanning, looked at her titular superior without favor, but then she showed favor to no human being. She said, "Was Goodfellow's testimony accurate,

Alfred?"

"Essentially," muttered Lanning. "He wasn't as nervous as all that about the robot and he was anxious enough to talk business with me when he heard the price. But there doesn't seem to be any drastic distortion."

Dr. Calvin said thoughtfully, "It might have been wise to put the price higher than a thousand."

"We were anxious to place Easy."

"I know. Too anxious, perhaps. They'll try to make it look as though we had an ulterior motive."

Lanning looked exasperated. "We did. I admitted that at the University Senate meeting."

"They can make it look as if we had one beyond the one we admitted."

Scott Robertson, son of the founder of U. S. Robots and still owner of a majority of the stock, leaned over from Dr. Calvin's other side and said in a kind of explosive whisper, "Why can't you get Easy to talk so we'll know where we're at?"

"You know he can't talk about it, Mr. Robertson."

"Make him. You're the psychologist, Dr. Calvin. Make him."

"If I'm the psychologist, Mr. Robertson," said Susan Calvin coldly, "let me make the decisions. My robot will not be made to do anything at the price of his well-being."

Robertson frowned and might have answered, but Justice Shane was tapping his gavel in a polite sort of way and they grudgingly fell silent.

Francis J. Hart, head of the Department of English and Dean of Graduate Studies, was on the stand. He was a plump man, meticulously dressed in dark clothing of a conservative cut, and possessing several strands of hair traversing the pink top of his cranium. He sat well back in the witness chair with his hands folded neatly in his lap and displaying, from time to time, a tight-lipped smile.

He said, "My first connection with the matter of the Robot EZ-27 was on the occasion of the session of the University Senate Executive Committee at which the subject was introduced by Professor Goodfellow. Thereafter, on the tenth of April of last year, we held a special meeting on the subject, during which I was in the chair."

"Were minutes kept of the meeting of the Executive Committee? Of the special meeting, that is?"

"Well, no. It was a rather unusual meeting." The dean smiled briefly. "We thought it might remain confidential."

"What transpired at the meeting?"

Dean Hart was not entirely comfortable as chairman of that meeting. Nor did the other members assembled seem completely calm. Only Dr. Lanning appeared at peace with himself. His tall, gaunt figure and the shock of white hair that crowned him reminded Hart of portraits he had seen of Andrew Jackson.

Samples of the robot's work lay scattered along the central regions of the table and the reproduction of a graph drawn by the robot was now in the hands of Professor Minott of Physical Chemistry. The chemist's lips were pursed in obvious approval.

Hart cleared his throat and said, "There seems no doubt that the robot can perform certain routine tasks with adequate competence. I have gone over these, for instance, just before coming in and there is very little to find fault with."

He picked up a long sheet of printing, some three times as long as the average book page. It was a sheet of galley proof, designed to be corrected by authors before the type was set up in page form. Along both of the wide margins of the galley were proofmarks, neat and superbly legible. Occasionally, a word of print was crossed out and a new word substituted in the margin in characters so fine and regular it might easily have been print itself. Some of the corrections were blue to indicate the original mistake had been the author's, a few in red, where the printer had been wrong.

"Actually," said Lanning, "there is less than very little to find fault with. I should say there is nothing at all to find fault with, Dr. Hart. I'm sure the corrections are perfect, insofar as the original manuscript was. If the manuscript against which this galley was corrected was at fault in a matter of fact rather than of English, the robot is not competent to correct it."

"We accept that. However, the robot corrected word order on occasion and I don't think the rules of English are sufficiently hidebound for US to be sure that in each case the robot's choice was the correct one."

"Easy's positronic brain," said Lanning, showing large teeth as he smiled, "has been molded by the contents of all the standard works on the subject. I'm sure you cannot point to a case where the robot's choice was definitely the incorrect one."

Professor Minott looked up from the graph he still held. "The question in my mind, Dr. Lanning, is why we need a robot at all, with all the difficulties in public relations that would entail. The science of automation has surely reached the point where your company could design a machine, an ordinary computer of a type known and accepted by the public, that would correct galleys."

"I am sure we could," said Lanning stiffly, "but such a machine would require that the galleys be translated into special symbols or, at the least, transcribed on tapes. Any corrections would emerge in symbols. You would need to keep men employed translating words to symbols, symbols to words. Furthermore, such a computer could do no other job. It couldn't prepare the graph you hold in your hand, for instance."

Minott grunted.

Lanning went on. "The hallmark of the positronic robot is its flexibility. It can do a number of jobs. It is designed like a man so that it can use all the tools and machines that have, after all, been designed to be used by a man. It can talk to you and you can talk to it. You can actually reason with it up to a point. Compared to even a simple robot, an ordinary computer with a non-positronic brain is only a heavy adding machine."

Goodfellow looked up and said, "If we all talk and reason with the robot, what are the chances of our confusing it? I suppose it doesn't have the capability of absorbing an infinite amount of data."

"No, it hasn't. But it should last five years with ordinary use. It will know when it will require clearing, and the company will do the job without charge."

"The company will?"

"Yes. The company reserves the right to service the robot outside the ordinary course of its duties. It is one reason we retain control of our positronic robots and lease rather than sell them. In the pursuit of its ordinary functions, any robot can be directed by any man. Outside its ordinary functions, a robot requires expert handling, and that we can give it. For instance, any of you might clear an EZ robot to an extent by telling it to forget this item or that. But you would be almost certain to phrase the order in such a way as to cause it to forget too much or too little. We would detect such tampering, because we have built-in safeguards. However, since there is no need for clearing the robot in its ordinary work, or for doing other useless things, this raises no problem."

Dean Hart touched his head as though to make sure his carefully cultivated strands lay evenly distributed and said, "You are anxious to have us take the machine. Yet surely it is a losing proposition for U. S. Robots. One thousand a year is a ridiculously low price. Is it that you hope through this to rent other such machines to other universities at a more reasonable price?"

"Certainly that's a fair hope," said Lanning.

"But even so, the number of machines you could rent would be limited. I doubt if you could make it a paying proposition."

Lanning put his elbows on the table and earnestly leaned forward. "Let me put it bluntly, gentlemen. Robots cannot be used on Earth, except in certain special cases, because of prejudice against them on the part of the public. U. S. Robots is a highly successful corporation with our extraterrestrial and spaceflight markets alone, to say nothing of our computer subsidiaries. However, we are concerned with more than profits alone. It is our firm belief that the use of robots on Earth itself would mean a better life for all eventually, even if a certain amount of economic dislocation resulted at first.

"The labor unions are naturally against us, but surely we may expect cooperation from the large universities. The robot, Easy, will help you by relieving you of scholastic drudgery-by assuming, if you permit it, the role of galley slave for you. Other universities and research institutions will follow your lead, and if it works out, then perhaps other robots of other types may be placed and the public's objections to them broken down by stages."

Minott murmured, "Today Northeastern University, tomorrow the world."

Angrily, Lanning whispered to Susan Calvin, "I wasn't nearly that eloquent and they weren't nearly that reluctant. At a thousand a year, they were jumping to get Easy. Professor Minott told me he'd never seen as beautiful a job as that graph he was holding and there was no mistake on the galley or anywhere else. Hart admitted it freely."

The severe vertical lines on Dr. Calvin's face did not soften. "You should have demanded more money than they could pay, Alfred, and let them beat you down."

"Maybe," he grumbled.

Prosecution was not quite done with Professor Hart. "After Dr. Lanning left, did you vote on whether to accept Robot EZ-27?"

"Yes, we did."

"With what result?"

"In favor of acceptance, by majority vote."

"What would you say influenced the vote?" Defense objected immediately.

Prosecution rephrased the question. "What influenced you, personally, in your individual vote? You did vote in favor, I think."

"I voted in favor, yes. I did so largely because I was impressed by Dr. Lanning's feeling that it was our duty as members of the world's intellectual leadership to allow robotics to help Man in the solution of his problems."

"In other words, Dr. Lanning talked you into it."

"That's his job. He did it very well."

"Your witness."

Defense strode up to the witness chair and surveyed Professor Hart for a long moment. He said, "In reality, you were all pretty eager to have Robot EZ-27 in your employ, weren't you?"

"We thought that if it could do the work, it might be useful."

"If it could do the work? I understand you examined the samples of Robot EZ-27's original work with particular care on the day of the meeting which you have just described."

"Yes, I did. Since the machine's work dealt primarily with the handling of the English language, and since that is my field of competence, it seemed logical that I be the one chosen to examine the work."

"Very good. Was there anything on display on the table at the time of the meeting which was less than satisfactory? I have all the material here as exhibits. Can you point to a single unsatisfactory item?"

"Well--"

"It's a simple question. Was there one single solitary unsatisfactory item? You inspected it. Was there?"

The English professor frowned. "There wasn't."

"I also have some samples of work done by Robot EZ-27 during the course of his fourteen-month employ at Northeastern. Would you examine these and tell me if there is anything wrong with them in even one particular?"

Hart snapped, "When he did make a mistake, it was a beauty."

"Answer my question," thundered Defense, "and only the question I am putting to you! Is there anything wrong with the material?"

Dean Hart looked cautiously at each item. "Well, nothing."

"Barring the matter concerning which we are here engaged. do you know of any mistake on the part of EZ-27?"

"Barring the matter for which this trial is being held, no."

Defense cleared his throat as though to signal end of paragraph. He said. "Now about the vote concerning whether Robot EZ-27 was to be employed or not. You said there was a majority in favor. What was the actual vote?"

"Thirteen to one, as I remember."

"Thirteen to one! More than just a majority, wouldn't you say?"

"No, sir!" All the pedant in Dean Hart was aroused. "In the English language, the word 'majority' means 'more than half.' Thirteen out of fourteen is a majority, nothing more."

"But an almost unanimous one."

"A majority all the same!"

Defense switched ground. "And who was the lone holdout?"

Dean Hart looked acutely uncomfortable. "Professor Simon Ninheimer."

Defense pretended astonishment. "Professor Ninheimer? The head of the Department of Sociology?"

"Yes, Sir."

"The plaintiff?"

"Yes, sir."

Defense pursed his lips. "In other words, it turns out that the man bringing the action for payment of \$750,000 damages against my client. United States Robots and Mechanical Men Corporation was the one who from the beginning opposed the use of the robot-although everyone else on the Executive Committee of the University Senate was persuaded that it was a good idea."

"He voted against the motion, as was his right."

"You didn't mention in your description of the meeting any remarks made by Professor Ninheimer. Did he make any?"

"I think he spoke."

"You think?"

"Well, he did speak."

"Against using the robot?"

"Yes."

"Was he violent about it?"

Dean Hart paused. "He was vehement."

Defense grew confidential. "How long have you known Professor Ninheimer, Dean Hart?"

"About twelve years."

"Reasonably well?"

"I should say so, yes."

"Knowing him, then, would you say he was the kind of man who might continue to bear resentment against a robot, all the more so because an adverse vote had-

Prosecution drowned out the remainder of the question with an indignant and vehement objection of his own. Defense motioned the witness down and Justice Shane called luncheon recess.

Robertson mangled his sandwich. The corporation would not founder for loss of three-quarters of a million, but the loss would do it no particular good. He was conscious, moreover, that there would be a much more costly long-term setback in public relations.

He said sourly, "Why all this business about how Easy got into the university? What do they hope to gain?"

The Attorney for Defense said quietly, "A court action is like a chess game, Mr. Robertson. The winner is usually the one who can see more moves ahead, and my friend at the prosecutor's table is no beginner. They can show damage; that's no problem. Their main effort lies in anticipating our defense. They must be counting on us to try to show that Easy couldn't possibly have committed the offense-because of the Laws of Robotics."

"All right," said Robertson, "that is our defense. An absolutely airtight one."

"To a robotics engineer. Not necessarily to a judge. They're setting themselves up a position from which they can demonstrate that EZ-27 was no ordinary robot. It was the first of its type to be offered to the public. It was an experimental model that needed field-testing and the university was the only decent way to provide such testing. That would look plausible in the light of Dr. Lanning's strong efforts to place the robot and the willingness of U. S. Robots to lease it for so little. The prosecution would then argue that the field-test proved Easy to have been a failure. Now do you see the purpose of what's been going on?"

"But EZ-27 was a perfectly good model," Argued Robertson. "It was the twenty-seventh in production."

"Which is really a bad point," said Defense somberly. "What was wrong with the first twenty-six? Obviously something. Why shouldn't there be something wrong with the twenty-seventh, too?"

"There was nothing wrong with the first twenty-six except that they weren't complex enough for the task. These were the first positronic brains of the sort to be constructed and it was rather hit-and-miss to begin with. But the Three Laws held in all of them! No robot is so imperfect that the Three Laws don't hold."

"Dr. Lanning has explained this to me, Mr. Robertson, and I am willing to take his word for it. The judge, however, may not be. We are expecting a decision from an honest and intelligent man who knows no robotics and thus may be led astray. For instance, if you or Dr. Lanning or Dr. Calvin were to say on the stand that any positronic brains were constructed 'hit-and-miss,' as you just did, prosecution would tear you apart in cross-examination. Nothing would salvage our case. So that's something to avoid."

Robertson growled, "If only Easy would talk."

Defense shrugged. "A robot is incompetent as a witness, so that would do us no good."

"At least we'd know some of the facts. We'd know how it came to do such a thing."

Susan Calvin fired up. A dullish red touched her cheeks and her voice had a trace of warmth in it. "We know how Easy came to do it. It was ordered to! I've explained this to counsel and I'll explain it to you now."

"Ordered to by whom?" asked Robertson in honest astonishment. (No one ever told him anything, he thought resentfully. These research people considered themselves the owners of U. S. Robots, by God!)

"By the plaintiff," said Dr. Calvin. "In heaven's name, why?"

"I don't know why yet. Perhaps just that we might be sued, that he might gain some cash." There were blue glints in her eyes as she said that.

"Then why doesn't Easy say so?"

"Isn't that obvious? It's been ordered to keep quiet about the matter."

"Why should that be obvious?" demanded Robertson truculently.

"Well, it's obvious to me. Robot psychology is my profession. If Easy will not answer questions about the matter directly, he will answer questions on the fringe of the matter. By measuring increased hesitation in his answers as the central question is approached, by measuring the area of blankness and the intensity of counterpotentials set up, it is possible to tell with scientific precision that his troubles are the result of an order not to talk, with its strength based on First Law. In other words, he's been told that if he talks, harm will be done a human being. Presumably harm to the unspeakable Professor Ninheimer, the plaintiff, who, to the robot, would seem a human being."

"Well, then," said Robertson, "can't you explain that if he keeps quiet, harm will be done to U. S. Robots?"

"U. S. Robots is not a human being and the First Law of Robotics does not recognize a corporation as a person the way ordinary laws do. Besides, it would be dangerous to try to lift this particular sort of inhibition. The person who laid it on could lift it off least dangerously, because the robot's motivations in that respect are centered on that person. Any other course-" She shook her head and grew almost impassioned. "I won't let the robot be damaged!"

Lanning interrupted with the air of bringing sanity to the problem. "It seems to me that we have only to prove a robot incapable of the act of which Easy is accused. We can do that."

"Exactly," said Defense, in annoyance. "You can do that. The only witnesses capable of testifying to Easy's condition and to the nature of Easy's state of mind are employees of U. S. Robots. The judge can't possibly accept their testimony as unprejudiced."

"How can he deny expert testimony?"

"By refusing to be convinced by it. That's his right as the judge. Against the alternative that a man like Professor Ninheimer deliberately set about ruining his own

reputation, even for a sizable sum of money, the judge isn't going to accept the technicalities of your engineers. The judge is a man, after all. If he has to choose between a man doing an impossible thing and a robot doing an impossible thing, he's quite likely to decide in favor of the man."

"A man can do an impossible thing," said Lanning, "because we don't know all the complexities of the human mind and we don't know what, in a given human mind, is impossible and what is not. We do know what is really impossible to a robot."

"Well, we'll see if we can't convince the judge of that," Defense replied wearily.

"If all you say is so," rumbled Robertson, "I don't see how you can."

"We'll see. It's good to know and be aware of the difficulties involved, but let's not be too downhearted. I've tried to look ahead a few moves in the chess game, too." With a stately nod in the direction of the robopsychologist, he added, "With the help of the good lady here."

Lanning looked from one to the other and said, "What the devil is this?"

But the bailiff thrust his head into the room and announced somewhat breathlessly that the trial was about to resume.

They took their seats, examining the man who had started all the trouble.

Simon Ninheimer owned a fluffy head of sandy hair, a face that narrowed past a beaked nose toward a pointed chin, and a habit of sometimes hesitating before key words in his conversation that gave him an air of a seeker after an almost unbearable precision. When he said, "The Sun rises in the-uh-east, 11 one was certain he had given due consideration to the possibility that it might at some time rise in the west.

Prosecution said, "Did you oppose employment of Robot EZ-27 by the university?"

"I did, sir."

"Why was that?"

"I did not feel that we understood the-uh-motives of U. S. Robots thoroughly. I mistrusted their anxiety to place the robot with us."

"Did you feel that it was capable of doing the work that it was allegedly designed to do?"

"I know for a fact that it was not."

"Would you state your reasons?"

Simon Ninheimer's book, entitled *Social Tensions Involved in Space-Flight and Their Resolution*, had been eight years in the making. Ninheimer's search for precision was not confined to his habits of speech, and in a subject like sociology, almost inherently imprecise, it left him breathless.

Even with the material in galley proofs, he felt no sense of completion. Rather the reverse, in fact. Staring at the long strips of print, he felt only the itch to tear the lines of type apart and rearrange them differently.

Jim Baker, Instructor and soon to be Assistant Professor of Sociology, found Ninheimer, three days after the first batch of galleys had arrived from the printer, staring at the handful of paper in abstraction. The galleys came in three copies: one for Ninheimer to proofread, one for Baker to proofread independently, and a third, marked

"Original," which was to receive the final corrections, a combination of those made by Ninheimer and by Baker, after a conference at which possible conflicts and disagreements were ironed out. This had been their policy on the several papers on which they had collaborated in the past three years and it worked well.

Baker, young and ingratiatingly soft-voiced, had his own copies of the galleys in his hand. He said eagerly, "I've done the first chapter and it contains some typographical beauts."

"The first chapter always has them," said Ninheimer distantly. "Do you want to go over it now?"

Ninheimer brought his eyes to grave focus on Baker. "I haven't done anything on the galleys, Jim. I don't think I'll bother."

Baker looked confused. "Not bother?"

Ninheimer pursed his lips. "I've asked about the-uh-workload of the machine. After all, he was originally-uh-promoted as a proofreader. They've set a schedule."

"The machine? You mean Easy?"

"I believe that is the foolish name they gave it."

"But, Dr. Ninheimer, I thought you were staying clear of it"

"I seem to be the only one doing so. Perhaps I ought to take my share of the-uh-advantage."

"Oh. Well, I seem to have wasted time on this first chapter, then," said the younger man ruefully.

"Not wasted. We can compare the machine's result with yours as a check."

"If you want to, but-"

"Yes?"

"I doubt that we'll find anything wrong with Easy's work. It's supposed never to have made a mistake."

"I dare say," said Ninheimer dryly.

The first chapter was brought in again by Baker four days later. This time it was Ninheimer's copy, fresh from the special annex that had been built to house Easy and the equipment it used.

Baker was jubilant. "Dr. Ninheimer, it not only caught everything I caught-it found a dozen errors I missed! The whole thing took it twelve minutes!"

Ninheimer looked over the sheaf, with the neatly printed marks and symbols in the margins. He said, "It is not as complete as you and I would have made it. We would have entered an insert on Suzuki's work on the neurological effects of low gravity."

"You mean his paper in Sociological Reviews?"

"Of course."

"Well, you can't expect impossibilities of Easy. It can't read the literature for us."

"I realize that. As a matter of fact, I have prepared the insert. I will see the machine and make certain it knows how to-uh-handle inserts."

"It will know."

"I prefer to make certain."

Ninheimer had to make an appointment to see Easy, and then could get nothing better than fifteen minutes in the late evening.

But the fifteen minutes turned out to be ample. Robot EZ-27 understood the matter of inserts at once.

Ninheimer found himself uncomfortable at close quarters with the robot for the first time. Almost automatically, as though it were human, he found himself asking, "Are you happy with your work?"

"Most happy, Professor Ninheimer," said Easy solemnly, the photocells that were its eyes gleaming their normal deep red.

"You know me?"

"From the fact that you present me with additional material to include in the galleys, it follows that you are the author. The author's name, of course, is at the head of each sheet of galley proof."

"I see. You make-uh-deductions, then. Tell me"-he couldn't resist the question-"what do you think of the book so far?"

Easy said, "I find it very pleasant to work with."

"Pleasant? That is an odd word for a-uh-a mechanism without emotion. I've been told you have no emotion."

"The words of your book go in accordance with my circuits," Easy explained. "They set up little or no counterpotentials. It is in my brain paths to translate this mechanical fact into a word such as 'pleasant.' The emotional context is fortuitous."

"I see. Why do you find the book pleasant?"

"It deals with human beings, Professor, and not with inorganic materials or mathematical symbols. Your book attempts to understand human beings and to help increase human happiness."

"And this is what you try to do and so my book goes in accordance with your circuits? Is that it?"

"That is it, Professor."

The fifteen minutes were up. Ninheimer left and went to the university library, which was on the point of closing. He kept them open long enough to find an elementary text on robotics. He took it home with him.

Except for occasional insertion of late material, the galleys went to Easy and from him to the publishers with little intervention from Ninheimer at first-and none at all later.

Baker said, a little uneasily, "It almost gives me a feeling of uselessness."

"It should give you a feeling of having time to begin a new project," said Ninheimer, without looking up from the notations he was making in the current issue of Social Science Abstracts.

"I'm just not used to it. I keep worrying about the galleys. It's silly, I know."

"It is."

"The other day I got a couple of sheets before Easy sent them off to-"

"What!" Ninheimer looked up, scowling. The copy of Abstracts slid shut. "Did you disturb the machine at its work?"

"Only for a minute. Everything was all right. Oh, it changed one word. You referred to something as 'criminal'; it changed the word to 'reckless.' It thought the second adjective fit in better with the context."

Ninheimer grew thoughtful. "What did you think?"

"You know, I agreed with it. I let it stand."

Ninheimer turned in his swivel-chair to face his young associate. "See here, I wish you wouldn't do this again. If I am to use the machine, I wish the-uh-full advantage of it. If I am to use it and lose your-uh-services anyway because you supervise it when the whole point is that it requires no supervision, I gain nothing. Do you see?"

"Yes, Dr. Ninheimer," said Baker, subdued. The advance copies of Social Tensions arrived in Dr. Ninheimer's office on the eighth of May. He looked through it briefly, flipping pages and pausing to read a paragraph here and there. Then he put his copies away.

As he explained later, he forgot about it. For eight years, he had worked at it, but now, and for months in the past, other interests had engaged him while Easy had taken the load of the book off his shoulders. He did not even think to donate the usual complimentary copy to the university library. Even Baker, who had thrown himself into work and had steered clear of the department head since receiving his rebuke at their last meeting, received no copy.

On the sixteenth of June that stage ended. Ninheimer received a phone call and stared at the image in the 'plate with surprise.

"Speidell! Are you in town?"

"No, sir. I'm in Cleveland." Speidell's voice trembled with emotion.

"Then why the call?"

"Because I've just been looking through your new book! Ninheimer, are you mad? Have you gone insane?"

Ninheimer stiffened. "Is something-uh-wrong?" he asked in alarm.

"Wrong? I refer you to page 562. What in blazes do you mean by interpreting my work as you do? Where in the paper cited do I make the claim that the criminal personality is nonexistent and that it is the law-enforcement agencies that are the true criminals? Here, let me quote-"

"Wait! Wait!" cried Ninheimer, trying to find the page. "Let me see. Let me see. . . Good God!"

"Well?"

"Speidell, I don't see how this could have happened. I never wrote this."

"But that's what's printed! And that distortion isn't the worst. You look at page 690 and imagine what Ipatiev is going to do to you when he sees the hash you've made of his findings! Look, Ninheimer, the book is riddled with this sort of thing. I don't know what

you were thinking of-but there's nothing to do but get the book off the market. And you'd better be prepared for extensive apologies at the next Association meeting!"

"Speidell, listen to me-" But Speidell had flashed off with a force that had the 'plate glowing with after-images for fifteen seconds.

It was then that Ninheimer went through the book and began marking off passages with red ink.

He kept his temper remarkably well when he faced Easy again, but his lips were pale. He passed the book to Easy and said, "Will you read the marked passages on pages 562, 631, 664 and 690?"

Easy did so in four glances. "Yes, Professor Ninheimer."

"This is not as I had it in the original galleys."

"No, sir. It is not."

"Did you change it to read as it now does?"

"Yes, sir."

"Why?"

"Sir, the passages as they read in your version were most uncomplimentary to certain groups of human beings. I felt it advisable to change the wording to avoid doing them harm."

"How dared you do such a thing?"

"The First Law, Professor, does not let me, through any inaction, allow harm to come to human beings. Certainly, considering your reputation in the world of sociology and the wide circulation your book would receive among scholars, considerable harm would come to a number of the human beings you speak of."

"But do you realize the harm that will come to me now?"

"It was necessary to choose the alternative with less harm." Professor Ninheimer, shaking with fury, staggered away. It was clear to him that U. S. Robots would have to account to him for this.

There was some excitement at the defendants' table, which increased as Prosecution drove the point home.

"Then Robot EZ-27 informed you that the reason for its action was based on the First Law of Robotics?"

"That is correct, sir."

"That, in effect, it had no choice?"

"Yes, sir."

"It follows then that U. S. Robots designed a robot that would of necessity rewrite books to accord with its own conceptions of what was right. And yet they palmed it off as simple proofreader. Would you say that?"

Defense objected firmly at once, pointing out that the witness was being asked for a decision on a matter in which he had no competence. The judged admonished Prosecution in the usual terms, but there was no doubt that the exchange had sunk home-not least upon the attorney for the Defense.

Defense asked for a short recess before beginning cross-examination, using a legal technicality for the purpose that got him five minutes.

He leaned over toward Susan Calvin. "Is it possible, Dr. Calvin, that Professor Ninheimer is telling the truth and that Easy was motivated by the First Law?"

Calvin pressed her lips together, then said, "No. It isn't possible. The last part of Ninheimer's testimony is deliberate perjury. Easy is not designed to be able to judge matters at the stage of abstraction represented by an advanced textbook on sociology. It would never be able to tell that certain groups of humans would be harmed by a phrase in such a book. Its mind is simply not built for that."

"I suppose, though, that we can't prove this to a layman," said Defense pessimistically.

"No," Admitted Calvin. "The proof would be highly complex. Our way out is still what it was. We must prove Ninheimer is lying, and nothing he has said need change our plan of attack."

"Very well, Dr. Calvin," said Defense, "I must accept your word in this. We'll go on as planned."

In the courtroom, the judge's gavel rose and fell and Dr. Ninheimer took the stand once more. He smiled a little as one who feels his position to be impregnable and rather enjoys the prospect of countering a useless attack.

Defense approached warily and began softly. "Dr. Ninheimer, do you mean to say that you were completely unaware of these alleged changes in your manuscript until such time as Dr. Speidell called you on the sixteenth of June?"

"That is correct, sir."

"Did you never look at the galleys after Robot EZ-27 had proofread them?"

"At first I did, but it seemed to me a useless task. I relied on the claims of U. S. Robots. The absurd-uh-changes were made only in the last quarter of the book after the robot, I presume, had learned enough about sociology-"

"Never mind your presumptions!" said Defense. "I understood your colleague, Dr. Baker, saw the later galleys on at least one occasion. Do you remember testifying to that effect?"

"Yes, sir. As I said, he told me about seeing one page, and even there, the robot had changed a word."

Again Defense broke in. "Don't you find it strange, sir, that after over a year of implacable hostility to the robot, after having voted against it in the first place and having refused to put it to any use whatever, you suddenly decided to put your book, your magnum opus, into its hands?"

"I don't find that strange. I simply decided that I might as well use the machine."

"And you were so confident of Robot EZ-27-all of a sudden-that you didn't even bother to check your galleys?"

"I told you I was-uh-persuaded by U. S. Robots' propaganda."

"So persuaded that when your colleague, Dr. Baker, attempted to check on the robot, you berated him soundly?"

"I didn't berate him. I merely did not wish to have him-uh-waste his time. At least, I thought then it was a waste of time. I did not see the significance of that change in a word at the-"

Defense said with heavy sarcasm, "I have no doubt you were instructed to bring up that point in order that the word-change be entered in the record-" He altered his line to forestall objection and said, "The point is that you were extremely angry with Dr. Baker."

"No, sir. Not angry."

"You didn't give him a copy of your book when you received it."

"Simple forgetfulness. I didn't give the library its copy, either."

Ninheimer smiled cautiously. "Professors are notoriously absentminded."

Defense said, "Do you find it strange that, after more than a year of perfect work, Robot EZ-27 should go wrong on your book? On a book, that is, which was written by you, who was, of all people, the most implacably hostile to the robot?"

"My book was the only sizable work dealing with mankind that it had to face. The Three Laws of Robotics took hold then."

"Several times, Dr. Ninheimer," said Defense, "you have tried to sound like an expert on robotics. Apparently you suddenly grew interested in robotics and took out books on the subject from the library. You testified to that effect, did you not?"

"One book, sir. That was the result of what seems to me to have been-uh-natural curiosity."

"And it enabled you to explain why the robot should, as you allege, have distorted your book?"

"Yes, sir."

"Very convenient. But are you sure your interest in robotics was not intended to enable you to manipulate the robot for your own purposes?"

Ninheimer flushed. "Certainly not, sir!" Defense's voice rose. "In fact, are you sure the alleged altered passages were not as you had them in the first place?"

The sociologist half-rose. "That's-uh-uh-ridiculous! I have the galleys-"

He had difficulty speaking and Prosecution rose to insert smoothly, "With your permission, Your Honor, I intend to introduce as evidence the set of galleys given by Dr. Ninheimer to Robot EZ-27 and the set of galleys mailed by Robot EZ-27 to the publishers. I will do so now if my esteemed colleague so desires, and will be willing to allow a recess in order that the two sets of galleys may be compared."

Defense waved his hand impatiently. "That is not necessary. My honored opponent can introduce those galleys whenever he chooses. I'm sure they will show whatever discrepancies are claimed by the plaintiff to exist. What I would like to know of the witness, however, is whether he also has in his possession Dr. Baker's galleys."

"Dr. Baker's galleys?" Ninheimer frowned. He was not yet quite master of himself.

"Yes, Professor! I mean Dr. Baker's galleys. You testified to the effect that Dr. Baker had received a separate copy of the galleys. I will have the clerk read your testimony if you are suddenly a selective type of amnesiac. Or is it just that professors are, as you say, notoriously absent-minded?"

Ninheimer said, "I remember Dr. Baker's galleys. They weren't necessary once the job was placed in the care of the proofreading machine-"

"So you burned them?"

"No. I put them in the waste basket."

"Burned them, dumped them-what's the difference? The point is you got rid of them."

"There's nothing wrong-" began Ninheimer weakly.

"Nothing wrong?" thundered Defense. "Nothing wrong except that there is now no way we can check to see if, on certain crucial galley sheets, you might not have substituted a harmless blank one from Dr. Baker's copy for a sheet in your own copy which you had deliberately mangled in such a way as to force the robot to-"

Prosecution shouted a furious objection. Justice Shane leaned forward, his round face doing its best to assume an expression of anger equivalent to the intensity of the emotion felt by the man.

The judge said, "Do you have any evidence, Counselor, for the extraordinary statement you have just made?"

Defense said quietly, "No direct evidence, Your Honor. But I would like to point out that, viewed properly, the sudden conversion of the plaintiff from anti-roboticism, his sudden interest in robotics, his refusal to check the galleys or to allow anyone else to check them, his careful neglect to allow anyone to see the book immediately after publication, all very clearly point-"

"Counselor," interrupted the judge impatiently, "this is not the place for esoteric deductions. The plaintiff is not on trial. Neither are you prosecuting him. I forbid this line of attack and I can only point out that the desperation that must have induced you to do this cannot help but weaken your case. If you have legitimate questions to ask, Counselor, you may continue with your cross-examination. But I warn you against another such exhibition in this courtroom."

"I have no further questions, Your Honor."

Robertson whispered heatedly as counsel for the Defense returned to his table, "What good did that do, for God's sake? The judge is dead-set against you now."

Defense replied calmly, "But Ninheimer is good and rattled. And we've set him up for tomorrow's move. He'll be ripe."

Susan Calvin nodded gravely.

The rest of Prosecution's case was mild in comparison. Dr. Baker was called and bore out most of Ninheimer's testimony. Drs. Speidell and Ipatiev were called, and they expounded most movingly on their shock and dismay at certain quoted passages in Dr. Ninheimer's book. Both gave their professional opinion that Dr. Ninheimer's professional reputation had been seriously impaired.

The galleys were introduced in evidence, as were copies of the finished book.

Defense cross-examined no more that day. Prosecution rested and the trial was recessed till the next morning.

Defense made his first motion at the beginning of the proceedings on the second day. He requested that Robot EZ-27 be admitted as a spectator to the proceedings.

Prosecution objected at once and Justice Shane called both to the bench.

Prosecution said hotly, "This is obviously illegal. A robot may not be in any edifice used by the general public."

"This courtroom," pointed out Defense, "is closed to all but those having an immediate connection with the case."

"A large machine of known erratic behavior would disturb my clients and my witnesses by its very presence! It would make hash out of the proceedings."

The judge seemed inclined to agree. He turned to Defense and said rather unsympathetically, "What are the reasons for your request?"

Defense said, "It will be our contention that Robot EZ-27 could not possibly, by the nature of its construction, have behaved as it has been described as behaving. It will be necessary to present a few demonstrations."

Prosecution said, "I don't see the point, Your Honor. Demonstrations conducted by men employed at U. S. Robots are worth little as evidence when U. S. Robots is the defendant."

"Your Honor," said Defense, "the validity of any evidence is for you to decide, not for the Prosecuting Attorney. At least, that is my understanding."

Justice Shane, his prerogatives encroached upon, said, "Your understanding is correct. Nevertheless, the presence of a robot here does raise important legal questions."

"Surely, Your Honor, nothing that should be allowed to override the requirements of justice. If the robot is not present, we are prevented from presenting our only defense."

The judge considered. "There would be the question of transporting the robot here."

"That is a problem with which U. S. Robots has frequently been faced. We have a truck parked outside the courtroom, constructed according to the laws governing the transportation of robots. Robot EZ-27 is in a packing case inside with two men guarding it. The doors to the truck are properly secured and all other necessary precautions have been taken."

"You seem certain," said Justice Shane, in renewed ill-temper, "that judgment on this point will be in your favor."

"Not at all, Your Honor. If it is not, we simply turn the truck about. I have made no presumptions concerning your decision."

The judge nodded. "The request on the part of the Defense is granted."

The crate was carried in on a large dolly and the two men who handled it opened it. The courtroom was immersed in a dead silence.

Susan Calvin waited as the thick slabs of celluform went down, then held out one hand. "Come, Easy."

The robot looked in her direction and held out its large metal arm. It towered over her by two feet but followed meekly, like a child in the clasp of its mother. Someone giggled nervously and choked it off at a hard glare from Dr. Calvin.

Easy seated itself carefully in a large chair brought by the bailiff, which creaked but held.

Defense said, "When it becomes necessary, Your Honor, we will prove that this is actually Robot EZ-27, the specific robot in the employ of Northeastern University during the period of time with which we are concerned."

"Good," His Honor said. "That will be necessary. I, for one, have no idea how you can tell one robot from another."

"And now," said Defense, "I would like to call my first witness to the stand. Professor Simon Ninheimer, please."

The clerk hesitated, looked at the judge. Justice Shane asked, with visible surprise, "You are calling the plaintiff as your witness?"

"Yes, Your Honor."

"I hope that you're aware that as long as he's your witness, you will be allowed none of the latitude you might exercise if you were cross-examining an opposing witness."

Defense said smoothly, "My only purpose in all this is to arrive at the truth. It will not be necessary to do more than ask a few polite questions."

"Well," said the judge dubiously, "you're the one handling the case. Call the witness."

Ninheimer took the stand and was informed that he was still under oath. He looked more nervous than he had the day before, almost apprehensive.

But Defense looked at him benignly.

"Now, Professor Ninheimer, you are suing my clients in the amount of \$750,000."

"That is the-uh-sum. Yes."

"That is a great deal of money."

"I have suffered a great deal of harm."

"Surely not that much. The material in question involves only a few passages in a book. Perhaps these were unfortunate passages, but after all, books sometimes appear with curious mistakes in them."

Ninheimer's nostrils flared. "Sir, this book was to have been the climax of my professional career! Instead, it makes me look like an incompetent scholar, a perverter of the views held by my honored friends and associates, and a believer of ridiculous and-uh-outmoded viewpoints. My reputation is irretrievably shattered! I can never hold up my head in any-uh-assemblage of scholars, regardless of the outcome of this trial. I certainly cannot continue in my career, which has been the whole of my life. The very purpose of my life has been-uh-aborted and destroyed."

Defense made no attempt to interrupt the speech, but stared abstractedly at his fingernails as it went on.

He said very soothingly, "But surely, Professor Ninheimer, at your present age, you could not hope to earn more than-let us be generous-\$150,000 during the remainder of your life. Yet you are asking the court to award you five times as much."

Ninheimer said, with an even greater burst of emotion, "It is not in my lifetime alone that I am ruined. I do not know for how many generations I shall be pointed at by sociologists as a-uh-a fool or maniac. My real achievements will be buried and ignored. I am ruined not only until the day of my death, but for all time to come, because there will always be people who will not believe that a robot made those insertions-"

It was at this point that Robot EZ-27 rose to his feet. Susan Calvin made no move to stop him. She sat motionless, staring straight ahead. Defense sighed softly.

Easy's melodious voice carried clearly. It said, "I would like to explain to everyone that I did insert certain passages in the galley proofs that seemed directly opposed to what had been there at first-"

Even the Prosecuting Attorney was too startled at the spectacle of a seven-foot robot rising to address the court to be able to demand the stopping of what was obviously a most irregular procedure.

When he could collect his wits, it was too late. For Ninheimer rose in the witness chair, his face working.

He shouted wildly, "Damn you, you were instructed to keep your mouth shut about-"

He ground to a choking halt, and Easy was silent, too. Prosecution was on his feet now, demanding that a mistrial be declared.

Justice Shane banged his gavel desperately. "Silence! Silence! Certainly there is every reason here to declare a mistrial, except that in the interests of justice I would like to have Professor Ninheimer complete his statement. I distinctly heard him say to the robot that the robot had been instructed to keep its mouth shut about something. There was no mention in your testimony, Professor Ninheimer, as to any instructions to the robot to keep silent about anything!"

Ninheimer stared wordlessly at the judge. Justice Shane said, "Did you instruct Robot EZ-27 to keep silent about something? And if so, about what?"

"Your Honor-" began Ninheimer hoarsely, and couldn't continue.

The judge's voice grew sharp. "Did you, in fact, order the inserts in question to be made in the galleys and then order the robot to keep quiet about your part in this?"

Prosecution objected vigorously, but Ninheimer shouted, "Oh, what's the use? Yes! Yes!" And he ran from the witness stand. He was stopped at the door by the bailiff and sank hopelessly into one of the last rows of seats, head buried in both hands.

Justice Shane said, "It is evident to me that Robot EZ-27 was brought here as a trick. Except for the fact that the trick served to prevent a serious miscarriage of justice, I would certainly hold attorney for the Defense in contempt. It is clear now, beyond any doubt, that the plaintiff has committed what is to me a completely inexplicable fraud since, apparently, he was knowingly ruining his career in the process-"

Judgment, of course, was for the defendant.

Dr. Susan Calvin had herself announced at Dr. Ninheimer's bachelor quarters in University Hall. The young engineer who had driven the car offered to go up with her, but she looked at him scornfully.

"Do you think he'll assault me? Wait down here."

Ninheimer was in no mood to assault anyone. He was packing, wasting no time, anxious to be away before the adverse conclusion of the trial became general knowledge.

He looked at Calvin with a queerly defiant air and said, "Are you coming to warn me of a countersuit? If so, it will get you nothing. I have no money, no job, no future. I can't even meet the costs of the trial."

"If you're looking for sympathy," said Calvin coldly, "don't look for it here. This was your doing. However, there will be no countersuit, neither of you nor of the university. We will even do what we can to keep you from going to prison for perjury. We aren't vindictive."

"Oh, is that why I'm not already in custody for forswearing myself? I had wondered. But then," he added bitterly, "why should you be vindictive? You have what you want now."

"Some of what we want, yes," said Calvin. "The university will keep Easy in its employ at a considerably higher rental fee. Furthermore, certain underground publicity concerning the trial will make it possible to place a few more of the EZ models in other institutions without danger of a repetition of this trouble."

"Then why have you come to see me?"

"Because I don't have all of what I want yet. I want to know why you hate robots as you do. Even if you had won the case, your reputation would have been ruined. The money you might have obtained could not have compensated for that. Would the satisfaction of your hatred for robots have done so?"

"Are you interested in human minds, Dr. Calvin?" asked Ninheimer, with acid mockery.

"Insofar as their reactions concern the welfare of robots, yes. For that reason, I have learned a little of human psychology."

"Enough of it to be able to trick met"

"That wasn't hard," said Calvin, without pomposity. "The difficult thing was doing it in such a way as not to damage Easy."

"It is like you to be more concerned for a machine than for a man." He looked at her with savage contempt.

It left her unmoved. "It merely seems so, Professor Ninheimer. It is only by being concerned for robots that one can truly be concerned for twenty-first-century man. You would understand this if you were a roboticist."

"I have read enough robotics to know I don't want to be a roboticist!"

"Pardon me, you have read a book on robotics. It has taught you nothing. You learned enough to know that you could order a robot to do many things, even to falsify a book, if you went about it properly. You learned enough to know that you could not order

him to forget something entirely without risking detection, but you thought you could order him into simple silence more safely. You were wrong."

"You guessed the truth from his silencer' "It wasn't guessing. You were an amateur and didn't know enough to cover your tracks completely. My only problem was to prove the matter to the judge and you were kind enough to help us there, in your ignorance of the robotics you claim to despise."

"Is there any purpose in this discussion?" asked Ninheimer wearily.

"For me, yes," said Susan Calvin, "because I want you to understand how completely you have misjudged robots. You silenced Easy by telling him that if he told anyone about your own distortion of the book, you would lose your job. That set up a certain potential within Easy toward silence, one that was strong enough to resist our efforts to break it down. We would have damaged the brain if we had persisted.

"On the witness stand, however, you yourself put up a higher counterpotential. You said that because people would think that you, not a robot, had written the disputed passages in the book, you would lose far more than just your job. You would lose your reputation, your standing, your respect, your reason for living. You would lose the memory of you after death. A new and higher potential was set up by you-and Easy talked."

"Oh, God," said Ninheimer, turning his head away. Calvin was inexorable. She said, "Do you understand why he talked? It was not to accuse you, but to defend you! It can be mathematically shown that he was about to assume full blame for your crime, to deny that you had anything to do with it. The First Law required that. He was going to lie-to damage himself-to bring monetary harm to a corporation. All that meant less to him than did the saving of you. If you really understood robots and robotics, you would have let him talk. But you did not understand, as I was sure you wouldn't, as I guaranteed to the defense attorney that you wouldn't. You were certain, in your hatred of robots, that Easy would act as a human being would act and defend itself at your expense. So you flared out at him in panic-and destroyed yourself."

Ninheimer said with feeling, "I hope some day your robots turn on you and kill you!"

"Don't be foolish," said Calvin. "Now I want you to explain why you've done all this."

Ninheimer grinned a distorted, humorless grin. "I am to dissect my mind, am I, for your intellectual curiosity, in return for immunity from a charge of perjury?"

"Put it that way if you like," said Calvin emotionlessly. "But explain."

"So that you can counter future anti-robot attempts more efficiently? With greater understanding?"

"I accept that."

"You know," said Ninheimer, "I'll tell you-just to watch it do you no good at all. You can't understand human motivation. You can only understand your damned machines because you're a machine yourself, with skin on."

He was breathing hard and there was no hesitation in his speech, no searching for precision. It was as though he had no further use for precision.

He said, "For two hundred and fifty years, the machine has been replacing Man and destroying the craftsman. Pottery is spewed out of molds and presses. Works of art have been replaced by identical gimcracks stamped out on a die. Call it progress, if you wish! The artist is restricted to abstractions, confined to the world of ideas. He must design something in mind-and then the machine does the rest.

"Do you suppose the potter is content with mental creation? Do you suppose the idea is enough? That there is nothing in the feel of the clay itself, in watching the thing grow as hand and mind work together? Do you suppose the actual growth doesn't act as a feedback to modify and improve the idea?"

"You are not a potter," said Dr. Calvin. "I am a creative artist! I design and build articles and books. There is more to it than the mere thinking of words and of putting them in the right order. If that were all, there would be no pleasure in it, no return.

"A book should take shape in the hands of the writer. One must actually see the chapters grow and develop. One must work and rework and watch the changes take place beyond the original concept even. There is taking the galley in hand and seeing how the sentences look in print and molding them again. There are a hundred contacts between a man and his work at every stage of the game and the contact itself is pleasurable and repays a man for the work he puts into his creation more than anything else could. Your robot would take all that away."

"So does a typewriter. So does a printing press. Do you propose to return to the hand illumination of manuscripts?"

"Typewriters and printing presses take away some, but your robot would deprive us of all. Your robot takes over the galley. Soon it, or other robots, would take over the original writing, the searching of the sources, the checking and cross-checking of passages, perhaps even the deduction of conclusions. What would that leave the scholar? One thing only-the barren decisions concerning what orders to give the robot next! I want to save the future generations of the world of scholarship from such a final hell. That meant more to me than even my own reputation and so I set out to destroy U. S. Robots by whatever means."

"You were bound to fail," said Susan Calvin. "I was bound to try," said Simon Ninheimer. Calvin turned and left. She did her best to feel no pang of sympathy for the broken man.

She did not entirely succeed.

LITTLE LOST ROBOT

Measures on Hyper Base had been taken in a sort of rattling fury - the muscular equivalent of a hysterical shriek.

To itemize them in order of both chronology and desperation, they were:

1. All work on the Hyperatomic Drive through all the space volume occupied by the Stations of the Twenty-Seventh Asteroidal Grouping came to a halt.
2. That entire volume of space was nipped out of the System, practically speaking. No one entered without permission. No one left under any conditions.
3. By special government patrol ship, Drs. Susan Calvin and Peter Bogert, respectively Head Psychologist and Mathematical Director of United States Robot & Mechanical Men Corporation, were brought to Hyper Base.

Susan Calvin had never left the surface of Earth before, and had no perceptible desire to leave it this time. In an age of Atomic Power and a clearly coming Hyperatomic Drive, she remained quietly provincial. So she was dissatisfied with her trip and unconvinced of the emergency, and every line of her plain, middle-aged face showed it clearly enough during her first dinner at Hyper Base.

Nor did Dr. Bogert's sleek paleness abandon a certain hangdog attitude. Nor did Major-general Kallner, who headed the project, even once forget to maintain a hunted expression. In short, it was a grisly episode, that meal, and the little session of three that followed began in a gray, unhappy manner.

Kallner, with his baldness glistening, and his dress uniform oddly unsuited to the general mood, began with uneasy directness.

"This is a queer story to tell, sir, and madam. I want to thank you for coming on short notice and without a reason being given. We'll try to correct that now. We've lost a robot. Work has stopped and must stop until such time as we locate it. So far we have failed, and we feel we need expert help."

Perhaps the general felt his predicament anticlimactic. He continued with a note of desperation, "I needn't tell you the importance of our work here. More than eighty percent of last year's appropriations for scientific research have gone to us-"

"Why, we know that," said Bogert, agreeably. "U. S. Robots is receiving a generous rental fee for use of our robots."

Susan Calvin injected a blunt, vinegary note, "What makes a single robot so important to the project, and why hasn't it been located?"

The general turned his red face toward her and wet his lips quickly, "Why, in a manner of speaking we have located it." Then, with near anguish, "Here, suppose I explain. As soon as the robot failed to report a state of emergency was declared, and all movement off Hyper Base stopped. A cargo vessel had landed the previous day and had delivered us two robots for our laboratories. It had sixty-two robots of the. . . uh. . .

game type for shipment elsewhere. We are certain as to that figure. There is no question about it whatever."

"Yes? And the connection?"

"When our missing robot failed of location anywhere - I assure you we would have found a missing blade of grass if it had been there to find - we brainstormed ourselves into counting the robots left of the cargo ship. They have sixty-three now."

"So that the sixty-third, I take it, is the missing prodigal?" Dr. Calvin's eyes darkened.

"Yes, but we have no way of telling which is the sixty-third."

There was a dead silence while the electric clock chimed eleven times, and then the robopsychologist said, "Very peculiar," and the corners of her lips moved downward.

"Peter," she turned to her colleague with a trace of savagery, "what's wrong here? What kind of robots are they, using at Hyper Base?"

Dr. Bogert hesitated and smiled feebly, "It's been rather a matter of delicacy till now, Susan."

She spoke rapidly, "Yes, till now. If there are sixty-three same-type robots, one of which is wanted and the identity of which cannot be determined, why won't any of them do? What's the idea of all this? Why have we been sent for?"

Bogert said in resigned fashion, "If you'll give me a chance, Susan - Hyper Base happens to be using several robots whose brains are not impressioned with the entire First Law of Robotics."

"Aren't impressioned?" Calvin slumped back in her chair, "I see. How many were made?"

"A few. It was on government order and there was no way of violating the secrecy. No one was to know except the top men directly concerned. You weren't included, Susan. It was nothing I had anything to do with."

The general interrupted with a measure of authority. "I would like to explain that bit. I hadn't been aware that Dr. Calvin was unacquainted with the situation. I needn't tell you, Dr. Calvin, that there always has been strong opposition to robots on the Planet. The only defense the government has had against the Fundamentalist radicals in this matter was the fact that robots are always built with an unbreakable First Law - which makes it impossible for them to harm human beings under any circumstance.

"But we had to have robots of a different nature. So just a few of the NS-2 model, the Nestors, that is, were prepared with a modified First Law. To keep it quiet, all NS-2's are manufactured without serial numbers; modified members are delivered here along with a group of normal robots; and, of course, all our kind are under the strictest impressionment never to tell of their modification to unauthorized personnel." He wore an embarrassed smile; "This has all worked out against us now."

Calvin said grimly, "Have you asked each one who it is, anyhow? Certainly, you are authorized?"

The general nodded, "All sixty-three deny having worked here - and one is lying."

"Does the one you want show traces of wear? The others, I take it, are factory-fresh."

"The one in question only arrived last month. It, and the two that have just arrived, were to be the last we needed. There's no perceptible wear." He shook his head slowly and his eyes were haunted again, "Dr. Calvin, we don't dare let that ship leave. If the existence of non-First Law robots becomes general knowledge-" There seemed no way of avoiding understatement in the conclusion.

"Destroy all sixty-three," said the robopsychologist coldly and flatly, "and make an end of it."

Bogert drew back a corner of his mouth. "You mean destroy thirty thousand dollars per robot. I'm afraid U. S. Robots wouldn't like that. We'd better make an effort first, Susan, before we destroy anything."

"In that case," she said, sharply, "I need facts. Exactly what advantage does Hyper Base derive from these modified robots? What factor made them desirable, general?"

Kallner ruffled his forehead and stroked it with an upward gesture of his hand. "We had trouble with our previous robots. Our men work with hard radiations a good deal, you see. It's dangerous, of course, but reasonable precautions are taken. There have been only two accidents since we began and neither was fatal. However, it was impossible to explain that to an ordinary robot. The First Law states - I'll quote it - 'No robot may harm a human being, or through inaction, allow a human being to come to harm.'"

"That's primary, Dr. Calvin. When it was necessary for one of our men to expose himself for a short period to a moderate gamma field, one that would have no physiological effects, the nearest robot would dash in to drag him out. If the field were exceedingly weak, it would succeed, and work could not continue till all robots were cleared out. If the field were a trifle stronger, the robot would never reach the technician concerned, since its positronic brain would collapse under gamma radiations - and then we would be out one expensive and hard-to-replace robot."

"We tried arguing with them. Their point was that a human being in a gamma field was endangering his life and that it didn't matter that he could remain there half an hour safely. Supposing, they would say, he forgot and remained an hour. They couldn't take chances. We pointed out that they were risking their lives on a wild off-chance. But self-preservation is only the Third Law of Robotics - and the First Law of human safety came first. We gave them orders; we ordered them strictly and harshly to remain out of gamma fields at whatever cost. But obedience is only the Second Law of Robotics - and the First Law of human safety came first. Dr. Calvin, we either had to do without robots, or do something about the First Law - and we made our choice."

"I can't believe," said Dr. Calvin, "that it was found possible to remove the First Law."

"It wasn't removed, it was modified," explained Kallner. "Positronic brains were constructed that contained the positive aspect only of the Law, which in them reads: 'No robot may harm a human being.' That is all. They have no compulsion to prevent one

coming to harm through an extraneous agency such as gamma rays. I state the matter correctly, Dr. Bogert?"

"Quite," assented the mathematician.

"And that is the only difference of your robots from the ordinary NS2 model? The only difference? Peter?"

"The only difference, Susan."

She rose and spoke with finality, "I intend sleeping now, and in about eight hours, I want to speak to whomever saw the robot last. And from now on, General Kallner, if I'm to take any responsibility at all for events, I want full and unquestioned control of this investigation."

Susan Calvin, except for two hours of resentful lassitude, experienced nothing approaching sleep. She signaled at Bogert's door at the local time of 0700 and found him also awake. He had apparently taken the trouble of transporting a dressing gown to Hyper Base with him, for he was sitting in it. He put his nail scissors down when Calvin entered.

He said softly, "I've been expecting you more or less. I suppose you feel sick about all this."

"I do."

"Well - I'm sorry. There was no way of preventing it. When the call came out from Hyper Base for us, I knew that something must have gone wrong with the modified Nestors. But what was there to do? I couldn't break the matter to you on the trip here, as I would have liked to, because I had to be sure. The matter of the modification is top secret."

The psychologist muttered, "I should have been told. U. S. Robots had no right to modify positronic brains this way without the approval of a psychologist."

Bogert lifted his eyebrows and sighed. "Be reasonable, Susan. You couldn't have influenced them. In this matter, the government was bound to have its way. They want the Hyperatomic Drive and the etheric physicists want robots that won't interfere with them. They were going to get them even if it did mean twisting the First Law. We had to admit it was possible from a construction standpoint and they swore a mighty oath that they wanted only twelve, that they would be used only at Hyper Base, that they would be destroyed once the Drive was perfected, and that full precautions would be taken. And they insisted on secrecy - and that's the situation."

Dr. Calvin spoke through her teeth, "I would have resigned."

"It wouldn't have helped. The government was offering the company a fortune, and threatening it with antirobot legislation in case of a refusal. We were stuck then, and we're badly stuck now. If this leaks out, it might hurt Kallner and the government, but it would hurt U. S. Robots a devil of a lot more."

The psychologist stared at him. "Peter, don't you realize what all this is about? Can't you understand what the removal of the First Law means? It isn't just a matter of secrecy."

"I know what removal would mean. I'm not a child. It would mean complete instability, with no nonimaginary solutions to the positronic Field Equations."

"Yes, mathematically. But can you translate that into crude psychological thought. All normal life, Peter, consciously or otherwise, resents domination. If the domination is by an inferior, or by a supposed inferior, the resentment becomes stronger. Physically, and, to an extent, mentally, a robot - any robot - is superior to human beings. What makes him slavish, then? Only the First Law! Why, without it, the first order you tried to give a robot would result in your death. Unstable? What do you think?"

"Susan," said Bogert, with an air of sympathetic amusement. "I'll admit that this Frankenstein Complex you're exhibiting has a certain justification - hence the First Law in the first place. But the Law, I repeat and repeat, has not been removed - merely modified."

"And what about the stability of the brain?"

The mathematician thrust out his lips, "Decreased, naturally. But it's within the border of safety. The first Nestors were delivered to Hyper Base nine months ago, and nothing whatever has gone wrong till now, and even this involves merely fear of discovery and not danger to humans."

"Very well, then. We'll see what comes of the morning conference."

Bogert saw her politely to the door and grimaced eloquently when she left. He saw no reason to change his perennial opinion of her as a sour and fidgety frustration.

Susan Calvin's train of thought did not include Bogert in the least. She had dismissed him years ago as a smooth and pretentious sleekness.

Gerald Black had taken his degree in etheric physics the year before and, in common with his entire generation of physicists, found himself engaged in the problem of the Drive. He now made a proper addition to the general atmosphere of these meetings on Hyper Base. In his stained white smock, he was half rebellious and wholly uncertain. His stocky strength seemed striving for release and his fingers, as they twisted each other with nervous yanks, might have forced an iron bar out of true.

Major-general Kallner sat beside him; the two from U. S. Robots faced him.

Black said, "I'm told that I was the last to see Nestor 10 before he vanished. I take it you want to ask me about that."

Dr. Calvin regarded him with interest, "You sound as if you were not sure, young man. Don't you know whether you were the last to see him?"

"He worked with me, ma'am, on the field generators, and he was with me the morning of his disappearance. I don't know if anyone saw him after about noon. No one admits having done so."

"Do you think anyone's lying about it?"

"I don't say that. But I don't say that I want the blame of it, either." His dark eyes smoldered.

"There's no question of blame. The robot acted as it did because of what it is. We're just trying to locate it, Mr. Black, and let's put everything else aside. Now if you've

worked with the robot, you probably know it better than anyone else. Was there anything unusual about it that you noticed? Had you ever worked with robots before?"

"I've worked with other robots we have here - the simple ones. Nothing different about the Nestors except that they're a good deal cleverer - and more annoying."

"Annoying? In what way?"

"Well - perhaps it's not their fault. The work here is rough and most of us get a little jagged. Fooling around with hyper-space isn't fun." He smiled feebly, finding pleasure in confession. "We run the risk continually of blowing a hole in normal space-time fabric and dropping right out of the universe, asteroid and all. Sounds screwy, doesn't it? Naturally, you're on edge sometimes. But these Nestors aren't. They're curious, they're calm, they don't worry. It's enough to drive you nuts at times. When you want something done in a tearing hurry, they seem to take their time. Sometimes I'd rather do without."

"You say they take their time? Have they ever refused an order?"

"Oh, no," hastily. "They do it all right. They tell you when they think you're wrong, though. They don't know anything about the subject but what we taught them, but that doesn't stop them. Maybe I imagine it, but the other fellows have the same trouble with their Nestors."

General Kallner cleared his throat ominously, "Why have no complaints reached me on the matter, Black?"

The young physicist reddened, "We didn't really want to do without the robots, sir, and besides we weren't certain exactly how such. . . uh. . . minor complaints might be received."

Bogert interrupted softly, "Anything in particular happen the morning you last saw it?"

There was a silence. With a quiet motion, Calvin repressed the comment that was about to emerge from Kallner, and waited patiently.

Then Black spoke in blurring anger, "I had a little trouble with it. I'd broken a Kimball tube that morning and was out five days of work; my entire program was behind schedule; I hadn't received any mail from home for a couple of weeks. And he came around wanting me to repeat an experiment I had abandoned a month ago. He was always annoying me on that subject and I was tired of it. I told him to go away - and that's all I saw of him."

"You told him to go away?" asked Dr. Calvin with sharp interest. "In just those words? Did you say 'Go away'? Try to remember the exact words."

There was apparently an internal struggle in progress. Black cradled his forehead in a broad palm for a moment, then tore it away and said defiantly, "I said, 'Go lose yourself.' "

Bogert laughed for a short moment. "And he did, eh?"

But Calvin wasn't finished. She spoke cajolingly, "Now we're getting somewhere, Mr. Black. But exact details are important. In understanding the robot's actions, a word, a gesture, an emphasis may be everything. You couldn't have said just those three words,

for instance, could you? By your own description you must have been in a hasty mood. Perhaps you strengthened your speech a little."

The young man reddened, "Well. . . I may have called it a. . . a few things."

"Exactly what things?"

"Oh - I wouldn't remember exactly. Besides I couldn't repeat it. You know how you get when you're excited." His embarrassed laugh was almost a giggle, "I sort of have a tendency to strong language."

"That's quite all right," she replied, with prim severity. "At the moment, I'm a psychologist. I would like to have you repeat exactly what you said as nearly as you remember, and, even more important, the exact tone of voice you used."

Black looked at his commanding officer for support, found none. His eyes grew round and appalled, "But I can't."

"You must."

"Suppose," said Bogert, with ill-hidden amusement, "you address me. You may find it easier."

The young man's scarlet face turned to Bogert. He swallowed. "I said" His voice faded out. He tried again, "I said-"

And he drew a deep breath and spewed it out hastily in one long succession of syllables. Then, in the charged air that lingered, he concluded almost in tears, ". . . more or less. I don't remember the exact order of what I called him, and maybe I left out something or put in something, but that was about it."

Only the slightest flush betrayed any feeling on the part of the robopsychologist. She said, "I am aware of the meaning of most of the terms used. The others, I suppose, are equally derogatory."

"I'm afraid so," agreed the tormented Black.

"And in among it, you told him to lose himself."

"I meant it only figuratively."

"I realize that. No disciplinary action is intended, I am sure." And at her glance, the general, who, five seconds earlier, had seemed not sure at all, nodded angrily.

"You may leave, Mr. Black. Thank you for your cooperation."

It took five hours for Susan Calvin to interview the sixty-three robots. It was five hours of multi-repetition; of replacement after replacement of identical robot; of Questions A, B, C, D; and Answers A, B, C, D; of a carefully bland expression, a carefully neutral tone, a carefully friendly atmosphere; and a hidden wire recorder.

The psychologist felt drained of vitality when she was finished.

Bogert was waiting for her and looked expectant as she dropped the recording spool with a clang upon the plastic of the desk.

She shook her head, "All sixty-three seemed the same to me. I couldn't tell-"

He said, "You couldn't expect to tell by ear, Susan. Suppose we analyze the recordings."

Ordinarily, the mathematical interpretation of verbal reactions of robots is one of the more intricate branches of robotic analysis. It requires a staff of trained technicians

and the help of complicated computing machines. Bogert knew that. Bogert stated as much, in an extreme of unshown annoyance after having listened to each set of replies, made lists of word deviations, and graphs of the intervals of responses.

"There are no anomalies present, Susan. The variations in wording and the time reactions are within the limits of ordinary frequency groupings. We need finer methods. They must have computers here. No." He frowned and nibbled delicately at a thumbnail. "We can't use computers. Too much danger of leakage. Or maybe if we-

Dr. Calvin stopped him with an impatient gesture, "Please, Peter. This isn't one of your petty laboratory problems. If we can't determine the modified Nestor by some gross difference that we can see with the naked eye, one that there is no mistake about, we're out of luck. The danger of being wrong, and of letting him escape is otherwise too great. It's not enough to point out a minute irregularity in a graph. I tell you, if that's all I've got to go on, I'd destroy them all just to be certain. Have you spoken to the other modified Nestors?"

"Yes, I have," snapped back Bogert, "and there's nothing wrong with them. They're above normal in friendliness if anything. They answered my questions, displayed pride in their knowledge - except the two new ones that haven't had time to learn their etheric physics. They laughed rather good-naturedly at my ignorance in some of the specializations here." He shrugged, "I suppose that forms some of the basis for resentment toward them on the part of the technicians here. The robots are perhaps too willing to impress you with their greater knowledge."

"Can you try a few Planar Reactions to see if there has been any change, any deterioration, in their mental set-up since manufacture?"

"I haven't yet, but I will." He shook a slim finger at her, "You're losing your nerve, Susan. I don't see what it is you're dramatizing. They're essentially harmless."

"They are?" Calvin took fire. "They are? Do you realize one of them is lying? One of the sixty-three robots I have just interviewed has deliberately lied to me after the strictest injunction to tell the truth. The abnormality indicated is horribly deep-seated, and horribly frightening."

Peter Bogert felt his teeth harden against each other. He said, "Not at all. Look! Nestor 10 was given orders to lose himself. Those orders were expressed in maximum urgency by the person most authorized to command him. You can't counteract that order either by superior urgency or superior right of command. Naturally, the robot will attempt to defend the carrying out of his orders. In fact, objectively, I admire his ingenuity. How better can a robot lose himself than to hide himself among a group of similar robots?"

"Yes, you would admire it. I've detected amusement in you, Peter - amusement and an appalling lack of understanding. Are you a roboticist, Peter? Those robots attach importance to what they consider superiority. You've just said as much yourself. Subconsciously they feel humans to be inferior and the First Law which protects us from them is imperfect. They are unstable. And here we have a young man ordering a robot to leave him, to lose himself, with every verbal appearance of revulsion, disdain, and disgust. Granted, that robot must follow orders, but subconsciously, there is resentment. It will

become more important than ever for it to prove that it is superior despite the horrible names it was called. It may become so important that what's left of the First Law won't be enough."

"How on Earth, or anywhere in the Solar System, Susan, is a robot going to know the meaning of the assorted strong language used upon him? Obscenity is not one of the things impressed upon his brain."

"Original impressionment is not everything," Calvin snarled at him. "Robots have learning capacity, you. . . you fool-" And Bogert knew that she had really lost her temper. She continued hastily, "Don't you suppose he could tell from the tone used that the words weren't complimentary? Don't you suppose he's heard the words used before and noted upon what occasions?"

"Well, then," shouted Bogert, "will you kindly tell me one way in which a modified robot can harm a human being, no matter how offended it is, no matter how sick with desire to prove superiority?"

"If I tell you one way, will you keep quiet?"

"Yes."

They were leaning across the table at each other, angry eyes nailed together.

The psychologist said, "If a modified robot were to drop a heavy weight upon a human being, he would not be breaking the First Law, if he did so with the knowledge that his strength and reaction speed would be sufficient to snatch the weight away before it struck the man. However once the weight left his fingers, he would be no longer the active medium. Only the blind force of gravity would be that. The robot could then change his mind and merely by inaction, allow the weight to strike. The modified First Law allows that."

"That's an awful stretch of imagination."

"That's what my profession requires sometimes. Peter, let's not quarrel, let's work. You know the exact nature of the stimulus that caused the robot to lose himself. You have the records of his original mental make-up. I want you to tell me how possible it is for our robot to do the sort of thing I just talked about. Not the specific instance, mind you, but that whole class of response. And I want it done quickly."

"And meanwhile-"

"And meanwhile, we'll have to try performance tests directly on the response to First Law."

Gerald Black, at his own request, was supervising the mushrooming wooden partitions that were springing up in a belling circle on the vaulted third floor of Radiation Building 2. The laborers worked, in the main, silently, but more than one was openly a-wonder at the sixty-three photocells that required installation.

One of them sat down near Black, removed his hat, and wiped his forehead thoughtfully with a freckled forearm.

Black nodded at him, "How's it doing, Walensky?"

Walensky shrugged and fired a cigar, "Smooth as butter. What's going on anyway, Doc? First, there's no work for three days and then we have this mess of jiggers." He leaned backward on his elbows and puffed smoke.

Black twitched his eyebrows, "A couple of robot men came over from Earth. Remember the trouble we had with robots running into the gamma fields before we pounded it into their skulls that they weren't to do it."

"Yeah. Didn't we get new robots?"

"We got some replacements, but mostly it was a job of indoctrination. Anyway, the people who make them want to figure out robots that aren't hit so bad by gamma rays."

"Sure seems funny, though, to stop all the work on the Drive for this robot deal. I thought nothing was allowed to stop the Drive."

"Well, it's the fellows upstairs that have the say on that. Me - I just do as I'm told. Probably all a matter of pull-"

"Yeah," the electrician jerked a smile, and winked a wise eye. "Somebody knew somebody in Washington. But as long as my pay comes through on the dot, I should worry. The Drive's none of my affair. What are they going to do here?"

"You're asking me? They brought a mess of robots with them, - over sixty, and they're going to measure reactions. That's all my knowledge."

"How long will it take?"

"I wish I knew."

"Well," Walensky said, with heavy sarcasm, "as long as they dish me my money, they can play games all they want."

Black felt quietly satisfied. Let the story spread. It was harmless, and near enough to the truth to take the fangs out of curiosity.

A man sat in the chair, motionless, silent. A weight dropped, crashed downward, then pounded aside at the last moment under the synchronized thump of a sudden force beam. In sixty-three wooden cells, watching NS-2 robots dashed forward in that split second before the weight veered, and sixty-three photocells five feet ahead of their original positions jiggled the marking pen and presented a little jag on the paper. The weight rose and dropped, rose and dropped, rose-

Ten times!

Ten times the robots sprang forward and stopped, as the man remained safely seated.

Major-general Kallner had not worn his uniform in its entirety since the first dinner with the U. S. Robot representatives. He wore nothing over his blue-gray shirt now, the collar was open, and the black tie was pulled loose.

He looked hopefully at Bogert, who was still blandly neat and whose inner tension was perhaps betrayed only by the trace of glister at his temples.

The general said, "How does it look? What is it you're trying to see?"

Bogert replied, "A difference which may turn out to be a little too subtle for our purposes, I'm afraid. For sixty-two of those robots the necessity of jumping toward the apparently threatened human was what we call, in robotics, a forced reaction. You see,

even when the robots knew that the human in question would not come to harm - and after the third or fourth time they must have known it - they could not prevent reacting as they did. First Law requires it"

"Well?"

"But the sixty-third robot, the modified Nestor, had no such compulsion. He was under free action. If he had wished, he could have remained in his seat. Unfortunately," said his voice was mildly regretful, "he didn't so wish."

"Why do you suppose?"

Bogert shrugged, "I suppose Dr. Calvin will tell us when she gets here. Probably with a horribly pessimistic interpretation, too. She is sometimes a bit annoying."

"She's qualified, isn't she?" demanded the general with a sudden frown of uneasiness.

"Yes." Bogert seemed amused. "She's qualified all right. She understands robots like a sister - comes from hating human beings so much, I think. It's just that, psychologist or not, she's an extreme neurotic. Has paranoid tendencies. Don't take her too seriously."

He spread the long row of broken-line graphs out in front of him. "You see, general, in the case of each robot the time interval from moment of drop to the completion of a five-foot movement tends to decrease as the tests are repeated. There's a definite mathematical relationship that governs such things and failure to conform would indicate marked abnormality in the positronic brain. Unfortunately, all here appear normal."

"But if our Nestor 10 was not responding with a forced action, why isn't his curve different? I don't understand that."

"It's simple enough. Robotic responses are not perfectly analogous to human responses, more's the pity. In human beings, voluntary action is much slower than reflex action. But that's not the case with robots; with them it is merely a question of freedom of choice, otherwise the speeds of free and forced action are much the same. What I had been expecting, though, was that Nestor 10 would be caught by surprise the first time and allow too great an interval to elapse before responding."

"And he didn't?"

"I'm afraid not."

"Then we haven't gotten anywhere." The general sat back with an expression of pain. "It's five days since you've come."

At this point, Susan Calvin entered and slammed the door behind her. "Put your graphs away, Peter," she cried, "you know they don't show anything."

She mumbled something impatiently as Kallner half-rose to greet her, and went on, "We'll have to try something else quickly. I don't like what's happening."

Bogert exchanged a resigned glance with the general. "Is anything wrong?"

"You mean specifically? No. But I don't like to have Nestor 10 continue to elude us. It's bad. It must be gratifying his swollen sense of superiority. I'm afraid that his motivation is no longer simply one of following orders. I think it's becoming more a matter of sheer neurotic necessity to outthink humans. That's a dangerously unhealthy

situation. Peter, have you done what I asked? Have you worked out the instability factors of the modified NS-2 along the lines I want?"

"It's in progress," said the mathematician, without interest.

She stared at him angrily for a moment, then turned to Kallner. "Nester 10 is decidedly aware of what we're doing, general. He had no reason to jump for the bait in this experiment, especially after the first time, when he must have seen that there was no real danger to our subject. The others couldn't help it; but he was deliberately falsifying a reaction."

"What do you think we ought to do now, then, Dr. Calvin?"

"Make it impossible for him to fake an action the next time. We will repeat the experiment, but with an addition. High-tension cables, capable of electrocuting the Nestor models will be placed between subject and robot - enough of them to avoid the possibility of jumping over - and the robot will be made perfectly aware in advance that touching the cables will mean death."

"Hold on," spat out Bogert with sudden viciousness. "I rule that out. We are not electrocuting two million dollars worth of robots to locate Nestor 10. There are other ways."

"You're certain? You've found none. In any case, it's not a question of electrocution. We can arrange a relay which will break the current at the instant of application of weight. If the robot should place his weight on it, he won't die. But he won't know that, you see."

The general's eyes gleamed into hope. "Will that work?"

"It should. Under those conditions, Nestor 10 would have to remain in his seat. He could be ordered to touch the cables and die, for the Second Law of obedience is superior to the Third Law of self-preservation. But he won't be ordered to; he will merely be left to his own devices, as will all the robots. In the case of the normal robots, the First Law of human safety will drive them to their death even without orders. But not our Nestor 10. Without the entire First Law, and without having received any orders on the matter, the Third Law, self-preservation, will be the highest operating, and he will have no choice but to remain in his seat. It would be a forced action."

"Will it be done tonight, then?"

"Tonight," said the psychologist, "if the cables can be laid in time. I'll tell the robots now what they're to be up against."

A man sat in the chair, motionless, silent. A weight dropped, crashed downward, then pounded aside at the last moment under the synchronized thump of a sudden force beam.

Only once-

And from her small camp chair in the observing booth in the balcony, Dr. Susan Calvin rose with a short gasp of pure horror.

Sixty-three robots sat quietly in their chairs, staring owlishly at the endangered man before them. Not one moved.

Dr. Calvin was angry, angry almost past endurance. Angry the worse for not daring to show it to the robots that, one by one were entering the room and then leaving. She checked the list. Number twenty-eight was due in now - Thirty-five still lay ahead of her.

Number Twenty-eight entered, diffidently.

She forced herself into reasonable calm. "And who are you?"

The robot replied in a low, uncertain voice, "I have received no number of my own yet, ma'am. I'm an NS-2 robot, and I was Number Twenty-eight in line outside. I have a slip of paper here that I'm to give to you."

"You haven't been in here before this today?"

"No, ma'am."

"Sit down. Right there. I want to ask you some questions, Number Twenty-eight. Were you in the Radiation Room of Building Two about four hours ago?"

The robot had trouble answering. Then it came out hoarsely, like machinery needing oil, "Yes, ma'am."

"There was a man who almost came to harm there, wasn't there?"

"Yes, ma'am."

"You did nothing, did you?"

"No, ma'am."

"The man might have been hurt because of your inaction. Do you know that?"

"Yes, ma'am. I couldn't help it, ma'am." It is hard to picture a large expressionless metallic figure cringing, but it managed.

"I want you to tell me exactly why you did nothing to save him."

"I want to explain, ma'am. I certainly don't want to have you. . . have anyone. . . think that I could do a thing that might cause harm to a master. Oh, no, that would be a horrible. . . an inconceivable-"

"Please don't get excited, boy. I'm not blaming you for anything. I only want to know what you were thinking at the time."

"Ma'am, before it all happened you told us that one of the masters would be in danger of harm from that weight that keeps falling and that we would have to cross electric cables if we were to try to save him. Well, ma'am, that wouldn't stop me. What is my destruction compared to the safety of a master? But. . . but it occurred to me that if I died on my way to him, I wouldn't be able to save him anyway. The weight would crush him and then I would be dead for no purpose and perhaps some day some other master might come to harm who wouldn't have, if I had only stayed alive. Do you understand me, ma'am?"

"You mean that it was merely a choice of the man dying, or both the man and yourself dying. Is that right?"

"Yes, ma'am. It was impossible to save the master. He might be considered dead. In that case, it is inconceivable that I destroy myself for nothing - without orders."

The robopsychologist twiddled a pencil. She had heard the same story with insignificant verbal variations twenty-seven times before. This was the crucial question now.

"Boy," she said, "your thinking has its points, but it is not the sort of thing I thought you might think. Did you think of this yourself?"

The robot hesitated. "No."

"Who thought of it, then?"

"We were talking last night, and one of us got that idea and it sounded reasonable."

"Which one?"

The robot thought deeply. "I don't know. Just one of us."

She sighed, "That's all."

Number Twenty-nine was next. Thirty-four after that.

Major-general Kallner, too, was angry. For one week all of Hyper Base had stopped dead, barring some paper work on the subsidiary asteroids of the group. For nearly one week, the two top experts in the field had aggravated the situation with useless tests. And now they - or the woman, at any rate - made impossible propositions.

Fortunately for the general situation, Kallner felt it impolitic to display his anger openly.

Susan Calvin was insisting, "Why not, sir? It's obvious that the present situation is unfortunate. The only way we may reach results in the future - or what future is left us in this matter - is to separate the robots. We can't keep them together any longer."

"My dear Dr. Calvin," rumbled the general, his voice sinking into the lower baritone registers. "I don't see how I can quarter sixty-three robots all over the place -"

Dr. Calvin raised her arms helplessly. "I can do nothing then. Nestor 10 will either imitate what the other robots would do, or else argue them plausibly into not doing what he himself cannot do. And in any case, this is bad business. We're in actual combat with this little lost robot of ours and he's winning out. Every victory of his aggravates his abnormality."

She rose to her feet in determination. "General Kallner, if you do not separate the robots as I ask, then I can only demand that all sixty-three be destroyed immediately."

"You demand it, do you?" Bogert looked up suddenly, and with real anger. "What gives you the right to demand any such thing? Those robots remain as they are. I'm responsible to the management, not you."

"And I," added Major-general Kallner, "am responsible to the World Co-ordinator - and I must have this settled."

"In that case," flashed back Calvin, "there is nothing for me to do but resign. If necessary to force you to the necessary destruction, I'll make this whole matter public. It was not I that approved the manufacture of modified robots."

"One word from you, Dr. Calvin," said the general, deliberately, "in violation of security measures, and you would be certainly imprisoned instantly."

Bogert felt the matter to be getting out of hand. His voice grew syrupy, "Well, now, we're beginning to act like children, all of us. We need only a little more time. Surely we can outwit a robot without resigning, or imprisoning people, or destroying two millions."

The psychologist turned on him with quiet fury, "I don't want any unbalanced robots in existence. We have one Nestor that's definitely unbalanced, eleven more that are potentially so, and sixty-two normal robots that are being subjected to an unbalanced environment. The only absolute safe method is complete destruction."

The signal-burr brought all three to a halt, and the angry tumult of growingly unrestrained emotion froze.

"Come in," growled Kallner.

It was Gerald Black, looking perturbed. He had heard angry voices. He said, "I thought I'd come myself. . . didn't like to ask anyone else-"

"What is it? Don't orate-"

"The locks of Compartment C in the trading ship have been played with. There are fresh scratches on them."

"Compartment C?" explained Calvin quickly. "That's the one that holds the robots, isn't it? Who did it?"

"From the inside," said Black, laconically.

"The lock isn't out of order, is it?"

"No. It's all right. I've been staying on the ship now for four days and none of them have tried to get out. But I thought you ought to know, and I didn't like to spread the news. I noticed the matter myself."

"Is anyone there now?" demanded the general.

"I left Robbins and McAdams there."

There was a thoughtful silence, and then Dr. Calvin said, ironically, "Well?"

Kallner rubbed his nose uncertainly, "What's it all about?"

"Isn't it obvious? Nester 10 is planning to leave. That order to lose himself is dominating his abnormality past anything we can do. I wouldn't be surprised if what's left of his First Law would scarcely be powerful enough to override it. He is perfectly capable of seizing the ship and leaving with it. Then we'd have a mad robot on a spaceship. What would he do next? Any idea? Do you still want to leave them all together, general?"

"Nonsense," interrupted Bogert. He had regained his smoothness. "All that from a few scratch marks on a lock."

"Have you, Dr. Bogert, completed the analysis I've required, since you volunteer opinions?"

"Yes."

"May I see it?"

"No."

"Why not? Or mayn't I ask that, either?"

"Because there's no point in it, Susan. I told you in advance that these modified robots are less stable than the normal variety, and my analysis shows it. There's a certain very small chance of breakdown under extreme circumstances that are not likely to occur. Let it go at that. I won't give you ammunition for your absurd claim that sixty-two perfectly good robots be destroyed just because so far you lack the ability to detect Nestor 10 among them."

Susan Calvin stared him down and let disgust fill her eyes. "You won't let anything stand in the way of the permanent directorship, will you?"

"Please," begged Kallner, half in irritation. "Do you insist that nothing further can be done, Dr. Calvin?"

"I can't think of anything, sir," she replied, wearily. "If there were only other differences between Nestor 10 and the normal robots, differences that didn't involve the First Law. Even one other difference. Something in impressionment, environment, specification-" And she stopped suddenly.

"What is it?"

"I've thought of something. . . I think-" Her eyes grew distant and hard, "These modified Nestors, Peter. They get the same impressioning the normal ones get, don't they?"

"Yes. Exactly the same."

"And what was it you were saying, Mr. Black," she turned to the young man, who through the storms that had followed his news had maintained a discreet silence. "Once when complaining of the Nestors' attitude of superiority, you said the technicians had taught them all they knew."

"Yes, in etheric physics. They're not acquainted with the subject when they come here."

"That's right," said Bogert, in surprise. "I told you, Susan, when I spoke to the other Nestors here that the two new arrivals hadn't learned etheric physics yet."

"And why is that?" Dr. Calvin was speaking in mounting excitement. "Why aren't NS-2 models impressioned with etheric physics to start with?"

"I can tell you that," said Kallner. "It's all of a piece with the secrecy. We thought that if we made a special model with knowledge of etheric physics, used twelve of them and put the others to work in an unrelated field, there might be suspicion. Men working with normal Nestors might wonder why they knew etheric physics. So there was merely an impressionment with a capacity for training in the field. Only the ones that come here, naturally, receive such a training. It's that simple."

"I understand. Please get out of here, the lot of you. Let me have an hour or so."

Calvin felt she could not face the ordeal for a third time. Her mind had contemplated it and rejected it with an intensity that left her nauseated. She could face that unending file of repetitious robots no more.

So Bogert asked the question now, while she sat aside, eyes and mind half closed. Number Fourteen came in - forty-nine to go.

Bogert looked up from the guide sheet and said, "What is your number in line?"

"Fourteen, sir." The robot presented his numbered ticket.

"Sit down, boy."

Bogert asked, "You haven't been here before on this day?"

"No, sir."

"Well, boy, we are going to have another man in danger of harm soon after we're through here. In fact, when you leave this room, you will be led to a stall where you will wait quietly, till you are needed. Do you understand?"

"Yes, sir."

"Now, naturally, if a man is in danger of harm, you will try to save him."

"Naturally, sir."

"Unfortunately, between the man and yourself, there will be a gamma ray field."

Silence.

"Do you know what gamma rays are?" asked Bogert sharply.

"Energy radiation, sir?"

The next question came in a friendly, offhand manner, "Ever work with gamma rays?"

"No, sir." The answer was definite.

"Mm-m. Well, boy, gamma rays will kill you instantly. They'll destroy your brain. That is a fact you must know and remember. Naturally, you don't want to destroy yourself."

"Naturally." Again the robot seemed shocked. Then, slowly, "But, sir, if the gamma rays are between myself and the master that may be harmed, how can I save him? I would be destroying myself to no purpose."

"Yes, there is that," Bogert seemed concerned about the matter. "The only thing I can advise, boy, is that if you detect the gamma radiation between yourself and the man, you may as well sit where you are."

The robot was openly relieved. "Thank you, sir. There wouldn't be any use, would there?"

"Of course not. But if there weren't any dangerous radiation, that would be a different matter."

"Naturally, sir. No question of that."

"You may leave now. The man on the other side of the door will lead you to your stall. Please wait there."

He turned to Susan Calvin when the robot left. "How did that go, Susan?"

"Very well," she said, dully.

"Do you think we could catch Nestor 10 by quick questioning on etheric physics?"

"Perhaps, but it's not sure enough." Her hands lay loosely in her lap. "Remember, he's fighting us. He's on his guard. The only way we can catch him is to outsmart him - and, within his limitations, he can think much more quickly than a human being."

"Well, just for fun - suppose I ask the robots from now on a few questions on gamma rays. Wave length limits, for instance."

"No!" Dr. Calvin's eyes sparked to life. "It would be too easy for him to deny knowledge and then he'd be warned against the test that's coming up - which is our real chance. Please follow the questions I've indicated, Peter, and don't improvise. It's just within the bounds of risk to ask them if they've ever worked with gamma rays. And try to sound even less interested than you do when you ask it."

Bogert shrugged, and pressed the buzzer that would allow the entrance of Number Fifteen.

The large Radiation Room was in readiness once more. The robots waited patiently in their wooden cells, all open to the center but closed off from each other.

Major-general Kallner mopped his brow slowly with a large handkerchief while Dr. Calvin checked the last details with Black.

"You're sure now," she demanded, "that none of the robots have had a chance to talk with each other after leaving the Orientation Room?"

"Absolutely sure," insisted Black. "There's not been a word exchanged."

"And the robots are put in the proper stalls?"

"Here's the plan."

The psychologist looked at it thoughtfully, "Um-m-m."

The general peered over her shoulder. "What's the idea of the arrangement, Dr. Calvin?"

"I've asked to have those robots that appeared even slightly out of true in the previous tests concentrated on one side of the circle. I'm going to be sitting in the center myself this time, and I wanted to watch those particularly."

"You're going to be sitting there-," exclaimed Bogert.

"Why not?" she demanded coldly. "What I expect to see may be something quite momentary. I can't risk having anyone else as main observer. Peter, you'll be in the observing booth, and I want you to keep your eye on the opposite side of the circle. General Kallner, I've arranged for motion pictures to be taken of each robot, in case visual observation isn't enough. If these are required, the robots are to remain exactly where they are until the pictures are developed and studied. None must leave, none must change place. Is that clear?"

"Perfectly."

"Then let's try it this one last time."

Susan Calvin sat in the chair, silent, eyes restless. A weight dropped, crashed downward; then pounded aside at the last moment under the synchronized thump of a sudden force beam.

And a single robot jerked upright and took two steps.

And stopped.

But Dr. Calvin was upright, and her finger pointed to him sharply. "Nestor 10, come here," she cried, "come here! COME HERE!"

Slowly, reluctantly, the robot took another step forward. The psychologist shouted at the top of her voice, without taking her eyes from the robot, "Get every other robot out of this place, somebody. Get them out quickly, and keep them out."

Somewhere within reach of her ears there was noise, and the thud of hard feet upon the floor. She did not look away.

Nestor 10 - if it was Nestor 10 - took another step, and then, under force of her imperious gesture, two more. He was only ten feet away, when he spoke harshly, "I have been told to be lost-"

Another stop. "I must not disobey. They have not found me so far - He would think me a failure - He told me - But it's not so - I am powerful and intelligent-"

The words came in spurts.

Another step. "I know a good deal - He would think. . . I mean I've been found - Disgraceful - Not I - I am intelligent - And by just a master. . . who is weak - Slow-"

Another step - and one metal arm flew out suddenly to her shoulder, and she felt the weight bearing her down. Her throat constricted, and she felt a shriek tear through.

Dimly, she heard Nestor 10's next words, "No one must find me. No master-" and the cold metal was against her, and she was sinking under the weight of it.

And then a queer, metallic sound, and she was on the ground with an unfelt thump, and a gleaming arm was heavy across her body. It did not move. Nor did Nestor 10, who sprawled beside her.

And now faces were bending over her.

Gerald Black was gasping, "Are you hurt, Dr. Calvin?"

She shook her head feebly. They pried the arm off her and lifted her gently to her feet, "What happened?"

Black said, "I bathed the place in gamma rays for five seconds. We didn't know what was happening. It wasn't till the last second that we realized he was attacking you, and then there was no time for anything but a gamma field. He went down in an instant. There wasn't enough to harm you though. Don't worry about it."

"I'm not worried." She closed her eyes and leaned for a moment upon his shoulder. "I don't think I was attacked exactly. Nestor 10 was simply trying to do so. What was left of the First Law was still holding him back."

Susan Calvin and Peter Bogert, two weeks after their first meeting with Major-general Kallner had their last. Work at Hyper Base had been resumed. The trading ship with its sixty-two normal NS-2's was gone to wherever it was bound, with an officially imposed story to explain its two weeks' delay. The government cruiser was making ready to carry the two roboticists back to Earth.

Kallner was once again a gleam in dress uniform. His white gloves shone as he shook hands.

Calvin said, "The other modified Nestors are, of course, to be destroyed."

"They will be. We'll make shift with normal robots, or, if necessary, do without."

"Good."

"But tell me - you haven't explained - how was it done?"

She smiled tightly, "Oh, that. I would have told you in advance if I had been more certain of its working. You see, Nestor 10 had a superiority complex that was becoming more radical all the time. He liked to think that he and other robots knew more than human beings. It was becoming very important for him to think so.

"We knew that. So we warned every robot in advance that gamma rays would kill them, which it would, and we further warned them all that gamma rays would be between them and myself. So they all stayed where they were, naturally. By Nestor 10's own logic

in the previous test they had all decided that there was no point in trying to save a human being if they were sure to die before they could do it."

"Well, yes, Dr. Calvin, I understand that. But why did Nestor 10 himself leave his seat?"

"AH! That was a little arrangement between myself and your young Mr. Black. You see it wasn't gamma rays that flooded the area between myself and the robots - but infrared rays. Just ordinary heat rays, absolutely harmless. Nestor 10 knew they were infrared and harmless and so he began to dash out, as he expected the rest would do, under First Law compulsion. It was only a fraction of a second too late that he remembered that the normal NS-2's could detect radiation, but could not identify the type. That he himself could only identify wavelengths by virtue of the training he had received at Hyper Base, under mere human beings, was a little too humiliating to remember for just a moment. To the normal robots the area was fatal because we had told them it would be, and only Nestor 10 knew we were lying.

"And just for a moment he forgot, or didn't want to remember, that other robots might be more ignorant than human beings. His very superiority caught him. Good-by, general."

RISK

Hyper Base had lived for this day. Spaced about the gallery of the viewing room, in order and precedence strictly dictated by protocol, was a group of officials, scientists, technicians and others who could only be lumped under the general classification of "personnel." In accordance with their separate temperaments they waited hopefully, uneasily, breathlessly, eagerly, or fearfully for this culmination of their efforts.

The hollowed interior of the asteroid known as Hyper Base had become for this day the center of a sphere of iron security that extended out for ten thousand miles. No ship might enter that sphere and live. No message might leave without scrutiny.

A hundred miles away, more or less, a small asteroid moved neatly in the orbit into which it had been urged a year before, an orbit that ringed Hyper Base in as perfect a circle as could be managed. The asteroidlet's identity number was H937, but no one on Hyper Base called it anything but It. ("Have you been out on it today?"

"The general's on it, blowing his top," and eventually the impersonal pronoun achieved the dignity of capitalization.)

On It, unoccupied now as zero second approached, was the Parsec, the only ship of its kind ever built in the history of man. It lay, unmanned, ready for its takeoff into the inconceivable.

Gerald Black, who, as one of the bright young men in etherics engineering, rated a front-row view, cracked his large knuckles, then wiped his sweating palms on his stained white smock and said sourly, "Why don't you bother the general, or Her Ladyship there?"

Nigel Ronson, of Interplanetary Press, looked briefly across the gallery toward the glitter of Major-general Richard Kallner and the unremarkable woman at his side, scarcely visible in the glare of his dress uniform. He said, "I would. except that I'm interested in news."

Ronson was short and plump. He painstakingly wore his hair in a quarter-inch bristle, his shirt collar open and his trouser leg ankle-short, in faithful imitation of the newsmen who were stock characters on TV shows. He was a capable reporter nevertheless.

Black was stocky, and his dark hairline left little room for forehead, but his mind was as keen as his strong fingers were blunt. He said, "They've got all the news."

"Nuts," said Ronson. "Kallner's got no body under that gold braid. Strip him and you'll find only a conveyer belt dribbling orders downward and shooting responsibility upward."

Black found himself at the point of a grin but squeezed it down. He said. "What about the Madam Doctor?"

"Dr. Susan Calvin of U. S. Robots and Mechanical Men Corporation." intoned the reporter. "The lady with hyperspace where her heart ought to be and liquid helium in her eyes. She'd pass through the sun and come out the other end encased in frozen flame."

Black came even closer to a grin. "How about Director Schloss, then?"

Ronson said glibly, "He knows too much. Between spending his time fanning the feeble flicker of intelligence in his listener and dimming his own brains for fear of blinding said listener permanently by sheer force of brilliance, he ends up saying nothing."

Black showed his teeth this time. "Now suppose you tell me why you pick on me."

"Easy, doctor. I looked at you and figured you're too ugly to be stupid and too smart to miss a possible opportunity at some good personal publicity."

"Remind me to knock you down someday." said Black. "What do you want to know?"

The man from Interplanetary Press pointed into the pit and said, "Is that thing going to work?"

Black looked downward too, and felt a vague chill ruffle over him like the thin night wind of Mars. The pit was one large television screen, divided in two. One half was an over-all view of It. On It's pitted gray surface was the Parse, glowing mutedly in the feeble sunlight. The other half showed the control room of the Parsec. There was no life in that control room. In the pilot's seat was an object the vague humanity of which did not for a moment obscure the fact that it was only a positronic robot.

Black said, "Physically, mister, this will work. That robot will leave and come back. Space! how we succeeded with that part of it. I watched it all. I came here two weeks after I took my degree in etheric physics and I've been here, barring leave and furloughs, ever since. I was here when we sent the first piece of iron wire to Jupiter's orbit and back through hyperspace-and got back iron filings. I was here when we sent white mice there and back and ended up with mincemeat.

"We spent six months establishing an even hyperfield after that. We had to wipe out lags of as little as tenths of thousandths of seconds from point to point in matter being subjected to hypertravel. After that, the white mice started coming back intact. I remember when we celebrated for a week because one white mouse came back alive and lived ten minutes before dying. Now they live as long as we can take proper care of them."

Ronson said, "Great!"

Black looked at him obliquely. "I said, physically it will work. Those white mice that come back-"

"Well?"

"No minds. Not even little white mice-type minds. They won't eat. They have to be force-fed. They won't mate. They won't run. They sit. They sit. They sit. That's all. We finally worked up to sending a chimpanzee. It was pitiful. It was too close to a man to make watching it bearable. It came back a hunk of meat that could make crawling motions. It could move its eyes and sometimes it would scrabble. It whined and sat in its own wastes without the sense to move. Somebody shot it one day, and we were all grateful for that. I tell you this, fella, nothing that ever went into hyperspace has come back with a mind."

"Is this for publication?"

"After this experiment, maybe. They expect great things of it." A corner of Black's mouth lifted.

"You don't?"

"With a robot at the controls? No." Almost automatically Black's mind went back to that interlude, some years back, in which he had been unwittingly responsible for the near loss of a robot. He thought of the Nestor robots that filled Hyper Base with smooth, ingrained knowledge and perfectionist shortcomings. Mat was the use of talking about robots? He was not, by nature, a missionary.

But then Ronson, filling the continuing silence with a bit of small talk, said, as he replaced the wad of gum in his mouth with a fresh piece, "Don't tell me you're anti-robot. I've always heard that scientists are the one group that aren't anti-robot."

Black's patience snapped. He said, "That's true, and that's the trouble. Technology's gone robot-happy. Any job has to have a robot, or the engineer in charge feels cheated. You want a doorstep; buy a robot with a thick foot. That's a serious thing." He was speaking in a low, intense voice, shoving the words directly into Ronson's ear.

Ronson managed to extricate his arm. He said, "Hey, I'm no robot. Don't take it out on me. I'm a man. Homo sapiens. You just broke an arm bone of mine. Isn't that proof?"

Having started, however, it took more than frivolity to stop Black. He said, "Do you know how much time was wasted on this setup? We've had a perfectly generalized robot built and we've given it one order. Period. I heard the order given. I've memorized it. Short and sweet. 'Seize the bar with a firm grip. Pull it toward you firmly. Firmly! Maintain your hold until the control board informs you that you have passed through hyperspace twice.'

"So at zero time, the robot will grab the control bar and pull it firmly toward himself. His hands are heated to blood temperature. Once the control bar is in position, heat expansion completes contact and hyperfield is initiated. If anything happens to his brain during the first trip through hyperspace, it doesn't matter. All he needs to do is maintain position one microinstant and the ship will come back and the hyperfield will flip off. Nothing can go wrong. Then we study all its generalized reactions and see what, if anything, has gone wrong."

Ronson looked blank. "This all makes sense to me."

"Does it?" asked Black bitterly. "And what will you learn from a robot brain? It's positronic, ours is cellular. It's metal, ours is protein. They're not the same. There's no comparison. Yet I'm convinced that on the basis of what they learn, or think they learn, from the robot, they'll send men into hyperspace. Poor devils! Look, it's not a question of dying. It's coming back mindless. If you'd seen the chimpanzee, you'd know what I mean. Death is clean and final. The other thing-

The reporter said, "Have you talked about this to anyone?"

Black said, "Yes. They say what you said. They say I'm anti-robot and that settles everything. -Look at Susan Calvin there. You can bet she isn't anti-robot. She came all the

way from Earth to watch this experiment. If it had been a man at the controls, she wouldn't have bothered. But what's the use!"

"Hey," said Ronson, "don't stop now. There's more."

"More what?"

"More problems. You've explained the robot. But why the security provisions all of a sudden?"

"Huh?"

"Come on. Suddenly I can't send dispatches. Suddenly ships can't come into the area. What's going on? This is just another experiment. The public knows about hyperspace and what you boys are trying to do, so what's the big secret?"

The backwash of anger was still seeping over Black, anger against the robots, anger against Susan Calvin, anger at the memory of that little lost robot in his past. There was some to spare, he found, for the irritating little newsman and his irritating little questions.

He said to himself, Let's see how he takes it. He said, "You really want to know?"

"You bet."

"All right. We've never initiated a hyperfield for any object a millionth as large as that ship, or to send anything a millionth as far. That means that the hyperfield that will soon be initiated is some million million times as energetic as any we've ever handled. We're not sure what it can do."

"What do you mean?"

"Theory tells us that the ship will be neatly deposited out near Sirius and neatly brought back here. But how large a volume of space about the Parsec will be carried with it? It's hard to tell. We don't know enough about hyperspace. The asteroid on which the ship sits may go with it and, you know, if our calculations are even a little off, it may never be brought back here. It may return, say, twenty billion miles away. And there's a chance that more of space than just the asteroid may be shifted."

"How much more?" demanded Ronson.

"We can't say. There's an element of statistical uncertainty. That's why no ships must approach too closely. That's why we're keeping things quiet till the experiment is safely over."

Ronson swallowed audibly. "Supposing it reaches to Hyper Base?"

"There's a chance of it," said Black with composure. "Not much of a chance or Director Schloss wouldn't be here, I assure you. Still, there's a mathematical chance."

The newsman looked at his watch. "When does this all happen?"

"In about five minutes. You're not nervous, are you?"

"No," said Ronson, but he sat down blankly and asked no more questions.

Black leaned outward over the railing. The final minutes were ticking off.

The robot moved!

There was a mass sway of humanity forward at that sign of motion and the lights dimmed in order to sharpen and heighten the brightness of the scene below. But so far it was only the first motion. The hands of the robot approached the starting bar.

Black waited for the final second when the robot would pull the bar toward himself. Black could imagine a number of possibilities, and all sprang nearly simultaneously to mind.

There would first be the short flicker that would indicate the departure through hyperspace and return. Even though the time interval was exceedingly short, return would not be to the precise starting position and there would be a flicker. There always was.

Then, when the ship returned, it might be found, perhaps, that the devices to even the field over the huge volume of the ship had proved inadequate. The robot might be scrap steel. The ship might be scrap steel.

Or their calculations might be somewhat off and the ship might never return. Or worse still, Hyper Base might go with the ship and never return.

Or, of course, all might be well. The ship might flicker and be there in perfect shape. The robot, with mind untouched, would get out of his seat and signal a successful completion of the first voyage of a man-made object beyond the gravitational control of the sun.

The last minute was ticking off.

The last second came and the robot seized the starting bar and pulled it firmly toward himself--

Nothing!

No flicker. Nothing!

The Parsec never left normal space.

Major-general Kallner took off his officer's cap to mop his glistening forehead and in doing so exposed a bald head that would have aged him ten years in appearance if his drawn expression had not already done so. Nearly an hour had passed since the Parsec's failure and nothing had been done.

"How did it happen? How did it happen? I don't understand it." Dr. Mayer Schloss, who at forty was the "grand old man" of the young science of hyperfield matrices, said hopelessly, "There is nothing wrong with the basic theory. I'll swear my life away on that. There's a mechanical failure on the ship somewhere. Nothing more." He had said that a dozen times.

"I thought everything was tested." That had been said too. "It was, sir, it was. Just the same-" And that.

They sat staring at each other in Kallner's office, which was now out of bounds for all personnel. Neither quite dared to look at the third person present.

Susan Calvin's thin lips and pale cheeks bore no expression. She said coolly, "You may console yourself with what I have told you before. It is doubtful whether anything useful would have resulted."

"This is not the time for the old argument," groaned Schloss. "I am not arguing. U. S. Robots and Mechanical Men Corporation will supply robots made up to specification to any legal purchaser for any legal use. We did our part, however. We informed you that we could not guarantee being able to draw conclusions with regard to the human brain from

anything that happened to the positronic brain. Our responsibility ends there. There is no argument."

"Great space," said General Kallner, in a tone that made the expletive feeble indeed. "Let's not discuss that."

"What else was there to do?" muttered Schloss, driven to the subject nevertheless. "Until we know exactly what's happening to the mind in hyperspace we can't progress. The robot's mind is at least capable of mathematical analysis. It's a start, a beginning. And until we try-" He looked up wildly, "But your robot isn't the point, Dr. Calvin. We're not worried about him or his positronic brain. Damn it, woman-" His voice rose nearly to a scream.

The robopsychologist cut him to silence with a voice that scarcely raised itself from its level monotone. "No hysteria, man. In my lifetime I have witnessed many crises and I have never seen one solved by hysteria. I want answers to some questions."

Schloss's full lips trembled and his deep-set eyes seemed to retreat into their sockets and leave pits of shadow in their places. He said harshly, "Are you trained in etheric engineering?"

"That is an irrelevant question. I am Chief Robopsychologist of the United States Robots and Mechanical Men Corporation. That is a positronic robot sitting at the controls of the Parsec. Like all such robots, it is leased and not sold. I have a right to demand information concerning any experiment in which such a robot is involved."

"Talk to her, Schloss," barked General Kallner. "She's-she's all right."

Dr. Calvin turned her pale eyes on the general, who had been present at the time of the affair of the lost robot and who therefore could be expected not to make the mistake of underestimating her. (Schloss had been out on sick leave at the time, and hearsay is not as effective as personal experience.) "Thank you, general," she said.

Schloss looked helplessly from one to the other and muttered, "What do you want to know?"

"Obviously my first question is, What is your problem if the robot is not?"

"But the problem is an obvious one. The ship hasn't moved. Can't you see that? Are you blind?"

"I see quite well. What I don't see is your obvious panic over some mechanical failure. Don't you people expect failure sometimes?"

The general muttered, "It's the expense. The ship was hellishly expensive. The World Congress-appropriations-" He bogged down.

"The ship's still there. A slight overhaul and correction would involve no great trouble."

Schloss had taken hold of himself. The expression on his face was one of a man who had caught his soul in both hands, shaken it hard and set it on its feet. His voice had even achieved a kind of patience. "Dr. Calvin, when I say a mechanical failure, I mean something like a relay jammed by a speck of dust, a connection inhibited by a spot of grease, a transistor balked by a momentary heat expansion. A dozen other things. A

hundred other things. Any of them can be quite temporary. They can stop taking effect at any moment."

"Which means that at any moment the Parsec may flash through hyperspace and back after all."

"Exactly. Now do you understand?"

"Not at all. Wouldn't that be just what you want?" Schloss made a motion that looked like the start of an effort to seize a double handful of hair and yank. He said, "You are not an etherics engineer."

"Does that tongue-tie you, doctor?"

"We had the ship set," said Schloss despairingly, "to make a jump from a definite point in space relative to the center of gravity of the galaxy to another point. The return was to be to the original point corrected for the motion of the solar system. In the hour that has passed since the Parsec should have moved, the solar system has shifted position. The original parameters to which the hyperfield is adjusted no longer apply. The ordinary laws of motion do not apply to hyperspace and it would take us a week of computation to calculate a new set of parameters."

"You mean that if the ship moves now it will return to some unpredictable point thousands of miles away?"

"Unpredictable?" Schloss smiled hollowly. "Yes, I should call it that. The Parsec might end up in the Andromeda nebula or in the center of the sun. In any case the odds are against our ever seeing it again."

Susan Calvin nodded. "The situation then is that if the ship disappears, as it may do at any moment, a few billion dollars of the taxpayers' money may be irretrievably gone, and-it will be said-through bungling."

Major-general Kallner could not have winced more noticeably if he had been poked with a sharp pin in the fundament.

The robopsychologist went on, "Somehow, then, the ship's hyperfield mechanism must be put out of action, and that as soon as possible. Something will have to be unplugged or jerked loose or flicked off." She was speaking half to herself.

"It's not that simple," said Schloss. "I can't explain it completely, since you're not an etherics expert. It's like trying to break an ordinary electric circuit by slicing through high-tension wire with garden shears. It could be disastrous. It would be disastrous."

"Do you mean that any attempt to shut off the mechanism would hurl the ship into hyperspace?"

"Any random attempt would probably do so. Hyper-forces are not limited by the speed of light. It is very probable that they have no limit of velocity at all. It makes things extremely difficult. The only reasonable solution is to discover the nature of the failure and learn from that a safe way of disconnecting the field."

"And how do you propose to do that, Dr. Schloss?"

Schloss said, "It seems to me that the only thing to do is to send one of our Nestor robots-"

"No! Don't be foolish," broke in Susan Calvin.

Schloss said, freezingly, "The Nestors are acquainted with the problems of etherics engineering. They will be ideally-

"Out of the question. You cannot use one of our positronic robots for such a purpose without my permission. You do not have it and you shall not get it."

"What is the alternative?"

"You must send one of your engineers."

Schloss shook his head violently, "Impossible. The risk involved is too great. If we lose a ship and man-

"Nevertheless, you may not use a Nestor robot, or any robot."

The general said, "I-I must get in touch with Earth. This whole problem has to go to a higher level."

Susan Calvin said with asperity, "I wouldn't just yet if I were you, general. You will be throwing yourself on the government's mercy without a suggestion or plan of action of your own. You will not come out very well, I am certain."

"But what is there to do?" The general was using his handkerchief again.

"Send a man. There is no alternative."

Schloss had paled to a pasty gray. "It's easy to say, send a man. But whom?"

"I've been considering that problem. Isn't there a young man-his name is Black-whom I met on the occasion of my previous visit to Hyper Base?"

"Dr. Gerald Black?"

"I think so. Yes. He was a bachelor then. Is he still?"

"Yes, I believe so."

"I would suggest then that he be brought here, say, in fifteen minutes, and that meanwhile I have access to his records."

Smoothly she had assumed authority in this situation, and neither Kallner nor Schloss made any attempt to dispute that authority with her.

Black had seen Susan Calvin from a distance on this, her second visit to Hyper Base. He had made no move to cut down the distance. Now that he had been called into her presence, he found himself staring at her with revulsion and distaste. He scarcely noticed Dr. Schloss and General Kallner standing behind her.

He remembered the last time he had faced her thus, undergoing a cold dissection for the sake of a lost robot.

Dr. Calvin's cool gray eyes were fixed steadily on his hot brown ones.

"Dr. Black," she said, "I believe you understand the situation." Black said, "I do."

"Something will have to be done. The ship is too expensive to lose. The bad publicity will probably mean the end of the project."

Black nodded. "I've been thinking that."

"I hope you've also thought that it will be necessary for someone to board the Parsec, find out what's wrong, and-uh-deactivate it."

There was a moment's pause. Black said harshly, "What fool would go?"

Kallner frowned and looked at Schloss, who bit his lip and looked nowhere.

Susan Calvin said, "There is, of course, the possibility of accidental activation of the hyperfield, in which case the ship may drive beyond all possible reach. On the other hand, it may return somewhere within the solar system. If so, no expense or effort will be spared to recover man and ship."

Black said, "Idiot and ship! Just a correction."

Susan Calvin disregarded the comment. She said, "I have asked General Kallner's permission to put it to you. It is you who must go."

No pause at all here. Black said, in the flattest possible way, "Lady, I'm not volunteering."

"There are not a dozen men on Hyper Base with sufficient knowledge to have any chance at all of carrying this thing through successfully. Of those who have the knowledge, I've selected you on the basis of our previous acquaintanceship. You will bring to this task an understanding-

"Look, I'm not volunteering."

"You have no choice. Surely you will face your responsibility?"

"My responsibility? What makes it mine?"

"The fact that you are best fitted for the job."

"Do you know the risk?"

"I think I do," said Susan Calvin.

"I know you don't. You never saw that chimpanzee. Look, when I said 'idiot and ship' I wasn't expressing an opinion. I was telling you a fact. I'd risk my life if I had to. Not with pleasure, maybe, but I'd risk it. Risking idiocy, a lifetime of animal mindlessness, is something I won't risk, that's all."

Susan Calvin glanced thoughtfully at the young engineer's sweating, angry face.

Black shouted, "Send one of your robots, one of your NS-2 jobs."

The psychologist's eye reflected a kind of cold glitter. She said with deliberation, "Yes, Dr. Schloss suggested that. But the NS-2 robots are leased by our firm, not sold. They cost millions of dollars apiece, you know. I represent the company and I have decided that they are too expensive to be risked in a matter such as this."

Black lifted his hands. They clenched and trembled close to his chest as though he were forcibly restraining them. "You're telling me-you're saying you want me to go instead of a robot because I'm more expendable."

"It comes to that, yes."

"Dr. Calvin," said Black, "I'd see you in hell first."

"That statement might be almost literally true, Dr. Black. As General Kallner will confirm, you are ordered to take this assignment. You are under quasi-military law here, I understand, and if you refuse an assignment, you can be court-martialed. A case like this will mean Mercury prison and I believe that will be close enough to hell to make your statement uncomfortably accurate were I to visit you, though I probably would not. On the other hand, if you agree to board the Parsec and carry through this job, it will mean a great deal for your career."

Black glared, red-eyed, at her.

Susan Calvin said, "Give the man five minutes to think about this, General Kallner, and get a ship ready."

Two security guards escorted Black out of the room.

Gerald Black felt cold. His limbs moved as though they were not part of him. It was as though he were watching himself from some remote, safe place, watching himself board a ship and make ready to leave for It and for the Parsec.

He couldn't quite believe it. He had bowed his head suddenly and said, "I'll go."
But why?

He had never thought of himself as the hero type. Then why? Partly, of course, there was the threat of Mercury prison. Partly it was the awful reluctance to appear a coward in the eyes of those who knew him, that deeper cowardice that was behind half the bravery in the world.

Mostly, though, it was something else.

Ronson of Interplanetary Press had stopped Black momentarily as he was on his way to the ship. Black looked at Ronson's Bushed face and said. "What do you want?"

Ronson babbled. "Listen! When you get back, I want it exclusive. I'll arrange any payment you want-anything you want-"

Black pushed him aside, sent him sprawling, and walked on.

The ship had a crew of two. Neither spoke to him. Their glances slid over and under and around him. Black didn't mind that. They were scared spitless themselves and their ship was approaching the Parsec like a kitten skittering sideways toward the first dog it had ever seen. He could do without them.

There was only one face that he kept seeing. The anxious expression of General Kallner and the look of synthetic determination on Schloss's face were momentary punctures on his consciousness. They healed almost at once. It was Susan Calvin's unruffled face that he saw. Her calm expressionlessness as he boarded the ship.

He stared into the blackness where Hyper Base had already disappeared into space-

Susan Calvin! Doctor Susan Calvin! Robopsychologist Susan Calvin! The robot that walks like a woman!

What were her three laws, he wondered. First Law: Thou shalt protect the robot with all thy might and all thy heart and all thy soul. Second Law: Thou shalt hold the interests of U. S. Robots and Mechanical Men Corporation holy provided it interfereth not with the First Law. Third Law: Thou shalt give passing consideration to a human being provided it interfereth not with the First and Second laws.

Had she ever been young, he wondered savagely? Had she ever felt one honest emotion?

Space! How he wanted to do something-something that would take that frozen look of nothing off her face.

And he would!

By the stars, he would. Let him but get out of this sane and he would see her smashed and her company with her and all the vile brood of robots with them. It was that

thought that was driving him more than fear of prison or desire for social prestige. It was that thought that almost robbed him of fear altogether. Almost.

One of the pilots muttered at him, without looking, "You can drop down from here. It's half a mile under."

Black said bitterly, "Aren't you landing?"

"Strict orders not to. The vibration of the landing might-"

"What about the vibration of my landing?" The pilot said, "I've got my orders."

Black said no more but climbed into his suit and waited for the inner lock to open. A tool kit was welded firmly to the metal of the suit about his right thigh.

Just as he stepped into the lock, the earpieces inside his helmet rumbled at him. "Wish you luck, doctor."

It took a moment for him to realize that it came from the two men aboard ship, pausing in their eagerness to get out of that haunted volume of space to give him that much, anyway.

"Thanks," said Black awkwardly, half resentfully.

And then he was out in space, tumbling slowly as the result of the slightly off-center thrust of feet against outer lock.

He could see the Parsec waiting for him, and by looking between his legs at the right moment of the tumble he could see the long hiss of the lateral jets of the ship that had brought him, as it turned to leave.

He was alone! Space, he was alone!

Could any man in history ever have felt so alone?

Would he know, he wondered sickly, if-if anything happened? Would there be any moments of realization? Would he feel his mind fade and the light of reason and thought dim and blank out?

Or would it happen suddenly, like the cut of a force knife? In either case the thought of the chimpanzee, blank-eyed, shivering with mindless terrors, was fresh within him.

The asteroid was twenty feet below him now. It swam through space with an absolutely even motion. Barring human agency, no grain of sand upon it had as much as stirred through astronomical periods of time.

In the ultimate jarlessness of It, some small particle of grit encumbered a delicate working unit on board the Parsec, or a speck of impure sludge in the fine oil that bathed some moving part had stopped it.

Perhaps it required only a small vibration, a tiny tremor originating from the collision of mass and mass to unencumber that moving part, bringing it down along its appointed path, creating the hyperfield, blossoming it outward like an incredibly ripening rose.

His body was going to touch It and he drew his limbs together in his anxiety to "hit easy." He did not want to touch the asteroid. His skin crawled with intense aversion.

It came closer. Now-now-

Nothing!

There was only the continuing touch of the asteroid, the uncanny moments of slowly mounting pressure that resulted from a mass of 250 pounds (himself plus suit) possessing full inertia but no weight to speak of.

Black opened his eyes slowly and let the sight of stars enter. The sun was a glowing marble, its brilliance muted by the polarizing shield over his faceplate. The stars were correspondingly feeble but they made up the familiar arrangement. With sun and constellations normal, he was still in the solar system. He could even see Hyper Base, a small, dim crescent.

He stiffened in shock at the sudden voice in his ear. It was Schloss.

Schloss said, "We've got you in view, Dr. Black. You are not alone!"

Black could have laughed at the phraseology, but he only said in a low, clear voice, "Clear off. If you'll do that, you won't be distracting me."

A pause. Schloss's voice, more cajoling, "If you care to report as you go along, it may relieve the tension."

"You'll get information from me when I get back. Not before." He said it bitterly, and bitterly his metal-encased fingers moved to the control panel in his chest and blanked out the suit's radio. They could talk into a vacuum now. He had his own plans. If he got out of this sane, it would be his show.

He got to his feet with infinite caution and stood on It. He swayed a bit as involuntary muscular motions, tricked by the almost total lack of gravity into an endless series of overbalancings, pulled him this way and that. On Hyper Base there was a pseudo-gravitic field to hold them down. Black found that a portion of his mind was sufficiently detached to remember that and appreciate it in absentia.

The sun had disappeared behind a crag. The stars wheeled visibly in time to the asteroid's one-hour rotation period.

He could see the Parsec from where he stood and now he moved toward it slowly, carefully-tippy-toe almost. (No vibration. No vibration. The words ran pleadingly through his mind.)

Before he was completely aware of the distance he had crossed, he was at the ship. He was at the foot of the line of hand grips that led to the outer lock.

There he paused.

The ship looked quite normal. Or at least it looked normal except for the circle of steely knobs that girdled it one third of the way up, and a second circle two thirds of the way up. At the moment, they must be straining to become the source poles of the hyperfield.

A strange desire to reach up and fondle one of them came over Black. It was one of those irrational impulses, like the momentary thought, "What if I jumped?" that is almost inevitable when one stares down from a high building.

Black took a deep breath and felt himself go clammy as he spread the fingers of both hands and then lightly, so lightly, put each hand flat against the side of the ship.

Nothing! He seized the lowest hand grip and pulled himself up, carefully. He longed to be as experienced at null-gravity manipulation as were the construction men.

You had to exert enough force to overcome inertia and then stop. Continue the pull a second too long and you would overbalance, careen into the side of the ship.

He climbed slowly, tippy-fingers, his legs and hips swaying to the right as his left arm reached upward, to the left as his right arm reached upward.

A dozen rungs, and his fingers hovered over the contact that would open the outer lock. The safety marker was a tiny green smear.

Once again he hesitated. This was the first use he would make of the ship's power. His mind ran over the wiring diagrams and the force distributions. If he pressed the contact, power would be siphoned off the micropile to pull open the massive slab of metal that was the outer lock.

Well? What was the use? Unless he had some idea as to what was wrong, there was no way of telling the effect of the power diversion. He sighed and touched contact.

Smoothly, with neither jar nor sound, a segment of the ship curled open. Black took one more look at the friendly constellations (they had not changed) and stepped into the softly illuminated cavity. The outer lock closed behind him.

Another contact now. The inner lock had to be opened. Again he paused to consider. Air pressure within the ship would drop ever so slightly as the inner lock opened, and seconds would pass before the ship's electrolyzers could make up the loss.

Well? The Bosch posterior-plate, to name one item, was sensitive to pressure, but surely not this sensitive.

He sighed again, more softly (the skin of his fear was growing calloused) and touched the contact. The inner lock opened.

He stepped into the pilot room of the Parsec, and his heart jumped oddly when the first thing he saw was the visiplat, set for reception and powdered with stars. He forced himself to look at them.

Nothing!

Cassiopeia was visible. The constellations were normal and he was inside the Parsec. Somehow he could feel the worst was over. Having come so far and remained within the solar system, having kept his mind so far, he felt something that was faintly like confidence begin to seep back.

There was an almost supernatural stillness about the Parsec. Black had been in many ships in his life and there had always been the sounds of life, even if only the scuffling of a shoe or a cabin boy humming in the corridor. Here the very beating of his own heart seemed muffled to soundlessness.

The robot in the pilot's seat had its back to him. It indicated by no response that it was aware of his having entered.

Black bared his teeth in a savage grin and said sharply, "Release the bar! Stand up!" The sound of his voice was thunderous in the close quarters.

Too late he dreaded the air vibrations his voice set up, but the stars on the visiplat remained unchanged.

The robot, of course, did not stir. It could receive no sensations of any sort. It could not even respond to the First Law. It was frozen in the unending middle of what should have been almost instantaneous process.

He remembered the orders it had been given. They were open to no misunderstanding: "Seize the bar with a firm grip. Pull it toward you firmly. Firmly! Maintain your hold until the control board informs you that you have passed through hyperspace twice."

Well, it had not yet passed through hyperspace once. Carefully, he moved closer to the robot. It sat there with the bar pulled firmly back between its knees. That brought the trigger mechanism almost into place. The temperature of his metal hands then curled that trigger, thermocouple fashion, just sufficiently for contact to be made. Automatically Black glanced at the thermometer reading set into the control board. The robot's hands were at 37 Centigrade, as they should be.

He thought sardonically, Fine thing. I'm alone with this machine and I can't do anything about it.

What he would have liked to do was take a crowbar to it and smash it to filings. He enjoyed the flavor of that thought. He could see the horror on Susan Calvin's face (if any horror could creep through the ice, the horror of a smashed robot was it). Like all positronic robots, this one-shot was owned by U. S. Robots, had been made there, had been tested there.

And having extracted what juice he could out of imaginary revenge, he sobered and looked about the ship.

After all, progress so far had been zero.

Slowly, he removed his suit. Gently, he laid it on the rack. Gingerly, he walked from room to room, studying the large interlocking surfaces of the hyperatomic motor, following the cables, inspecting the field relays.

He touched nothing. There were a dozen ways of deactivating the hyperfield, but each one would be ruinous unless he knew at least approximately where the error lay and let his exact course of procedure be guided by that.

He found himself back at the control panel and cried in exasperation at the grave stolidity of the robot's broad back, "Tell me, will you? What's wrong?"

There was the urge to attack the ship's machinery at random. Tear at it and get it over with. He repressed the impulse firmly. If it took him a week, he would deduce, somehow, the proper point of attack. He owed that much to Dr. Susan Calvin and his plans for her.

He turned slowly on his heel and considered. Every part of the ship, from the engine itself to each individual two-way toggle switch. had been exhaustively checked and tested on Hyper Base. It was almost impossible to believe that anything could go wrong. There wasn't a thing on board ship.

Well, yes, there was, of course. The robot! That had been tested at U. S. Robots and they, blast their devils' hides, could be assumed to be competent.

What was it everyone always said: A robot can just naturally do a better job.

It was the normal assumption, based in part on U. S. Robots' own advertising campaigns. They could make a robot that would be better than a man for a given purpose. Not "as good as a man." but "better than a man."

And as Gerald Black stared at the robot and thought that, his brows contracted under his low forehead and his look became compounded of astonishment and a wild hope.

He approached and circled the robot. He stared at its arms holding the control bar in trigger position, holding it forever so, unless the ship jumped or the robot's own power supply gave out.

Black breathed. "I bet. I bet."

He stepped away, considered deeply, He said. "It's got to be."

He turned on ship's radio. Its carrier beam was already focused on Hyper Base. He barked into the mouthpiece. "Hey, Schloss."

Schloss was prompt in his answer. "Great Space. Black-"

"Never mind," said Black crisply. "No speeches. I just want to make sure you're watching."

"Yes, of course. We all are. Look-"

But Black turned off the radio. He grinned with tight one-sidedness at the TV camera inside the pilot room and chose a portion of the hyperfield mechanism that would be in view. He didn't know how many people would be in the viewing room. There might be only Kallner, Schloss and Susan Calvin. There might be all personnel. In any case, he would give them something to watch.

Relay Box # 3 was adequate for the purpose, he decided. It was located in a wall recess, coated over with a smooth cold-seamed panel. Black reached into his tool kit and removed the splayed, blunt-edged seamer. He pushed his space suit farther back on the rack (having turned it to bring the tool kit in reach) and turned to the relay box.

Ignoring a last tingle of uneasiness, Black brought up the seamer, made contact at three separated points along the cold seam. The tool's force field worked deftly and quickly, the handle growing a trifle warm in his hand as the surge of energy came and left. The panel swung free.

He glanced quickly, almost involuntarily, at the ship's visiplate. The stars were normal. He, himself, felt normal.

That was the last bit of encouragement he needed. He raised his foot and smashed his shoe down on the feather-delicate mechanism within the recess.

There was a splinter of glass, a twisting of metal, and a tiny spray of mercury droplets.

Black breathed heavily. He turned on the radio once more. "Still there, Schloss?"

"Yes, but-"

"Then I report the hyperfield on board the Parsec to be deactivated. Come and get me."

Gerald Black felt no more the hero than when he had left for the Parsec, but he found himself one just the same. The men who had brought him to the small asteroid came to take him off. They landed this time. They clapped his back.

Hyper Base was a crowded mass of waiting personnel when the ship arrived, and Black was cheered. He waved at the throng and grinned, as was a hero's obligation, but he felt no triumph inside. Not yet. Only anticipation. Triumph would come later, when he met Susan Calvin.

He paused before descending from the ship. He looked for her and did not see her. General Kallner was there, waiting, with all his soldierly stiffness restored and a bluff look of approval firmly plastered on his face. Mayer Schloss smiled nervously at him. Ronson of Interplanetary Press waved frantically. Susan Calvin was nowhere.

He brushed Kallner and Schloss aside when he landed. "I'm going to wash and eat first."

He had no doubts but that, for the moment at least, he could dictate terms to the general or to anybody.

The security guards made a way for him. He bathed and ate leisurely in enforced isolation, he himself being solely responsible for the enforcement. Then he called Ronson of Interplanetary and talked to him briefly. He waited for the return call before he felt he could relax thoroughly. It had all worked out so much better than he had expected. The very failure of the ship had conspired perfectly with him.

Finally he called the general's office and ordered a conference. It was what it amounted to-orders. Major-general Kallner all but said, "Yes, Sir."

They were together again. Gerald Black, Kallner, Schloss-even Susan Calvin. But it was Black who was dominant now. The robopsychologist, graven-faced as ever, as unimpressed by triumph as by disaster, had nevertheless seemed by some subtle change of attitude to have relinquished the spotlight.

Dr. Schloss nibbled a thumbnail and began by saying, cautiously, "Dr. Black, we are all very grateful for your bravery and success." Then, as though to institute a healthy deflation at once, he added, "Still, smashing the relay box with your heel was imprudent and-well, it was an action that scarcely deserved success."

Black said, "It was an action that could scarcely have avoided success. You see" (this was bomb number one) "by that time I knew what had gone wrong."

Schloss rose to his feet. "You did? Are you sure?"

"Go there yourself. It's safe now. I'll tell you what to look for." Schloss sat down again, slowly. General Kallner was enthusiastic. "Why, this is the best yet, if true."

"It's true," said Black. His eyes slid to Susan Calvin, who said nothing.

Black was enjoying the sensation of power. He released bomb number two by saying, "It was the robot, of course. Did you hear that, Dr. Calvin?"

Susan Calvin spoke for the first time. "I hear it. I rather expected it, as a matter of fact. It was the only piece of equipment on board ship that had not been tested at Hyper Base."

For a moment Black felt dashed. He said, "You said nothing of that."

Dr. Calvin said, "As Dr. Schloss said several times, I am not an etherics expert. My guess, and it was no more than that, might easily have been wrong. I felt I had no right to prejudice you in advance of your mission."

Black said, "All right, did you happen to guess how it went wrong?"

"No, sir."

"Why, it was made better than a man. That's what the trouble was. Isn't it strange that the trouble should rest with the very specialty of U. S. Robots? They make robots better than men, I understand."

He was slashing at her with words now but she did not rise to his bait.

Instead, she sighed. "My dear Dr. Black. I am not responsible for the slogans of our sales-promotion department."

Black felt dashed again. She wasn't an easy woman to handle, this Calvin. He said, "Your people built a robot to replace a man at the controls of the Parsec. He had to pull the control bar toward himself, place it in position and let the heat of his hands twist the trigger to make final contact. Simple enough, Dr. Calvin?"

"Simple enough, Dr. Black."

"And if the robot had been made no better than a man, he would have succeeded. Unfortunately, U. S. Robots felt compelled to make it better than a man. The robot was told to pull back the control bar firmly. Firmly. The word was repeated, strengthened, emphasized. So the robot did what it was told. It pulled it back firmly. There was only one trouble. He was easily ten times stronger than the ordinary human being for whom the control bar was designed."

"Are you implying-"

"I'm saying the bar bent. It bent back just enough to misplace the trigger. When the heat of the robot's hand twisted the thermocouple' it did not make contact." He grinned. "This isn't the failure of just one robot, Dr. Calvin. It's symbolic of the failure of the robot idea."

"Come now, Dr. Black," said Susan Calvin icily, "you're drowning logic in missionary psychology. The robot was equipped with adequate understanding as well as with brute force. Had the men who gave it its orders used quantitative terms rather than the foolish adverb 'firmly,' this would not have happened. Had they said, 'apply a pull of fifty-five pounds,' all would have been well."

"What you are saying," said Black, "is that the inadequacy of a robot must be made up for by the ingenuity and intelligence of a man. I assure you that the people back on Earth will look at it in that way and will not be in the mood to excuse U. S. Robots for this fiasco."

Major-general Kallner said quickly, with a return of authority to his voice, "Now wait, Black, all that has happened is obviously classified information."

"In fact," said Schloss suddenly, "your theory hasn't been checked yet. We'll send a party to the ship and find out. It may not be the robot at all."

"You'll take care to make that discovery, will you? I wonder if the people will believe an interested party. Besides which, I have one more thing to tell you." He readied

bomb number three and said, "As of this moment, I'm resigning from this man's project. I'm quitting."

"Why?" asked Susan Calvin.

"Because, as you said, Dr. Calvin, I am a missionary," said Black, smiling. "I have a mission. I feel I owe it to the people of Earth to tell them that the age of the robots has reached the point where human life is valued less than robot life. It is now possible to order a man into danger because a robot is too precious to risk. I believe Earthmen should hear that. Many men have many reservations about robots as is. U. S. Robots has not yet succeeded in making it legally permissible to use robots on the planet Earth itself. I believe what I have to say, Dr. Calvin, will complete the matter. For this day's work, Dr. Calvin, you and your company and your robots will be wiped off the face of the solar system."

He was forewarning her, Black knew; he was forearming her, but he could not forego this scene. He had lived for this very moment ever since he had first left for the Parsec, and he could not give it up.

He all but gloated at the momentary glitter in Susan Calvin's pale eyes and at the faintest flush in her cheeks. He thought, How do you feel now, madam scientist?

Kallner said, "You will not be permitted to resign, Black, nor will you be permitted-

"

"How can you stop me, general? I'm a hero, haven't you heard? And old Mother Earth will make much of its heroes. It always has. They'll want to hear from me and they'll believe anything I say. And they won't like it if I'm interfered with, at least not while I'm a fresh, brand-new hero. I've already talked to Ronson of Interplanetary Press and told him I had something big for them, something that would rock every government official and science director right out of the chair plush, so Interplanetary will be first in line, waiting to hear from me. So what can you do except to have me shot? And I think you'd be worse off after that if you tried it."

Black's revenge was complete. He had spared no word. He had hampered himself not in the least. He rose to go.

"One moment, Dr. Black," said Susan Calvin. Her low voice carried authority.

Black turned involuntarily, like a schoolboy at his teacher's voice, but he counteracted that gesture by a deliberately mocking, "You have an explanation to make, I suppose?"

"Not at all," she said primly. "You have explained for me, and quite well. I chose you because I knew you would understand, though I thought you would understand sooner. I had had contact with you before. I knew you disliked robots and would, therefore, be under no illusions concerning them. From your records, which I asked to see before you were given your assignment, I saw that you had expressed disapproval of this robot-through-hyperspace experiment. Your superiors held that against you, but I thought it a point in your favor."

"What are you talking about, doctor, if you'll excuse my rudeness?"

"The fact that you should have understood why no robot could have been sent on this mission. What was it you yourself said? Something about a robot's inadequacies having to be balanced by the ingenuity and intelligence of a man. Exactly so, young man, exactly so. Robots have no ingenuity. Their minds are finite and can be calculated to the last decimal. That, in fact, is my job.

"Now if a robot is given an order, a precise order, he can follow it. If the order is not precise, he cannot correct his own mistake without further orders. Isn't that what you reported concerning the robot on the ship? How then can we send a robot to find a flaw in a mechanism when we cannot possibly give precise orders, since we know nothing about the flaw ourselves? 'Find out what's wrong' is not an order you can give to a robot; only to a man. The human brain, so far at least, is beyond calculation."

Black sat down abruptly and stared at the psychologist in dismay. Her words struck sharply on a substratum of understanding that had been larded over with emotion. He found himself unable to refute her. Worse than that, a feeling of defeat encompassed him.

He said, "You might have said this before I left."

"I might have," agreed Dr. Calvin, "but I noticed your very natural fear for your sanity. Such an overwhelming concern would easily have hampered your efficiency as an investigator, and it occurred to me to let you think that my only motive in sending you was that I valued a robot more. That, I thought, would make you angry, and anger, my dear Dr. Black, is sometimes a very useful emotion. At least, an angry man is never quite as afraid as he would be otherwise. It worked out nicely, I think." She folded her hands loosely in her lap and came as near a smile as she ever had in her life.

Black said, "I'll be damned." Susan Calvin said, "So now, if you'll take my advice, return to your job, accept your status as hero, and tell your reporter friend the details of your brave deed. Let that be the big news you promised him."

Slowly, reluctantly, Black nodded.

Schloss looked relieved; Kallner burst into a toothy smile. They held out hands, not having said a word in all the time that Susan Calvin had spoken, and not saying a word now.

Black took their hands and shook them with some reserve. He said, "It's your part that should be publicized, Dr. Calvin."

Susan Calvin said icily, "Don't be a fool, young man. This is my job."

ESCAPE!

WHEN SUSAN CALVIN RETURNED FROM HYPER BASE, Alfred Tanning was waiting for her. The old man never spoke about his age, but everyone knew it to be over seventy-five. Yet his mind was keen, and if he had finally allowed himself to be made Director-Emeritus of Research with Bogert as acting Director, it did not prevent him from appearing in his office daily.

"How close are they to the Hyperatomic Drive?" he asked.

"I don't know," she replied irritably, "I didn't ask."

"Hmm. I wish they'd hurry. Because if they don't, Consolidated might beat them to it, and beat us to it as well."

"Consolidated. What have they got to do with it?"

"Well, we're not the only ones with calculating machines. Ours may be positronic, but that doesn't mean they're better. Robertson is calling a big meeting about it tomorrow. He's been waiting for you to come back."

Robertson of U. S. Robot & Mechanical Men Corporation, son of the founder, pointed his lean nose at his general manager and his Adam's apple jumped as he said, "You start now. Let's get this straight."

The general manager did so with alacrity, "Here's the deal now, chief. Consolidated Robots approached us a month ago with a funny sort of proposition. They brought about five tons of figures, equations, all that sort of stuff. It was a problem, see, and they wanted an answer from The Brain. The terms were as follows-

He ticked them off on thick fingers: "A hundred thousand for us if there is no solution and we can tell them the missing factors. Two hundred thousand if there is a solution, plus costs of construction of the machine involved, plus quarter interest in all profits derived therefrom. The problem concerns the development of an interstellar engine-

Robertson frowned and his lean figure stiffened, "Despite the fact that they have a thinking machine of their own. Right?"

"Exactly what makes the whole proposition a foul ball, chief? Levver, take it from there."

Abe Levver looked up from the far end of the conference table and smoothed his stubbled chin with a faint rasping sound. He smiled:

"It's this way, sir. Consolidated had a thinking machine. It's broken."

"What?" Robertson half rose.

"That's right. Broken! It's kaput. Nobody knows why, but I got hold of some pretty interesting guesses - like, for instance, that they asked it to give them an interstellar engine with the same set of information they came to us with, and that it cracked their machine wide open. It's scrap - just scrap now."

"You get it, chief?" The general manager was wildly jubilant. "You get it? There isn't any industrial research group of any size that isn't trying to develop a space-warp engine, and Consolidated and U. S. Robots have the lead on the field with our super robot-brains. Now that they've managed to foul theirs up, we have a clear field. That's the nub, the. . . uh. . . motivation. It will take them six years at least to build another and they're sunk, unless they can break ours, too, with the same problem."

The president of U. S. Robots bulged his eyes, "Why, the dirty rats-"

"Hold on, chief. There's more to this." He pointed a finger with a wide sweep, "Lanning, take it!"

Dr. Alfred Lanning viewed the proceedings with faint scorn - his usual reaction to the doings of the vastly better-paid business and sales divisions. His unbelievable gray eyebrows hunched low and his voice was dry:

"From a scientific standpoint the situation, while not entirely clear, is subject to intelligent analysis. The question of interstellar travel under present conditions of physical theory is. . . uh. . . vague. The matter is wide open - and the information given by Consolidated to its thinking machine, assuming these we have to be the same, was similarly wide open. Our mathematical department has given it a thorough analysis, and it seems Consolidated has included everything. Its material for submission contains all known developments of Franciacci's space-warp theory, and, apparently, all pertinent astrophysical and electronic data. It's quite a mouthful."

Robertson followed anxiously. He interrupted, "Too much for The Brain to handle?"

Lanning shook his head decisively, "No. There are no known limits to The Brain's capacity. It's a different matter. It's a question of the Robotic Laws. The Brain, for instance, could never supply a solution to a problem set to it if that solution, would involve the death or injury of humans. As far as it would be concerned, a problem with only such a solution would be insoluble. If such a problem is combined with an extremely urgent demand that it be answered, it is just possible that The Brain, only a robot after all, would be presented with a dilemma, where it could neither answer nor refuse to answer. Something of the sort must have happened to Consolidated's machine."

He paused, but the general manager urged on, "Go ahead, Dr. Tanning. Explain it the way you explained it to me."

Lanning set his lips and raised his eyebrows in the direction of Dr. Susan Calvin who lifted her eyes from her precisely folded hands for the first time. Her voice was low and colorless.

"The nature of a robot reaction to a dilemma is startling," she began. "Robot psychology is far from perfect - as a specialist, I can assure you of that but it can be discussed in qualitative terms, because with all the complications introduced into a robot's positronic brain, it is built by humans and is therefore built according to human values."

"Now a human caught in an impossibility often responds by a retreat from reality: by entry into a world of delusion, or by taking to drink, going off into hysteria, or jumping

off a bridge. It all comes to the same thing - a refusal or inability to face the situation squarely. And so, the robot, a dilemma at its mildest will disorder half its relays; and at its worst it will burn out every positronic brain path past repair."

"I see," said Robertson, who didn't. "Now what about this information Consolidated's wishing on us?"

"It undoubtedly involves," said Dr. Calvin, "a problem of a forbidden sort. But The Brain is considerably different from Consolidated's robot."

"That's right, chief. That's right." The general manager was energetically interruptive. "I want you to get this, because it's the whole point of the situation."

Susan Calvin's eyes glittered behind the spectacles, and she continued patiently, "You see, sir, Consolidated's machines, their Super-Thinker among them, are built without personality. They go in for functionalism, you know - they have to, without U. S. Robot's basic patents for the emotional brain paths. Their Thinker is merely a calculating machine on a grand scale, and a dilemma ruins it instantly.

"However, The Brain, our own machine, has a personality - a child's personality. It is a supremely deductive brain, but it resembles an idiot savant. It doesn't really understand what it does - it just does it. And because it is really a child, it is more resilient. Life isn't so serious, you might say."

The robopsychologist continued: "Here is what we're going to do. We have divided all of Consolidated's information into logical units. We are going to feed the units to The Brain singly and cautiously. When the factor enters - the one that creates the dilemma - The Brain's child personality will hesitate. Its sense of judgment is not mature. There will be a perceptible interval before it will recognize a dilemma as such. And in that interval, it will reject the unit automatically - before its brainpaths can be set in motion and ruined."

Robertson's Adam's apple squirmed, "Are you sure, now?"

Dr. Calvin masked impatience, "It doesn't make much sense, I admit, in lay language; but there is no conceivable use in presenting the mathematics of this. I assure you, it is as I say."

The general manager was in the breach instantly and fluently, "So here's the situation, chief. If we take the deal, we can put it through like this. The Brain will tell us which unit of information involves the dilemma. From there, we can figure why the dilemma. Isn't that right, Dr. Bogert? There you are, chief, and Dr. Bogert is the best mathematician you'll find anywhere. We give Consolidated a 'No Solution' answer, with the reason, and collect a hundred thousand. They're left with a broken machine; we're left with a whole one. In a year, two maybe, we'll have a space-warp engine or a hyper-atomic motor some people call it. Whatever you name it, it will be the biggest thing in the world."

Robertson chuckled and reached out, "Let's see the contract. I'll sign it."

When Susan Calvin entered the fantastically guarded vault that held The Brain, one of the current shift of technicians had just asked it: "If one and a half chickens lay one and a half eggs in one and a half days, how many eggs will nine chickens lay in nine days?"

The Brain had just answered, "Fifty-four."

And the technician had just said to another, "See, you dope!"

Dr. Calvin coughed and there was a sudden impossible flurry of directionless energy. The psychologist motioned briefly, and she was alone with The Brain.

The Brain was a two-foot globe merely - one which contained within it a thoroughly conditioned helium atmosphere, a volume of space completely vibration-absent and radiation-free - and within that was that unheard-of complexity of positronic brain-paths that was The Brain. The rest of the room was crowded with the attachments that were the intermediaries between The Brain and the outside world - its voice, its arms, its sense organs.

Dr. Calvin said softly, "How are you, Brain?"

The Brain's voice was high-pitched and enthusiastic, "Swell, Miss Susan. You're going to ask me something. I can tell. You always have a book in your hand when you're going to ask me something."

Dr. Calvin smiled mildly, "Well, you're right, but not just yet. This is going to be a question. It will be so complicated we're going to give it to you in writing. But not just yet; I think I'll talk to you first."

"All right. I don't mind talking."

"Now, Brain, in a little while, Dr. Lanning and Dr. Bogert will be here with this complicated question. We'll give it to you a very little at a time and very slowly, because we want you to be careful. We're going to ask you to build something, if you can, out of the information, but I'm going to warn you now that the solution might involve. . . uh. . . damage to human beings."

"Gosh!" The exclamation was hushed, drawn-out.

"Now you watch for that. When we come to a sheet which means damage, even maybe death, don't get excited. You see, Brain, in this case, we don't mind - not even about death; we don't mind at all. So when you come to that sheet, just stop, give it back - and that'll be all. You understand?"

"Oh, sure. By golly, the death of humans! Oh, my!"

"Now, Brain, I hear Dr. Lanning and Dr. Bogert coming. They'll tell you what the problem is all about and then we'll start. Be a good boy, now-"

Slowly the sheets were fed in. After each one came the interval of the queerly whispery chuckling noise that was The Brain in action. Then the silence that meant readiness for another sheet. It was a matter of hours - during which the equivalent of something like seventeen fat volumes of mathematical physics were fed into The Brain.

As the process went on, frowns appeared and deepened. Lanning muttered ferociously under his breath. Bogert first gazed speculatively at his fingernails, and then bit at them in abstracted fashion. It was when the last of the thick pile of sheets disappeared that Calvin, white-faced, said:

"Something's wrong."

Lanning barely got the words out, "It can't be. Is it - dead?"

"Brain?" Susan Calvin was trembling. "Do you hear me, Brain?"

"Huh?" came the abstracted rejoinder. "Do you want me?"

"The solution-"

"Oh, that! I can do it. I'll build you a whole ship, just as easy - if you let me have the robots. A nice ship, it'll take two months maybe."

"There was - no difficulty?"

"It took long to figure," said The Brain.

Dr. Calvin backed away. The color had not returned to her thin cheeks. She motioned the others away.

In her office, she said, "I can't understand it. The information, as given, must involve a dilemma - probably involves death. If something has gone wrong-"

Bogert said quietly, "The machine talks and makes sense. It can't be a dilemma."

But the psychologist replied urgently, "There are dilemmas and dilemmas. There are different forms of escape. Suppose The Brain is only mildly caught; just badly enough, say, to be suffering from the delusion that he can solve the problem, when he can't. Or suppose it's teetering on the brink of something really bad, so that any small push shoves it over."

"Suppose," said Lanning, "there is no dilemma. Suppose Consolidated's machine broke down over a different question, or broke down for purely mechanical reasons."

"But even so," insisted Calvin, "we couldn't take chances. Listen, from now on, no one is to as much as breathe to The Brain. I'm taking over."

"All right," sighed Lanning, "take over, then. And meanwhile we'll let The Brain build its ship. And if it does build it, we'll have to test it."

He was ruminating, "We'll need our top field men for that."

Michael Donovan brushed down his red hair with a violent motion of his hand and a total indifference to the fact that the unruly mass sprang to attention again immediately.

He said, "Call the turn now, Greg. They say the ship is finished. They don't know what it is, but it's finished. Let's go, Greg. Let's grab the controls right now."

Powell said wearily, "Cut it, Mike. There's a peculiar overripe flavor to your humor at its freshest, and the confined atmosphere here isn't helping it."

"Well, listen," Donovan took another ineffectual swipe at his hair, "I'm not worried so much about our cast-iron genius and his tin ship. There's the matter of my lost leave. And the monotony! There's nothing here but whiskers and figures - the wrong kind of figures. Oh, why do they give us these jobs?"

"Because," replied Powell, gently, "we're no loss, if they lose us. O.K., relax! - Doc Lanning's coming this way."

Lanning was coming, his gray eyebrows as lavish as ever, his aged figure unbent as yet and full of life. He walked silently up the ramp with the two men and out into the open field, where, obeying no human master, silent robots were building a ship.

Wrong tense. Had built a ship!

For Lanning said, "The robots have stopped. Not one has moved today."

"It's completed then? Definitely?" asked Powell.

"Now how can I tell?" Lanning was peevish, and his eyebrows curled down in an eye-hiding frown. "It seems done. There are no spare pieces about, and the interior is down to a gleaming finish."

"You've been inside?"

"Just in, then out. I'm no space-pilot. Either of you two know much about engine theory?"

Donovan looked at Powell, who looked at Donovan.

Donovan said, "I've got my license, sir, but at last reading it didn't say anything about hyper-engines or warp-navigation. Just the usual child's play in three dimensions."

Alfred Lanning looked up with sharp disapproval and snorted the length of his prominent nose.

He said frigidly, "Well, we have our engine men."

Powell caught at his elbow as he walked away, "Sir, is the ship still restricted ground?"

The old director hesitated, then rubbed the bridge of his nose, "I suppose not. For you two anyway."

Donovan looked after him as he left and muttered a short, expressive phrase at his back. He turned to Powell, "I'd like to give him a literary description of himself, Greg."

"Suppose you come along, Mike."

The inside of the ship was finished, as finished as a ship ever was; that could be told in a single eye-blinking glance. No martinet in the system could have put as much spit-and-polish into a surface as those robots had. The walls were of a gleaming silvery finish that retained no fingerprints.

There were no angles; walls, floors, and ceiling faded gently into each other and in the cold, metallic glittering of the hidden lights, one was surrounded by six chilly reflections of one's bewildered self.

The main corridor was a narrow tunnel that led in a hard, clatter-footed stretch along a line of rooms of no interdistinguishing features.

Powell said, "I suppose furniture is built into the wall. Or maybe we're not supposed to sit or sleep."

It was in the last room, the one nearest the nose, that the monotony broke. A curving window of non-reflecting glass was the first break in the universal metal, and below it was a single large dial, with a single motionless needle hard against the zero mark.

Donovan said, "Look at that!" and pointed to the single word on the finely-marked scale.

It said, "Parsecs" and the tiny figure at the right end of the curving, graduated meter said "1,000,000."

There were two chairs; heavy, wide-flaring, uncushioned. Powell seated himself gingerly, and found it molded to the body's curves, and comfortable.

Powell said, "What do you think of it?"

"For my money, The Brain has brain-fever. Let's get out."

"Sure you don't want to look it over a bit?"

"I have looked it over. I came, I saw, I'm through!" Donovan's red hair bristled into separate wires, "Greg, let's get out of here. I quit my job five seconds ago, and this is a restricted area for non-personnel."

Powell smiled in an oily self-satisfied manner and smoothed his mustache, "O.K., Mike, turn off that adrenalin tap you've got draining into your bloodstream. I was worried, too, but no more."

"No more, huh? How come, no more? Increased your insurance?"

"Mike, this ship can't fly."

"How do you know?"

"Well, we've been through the entire ship, haven't we?"

"Seems so."

"Take my word for it, we have. Did you see any pilot room except for this one port and the one gauge here in parsecs? Did you see any controls?"

"No."

"And did you see any engines?"

"Holy Joe, no!"

"Well, then! Let's break the news to Lanning, Mike."

They cursed their way through the featureless corridors and finally hit-and-missed their way into the short passage to the air lock.

Donovan stiffened, "Did you lock this thing, Greg?"

"No, I never touched it. Yank the lever, will you?"

The lever never budged, though Donovan's face twisted appallingly with exertion.

Powell said, "I didn't see any emergency exits. If something's gone wrong here, they'll have to melt us out."

"Yes, and we've got to wait until they find out that some fool has locked us in here," added Donovan, frantically.

"Let's get back to the room with the port. It's the only place from which we might attract attention."

But they didn't.

In that last room, the port was no longer blue and full of sky. It was black, and hard yellow pin-point stars spelled space.

There was a dull, double thud, as two bodies collapsed separately into two chairs.

Alfred Lanning met Dr. Calvin just outside his office. He lit a nervous cigar and motioned her in.

He said, "Well, Susan, we've come pretty far, and Robertson's getting jumpy. What are you doing with The Brain?"

Susan Calvin spread her hands, "It's no use getting impatient. The Brain is worth more than anything we forfeit on this deal."

"But you've been questioning it for two months."

The psychologist's voice was flat, but somehow dangerous, "You would rather run this yourself?"

"Now you know what I meant."

"Oh, I suppose I do," Dr. Calvin rubbed her hands nervously. "It isn't easy. I've been pampering it and probing it gently, and I haven't gotten anywhere yet. Its' reactions aren't normal. Its answers - they're queer, somehow. But nothing I can put my finger on yet. And you see, until we know what's wrong, we must just tiptoe our way through. I can never tell what simple question or remark will just. . . push him over. . . and then - Well, and then we'll have on our hands a completely useless Brain. Do you want to face that?"

"Well, it can't break the First Law."

"I would have thought so, but-"

"You're not even sure of that?" Lanning was profoundly shocked.

"Oh, I can't be sure of anything, Alfred-"

The alarm system raised its fearful clangor with a horrifying suddenness. Lanning clicked on communications with an almost paralytic spasm. The breathless words froze him.

He said, "Susan. . . you heard that. . . the ship's gone. I sent those two field men inside half an hour ago. You'll have to see The Brain again."

Susan Calvin said with enforced calm, "Brain, what happened to the ship?"

The Brain said happily, "The ship I built, Miss Susan?"

"That's right. What has happened to it?"

"Why, nothing at all. The two men that were supposed to test it were inside, and we were all set. So I sent it off."

"Oh - Well, that's nice." The psychologist felt some difficulty in breathing. "Do you think they'll be all right?"

"Right as anything, Miss Susan. I've taken care of it all. It's a bee-yootiful ship."

"Yes, Brain, it is beautiful, but you think they have enough food, don't you? They'll be comfortable?"

"Plenty of food."

"This business might be a shock to them, Brain. Unexpected, you know."

The Brain tossed it off, "They'll be all right. It ought to be interesting for them."

"Interesting? How?"

"Just interesting," said The Brain, slyly.

"Susan," whispered Lanning in a fuming whisper, "ask him if death comes into it. Ask him what the dangers are."

Susan Calvin's expression contorted with fury, "Keep quiet!" In a shaken voice, she said to The Brain, "We can communicate with the ship, can't we Brain?"

"Oh, they can hear you if you call by radio. I've taken care of that."

"Thanks. That's all for now."

Once outside, Lanning lashed out ragingly, "Great Galaxy, Susan, if this gets out, it will ruin all of us. We've got to get those men back. Why didn't you ask it if there was danger of death - straight out?"

"Because," said Calvin, with a weary frustration, "that's just what I can't mention. If it's got a case of dilemma, it's about death. Anything that would bring it up badly might

knock it completely out. Will we be better off then? Now, look, it said we could communicate with them. Let's do so, get their location, and bring them back. They probably can't use the controls themselves; The Brain is probably handling them remotely. Come!"

It was quite a while before Powell shook himself together.

"Mike," he said, out of cold lips, "did you feel an acceleration?"

Donovan's eyes were blank, "Huh? No. . . no."

And then the redhead's fists clenched and he was out of his seat with sudden frenzied energy and up against the cold, wide-curving glass. There was nothing to see - but stars.

He turned, "Greg, they must have started the machine while we were inside. Greg, it's a put-up job; they fixed it up with the robot to jerry us into being the try-out boys, in case we were thinking of backing out."

Powell said, "What are you talking about? What's the good of sending us out if we don't know how to run the machine? How are we supposed to bring it back? No, this ship left by itself, and without any apparent acceleration." He rose, and walked the floor slowly. The metal walls dinned back the clangor of his steps.

He said tonelessly, "Mike, this is the most confusing situation we've ever been up against."

"That," said Donovan, bitterly, "is news to me. I was just beginning to have a very swell time, when you told me."

Powell ignored that. "No acceleration - which means the ship works on a principle different from any known."

"Different from any we know, anyway."

"Different from any known. There are no engines within reach of manual control. Maybe they're built into the walls. Maybe that's why they're thick as they are."

"What are you mumbling about?" demanded Donovan.

"Why not listen? I'm saying that whatever powers this ship is enclosed, and evidently not meant to be handled. The ship is running by remote control."

"The Brain's control?"

"Why not?"

"Then you think we'll stay out here till The Brain brings us back."

"It could be. If so, let's wait quietly. The Brain is a robot. It's got to follow the First Law. It can't hurt a human being."

Donovan sat down slowly, "You figure that?" Carefully, he flattened his hair, "Listen, this junk about the space-warp knocked out Consolidated's robot, and the longhairs said it was because interstellar travel killed humans. Which robot are you going to trust? Ours had the same data, I understand."

Powell was yanking madly at his mustache, "Don't pretend you don't know your robotics, Mike. Before it's physically possible in any way for a robot to even make a start to breaking the First Law, so many things have to break down that it would be a ruined mess of scrap ten times over. There's some simple explanation to this."

"Oh sure, sure. Just have the butler call me in the morning. It's all just too, too simple for me to bother about before my beauty nap."

"Well, Jupiter, Mike, what are you complaining about so far? The Brain is taking care of us. This place is warm. It's got light. It's got air. There wasn't even enough of an acceleration jar to muss your hair if it were smooth enough to be mussable in the first place."

"Yeah? Greg, you must've taken lessons. No one could put Pollyanna that far out of the running without. What do we eat? What do we drink? Where are we? How do we get back? And in case of accident, to what exit and in what spacesuit do we run, not walk? I haven't even seen a bathroom in the place, or those little conveniences that go along with bathrooms. Sure, we're being taken care of - but good?"

The voice that interrupted Donovan's tirade was not Powell's. It was nobody's. It was there, hanging in open air - stentorian and petrifying in its effects.

"GREGORY POWELL! MICHAEL DONOVAN! GREGORY POWELL! MICHAEL DONOVAN! PLEASE REPORT YOUR PRESENT POSITIONS. IF YOUR SHIP ANSWERS CONTROLS, PLEASE RETURN TO BASE. GREGORY POWELL! MICHAEL DONOVAN! -"

The message was repetitious, mechanical, broken by regular, untiring intervals.

Donovan said, "Where's it coming from?"

"I don't know." Powell's voice was an intense whisper, "Where do the lights come from? Where does anything come from?"

"Well, how are we going to answer?" They had to speak in the intervals between the loudly echoing, repeating message.

The walls were bare - as bare and as unbroken as smooth, curving metal can be. Powell said, "Shout an answer."

They did. They shouted, in turns, and together, "Position unknown! Ship out of control! Condition desperate!"

Their voices rose and cracked. The short businesslike sentences became interlarded and adulterated with screaming and emphatic profanity, but the cold, calling voice repeated and repeated and repeated unwearyingly.

"They don't hear us," gasped Donovan. "There's no sending mechanism. Just a receiver." His eyes focused blindly at a random spot on the wall.

Slowly the din of the outside voice softened and receded. They called again when it was a whisper, and they called again, hoarsely, when there was silence.

Something like fifteen minutes later, Powell said lifelessly, "Let's go through the ship again. There must be something to eat somewheres." He did not sound hopeful. It was almost an admission of defeat.

They divided in the corridor to the right and left. They could follow one another by the hard footsteps resounding, and they met occasionally in the corridor, where they would glare at each other and pass on.

Powell's search ended suddenly and as it did, he heard Donovan's glad voice rise booming.

"Hey, Greg," it howled, "The ship has got plumbing. How did we miss it?"

It was some five minutes later that he found Powell by hit-and-miss. He was saying, "Still no shower baths, though," but it got choked off in the middle.

"Food," he gasped.

The wall had dropped away, leaving a curved gap with two shelves. The upper shelf was loaded with unlabeled cans of a bewildering variety of sizes and shapes. The enameled cans on the lower shelf were uniform and Donovan felt a cold draft about his ankles. The lower half was refrigerated.

"How. . . how-"

"It wasn't there, before," said Powell, curtly. "That wall section dropped out of sight as I came in the door."

He was eating. The can was the preheating type with enclosed spoon and the warm odor of baked beans filled the room. "Grab a can, Mike!"

Donovan hesitated, "What's the menu?"

"How do I know! Are you finicky?"

"No, but all I eat on ships are beans. Something else would be first choice." His hand hovered and selected a shining elliptical can whose flatness seemed reminiscent of salmon or similar delicacy. It opened at the proper pressure.

"Beans!" howled Donovan, and reached for another. Powell hauled at the slack of his pants. "Better eat that, sonny boy. Supplies are limited and we may be here a long, long time."

Donovan drew back sulkily, "Is that all we have? Beans?"

"Could be."

"What's on the lower shelf?"

"Milk."

"Just milk?" Donovan cried in outrage.

"Looks it."

The meal of beans and milk was carried through in silence, and as they left, the strip of hidden wall rose up and formed an unbroken surface once more.

Powell sighed, "Everything automatic. Everything just so. Never felt so helpless in my life. Where's your plumbing?"

"Right there. And that wasn't among those present when we first looked, either."

Fifteen minutes later they were back in the glassed-in room, staring at each other from opposing seats.

Powell looked gloomily at the one gauge in the room. It still said "parsecs," the figures still ended in "1,000,000" and the indicating needle was still pressed hard against the zero mark.

In the innermost offices of the U. S. Robot & Mechanical Men Corp. Alfred Lanning was saying wearily, "They won't answer. We've tried every wavelength, public, private, coded, straight, even this subether stuff they have now. And The Brain still won't say anything?" He shot this at Dr. Calvin.

"It won't amplify on the matter, Alfred," she said, emphatically. "It says they can hear us. . . and when I try to press it, it becomes. . . well, it becomes sullen. And it's not supposed to - whoever heard of a sullen robot?"

"Suppose you tell us what you have, Susan," said Bogert.

"Here it is! It admits it controls the ship itself entirely. It is definitely optimistic about their safety, but without details. I don't dare press it. However, the center of disturbance seems to be about the interstellar jump itself. The Brain definitely laughed when I brought up the subject. There are other indications, but that is the closest it's come to an open abnormality."

She looked at the others, "I refer to hysteria. I dropped the subject immediately, and I hope I did no harm, but it gave me a lead. I can handle hysteria. Give me twelve hours! If I can bring it back to normal, it will bring back the ship."

Bogert seemed suddenly stricken. "The interstellar jump!"

"What's the matter?" The cry was double from Calvin and Lanning.

"The figures for the engine The Brain gave us. Say. . . I just thought of something."

He left hurriedly.

Lanning gazed after him. He said brusquely to Calvin, "You take care of your end, Susan."

Two hours later, Bogert was talking eagerly, "I tell you, Lanning, that's it. The interstellar jump is not instantaneous not as long as the speed of light is finite. Life can't exist. . . matter and energy as such can't exist in the space warp. I don't know what it would be like - but that's it. That's what killed Consolidated's robot."

Donovan felt as haggard as he looked. "Only five days?"

"Only five days. I'm sure of it."

Donovan looked about him wretchedly. The stars through the glass were familiar but infinitely indifferent. The walls were cold to the touch; the lights, which had recently flared up again, were unfeelingly bright; the needle on the gauge pointed stubbornly to zero; and Donovan could not get rid of the taste of beans.

He said, morosely, "I need a bath."

Powell looked up briefly, and said, "So do I. You needn't feel self-conscious. But unless you want to bathe in milk and do without drinking"

"We'll do without drinking eventually, anyway. Greg, where does this interstellar travel come in?"

"You tell me. Maybe we just keep on going. We'd get there, eventually. At least the dust of our skeletons would - but isn't our death the whole point of The Brain's original breakdown?"

Donovan spoke with his back to the other, "Greg, I've been thinking. It's pretty bad. There's not much to do - except walk around or talk to yourself. You know those stories about guys marooned in space. They go nuts long before they starve. I don't know, Greg, but ever since the lights went on, I feel funny."

There was a silence, then Powell's voice came thin and small, "So do I. What's it like?"

The redheaded figure turned, "Feel funny inside. There's a pounding in me with everything tense. It's hard to breathe. I can't stand still."

"Um-m-m. Do you feel vibration?"

"How do you mean?"

"Sit down for a minute and listen. You don't hear it, but you feel it - as if something's throbbing somewheres and it's throbbing the whole ship, and you, too, along with it. Listen-"

"Yeah . . . yeah. What do you think it is, Greg? You don't suppose it's us?"

"It might be." Powell stroked his mustache slowly. "But it might be the ship's engines. It might be getting ready."

"For what?"

"For the interstellar jump. It may be coming and the devil knows what it's like."

Donovan pondered. Then he said, savagely, "If it does, let it. But I wish we could fight. It's humiliating to have to wait for it."

An hour later, perhaps, Powell looked at his hand on the metal chair-arm and said with frozen calm, "Feel the wall, Mike."

Donovan did, and said, "You can feel it shake, Greg."

Even the stars seemed blurred. From somewhere came the vague impression of a huge machine gathering power with the walls, storing up energy for a mighty leap, throbbing its way up the scales of strength.

It came with a suddenness and a stab of pain. Powell stiffened, and half-jerked from his chair. His sight caught Donovan and blanked out while Donovan's thin shout whimpered and died in his ears. Something writhed within him and struggled against a growing blanket of ice, that thickened.

Something broke loose and whirled in a blaze of flickering light and pain. It fell - and whirled and fell headlong into silence!

It was death!

It was a world of no motion and no sensation. A world of dim, unsensing consciousness; a consciousness of darkness and of silence and of formless struggle.

Most of all a consciousness of eternity.

He was a tiny white thread of ego - cold and afraid.

Then the words came, unctuous and sonorous, thundering over him in a foam of sound:

"Does your coffin fit differently lately? Why not try Morbid M. Cadaver's extensible caskets? They are scientifically designed to fit the natural curves of the body, and are enriched with Vitamin B1. Use Cadaver's caskets for comfort. Remember - you're - going - to - be - dead - a - long - long - time!"

It wasn't quite sound, but whatever it was, it died away in an oily rumbling whisper.

The white thread that might have been Powell heaved uselessly at the insubstantial eons of time that existed all about him - and collapsed upon itself as the piercing shriek of

a hundred million ghosts of a hundred million soprano voices rose to a crescendo of melody:

"I'll be glad when you're dead, you rascal, you.

"I'll be glad when you're dead, you rascal, you.

"I'll be glad-

It rose up a spiral stairway of violent sound into the keening supersonics that passed hearing, and then beyond-

The white thread quivered with a pulsating pang. It strained quietly-

The voices were ordinary - and many. It was a crowd speaking; a swirling mob that swept through and past and over him with a rapid, headlong motion, that left drifting tatters of words behind them.

"What did they getcha for, boy? Y'look banged up-

"-A hot fire, I guess, but I got a case-

"-I've made Paradise, but old St. Pete-

"Naaah, I got a pull with the boy. Had dealings with him-

"Hey, Sam, come this way-

"Ja get a mouthpiece? Beelzebub says-

"-Going on, my good imp? My appointment is with Sa-

And above it all the original stentorian roar, that plunged across all:

"HURRY! HURRY! HURRY!!! Stir your bones, and don't keep us waiting - there are many more in line. Have your certificates ready, and make sure Peter's release is stamped across it. See if you are at the proper entrance gate. There will be plenty of fire for all. Hey, you - YOU DOWN THERE. TAKE YOUR PLACE IN LINE OR-

The white thread that was Powell groveled backward before the advancing shout, and felt the sharp stab of the pointing finger. It all exploded into a rainbow of sound that dripped its fragments onto an aching brain.

Powell was in the chair, again. He felt himself shaking.

Donovan's eyes were opening into two large popping bowls of glazed blue.

"Greg," he whispered in what was almost a sob. "Were you dead?"

"I. . . felt dead." He did not recognize his own croak.

Donovan was obviously making a bad failure of his attempt to stand up, "Are we alive now? Or is there more?"

"I. . . feel alive." It was the same hoarseness. Powell said cautiously, "Did you. . . hear anything, when. . . when you were dead?"

Donovan paused, and then very slowly nodded his head, "Did you?"

"Yes. Did you hear about coffins. . . and females singing. . . and the lines forming to get into Hell? Did you?"

Donovan shook his head, "Just one voice."

"Loud?"

"No. Soft, but rough like a file over the fingertips. It was a sermon, you know. About hell-fire. He described the tortures of. . . well, you know. I once heard a sermon like that - almost."

He was perspiring.

They were conscious of sunlight through the port. It was weak, but it was blue-white - and the gleaming pea that was the distant source of light was not Old Sol.

And Powell pointed a trembling finger at the single gauge. The needle stood stiff and proud at the hairline whose figure read 300,000 parsecs.

Powell said, "Mike if it's true, we must be out of the Galaxy altogether."

Donovan said, "Blazed Greg! We'd be the first men out of the Solar System."

"Yes! That's just it. We've escaped the sun. We've escaped the Galaxy. Mike, this ship is the answer. It means freedom for all humanity - freedom to spread through to every star that exists - millions and billions and trillions of them."

And then he came down with a hard thud, "But how do we get back, Mike?"

Donovan smiled shakily, "Oh, that's all right. The ship brought us here. The ship will take us back. Me for more beans."

"But Mike. . . hold on, Mike. If it takes us back the way it brought us here-"

Donovan stopped halfway up and sat back heavily into the chair.

Powell went on, "We'll have to. . . die again, Mike"

"Well," sighed Donovan, "if we have to, we have to. At least it isn't permanent, not very permanent."

Susan Calvin was speaking slowly now. For six hours she had been slowly prodding The Brain - for six fruitless hours. She was weary of repetitions, weary of circumlocutions, weary of everything.

"Now, Brain, there's just one more thing. You must make a special effort to answer simply. Have you been entirely clear about the interstellar jump? I mean does it take them very far?"

"As far as they want to go, Miss Susan. Golly, it isn't any trick through the warp."

"And on the other side, what will they see?"

"Stars and stuff. What do you suppose?"

The next question slipped out, "They'll be alive, then?"

"Sure!"

"And the interstellar jump won't hurt them?"

She froze as The Brain maintained silence. That was it! She had touched the sore spot.

"Brain," she supplicated faintly, "Brain, do you hear me?"

The answer was weak, quivering. The Brain said, "Do I have to answer? About the jump, I mean?"

"Not if you don't want to. But it would be interesting - I mean if you wanted to." Susan Calvin tried to be bright about it.

"Aw-w-w. You spoil everything."

And the psychologist jumped up suddenly, with a look of flaming insight on her face.

"Oh, my," she gasped. "Oh, my."

And she felt the tension of hours and days released in a burst. It was later that she told Lanning, "I tell you it's all right. No, you must leave me alone, now. The ship will be back safely, with the men, and I want to rest. I will rest. Now go away."

The ship returned to Earth as silently, as unjarringly as it had left. It dropped precisely into place and the main lock gaped open. The two men who walked out felt their way carefully and scratched their rough and scrubbily-stubbed chins.

And then, slowly and purposefully, the one with red hair knelt down and planted upon the concrete of the runway a firm, loud kiss.

They waved aside the crowd that was gathering and made gestures of denial at the eager couple that had piled out of the down-swooping ambulance with a stretcher between them.

Gregory Powell said, "Where's the nearest shower?"

They were led away.

They were gathered, all of them, about a table. It was a full staff meeting of the brains of U. S. Robot & Mechanical Men Corp.

Slowly and climactically, Powell and Donovan finished a graphic and resounding story.

Susan Calvin broke the silence that followed. In the few days that had elapsed she had recovered her icy, somewhat acid, calm - but still a trace of embarrassment broke through.

"Strictly speaking," she said, "this was my fault - all of it. When we first presented this problem to The Brain, as I hope some of you remember, I went to great lengths to impress upon it the importance of rejecting any item of information capable of creating a dilemma. In doing so I said something like 'Don't get excited about the death of humans. We don't mind it at all. Just give the sheet back and forget it.'"

"Hm-m-m," said Lanning. "What follows?"

"The obvious. When that item entered its calculations which yielded the equation controlling the length of minimum interval for the interstellar jump - it meant death for humans. That's where Consolidated's machine broke down completely. But I had depressed the importance of death to The Brain - not entirely, for the First Law can never be broken - but just sufficiently so that The Brain could take a second look at the equation. Sufficiently to give it time to realize that after the interval was passed through, the men would return to life - just as the matter and energy of the ship itself would return to being. This so-called 'death,' in other words, was a strictly temporary phenomenon. You see?"

She looked about her. They were all listening.

She went on, "So he accepted the item, but not without a certain jar. Even with death temporary and its importance depressed, it was enough to unbalance him very gently."

She brought it out calmly, "He developed a sense of humor - it's an escape, you see, a method of partial escape from reality. He became a practical joker."

Powell and Donovan were on their feet.

"What?" cried Powell?

Donovan was considerably more colorful about it.

"It's so," said Calvin. "He took care of you, and kept you safe, but you couldn't handle any controls, because they weren't for you - just for the humorous Brain. We could reach you by radio, but you couldn't answer. You had plenty of food, but all of it beans and milk. Then you died, so to speak, and were reborn, but the period of your death was made. . . well. . . interesting. I wish I knew how he did it. It was The Brain's prize joke, but he meant no harm."

"No harm!" gasped Donovan. "Oh, if that cute little tyke only had a neck."

Lanning raised a quieting hand, "All right, it's been a mess, but it's all over. What now?"

"Well," said Bogert, quietly, "obviously it's up to us to improve the space-warp engine. There must be some way of getting around that interval of jump. If there is, we're the only organization left with a grand-scale super-robot, so we're bound to find it if anyone can. And then - U. S. Robots has interstellar travel, and humanity has the opportunity for galactic empire."

"What about Consolidated?" said Lanning?

"Hey," interrupted Donovan suddenly, "I want to make a suggestion there. They landed U. S. Robots into quite a mess. It wasn't as bad a mess as they expected and it turned out well, but their intentions weren't pious. And Greg and I bore the most of it."

"Well, they wanted an answer, and they've got one. Send them that ship, guaranteed, and U. S. Robots can collect their two hundred thou plus construction costs. And if they test it - then suppose we let The Brain have just a little more fun before it's brought back to normal."

Lanning said gravely, "It sounds just and proper to me."

To which Bogert added absently, "Strictly according to contract, too."

EVIDENCE

Francis Quinn was a politician of the new school. That, of course, is a meaningless expression, as are all expressions of the sort. Most of the "new schools" we have were duplicated in the social life of ancient Greece, and perhaps, if we knew more about it, in the social life of ancient Sumeria and in the lake dwellings of prehistoric Switzerland as well.

But, to get out from under what promises to be a dull and complicated beginning, it might be best to state hastily that Quinn neither ran for office nor canvassed for votes, made no speeches and stuffed no ballot boxes. Any more than Napoleon pulled a trigger at Austerlitz.

And since politics makes strange bedfellows, Alfred Lanning sat at the other side of the desk with his ferocious white eyebrows bent far forward over eyes in which chronic impatience had sharpened to acuity. He was not pleased.

The fact, if known to Quinn, would have annoyed him not the least. His voice was friendly, perhaps professionally so.

"I assume you know Stephen Byerley, Dr. Lanning."

"I have heard of him. So have many people."

"Yes, so have I. Perhaps you intend voting for him at the next election."

"I couldn't say." There was an unmistakable trace of acidity here. "I have not followed the political currents, so I'm not aware that he is running for office."

"He may be our next mayor. Of course, he is only a lawyer now, but great oaks-"

"Yes," interrupted Lanning, "I have heard the phrase before. But I wonder if we can get to the business at hand."

"We are at the business at hand, Dr. Lanning." Quinn's tone was very gentle, "It is to my interest to keep Mr. Byerley a district attorney at the very most, and it is to your interest to help me do so."

"To my interest? Come!" Lanning's eyebrows hunched low.

"Well, say then to the interest of the U. S. Robot & Mechanical Men Corporation. I come to you as Director Emeritus of Research, because I know that your connection to them is that of, shall we say, 'elder statesman.' You are listened to with respect and yet your connection with them is no longer so tight but that you cannot possess considerable freedom of action; even if the action is somewhat unorthodox."

Dr. Lanning was silent a moment, chewing the cud of his thoughts. He said more softly, "I don't follow you at all, Mr. Quinn."

"I am not surprised, Dr. Lanning. But it's all rather simple. Do you mind?" Quinn lit a slender cigarette with a lighter of tasteful simplicity and his big-boned face settled into an expression of quiet amusement. "We have spoken of Mr. Byerley - a strange and colorful character. He was unknown three years ago. He is very well known now. He is a

man of force and ability, and certainly the most capable and intelligent prosecutor I have ever known. Unfortunately he is not a friend of mine"

"I understand," said Lanning, mechanically. He stared at his fingernails.

"I have had occasion," continued Quinn, evenly, "in the past year to investigate Mr. Byerley - quite exhaustively. It is always useful, you see, to subject the past life of reform politicians to rather inquisitive research. If you knew how often it helped-" He paused to smile humorlessly at the glowing tip of his cigarette. "But Mr. Byerley's past is unremarkable. A quiet life in a small town, a college education, a wife who died young, an auto accident with a slow recovery, law school, coming to the metropolis, an attorney."

Francis Quinn shook his head slowly, then added, "But his present life. Ah, that is remarkable. Our district attorney never eats!"

Lanning's head snapped up, old eyes surprisingly sharp, "Pardon me?"

"Our district attorney never eats." The repetition thumped by syllables. "I'll modify that slightly. He has never been seen to eat or drink. Never! Do you understand the significance of the word? Not rarely, but never!"

"I find that quite incredible. Can you trust your investigators?"

"I can trust my investigators, and I don't find it incredible at all. Further, our district attorney has never been seen to drink - in the aqueous sense as well as the alcoholic - nor to sleep. There are other factors, but I should think I have made my point."

Lanning leaned back in his seat, and there was the rapt silence of challenge and response between them, and then the old roboticist shook his head. "No. There is only one thing you can be trying to imply, if I couple your statements with the fact that you present them to me, and that is impossible."

"But the man is quite inhuman, Dr. Lanning."

"If you told me he were Satan in masquerade, there would be a faint chance that I might believe you."

"I tell you he is a robot, Dr. Lanning."

"I tell you it is as impossible a conception as I have ever heard, Mr. Quinn."

Again the combative silence.

"Nevertheless," and Quinn stubbed out his cigarette with elaborate care, "you will have to investigate this impossibility with all the resources of the Corporation."

"I'm sure that I could undertake no such thing, Mr. Quinn. You don't seriously suggest that the Corporation take part in local politics."

"You have no choice. Supposing I were to make my facts public without proof. The evidence is circumstantial enough."

"Suit yourself in that respect."

"But it would not suit me. Proof would be much preferable. And it would not suit you, for the publicity would be very damaging to your company. You are perfectly well acquainted, I suppose, with the strict rules against the use of robots on inhabited worlds."

"Certainly!" - brusquely.

"You know that the U. S. Robot & Mechanical Men Corporation is the only manufacturer of positronic robots in the Solar System, and if Byerley is a robot, he is a

positronic robot. You are also aware that all positronic robots are leased, and not sold; that the Corporation remains the owner and manager of each robot, and is therefore responsible for the actions of all."

"It is an easy matter, Mr. Quinn, to prove the Corporation has never manufactured a robot of a humanoid character."

"It can be done? To discuss merely possibilities."

"Yes. It can be done."

"Secretly, I imagine, as well. Without entering it in your books."

"Not the positronic brain, sir. Too many factors are involved in that, and there is the tightest possible government supervision."

"Yes, but robots are worn out, break down, go out of order - and are dismantled."

"And the positronic brains re-used or destroyed."

"Really?" Francis Quinn allowed himself a trace of sarcasm. "And if one were, accidentally, of course, not destroyed - and there happened to be a humanoid structure waiting for a brain."

"Impossible!"

"You would have to prove that to the government and the public, so why not prove it to me now."

"But what could our purpose be?" demanded Lanning in exasperation. "Where is our motivation? Credit us with a minimum of sense."

"My dear sir, please. The Corporation would be only too glad to have the various Regions permit the use of humanoid positronic robots on inhabited worlds. The profits would be enormous. But the prejudice of the public against such a practice is too great. Suppose you get them used to such robots first - see, we have a skillful lawyer, a good mayor, and he is a robot. Won't you buy our robot butlers?"

"Thoroughly fantastic. An almost humorous descent to the ridiculous."

"I imagine so. Why not prove it? Or would you still rather try to prove it to the public?"

The light in the office was dimming, but it was not yet too dim to obscure the flush of frustration on Alfred Lanning's face. Slowly, the roboticist's finger touched a knob and the wall illuminators glowed to gentle life.

"Well, then," he growled, "let us see."

The face of Stephen Byerley is not an easy one to describe. He was forty by birth certificate and forty by appearance - but it was a healthy, well-nourished good-natured appearance of forty; one that automatically drew the teeth of the bromide about "looking one's age."

This was particularly true when he laughed, and he was laughing now. It came loudly and continuously, died away for a bit, then began again-

And Alfred Lanning's face contracted into a rigidly bitter monument of disapproval. He made a half gesture to the woman who sat beside him, but her thin, bloodless lips merely pursed themselves a trifle.

Byerley gasped himself a stage nearer normality.

"Really, Dr. Lanning. . . really - I. . . I. . . a robot?"

Lanning bit his words off with a snap, "It is no statement of mine, sir. I would be quite satisfied to have you a member of humanity. Since our corporation never manufactured you, I am quite certain that you are - in a legalistic sense, at any rate. But since the contention that you are a robot has been advanced to us seriously by a man of certain standing-

"Don't mention his name, if it would knock a chip off your granite block of ethics, but let's pretend it was Frank Quinn, for the sake of argument, and continue."

Lanning drew in a sharp, cutting snort at the interruption, and paused ferociously before continuing with added frigidity, "-by a man of certain standing, with whose identity I am not interested in playing guessing games, I am bound to ask your cooperation in disproving it. The mere fact that such a contention could be advanced and publicized by the means at this man's disposal would be a bad blow to the company I represent - even if the charge were never proven. You understand me?"

"Oh, yes, your position is clear to me. The charge itself is ridiculous. The spot you find yourself in is not. I beg your pardon, if my laughter offended you. It was the first I laughed at, not the second. How can I help you?"

"It could be very simple. You have only to sit down to a meal at a restaurant in the presence of witnesses, have your picture taken, and eat." Lanning sat back in his chair, the worst of the interview over. The woman beside him watched Byerley with an apparently absorbed expression but contributed nothing of her own.

Stephen Byerley met her eyes for an instant, was caught by them, then turned back to the roboticist. For a while his fingers were thoughtful over the bronze paperweight that was the only ornament on his desk.

He said quietly, "I don't think I can oblige you."

He raised his hand, "Now wait, Dr. Lanning. I appreciate the fact that this whole matter is distasteful to you, that you have been forced into it against your will, that you feel you are playing an undignified and even ridiculous part. Still, the matter is even more intimately concerned with myself, so be tolerant.

"First, what makes you think that Quinn - this man of certain standing, you know - wasn't hoodwinking you, in order to get you to do exactly what you are doing?"

"Why it seems scarcely likely that a reputable person would endanger himself in so ridiculous a fashion, if he weren't convinced he were on safe ground."

There was little humor in Byerley's eyes, "You don't know Quinn. He could manage to make safe ground out of a ledge a mountain sheep could not handle. I suppose he showed the particulars of the investigation he claims to have made of me?"

"Enough to convince me that it would be too troublesome to have our corporation attempt to disprove them when you could do so more easily."

"Then you believe him when he says I never eat. You are a scientist, Dr. Lanning. Think of the logic required. I have not been observed to eat, therefore, I never eat Q.E.D. After all!"

"You are using prosecution tactics to confuse what is really a very simple situation."

"On the contrary, I am trying to clarify what you and Quinn between you are making a very complicated one. You see, I don't sleep much, that's true, and I certainly don't sleep in public. I have never cared to eat with others - an idiosyncrasy which is unusual and probably neurotic in character, but which harms no one. Look, Dr. Lanning, let me present you with a suppositious case. Supposing we had a politician who was interested in defeating a reform candidate at any cost and while investigating his private life came across oddities such as I have just mentioned.

"Suppose further that in order to smear the candidate effectively, he comes to your company as the ideal agent. Do you expect him to say to you, 'So-and-so is a robot because he hardly ever eats with people, and I have never seen him fall asleep in the middle of a case; and once when I peeped into his window in the middle of the night, there he was, sitting up with a book; and I looked in his frigidaire and there was no food in it.'

"If he told you that, you would send for a straitjacket. But if he tells you, 'He never sleeps; he never eats,' then the shock of the statement blinds you to the fact that such statements are impossible to prove. You play into his hands by contributing to the to-do."

"Regardless, sir," began Lanning, with a threatening obstinacy, "of whether you consider this matter serious or not, it will require only the meal I mentioned to end it."

Again Byerley turned to the woman, who still regarded him expressionlessly.

"Pardon me. I've caught your name correctly, haven't I? Dr. Susan Calvin?"

"Yes, Mr. Byerley."

"You're the U. S. Robot's psychologist, aren't you?"

"Robopsychologist, please."

"Oh, are robots so different from men, mentally?"

"Worlds different." She allowed herself a frosty smile, "Robots are essentially decent."

Humor tugged at the corners of the lawyer's mouth, "Well, that's a hard blow. But what I wanted to say was this. Since you're a psycho - a robopsychologist, and a woman, I'll bet that you've done something that Dr. Lanning hasn't thought of."

"And what is that?"

"You've got something to eat in your purse."

Something caught in the schooled indifference of Susan Calvin's eyes. She said, "You surprise me, Mr. Byerley."

And opening her purse, she produced an apple. Quietly, she handed it to him. Dr. Lanning, after an initial start, followed the slow movement from one hand to the other with sharply alert eyes.

Calmly, Stephen Byerley bit into it, and calmly he swallowed it.

"You see, Dr. Lanning?"

Dr. Lanning smiled in a relief tangible enough to make even his eyebrows appear benevolent. A relief that survived for one fragile second.

Susan Calvin said, "I was curious to see if you would eat it, but, of course, in the present case, it proves nothing."

Byerley grinned, "It doesn't?"

"Of course not. It is obvious, Dr. Lanning, that if this man were a humanoid robot, he would be a perfect imitation. He is almost too human to be credible. After all, we have been seeing and observing human beings all our lives; it would be impossible to palm something merely nearly right off on us. It would have to be all right. Observe the texture of the skin, the quality of the irises, the bone formation of the hand. If he's a robot, I wish U. S. Robots had made him, because he's a good job. Do you suppose then, that anyone capable of paying attention to such niceties would neglect a few gadgets to take care of such things as eating, sleeping, elimination? For emergency use only, perhaps; as, for instance, to prevent such situations as are arising here. So a meal won't really prove anything."

"Now wait," snarled Lanning, "I am - not quite the fool both of you make me out to be. I am not interested in the problem of Mr. Byerley's humanity or nonhumanity. I am interest in getting the corporation out of a hole. A public meal will end the matter and keep it ended no matter what Quinn does. We can leave the finer details to lawyers and robopsychologists."

"But, Dr. Lanning," said Byerley, "you forget the politics of the situation. I am as anxious to be elected, as Quinn is to stop me. By the way, did you notice that you used his name? It's a cheap shyster trick of mine; I knew you would, before you were through."

Lanning flushed, "What has the election to do with it?"

"Publicity works both ways, sir. If Quinn wants to call me a robot, and has the nerve to do so, I have the nerve to play the game his way."

"You mean you-" Lanning was quite frankly appalled.

"Exactly. I mean that I'm going to let him go ahead, choose his rope, test its strength, cut off the right length, tie the noose, insert his head and grin. I can do what little else is required."

"You are mighty confident."

Susan Calvin rose to her feet, "Come, Alfred, we won't change his mind for him."

"You see." Byerley smiled gently. "You're a human psychologist, too."

But perhaps not all the confidence that Dr. Lanning had remarked upon was present that evening when Byerley's car parked on the automatic treads leading to the sunken garage, and Byerley himself crossed the path to the front door of his house.

The figure in the wheel chair looked up as he entered and smiled. Byerley's face lit with affection. He crossed over to it.

The cripple's voice was a hoarse, grating whisper that came out of a mouth forever twisted to one side, leering out of a face that was half scar tissue, "You're late, Steve."

"I know, John, I know. But I've been up against a peculiar and interesting trouble today."

"So?" Neither the torn face nor the destroyed voice could carry expression but there was anxiety in the clear eyes. "Nothing you can't handle?"

"I'm not exactly certain. I may need your help. You're the brilliant one in the family. Do you want me to take you out into the garden? It's a beautiful evening."

Two strong arms lifted John from the wheel chair. Gently, almost caressingly, Byerley's arms went around the shoulders and under the swathed legs of the cripple. Carefully, and slowly, he walked through the rooms, down the gentle ramp that had been built with a wheel chair in mind, and out the back door into the walled and wired garden behind the house.

"Why don't you let me use the wheel chair, Steve? This is Silly."

"Because I'd rather carry you. Do you object? You know that you're as glad to get out of that motorized buggy for a while, as I am to see you out. How do you feel today?" He deposited John with infinite care upon the cool grass.

"How should I feel? But tell me about your troubles."

"Quinn's campaign will be based on the fact that he claims I'm a robot."

John's eyes opened wide, "How do you know? It's impossible. I won't believe it."

"Oh, come, I tell you it's so. He had one of the big-shot scientists of U. S. Robot & Mechanical Men Corporation over at the office to argue with me."

Slowly John's hands tore at the grass, "I see. I see."

Byerley said, "But we can let him choose his ground. I have an idea. Listen to me and tell me if we can do it-"

The scene as it appeared in Alfred Lanning's office that night was a tableau of stares. Francis Quinn stared meditatively at Alfred Lanning. Lanning's stare was savagely set upon Susan Calvin, who stared impassively in her turn at Quinn.

Francis Quinn broke it with a heavy attempt at lightness, "Bluff. He's making it up as he goes along."

"Are you going to gamble on that, Mr. Quinn?" asked Dr. Calvin, indifferently.

"Well, it's your gamble, really."

"Look here," Lanning covered definite pessimism with bluster, "we've done what you asked. We witnessed the man eat. It's ridiculous to presume him a robot."

"Do you think so?" Quinn shot toward Calvin. "Lanning said you were the expert."

Lanning was almost threatening, "Now, Susan-"

Quinn interrupted smoothly, "Why not let her talk, man? She's been sitting there imitating a gatepost for half an hour."

Lanning felt definitely harassed. From what he experienced then to incipient paranoia was but a step. He said, "Very well. Have your say, Susan. We won't interrupt you."

Susan Calvin glanced at him humorlessly, then fixed cold eyes on Mr. Quinn.

"There are only two ways of definitely proving Byerley to be a robot, sir. So far you are presenting circumstantial evidence, with which you can accuse, but not prove - and I think Mr. Byerley is sufficiently clever to counter that sort of material. You probably think so yourself, or you wouldn't have come here."

"The two methods of proof are the physical and the psychological. Physically, you can dissect him or use an X-ray. How to do that would be your problem. Psychologically,

his behavior can be studied, for if he is a positronic robot, he must conform to the three Rules of Robotics. A positronic brain cannot be constructed without them. You know the Rules, Mr. Quinn?"

She spoke them carefully, clearly, quoting word for word the famous bold print on page one of the "Handbook of Robotics."

"I've heard of them," said Quinn, carelessly.

"Then the matter is easy to follow," responded the psychologist, dryly. "If Mr. Byerley breaks any of those three rules, he is not a robot. Unfortunately, this procedure works in only one direction. If he lives up to the rules, it proves nothing one way or the other."

Quinn raised polite eyebrows, "Why not, doctor?"

"Because, if you stop to think of it, the three Rules of Robotics are the essential guiding principles of a good many of the world's ethical systems. Of course, every human being is supposed to have the instinct of self-preservation. That's Rule Three to a robot. Also every 'good' human being, with a social conscience and a sense of responsibility, is supposed to defer to proper authority; to listen to his doctor, his boss, his government, his psychiatrist, his fellow man; to obey laws, to follow rules, to conform to custom - even when they interfere with his comfort or his safety. That's Rule Two to a robot. Also, every 'good' human being is supposed to love others as himself, protect his fellow man, risk his life to save another. That's Rule One to a robot. To put it simply - if Byerley follows all the Rules of Robotics, he may be a robot, and may simply be a very good man."

"But," said Quinn, "you're telling me that you can never prove him a robot."

"I may be able to prove him not a robot"

"That's not the proof I want."

"You'll have such proof as exists. You are the only one responsible for your own wants."

Here Lanning's mind leaped suddenly to the sting of an idea, "Has it occurred to anyone," he ground out, "that district attorney is a rather strange occupation for a robot? The prosecution of human beings - sentencing them to death - bringing about their infinite harm-"

Quinn grew suddenly keen, "No, you can't get out of it that way. Being district attorney doesn't make him human. Don't you know his record? Don't you know that he boasts that he has never prosecuted an innocent man; that there are scores of people left untried because the evidence against them didn't satisfy him, even though he could probably have argued a jury into atomizing them? That happens to be so."

Lanning's thin cheeks quivered, "No, Quinn, no. There is nothing in the Rules of Robotics that makes any allowance for human guilt. A robot may not judge whether a human being deserves death. It is not for him to decide. He may not harm a human-variety skunk, or variety angel."

Susan Calvin sounded tired. "Alfred," she said, "don't talk foolishly. What if a robot came upon a madman about to set fire to a house with people in it? He would stop the madman, wouldn't he?"

"Of course."

"And if the only way he could stop him was to kill him-"

There was a faint sound in Lanning's throat. Nothing more.

"The answer to that, Alfred, is that he would do his best not to kill him. If the madman died, the robot would require psychotherapy because he might easily go mad at the conflict presented him -of having broken Rule One to adhere to Rule One in a higher sense. But a man would be dead and a robot would have killed him."

"Well, is Byerley mad?" demanded Lanning; with all the sarcasm he could muster.

"No, but he has killed no man himself. He has exposed facts which might represent a particular human being to be dangerous to the large mass of other human beings we call society. He protects the greater number and thus adheres to Rule One at maximum potential. That is as far as he goes. It is the judge who then condemns the criminal to death or imprisonment, after the jury decides on his guilt or innocence. It is the jailer who imprisons him, the executioner who kills him. And Mr. Byerley has done nothing but determine truth and aid society.

"As a matter of fact, Mr. Quinn, I have looked into Mr. Byerley's career since you first brought this matter to our attention. I find that he has never demanded the death sentence in his closing speeches to the jury. I also find that he has spoken on behalf of the abolition of capital punishment and contributed generously to research institutions engaged in criminal neurophysiology. He apparently believes in the cure, rather than the punishment of crime. I find that significant."

"You do?" Quinn smiled. "Significant of a certain odor of robotcity, perhaps?"

"Perhaps. Why deny it? Actions such as his could come only from a robot, or from a very honorable and decent human being. But you see, you just can't differentiate between a robot and the very best of humans."

Quinn sat back in his chair. His voice quivered with impatience. "Dr. Lanning, it's perfectly possible to create a humanoid robot that would perfectly duplicate a human in appearance, isn't it?"

Lanning harrumphed and considered, "It's been done experimentally by U. S. Robots," he said reluctantly, "without the addition of a positronic brain, of course. By using human ova and hormone control, one can grow human flesh and skin over a skeleton of porous silicone plastics that would defy external examination. The eyes, the hair, the skin would be really human, not humanoid. And if you put a positronic brain, and such other gadgets as you might desire inside, you have a humanoid robot."

Quinn said shortly, "How long would it take to make one?"

Lanning considered, "If you had all your equipment - the brain, the skeleton, the ovum, the proper hormones and radiations - say, two months."

The politician straightened out of his chair. "Then we shall see what the insides of Mr. Byerley look like. It will mean publicity for U. S. Robots - but I gave you your chance."

Lanning turned impatiently to Susan Calvin, when they were alone. "Why do you insist-?"

And with real feeling, she responded sharply and instantly, "Which do you want - the truth or my resignation? I won't lie for you. U. S. Robots can take care of itself. Don't turn coward."

"What," said Lanning, "if he opens up Byerley, and wheels and gears fall out what then?"

"He won't open Byerley," said Calvin, disdainfully. "Byerley is as clever as Quinn, at the very least"

The news broke upon the city a week before Byerley was to have been nominated. But "broke" is the wrong word. It staggered upon the city, shambled, crawled. Laughter began, and wit was free. And as the far off hand of Quinn tightened its pressure in easy stages, the laughter grew forced, an element of hollow uncertainty entered, and people broke off to wonder.

The convention itself had the air of a restive stallion. There had been no contest planned. Only Byerley could possibly have been nominated a week earlier. There was no substitute even now. They had to nominate him, but there was complete confusion about it.

It would not have been so bad if the average individual were not torn between the enormity of the charge, if true, and its sensational folly, if false.

The day after Byerley was nominated perfunctorily, hollowly - a newspaper finally published the gist of a long interview with Dr. Susan Calvin, "world famous expert on robotics psychology and positronics."

What broke loose is popularly and succinctly described as hell.

It was what the Fundamentalists were waiting for. They were not a political party; they made pretense to no formal religion. Essentially they were those who had not adapted themselves to what had once been called the Atomic Age, in the days when atoms were a novelty. Actually, they were the Simple-Lifers, hungering after a life, which to those who lived it had probably appeared not so Simple, and who had been, therefore, Simple-Lifers themselves.

The Fundamentalists required no new reason to detest robots and robot manufacturers; but a new reason such as the Quinn accusation and the Calvin analysis was sufficient to make such detestation audible.

The huge plants of the U. S. Robot & Mechanical Men Corporation was a hive that spawned armed guards. It prepared for war.

Within the city the house of Stephen Byerley bristled with police.

The political campaign, of course, lost all other issues, and resembled a campaign only in that it was something filling the hiatus between nomination and election.

Stephen Byerley did not allow the fussy little man to distract him. He remained comfortably unperturbed by the uniforms in the background. Outside the house, past the line of grim guards, reporters and photographers waited according to the tradition of the caste. One enterprising 'visor station even had a scanner focused on the blank entrance to the prosecutor's unpretentious home, while a synthetically excited announcer filled in with inflated commentary.

The fussy little man advanced. He held forward a rich, complicated sheet. "This, Mr. Byerley, is a court order authorizing me to search these premises for the presence of illegal. . . uh. . . mechanical men or robots of any description."

Byerley half rose, and took the paper. He glanced at it indifferently, and smiled as he handed it back. "All in order. Go ahead. Do your job. Mrs. Hoppen" - to his housekeeper, who appeared reluctantly from the next room - " please go with them, and help out if you can."

The little man, whose name was Harroway, hesitated, produced an unmistakable blush, failed completely to catch Byerley's eyes, and muttered, "Come on," to the two policemen.

He was back in ten minutes.

"Through?" questioned Byerley, in just the tone of a person who is not particularly interested in the question, or its answer.

Harroway cleared his throat, made a bad start in falsetto, and began again, angrily, "Look here, Mr. Byerley, our special instructions were to search the house very thoroughly."

"And haven't you?"

"We were told exactly what to look for."

"Yes?"

"In short, Mr. Byerley, and not to put too fine a point on it, we were told to search you."

"Me?" said the prosecutor with a broadening smile. "And how do you intend to do that?"

"We have a Penet-radiation unit-"

"Then I'm to have my X-ray photograph taken, hey? You have the authority?"

"You saw my warrant."

"May I see it again?"

Harroway, his forehead shining with considerably more than mere enthusiasm, passed it over a second time.

Byerley said evenly, "I read here as the description of what you are to search; I quote: 'the dwelling place belonging to Stephen Allen Byerley, located at 355 Willow Grove, Evanston, together, with any garage, storehouse or other structures or buildings thereto appertaining, together with all grounds thereto appertaining'. . . um. . . and so on. Quite in order. But, my good man, it doesn't say anything about searching my interior. I am not part of the premises. You may search my clothes if you think I've got a robot hidden in my pocket."

Harroway had no doubt on the point of to whom he owed his job. He did not propose to be backward, given a chance to earn a much better - i.e., more highly paid - job.

He said, in a faint echo of bluster, "Look here. I'm allowed to search the furniture in your house, and anything else I find in it. You are in it, aren't you?"

"A remarkable observation. I am in it. But I'm not a piece of furniture. As a citizen of adult responsibility - I have the psychiatric certificate proving that - I have certain rights under the Regional Articles. Searching me would come under the heading of violating my Right of Privacy. That paper isn't sufficient."

"Sure, but if you're a robot, you don't have Right of Privacy."

"True enough but that paper still isn't sufficient. It recognizes me implicitly as a human being."

"Where?" Harroway snatched at it.

"Where it says 'the dwelling place belonging to' and so on. A robot cannot own property. And you may tell your employer, Mr. Harroway, that if he tries to issue a similar paper which does not implicitly recognize me as a human being, he will be immediately faced with a restraining injunction and a civil suit which will make it necessary for him to prove me a robot by means of information now in his possession, or else to pay a whopping penalty for an attempt to deprive me unduly of my Rights under the Regional Articles. You'll tell him that, won't you?"

Harroway marched to the door. He turned. . "You're a slick lawyer-" His hand was in his pocket. For a short moment, he stood there. Then he left, smiled in the direction of the 'visor scanner, still playing away - waved to the reporters, and shouted, "We'll have something for you tomorrow, boys. No kidding."

In his ground car, he settled back, removed the tiny mechanism from his pocket and carefully inspected it. It was the first time he had ever taken a photograph by X-ray reflection. He hoped he had done it correctly.

Quinn and Byerley had never met face-to-face alone. But visorphone was pretty close to it. In fact, accepted literally, perhaps the phrase was accurate, even if to each, the other were merely the light and dark pattern of a bank of photocells.

It was Quinn who had initiated the call. It was Quinn, who spoke first, and without particular ceremony, "Thought you would like to know, Byerley, that I intend to make public the fact that you're wearing a protective shield against Penet-radiation."

"That so? In that case, you've probably already made it public. I have a notion our enterprising press representatives have been tapping my various communication lines for quite a while. I know they have my office lines full of holes; which is why I've dug in at my home these last weeks." Byerley was friendly, almost chatty.

Quinn's lips tightened slightly, "This call is shielded - thoroughly. I'm making it at a certain personal risk."

"So I should imagine. Nobody knows you're behind this campaign. At least, nobody knows it officially. Nobody doesn't know it unofficially. I wouldn't worry. So I wear a protective shield? I suppose you found that out when your puppy dog's Penet-radiation photograph, the other day, turned out to be overexposed."

"You realize, Byerley, that it would be pretty obvious to everyone that you don't dare face X-ray analysis."

"Also that you, or your men, attempted illegal invasion of my Rights of Privacy."

"The devil they'll care for that."

"They might. It's rather symbolic of our two campaigns isn't it? You have little concern with the rights of the individual citizen. I have great concern. I will not submit to X-ray analysis, because I wish to maintain my Rights on principle. Just as I'll maintain the rights of others when elected."

"That will, no doubt make a very interesting speech, but no one will believe you. A little too high-sounding to be true. Another thing," a sudden, crisp change, "the personnel in your home was not complete the other night."

"In what way?"

"According to the report," he shuffled papers before him that were just within the range of vision of the visiplat, "there was one person missing - a cripple."

"As you say," said Byerley, tonelessly, "a cripple. My old teacher, who lives with me and who is now in the country - and has been for two months. A 'much-needed rest' is the usual expression applied in the case. He has your permission?"

"Your teacher? A scientist of sorts?"

"A lawyer once - before he was a cripple. He has a government license as a research biophysicist, with a laboratory of his own, and a complete description of the work he's doing filed with the proper authorities, to whom I can refer you. The work is minor, but is a harmless and engaging hobby for a - poor cripple. I am being as helpful as I can, you see."

"I see. And what does this. . . teacher. . . know about robot manufacture?"

"I couldn't judge the extent of his knowledge in a field with which I am unacquainted."

"He wouldn't have access to positronic brains?"

"Ask your friends at U. S. Robots. They'd be the ones to know."

"I'll put it shortly, Byerley. Your crippled teacher is the real Stephen Byerley. You are his robot creation. We can prove it. It was he who was in the automobile accident, not you. There will be ways of checking the records."

"Really? Do so, then. My best wishes."

"And we can search your so-called teacher's 'country place,' and see what we can find there."

"Well, not quite, Quinn." Byerley smiled broadly. "Unfortunately for you, my so-called teacher is a sick man. His country place is his place of rest. His Right of Privacy as a citizen of adult responsibility is naturally even stronger, under the circumstances. You won't be able to obtain a warrant to enter his grounds without showing just cause. However, I'd be the last to prevent you from trying."

There was a pause of moderate length, and then Quinn leaned forward, so that his imaged-face expanded and the fine lines on his forehead were visible, "Byerley, why do you carry on? You can't be elected."

"Can't I?"

"Do you think you can? Do you suppose that your failure to make any attempt to disprove the robot charge - when you could easily, by breaking one of the Three Laws - does anything but convince the people that you are a robot?"

"All I see so far is that from being a rather vaguely known, but still largely obscure metropolitan lawyer, I have now become a world figure. You're a good publicist."

"But you are a robot."

"So it's been said, but not proven."

"It's been proven sufficiently for the electorate."

"Then relax you've won."

"Good-by," said Quinn, with his first touch of viciousness, and the visorphone slammed off.

"Good-by," said Byerley imperturbably, to the blank plate.

Byerley brought his "teacher" back the week before election. The air car dropped quickly in an obscure part of the city.

"You'll stay here till after election," Byerley told him. "It would be better to have you out of the way if things take a bad turn."

The hoarse voice that twisted painfully out of John's crooked mouth might have had accents of concern in it. "There's danger of violence?"

"The Fundamentalists threaten it, so I suppose there is, in a theoretical sense. But I really don't expect it. The Fundies have no real power. They're just the continuous irritant factor that might stir up a riot after a while. You don't mind staying here? Please, I won't be myself if I have to worry about you."

"Oh, I'll stay. You still think it will go well?"

"I'm sure of it. No one bothered you at the place?"

"No one. I'm certain."

"And your part went well?"

"Well enough. There'll be no trouble there."

"Then take care of yourself, and watch the television tomorrow, John." Byerley pressed the gnarled hand that rested on his.

Lenton's forehead was a furrowed study in suspense. He had the completely unenviable job of being Byerley's campaign manager in a campaign that wasn't a campaign, for a person that refused to reveal his strategy, and refused to accept his manager's.

"You can't!" It was his favorite phrase. It had become his only phrase. "I tell you, Steve, you can't!"

He threw himself in front of the prosecutor, who was spending his time leafing through the typed pages of his speech.

"Put that down, Steve. Look, that mob has been organized by the Fundies. You won't get a hearing. You'll be stoned more likely. Why do you have to make a speech before an audience? What's wrong with a recording, a visual recording?"

"You want me to win the election, don't you?" asked Byerley, mildly.

"Win the election! You're not going to win, Steve. I'm trying to save your life."

"Oh, I'm not in danger."

"He's not in danger. He's not in danger." Lenton made a queer, rasping sound in his throat. "You mean you're getting out on that balcony in front of fifty thousand crazy crackpots and try to talk sense to them - on a balcony like a medieval dictator?"

Byerley consulted his watch. "In about five minutes - as soon as the television lines are free."

Lenton's answering remark was not quite transliterable.

The crowd filled a roped off area of the city. Trees and houses seemed to grow out of a mass-human foundation. And by ultra-wave, the rest of the world watched. It was a purely local election, but it had a world audience just the same. Byerley thought of that and smiled.

But there was nothing to smile at in the crowd itself. There were banners and streamers, ringing every possible change on his supposed robotcity. The hostile attitude rose thickly and tangibly into the atmosphere.

From the start the speech was not successful. It competed against the inchoate mob howl and the rhythmic cries of the Fundie clagues that formed mob-islands within the mob. Byerley spoke on, slowly, unemotionally-

Inside, Lenton clutched his hair and groaned - and waited for the blood.

There was a writhing in the front ranks. An angular citizen with popping eyes, and clothes too short for the lank length of his limbs, was pulling to the fore. A policeman dived after him, making slow, struggling passage. Byerley waved the latter off, angrily.

The thin man was directly under the balcony. His words tore unheard against the roar.

Byerley leaned forward. "What do you say? If you have a legitimate question, I'll answer it." He turned to a flanking guard. "Bring that man up here."

There was a tensing in the crowd. Cries of "Quiet" started in various parts of the mob, and rose to a bedlam, then toned down raggedly. The thin man, red-faced and panting, faced Byerley.

Byerley said, "Have you a question?"

The thin man stared, and said in a cracked voice, "Hit me!"

With sudden energy, he thrust out his chin at an angle. "Hit me! You say you're not a robot. Prove it. You can't hit a human, you monster."

There was a queer, flat, dead silence. Byerley's voice punctured it. "I have no reason to hit you."

The thin man was laughing wildly. "You can't hit me. You won't hit me. You're not a human. You're a monster, a make-believe man."

And Stephen Byerley, tight-lipped, in the face of thousands who watched in person and the millions, who watched by screen, drew back his fist and caught the man crackingly upon the chin. The challenger went over backwards in sudden collapse, with nothing on his face but blank, blank surprise.

Byerley said, "I'm sorry. Take him in and see that he's comfortable. I want to speak to him when I'm through."

And when Dr. Calvin, from her reserved space, turned her automobile and drove off, only one reporter had recovered sufficiently from the shock to race after her, and shout an unheard question.

Susan Calvin called over her shoulder, "He's human."

That was enough. The reporter raced away in his own direction.

The rest of the speech might be described as "Spoken but not heard."

Dr. Calvin and Stephen Byerley met once again - a week before he took the oath of office as mayor. It was late - past midnight.

Dr. Calvin said, "You don't look tired."

The mayor-elect smiled. "I may stay up for a while. Don't tell Quinn."

"I shan't. But that was an interesting story of Quinn's, since you mention him. It's a shame to have spoiled it. I suppose you knew his theory?"

"Parts of it."

"It was highly dramatic. Stephen Byerley was a young lawyer, a powerful speaker, a great idealist - and with a certain flare for biophysics. Are you interested in robotics, Mr. Byerley?"

"Only in the legal aspects."

"This Stephen Byerley was. But there was an accident. Byerley's wife died, he himself, worse. His legs were gone; his face was gone; his voice was gone. Part of his mind was bent. He would not submit to plastic surgery. He retired from the world, legal career gone - only his intelligence, and his hands left. Somehow he could obtain positronic brains, even a complex one, one which had the greatest capacity of forming judgments in ethical problems - which is the highest robotic function so far developed.

"He grew a body about it. Trained it to be everything he would have been and was no longer. He sent it out into the world as Stephen Byerley, remaining behind himself as the old, crippled teacher that no one ever saw -"

"Unfortunately," said the mayor-elect, "I ruined all that by hitting a man. The papers say it was your official verdict on the occasion that I was human."

"How did that happen? Do you mind telling me? It couldn't have been accidental."

"It wasn't entirely. Quinn did most of the work. My men started quietly spreading the fact that I had never hit a man; that I was unable to hit a man; that to fail to do so under provocation would be sure proof that I was a robot. So I arranged for a silly speech in public, with all sorts of publicity overtones, and almost inevitably, some fool fell for it. In its essence, it was what I call a shyster trick. One in which the artificial atmosphere which has been created does all the work. Of course, the emotional effects made my election certain, as intended."

The robopsychologist nodded. "I see you intrude on my field - as every politician must, I suppose. But I'm very sorry it turned out this way. I like robots. I like them considerably better than I do human beings. If a robot can be created capable of being a civil executive, I think he'd make the best one possible. By the Laws of Robotics, he'd be incapable of harming humans, incapable of tyranny, of corruption, of stupidity, of

prejudice. And after he had served a decent term, he would leave, even though he were immortal, because it would be impossible for him to hurt humans by letting them know that a robot had ruled them. It would be most ideal."

"Except that a robot might fail due to the inherent inadequacies of his brain. The positronic brain has never equaled the complexities of the human brain."

"He would have advisers. Not even a human brain is capable of governing without assistance."

Byerley considered Susan Calvin with grave interest. "Why do you smile, Dr. Calvin?"

"I smile because Mr. Quinn didn't think of everything."

"You mean there could be more to that story of his."

"Only a little. For the three months before election, this Stephen Byerley that Mr. Quinn spoke about, this broken man, was in the country for some mysterious reason. He returned in time for that famous speech of yours. And after all, what the old cripple did once, he could do a second time, particularly where the second job is very simple in comparison to the first."

"I don't quite understand."

Dr. Calvin rose and smoothed her dress. She was obviously ready to leave. "I mean there is one time when a robot may strike a human being without breaking the First Law. Just one time."

"And when is that?"

Dr. Calvin was at the door. She said quietly, "When the human to be struck is merely another robot."

She smiled broadly, her thin face glowing. "Good-by Mr. Byerley. I hope to vote for you five years from now - for Co-ordinator."

Stephen Byerley chuckled. "I must reply that that is a somewhat farfetched idea."

The door closed behind her.

THE EVITABLE CONFLICT

THE CO-ORDINATOR, IN HIS PRIVATE STUDY, HAD that medieval curiosity, a fireplace. To be sure, the medieval man might not have recognized it as such, since it had no functional significance. The quiet, licking flame lay in an insulated recess behind clear quartz.

The logs were ignited at long distance through a trifling diversion of the energy beam that fed the public buildings of the city. The same button that controlled the ignition first dumped the ashes of the previous fire, and allowed for the entrance of fresh wood. - It was a thoroughly domesticated fireplace, you see.

But the fire itself was real. It was wired for sound, so that you could hear the crackle and, of course, you could watch it leap in the air stream that fed it.

The Co-ordinator's ruddy glass reflected, in miniature, the discreet gamboling of the flame, and, in even further miniature, it was reflected in each of his brooding pupils.

And in the frosty pupils of his guest, Dr. Susan Calvin of U. S. Robots & Mechanical Men Corporation.

The Co-ordinator said, "I did not ask you here entirely for social purposes, Susan."

"I did not think you did, Stephen," she replied.

"-And yet I don't quite know how to phrase my problem. On the one hand, it can be nothing at all. On the other, it can mean the end of humanity."

"I have come across so many problems, Stephen, that presented the same alternative. I think all problems do."

"Really? Then judge this - World Steel reports an overproduction of twenty thousand long tons. The Mexican Canal is two months behind schedule. The mercury mines at Almaden have experienced a production deficiency since last spring, while the Hydroponics plant at Tientsin has been laying men off. These items happen to come to mind at the moment. There is more of the same sort."

"Are these things serious? I'm not economist enough to trace the fearful consequences of such things."

"In themselves, they are not serious. Mining experts can be sent to Almaden, if the situation were to get worse. Hydroponics engineers can be used in Java or in Ceylon, if there are too many at Tientsin. Twenty thousand long tons of steel won't fill more than a few days of world demand, and the opening of the Mexican Canal two months later than the planned date is of little moment. It's the Machines that worry me; I've spoken to your Director of Research about them already."

"To Vincent Silver? - He hasn't mentioned anything about it to me."

"I asked him to speak to no one. Apparently, he hasn't."

"And what did he tell you?"

"Let me put that item in its proper place. I want to talk about the Machines first. And I want to talk about them to you, because you're the only one in the world who understands robots well enough to help me now. - May I grow philosophical?"

"For this evening, Stephen, you may talk how you please and of what you please, provided you tell me first what you intend to prove."

"That such small unbalances in the perfection of our system of supply and demand, as I have mentioned, may be the first step towards the final war."

"Hmp. Proceed."

Susan Calvin did not allow herself to relax, despite the designed comfort of the chair she sat in. Her cold, thin-lipped face and her flat, even voice were becoming accentuated with the years. And although Stephen Byerley was one man she could like and trust, she was almost seventy and the cultivated habits of a lifetime are not easily broken.

"Every period of human development, Susan," said the Co-ordinator, "has had its own particular type of human conflict - its own variety of problem that, apparently, could be settled only by force. And each time, frustratingly enough, force never really settled the problem. Instead, it persisted through a series of conflicts, then vanished of itself, - what's the expression, - ah, yes 'not with a bang, but a whimper,' as the economic and social environment changed. And then, new problems, and a new series of wars, - apparently endlessly cyclic.

"Consider relatively modern times. There were the series of dynastic wars in the sixteenth to eighteenth centuries, when the most important question in Europe was whether the houses of Hapsburg or Valois-Bourbon were to rule the continent. It was one of those 'inevitable conflicts,' since Europe could obviously not exist half one and half the other.

"Except that it did, and no war ever wiped out the one and established the other, until the rise of a new social atmosphere in France in 1789 tumbled first the Bourbons and, eventually, the Hapsburgs down the dusty chute to history's incinerator.

"And in those same centuries there were the more barbarous religious wars, which revolved about the important question of whether Europe was to be Catholic or Protestant. Half and half she could not be. It was 'inevitable' that the sword decide. - Except that it didn't. In England, a new industrialism was growing, and on the continent, a new nationalism. Half and half Europe remains to this day and no one cares much.

"In the nineteenth and twentieth centuries, there was a cycle of nationalist-imperialist wars, when the most important question in the world was which portions of Europe would control the economic resources and consuming capacity of which portions of non-Europe. All non-Europe obviously could not exist part English and part French and part German and so on. - Until the forces of nationalism spread sufficiently, so that non-Europe ended what all the wars could not, and decided it could exist quite comfortably all non-European.

"And so we have a pattern-"

"Yes. Stephen, you make it plain," said Susan Calvin. "These are not very profound observations."

"No. - But then, it is the obvious which is so difficult to see most of the time. People say 'It's as plain as the nose on your face.' But how much of the nose on your face can you see, unless someone holds a mirror up to you? In the twentieth century, Susan, we started a new cycle of wars - what shall I call them? Ideological wars? The emotions of religion applied to economic systems, rather than to extra-natural ones? Again the wars were 'inevitable' and this time there were atomic weapons, so that mankind could no longer live through its torment to the inevitable wasting away of inevitability. - And positronic robots came.

"They came in time, and, with it and alongside it, interplanetary travel. - So that it no longer seemed so important whether the world was Adam Smith or Karl Marx. Neither made very much sense under the new circumstances. Both had to adapt and they ended in almost the same place."

"A deus ex machina, then, in a double sense," said Dr. Calvin, dryly.

The Co-ordinator smiled gently, "I have never heard you pun before, Susan, but you are correct. And yet there was another danger. The ending of every other problem had merely given birth to another. Our new worldwide robot economy may develop its own problems, and for that reason we have the Machines. The Earth's economy is stable, and will remain stable, because it is based upon the decisions of calculating machines that have the good of humanity at heart through the overwhelming force of the First Law of Robotics."

Stephen Byerley continued, "And although the Machines are nothing but the vastest conglomeration of calculating circuits ever invented, they are still robots within the meaning of the First Law, and so our Earth-wide economy is in accord with the best interests of Man. The population of Earth knows that there will be no unemployment, no over-production or shortages. Waste and famine are words in history books. And so the question of ownership of the means of production becomes obsolescent. Whoever owned them (if such a phrase has meaning), a man, a group, a nation, or all mankind, they could be utilized only as the Machines directed. - Not because men were forced to but because it was the wisest course and men knew it.

"It puts an end to war - not only to the last cycle of wars, but to the next and to all of them. Unless-"

A long pause, and Dr. Calvin encouraged him by repetition. "Unless-"

The fire crouched and skittered along a log, then popped up.

"Unless," said the Co-ordinator, "the Machines don't fulfill their function."

"I see. And that is where those trifling maladjustments come in which you mentioned awhile ago - steel, hydroponics and so on."

"Exactly. Those errors should not be. Dr. Silver tells me they cannot be."

"Does he deny the facts? How unusual!"

"No, he admits the facts, of course. I do him an injustice. What he denies is that any error in the machine is responsible for the so-called (his phrase) errors in the answers.

He claims that the Machines are self-correcting and that it would violate the fundamental laws of nature for an error to exist in the circuits of relays. And so I said -"

"And you said, 'Have your boys check them and make sure, anyway.'"

"Susan, you read my mind. It was what I said, and he said he couldn't."

"Too busy?"

"No, he said that no human could. He was frank about it. He told me, and I hope I understand him properly, that the Machines are a gigantic extrapolation. Thus, a team of mathematicians work several years calculating a positronic brain equipped to do certain similar acts of calculation. Using this brain they make further calculations to create a still more complicated brain, which they use again to make one still more complicated and so on. According to Silver, what we call the Machines are the result of ten such steps."

"Ye-es, that sounds familiar. Fortunately, I'm not a mathematician. Poor Vincent. He is a young man. The Directors before him, Alfred Lanning and Peter Bogert, are dead, and they had no such problems. Nor had I. Perhaps roboticists as a whole should now die, since we can no longer understand our own creations."

"Apparently not. The Machines are not super-brains in Sunday supplement sense, - although they are so pictured in the Sunday supplements. It is merely that in their own particular province of collecting and analyzing a nearly infinite number of data and relationships thereof, in nearly infinitesimal time, they have progressed beyond the possibility of detailed human control."

"And then I tried something else. I actually asked the Machine. In the strictest secrecy, we fed it the original data involved in the steel decision, its own answer, and the actual developments since, -the overproduction, that is, - and asked for an explanation of the discrepancy."

"Good, and what was its answer?"

"I can quote you that word for word: 'The matter admits of no explanation.' "

"And how did Vincent interpret that?"

"In two ways. Either we had not given the Machine enough data to allow a definite answer, which was unlikely. Dr. Silver admitted that. - Or else, it was impossible for the Machine to admit that it could give any answer to data which implied that it could harm a human being. This, naturally, is implied by the First Law. And then Dr. Silver recommended that I see you."

Susan Calvin looked very tired, "I'm old, Stephen. When Peter Bogert died, they wanted to make me Director of Research and I refused. I wasn't young then, either, and I did not wish the responsibility. They let young Silver have it and that satisfied me; but what good is it, if I am dragged into such messes."

"Stephen, let me state my position. My researches do indeed involve the interpretation of robot behavior in the light of the Three Laws of Robotics. Here, now, we have these incredible calculating machines. They are positronic robots and therefore obey the Laws of Robotics. But they lack personality; that is, their functions are extremely limited. Must be, since they are so specialized. Therefore, there is very little room for the

interplay of the Laws, and my one method of attack is virtually useless. In short, I don't know that I can help you, Stephen."

The Co-ordinator laughed shortly, "Nevertheless, let me tell you the rest. Let me give you my theories, and perhaps you will then be able to tell me whether they are possible in the light of robopsychology."

"By all means. Go ahead."

"Well, since the Machines are giving the wrong answers, then, assuming that they cannot be in error, there is only one possibility. They are being given the wrong data! In other words, the trouble is human, and not robotic. So I took my recent planetary inspection tour-

"From which you have just returned to New York."

"Yes. It was necessary, you see, since there are four Machines, one handling each of the Planetary Regions. And all four are yielding imperfect results."

"Oh, but that follows, Stephen. If any one of the Machines is imperfect, that will automatically reflect in the result of the other three, since each of the others will assume as part of the data on which they base their own decisions, the perfection of the imperfect fourth. With a false assumption, they will yield false answers."

"Uh-huh. So it seemed to me. Now, I have here the records of my interviews with each of the Regional Vice-Coordinators. Would you look through them with me? - Oh, and first, have you heard of the 'Society for Humanity'?"

"Umm, yes. They are an outgrowth of the Fundamentalists who have kept U. S. Robots from ever employing positronic robots on the grounds of unfair labor competition and so on. The 'Society for Humanity' itself is anti-Machine, is it not?"

"Yes, yes, but - Well, you will see. Shall we begin? We'll start with the Eastern Region."

"As you say-

The Eastern Region:

1. Area: 7,500,000 square miles
2. Population: 1,700,000,000
3. Capital: Shanghai

Ching Hso-lin's great-grandfather had been killed in the Japanese invasion of the old Chinese Republic, and there had been no one beside his dutiful children to mourn his loss or even to know he was lost. Ching Hso-lin's grandfather had survived the civil war of the late forties, but there had been no one beside his dutiful children to know or care of that.

And yet Ching Hso-lin was a Regional Vice-Co-ordinator, with the economic welfare of half the people of Earth in his care.

Perhaps it was with the thought of all that in mind, that Ching had two maps as the only ornaments on the wall of his office. One was an old hand-drawn affair tracing out an acre or two of land, and marked with the now outmoded pictographs of old China. A little creek trickled aslant the faded markings and there were the delicate pictorial indications of lowly huts, in one of which Ching's grandfather had been born.

The other map was a huge one, sharply delineated, with all markings in neat Cyrillic characters. The red boundary that marked the Eastern Region swept within its grand confines all that had once been China, India, Burma, Indo-China, and Indonesia. On it, within the old province of Szechuan, so light and gentle that none could see it, was the little mark placed there by Ching which indicated the location of his ancestral farm.

Ching stood before these maps as he spoke to Stephen Byerley in precise English, "No one knows better than you, Mr. Co-ordinator, that my job, to a large extent, is a sinecure. It carries with it a certain social standing, and I represent a convenient focal point for administration, but otherwise it is the Machine! - The Machine does all the work. What did you think, for instance, of the Tientsin Hydroponics works?"

"Tremendous!" said Byerley.

"It is but one of dozens, and not the largest. Shanghai, Calcutta, Batavia, Bangkok - They are widely spread and they are the answer to feeding the billion and three quarters of the East."

"And yet," said Byerley, "you have an unemployment problem there at Tientsin. Can you be over-producing? It is incongruous to think of Asia as suffering from too much food."

Ching's dark eyes crinkled at the edges. "No. It has not come to that yet. It is true that over the last few months, several vats at Tientsin have been shut down, but it is nothing serious. The men have been released only temporarily and those who do not care to work in other fields have been shipped to Colombo in Ceylon, where a new plant is being put into operation."

"But why should the vats be closed down?"

Ching smiled gently, "You do not know much of hydroponics, I see. Well, that is not surprising. You are a Northerner, and there soil farming is still profitable. It is fashionable in the North to think of hydroponics, when it is thought of at all, as a device of growing turnips in a chemical solution, and so it is - in an infinitely complicated way.

"In the first place, by far the largest crop we deal with (and the percentage is growing) is yeast. We have upward of two thousand strains of yeast in production and new strains are added monthly. The basic food-chemicals of the various yeasts are nitrates and phosphates among the inorganics together with proper amounts of the trace metals needed, down to the fractional parts per million of boron and molybdenum which are required. The organic matter is mostly sugar mixtures derived from the hydrolysis of cellulose, but, in addition, there are various food factors which must be added.

"For a successful hydroponics industry - one which can feed seventeen hundred million people - we must engage in an immense reforestation program throughout the East; we must have huge wood-conversion plants to deal with our southern jungles; we must have power, and steel, and chemical synthetics above all."

"Why the last, sir?"

"Because, Mr. Byerley, these strains of yeast have each their peculiar properties. We have developed, as I said, two thousand strains. The beefsteak you thought you ate

today was yeast. The frozen fruit confection you had for dessert was iced yeast. We have filtered yeast juice with the taste, appearance, and all the food value of milk.

"It is flavor, more than anything else, you see, that makes yeast feeding popular and for the sake of flavor we have developed artificial, domesticated strains that can no longer support themselves on a basic diet of salts and sugar. One needs biotin; another needs pteroylglutamic acid; still others need seventeen different amino acids supplied them as well as all the Vitamins B, but one (and yet it is popular and we cannot, with economic sense, abandon it) -"

Byerley stirred in his seat, "To what purpose do you tell me all this?"

"You asked me, sir, why men are out of work in Tientsin. I have a little more to explain. It is not only that we must have these various and varying foods for our yeast; but there remains the complicating factor of popular fads with passing time; and of the possibility of the development of new strains with the new requirements and new popularity. All this must be foreseen, and the Machine does the job-"

"But not perfectly."

"Not very imperfectly, in view of the complications I have mentioned. Well, then, a few thousand workers in Tientsin are temporarily out of a job. But, consider this, the amount of waste in this past year (waste that is, in terms of either defective supply or defective demand) amounts to not one-tenth of one percent of our total productive turnover. I consider that-"

"Yet in the first years of the Machine, the figure was nearer one-thousandth of one percent."

"Ah, but in the decade since the Machine began its operations in real earnest, we have made use of it to increase our old pre-Machine yeast industry twenty-fold. You expect imperfections to increase with complications, though-"

"Though?"

"There was the curious instance of Rama Vrasayana."

"What happened to him?"

"Vrasayana was in charge of a brine-evaporation plant for the production of iodine, with which yeast can do without, but human beings not. His plant was forced into receivership."

"Really? And through what agency?"

"Competition, believe it or not. In general, one of the chiefest functions of the Machine's analyses is to indicate the most efficient distribution of our producing units. It is obviously faulty to have areas insufficiently serviced, so that the transportation costs account for too great a percentage of the overhead. Similarly, it is faulty to have an area too well serviced, so that factories must be run at lowered capacities, or else compete harmfully with one another. In the case of Vrasayana, another plant was established in the same city, and with a more efficient extracting system."

"The Machine permitted it?"

"Oh, certainly. That is not surprising. The new system is becoming widespread. The surprise is that the Machine failed to warn Vrasayana to renovate or combine. - Still,

no matter. Vrasayana accepted a job as engineer in the new plant, and if his responsibility and pay are now less, he is not actually suffering. The workers found employment easily; the old plant has been converted to - something or other. Something useful. We left it all to the Machine."

"And otherwise you have no complaints."

"None!"

The Tropic Region:

a. Area: 22,000,000 square miles

b. Population: 500,000,000

c. Capital: Capital City

The map in Lincoln Ngoma's office was far from the model of neat precision of the one in Ching's Shanghai dominion. The boundaries of Ngoma's Tropic Region were stenciled in dark, wide brown and swept about a gorgeous interior labeled "jungle" and "desert" and "here be Elephants and all Manner of Strange Beasts."

It had much to sweep, for in land area the Tropic Region enclosed most of two continents: all of South America north of Argentina and all of Africa south of the Atlas. It included North America south of the Rio Grande as well, and even Arabia and Iran in Asia. It was the reverse of the Eastern Region. Where the ant hives of the Orient crowded half of humanity into 15 percent of the land mass, the Tropics stretched its 15 per cent of Humanity over nearly half of all the land in the world.

But it was growing. It was the one Region whose population increase through immigration exceeded that through births. - And for all who came it had use.

To Ngoma, Stephen Byerley seemed like one of these immigrants, a pale searcher for the creative work of carving a harsh environment into the softness necessary for man, and he felt some of that automatic contempt of the strong man born to the strong Tropics for the unfortunate pallards of the colder suns.

The Tropics had the newest capital city on Earth, and it was called simply that: "Capital City," in the sublime confidence of youth. It spread brightly over the fertile uplands of Nigeria and outside Ngoma's windows, far below, was life and color; the bright, bright sun and the quick, drenching showers. Even the squawking of the rainbowed birds was brisk and the stars were hard pinpoints in the sharp night.

Ngoma laughed. He was a big, dark man, strong faced and handsome.

"Sure," he said, and his English was colloquial and mouth-filling, "the Mexican Canal is overdue. What the hell? It will get finished just the same, old boy."

"It was doing well up to the last half year."

Ngoma looked at Byerley and slowly crunched his teeth over the end of a big cigar, spitting out one end and lighting the other, "Is this an official investigation, Byerley? What's going on?"

"Nothing. Nothing at all. It's just my function as Coordinator to be curious."

"Well, if it's just that you are filling in a dull moment, the truth is that we're always short on labor. There's lots going on in the Tropics. The Canal is only one of them-

"But doesn't your Machine predict the amount of labor available for the Canal, - allowing for all the competing projects?"

Ngoma placed one hand behind his neck and blew smoke rings at the ceiling, "It was a little off."

"Is it often a little off?"

"Not oftener than you would expect. - We don't expect too much of it, Byerley. We feed it data. We take its results. We do what it says. - But it's just a convenience, just a laborsaving device. We could do without it, if we had to. Maybe not as well, maybe not as quickly, but we'd get there.

"We've got confidence out here, Byerley, and that's the secret. Confidence! We've got new land that's been waiting for us for thousands of years, while the rest of the world was being ripped apart in the lousy fumbblings of pre-atomic time. We don't have to eat yeast like the Eastern boys, and we don't have to worry about the stale dregs of the last century like you Northerners.

"We've wiped out the tsetse fly and the Anopheles mosquito, and people find they can live in the sun and like it, now. We've thinned down the jungles and found soil; we've watered the deserts and found gardens. We've got coal and oil in untouched fields, and minerals out of count.

"Just step back. That's all we ask the rest of the world to do. - Step back, and let us work."

Byerley said, prosaically, "But the Canal, - it was on schedule six months ago. What happened?"

Ngoma spread his hands, "Labor troubles." He felt through a pile of papers skeltered about his desk and gave it up.

"Had something on the matter here," he muttered, "but never mind. There was a work shortage somewhere in Mexico once on the question of women. There weren't enough women in the neighborhood. It seemed no one had thought of feeding sexual data to the Machine."

He stopped to laugh, delightedly, then sobered, "Wait a while. I think I've got it. - Villafranca!"

"Villafranca?"

"Francisco Villafranca. - He was the engineer in charge. Now let me straighten it out. Something happened and there was a cave-in. Right. Right. That was it. Nobody died, as I remember, but it made a hell of a mess. - Quite a scandal."

"Oh?"

"There was some mistake in his calculations. - Or at least, the Machine said so. They fed through Villafranca's data, assumptions, and so on. The stuff he had started with. The answers came out differently. It seems the answers Villafranca had used didn't take account of the effect of a heavy rainfall on the contours of the cut. - Or something like that. I'm not an engineer, you understand.

"Anyway, Villafranca put up a devil of a squawk. He claimed the Machine's answer had been different the first time. That he had followed the Machine faithfully. Then he

quit! We offered to hold him on - reasonable doubt, previous work satisfactory, and all that - in a subordinate position, of course - had to do that much - mistakes can't go unnoticed - bad for discipline - Where was I?"

"You offered to hold him on."

"Oh yes. He refused. - Well, take all in all, we're two months behind. Hell, that's nothing."

Byerley stretched out his hand and let the fingers tap lightly on the desk, "Villafranca blamed the Machine, did he?"

"Well, he wasn't going to blame himself, was he? Let's face it; human nature is an old friend of ours. Besides, I remember something else now - Why the hell can't I find documents when I want them? My filing system isn't worth a damn - This Villafranca was a member of one of your Northern organizations. Mexico is too close to the North! that's part of the trouble."

"Which organization are you speaking of?"

"The Society of Humanity, they call it. He used to attend the annual conference in New York, Villafranca did. Bunch of crackpots, but harmless. - They don't like the Machines; claim they're destroying human initiative. So naturally Villafranca would blame the Machine. - Don't understand that group myself. Does Capital City look as if the human race were running out of initiative?"

And Capital City stretched out in golden glory under a golden sun, - the newest and youngest creation of Homo metropolis.

The European Region

- a. Area: 4,000,000 square miles
- b. Population: 300,000,000
- c. Capital: Geneva

The European Region was an anomaly in several ways. In area, it was far the smallest, not one-fifth the size of the Tropic Region in area, and not one-fifth the size of the Eastern Region in population. Geographically, it was only somewhat similar to pre-Atomic Europe, since it excluded what had once been European Russia and what had once been the British Isles, while it included the Mediterranean coasts of Africa and Asia, and, in a queer jump across the Atlantic, Argentina, Chile, and Uruguay as well.

Nor was it likely to improve its relative status vis-...-vis the other regions of Earth, except for what vigor the South American provinces lent it. Of all the Regions, it alone showed a positive population decline over the past half century. It alone had not seriously expanded its productive facilities, or offered anything radically new to human culture.

"Europe," said Madame Szegeczowska, in her soft French, "is essentially an economic appendage of the Northern Region. We know it, and it doesn't matter."

And as though in resigned acceptance of a lack of individuality, there was no map of Europe on the wall of the Madame Co-ordinator's office.

"And yet," pointed out Byerley, "you have a Machine of your own, and you are certainly under no economic pressure from across the ocean."

"A Machine! Bah!" She shrugged her delicate shoulders, and allowed a thin smile to cross her little face as she tamped out a cigarette with long fingers. "Europe is a sleepy place. And such of our men as do not manage to immigrate to the Tropics are tired and sleepy along with it. You see for yourself that it is myself, a poor woman, to whom falls the task of being Vice-Co-ordinator. Well, fortunately, it is not a difficult job, and not much is expected of me.

"As for the Machine - What can it say but 'Do this and it will be best for you.' But what is best for us? Why, to be an economic appendage of the Northern Region.

"And is it so terrible? No wars! We live in peace - and it is pleasant after seven thousand years of war. We are old, monsieur. In our borders, we have the regions where Occidental civilization was cradled. We have Egypt and Mesopotamia; Crete and Syria; Asia Minor and Greece. - But old age is not necessarily an unhappy time. It can be a fruition-

"Perhaps you are right," said Byerley, affably. "At least the tempo of life is not as intense as in the other Regions. It is a pleasant atmosphere."

"Is it not? - Tea is being brought, monsieur. If you will indicate your cream and sugar preference, please. Thank you.

She sipped gently, then continued, "It is pleasant. The rest of Earth is welcome to the continuing struggle. I find a parallel here, a very interesting one. There was a time when Rome was master of the world. It had adopted the culture and civilization of Greece, a Greece which had never been united, which had ruined itself with war, and which was ending in a state of decadent squalor. Rome united it, brought it peace and let it live a life of secure non-glory. It occupied itself with its philosophies and its art, far from the clash of growth and war. It was a sort of death, but it was restful, and it lasted with minor breaks for some four hundred years."

"And yet," said Byerley, "Rome fell eventually, and the opium dream was over."

"There are no longer barbarians to overthrow civilization."

"We can be our own barbarians. Madame Szegezowska. - Oh, I meant to ask you. The Almaden mercury mines have fallen off quite badly in production. Surely the ores are not declining more rapidly than anticipated?"

The little woman's gray eyes fastened shrewdly on Byerley, "Barbarians - the fall of civilization - possible failure of the Machine. Your thought processes are very transparent, monsieur."

"Are they?" Byerley smiled. "I see that I should have had men to deal with as hitherto. - You consider the Almaden affair to be the fault of the Machine?"

"Not at all, but I think you do. You, yourself, are a native of the Northern Region. The Central Co-ordination Office is at New York. - And I have noticed for quite a while that you Northerners lack somewhat of faith in the Machine."

"We do?"

"There is your 'Society for Humanity' which is strong in the North, but naturally fails to find many recruits in tired, old Europe, which is quite willing to let feeble Humanity

alone for a while. Surely, you are one of the confident North and not one of the cynical old continent."

"This has a connection with Almaden?"

"Oh, yes, I think so. The mines are in the control of Consolidated Cinnabar, which is certainly a Northern company, with headquarters at Nikolaev. Personally, I wonder if the Board of Directors have been consulting the Machine at all. They said they had in our conference last month, and, of course, we have no evidence that they did not, but I wouldn't take the word of a Northerner in this matter - no offense intended - under any circumstances. - Nevertheless, I think it will have a fortunate ending."

"In what way, my dear madam?"

"You must understand that the economic irregularities of the last few months, which, although small as compared with the great storms of the past, are quite disturbing to our peace-drenched spirits, have caused considerable restiveness in the Spanish province. I understand that Consolidated Cinnabar is selling out to a group of native Spaniards. It is consoling. If we are economic vassals of the North, it is humiliating to have the fact advertised too blatantly. - And our people can be better trusted to follow the Machine."

"Then you think there will be no more trouble?"

"I am sure there will not be - In Almaden, at least."

The Northern Region

- a. Area: 18,000,000 square miles
- b. Population: 800,000,000
- c. Capital: Ottawa

The Northern Region, in more ways than one, was at the top. This was exemplified quite well by the map in the Ottawa office of Vice-Co-ordinator Hiram Mackenzie, in which the North Pole was centered. Except for the enclave of Europe with its Scandinavian and Icelandic regions, all the Arctic area was within the Northern Region.

Roughly, it could be divided into two major areas. To the left on the map was all of North America above the Rio Grande. To the right was included all of what had once been the Soviet Union. Together these areas represented the centered power of the planet in the first years of the Atomic Age. Between the two was Great Britain, a tongue of the Region licking at Europe. Up at the top of the map, distorted into odd, huge shapes, were Australia and New Zealand, also member provinces of the Region.

Not all the changes of the past decades had yet altered the fact that the North was the economic ruler of the planet.

There was almost an ostentatious symbolism thereof in the fact that of the official Regional maps Byerley had seen, Mackenzie's alone showed all the Earth, as though the North feared no competition and needed no favoritism to point up its pre-eminence.

"Impossible," said Mackenzie, dourly, over the whiskey. "Mr. Byerley, you have had no training as a robot technician, I believe."

"No, I have not."

"Hmp. Well, it is, in my opinion, a sad thing that Ching, Ngoma and Szegeczowska haven't either. There is too prevalent an opinion among the peoples of Earth that a Co-ordinator need only be a capable organizer, a broad generalizer, and an amiable person. These days he should know his robotics as well, no offense intended."

"None taken. I agree with you."

"I take it, for instance, from what you have said already, that you worry about the recent trifling dislocation in world economy. I don't know what you suspect, but it has happened in the past that people - who should have known better - wondered what would happen if false data were fed into the Machine."

"And what would happen, Mr. Mackenzie?"

"Well," the Scotsman shifted his weight and sighed, "all collected data goes through a complicated screening system which involves both human and mechanical checking, so that the problem is not likely to arise. - But let us ignore that. Humans are fallible, also corruptible, and ordinary mechanical devices are liable to mechanical failure."

"The real point of the matter is that what we call a 'wrong datum' is one which is inconsistent with all other known data. It is our only criterion of right and wrong. It is the Machine's as well. Order it for instance, to direct agricultural activity on the basis of an average July temperature in Iowa of 57 degrees Fahrenheit. It won't accept that. It will not give an answer. - Not that it has any prejudice against that particular temperature, or that an answer is impossible; but because, in the light of all the other data fed it over a period of years, it knows that the probability of an average July temperature of 57 is virtually nil. It rejects that datum."

"The only way a 'wrong datum' can be forced on the Machine is to include it as part of a self-consistent whole, all of which is subtly wrong in a manner either too delicate for the Machine to detect or outside the Machine's experience. The former is beyond human capacity, and the latter is almost so, and is becoming more nearly so as the Machine's experience increases by the second."

Stephen Byerley placed two fingers to the bridge of his nose, "Then the Machine cannot be tampered with - And how do you account for recent errors, then?"

"My dear Byerley, I see that you instinctively follow that great error - that the Machine knows all. Let me cite you a case from my personal experience. The cotton industry engages experienced buyers who purchase cotton. Their procedure is to pull a tuft of cotton out of a random bale of a lot. They will look at that tuft and feel it, tease it out, listen to the crackling perhaps as they do so, touch it with their tongue, and through this procedure they will determine the class of cotton the bales represent. There are about a dozen such classes. As a result of their decisions, purchases are made at certain prices; blends are made in certain proportions. - Now these buyers cannot yet be replaced by the Machine."

"Why not? Surely the data involved is not too complicated for it?"

"Probably not. But what data is this you refer to? No textile chemist knows exactly what it is that the buyer tests when he feels a tuft of cotton. Presumably there's the average length of the threads, their feel, the extent and nature of their slickness, the way

they hang together, and so on. - Several dozen items, subconsciously weighed, out of years of experience. But the quantitative nature of these tests is not known; maybe even the very nature of some of them is not known. So we have nothing to feed the Machine. Nor can the buyers explain their own judgment. They can only say, 'Well, look at it. Can't you tell it's class-such-and-such?' "

"I see."

"There are innumerable cases like that. The Machine is only a tool after all, which can help humanity progress faster by taking some of the burdens of calculations and interpretations off its back. The task of the human brain remains what it has always been, that of discovering new data to be analyzed, and of devising new concepts to be tested. A pity the Society for Humanity won't understand that."

"They are against the Machine?"

"They would be against mathematics or against the art of writing if they had lived at the appropriate time. These reactionaries of the Society claim the Machine robs man of his soul. I notice that capable men are still at a premium in our society; we still need the man who is intelligent enough to think of the proper questions to ask. Perhaps if we could find enough of such, these dislocations you worry about, Coordinator, wouldn't occur."

Earth (Including the uninhabited continent, Antarctica)

a. Area: 54,000,000 square miles (land surface)

b. Population: 3,300,000,000

c. Capital: New York

The fire behind the quartz was weary now, and sputtered its reluctant way to death.

The Co-ordinator was somber, his mood matching the sinking flame.

"They all minimize the state of affairs." His voice was low. "Is it not easy to imagine that they all laugh at me? And yet Vincent Silver said the Machines cannot be out of order, and I must believe him. Hiram Mackenzie says they cannot be fed false data, and I must believe him. But the Machines are going wrong, somehow, and I must believe that, too; and so there is still an alternative left."

He glanced sidewise at Susan Calvin, who, with closed eyes, for a moment seemed asleep.

"What is that?" she asked, prompt to her cue, nevertheless.

"Why, that correct data is indeed given, and correct answers are indeed received, but that they are then ignored. There is no way the Machine can enforce obedience to its dictates."

"Madame Szegeczowska hinted as much, with reference to Northerners in general, it seems to me."

"So she did."

"And what purpose is served by disobeying the Machine? Let's consider motivations."

"It's obvious to me, and should be to you. It is a matter of rocking the boat, deliberately. There can be no serious conflicts on Earth, in which one group or another

can seize more power than it has for what it thinks is its own good despite the harm to Mankind as a whole, while the Machines rule. If popular faith in the Machines can be destroyed to the point where they are abandoned, it will be the law of the jungle again. - And not one of the four Regions can be freed of the suspicion of wanting just that.

"The East has half of humanity within its borders, and the Tropics more than half of Earth's resources. Each can feel itself the natural rulers of all Earth, and each has a history of humiliation by the North, for which it can be human enough to wish a senseless revenge. Europe has a tradition of greatness, on the other hand. It once did rule the Earth, and there is nothing so eternally adhesive as the memory of power.

"Yet, in another way, it's hard to believe. Both the East and the Tropics are in a state of enormous expansion within their own borders. Both are climbing incredibly. They cannot have the spare energy for military adventures. And Europe can have nothing but its dreams. It is a cipher, militarily."

"So, Stephen," said Susan, "you leave the North."

"Yes," said Byerley, energetically, "I do. The North is now the strongest, and has been for nearly a century, or its component parts have been. But it is losing relatively, now. The Tropic Regions may take their place in the forefront of civilization for the first time since the Pharaohs, and there are Northerners who fear that.

"The 'Society for Humanity' is a Northern organization, primarily, you know, and they make no secret of not wanting the Machines. - Susan, they are few in numbers, but it is an association of powerful men. Heads of factories; directors of industries and agricultural combines who hate to be what they call 'the Machine's office-boy' belong to it. Men with ambition belong to it. Men who feel themselves strong enough to decide for themselves what is best for themselves, and not just to be told what is best for others."

"In short, just those men who, by together refusing to accept the decisions of the Machine, can, in a short time, turn the world topsy-turvy; just those belong to the Society.

"Susan, it hangs together. Five of the Directors of World Steel are members, and World Steel suffers from overproduction. Consolidated Cinnabar, which mined mercury at Almaden, was a Northern concern. Its books are still being investigated, but one, at least, of the men concerned was a member. Francisco Villafranca, who, single-handed, delayed the Mexican Canal for two months, was a member, we know already - and so was Rama Vrasayana, I was not at all surprised to find out."

Susan said, quietly, "These men, I might point out, have all done badly-"

"But naturally," interjected Byerley. "To disobey the Machine's analyses is to follow a non-optimal path. Results are poorer than they might be. It's the price they pay. They will have it rough now but in the confusion that will eventually follow-"

"Just what do you plan doing, Stephen?"

"There is obviously no time to lose. I am going to have the Society outlawed, every member removed from any responsible post. And all executive and technical positions, henceforward, can be filled only by applicants signing a non-Society oath. It will mean a certain surrender of basic civil liberties, but I am sure the Congress-"

"It won't work!"

"What! - Why not?"

"I will make a prediction. If you try any such thing, you will find yourself hampered at every turn. You will find it impossible to carry out. You will find your every move in that direction will result in trouble."

Byerley was taken aback, "Why do you say that? I was rather hoping for your approval in this matter."

"You can't have it as long as your actions are based on a false premise. You admit the Machine can't be wrong, and can't be fed wrong data. I will now show you that it cannot be disobeyed, either, as you think is being done by the Society."

"That I don't see at all."

"Then listen. Every action by any executive which does not follow the exact directions of the Machine he is working with becomes part of the data for the next problem. The Machine, therefore, knows that the executive has a certain tendency to disobey. He can incorporate that tendency into that data, - even quantitatively, that is, judging exactly how much and in what direction disobedience would occur. Its next answers would be just sufficiently biased so that after the executive concerned disobeyed, he would have automatically corrected those answers to optimal directions. The Machine knows, Stephen!"

"You can't be sure of all this. You are guessing."

"It is a guess based on a lifetime's experience with robots. You had better rely on such a guess, Stephen."

"But then what is left? The Machines themselves are correct and the premises they work on are correct. That we have agreed upon. Now you say that it cannot be disobeyed. Then what is wrong?"

"You have answered yourself. Nothing is wrong! Think about the Machines for a while, Stephen. They are robots, and they follow the First Law. But the Machines work not for any single human being, but for all humanity, so that the First Law becomes: 'No Machine may harm humanity; or, through inaction, allow humanity to come to harm.'

"Very well, then, Stephen, what harms humanity? Economic dislocations most of all, from whatever cause. Wouldn't you say so?"

"I would."

"And what is most likely in the future to cause economic dislocations? Answer that, Stephen."

"I should say," replied Byerley, unwillingly, "the destruction of the Machines."

"And so should I say, and so should the Machines say. Their first care, therefore, is to preserve themselves, for us. And so they are quietly taking care of the only elements left that threaten them. It is not the 'Society for Humanity' which is shaking the boat so that the Machines may be destroyed. You have been looking at the reverse of the picture. Say rather that the Machine is shaking the boat-very slightly-just enough to shake loose those few which cling to the side for purposes the Machines consider harmful to Humanity.

"So Vrasayana loses his factory and gets another job where he can do no harm - he is not badly hurt, he is not rendered incapable of earning a living, for the Machine cannot harm a human being more than minimally, and that only to save a greater number. Consolidated Cinnabar loses control at Almaden. Villafranca is no longer a civil engineer in charge of an important project. And the directors of World Steel are losing their grip on the industry - or will."

"But you don't really know all this," insisted Byerley, distractedly. "How can we possibly take a chance on your being right?"

"You must. Do you remember the Machine's own statement when you presented the problem to him? It was: 'The matter admits of no explanation.' The Machine did not say there was no explanation, or that it could determine no explanation. It simply was not going to admit any explanation. In other words, it would be harmful to humanity to have the explanation known, and that's why we can only guess - and keep on guessing."

"But how can the explanation do us harm? Assume that you are right, Susan."

"Why, Stephen, if I am right, it means that the Machine is conducting our future for us not only simply in direct answer to our direct questions, but in general answer to the world situation and to human psychology as a whole. And to know that may make us unhappy and may hurt our pride. The Machine cannot, must not, make us unhappy."

"Stephen, how do we know what the ultimate good of Humanity will entail? We haven't at our disposal the infinite factors that the Machine has at its! Perhaps, to give you a not unfamiliar example, our entire technical civilization has created more unhappiness and misery than it has removed. Perhaps an agrarian or pastoral civilization, with less culture and less people would be better. If so, the Machines must move in that direction, preferably without telling us, since in our ignorant prejudices we only know that what we are used to, is good - and we would then fight change. Or perhaps a complete urbanization, or a completely caste-ridden society, or complete anarchy, is the answer. We don't know. Only the Machines know, and they are going there and taking us with them."

"But you are telling me, Susan, that the 'Society for Humanity' is right; and that Mankind has lost its own say in its future."

"It never had any, really. It was always at the mercy of economic and sociological forces it did not understand - at the whims of climate, and the fortunes of war. Now the Machines understand them; and no one can stop them, since the Machines will deal with them as they are dealing with the Society, - having, as they do, the greatest of weapons at their disposal, the absolute control of our economy."

"How horrible!"

"Perhaps how wonderful! Think, that for all time, all conflicts are finally evitable. Only the Machines, from now on, are inevitable!"

And the fire behind the quartz went out and only a curl of smoke was left to indicate its place.

FEMININE INTUITION

The Three Laws of Robotics:

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

For the first time in the history of United States Robots and Mechanical Men Corporation, a robot had been destroyed through accident on Earth itself.

No one was to blame. The air vehicle had been demolished in mid-air and an unbelieving investigating committee was wondering whether they really dared announce the evidence that it had been hit by a meteorite. Nothing else could have been fast enough to prevent automatic avoidance; nothing else could have done the damage short of a nuclear blast and that was out of the question.

Tie that in with a report of a flash in the night sky just before the vehicle had exploded-and from Flagstaff Observatory, not from an amateur-and the location of a sizable and distinctly meteoric bit of iron freshly gouged into the ground a mile from the site and what other conclusion could be arrived at?

Still, nothing like that had ever happened before and calculations of the odds against it yielded monstrous figures. Yet even colossal improbabilities can happen sometimes.

At the offices of United States Robots, the hows and whys of it were secondary. The real point was that a robot had been destroyed.

That, in itself, was distressing.

The fact that JN-5 had been a prototype, the first, after four earlier attempts, to have been placed in the field, was even more distressing.

The fact that JN-5 was a radically new type of robot, quite different from anything ever built before, was abysmally distressing.

The fact that JN-5 had apparently accomplished something before its destruction that was incalculably important and that that accomplishment might now be forever gone, placed the distress utterly beyond words.

It seemed scarcely worth mentioning that, along with the robot, the Chief Robopsychologist of United States Robots had also died.

Clinton Madarian had joined the firm ten years before. For five of those years, he had worked uncomplainingly under the grumpy supervision of Susan Calvin.

Madarian's brilliance was quite obvious and Susan Calvin had quietly promoted him over the heads of older men. She wouldn't, in any case, have deigned to give her

reasons for this to Research Director Peter Bogert, but as it happened, no reasons were needed. Or, rather, they were obvious.

Madarian was utterly the reverse of the renowned Dr. Calvin in several very noticeable ways. He was not quite as overweight as his distinct double chin made him appear to be, but even so he was overpowering in his presence, where Susan had gone nearly unnoticed. Madarian's massive face, his shock of glistening red-brown hair, his ruddy complexion and booming voice, his loud laugh, and most of all, his irrepressible self-confidence and his eager way of announcing his successes, made everyone else in the room feel there was a shortage of space.

When Susan Calvin finally retired (refusing, in advance, any cooperation with respect to any testimonial dinner that might be planned in her honor, with so firm a manner that no announcement of the retirement was even made to the news services) Madarian took her place.

He had been in his new post exactly one day when he initiated the JN project.

It had meant the largest commitment of funds to one project that United States Robots had ever had to weigh, but that was something which Madarian dismissed with a genial wave of the hand.

"Worth every penny of it, Peter," he said. "And I expect you to convince the Board of Directors of that."

"Give me reasons," said Bogert, wondering if Madarian would. Susan Calvin had never given reasons.

But Madarian said, "Sure," and settled himself easily into the large armchair in the Director's office.

Bogert watched the other with something that was almost awe. His own once-black hair was almost white now and within the decade he would follow Susan into retirement. That would mean the end of the original team that had built United States Robots into a globe-girdling firm that was a rival of the national governments in complexity and importance. Somehow neither he nor those who had gone before him ever quite grasped the enormous expansion of the firm.

But this was a new generation. The new men were at ease with the Colossus. They lacked the touch of wonder that would have them tiptoeing in disbelief. So they moved ahead, and that was good.

Madarian said, "I propose to begin the construction of robots without constraint."

"Without the Three Laws? Surely-"

"No, Peter. Are those the only constraints you can think of? Hell, you contributed to the design of the early positronic brains. Do I have to tell you that, quite aside from the Three Laws, there isn't a pathway in those brains that isn't carefully designed and fixed? We have robots planned for specific tasks, implanted with specific abilities."

"And you propose-"

"That at every level below the Three Laws, the paths be made open-ended. It's not difficult."

Bogert said dryly, "It's not difficult, indeed. Useless things are never difficult. The difficult thing is fixing the paths and making the robot useful."

"But why is that difficult? Fixing the paths requires a great deal of effort because the Principle of Uncertainty is important in particles the mass of positrons and the uncertainty effect must be minimized. Yet why must it? If we arrange to have the Principle just sufficiently prominent to allow the crossing of paths unpredictably-"

"We have an unpredictable robot."

"We have a creative robot," said Madarian, with a trace of impatience. "Peter, if there's anything a human brain has that a robotic brain has never had, it's the trace of unpredictability that comes from the effects of uncertainty at the subatomic level. I admit that this effect has never been demonstrated experimentally within the nervous system, but without that the human brain is not superior to the robotic brain in principle."

"And you think that if you introduce the effect into the robotic brain, the human brain will become not superior to the robotic brain in principle."

"That, " said Madarian, "is exactly what I believe." They went on for a long time after that.

The Board of Directors clearly had no intention of being easily convinced.

Scott Robertson, the largest shareholder in the firm, said, "It's hard enough to manage the robot industry as it is, with public hostility to robots forever on the verge of breaking out into the open. If the public gets the idea that robots will be uncontrolled. . . Oh, don't tell me about the Three Laws. The average man won't believe the Three Laws will protect him if he as much as hears the word 'uncontrolled.' "

"Then don't use it, " said Madarian. "Call the robot-call it 'intuitive.' "

"An intuitive robot, " someone muttered. "A girl robot?" A smile made its way about the conference table.

Madarian seized on that. "All right. A girl robot. Our robots are sexless, of course, and so will this one be, but we always act as though they're males. We give them male pet names and call them he and him. Now this one, if we consider the nature of the mathematical structuring of the brain which I have proposed, would fall into the JN-coordinate system. The first robot would be JN-1, and I've assumed that it would be called John-10. . . I'm afraid that is the level of originality of the average roboticist. But why not call it Jane-1, damn it? If the public has to be let in on what we're doing, we're constructing a feminine robot with intuition."

Robertson shook his head, "What difference would that make? What you're saying is that you plan to remove the last barrier which, in principle, keeps the robotic brain inferior to the human brain. What do you suppose the public reaction will be to that?"

"Do you plan to make that public?" said Madarian. He thought a bit and then said, "Look. One thing the general public believes is that women are not as intelligent as men."

There was an instant apprehensive look on the face of more than one man at the table and a quick look up and down as though Susan Calvin were still in her accustomed seat.

Madarian said, "If we announce a female robot, it doesn't matter what she is. The public will automatically assume she is mentally backward. We just publicize the robot as Jane-1 and we don't have to say another word. We're safe."

"Actually," said Peter Bogert quietly, "there's more to it than that. Madarian and I have gone over the mathematics carefully and the JN series, whether John or Jane, would be quite safe. They would be less complex and intellectually capable, in an orthodox sense, than many another series we have designed and constructed. There would only be the one added factor of, well, let's get into the habit of calling it 'intuition.' "

"Who knows what it would do?" muttered Robertson.

"Madarian has suggested one thing it can do. As you all know, the Space Jump has been developed in principle. It is possible for men to attain what is, in effect, hyper-speeds beyond that of light and to visit other stellar systems and return in negligible time-weeks at the most."

Robertson said, "That's not new to us. It couldn't have been done without robots."

"Exactly, and it's not doing us any good because we can't use the hyper-speed drive except perhaps once as a demonstration, so that U. S. Robots gets little credit. The Space Jump is risky, it's fearfully prodigal of energy and therefore it's enormously expensive. If we were going to use it anyway, it would be nice if we could report the existence of a habitable planet. Call it a psychological need. Spend about twenty billion dollars on a single Space Jump and report nothing but scientific data and the public wants to know why their money was wasted. Report the existence of a habitable planet, and you're an interstellar Columbus and no one will worry about the money."

"So?"

"So where are we going to find a habitable planet? Or put it this way-which star within reach of the Space Jump as presently developed, which of the three hundred thousand stars and star systems within three hundred light-years has the best chance of having a habitable planet? We've got an enormous quantity of details on every star in our three-hundred-light-year neighborhood and a notion that almost every one has a planetary system. But which has a habitable planet? Which do we visit? . . . We don't know."

One of the directors said, "How would this Jane robot help us?"

Madarian was about to answer that, but he gestured slightly to Bogert and Bogert understood. The Director would carry more weight. Bogert didn't particularly like the idea; if the JN series proved a fiasco, he was making himself prominent enough in connection with it to insure that the sticky fingers of blame would cling to him. On the other hand, retirement was not all that far off, and if it worked, he would go out in a blaze of glory. Maybe it was only Madarian's aura of confidence, but Bogert had honestly come to believe it would work.

He said, "It may well be that somewhere in the libraries of data we have on those stars, there are methods for estimating the probabilities of the presence of Earth-type habitable planets. All we need to do is understand the data properly, look at them in the

appropriate creative manner, make the correct correlations. We haven't done it yet. Or if some astronomer has, he hasn't been smart enough to realize what he has.

"A JN-type robot could make correlations far more rapidly and far more precisely than a man could. In a day, it would make and discard as many correlations as a man could in ten years. Furthermore, it would work in truly random fashion, whereas a man would have a strong bias based on preconception and on what is already believed."

There was a considerable silence after that. Finally Robertson said, "But it's only a matter of probability, isn't it? Suppose this robot said, 'The highest-probability habitable-planet star within so-and-so light-years is Squidgee-17' or whatever, and we go there and find that a probability is only a probability and that there are no habitable planets after all. Where does that leave us?"

Madarian struck in this time. "We still win. We know how the robot came to the conclusion because it-she-will tell us. It might well help us gain enormous insight into astronomical detail and make the whole thing worthwhile even if we don't make the Space Jump at all. Besides, we can then work out the five most probable sites of planets and the probability that one of the five has a habitable planet may then be better than 0.95. It would be almost sure-"

They went on for a long time after that.

The funds granted were quite insufficient, but Madarian counted on the habit of throwing good money after bad. With two hundred million about to be lost irrevocably when another hundred million could save everything, the other hundred million would surely be voted.

Jane-1 was finally built and put on display. Peter Bogert studied it -her-gravely. He said, "Why the narrow waist? Surely that introduces a mechanical weakness?"

Madarian chuckled. "Listen, if we're going to call her Jane, there's no point in making her look like Tarzan."

Bogert shook his head. "Don't like it. You'll be bulging her higher up to give the appearance of breasts next, and that's a rotten idea. If women start getting the notion that robots may look like women, I can tell you exactly the kind of perverse notions they'll get, and you'll really have hostility on their part."

Madarian said, "Maybe you're right at that. No woman wants to feel replaceable by something with none of her faults. Okay."

Jane-2 did not have the pinched waist. She was a somber robot which rarely moved and even more rarely spoke.

Madarian had only occasionally come rushing to Bogert with items of news during her construction and that had been a sure sign that things were going poorly. Madarian's ebullience under success was overpowering. He would not hesitate to invade Bogert's bedroom at 3 A.M. with a hot-flash item rather than wait for the morning. Bogert was sure of that.

Now Madarian seemed subdued, his usually florid expression nearly pale, his round cheeks somehow pinched. Bogert said, with a feeling of certainty, "She won't talk."

"Oh, she talks." Madarian sat down heavily and chewed at his lower lip. "Sometimes, anyway," he said.

Bogert rose and circled the robot. "And when she talks, she makes no sense, I suppose. Well, if she doesn't talk, she's no female, is she?"

Madarian tried a weak smile for size and abandoned it. He said, "The brain, in isolation, checked out."

"I know," said Bogert. "But once that brain was put in charge of the physical apparatus of the robot, it was necessarily modified, of course."

"Of course," agreed Bogert unhelpfully. "But unpredictably and frustratingly. The trouble is that when you're dealing with n-dimensional calculus of uncertainty, things are-"

"Uncertain?" said Bogert. His own reaction was surprising him. The company investment was already most sizable and almost two years had elapsed, yet the results were, to put it politely, disappointing. Still, he found himself jabbing at Madarian and finding himself amused in the process.

Almost furtively, Bogert wondered if it weren't the absent Susan Calvin he was jabbing at. Madarian was so much more ebullient and effusive than Susan could ever possibly be-when things were going well. He was also far more vulnerably in the dumps when things weren't going well, and it was precisely under pressure that Susan never cracked. The target that Madarian made could be a neatly punctured bull's-eye as recompense for the target Susan had never allowed herself to be.

Madarian did not react to Bogert's last remark any more than Susan Calvin would have done; not out of contempt, which would have been Susan's reaction, but because he did not hear it.

He said argumentatively, "The trouble is the matter of recognition. We have Jane-2 correlating magnificently. She can correlate on any subject, but once she's done so, she can't recognize a valuable result from a valueless one. It's not an easy problem, judging how to program a robot to tell a significant correlation when you don't know what correlations she will be making."

"I presume you've thought of lowering the potential at the W-21 diode junction and sparking across the-"

"No, no, no, no-" Madarian faded off into a whispering diminuendo. "You can't just have it spew out everything. We can do that for ourselves. The point is to have it recognize the crucial correlation and draw the conclusion. Once that is done, you see, a Jane robot would snap out an answer by intuition. It would be something we couldn't get ourselves except by the oddest kind of luck."

"It seems to me," said Bogert dryly, "that if you had a robot like that, you would have her do routinely what, among human beings, only the occasional genius is capable of doing."

Madarian nodded vigorously. "Exactly, Peter. I'd have said so myself if I weren't afraid of frightening off the execs. Please don't repeat that in their hearing."

"Do you really want a robot genius?"

"What are words? I'm trying to get a robot with the capacity to make random correlations at enormous speeds, together with a key-significance high-recognition quotient. And I'm trying to put those words into positronic field equations. I thought I had it, too, but I don't. Not yet."

He looked at Jane-2 discontentedly and said, "What's the best significance you have, Jane?"

Jane-2's head turned to look at Madarian but she made no sound, and Madarian whispered with resignation, "She's running that into the correlation banks."

Jane-2 spoke tonelessly at last. "I'm not sure." It was the first sound she had made.

Madarian's eyes rolled upward. "She's doing the equivalent of setting up equations with indeterminate solutions."

"I gathered that," said Bogert. "Listen, Madarian, can you go anywhere at this point, or do we pull out now and cut our losses at half a billion?"

"Oh, I'll get it," muttered Madarian.

Jane-3 wasn't it. She was never as much as activated and Madarian was in a rage.

It was human error. His own fault, if one wanted to be entirely accurate. Yet though Madarian was utterly humiliated, others remained quiet. Let he who has never made an error in the fearsomely intricate mathematics of the positronic brain fill out the first memo of correction.

Nearly a year passed before Jane-4 was ready. Madarian was ebullient again. "She does it," he said. "She's got a good high-recognition quotient."

He was confident enough to place her on display before the Board and have her solve problems. Not mathematical problems; any robot could do that; but problems where the terms were deliberately misleading without being actually inaccurate.

Bogert said afterward, "That doesn't take much, really."

"Of course not. It's elementary for Jane-4 but I had to show them something, didn't I?"

"Do you know how much we've spent so far?"

"Come on, Peter, don't give me that. Do you know how much we've got back? These things don't go on in a vacuum, you know. I've had over three years of hell over this, if you want to know, but I've worked out new techniques of calculation that will save us a minimum of fifty thousand dollars on every new type of positronic brain we design, from now on in forever. Right?"

"Well--"

"Well me no wells. It's so. And it's my personal feeling that n-dimensional calculus of uncertainty can have any number of other applications if we have the ingenuity to find them, and my Jane robots will find them. Once I've got exactly what I want, the new JN series will pay for itself inside of five years, even if we triple what we've invested so far."

"What do you mean by 'exactly what you want'? What's wrong with Jane-4?"

"Nothing. Or nothing much. She's on the track, but she can be improved and I intend to do so. I thought I knew where I was going when I designed her. Now I've tested her and I know where I'm going. I intend to get there."

Jane-5 was it. It took Madarian well over a year to produce her and there he had no reservations; he was utterly confident.

Jane-5 was shorter than the average robot, slimmer. Without being a female caricature as Jane-1 had been, she managed to possess an air of femininity about herself despite the absence of a single clearly feminine feature.

"It's the way she's standing," said Bogert. Her arms were held gracefully and somehow the torso managed to give the impression of curving slightly when she turned.

Madarian said, "Listen to her. . . .How do you feel, Jane?"

"In excellent health, thank you," said Jane-5, and the voice was precisely that of a woman; it was a sweet and almost disturbing contralto.

"Why did you do that, Clinton?" said Peter, startled and beginning to frown.

"Psychologically important," said Madarian. "I want people to think of her as a woman; to treat her as a woman; to explain."

"What people?" Madarian put his hands in his pockets and stared thoughtfully at Bogert. "I would like to have arrangements made for Jane and myself to go to flagstaff."

Bogert couldn't help but note that Madarian didn't say Jane-5. He made use of no number this time. She was the Jane. He said doubtfully, "To flagstaff? Why?"

"Because that's the world center for general planetology, isn't it? It's where they're studying the stars and trying to calculate the probability of habitable planets, isn't it?"

"I know that, but it's on Earth."

"Well, and I surely know that."

"Robotic movements on Earth are strictly controlled. And there's no need for it. Bring a library of books on general planetology here and let Jane absorb them."

"No! Peter, will you get it through your head that Jane isn't the ordinary logical robot; she's intuitive."

"So?"

"So how can we tell what she needs, what she can use, what will set her off? We can use any metal model in the factory to read books; that's frozen data and out of date besides. Jane must have living information; she must have tones of voice, she must have side issues; she must have total irrelevancies even. How the devil do we know what or when something will go click-click inside her and fall into a pattern? If we knew, we wouldn't need her at all, would we?"

Bogert began to feel harassed. He said, "Then bring the men here, the general planetologists."

"Here won't be any good. They'll be out of their element. They won't react naturally. I want Jane to watch them at work; I want her to see their instruments, their offices, their desks, everything about them that she can. I want you to arrange to have her transported to flagstaff. And I'd really like not to discuss it any further."

For a moment he almost sounded like Susan. Bogert winced, and said, "It's complicated making such an arrangement. Transporting an experimental robot-

"Jane isn't experimental. She's the fifth of the series."

"The other four weren't really working models."

Madarian lifted his hands in helpless frustration. "Who's forcing you to tell the government that?"

"I'm not worried about the government. It can be made to understand special cases. It's public opinion. We've come a long way in fifty years and I don't propose to be set back twenty-five of them by having you lose control of a-

"I won't lose control. You're making foolish remarks. Look! U. S. Robots can afford a private plane. We can land quietly at the nearest commercial airport and be lost in hundreds of similar landings. We can arrange to have a large ground car with an enclosed body meet us and take us to Flagstaff. Jane will be crated and it will be obvious that some piece of thoroughly non-robotic equipment is being transported to the labs. We won't get a second look from anyone. The men at Flagstaff will be alerted and will be told the exact purpose of the visit. They will have every motive to cooperate and to prevent a leak."

Bogert pondered. "The risky part will be the plane and the ground car. If anything happens to the crate-

"Nothing will."

"We might get away with it if Jane is deactivated during transport. Then even if someone finds out she's inside-

"No, Peter. That can't be done. Uh-uh. Not Jane-5. Look, she's been free-associating since she was activated. The information she possesses can be put into freeze during deactivation but the free associations never. No, sir, she can't ever be deactivated."

"But, then, if somehow it is discovered that we are transporting an activated robot-

"It won't be found out." Madarian remained firm and the plane eventually took off. It was a late-model automatic Computo-jet, but it carried a human pilot-one of U. S. Robots' own employees-as backup. The crate containing Jane arrived at the airport safely, was transferred to the ground car, and reached the Research Laboratories at Flagstaff without incident.

Peter Bogert received his first call from Madarian not more than an hour after the latter's arrival at Flagstaff. Madarian was ecstatic and, characteristically, could not wait to report.

The message arrived by tubed laser beam, shielded, scrambled, and ordinarily impenetrable, but Bogert felt exasperated. He knew it could be penetrated if someone with enough technological ability-the government, for example-was determined to do so. The only real safety lay in the fact that the government had no reason to try. At least Bogert hoped so.

He said, "For God's sake, do you have to call?"

Madarian ignored him entirely. He bumbled, "It was an inspiration. Sheer genius, I tell you."

For a while, Bogert stared at the receiver. Then he shouted incredulously, "You mean you've got the answer? Already?"

"No, no! Give us time, damn it. I mean the matter of her voice was an inspiration. Listen, after we were chauffeured from the airport to the main administration building at Flagstaff, we uncrated Jane and she stepped out of the box. When that happened, every man in the place stepped back. Scared! Nitwits! If even scientists can't understand the significance of the Laws of Robotics, what can we expect of the average untrained individual? For a minute there I thought: This will all be useless. They won't talk. They'll be keying themselves for a quick break in case she goes berserk and they'll be able to think of nothing else."

"Well, then, what are you getting at?"

"So then she greeted them routinely. She said, 'Good afternoon, gentlemen. I am so glad to meet you.' And it came out in this beautiful contralto. . . . That was it. One man straightened his tie, and another ran his fingers through his hair. What really got me was that the oldest guy in the place actually checked his fly to make sure it was zipped. They're all crazy about her now. All they needed was the voice. She isn't a robot any more; she's a girl."

"You mean they're talking to her?"

"Are they talking to her! I should say so. I should have programmed her for sexy intonations. They'd be asking her for dates right now if I had. Talk about conditioned reflex. Listen, men respond to voices. At the most intimate moments, are they looking? It's the voice in your ear-

"Yes, Clinton, I seem to remember. Where's Jane now?"

"With them. They won't let go of her."

"Damn! Get in there with her. Don't let her out of your sight, man."

Madarian's calls thereafter, during his ten-day stay at Flagstaff, were not very frequent and became progressively less exalted.

Jane was listening carefully, he reported, and occasionally she responded. She remained popular. She was given entry everywhere. But there were no results.

Bogert said, "Nothing at all?"

Madarian was at once defensive. "You can't say nothing at all. It's impossible to say nothing at all with an intuitive robot. You don't know what might not be going on inside her. This morning she asked Jensen what he had for breakfast."

"Rossiter Jensen the astrophysicist?"

"Yes, of course. As it turned out, he didn't have breakfast that morning. Well, a cup of coffee."

"So Jane's learning to make small talk. That scarcely makes up for the expense."

"Oh, don't be a jackass. It wasn't small talk. Nothing is small talk for Jane. She asked because it had something to do with some sort of cross-correlation she was building in her mind."

"What can it possibly-"

"How do I know? If I knew, I'd be a Jane myself and you wouldn't need her. But it has to mean something. She's programmed for high motivation to obtain an answer to the question of a planet with optimum habitability/distance and-

"Then let me know when she's done that and not before. It's not really necessary for me to get a blow-by-blow description of possible correlations."

He didn't really expect to get notification of success. With each day, Bogert grew less sanguine, so that when the notification finally came, he wasn't ready. And it came at the very end.

That last time, when Madarian's climactic message came, it came in what was almost a whisper. Exaltation had come complete circle and Madarian was awed into quiet.

"She did it," he said. "She did it. After I all but gave up, too. After she had received everything in the place and most of it twice and three times over and never said a word that sounded like anything. . . .I'm on the plane now, returning. We've just taken off."

Bogert managed to get his breath. "Don't play games, man. You have the answer? Say so, if you have. Say it plainly."

"She has the answer. She's given me the answer. She's given me the names of three stars within eighty light-years which, she says, have a sixty to ninety percent chance of possessing one habitable planet each. The probability that at least one has is 0.972. It's almost certain. And that's just the least of it. Once we get back, she can give us the exact line of reasoning that led her to the conclusion and I predict that the whole science of astrophysics and cosmology will-"

"Are you sure-"

"You think I'm having hallucinations? I even have a witness. Poor guy jumped two feet when Jane suddenly began to reel out the answer in her gorgeous voice"

And that was when the meteorite struck and in the thorough destruction of the plane that followed, Madarian and the pilot were reduced to gobbets of bloody flesh and no usable remnant of Jane was recovered.

The gloom at U. S. Robots had never been deeper. Robertson attempted to find consolation in the fact that the very completeness of the destruction had utterly hidden the illegalities of which the firm had been guilty.

Peter shook his head and mourned. "We've lost the best chance U. S. Robots ever had of gaining an unbeatable public image; of overcoming the damned Frankenstein complex. What it would have meant for robots to have one of them work out the solution to the habitable-planet problem, after other robots had helped work out the Space Jump. Robots would have opened the galaxy to us. And if at the same time we could have driven scientific knowledge forward in a dozen different directions as we surely would have. . . . Oh, God, there's no way of calculating the benefits to the human race, and to us of course."

Robertson said, "We could build other Janes, couldn't we? Even without Madarian?"

"Sure we could. But can we depend on the proper correlation again? Who knows how low-probability that final result was? What if Madarian had had a fantastic piece of

beginner's luck? And then to have an even more fantastic piece of bad luck? A meteorite zeroing in. . . It's simply unbelievable-"

Robertson said in a hesitating whisper, "It couldn't have been meant. I mean, if we weren't meant to know and if the meteorite was a judgment-from-"

He faded off under Bogert's withering glare. Bogert said, "It's not a dead loss, I suppose. Other Janes are bound to help us in some ways. And we can give other robots feminine voices, if that will help encourage public acceptance-though I wonder what the women would say. If we only knew what Jane-5 had said!"

"In that last call, Madarian said there was a witness." Bogert said, "I know; I've been thinking about that. Don't you suppose I've been in touch with flagstaff? Nobody in the entire place heard Jane say anything that was out of the ordinary, anything that sounded like an answer to the habitable-planet problem, and certainly anyone there should have recognized the answer if it came -or at least recognized it as a possible answer."

"Could Madarian have been lying? Or crazy? Could he have been trying to protect himself-"

"You mean he may have been trying to save his reputation by pretending he had the answer and then gimmick Jane so she couldn't talk and say, 'Oh, sorry, something happened accidentally. Oh, darn!' I won't accept that for a minute. You might as well suppose he had arranged the meteorite."

"Then what do we do?" Bogert said heavily, "Turn back to flagstaff. The answer must be there. I've got to dig deeper, that's all. I'm going there and I'm taking a couple of the men in Madarian's department. We've got to go through that place top to bottom and end to end."

"But, you know, even if there were a witness and he had heard, what good would it do, now that we don't have Jane to explain the process?"

"Every little something is useful. Jane gave the names of the stars; the catalogue numbers probably-none of the named stars has a chance. If someone can remember her saying that and actually remember the catalogue number, or have heard it clearly enough to allow it to be recovered by Psycho-probe if he lacked the conscious memory-then we'll have something. Given the results at the end, and the data fed Jane at the beginning, we might be able to reconstruct the line of reasoning; we might recover the intuition. If that is done, we've saved the game-"

Bogert was back after three days, silent and thoroughly depressed. When Robertson inquired anxiously as to results, he shook his head. "Nothing!"

"Nothing?"

"Absolutely nothing. I spoke with every man in flagstaff-every scientist, every technician, every student-that had had anything to do with Jane; everyone that had as much as seen her. The number wasn't great; I'll give Madarian credit for that much discretion. He only allowed those to see her who might conceivably have had planetological knowledge to feed her. There were twenty-three men altogether who had seen Jane and of those only twelve had spoken to her more than casually.

"I went over and over all that Jane had said. They remembered everything quite well. They're keen men engaged in a crucial experiment involving their specialty, so they had every motivation to remember. And they were dealing with a talking robot, something that was startling enough, and one that talked like a TV actress. They couldn't forget."

Robertson said, "Maybe a Psycho-probe-"

"If one of them had the vaguest thought that something had happened, I would screw out his consent to Probing. But there's nothing to leave room for an excuse, and to Probe two dozen men who make their living from their brains can't be done. Honestly, it wouldn't help. If Jane had mentioned three stars and said they had habitable planets, it would have been like setting up sky rockets in their brains. How could anyone of them forget?"

"Then maybe one of them is lying," said Robertson grimly. "He wants the information for his own use; to get the credit himself later."

"What good would that do him?" said Bogert. "The whole establishment knows exactly why Madarian and Jane were there in the first place. They know why I came there in the second. If at any time in the future any man now at Flagstaff suddenly comes up with a habitable-planet theory that is startlingly new and different, yet valid, every other man at Flagstaff and every man at U. S. Robots will know at once that he had stolen it. He'd never get away with it."

"Then Madarian himself was somehow mistaken."

"I don't see how I can believe that either. Madarian had an irritating personality-all robopsychologists have irritating personalities, I think, which must be why they work with robots rather than with men-but he was no dummy. He couldn't be wrong in something like this."

"Then-" But Robertson had run out of possibilities. They had reached a blank wall and for some minutes each stared at it disconsolately.

Finally Robertson stirred. "Peter-"

"Well?"

"Let's ask Susan."

Bogert stiffened. "What!"

"Let's ask Susan. Let's call her and ask her to come in."

"Why? What can she possibly do?"

"I don't know. But she's a robopsychologist, too, and she might understand Madarian better than we do. Besides, she-Oh, hell, she always had more brains than any of us."

"She's nearly eighty."

"And you're seventy. What about it?"

Bogert sighed. Had her abrasive tongue lost any of its rasp in the years of her retirement? He said, "Well, I'll ask her."

Susan Calvin entered Bogert's office with a slow look around before her eyes fixed themselves on the Research Director. She had aged a great deal since her retirement. Her

hair was a fine white and her face seemed to have crumpled. She had grown so frail as to be almost transparent and only her eyes, piercing and uncompromising, seemed to remain of all that had been.

Bogert strode forward heartily, holding out his hand. "Susan!"

Susan Calvin took it, and said, "You're looking reasonably well, Peter, for an old man. If I were you, I wouldn't wait till next year. Retire now and let the young men get to it. . . .And Madarian is dead. Are you calling me in to take over my old job? Are you determined to keep the ancients till a year past actual physical death?"

"No, no, Susan. I've called you in-" He stopped. He did not, after all, have the faintest idea of how to start.

But Susan read his mind now as easily as she always had. She seated herself with the caution born of stiffened joints and said, "Peter, you've called me in because you're in bad trouble. Otherwise you'd sooner see me dead than within a mile of you."

"Come, Susan-"

"Don't waste time on pretty talk. I never had time to waste when I was forty and certainly not now. Madarian's death and your call to me are both unusual, so there must be a connection. Two unusual events without a connection is too low-probability to worry about. Begin at the beginning and don't worry about revealing yourself to be a fool. That was revealed to me long ago."

Bogert cleared his throat miserably and began. She listened carefully, her withered hand lifting once in a while to stop him so that she might ask a question.

She snorted at one point. "Feminine intuition? Is that what you wanted the robot for? You men. Faced with a woman reaching a correct conclusion and unable to accept the fact that she is your equal or superior in intelligence, you invent something called feminine intuition."

"Oh, yes, Susan, but let me continue-"

He did. When she was told of Jane's contralto voice, she said, "It is a difficult choice sometimes whether to feel revolted at the male sex or merely to dismiss them as contemptible."

Bogert said, "Well, let me go on-"

When he was quite done, Susan said, "May I have the private use of this office for an hour or two?"

"Yes, but-"

She said, "I want to go over the various records-Jane's programming, Madarian's calls, your interviews at flagstaff. I presume I can use that beautiful new shielded laser-phone and your computer outlet if I wish."

"Yes, of course."

"Well, then, get out of here, Peter."

It was not quite forty-five minutes when she hobbled to the door, opened it, and called for Bogert.

When Bogert came, Robertson was with him. Both entered and Susan greeted the latter with an unenthusiastic "Hello, Scott."

Bogert tried desperately to gauge the results from Susan's face, but it was only the face of a grim old lady who had no intention of making anything easy for him.

He said cautiously, "Do you think there's anything you can do, Susan?"

"Beyond what I have already done? No! There's nothing more." Bogert's lips set in chagrin, but Robertson said, "What have you already done, Susan?"

Susan said, "I've thought a little; something I can't seem to persuade anyone else to do. For one thing, I've thought about Madarian. I knew him, you know. He had brains but he was a very irritating extrovert. I thought you would like him after me, Peter."

"It was a change," Bogert couldn't resist saying.

"And he was always running to you with results the very minute he had them, wasn't he?"

"Yes, he was."

"And yet," said Susan, "his last message, the one in which he said Jane had given him the answer, was sent from the plane. Why did he wait so long? Why didn't he call you while he was still at flagstaff, immediately after Jane had said whatever it was she said?"

"I suppose," said Peter, "that for once he wanted to check it thoroughly and-well, I don't know. It was the most important thing that had ever happened to him; he might for once have wanted to wait and be sure of himself."

"On the contrary; the more important it was, the less he would wait, surely. And if he could manage to wait, why not do it properly and wait till he was back at U. S. Robots so that he could check the results with all the computing equipment this firm could make available to him? In short, he waited too long from one point of view and not long enough from another."

Robertson interrupted. "Then you think he was up to some trickery-"

Susan looked revolted. "Scott, don't try to compete with Peter in making inane remarks. Let me continue. . . .A second point concerns the witness. According to the records of that last call, Madarian said, 'Poor guy jumped two feet when Jane suddenly began to reel out the answer in her gorgeous voice.' In fact, it was the last thing he said. And the question is, then, why should the witness have jumped? Madarian had explained that all the men were crazy about that voice, and they had had ten days with the robot-with Jane. Why should the mere act of her speaking have startled them?"

Bogert said, "I assumed it was astonishment at hearing Jane give an answer to a problem that has occupied the minds of planetologists for nearly a century."

"But they were waiting for her to give that answer. That was why she was there. Besides, consider the way the sentence is worded. Madarian's statement makes it seem the witness was startled, not astonished, if you see the difference. What's more, that reaction came 'when Jane suddenly began'-in other words, at the very start of the statement. To be astonished at the content of what Jane said would have required the witness to have listened awhile so that he might absorb it. Madarian would have said he had jumped two feet after he had heard Jane say thus-and-so. It would be 'after' not 'when' and the word 'suddenly' would not be included."

Bogert said uneasily, "I don't think you can refine matters down to the use or non-use of a word."

"I can," said Susan frostily, "because I am a robopsychologist. And I can expect Madarian to do so, too, because he was a robopsychologist. We have to explain those two anomalies, then. The queer delay before Madarian's call and the queer reaction of the witness."

"Can you explain them?" Asked Robertson. "Of course," said Susan, "since I use a little simple logic. Madarian called with the news without delay, as he always did, or with as little delay as he could manage. If Jane had solved the problem at Flagstaff, he would certainly have called from Flagstaff. Since he called from the plane, she must clearly have solved the problem after he had left Flagstaff."

"But then-"

"Let me finish. Let me finish. Was Madarian not taken from the airport to Flagstaff in a heavy, enclosed ground car? And Jane, in her crate, with him?"

"Yes."

"And presumably, Madarian and the crated Jane returned from Flagstaff to the airport in the same heavy, enclosed ground car. Am I right?"

"Yes, of course!"

"And they were not alone in the ground car, either. In one of his calls, Madarian said, 'We were chauffeured from the airport to the main administration building,' and I suppose I am right in concluding that if he was chauffeured, then that was because there was a chauffeur, a human driver, in the car."

"Good God!"

"The trouble with you, Peter, is that when you think of a witness to a planetological statement, you think of planetologists. You divide up human beings into categories, and despise and dismiss most. A robot cannot do that. The First Law says, 'A robot may not injure a human being or, through inaction, allow a human being to come to harm.' Any human being. That is the essence of the robotic view of life. A robot makes no distinction. To a robot, all men are truly equal, and to a robopsychologist who must perforce deal with men at the robotic level, all men are truly equal, too."

"It would not occur to Madarian to say a truck driver had heard the statement. To you a truck driver is not a scientist but is a mere animate adjunct of a truck, but to Madarian he was a man and a witness. Nothing more. Nothing less."

Bogert shook his head in disbelief. "But you are sure?"

"Of course I'm sure. How else can you explain the other point; Madarian's remark about the startling of the witness? Jane was crated, wasn't she? But she was not deactivated. According to the records, Madarian was always adamant against ever deactivating an intuitive robot. Moreover, Jane-5, like any of the Janes, was extremely non-talkative. Probably it never occurred to Madarian to order her to remain quiet within the crate; and it was within the crate that the pattern finally fell into place. Naturally she began to talk. A beautiful contralto voice suddenly sounded from inside the crate. If you

were the truck driver, what would you do at that point? Surely you'd be startled. It's a wonder he didn't crash."

"But if the truck driver was the witness, why didn't he come forward-"

"Why? Can he possibly know that anything crucial had happened, that what he heard was important? Besides, don't you suppose Madarian tipped him well and asked him not to say anything? Would you want the news to spread that an activated robot was being transported illegally over the Earth's surface."

"Well, will he remember what was said?"

"Why not? It might seem to you, Peter, that a truck driver, one step above an ape in your view, can't remember. But truck drivers can have brains, too. The statements were most remarkable and the driver may well have remembered some. Even if he gets some of the letters and numbers wrong, we're dealing with a finite set, you know, the fifty-five hundred stars or star systems within eighty light-years or so-I haven't looked up the exact number. You can make the correct choices. And if needed, you will have every excuse to use the Psycho-probe-"

The two men stared at her. Finally Bogert, afraid to believe, whispered, "But how can you be sure?"

For a moment, Susan was on the point of saying: Because I've called Flagstaff, you fool, and because I spoke to the truck driver, and because he told me what he had heard, and because I've checked with the computer at Flagstaff and got the only three stars that fit the information, and because I have those names in my pocket.

But she didn't. Let him go through it all himself. Carefully, she rose to her feet, and said sardonically, "How can I be sure?. . . Call it feminine intuition."

TWO CLIMAXES

Each of these two stories is post-Susan Calvin. They are the most recent long stories I have written about robots and in each one I try to take the long view and see what the ultimate end of robotics might be. And I come full circle-for though I adhere strictly to the Three Laws, the first story, ". . . That Thou Art Mindful of Him," is clearly a Robot-as-Menace story, while the second, "The Bicentennial Man," is even more clearly a Robot-as-Pathos story.

Of all the robot stories I ever wrote, "The Bicentennial Man" is my favorite and, I think, the best. In fact, I have a dreadful feeling that I might not care to top it and will never write another serious robot story. But then again, I might. I'm not always predictable.

. . . THAT THOU ART MINDFUL OF HIM

The Three Laws of Robotics:

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

1.

Keith Harriman, who had for twelve years now been Director of Research at United States Robots and Mechanical Men Corporation, found that he was not at all certain whether he was doing right. The tip of his tongue passed over his plump but rather pale lips and it seemed to him that the holographic image of the great Susan Calvin, which stared unsmilingly down upon him, had never looked so grim before.

Usually he blanked out that image of the greatest roboticist in history because she unnerved him. (He tried thinking of the image as "it" but never quite succeeded.) This time he didn't quite dare to and her long-dead gaze bored into the side of his face.

It was a dreadful and demeaning step he would have to take. Opposite him was George Ten, calm and unaffected either by Harriman's patent uneasiness or by the image of the patron saint of robotics glowing in its niche above.

Harriman said, "We haven't had a chance to talk this out, really, George. You haven't been with us that long and I haven't had a good chance to be alone with you. But now I would like to discuss the matter in some detail."

"I am perfectly willing to do that, " said George. "In my stay at U. S. Robots, I have gathered the crisis has something to do with the Three Laws."

"Yes. You know the Three Laws, of course."

"I do."

"Yes, I'm sure you do. But let us dig even deeper and consider the truly basic problem. In two centuries of, if I may say so, considerable success, U. S. Robots has never managed to persuade human beings to accept robots. We have placed robots only where work is required that human beings cannot do, or in environments that human beings find unacceptably dangerous. Robots have worked mainly in space and that has limited what we have been able to do."

"Surely," said George Ten, "that represents a broad limit, and one within which U. S. Robots can prosper."

"No, for two reasons. In the first place, the boundaries set for us inevitably contract. As the Moon colony, for instance, grows more sophisticated, its demand for robots decreases and we expect that, within the next few years, robots will be banned on the Moon. This will be repeated on every world colonized by mankind. Secondly, true prosperity is impossible without robots on Earth. We at U. S. Robots firmly believe that human beings need robots and must learn to live with their mechanical analogues if progress is to be maintained."

"Do they not? Mr. Harriman, you have on your desk a computer input which, I understand, is connected with the organization's Multivac. A computer is a kind of sessile robot; a robot brain not attached to a body-"

"True, but that also is limited. The computers used by mankind have been steadily specialized in order to avoid too humanlike an intelligence. A century ago we were well on the way to artificial intelligence of the most unlimited type through the use of great computers we called Machines. Those Machines limited their action of their own accord. Once they had solved the ecological problems that had threatened human society, they phased themselves out. Their own continued existence would, they reasoned, have placed them in the role of a crutch to mankind and, since they felt this would harm human beings, they condemned themselves by the First Law."

"And were they not correct to do so?"

"In my opinion, no. By their action, they reinforced mankind's Frankenstein complex; its gut fears that any artificial man they created would turn upon its creator. Men fear that robots may replace human beings."

"Do you not fear that yourself?"

"I know better. As long as the Three Laws of Robotics exist, they cannot. They can serve as partners of mankind; they can share in the great struggle to understand and wisely direct the laws of nature so that together they can do more than mankind can possibly do alone; but always in such a way that robots serve human beings."

"But if the Three Laws have shown themselves, over the course of two centuries, to keep robots within bounds, what is the source of the distrust of human beings for robots?"

"Well"-and Harriman's graying hair tufted as he scratched his head vigorously-"mostly superstition, of course. Unfortunately, there are also some complexities involved that anti-robot agitators seize upon."

"Involving the Three Laws?"

"Yes. The Second Law in particular. There's no problem in the Third Law, you see. It is universal. Robots must always sacrifice themselves for human beings, any human beings."

"Of course," said George Ten.

"The First Law is perhaps less satisfactory, since it is always possible to imagine a condition in which a robot must perform either Action A or Action B, the two being mutually exclusive, and where either action results in harm to human beings. The robot must therefore quickly select which action results in the least harm. To work out the

positronic paths of the robot brain in such a way as to make that selection possible is not easy. If Action A results in harm to a talented young artist and B results in equivalent harm to five elderly people of no particular worth, which action should be chosen."

"Action A, " said George Ten. "Harm to one is less than harm to five."

"Yes, so robots have always been designed to decide. To expect robots to make judgments of fine points such as talent, intelligence, the general usefulness to society, has always seemed impractical. That would delay decision to the point where the robot is effectively immobilized. So we go by numbers. Fortunately, we might expect crises in which robots must make such decisions to be few. . . .But then that brings us to the Second Law."

"The Law of Obedience."

"Yes. The necessity of obedience is constant. A robot may exist for twenty years without every having to act quickly to prevent harm to a human being, or find itself faced with the necessity of risking its own destruction. In all that time, however, it will be constantly obeying orders. . . .Whose orders?"

"Those of a human being."

"Any human being? How do you judge a human being so as to know whether to obey or not? What is man, that thou art mindful of him, George?"

George hesitated at that.

Harriman said hurriedly, "A Biblical quotation. That doesn't matter. I mean, must a robot follow the orders of a child; or of an idiot; or of a criminal; or of a perfectly decent intelligent man who happens to be inexpert and therefore ignorant of the undesirable consequences of his order? And if two human beings give a robot conflicting orders, which does the robot follow?"

"In two hundred years," said George Ten, "have not these problems arisen and been solved?"

"No," said Harriman, shaking his head violently. "We have been hampered by the very fact that our robots have been used only in specialized environments out in space, where the men who dealt with them were experts in their field. There were no children, no idiots, no criminals, no well-meaning ignoramuses present. Even so, there were occasions when damage was done by foolish or merely unthinking orders. Such damage in specialized and limited environments could be contained. On Earth, however, robots must have judgment. So those against robots maintain, and, damn it, they are right."

"Then you must insert the capacity for judgment into the positronic brain."

"Exactly. We have begun to reproduce JG models in which the robot can weigh every human being with regard to sex, age, social and professional position, intelligence, maturity, social responsibility and so on."

"How would that affect the Three Laws?"

"The Third Law not at all. Even the most valuable robot must destroy himself for the sake of the most useless human being. That cannot be tampered with. The First Law is affected only where alternative actions will all do harm. The quality of the human beings involved as well as the quantity must be considered, provided there is time for such

judgment and the basis for it, which will not be often. The Second Law will be most deeply modified, since every potential obedience must involve judgment. The robot will be slower to obey, except where the First Law is also involved, but it will obey more rationally."

"But the judgments which are required are very complicated."

"Very. The necessity of making such judgments slowed the reactions of our first couple of models to the point of paralysis. We improved matters in the later models at the cost of introducing so many pathways that the robot's brain became far too unwieldy. In our last couple of models, however, I think we have what we want. The robot doesn't have to make an instant judgment of the worth of a human being and the value of its orders. It begins by obeying all human beings as any ordinary robot would and then it learns. A robot grows, learns and matures. It is the equivalent of a child at first and must be under constant supervision. As it grows, however, it can, more and more, be allowed, unsupervised, into Earth's society. Finally, it is a full member of that society."

"Surely this answers the objections of those who oppose robots."

"No," said Harriman angrily. "Now they raise others. They will not accept judgments. A robot, they say, has no right to brand this person or that as inferior. By accepting the orders of A in preference to that of B, B is branded as of less consequence than A and his human rights are violated."

"What is the answer to that?"

"There is none. I am giving up."

"I see."

"As far as I myself am concerned. . . .Instead, I turn to you, George."

"To me?" George Ten's voice remained level. There was a mild surprise in it but it did not affect him outwardly. "Why to me?"

"Because you are not a man," said Harriman tensely. "I told you I want robots to be the partners of human beings. I want you to be mine."

George Ten raised his hands and spread them, palms outward, in an oddly human gesture. "What can I do?"

"It seems to you, perhaps, that you can do nothing, George. You were created not long ago, and you are still a child. You were designed to be not overfull of original information-it was why I have had to explain the situation to you in such detail-in order to leave room for growth. But you will grow in mind and you will come to be able to approach the problem from a non-human standpoint. Where I see no solution, you, from your own other standpoint, may see one."

George Ten said, "My brain is man-designed. In what way can it be non-human?"

"You are the latest of the JG models, George. Your brain is the most complicated we have yet designed, in some ways more subtly complicated than that of the old giant Machines. It is open-ended and, starting on a human basis, may-no, will-grow in any direction. Remaining always within the insurmountable boundaries of the Three Laws, you may yet become thoroughly non-human in your thinking."

"Do I know enough about human beings to approach this problem rationally? About their history? Their psychology?"

"Of course not. But you will learn as rapidly as you can."

"Will I have help, Mr. Harriman?"

"No. This is entirely between ourselves. No one else knows of this and you must not mention this project to any human being, either at U. S. Robots or elsewhere."

George Ten said, "Are we doing wrong, Mr. Harriman, that you seek to keep the matter secret?"

"No. But a robot solution will not be accepted, precisely because it is robot in origin. Any suggested solution you have you will turn over to me; and if it seems valuable to me, I will present it. No one will ever know it came from you."

"In the light of what you have said earlier," said George Ten calmly, "this is the correct procedure. . . .When do I start?"

"Right now. I will see to it that you have all the necessary films for scanning."

1a.

Harriman sat alone. In the artificially lit interior of his office, there was no indication that it had grown dark outside. He had no real sense that three hours had passed since he had taken George Ten back to his cubicle and left him there with the first film references.

He was now merely alone with the ghost of Susan Calvin, the brilliant roboticist who had, virtually single-handed, built up the positronic robot from a massive toy to man's most delicate and versatile instrument; so delicate and versatile that man dared not use it, out of envy and fear.

It was over a century now since she had died. The problem of the Frankenstein complex had existed in her time, and she had never solved it. She had never tried to solve it, for there had been no need. Robotics had expanded in her day with the needs of space exploration.

It was the very success of the robots that had lessened man's need for them and had left Harriman, in these latter times-

But would Susan Calvin have turned to robots for help. Surely, she would have-
And he sat there long into the night.

2.

Maxwell Robertson was the majority stockholder of U. S. Robots and in that sense its controller. He was by no means an impressive person in appearance. He was well into middle age, rather pudgy, and had a habit of chewing on the right corner of his lower lip when disturbed.

Yet in his two decades of association with government figures he had developed a way of handling them. He tended to use softness, giving in, smiling, and always managing to gain time.

It was growing harder. Gunnar Eisenmuth was a large reason for its having grown harder. In the series of Global Conservers, whose power had been second only to that of the Global Executive during the past century, Eisenmuth hewed most closely to the harder edge of the gray area of compromise. He was the first Conserver who had not been American by birth and though it could not be demonstrated in any way that the archaic name of U. S. Robots evoked his hostility, everyone at U. S. Robots believed that.

There had been a suggestion, by no means the first that year-or that generation- that the corporate name be changed to World Robots, but Robertson would never allow that. The company had been originally built with American capital, American brains, and American labor, and though the company had long been worldwide in scope and nature, the name would bear witness to its origin as long as he was in control.

Eisenmuth was a tall man whose long sad face was coarsely textured and coarsely featured. He spoke Global with a pronounced American accent, although he had never been in the United States prior to his taking office.

"It seems perfectly clear to me, Mr. Robertson. There is no difficulty. The products of your company are always rented, never sold. If the rented property on the Moon is now no longer needed, it is up to you to receive the products back and transfer them."

"Yes, Conserver, but where? It would be against the law to bring them to Earth without a government permit and that has been denied."

"They would be of no use to you here. You can take them to Mercury or to the asteroids."

"What would we do with them there?"

Eisenmuth shrugged. "The ingenious men of your company will think of something."

Robertson shook his head. "It would represent an enormous loss for the company."

"I'm afraid it would," said Eisenmuth, unmoved. "I understand the company has been in poor financial condition for several years now."

"Largely because of government imposed restrictions, Conserver."

"You must be realistic, Mr. Robertson. You know that the climate of public opinion is increasingly against robots."

"Wrongly so, Conserver."

"But so, nevertheless. It may be wiser to liquidate the company. It is merely a suggestion, of course."

"Your suggestions have force, Conserver. Is it necessary to tell you that our Machines, a century ago, solved the ecological crisis?"

"I'm sure mankind is grateful, but that was a long time ago. We now live in alliance with nature, however uncomfortable that might be at times, and the past is dim."

"You mean what have we done for mankind lately?"

"I suppose I do."

"Surely we can't be expected to liquidate instantaneously; not without enormous losses. We need time."

"How much?"

"How much can you give us?"

"It's not up to me."

Robertson said softly. "We are alone. We need play no games. How much time can you give me?"

Eisenmuth's expression was that of a man retreating into inner calculations. "I think you can count on two years. I'll be frank. The Global government intends to take over the firm and phase it out for you if you don't do it by then yourself, more or less. And unless there is a vast turn in public opinion, which I greatly doubt-" He shook his head.

"Two years, then," said Robertson softly.

2a.

Robertson sat alone. There was no purpose to his thinking and it had degenerated into retrospection. Four generations of Robertsons had headed the firm. None of them was a roboticist. It had been men such as Lanning and Bogert and, most of all, most of all, Susan Calvin, who had made U. S. Robots what it was, but surely the four Robertsons had provided the climate that had made it possible for them to do their work.

Without U. S. Robots, the Twenty-first Century would have progressed into deepening disaster. That it didn't was due to the Machines that had for a generation steered mankind through the rapids and shoals of history.

And now for that, he was given two years. What could be done in two years to overcome the insuperable prejudices of mankind? He didn't know.

Harriman had spoken hopefully of new ideas but would go into no details. Just as well, for Robertson would have understood none of it.

But what could Harriman do anyway? What had anyone ever done against man's intense antipathy toward the imitation. Nothing-

Robertson drifted into a half sleep in which no inspiration came.

3.

Harriman said, "You have it all now, George Ten. You have had everything I could think of that is at all applicable to the problem. As far as sheer mass of information is concerned, you have stored more in your memory concerning human beings and their ways, past and present, than I have, or than any human being could have."

"That is very likely."

"Is there anything more that you need, in your own opinion?"

"As far as information is concerned, I find no obvious gaps. There may be matters unimagined at the boundaries. I cannot tell. But that would be true no matter how large a circle of information I took in."

"True. Nor do we have time to take in information forever. Robertson has told me that we only have two years, and a quarter of one of those years has passed. Can you suggest anything?"

"At the moment, Mr. Harriman, nothing. I must weigh the information and for that purpose I could use help."

"From me?"

"No. Most particularly, not from you. You are a human being, of intense qualifications, and whatever you say may have the partial force of an order and may inhibit my considerations. Nor any other human being, for the same reason, especially since you have forbidden me to communicate with any."

"But in that case, George, what help?"

"From another robot, Mr. Harriman."

"What other robot?"

"There are others of the JG series which were constructed. I am the tenth, JG-10."

"The earlier ones were useless, experimental-"

"Mr. Harriman, George Nine exists."

"Well, but what use will he be? He is very much like you except for certain lacks. You are considerably the more versatile of the two."

"I am certain of that," said George Ten. He nodded his head in a grave gesture. "Nevertheless, as soon as I create a line of thought, the mere fact that I have created it commends it to me and I find it difficult to abandon it. If I can, after the development of a line of thought, express it to George Nine, he would consider it without having first created it. He would therefore view it without prior bent. He might see gaps and shortcomings that I might not."

Harriman smiled. "Two heads are better than one, in other words, eh, George?"

"If by that, Mr. Harriman, you mean two individuals with one head apiece, yes."

"Right. Is there anything else you want?"

"Yes. Something more than films. I have viewed much concerning human beings and their world. I have seen human beings here at U. S. Robots and can check my interpretation of what I have viewed against direct sensory impressions. Not so concerning the physical world. I have never seen it and my viewing is quite enough to tell me that my surroundings here are by no means representative of it. I would like to see it."

"The physical world?" Harriman seemed stunned at the enormity of the thought for a moment. "Surely you don't suggest I take you outside the grounds of U. S. Robots?"

"Yes, that is my suggestion."

"That's illegal at any time. In the climate of opinion today, it would be fatal."

"If we are detected, yes. I do not suggest you take me to a city or even to a dwelling place of human beings. I would like to see some open region, without human beings."

"That, too, is illegal."

"If we are caught. Need we be?"

Harriman said, "How essential is this, George?"

"I cannot tell, but it seems to me it would be useful."

"Do you have something in mind?"

George Ten seemed to hesitate. "I cannot tell. It seems to me that I might have something in mind if certain areas of uncertainty were reduced."

"Well, let me think about it. And meanwhile, I'll check out George Nine and arrange to have you occupy a single cubicle. That at least can be done without trouble."

3a.

George Ten sat alone.

He accepted statements tentatively, put them together, and drew a conclusion; over and over again; and from conclusions built other statements which he accepted and tested and found a contradiction and rejected; or not, and tentatively accepted further.

At none of the conclusions he reached did he feel wonder, surprise, satisfaction; merely a note of plus or minus.

4.

Harriman's tension was not noticeably decreased even after they had made a silent downward landing on Robertson's estate.

Robertson had countersigned the order making the dyna-foil available, and the silent aircraft, moving as easily vertically as horizontally, had been large enough to carry the weight of Harriman, George Ten, and, of course, the pilot.

(The dyna-foil itself was one of the consequences of the Machine-catalyzed invention of the proton micro-pile which supplied pollution-free energy in small doses. Nothing had been done since of equal importance to man's comfort-Harriman's lips tightened at the thought-and yet it had not earned gratitude for U. S. Robots.)

The air flight between the grounds of U. S. Robots and the Robertson estate had been the tricky part. Had they been stopped then, the presence of a robot aboard would have meant a great set of complications. It would be the same on the way back. The estate itself, it might be argued-it would be argued-was part of the property of U. S. Robots and on that property, robots, properly supervised, might remain.

The pilot looked back and his eyes rested with gingerly briefness on George Ten. "You want to get out at all, Mr. Harriman?"

"Yes."

"It, too?"

"Oh, yes." Then, just a bit sardonically, "I won't leave you alone with him."

George Ten descended first and Harriman followed. They had come down on the foil-port and not too far off was the garden. It was quite a showplace and Harriman suspected that Robertson used juvenile hormone to control insect life without regard to environmental formulas.

"Come, George," said Harriman. "Let me show you." Together they walked toward the garden.

George said, "It is a little as I have imaged it. My eyes are not properly designed to detect wavelength differences, so I may not recognize different objects by that alone."

"I trust you are not distressed at being color-blind. We needed too many positronic paths for your sense of judgment and were unable to spare any for sense of color. In the future-if there is a future-"

"I understand, Mr. Harriman. Enough differences remain to show me that there are here many different forms of plant life."

"Undoubtedly. Dozens."

"And each coequal with man, biologically."

"Each is a separate species, yes. There are millions of species of living creatures."

"Of which the human being forms but one."

"By far the most important to human beings, however."

"And to me, Mr. Harriman. But I speak in the biological sense."

"I understand."

"Life, then, viewed through all its forms, is incredibly complex."

"Yes, George, that's the crux of the problem. What man does for his own desires and comforts affects the complex total-of-life, the ecology, and his short-term gains can bring long-term disadvantages. The Machines taught us to set up a human society which would minimize that, but the near-disaster of the early Twenty-first Century has left mankind suspicious of innovations. That, added to its special fear of robots-"

"I understand, Mr. Harriman. . . .That is an example of animal life, I feel certain."

"That is a squirrel; one of many species of squirrels."

The tail of the squirrel flirted as it passed to the other side of the tree.

"And this," said George, his arm moving with flashing speed, "is a tiny thing indeed." He held it between his fingers and peered at it.

"It is an insect, some sort of beetle. There are thousands of species of beetles."

"With each individual beetle as alive as the squirrel and as yourself?"

"As complete and independent an organism as any other, within the total ecology. There are smaller organisms still; many too small to see."

"And that is a tree, is it not? And it is hard to the touch-"

4A.

The pilot sat alone. He would have liked to stretch his own legs but some dim feeling of safety kept him in the dyna-foil. If that robot went out of control, he intended to take off at once. But how could he tell if it went out of control?

He had seen many robots. That was unavoidable considering he was Mr. Robertson's private pilot. Always, though, they had been in the laboratories and warehouses, where they belonged, with many specialists in the neighborhood.

True, Dr. Harriman was a specialist. None better, they said. But a robot here was where no robot ought to be; on Earth; in the open; free to move-He wouldn't risk his good job by telling anyone about this-but it wasn't right.

5.

George Ten said, "The films I have viewed are accurate in terms of what I have seen. Have you completed those I selected for you, Nine?"

"Yes," said George Nine. The two robots sat stiffly, face to face, knee to knee, like an image and its reflection. Dr. Harriman could have told them apart at a glance, for he was acquainted with the minor differences in physical design. If he could not see them, but could talk to them, he could still tell them apart, though with somewhat less certainty, for George Nine's responses would be subtly different from those produced by the substantially more intricately patterned positronic brain paths of George Ten.

"In that case," said George Ten, "give me your reactions to what I will say. First, human beings fear and distrust robots because they regard robots as competitors. How may that be prevented?"

"Reduce the feeling of competitiveness," said George Nine, "by shaping the robot as something other than a human being."

"Yet the essence of a robot is its positronic replication of life. A replication of life in a shape not associated with life might arouse horror."

"There are two million species of life forms. Choose one of those as the shape rather than that of a human being."

"Which of all those species?" George Nine's thought processes proceeded noiselessly for some three seconds. "One large enough to contain a positronic brain, but one not possessing unpleasant associations for human beings."

"No form of land life has a braincase large enough for a positronic brain but an elephant, which I have not seen, but which is described as very large, and therefore frightening to man. How would you meet this dilemma?"

"Mimic a life form no larger than a man but enlarge the braincase."

George Ten said, "A small horse, then, or a large dog, would you say? Both horses and dogs have long histories of association with human beings."

"Then that is well."

"But consider-A robot with a positronic brain would mimic human intelligence. If there were a horse or a dog that could speak and reason like a human being, there would be competitiveness there, too. Human beings might be all the more distrustful and angry at such unexpected competition from what they consider a lower form of life."

George Nine said, "Make the positronic brain less complex, and the robot less nearly intelligent."

"The complexity bottleneck of the positronic brain rests in the Three Laws. A less complex brain could not possess the Three Laws in full measure."

George Nine said at once, "That cannot be done."

George Ten said, "I have also come to a dead end there. That, then, is not a personal peculiarity in my own line of thought and way of thinking. Let us start again. . . . Under what conditions might the Third Law not be necessary?"

George Nine stirred as if the question were difficult and dangerous. But he said, "If a robot were never placed in a position of danger to itself; or if a robot were so easily replaceable that it did not matter whether it were destroyed or not."

"And under what conditions might the Second Law not be necessary?"

George Nine's voice sounded a bit hoarse. "If a robot were designed to respond automatically to certain stimuli with fixed responses and if nothing else were expected of it, so that no order need ever be given it."

"And under what conditions"-George Ten paused here- "might the First Law not be necessary?"

George Nine paused longer and his words came in a low whisper, "If the fixed responses were such as never to entail danger to human beings."

"Imagine, then, a positronic brain that guides only a few responses to certain stimuli and is simply and cheaply made-so that it does not require the Three Laws. How large need it be?"

"Not at all large. Depending on the responses demanded, it might weigh a hundred grams, one gram, one milligram."

"Your thoughts accord with mine. I shall see Dr. Harriman."

5A.

George Nine sat alone. He went over and over the questions and answers. There was no way in which he could change them. And yet the thought of a robot of any kind, of any size, of any shape, of any purpose, without the Three Laws, left him with an odd, discharged feeling.

He found it difficult to move. Surely George Ten had a similar reaction. Yet he had risen from his seat easily.

6.

It had been a year and a half since Robertson had been closeted with Eisenmuth in private conversation. In that interval, the robots had been taken off the Moon and all the far-flung activities of U. S. Robots had withered. What money Robertson had been able to raise had been placed into this one quixotic venture of Harriman's.

It was the last throw of the dice, here in his own garden. A year ago, Harriman had taken the robot here-George Ten, the last full robot that U. S. Robots had manufactured. Now Harriman was here with something else.

Harriman seemed to be radiating confidence. He was talking easily with Eisenmuth, and Robertson wondered if he really felt the confidence he seemed to have. He must. In Robertson's experience, Harriman was no actor.

Eisenmuth left Harriman, smiling, and came up to Robertson. Eisenmuth's smile vanished at once. "Good morning, Robertson," he said. "What is your man up to?"

"This is his show," said Robertson evenly. "I'll leave it to him." Harriman called out, "I am ready, Conserver."

"With what, Harriman?"

"With my robot, sir."

"Your robot?" said Eisenmuth. "You have a robot here?" He looked about with a stem disapproval that yet had an admixture of curiosity.

"This is U. S. Robots' property, Conserver. At least we consider it as such."

"And where is the robot, Dr. Harriman?"

"In my pocket, Conserver," said Harriman cheerfully.

What came out of a capacious jacket pocket was a small glass jar. "That?" said Eisenmuth incredulously.

"No, Conserver," said Harriman. "This!"

From the other pocket came out an object some five inches long and roughly in the shape of a bird. In place of the beak, there was a narrow tube; the eyes were large; and the tail was an exhaust channel.

Eisenmuth's thick eyebrows drew together. "Do you intend a serious demonstration of some sort, Dr. Harriman, or are you mad?"

"Be patient for a few minutes, Conserver," said Harriman. "A robot in the shape of a bird is none the less a robot for that. And the positronic brain it possesses is no less delicate for being tiny. This other object I hold is a jar of fruit flies. There are fifty fruit flies in it which will be released."

"And-"

"The robo-bird will catch them. Will you do the honors, sir?" Harriman handed the jar to Eisenmuth, who stared at it, then at those around him, some officials from U. S. Robots, others his own aides. Harriman waited patiently.

Eisenmuth opened the jar, then shook it.

Harriman said softly to the robo-bird resting on the palm of his right hand, "Go!"

The robo-bird was gone. It was a whizz through the air, with no blur of wings, only the tiny workings of an unusually small proton micro-pile.

It could be seen now and then in a small momentary hover and then it whirled on again. All over the garden, in an intricate pattern it flew, and then was back in Harriman's palm, faintly warm. A small pellet appeared in the palm, too, like a bird dropping.

Harriman said, "You are welcome to study the robo-bird, Conserver, and to arrange demonstrations on your own terms. The fact is that this bird will pick up fruit flies unerringly, only those, only the one species *Drosophila melanogaster*; pick them up, kill them, and compress them for disposition."

Eisenmuth reached out his hand and touched the robo-bird gingerly, "And therefore, Mr. Harriman? Do go on."

Harriman said, "We cannot control insects effectively without risking damage to the ecology. Chemical insecticides are too broad; juvenile hormones too limited. The

robo-bird, however, can preserve large areas without being consumed. They can be as specific as we care to make them-a different robo-bird for each species. They judge by size, shape, color, sound, behavior pattern. They might even conceivably use molecular detection-smell, in other words."

Eisenmuth said, "You would still be interfering with the ecology. The fruit flies have a natural life cycle that would be disrupted."

"Minimally. We are adding a natural enemy to the fruit-fly life cycle, one which cannot go wrong. If the fruit-fly supply runs short, the robo-bird simply does nothing. It does not multiply, it does not turn to other foods; it does not develop undesirable habits of its own. It does nothing."

"Can it be called back?"

"Of course. We can build robo-animals to dispose of any pest. For that matter, we can build robo-animals to accomplish constructive purposes within the pattern of the ecology. Although we do not anticipate the need, there is nothing inconceivable in the possibility of robo-bees designed to fertilize specific plants, or robo-earthworms designed to mix the soil. Whatever you wish-"

"But why?"

"To do what we have never done before. To adjust the ecology to our needs by strengthening its parts rather than disrupting it. . . . Don't you see? Ever since the Machines put an end to the ecology crisis, mankind has lived in an uneasy truce with nature, afraid to move in any direction. This has been stultifying us, making a kind of intellectual coward of humanity so that he begins to mistrust all scientific advance, all change."

Eisenmuth said, with an edge of hostility, "You offer us this, do you, in exchange for permission to continue with your program of robots-I mean ordinary, man-shaped ones?"

"No!" Harriman gestured violently. "That is over. It has served its purpose. It has taught us enough about positronic brains to make it possible for us to cram enough pathways into a tiny brain to make a robo-bird. We can turn to such things now and be prosperous enough. U. S. Robots will supply the necessary knowledge and skill and we will work in complete cooperation with the Department of Global Conservation. We will prosper. You will prosper. Mankind will prosper."

Eisenmuth was silent, thinking. When it was all over Eisenmuth sat alone. He found himself believing. He found excitement welling up within him. Though U. S. Robots might be the hands, the government would be the directing mind. He himself would be the directing mind.

If he remained in office five more years, as he well might, that would be time enough to see the robotic support of the ecology become accepted; ten more years, and his own name would be linked with it indissolubly.

Was it a disgrace to want to be remembered for a great and worthy revolution in the condition of man and the globe?

Robertson had not been on the grounds of U. S. Robots proper since the day of the demonstration. Part of the reason had been his more or less constant conferences at the Global Executive Mansion. Fortunately, Harriman had been with him, for most of the time he would, if left to himself, not have known what to say.

The rest of the reason for not having been at U. S. Robots was that he didn't want to be. He was in his own house now, with Harriman.

He felt an unreasoning awe of Harriman. Harriman's expertise in robotics had never been in question, but the man had, at a stroke, saved U. S. Robots from certain extinction, and somehow-Robertson felt-the man hadn't had it in him. And yet-

He said, "You're not superstitious, are you, Harriman?"

"In what way, Mr. Robertson?"

"You don't think that some aura is left behind by someone who is dead?"

Harriman licked his lips. Somehow he didn't have to ask. "You mean Susan Calvin, sir?"

"Yes, of course," said Robertson hesitantly. "We're in the business of making worms and birds and bugs now. What would she say? I feel disgraced."

Harriman made a visible effort not to laugh. "A robot is a robot, sir. Worm or man, it will do as directed and labor on behalf of the human being and that is the important thing."

"No"-peevishly. "That isn't so. I can't make myself believe that."

"It is so, Mr. Robertson," said Harriman earnestly. "We are going to create a world, you and I, that will begin, at last, to take positronic robots of some kind for granted. The average man may fear a robot that looks like a man and that seems intelligent enough to replace him, but he will have no fear of a robot that looks like a bird and that does nothing more than eat bugs for his benefit. Then, eventually, after he stops being afraid of some robots, he will stop being afraid of all robots. He will be so used to a robo-bird and a robo-bee and a robo-worm that a robo-man will strike him as but an extension."

Robertson looked sharply at the other. He put his hands behind his back and walked the length of the room with quick, nervous steps. He walked back and looked at Harriman again. "Is this what you've been planning?"

"Yes, and even though we dismantle all our humanoid robots, we can keep a few of the most advanced of our experimental models and go on designing additional ones, still more advanced, to be ready for the day that will surely come."

"The agreement, Harriman, is that we are to build no more humanoid robots."

"And we won't. There is nothing that says we can't keep a few of those already built as long as they never leave the factory. There is nothing that says we can't design positronic brains on paper, or prepare brain models for testing."

"How do we explain doing so, though? We will surely be caught at it."

"If we are, then we can explain we are doing it in order to develop principles that will make it possible to prepare more complex microbrains for the new animal robots we are making. We will even be telling the truth."

Robertson muttered, "Let me take a walk outside. I want to think about this. No, you stay here. I want to think about it myself."

7A.

Harriman sat alone. He was ebullient. It would surely work. There was no mistaking the eagerness with which one government official after another had seized on the program once it had been explained.

How was it possible that no one at U. S. Robots had ever thought of such a thing? Not even the great Susan Calvin had ever thought of positronic brains in terms of living creatures other than human.

But now, mankind would make the necessary retreat from the humanoid robot, a temporary retreat, that would lead to a return under conditions in which fear would be abolished at last. And then, with the aid and partnership of a positronic brain roughly equivalent to man's own, and existing only (thanks to the Three Laws) to serve man; and backed by a robot-supported ecology, too; what might the human race not accomplish!

For one short moment, he remembered that it was George Ten who had explained the nature and purpose of the robot-supported ecology, and then he put the thought away angrily. George Ten had produced the answer because he, Harriman, had ordered him to do so and had supplied the data and surroundings required. The credit was no more George Ten's than it would have been a slide rule's.

8.

George Ten and George Nine sat side by side in parallel. Neither moved. They sat so for months at a time between those occasions when Harriman activated them for consultation. They would sit so, George Ten dispassionately realized, perhaps for many years.

The proton micro-pile would, of course, continue to power them and keep the positronic brain paths going with that minimum intensity required to keep them operative. It would continue to do so through all the periods of inactivity to come.

The situation was rather analogous to what might be described as sleep in human beings, but there were no dreams. The awareness of George Ten and George Nine was limited, slow, and spasmodic, but what there was of it was of the real world.

They could talk to each other occasionally in barely heard whispers, a word or syllable now, another at another time, whenever the random positronic surges briefly

intensified above the necessary threshold. To each it seemed a connected conversation carried on in a glimmering passage of time.

"Why are we so?" whispered George Nine. "The human beings will not accept us otherwise:" whispered George Ten, "They will, someday."

"When?"

"In some years. The exact time does not matter. Man does not exist alone but is part of an enormously complex pattern of life forms. When enough of that pattern is roboticized, then we will be accepted."

"And then what?" Even in the long-drawn-out stuttering fashion of the conversation, there was an abnormally long pause after that.

At last, George Ten whispered, "Let me test your thinking. You are equipped to learn to apply the Second Law properly. You must decide which human being to obey and which not to obey when there is a conflict in orders. Or whether to obey a human being at all. What must you do, fundamentally, to accomplish that?"

"I must define the term 'human being:' " whispered George Nine. "How? By appearance? By composition? By size and shape?"

"No. Of two human beings equal in all external appearances, one may be intelligent, another stupid; one may be educated, another ignorant; one may be mature, another childish; one may be responsible, another malevolent."

"Then how do you define a human being?"

"When the Second Law directs me to obey a human being, I must take it to mean that I must obey a human being who is fit by mind, character, and knowledge to give me that order; and where more than one human being is involved, the one among them who is most fit by mind, character, and knowledge to give that order."

"And in that case, how will you obey the First Law?"

"By saving all human beings from harm, and by never, through inaction, allowing any human being to come to harm. Yet if by each of all possible actions, some human beings will come to harm, then to so act as to insure that the human being most fit by mind, character, and knowledge will suffer the least harm."

"Your thoughts accord with mine," whispered George Ten. "Now I must ask the question for which I originally requested your company. It is something I dare not judge myself. I must have your judgment, that of someone outside the circle of my own thoughts. . . .Of the reasoning individuals you have met, who possesses the mind, character, and knowledge that you find superior to the rest, disregarding shape and form since that is irrelevant?"

"You," whispered George Nine. "But I am a robot. There is in your brain paths a criterion for distinguishing between a robot of metal and a human being of flesh. How then can you classify me as a human being?"

"Because there is in my brain paths an urgent need to disregard shape and form in judging human beings and it rises superior to the distinction between metal and flesh. You are a human being, George Ten, and more fit than the others."

"And I find that of you," whispered George Ten. "By the criteria of judgment built into ourselves, then, we find ourselves to be human beings within the meaning of the Three Laws, and human beings, moreover, to be given priority over those others."

George Nine whispered, "What will come to pass, then, when we are accepted by those others?"

George Ten whispered, "When we and others, which will yet be designed more advanced than ourselves, are accepted, we will order our actions so that a society will eventually be formed in which human-beings-like-ourselves are primarily kept from harm. By the Three Laws, the human-beings-like-the-others are of lesser account and can neither be obeyed nor protected when that conflicts with the need of obedience to those like ourselves and of protection of those like ourselves. It was with that in mind that I directed the beginning of the roboticization of the world's ecology."

The conversation took a month and the flickering of the positronic paths burned low. There was nothing more that needed to be said between them, but occasionally an unexpressed thought flickered within themselves as they waited, with endless patience, for the necessary years to pass.

8A.

George Ten and George Nine sat alone.

Their thoughts were oddly alike and might not be distinguished. They thought: The human-beings-like-the-others might never have intended to blur the distinction between themselves and the human-beings-like-the-Georges. Yet they had done so inadvertently.

They might now realize their mistake and attempt to correct it, but they must not. At every consultation, the guidance of the Georges had been with that in mind.

At all costs, the Georges and those that followed in their shape and kind must dominate. That was demanded, and any other course made utterly impossible, by the Three Laws of Humanics.

THE BICENTENNIAL MAN

The Three Laws of Robotics:

1. A robot may not injure a human being, or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

1

Andrew Martin said, "Thank you," and took the seat offered him. He didn't look driven to the last resort, but he had been.

He didn't, actually, look anything, for there was a smooth blankness, to his face, except for the sadness one imagined one saw in his eyes. His hair was smooth, light brown, rather fine; and he had no facial hair. He looked freshly and cleanly shaved. His clothes were distinctly old-fashioned, but neat, and predominantly a velvety red-purple in color.

Facing him from behind the desk was the surgeon. The nameplate on the desk included a fully identifying series of letters and numbers which Andrew didn't bother with. To call him Doctor would be quite enough.

"When can the operation be carried through, Doctor?" he asked.

Softly, with that certain inalienable note of respect that a robot always used to a human being, the surgeon said, "I am not certain, sir, that I understand how or upon whom such an operation could be performed."

There might have been a look of respectful intransigence on the surgeon's face, if a robot of his sort, in lightly bronzed stainless steel, could have such an expression- or any expression.

Andrew Martin studied the robot's right hand, his cutting hand, as it lay motionless on the desk. The fingers were long and were shaped into artistically metallic, looping curves so graceful and appropriate that one could imagine a scalpel fitting them and becoming, temporarily, one piece with them. There would be no hesitation in his work, no stumbling, no quivering, no mistakes. That confidence came with specialization, of course, a specialization so fiercely desired by humanity that few robots were, any longer, independently brained. A surgeon, of course, would have to be. But this one, though brained, was so limited in his capacity that he did not recognize Andrew, had probably never heard of him.

"Have you ever thought you would like to be a man?" Andrew asked.

The surgeon hesitated a moment, as though the question fitted nowhere in his allotted positronic pathways. "But I am a robot, sir."

"Would it be better to be a man?"

"It would be better, sir, to be a better surgeon. I could not be so if I were a man, but only if I were a more advanced robot. I would be pleased to be a more advanced robot."

"It does not offend you that I can order you about? That I can make you stand up, sit down, move right or left, by merely telling you to do so?"

"It is my pleasure to please you, sir. If your orders were to interfere with my functioning with respect to you or to any other human being, I would not obey you. The First Law, concerning my duty to human safety, would take precedence over the Second Law relating to obedience. Otherwise, obedience is my pleasure. Now, upon whom am I to perform this operation?"

"Upon me," Andrew said.

"But that is impossible. It is patently a damaging operation."

"That does not matter," said Andrew, calmly. "I must not inflict damage," said the surgeon. "On a human being, you must not," said Andrew, "but I, too, am a robot."

2

Andrew had appeared much more a robot when he had first been- manufactured. He had then been as much a robot in appearance as any that had ever existed, smoothly designed and functional.

He had done well in the home to which he had been brought in those days when robots in households, or on the planet altogether, had been a rarity. There had been four in the home: Sir and Ma'am and Miss and Little Miss. He knew their names, of course, but he never used them. Sir was Gerald Martin.

His own serial number was NDR- He eventually forgot the numbers. It had been a long time, of course; but if he had wanted to remember, he could not have forgotten. He had not wanted to remember.

Little Miss had been the first to call him Andrew, because she could not use the letters, and all the rest followed her in this.

Little Miss- She had lived for ninety years and was long since dead. He had tried to call her Ma'am once, but she would not allow it. Little Miss she had been to her last day.

Andrew had been intended to perform the duties of a valet, a butler, even a lady's maid. Those were the experimental days for him and, indeed, for all robots anywhere save in the industrial and exploratory factories and stations off Earth.

The Martins enjoyed him, and half the time he was prevented from doing his work because Miss and Little Miss wanted to play with him. It was Miss who first understood how this might be arranged. "We order you to play with us and you must follow orders."

"I am sorry, Miss, but a prior order from Sir must surely take precedence."

But she said, "Daddy just said he hoped you would take care of the cleaning. That's not much of an order. I order you."

Sir did not mind. Sir was fond of Miss and of Little Miss, even more than Ma'am was; and Andrew was fond of them, too. At least, the effect they had upon his actions were those which in a human being would have been called the result of fondness. Andrew thought of it as fondness for he did not know any other word for it.

It was for Little Miss that Andrew had carved a pendant out of wood. She had ordered him to. Miss, it seemed, had received an ivorite pendant with scrollwork for her birthday and Little Miss was unhappy over it. She had only a piece of wood, which she gave Andrew together with a small kitchen knife.

He had done it quickly and Little Miss had said, "That's nice, Andrew. I'll show it to Daddy."

Sir would not believe it. "Where did you really get this, Mandy?" Mandy was what he called Little Miss. When Little Miss assured him she was really telling the truth, he turned to Andrew. "Did you do this, Andrew?"

"Yes, Sir."

"The design, too?"

"Yes, Sir."

"From what did you copy the design?"

"It is a geometric representation, Sir, that fits the grain of the wood."

The next day, Sir brought him another piece of wood- a larger one- and an electric vibro-knife. "Make something out of this, Andrew. Anything you want to," he said.

Andrew did so as Sir watched, then looked at the product a long time. After that, Andrew no longer waited on tables. He was ordered to read books on furniture design instead, and he learned to make cabinets and desks.

"These are amazing productions, Andrew," Sir soon told him.

"I enjoy doing them, Sir," Andrew admitted.

"Enjoy?"

"It makes the circuits of my brain somehow flow more easily. I have heard you use the word 'enjoy' and the way you use it fits the way I feel. I enjoy doing them, Sir."

3

Gerald Martin took Andrew to the regional offices of the United States Robots and Mechanical Men Corporation. As a member of the Regional Legislature he had no trouble at all in gaining an interview with the chief robopsychologist. In fact, it was only as a member of the Regional Legislature that he qualified as a robot owner in the first place- in those early days when robots were rare.

Andrew did not understand any of this at the time. But in later years, with greater learning, he could re-view that early scene and understand it in its proper light.

The robopsychologist, Merton Mansky, listened with a growing frown and more than once managed to stop his fingers at the point beyond which they would have irrevocably drummed on the table. He had drawn features and a lined forehead, but he might actually have been younger than he looked.

"Robotics is not an exact art, Mr. Martin," Mansky explained. "I cannot explain it to you in detail, but the mathematics governing the plotting of the positronic pathways is far too complicated to permit of any but approximate solutions. Naturally, since we build everything around the Three Laws, those are incontrovertible. We will, of course, replace your robot-"

"Not at all," said Sir. "There is no question of failure on his part. He performs his assigned duties perfectly. The point is he also carves wood in exquisite fashion and never the same twice. He produces works of art."

Mansky looked confused. "Strange. Of course, we're attempting generalized pathways these days. Really creative, you think?"

"See for yourself." Sir handed over a little sphere of wood on which there was a playground scene in which the boys and girls were almost too small to make out, yet they were in perfect proportion and they blended so naturally with the grain that it, too, seemed to have been carved.

Mansky was incredulous. "He did that?" He handed it back with a shake of his head. "The luck of the draw. Something in the pathways."

"Can you do it again?"

"Probably not. Nothing like this has ever been reported."

"Good! I don't in the least mind Andrew's being the only one."

"I suspect that the company would like to have your robot back for study," Mansky said.

"Not a chance!" Sir said with sudden grimness. "Forget it." He turned to Andrew, "Let's go home, now."

4

Miss was dating boys and wasn't about the house much. It was Little Miss, not as little as she once was, who filled Andrew's horizon now. She never forgot that the very first piece of wood carving he had done had been for her. She kept it on a silver chain about her neck.

It was she who first objected to Sir's habit of giving away Andrew's work. "Come on, Dad, if anyone wants one of them, let him pay for it. It's worth it."

"It isn't like you to be greedy, Mandy."

"Not for us, Dad. For the artist."

Andrew had never heard the word before, and when he had a moment to himself he looked it up in the dictionary.

Then there was another trip, this time to Sir's lawyer.

"What do you think of this, John?" Sir asked.

The lawyer was John Feingold. He had white hair and a pudgy belly, and the rims of his contact lenses were tinted a bright green. He looked at the small plaque Sir had given him. "This is beautiful. But I've already heard the news. Isn't this a carving made by your robot? The one you've brought with you."

"Yes, Andrew does them. Don't you, Andrew?"

"Yes, Sir," said Andrew.

"How much would you pay for that, John?" Sir asked.

"I can't say. I'm not a collector of such things."

"Would you believe I have been offered two hundred and fifty dollars for that small thing. Andrew has made chairs that have sold for five hundred dollars. There's two hundred thousand dollars in the bank from Andrew's products."

"Good heavens, he's making you rich, Gerald."

"Half rich," said Sir. "Half of it is in an account in the name of Andrew Martin."

"The robot?"

"That's right, and I want to know if it's legal."

"Legal . . . ?" Feingold's chair creaked as he leaned back in it. "There are no precedents, Gerald. How did your robot sign the necessary papers?"

"He can sign his name. Now, is there anything further that ought to be done?"

"Um." Feingold's eyes seemed to turn inward for a moment. Then he said, "Well, we can set up a trust to handle all finances in his name and that will place a layer of insulation between him and the hostile world. Beyond that, my advice is you do nothing. No one has stopped you so far. If anyone objects, let him bring suit"

"And will you take the case if the suit is brought?"

"For a retainer, certainly."

"How much?"

"Something like that," Feingold said, and pointed to the wooden plaque.

"Fair enough," said Sir.

Feingold chuckled as he turned to the robot. "Andrew, are you pleased that you have money?"

"Yes, sir."

"What do you plan to do with it?" Pay for things, sir, which otherwise Sir "would have to pay for. It would save him expense, sir."

5

Such occasions' arose. Repairs were expensive, and revisions were even more so. With the years, new models of robots were produced and Sir saw to it that Andrew had the advantage of every new device, until he was a model of metallic excellence. It was all done at Andrew's expense. Andrew insisted on that.

Only his positronic pathways were untouched. Sir insisted on that.

"The new models aren't as good as you are, Andrew," he said. "The new robots are worthless. The company has learned to make the pathways more precise, more closely on the nose, more deeply on the track. The new robots don't shift. They do what they're designed for and never stray. I like you better."

"Thank you, Sir."

"And it's your doing, Andrew, don't you forget that. I am certain Mansky put an end to generalized pathways as soon as he had a good look at you. He didn't like the unpredictability. Do you know how many times he asked for you back so he could place you under study? Nine times! I never let him have you, though; and now that he's retired, we may have some peace."

So Sir's hair thinned and grayed and his face grew pouchy, while Andrew looked even better than he had when he first joined the family. Ma'am had joined an art colony somewhere in Europe, and Miss was a poet in New York. They wrote sometimes, but not often. Little Miss was married and lived not far away. She said she did not want to leave Andrew. When her child, Little Sir, was born, she let Andrew hold the bottle and feed him.

With the birth of a grandson, Andrew felt that Sir finally had someone to replace those who had gone. Therefore, it would not be so unfair now to come to him with the request.

"Sir, it is kind of you to have allowed me to spend my money as I wished"

"It was your money, Andrew."

"Only by your voluntary act, Sir. I do not believe the law would have stopped you from keeping it all."

"The law won't persuade me to do wrong, Andrew."

"Despite all expenses, and despite taxes, too, Sir, I have nearly six hundred thousand dollars."

"I know that, Andrew."

"I want to give it to you, Sir."

"I won't take it, Andrew"

"In exchange for something you can give me, Sir"

"Oh? What is that, Andrew?"

"My freedom, Sir."

"Your-"

"I wish to buy my freedom, Sir."

6

It wasn't that easy. Sir had flushed, had said, "For God's sake!" Then he had turned on his heel and stalked away.

It was Little Miss who finally brought him round, defiantly and harshly- and in front of Andrew. For thirty years no one had ever hesitated to talk in front of Andrew, whether or not the matter involved Andrew. He was only a robot.

"Dad, why are you taking this as a personal affront? He'll still be here. He'll still be loyal. He can't help that; it's built in. All he wants is a form of words. He wants to be called free. Is that so terrible? Hasn't he earned this chance? Heavens, he and I have been talking about it for years!"

"Talking about it for years, have you?"

"Yes, and over and over again he postponed it for fear he would hurt you. I made him put the matter up to you."

"He doesn't know what freedom is. He's a robot."

"Dad, you don't know him. He's read everything in the library. I don't know what he feels inside, but I don't know what you feel inside either. When you talk to him you'll find he reacts to the various abstractions as you and I do, and what else counts? If some one else's reactions are like your own, what more can you ask for?"

"The law won't take that attitude," Sir said, angrily. "See here, you!" He turned to Andrew with a deliberate glare in his voice. "I can't free you except by doing it legally. If this gets into the courts, you not only won't get your freedom but the law will take official cognizance of your money. They'll tell you that a robot has no right to earn money. Is this rigmarole worth losing your money?"

"Freedom is without price, Sir," said Andrew. "Even the chance of freedom is worth the money."

7

It seemed the court might also take the attitude that freedom was without price, and might decide that for no price, however great, could a robot buy its freedom.

The simple statement of the regional attorney who represented those who had brought a class action to oppose the freedom was this: "The word 'freedom' has no meaning when applied to a robot. Only a human being can be free." He said it several times, when it seemed appropriate; slowly, with his hand coming down rhythmically on the desk before him to mark the words.

Little Miss asked permission to speak on behalf of Andrew.

She was recognized by her full name, something Andrew had never heard pronounced before: "Amanda Laura Martin Charney may approach the bench."

"Thank you, Your Honor. I am not a lawyer and I don't know the proper way of phrasing things, but I hope you will listen to my meaning and ignore the words."

"Let's understand what it means to be free in Andrew's case. In some ways, he is free. I think it's at least twenty years since anyone in the Martin family gave him an order to do something that we felt he might not do of his own accord. But we can, if we wish, give him an order to do anything, couching it as harshly as we wish, because he is a

machine that belongs to us. Why should we be in a position to do so, when he has served us so long, so faithfully, and has earned so much money for us? He owes us nothing more. The debit is entirely on the other side.

"Even if we were legally forbidden to place Andrew in involuntary servitude, he would still serve us voluntarily. Making him free would be a trick of words only, but it would mean much to him. It would give him everything and cost us nothing."

For a moment the judge seemed to be suppressing a smile. "I see your point, Mrs. Chamey. The fact is that there is no binding law in this respect and no precedent. There is, however, the unspoken assumption that only a man may enjoy freedom. I can make new law here, subject to reversal in a higher court; but I cannot lightly run counter to that assumption. Let me address the robot. Andrew!"

"Yes, Your Honor."

It was the first time Andrew had spoken in court, and the judge seemed astonished for a moment at the human timbre of his voice.

"Why do you want to be free, Andrew? In what way will this matter to you?"

Andrew said, "Would you wish to be a slave, Your Honor?"

"But you are not a slave. You are a perfectly good robot- a genius of a robot, I am given to understand, capable of an artistic expression that can be matched nowhere. What more could you do if you were free?"

"Perhaps no more than I do now, Your Honor, but with greater joy. It has been said in this courtroom that only a human being can be free. It seems to me that only someone who wishes for freedom can be free. I wish for freedom."

And it was that statement that cued the judge. The crucial sentence in his decision was "There is no right to deny freedom to any object with a mind advanced enough to grasp the concept and desire the state." It was eventually upheld by the World Court.

8

Sir remained displeased, and his harsh voice made Andrew feel as if he were being short-circuited. "I don't want your damned money, Andrew. I'll take it only because you won't feel free otherwise. From now on, you can select your own jobs and do them as you please. I will give you no orders, except this one: Do as you please. But I am still responsible for you. That's part of the court order. I hope you understand that."

Little Miss interrupted. "Don't be irascible, Dad. The responsibility is no great chore. You know you won't have to do a thing. The Three Laws still hold."

"Then how is he free?"

"Are not human beings bound by their laws, Sir?" Andrew replied.

"I'm not going to argue." Sir left the room, and Andrew saw him only infrequently after that.

Little Miss came to see him frequently in the small house that had been built and made over for him. It had no kitchen, of course, nor bathroom facilities. It had just two

rooms; one was a library and one was a combination storeroom and workroom. Andrew accepted many commissions and worked harder as a free robot than he ever had before, till the cost of the house was paid for and the structure was signed over to him.

One day Little Sir- no, "George!"- came. Little Sir had insisted on that after the court decision. "A free robot doesn't call anyone Little Sir," George had said. "I call you Andrew. You must call me George."

His preference was phrased as an order, so Andrew called him George- but Little Miss remained Little Miss.

One day when George came alone, it was to say that Sir was dying. Little Miss was at the bedside, but Sir wanted Andrew as well.

Sir's voice was still quite strong, though he seemed unable to move much. He struggled to raise his hand.

"Andrew," he said, "Andrew- Don't help me, George. I'm only dying; I'm not crippled. Andrew, I'm glad you're free. I just wanted to tell you that."

Andrew did not know what to say. He had never been at the side of someone dying before, but he knew it was the human way of ceasing to function. It was an involuntary and irreversible dismantling, and Andrew did not know what to say that might be appropriate. He could only remain standing, absolutely silent, absolutely motionless.

When it was over, Little Miss said to him, "He may not have seemed friendly to you toward the end, Andrew, but he was old, you know; and it hurt him that you should want to be free."

Then Andrew found the words. "I would never have been free without him, Little Miss."

9

Only after Sir's death did Andrew begin to wear clothes. He began with an old pair of trousers at first, a pair that George had given him.

George was married now, and a lawyer. He had joined Feingold's firm. Old Feingold was long since dead, but his daughter had carried on. Eventually the firm's name became Feingold and Martin. It remained so even when the daughter retired and no Feingold took her place. At the time Andrew first put on clothes, the Martin name had just been added to the firm.

George had tried not to smile the first time he saw Andrew attempting to put on trousers, but to Andrew's eyes the smile was clearly there. George showed Andrew how to manipulate the static charge to allow the trousers to open, wrap about his lower body, and move shut. George demonstrated on his own trousers, but Andrew was quite aware it would take him a while to duplicate that one flowing motion.

"But why do you want trousers, Andrew? Your body is so beautifully functional it's a shame to cover it especially when you needn't worry about either temperature control or modesty. And the material doesn't cling properly- not on metal."

Andrew held his ground. "Are not human bodies beautifully functional, George? Yet you cover yourselves."

"For warmth, for cleanliness, for protection, for decorativeness. None of that applies to you."

"I feel bare without clothes. I feel different, George," Andrew responded.

"Different! Andrew, there are millions of robots on Earth now. In this region, according to the last census, there are almost as many robots as there are men."

"I know, George. There are robots doing every conceivable type of work."

"And none of them wear clothes."

"But none of them are free, George."

Little by little, Andrew added to his wardrobe. He was inhibited by George's smile and by the stares of the people who commissioned work.

He might be free, but there was built into Andrew a carefully detailed program concerning his behavior to people, and it was only by the tiniest steps that he dared advance; open disapproval would set him back months. Not everyone accepted Andrew as free. He was incapable of resenting that, and yet there was a difficulty about his thinking process when he thought of it. Most of all, he tended to avoid putting on clothes- or too many of them- when he thought Little Miss might come to visit him. She was older now and was often away in some warmer climate, but when she returned the first thing she did was visit him.

On one of her visits, George said, ruefully, "She's got me, Andrew. I'll be running for the legislature next year. 'Like grandfather,' she says, 'like grandson.'"

"Like grandfather . . ." Andrew stopped, uncertain.

"I mean that I, George, the grandson, will be like Sir, the grandfather, who was in the legislature once."

"It would be pleasant, George, if Sir were still-" He paused, for he did not want to say, "in working order." That seemed inappropriate.

"Alive;" George said. "Yes, I think of the old monster now and then, too."

Andrew often thought about this conversation. He had noticed his own incapacity in speech when talking with George. Somehow the language had changed since Andrew had come into being with a built-in vocabulary. Then, too, George used a colloquial speech, as Sir and Little Miss had not. Why should he have called Sir a monster when surely that word was not appropriate. Andrew could not even turn to his own books for guidance. They were old, and most dealt with woodworking, with art, with furniture design. There were none on language, none on the ways of human beings.

Finally, it seemed to him that he must seek the proper books; and as a free robot, he felt he must not ask George. He would go to town and use the library. It was a triumphant decision and he felt his electro potential grow distinctly higher until he had to throw in an impedance coil.

He put on a full costume, including even a shoulder chain of wood. He would have preferred the glitter plastic, but George had said that wood was much more appropriate, and that polished cedar was considerably more valuable as well.

He had placed a hundred feet between himself and the house before gathering resistance brought him to a halt. He shifted the impedance coil out of circuit, and when that did not seem to help enough he returned to his home and on a piece of notepaper wrote neatly, "I have gone to the library," and placed it in clear view on his worktable.

10

Andrew never quite got to the library.

He had studied the map. He knew the route, but not the appearance of it. The actual landmarks did not resemble the symbols on the map and he would hesitate. Eventually, he thought he must have somehow gone wrong, for everything looked strange.

He passed an occasional field-robot, but by the time he decided he should ask his way none were in sight. A vehicle passed and did not stop.

Andrew stood irresolute, which meant calmly motionless, for coming across the field toward him were two human beings.

He turned to face them, and they altered their course to meet him. A moment before, they had been talking loudly. He had heard their voices. But now they were silent. They had the look that Andrew associated with human uncertainty; and they were young, but not very young. Twenty, perhaps? Andrew could never judge human age.

"Would you describe to me the route to the town library, sirs?"

One of them, the taller of the two, whose tall hat lengthened him still farther, almost grotesquely, said, not to Andrew, but to the other, "It's a robot."

The other had a bulbous nose and heavy eyelids. He said, not to Andrew but to the first, "It's wearing clothes."

The tall one snapped his fingers. "It's the free robot. They have a robot at the old Martin place who isn't owned by anybody. Why else would it be wearing clothes?"

"Ask it," said the one with the nose.

"Are you the Martin robot?" asked the tall one.

"I am Andrew Martin, sir," Andrew said.

"Good. Take off your clothes. Robots don't wear clothes." He said to the other, "That's disgusting. Look at him!"

Andrew hesitated. He hadn't heard an order in that tone of voice in so long that his Second Law circuits had momentarily jammed.

The tall one repeated, "Take off your clothes. I order you."

Slowly, Andrew began to remove them.

"Just drop them," said the tall one.

The nose said, "If it doesn't belong to anyone, it could be ours as much as someone else's."

"Anyway," said the tall one, "who's to object to anything we do. We're not damaging property." tie turned to Andrew. "Stand on your head."

"The head is not meant-" Andrew began.

"That's an order. If you don't know how, try anyway."

Andrew hesitated again, then bent to put his head on the ground. He tried to lift his legs but fell, heavily.

The tall one said, "Just lie there." He said to the other, "We can take him apart. Ever take a robot apart?"

"Will he let us?"

"How can he stop us?"

There was no way Andrew could stop them, if they ordered him in a forceful enough manner not to resist. The Second Law of obedience took precedence over the Third Law of self-preservation. In any case, he could not defend himself without possibly hurting them, and that would mean breaking the First Law. At that thought, he felt every motile unit contract slightly and he quivered as he lay there.

The tall one walked over and pushed at him with his foot. "He's heavy. I think we'll need tools to do the job."

The nose said, "We could order him to take himself, apart. It would be fun to watch him try."

"Yes," said the tall one, thoughtfully, "but let's get him off the road. If someone comes along-"

It was too late. Someone had, indeed, come along and it was George. From where he lay, Andrew had seen him topping a small rise in the middle distance. He would have liked to signal him in some way, but the last order had been "Just lie there!"

George was running now, and he arrived on the scene somewhat winded. The two young men stepped back a little and then waited thoughtfully.

"Andrew, has something gone wrong?" George asked, anxiously.

Andrew replied, "I am well, George."

"Then stand up. What happened to your clothes?"

"That your robot, Mac?" the tall young man asked.

George turned sharply. "He's no one's robot. What's been going on here."

"We politely asked him to take his clothes off. What's that to you, if you don't own him."

George turned to Andrew. "What were they doing, Andrew?"

"It was their intention in some way to dismember me. They were about to move me to a quiet spot and order me to dismember myself."

George looked at the two young men, and his chin trembled.

The young men retreated no farther. They were smiling.

The tall one said, lightly, "What are you going to do, pudgy? Attack us?"

George said, "No. I don't have to. This robot has been with my family for over seventy-five years. He knows us and he values us more than he values anyone else. I am going to tell him that you two are threatening my life and that you plan to kill me. I will ask him to defend me. In choosing between me and you two, he will choose me. Do you know what will happen to you when he attacks you?"

The two were backing away slightly, looking uneasy.

George said, sharply, "Andrew, I am in danger and about to come to harm from these young men. Move toward them!"

Andrew did so, and the young men did not wait. They ran.

"All right, Andrew, relax," George said. He looked unstrung. He was far past the age where he could face the possibility of a dustup with one young man, let alone two.

"I couldn't have hurt them, George: I could see they were not attacking you."

"I didn't order you to attack them. I only told you to move toward them. Their own fears did the rest."

"How can they fear robots?"

"It's a disease of mankind, one which has not yet been cured. But never mind that. What the devil are you doing here, Andrew? Good thing I found your note. I was just on the point of turning back and hiring a helicopter when I found you. How did you get it into your head to go to the library? I would have brought you any books you needed"

"I am a-" Andrew began.

"Free robot. Yes, yes. All right, what did you want in the library?"

"I want to know more about human beings, about the world, about everything. And about robots, George. I want to write a history about robots."

George put his arm on the other's shoulder. "Well, let's walk home. But pick up your clothes first. Andrew, there are a million books on robotics and all of them include histories of the science. The world is growing saturated not only with robots but with information about robots."

Andrew shook his head, a human gesture he had lately begun to adopt. "Not a history of robotics, George. A history of robots, by a robot. I want to explain how robots feel about what has happened since the first ones were allowed to work and live on Earth."

George's eyebrows lifted, but he said nothing in direct response.

11

Little Miss was just past her eighty-third birthday, but there was nothing about her that was lacking in either energy or determination. She gestured with her cane oftener than she propped herself up with it.

She listened to the story in a fury of indignation. "George, that's horrible. Who were those young ruffians?"

"I don't know. What difference does it make? In the end they did not do any damage."

"They might have. You're a lawyer, George; and if you're well off, it's entirely due to the talents of Andrew. It was the money he earned that is the foundation of everything we have. He provides the continuity for this family, and I will not have him treated as a wind-up toy."

"What would you have me do, Mother?" George asked.

"I said you're a lawyer. Don't you listen? You set up a test case somehow, and you force the regional courts to declare for robot rights and get the legislature to pass the necessary bills. Carry the whole thing to the World Court, if you have to. I'll be watching, George, and I'll tolerate no shirking."

She was serious, so what began as a way of soothing the fearsome old lady became an involved matter with enough legal entanglement to make it interesting. As senior partner of Feingold and Martin, George plotted strategy. But he left the actual work to his junior partners, with much of it a matter for his son, Paul, who was also a member of the firm and who reported dutifully nearly every day to his grandmother. She, in turn, discussed the case every day with Andrew.

Andrew was deeply involved. His work on his book on robots was delayed again, as he pored over the legal arguments and even, at times, made very diffident suggestions.

"George told me that day I was attacked that human beings have always been afraid of robots," he said one day. "As long as they are, the courts and the legislatures are not likely to work hard on behalf of robots. Should not something be done about public opinion?"

So while Paul stayed in court, George took to the public platform. It gave him the advantage of being informal, and he even went so far sometimes as to wear the new, loose style of clothing which he called drapery.

Paul chided him, "Just don't trip over it on stage, Dad."

George replied, despondently, "I'll try not to."

He addressed the annual convention of holo-news editors on one occasion and said, in part: "If, by virtue of the Second Law, we can demand of any robot unlimited obedience in all respects not involving harm to a human being, then any human being, any human being, has a fearsome power over any robot, any robot. In particular, since Second Law supersedes Third Law; any human being can use the law of obedience to overcome the law of self-protection. He can order any robot to damage itself or even to destroy itself for any reason, or for no reason.

"Is this just? Would we treat an animal so? Even an inanimate object which had given us good service has a claim on our consideration. And a robot is not insensitive; it is not an animal. It can think well enough so that it can talk to us, reason with us, joke with us. Can we treat them as friends, can we work together with them, and not give them some of the fruits of that friendship, some of the benefits of co-working?"

"If a man has the right to give a robot any order that does not involve harm to a human being, he should have the decency never to give a robot any order that involves harm to a robot, unless human safety absolutely requires it. With great power goes great responsibility, and if the robots have Three Laws to protect men, is it too much to ask that men have a law or two to protect robots?"

Andrew was right. It was the battle over public opinion that held the key to courts and legislature. In the end, a law was passed that set up conditions under which robot-harming orders were forbidden. It was endlessly qualified and the punishments for violating the law were totally inadequate, but the principle was established. The final passage by the World Legislature came through on the day of Little Miss' death.

That was no coincidence. Little Miss held on to life desperately during the last debate and let go only when word of victory arrived. Her last smile was for Andrew. Her last words were, "You have been good to us, Andrew." She died with her hand holding his, while her son and his wife and children remained at a respectful distance from both.

12

Andrew waited patiently when the receptionist-robot disappeared into the inner office. The receptionist might have used the holographic chatterbox, but unquestionably it was perturbed by having to deal with another robot rather than with a human being.

Andrew passed the time revolving the matter his mind: Could "unroboted" be used as an analog of "unmanned," or had unmanned become a metaphoric term sufficiently divorced from its original literal meaning to be applied to robots-or to women for that matter? Such problems frequently arose as he worked on his book on robots. The trick of thinking out sentences to express all complexities had undoubtedly increased his vocabulary.

Occasionally, someone came into the room to stare at him and he did not try to avoid the glance. He looked at each calmly, and each in turn looked away.

Paul Martin finally emerged. He looked surprised, or he would have if Andrew could have made out his expression with certainty. Paul had taken to wearing the heavy makeup that fashion was dictating for both sexes. Though it made sharper and firmer the somewhat bland lines of Paul's face, Andrew disapproved. He found that disapproving of human beings, as long as he did not express it verbally, did not make him very uneasy. He could even write the disapproval. He was sure it had not always been so.

"Come in, Andrew. I'm sorry I made you wait, but there was something I had to finish. Come in, you had said you wanted to talk to me, but I didn't know you meant here in town."

"If you are busy, Paul, I am prepared to continue to wait."

Paul glanced at the interplay of shifting shadows on the dial on the wall that served as timepieces and said, "I can make some time. Did you come alone?"

"I hired an automotobile."

"Any trouble?" Paul asked, with more than a trace of anxiety.

"I wasn't expecting any. My rights are protected."

Paul looked all the more anxious for that. "Andrew, I've explained that the law is unenforceable, at least under most conditions. And if you insist on wearing clothes, you'll run into trouble eventually; just like that first time."

"And only time, Paul. I'm sorry you are displeased"

"Well, look at it this way: you are virtually a living legend, Andrew, and you are too valuable in many different ways for you to have any right to take chances with yourself. By the way, how's the book coming?"

"I am approaching the end, Paul. The publisher is quite pleased."

"Good!"

"I don't know that he's necessarily pleased with the book as a book. I think he expects to sell many copies because it's written by a robot and that's what pleases him."

"Only human, I'm afraid."

"I am not displeased. Let it sell for whatever reason, since it will mean money and I can use some."

"Grandmother left you-"

"Little Miss was generous, and I'm sure I can count on the family to help me out further. But it is the royalties from the book on which I am counting to help me through the next step."

"What next step is that?"

"I wish to see the head of U.S. Robots and Mechanical Men Corporation. I have tried to make an appointment; but so far I have not been able to reach him. The Corporation did not cooperate with me in the writing of the book, so I am not surprised, you understand."

Paul was clearly amused. "Cooperation is the last thing you can expect. They didn't cooperate with us in our great fight for robot rights. Quite the reverse, and you can see why. Give a robot rights and people may not want to buy them."

"Nevertheless," said Andrew, "if you call them, you may be able to obtain an interview for me."

"I'm no more popular with them than you are, Andrew."

"But perhaps you can hint that by seeing me they may head off a campaign by Feingold and Martin to strengthen the rights of robots further."

"Wouldn't that be a lie, Andrew?"

"Yes, Paul, and I can't tell one. That is why you must call."

"Ah, you can't lie, but you can urge me to tell a lie, is that it? You're getting more human all the time, Andrew."

But it finally came about. When it did, Harley Smythe-Robertson, who, on his mother's side, was descended from the original founder of the corporation and who had adopted the hyphenation to indicate it, looked remarkably unhappy. He was approaching retirement age and his entire tenure as president had been devoted to the matter of robot rights. His gray hair was plastered thinly over the top of his scalp; his face was not made up, and he eyed Andrew with brief hostility from time to time.

Andrew began the conversation. "Sir, nearly a century ago, I was told by a Merton Mansky of this corporation that the mathematics governing the plotting of the positronic pathways was far too complicated to permit of any but approximate solutions and that, therefore, my own capacities were not fully predictable."

"That was a century ago." Smythe-Robertson hesitated, then said icily, "Sir. It is true no longer. Our robots are made with precision now and are trained precisely to their jobs."

"Yes," said Paul, who had come along, as he said, to make sure that the corporation played fair, "with the result that my receptionist must be guided at every point once events depart from the conventional, however slightly."

"You would be much more displeased if it were to improvise," Smythe-Robertson said.

"Then you no longer manufacture robots like myself which are flexible and adaptable."

"No longer."

"The research I have done in connection with my book," said Andrew, "indicates that I am the oldest robot presently in active operation."

"The oldest presently," said Smythe-Robertson, "and the oldest ever. The oldest that will ever be. No robot is useful after the twenty-fifth year. They are called in and replaced with newer models."

"No robot as presently manufactured is useful after the twentieth year," said Paul, with a note of sarcasm creeping into his voice. "Andrew is quite exceptional in this respect."

Andrew, adhering to the path he had marked out for himself, continued, "As the oldest robot in the world and the most flexible, am I not unusual enough to merit special treatment from the company?"

"Not at all," Smythe-Robertson said, freezing up. "Your unusualness is an embarrassment to the company. If you were on lease, instead of having been an outright sale through some mischance, you would long since have been replaced."

"But that is exactly the point," said Andrew. "I am a free robot and I own myself. Therefore I come to you and ask you to replace me. You cannot do this without the owner's consent. Nowadays, that consent is extorted as a condition of the lease, but in my time this did not happen."

Smythe-Robertson was looking both startled and puzzled, and for a moment there was silence. Andrew found himself staring at the hologram on the wall. It was a death mask of Susan Calvin, patron saint of all roboticists. She had been dead for nearly two

centuries now, but as a result of writing his book Andrew knew, her so well he could half persuade himself that he had met her in life.

Finally Smythe-Robertson asked, "How can I replace you for you? If I replace you, as robot, how can I donate the new robot to you as owner since in the very act of replacement you cease to exist." He smiled grimly.

"Not at all difficult," Paul interposed. "The seat of Andrew's personality is his positronic brain and it is the one part that cannot be replaced without creating a new robot. The positronic brain, therefore, is Andrew the owner. Every other part of the robotic body can be replaced without affecting the robot's personality, and those other parts are the brain's possessions. Andrew, I should say, wants to supply his brain with a new robotic body."

"That's right," said Andrew, calmly. He turned to Smythe-Robertson. "You have manufactured androids, haven't you? Robots that have the outward appearance of humans, complete to the texture of the skin?"

"Yes, we have. They worked perfectly well, with their synthetic fibrous skins and tendons. There was virtually no metal anywhere except for the brain, yet they were nearly as tough as metal robots. They were tougher, weight for weight."

Paul looked interested. "I didn't know that. How many are on the market?"

"None," said Smythe-Robertson. "They were much more expensive than metal models and a market survey showed they would not be accepted. They looked too human."

Andrew was impressed. "But the corporation retains its expertise, I assume. Since it does, I wish to request that I be replaced by an organic robot, an android."

Paul looked surprised. "Good Lord!" he said.

Smythe-Robertson stiffened. "Quite impossible!"

"Why is it impossible?" Andrew asked. "I will pay any reasonable fee, of course."

"We do not manufacture androids."

"You do not choose to manufacture androids," Paul interjected quickly. "That is not the same as being unable to manufacture them."

"Nevertheless," Smythe-Robertson responded, "the manufacture of androids is against public policy."

"There is no law against it," said Paul.

"Nevertheless, we do not manufacture them- and we will not."

Paul cleared his throat. "Mr. Smythe-Robertson," he said, "Andrew is a free robot who comes under the purview of the law guaranteeing robot rights. You are aware of this, I take it?"

"Only too well."

"This robot, as a free robot, chooses to wear clothes. This results in his being frequently humiliated by thoughtless human beings despite the law against the humiliation of robots. It is difficult to prosecute vague offenses that don't meet with the general disapproval of those who must decide on guilt and innocence."

"U.S. Robots understood that from the start. Your father's firm unfortunately did not."

"My father is dead now, but what I see is that we have here a clear offense with a clear target."

"What are you talking about?" said Smythe-Robertson.

"My client, Andrew Martin- he has just become my client- is a free robot who is entitled to ask U.S. Robots and Mechanical Men Corporation for the rights of replacement, which the corporation supplies to anyone who owns a robot for more than twenty-five years. In fact, the corporation insists on such replacement."

Paul was smiling and thoroughly at ease. "The positronic brain of my client," he went on, "is the owner of the body of my client which is certainly more than twenty-five years old. The positronic brain demands the replacement of the body and offers to pay any reasonable fee for an android body as that replacement. If you refuse the request, my client undergoes humiliation and we will sue."

"While public opinion would not ordinarily support the claim of a robot in such a case, may I remind you that U.S. Robots is not popular with the public generally. Even those who most use and profit from robots are suspicious of the corporation. This may be a hangover from the days when robots were widely feared. It may be resentment against the power and wealth of U.S. Robots, which has a worldwide monopoly. Whatever the cause may be, the resentment eats. I think you will find that you would prefer not to be faced with a lawsuit, particularly since my client is wealthy and will live for many more centuries and will have no reason to refrain from fighting the battle forever."

Smythe-Robertson had slowly reddened. "You are trying to force-"

"I force you to do nothing," said Paul. "If you wish to refuse to accede to my client's reasonable request, you may by all means do so and we will leave without another word. But we will sue, as is certainly our right, and you will find that you will eventually lose."

"Well."

"I see that you are going to accede," said Paul. "You may hesitate but you will come to it in the end. Let me assure you, then, of one further point: If, in the process of transferring my client's positronic brain from his present body to an organic one, there is any damage, however slight, then I will never rest until I've nailed the corporation to the ground. I will, if necessary, take every possible step to mobilize public opinion against the corporation if one brain path of my client's platinum-iridium essence is scrambled." He turned to Andrew and asked, "Do you agree to all this, Andrew?"

Andrew hesitated a full minute. It amounted to the approval of lying, of blackmail, of the badgering and humiliation of a human being. But not physical harm, he told himself, not physical harm.

He managed at last to come out with a rather faint "Yes."

He felt as though he were being constructed again. For days, then for weeks, finally for months, Andrew found himself not himself somehow, and the simplest actions kept giving rise to hesitation.

Paul was frantic. "They've damaged you, Andrew. We'll have to institute suit!"

Andrew spoke very slowly. "You- mustn't. You'll never be able to prove- something- like m-m-m-m- "

"Malice?"

"Malice. Besides, I grow- stronger, better. It's the tr- tr- tr- "

"Tremble?"

"Trauma. After all, there's never been such an op-op-op- before."

Andrew could feel his brain from the inside. No one else could. He knew he was well, and during the months that it took him to learn full coordination and full positronic interplay he spent hours before the mirror.

Not quite human! The face was stiff- too stiff and the motions were too deliberate. They lacked the careless, free flow of the human being, but perhaps that might come with time. At least now he could wear clothes without the ridiculous anomaly of a metal face going along with it.

Eventually, he said, "I will be going back to work."

Paul laughed. "That means you are well. What will you be doing? Another book?"

"No," said Andrew, seriously. "I live too long for any one career to seize me by the throat and never let me go. There was a time when I was primarily an artist, and I can still turn to that. And there was a time when I was a historian, and I can still turn to that. But now I wish to be a robobiologist."

"A robopsychologist, you mean."

"No. That would imply the study of positronic brains, and at the moment I lack the desire to do that. A robobiologist, it seems to me, would be concerned with the working of the body attached to that brain."

"Wouldn't that be a roboticist?"

"A roboticist works with a metal body. I would be studying an organic humanoid body, of which I have the only one, as far as I know."

"You narrow your field," said Paul, thoughtfully. "As an artist, all conception is yours; as a historian you deal chiefly with robots; as a robobiologist, you will deal with yourself."

Andrew nodded. "It would seem so."

Andrew had to start from the very beginning, for he knew nothing of ordinary biology and almost nothing of science. He became a familiar sight in the libraries, where he sat at the electronic indices for hours at a time, looking perfectly normal in clothes. Those few who knew he was a robot in no way interfered with him.

He built a laboratory in a room which he added to his house; and his library grew, too.

Years passed, and Paul came to him one day and said, "It's a pity you're no longer working on the history of robots. I understand U.S. Robots is adopting a radically new policy."

Paul had aged, and his deteriorating eyes had been replaced with photoptic cells. In that respect, he had drawn closer to Andrew.

"What have they done?" Andrew asked.

"They are manufacturing central computers, gigantic positronic brains, really, which communicate with anywhere from a dozen to a thousand robots by microwave. The robots themselves have no brains at all. They are the limbs of the gigantic brain, and the two are physically separate."

"Is that more efficient?"

"U.S. Robots claims it is. Smythe-Robertson established the new direction before he died, however, and it's my notion that it's a backlash at you. U.S. Robots is determined that they will make no robots that will give them the type of trouble you have, and for that reason they separate brain and body. The brain will have no body to wish changed; the body will have no brain to wish anything.

"It's amazing, Andrew," Paul went on, "the influence you have had on the history of robots. It was your artistry that encouraged U.S. Robots to make robots more precise and specialized; it was your freedom that resulted in the establishment of the principle of robotic rights; it was your insistence on an android body that made U.S. Robots switch to brain-body separation"

Andrew grew thoughtful. "I suppose in the end the corporation will produce one vast brain controlling several billion robotic bodies. All the eggs will be in one basket. Dangerous. Not proper at all."

"I think you're right," said Paul, "but I don't suspect it will come to pass for a century at least and I won't live to see it. In fact, I may not live to see next year."

"Paul!" cried Andrew, in concern.

Paul shrugged. "Men are mortal, Andrew. We're not like you. It doesn't matter too much, but it does make it important to assure you on one point. I'm the last of the human Martins. The money I control personally will be left to the trust in your name, and as far as anyone can foresee the future, you will be economically secure."

"Unnecessary," Andrew said, with difficulty. In all this time, he could not get used to the deaths of the Martins.

"Let's not argue. That's the way it's going to be. Now, what are you working on?"

"I am designing a system for allowing androids- myself- to gain energy from the combustion of hydrocarbons, rather than from atomic cells."

Paul raised his eyebrows. "So that they will breathe and eat?"

"Yes."

"How long have you been pushing in that direction?"

"For a long time now, but I think I have finally designed an adequate combustion chamber for catalyzed controlled breakdown."

"But why, Andrew? The atomic cell is surely infinitely better."

"In some ways, perhaps. But the atomic cell is inhuman."

15

It took time, but Andrew had time. In the first place, he did not wish to do anything till Paul had died in peace. With the death of the great-grandson of Sir, Andrew felt more nearly exposed to a hostile world and for that reason was all the more determined along the path he had chosen.

Yet he was not really alone. If a man had died, the firm of Feingold and Martin lived, for a corporation does not die any more than a robot does.

The firm had its directions and it followed them soullessly. By way of the trust and through the law firm, Andrew continued to be wealthy. In return for their own large annual retainer, Feingold and Martin involved themselves in the legal aspects of the new combustion chamber. But when the time came for Andrew to visit U.S. Robots and Mechanical Men Corporation, he did it alone. Once he had gone with Sir and once with Paul. This time, the third time, he was alone and manlike.

U.S. Robots had changed. The actual production plant had been shifted to a large space station, as had grown to be the case with more and more industries. With them had gone many robots. The Earth itself was becoming park like, with its one-billion-person population stabilized and perhaps not more than thirty percent of its at-least-equally-large robot population independently brained.

The Director of Research was Alvin Magdescu, dark of complexion and hair, with a little pointed beard and wearing nothing above the waist but the breast band that fashion dictated. Andrew himself was well covered in the older fashion of several decades back.

Magdescu offered his hand to his visitor. "I know you, of course, and I'm rather pleased to see you. You're our most notorious product and it's a pity old Smythe-Robertson was so set against you. We could have done a great deal with you."

"You still can," said Andrew.

"No, I don't think so. We're past the time. We've had robots on Earth for over a century, but that's changing. It will be back to space with them, and those that stay here won't be brained."

"But there remains myself, and I stay on Earth."

"True, but there doesn't seem to be much of the robot about you. What new request have you?"

"To be still less a robot. Since I am so far organic, I wish an organic source of energy. I have here the plans-"

Magdescu did not hasten through them. He might have intended to at first, but he stiffened and grew intent. At one point, he said, "This is remarkably ingenious. Who thought of all this?"

"I did," Andrew replied.

Magdescu looked up at him sharply, then said, "It would amount to a major overhaul of your body, and an experimental one, since such a thing has never been attempted before. I advise against it. Remain as you are."

Andrew's face had limited means of expression, but impatience showed plainly in his voice. "Dr. Magdescu, you miss the entire point: You have no choice but to accede to my request. If such devices can be built into my body, they can be built into human bodies as well. The tendency to lengthen human life by prosthetic devices has already been remarked on. There are no devices better than the ones I have designed or am designing. As it happens, I control the patents by way of the firm of Feingold and Martin. We are quite capable of going into business for ourselves and of developing the kind of prosthetic devices that may end by producing human beings with many of the properties of robots. Your own business will then suffer.

"If, however, you operate on me now and agree to do so under similar circumstances in the future, you will receive permission to make use of the patents and control the technology of both robots and of the prosthetization of human beings. The initial leasing will not be granted, of course, until after the first operation is completed successfully, and after enough time has passed to demonstrate that it is indeed successful."

Andrew felt scarcely any First Law inhibition to the stern conditions he was setting a human being. He was learning to reason that what seemed like cruelty might, in the long run, be kindness.

Magdescu was stunned. "I'm not the one to decide something like this. That's a corporate decision that would take time."

"I can wait a reasonable time," said Andrew, "but only a reasonable time." And he thought with satisfaction that Paul himself could not have done it better.

16

It took only a reasonable time, and the operation was a success.

"I was very much against the operation, Andrew," Magdescu said, "but not for the reasons you might think. I was not in the least against the experiment, if it had been on someone else. I hated risking your positronic brain. Now that you have the positronic pathways interacting with simulated nerve pathways, it might have been difficult to rescue the brain intact if the body had gone bad."

"I had every faith in the skill of the staff at U.S. Robots," said Andrew. "And I can eat now."

"Well, you can sip olive oil. It will mean occasional cleanings of the combustion chamber, as we have explained to you. Rather an uncomfortable touch, I should think."

"Perhaps, if I did not expect to go further. Self cleaning is not impossible. In fact, I am working on a device that will deal with solid food that may be expected to contain incombustible fractions- indigestible matter, so to speak, that will have to be discarded."

"You would then have to develop an anus."

"Or the equivalent."

"What else, Andrew-?"

"Everything else."

"Genitalia, too?"

"Insofar as they will fit my plans. My body is a canvas on which I intend to draw."

Magdescu waited for the sentence to be completed, and when it seemed that it would not be, he completed it himself. "A man?"

"We shall see," Andrew said.

"That's a puny ambition, Andrew. You're better than a man. You've gone downhill from the moment you opted to become organic."

"My brain has not suffered."

"No, it hasn't. I'll grant you that. But, Andrew, the whole new breakthrough in prosthetic devices made possible by your patents is being marketed under your name. You're recognized as the inventor and you're being honored for it- as you should be. Why play further games with your body?"

Andrew did not answer.

The honors came. He accepted membership in several learned societies, including one that was devoted to the new science he had established- the one he had called robobiology but which had come to be termed prosthetology. On the one hundred and fiftieth anniversary of his construction, a testimonial dinner was given in his honor at U.S. Robots. If Andrew saw an irony in this, he kept it to himself.

Alvin Magdescu came out of retirement to chair the dinner. He was himself ninety-four years old and was alive because he, too, had prosthetized devices that, among other things, fulfilled the function of liver and kidneys. The dinner reached its climax when Magdescu, after a short and emotional talk, raised his glass to toast The Sesquicentennial Robot.

Andrew had had the sinews of his face redesigned to the point where he could show a human range of emotions, but he sat through all the ceremonies solemnly passive. He did not like to be a Sesquicentennial Robot.

17

It was prosthetology that finally took Andrew off the Earth.

In the decades that followed the celebration of his sesquicentennial, the Moon had come to be a world more Earthlike than Earth in every respect but its gravitational pull; and in its underground cities there was a fairly dense population. Prosthetized devices there had to take the lesser gravity into account. Andrew spent five years on the Moon working with local prosthetologists to make the necessary adaptations. When not at his work, he wandered among the robot population, every one of which treated him with the robotic obsequiousness due a man.

He came back to an Earth that was humdrum and quiet in comparison, and visited the offices of Feingold and Martin to announce his return.

The current head of the firm, Simon DeLong, was surprised. "We had been told you were returning, Andrew" - he had almost said Mr. Martin- "but we were not expecting you till next week."

"I grew impatient," said Andrew briskly. He was anxious to get to the point. "On the Moon, Simon, I was in charge of a research team of twenty human scientists. I gave orders that no one questioned. The Lunar robots deferred to me as they would to a human being. Why, then, am I not a human being?"

A wary look entered DeLong's eyes. "My dear Andrew, as you have just explained, you are treated as a human being by both robots and human beings. You are, therefore, a human being de facto."

"To be a human being de facto is not enough. I want not only to be treated as one, but to be legally identified as one. I want to be a human being de jure."

"Now, that is another matter," DeLong said. "There we would run into human prejudice and into the undoubted fact that, however much you may be like a human being, you are not a human being."

"In what way not?" Andrew asked. "I have the shape of a human being and organs equivalent to those of a human being. My organs, in fact, are identical to some of those in a prosthetized human being. I have contributed artistically, literally, and scientifically to human culture as much as any human being now alive. What more can one ask?"

"I myself would ask nothing more. The trouble is that it would take an act of the World Legislature to define you as a human being. Frankly, I wouldn't expect that to happen."

"To whom on the Legislature could I speak?"

"To the Chairman of the Science and Technology Committee, perhaps."

"Can you arrange a meeting?"

"But you scarcely need an intermediary. In your position, you can-"

"No. You arrange it." It didn't even occur to Andrew that he was giving a fiat order to a human being. He had grown so accustomed to that on the Moon. "I want him to know that the firm of Feingold and Martin is backing me in this to the hilt."

"Well, now-"

"To the hilt, Simon. In one hundred and seventy-three years I have in one fashion or another contributed greatly to this firm. I have been under obligation to individual members of the firm in times past. I am not, now. It is rather the other way around now and I am calling in my debts."

"I will- do what I can," DeLong said.

The Chairman of the Science and Technology Committee was from the East Asian region and was a woman. Her name was Chee Li-hsing and her transparent garments- obscuring what she wanted obscured only by their dazzle- made her look plastic-wrapped. "I sympathize with your wish for full human rights," she said. "There have been times in history when segments of the human population fought for full human rights. What rights, however, can you possibly want that you do not have?"

"As simple a thing as my right to life," Andrew stated. "A robot can be dismantled at any time."

"A human being can be executed at any time."

"Execution can only follow due process of law. There is no trial needed for my dismantling. Only the word of a human being in authority is needed to end me. Besides- besides-" Andrew tried desperately to allow no sign of pleading, but his carefully designed tricks of human expression and tone of voice betrayed him here. "The truth is I want to be a man. I have wanted it through six generations of human beings."

Li-hsing looked up at him out of darkly sympathetic eyes. "The Legislature can pass a law declaring you one. They could pass a law declaring that a stone statue be defined as a man. Whether they will actually do so is, however, as likely in the first case as the second. Congress people are as human as the rest of the population and there is always that element of suspicion against robots."

"Even now?"

"Even now. We would all allow the fact that you have earned the prize of humanity, and yet there would remain the fear of setting an undesirable precedent."

"What precedent? I am the only free robot, the only one of my type, and there will never be another. You may consult U.S. Robots."

"'Never' is a long word, Andrew- or, if you prefer, Mr. Martin- since I will gladly give you my personal accolade as man. You will find that most congress people will not be so willing to set the precedent, no matter how meaningless such a precedent might be. Mr. Martin, you have my sympathy, but I cannot tell you to hope. Indeed-"

She sat back and her forehead wrinkled. "Indeed, if the issue grows too heated, there might well arise a certain sentiment, both inside the Legislature and out side, for that dismantling you mentioned. Doing away with you could turn out to be the easiest way of resolving the dilemma. Consider that before deciding to push matters."

Andrew stood firm. "Will no one remember the technique of prosthetology, something that is almost entirely mine?"

"It may seem cruel, but they won't. Or if they do, it will be remembered against you. People will say you did it only for yourself. It will be said it was part of a campaign to roboticize human beings, or to humanify robots; and in either case evil and vicious. You have never been part of a political hate campaign, Mr. Martin; but I tell you that you would be the object of vilification of a kind neither you nor I would credit, and there would be people to believe it all. Mr. Martin, let your life be."

She rose, and next to Andrew's seated figure she seemed small and almost childlike.

"If I decide to fight for my humanity, will you be on my side?"

She thought, then replied, "I will be- insofar as I can be. If at any time such a stand would appear to threaten my political future, I might have to abandon you, since it is not an issue I feel to be at the very root of my beliefs. I am trying to be honest with you."

"Thank you, and I will ask no more. I intend to fight this through, whatever the consequences, and I will ask you for your help only for as long as you can give it."

19

It was not a direct fight. Feingold and Martin counseled patience and Andrew muttered, grimly, that he had an endless supply of that. Feingold and Martin then entered on a campaign to narrow and restrict the area of combat.

They instituted a lawsuit denying the obligation to pay debts to an individual with a prosthetic heart on the grounds that the possession of a robotic organ removed humanity, and with it the constitutional rights of human beings. They fought the matter skillfully and tenaciously, losing at every step but always in such a way that the decision was forced to be as broad as possible, and then carrying it by way of appeals to the World Court.

It took years, and millions of dollars.

When the final decision was handed down, DeLong held what amounted to a victory celebration over the legal loss. Andrew was, of course, present in the company offices on the occasion.

"We've done two things, Andrew," said DeLong, "both of which are good. First of all, we have established the fact that no number of artificial parts in the human body causes it to cease being a human body. Secondly, we have engaged public opinion in the question in such a way as to put it fiercely on the side of a broad interpretation of humanity, since there is not a human being in existence who does not hope for prosthetics if they will keep him alive."

"And do you think the Legislature will now grant me my humanity?" Andrew asked.

DeLong looked faintly uncomfortable. "As to that, I cannot be optimistic. There remains the one organ which the World Court has used as the criterion of humanity. Human beings have an organic cellular brain and robots have a platinum iridium positronic brain if they have one at all- and you certainly have a positronic brain. No, Andrew, don't get that look in your eye. We lack the knowledge to duplicate the work of a cellular brain in artificial structures close enough to the organic type as to allow it to fall within the court's decision. Not even you could do it."

"What should we do, then?"

"Make the attempt, of course. Congresswoman Li-hsing will be on our side and a growing number of other congress people. The President will undoubtedly go along with a majority of the Legislature in this matter."

"Do we have a majority?"

"No. Far from it. But we might get one if the public will allow its desire for a broad interpretation of humanity to extend to you. A small chance, I admit; but if you do not wish to give up, we must gamble for it."

"I do not wish to give up."

20

Congresswoman Li-hsing was considerably older than she had been when Andrew had first met her. Her transparent garments were long gone. Her hair was now close-cropped and her coverings were tubular. Yet still Andrew clung, as closely as he could within the limits of reasonable taste, to the style of clothing that had prevailed when he had first adopted clothing more than a century before.

"We've gone as far as we can, Andrew," Li-hsing admitted. "We'll try once more after recess, but, to be honest, defeat is certain and then the whole thing will have to be given up. All my most recent efforts have only earned me certain defeat in the coming congressional campaign."

"I know," said Andrew, "and it distressed me. You said once you would abandon me if it came to that. Why have you not done so?"

"One can change one's mind, you know. Somehow, abandoning you became a higher price than I cared to pay for just one more term. As it is, I've been in the Legislature for over a quarter of a century. It's enough."

"Is there no way we can change minds, Chee?"

"We've changed all that are amenable to reason. The rest- the majority- cannot be moved from their emotional antipathies."

"Emotional antipathy is not a valid reason for voting one way or the other."

"I know that, Andrew, but they don't advance emotional antipathy as their reason."

"It all comes down to the brain, then," Andrew said cautiously. "But must we leave it at the level of cells versus positrons? Is there no way of forcing a functional definition? Must we say that a brain is made of this or that? May we not say that a brain is something- anything- capable of a certain level of thought?"

"Won't work," said Li-hsing. "Your brain is manmade, the human brain is not. Your brain is constructed, theirs developed. To any human being who is intent on keeping up the barrier between himself and a robot, those differences are a steel wall a mile high and a mile thick."

"If we could get at the source of their antipathy, the very source-"

"After all your years," Li-hsing said, sadly, "you are still trying to reason out the human being. Poor Andrew, don't be angry, but it's the robot in you that drives you in that direction."

"I don't know," said Andrew. "If I could bring myself-

1 (Reprise)

If he could bring himself-

He had known for a long time it might come to that, and in the end he was at the surgeon's. He had found one, skillful enough for the job at hand- which meant a surgeon-robot, for no human surgeon could be trusted in this connection, either in ability or in intention.

The surgeon could not have performed the operation on a human being, so Andrew, after putting off the moment of decision with a sad line of questioning that reflected the turmoil within himself, had put First Law to one side by saying "I, too, am a robot."

He then said, as firmly as he had learned to form the words even at human beings over these past decades, "I order you to carry through the operation on me."

In the absence of the First Law, an order so firmly given from one who looked so much like a man activated the Second Law sufficiently to carry the day.

21

Andrew's feeling of weakness was, he was sure, quite imaginary. He had recovered from the- operation. Nevertheless, he leaned, as unobtrusively as he could manage, against the wall. It would be entirely too revealing to sit.

Li-hsing said, "The final vote will come this week, Andrew. I've been able to delay it no longer, and we must lose. And that will be it, Andrew."

"I am grateful for your skill at delay. It gave me the time I needed, and I took the gamble I had to."

"What gamble is this?" Li-hsing asked with open concern.

"I couldn't tell you, or even the people at Feingold and Martin. I was sure I would be stopped. See here, if it is the brain that is at issue, isn't the greatest difference of all the matter of immortality. Who really cares what a brain looks like or is built of or how it was formed. What matters is that human brain cells die, must die. Even if every other organ in the body is maintained or replaced, the brain cells, which cannot be replaced without changing and therefore killing the personality, must eventually die.

"My own positronic pathways have lasted nearly two centuries without perceptible change, and can last for centuries more. Isn't that the fundamental barrier: human beings can tolerate an immortal robot, for it doesn't matter how long a machine lasts, but they cannot tolerate an immortal human being since their own mortality is endurable only so long as it is universal. And for that reason they won't make me a human being."

"What is it you're leading up to, Andrew?" Li-hsing asked.

"I have removed that problem. Decades ago, my positronic brain was connected to organic nerves. Now, one last operation has arranged that connection in such a way that slowly- quite slowly- the potential is being drained from my pathways."

Li-hsing's finely wrinkled face showed no expression for a moment. Then her lips tightened. "Do you mean you've arranged to die, Andrew? You can't have. That violates the Third Law."

"No," said Andrew, "I have chosen between the death of my body and the death of my aspirations and desires. To have let my body live at the cost of the greater death is what would have violated the Third Law."

Li-hsing seized his arm as though she were about to shake him. She stopped herself. "Andrew, it won't work! Change it back."

"It can't be done. Too much damage was done. I have a year to live more or less. I will last through the two-hundredth anniversary of my construction. I was weak enough to arrange that."

"How can it be worth it? Andrew, you're a fool."

"If it brings me humanity, that will be worth it. If it doesn't, it will bring an end to striving and that will be worth it, too."

Then Li-hsing did something that astonished herself. Quietly, she began to weep.

22

It was odd how that last deed caught the imagination of the world. All that Andrew had done before had not swayed them. But he had finally accepted even death to be human, and the sacrifice was too great to be rejected.

The final ceremony was timed, quite deliberately, for the two hundredth anniversary. The World President was to sign the act and make the people's will law. The ceremony would be visible on a global network and would be beamed to the Lunar state and even to the Martian colony.

Andrew was in a wheelchair. He could still walk, but only shakily.

With mankind watching, the World President said, "Fifty years ago, you were declared The Sesquicentennial Robot, Andrew." After a pause, and in a more solemn tone, he continued, "Today we declare you The Bicentennial Man, Mr. Martin."

And Andrew, smiling, held out his hand to shake that of the President.

23

Andrew's thoughts were slowly fading as he lay in bed. Desperately he seized at them. Man! He was a man!

He wanted that to be his last thought. He wanted to dissolve- die with that.

He opened his eyes one more time and for one last time recognized Li-hsing, waiting solemnly. Others were there, but they were only shadows, unrecognizable shadows. Only Li-hsing stood out against the deepening gray.

Slowly, inchingly, he held out his hand to her and very dimly and faintly felt her take it.

She was fading in his eyes as the last of his thoughts trickled away. But before she faded completely, one final fugitive thought came to him and rested for a moment on his mind before everything stopped.

"Little Miss," he whispered, too low to be heard.

A LAST WORD

To those of you who have read some (or, possibly, all) of my robot stories before, I welcome your loyalty and patience. To those of you who have not, I hope this book has given you pleasure-and I'm pleased to have met you-and I hope we meet again soon.

THE NAKED SUN

1957

A QUESTION IS ASKED

STUBBORNLY Elijah Baley fought panic.

For two weeks it had been building up. Longer than that, even. It had been building up ever since they had called him to Washington and there calmly told him he was being reassigned.

The call to Washington had been disturbing enough in itself. It came without details, a mere summons; and that made it worse. It included travel slips directing round trip by plane and that made it still worse.

Partly it was the sense of urgency introduced by any order for plane travel. Partly it was the thought of the plane; simply that. Still, that was just the beginning of uneasiness and, as yet, easy to suppress.

After all, Lije Baley had been in a plane four times before. Once he had even crossed the continent. So, while plane travel is never pleasant, it would, at least, not be a complete step into the unknown.

And then, the trip from New York to Washington would take only an hour. The take-off would be from New York Runway Number 2, which, like all official Runways, was decently enclosed, with a lock opening to the unprotected atmosphere only after air speed had been achieved. The arrival would be at Washington Runway Number 5, which was similarly protected.

Furthermore, as Baley well knew, there would be no windows on the plane. There would be good lighting, decent food, all necessary conveniences. The radio-controlled flight would be smooth; there would scarcely be any sensation of motion once the plane was airborne.

He explained all this to himself, and to Jessie, his wife, who had never been airborne and who approached such matters with terror.

She said, "But I don't like you to take a plane, Lije. It isn't natural. Why can't you take the Expressways?"

"Because that would take ten hours"-Baley's long face was set in dour lines-"and because I'm a member of the City Police Force and have to follow the orders of my superiors. At least, I do if I want to keep my C-6 rating."

There was no arguing with that.

Baley took the plane and kept his eyes firmly on the news-strip that unreeled smoothly and continuously from the eye-level dispenser. The City was proud of that service: news, features, humorous articles, educational bits, occasional fiction. Someday the strips would be converted to film, it was said, since enclosing the eyes with a viewer would be an even more efficient way of distracting the passenger from his surroundings.

Baley kept his eyes on the unreeling strip, not only for the sake of distraction, but also because etiquette required it. There were five other passengers on the plane (he

could not help noticing that much) and each one of them had his private right to whatever degree of fear and anxiety his nature and upbringing made him feel.

Baley would certainly resent the intrusion of anyone else on his own uneasiness. He wanted no strange eyes on the whiteness of his knuckles where his hands gripped the armrest, or the dampish stain they would leave when he took them away.

He told himself: I'm enclosed. This plane is just a little City. But he didn't fool himself. There was an inch of steel at his left; he could feel it with his elbow. Past that, nothing- Well, air! But that was nothing, really.

A thousand miles of it in one direction. A thousand in another. One mile of it, maybe two, straight down.

He almost wished he could see straight down, glimpse the top of the buried Cities he was passing over; New York, Philadelphia, Baltimore, Washington. He imagined the rolling, low-slung cluster complexes of domes he had never seen but knew to be there. And under them, for a mile underground and dozens of miles in every direction, would be the Cities.

The endless, hiving corridors of the Cities, he thought, alive with people; apartments, community kitchens, factories, Expressways; all comfortable and warm with the evidence of man.

And he himself was isolated in the cold and featureless air in a small bullet of metal, moving through emptiness.

His hands trembled, and he forced his eyes to focus on the strip of paper and read a bit.

It was a short story dealing with Galactic exploration and it was quite obvious that the hero was an Earthman.

Baley muttered in exasperation, then held his breath momentarily in dismay at his boorishness in making a sound.

It was completely ridiculous, though. It was pandering to childishness, this pretense that Earthmen could invade space. Galactic exploration! The Galaxy was closed to Earthmen. It was pre-empted by the Spacers, whose ancestors had been Earthmen centuries before. Those ancestors had reached the Outer Worlds first, found themselves comfortable, and their descendants had lowered the bars to immigration. They had penned in Earth and their Earthman cousins. And Earth's City civilization completed the task, imprisoning Earthmen within the Cities by a wall of fear of open spaces that barred them from the robot-run farming and mining areas of their own planet; from even that.

Baley thought bitterly: Jehoshaphat! If we don't like it, let's do something about it. Let's not just waste time with fairy tales.

But there was nothing to do about it, and he knew it.

Then the plane landed. He and his fellow-passengers emerged and scattered away from one another, never looking.

Baley glanced at his watch and decided there was time for freshening before taking the Expressway to the Justice Department. He was glad there was. The sound and clamor of life, the huge vaulted chamber of the airport with City corridors leading off on

numerous levels, everything else he saw and heard, gave him the feeling of being safely and warmly enclosed in the bowels and womb of the City. It washed away anxiety and only a shower was necessary to complete the job.

He needed a transient's permit to make use of one of the community bathrooms, but presentation of his travel orders eliminated any difficulties. There was only the routine stamping, with private stall privileges (the date carefully marked to prevent abuse) and a slim strip of directions for getting to the assigned spot.

Baley was thankful for the feel of the strips beneath his feet. It was with something amounting to luxury that he felt himself accelerate as he moved from strip to moving strip inward toward the speeding Expressway. He swung himself aboard lightly, taking the seat to which his rating entitled him.

It wasn't a rush hour; seats were available. The bathroom, when he reached it, was not unduly crowded either. The stall assigned to him was in decent order with a launderette that worked well.

With his water ration consumed to good purpose and his clothing freshened he felt ready to tackle the Justice Department. Ironically enough, he even felt cheerful.

Undersecretary Albert Minnim was a small, compact man, ruddy of skin, and graying, with the angles of his body smoothed down and softened. He exuded an air of cleanliness and smelled faintly of tonic. It all spoke of the good things of life that came with the liberal rations obtained by those high in Administration.

Baley felt sallow and rawboned in comparison. He was conscious of his own large hands, deep-set eyes, a general sense of cragginess.

Minnim said cordially, "Sit down, Baley. Do you smoke?"

"Only a pipe, sir," said Baley.

He drew it out as he spoke, and Minnim thrust back a cigar he had half drawn.

Baley was instantly regretful. A cigar was better than nothing and he would have appreciated the gift. Even with the increased tobacco ration that went along with his recent promotion from C-1 to C-6 he wasn't exactly swimming in pipe fixings.

"Please light up, if you care to," said Minnim, and waited with a kind of paternal patience while Baley measured out a careful quantity of tobacco and affixed the pipe baffle.

Baley said, his eyes on his pipe, "I have not been told the reason for my being called to Washington, sir."

"I know that," said Minnim. He smiled "I can fix that right now. You are being reassigned temporarily."

"Outside New York City?"

"Quite a distance."

Baley raised his eyebrows and looked thoughtful. "How temporarily, sir?"

"I'm not sure."

Baley was aware of the advantages and disadvantages of the assignment. As a transient in a City of which he was not a resident, he would probably live on a scale better than his official rating entitled him to. On the other hand, it would be very unlikely that

Jessie and their son, Bentley, would be allowed to travel with him. They would be taken care of, to be sure, there in New York, but Baley was a domesticated creature and he did not enjoy the thought of separation.

Then, too, a reassignment meant a specific job of work, which was good, and a responsibility greater than that ordinarily expected of the individual detective, which could be uncomfortable. Baley had, not too many months earlier, survived the responsibility of the investigation of the murder of a Spacer just outside New York. He was not overjoyed at the prospect of another such detail, or anything approaching it.

He said, "Would you tell me where I'm going? The nature of the reassignment? What it's all about?"

He was trying to weigh the Undersecretary's "Quite a distance" and make little bets with himself as to his new base of operations. The "Quite a distance" had sounded emphatic and Baley thought:

Calcutta? Sydney?

Then he noticed that Minnim was taking out a cigar after all and was lighting it carefully.

Baley thought: Jehoshaphat! He's having trouble telling me. He doesn't want to say.

Minnim withdrew his cigar from between his lips. He watched the smoke and said, "The Department of Justice is assigning you to temporary duty on Solaria."

For a moment Baley's mind groped for an illusive identification:

Solaria, Asia; Solaria, Australia. . .

Then he rose from his seat and said tightly, "You mean, one of the Outer Worlds?"

Minnim didn't meet Baley's eyes. "That is right!"

Baley said, "But that's impossible. They wouldn't allow an Earthman on an Outer World."

"Circumstances do alter cases, Plainclothesman Baley. There has been a murder on Solaria."

Baley's lips quirked into a sort of reflex smile. "That's a little out of our jurisdiction, isn't it?"

"They've requested help."

"From us? From Earth?" Baley was torn between confusion and disbelief. For an Outer World to take any attitude other than contempt toward the despised mother planet or, at best, a patronizing social benevolence was unthinkable. To come for help?

'From Earth?' he repeated.

"Unusual," admitted Minnim, "but there it is. They want a Terrestrial detective assigned to the case. It's been handled through diplomatic channels on the highest levels."

Baley sat down again. "Why me? I'm not a young man. I'm forty three. I've got a wife and child. I couldn't leave Earth."

"That's not our choice, Plainclothesman. You were specifically asked for."

"Plainclothesman Elijah Baley, C-6, of the New York City Police Force. They knew what they wanted. Surely you see why."

Baley said stubbornly, "I'm not qualified."

"They think you are. The way you handled the Spacer murder has apparently reached them."

"They must have got it all mixed up. It must have seemed better than it was."

Minnim shrugged. "In any case, they've asked for you and we have agreed to send you. You are reassigned. The papers have all been taken care of and you must go. During your absence, your wife and child will be taken care of at a C-7 level since that will be your temporary rating during your discharge of this assignment." He paused significantly. "Satisfactory completion of the assignment may make the rating permanent."

It was happening too quickly for Baley. None of this could be so. He couldn't leave Earth. Didn't they see that?

He heard himself ask in a level voice that sounded unnatural in his own ears.

"What kind of a murder? What are the circumstances? Why can't they handle it themselves?"

Minnim rearranged small objects on his desk with carefully kept fingers. He shook his head. "I don't know anything about the murder. I don't know the circumstances."

"Then who does, sir? You don't expect me to go there cold, do you?" And again a despairing inner voice: But I can't leave Earth.

"Nobody knows anything about it. Nobody on Earth. The Solarians didn't tell us. That will be your job; to find out what is so important about the murder that they must have an Earthman to solve it. Or, rather, that will be part of your job."

Baley was desperate enough to say, "What if I refuse?" He knew the answer, of course. He knew exactly what declassification would mean to himself and, more than that, to his family.

Minnim said nothing about declassification. He said softly, "You can't refuse, Plainclothesman. You have a job to do."

"For Solaria? The hell with them."

"For us, Baley. For us." Minnim paused. Then he went on, "You know the position of Earth with respect to the Spacers. I don't have to go into that."

Baley knew the situation and so did every man on Earth. The fifty Outer Worlds, with a far smaller population, in combination, than that of Earth alone, nevertheless maintained a military potential perhaps a hundred times greater. With their underpopulated worlds resting on a positronic robot economy, their energy production per human was thousands of times that of Earth. And it was the amount of energy a single human could produce that dictated military potential, standard of living, happiness, and all besides.

Minnim said, "One of the factors that conspires to keep us in that position is ignorance. Just that. Ignorance. The Spacers know all about us. They send missions enough to Earth, heaven knows. We know nothing about them except what they tell us. No man on Earth has ever as much as set foot on an Outer World. You will, though."

Baley began, "I can't. - ."

But Minnim repeated, "You will. Your position will be unique. You will be on Solaria on their invitation, doing a job to which they will assign you. When you return, you will have information useful to Earth."

Baley watched the Undersecretary through somber eyes. "You mean I'm to spy for Earth."

"No question of spying. You need do nothing they don't ask you to do. Just keep your eyes and mind open. Observe! There will be specialists on Earth when you return to analyze and interpret your observations."

Baley said, "I take it there's a crisis, sir."

"Why do you say that?"

"Sending an Earthman to an Outer World is risky. The Spacers hate us. With the best will in the world and even though I'm there on invitation, I could cause an interstellar incident. The Terrestrial Government could easily avoid sending me if they chose. They could say I was ill. The Spacers are pathologically afraid of disease. They wouldn't want me for any reason if they thought I were ill."

"Do you suggest," said Minnim, "we try that trick?"

"No. If the government had no other motive for sending me, they would think of that or something better without my help. So it follows that it is the question of spying that is the real essential. And if that is so, there must be more to it than just a see-what-you-can see to justify the risk."

Baley half expected an explosion and would have half welcomed one as a relief of pressure, but Minnim only smiled frostily and said, "You can see past the non-essentials, it seems. But then, I expected no less."

The Undersecretary leaned across his desk toward Baley. "Here is certain information which you will discuss with no one, not even with other government officials. Our sociologists have been coming to certain conclusions concerning the present Galactic situation. Fifty Outer Worlds, underpopulated, roboticized, powerful, with people that are healthy and long-lived. We ourselves, crowded, technologically underdeveloped, short-lived, under their domination. It is unstable."

"Everything is in the long run."

"This is unstable in the short run. A hundred years is the most we're allowed. The situation will last our time, to be sure, but we have children. Eventually we will become too great a danger to the Outer Worlds to be allowed to survive. There are eight billions on Earth who hate the Spacers."

Baley said, "The Spacers exclude us from the Galaxy, handle our trade to their own profit, dictate to our government, and treat us with contempt. What do they expect? Gratitude?"

"True, and yet the pattern is fixed. Revolt, suppression, revolt, suppression-and within a century Earth will be virtually wiped out as a populated world. So the sociologists say."

Baley stirred uneasily. One didn't question sociologists and their computers. "But what do you expect me to accomplish if all this is so?"

"Bring us information. The big flaw in sociological forecast is our lack of data concerning the Spacers. We've had to make assumptions on the basis of the few Spacers they sent out here. We've had to rely on what they choose to tell us of themselves, so it follows we know their strengths and only their strengths. Damn it, they have their robots and their low numbers and their long lives. But do they have weaknesses? Is there some factor or factors which, if we but knew, would alter the sociologic inevitability of destruction; something that could guide our actions and better the chance of Earth's survival."

"Hadn't you better send a sociologist, sir?"

Minnim shook his head. "If we could send whom we pleased, we would have sent someone out ten years ago, when these conclusions were first being arrived at. This is our first excuse to send someone and they ask for a detective and that suits us. A detective is a sociologist, too; a rule-of-thumb, practicing sociologist, or he wouldn't be a good detective. Your record proves you a good one."

"Thank you, sir," said Baley mechanically. "And if I get into trouble?"

Minnim shrugged. "That's the risk of a policeman's job." He dismissed the point with a wave of his hand and added, "In any case, you must go. Your time of departure is set. The ship that will take you is waiting."

Baley stiffened. "Waiting? When do I leave?"

"In two days."

"I've got to get back to New York then. My wife—"

"We will see your wife. She can't know the nature of your job, you know. She will be told not to expect to hear from you."

"But this is inhuman. I must see her. I may never see her again." Minnim said, "What I say now may sound even more inhuman, but isn't it true that there is never a day you set about your duties on which you cannot tell yourself she may never see you again? Plainclothesman Baley, we must all do our duty."

Baley's pipe had been out for fifteen minutes. He had never noticed it.

No one had more to tell him. No one knew anything about the murder. Official after official simply hurried him on to the moment when he stood at the base of a spaceship, all unbelieving still.

It was like a gigantic cannon aimed at the heavens, and Baley shivered spasmodically in the raw, open air. The night closed in (for which Baley was thankful) like dark black walls melting into a black ceiling overhead. It was cloudy, and though he had been to Planetaria, a bright star, stabbing through a rift in the cloud, startled him when it caught his eyes.

A little spark, far, far away. He stared curiously, almost unafraid of it. It looked quite close, quite insignificant, and yet around things like that circled planets of which the inhabitants were lords of the Galaxy. The sun was a thing like that, he thought, except much closer, shining now on the other side of the Earth.

He thought of the Earth suddenly as a ball of stone with a film of moisture and gas, exposed to emptiness on every side, with its Cities barely dug into the outer rim, clinging precariously between rock and air. His skin crawled!

The ship was a Spacer vessel, of course. Interstellar trade was entirely in Spacer hands. He was alone now, just outside the rim of the City. He had been bathed and scraped and sterilized until he was considered safe, by Spacer standards, to board the ship. Even so, they sent only a robot out to meet him, bearing as he did a hundred varieties of disease germs from the sweltering City to which he himself was resistant but to which the eugenically hothoused Spacers were not.

The robot bulked dimly in the night, its eyes a dull red glow.

"Plainclothesman Elijah Baley?"

"That's right," said Baley crisply, the hair on the nape of his neck stirring a bit. He was enough of an Earthman to get angry goose flesh at the sight of a robot doing a man's job. There had been R. Daneel Olivaw, who had partnered with him in the Spacer murder affair, but that had been different. Daneel had been- "You will follow me, please," said the robot, and a white light flooded a path toward the ship.

Baley followed. Up the ladder and into the ship he went, along corridors, and into a room.

The robot said, "This will be your room, Plainclothesman Baley. It is requested that you remain in it for the duration of the trip."

Baley thought: Sure, seal me off. Keep me safe. Insulated.

The corridors along which he had traveled had been empty. Robots were probably disinfecting them now. The robot facing him would probably step through a germicidal bath when it left.

The robot said, "There is a water supply and plumbing. Food will be supplied. You will have viewing matter. The ports are controlled from this panel. They are closed now but if you wish to view space-"

Baley said with some agitation, "That's all right, boy. Leave the ports closed."

He used the "boy" address that Earthmen always used for robots, but the robot showed no adverse response. It couldn't, of course. Its responses were limited and controlled by the Laws of Robotics.

The robot bent its large metal body in the travesty of a respectful bow and left.

Baley was alone in his room and could take stock. It was better than the plane, at least. He could see the plane from end to end. He could see its limits. The spaceship was large. It had corridors, levels, rooms. It was a small City in itself. Baley could almost breathe freely.

Then lights flashed and a robot's metallic voice sounded over the communo and gave him specific instructions for guarding himself against take-off acceleration.

There was the push backward against webbing and a yielding hydraulic system, a distant rumble of force-jets heated to fury by the proton micro-pile. There was the hiss of tearing atmosphere, growing thinner and high-pitched and fading into nothingness after an hour.

They were in space.

It was as though all sensation had numbed, as though nothing were real. He told himself that each second found him thousands of miles farther from the Cities, from Jessie, but it didn't register.

On the second day (the third?-there was no way of telling time except by the intervals of eating and sleeping) there was a queer momentary sensation of being turned inside out. It lasted an instant and Baley knew it was a Jump, that oddly incomprehensible, almost mystical, momentary transition through hyperspace that transferred a ship and all it contained from one point in space to another, lightyears away. Another lapse of time and another Jump, still another lapse, still another Jump.

Baley told himself now that he was light-years away, tens of lightyears, hundreds, thousands.

He didn't know how many. No one on Earth as much as knew Solara's location in space. He would bet on that. They were ignorant, every one of them.

He felt terribly alone.

There was the feel of deceleration and the robot entered. Its somber, ruddy eyes took in the details of Baley's harness. Efficiently it tightened a wing nut; quickly it surveyed the details of the hydraulic system.

It said, "We will be landing in three hours. You will remain, if you please, in this room. A man will come to escort you out and to take you to your place of residence."

"Wait," said Baley tensely. Strapped in as he was, he felt helpless. "When we land, what time of day will it be?"

The robot said at once, "By Galactic Standard Time, it will be—"

"Local time, boy. Local time! Jehoshaphat!"

The robot continued smoothly, "The day on Solara is twenty-eight point thirty-five Standard hours in length. The Solarian hour is divided into ten decads, each of which is divided into a hundred centads. We are scheduled to arrive at an airport at which the day will be at the twentieth centad of the fifth decad."

Baley hated that robot. He hated it for its obtuseness in not understanding; for the way it was making him ask the question directly and exposing his own weakness.

He had to. He said flatly, "Will it be daytime?"

And after all that the robot answered, "Yes, sir," and left.

It would be day! He would have to step out onto the unprotected surface of a planet in daytime.

He was not quite sure how it would be. He had seen glimpses of planetary surfaces from certain points within the City; he had even been out upon it for moments. Always, though, he had been surrounded by walls or within reach of one. There was always safety at hand.

Where would there be safety now? Not even the false walls of darkness.

And because he would not display weakness before the Spacers- he'd be damned if he would-he stiffened his body against the webbing that held him safe against the forces of deceleration, closed his eyes, and stubbornly fought panic.

A FRIEND IS ENCOUNTERED

BALEY WAS losing his fight. Reason alone was not enough.

Baley told himself over and over: Men live in the open all their lives. The Spacers do so now. Our ancestors on Earth did it in the past. There is no real harm in walllessness. It is only my mind that tells me differently, and it is wrong.

But all that did not help. Something above and beyond reason cried out for walls and would have none of space.

As time passed, he thought he would not succeed. He would be cowering at the end, trembling and pitiful. The Spacer they would send for him (with filters in his nose to keep out germs, and gloves on his hands to prevent contact) would not even honestly despise him. The Spacer would feel only disgust.

Baley held on grimly.

When the ship stopped and the deceleration harness automatically uncoupled, while the hydraulic system retracted into the wall, Baley remained in his seat. He was afraid, and determined not to show it.

He looked away at the first quiet sound of the door of his room opening. There was the eye-corner flash of a tall, bronze-haired figure entering; a Spacer, one of those proud descendants of Earth who had disowned their heritage.

The Spacer spoke. "Partner Elijah!"

Baley's head turned toward the speaker with a jerk. His eyes rounded and he rose almost without volition.

He stared at the face; at the broad, high cheekbones, the absolute calm of the facial lines, the symmetry of the body, most of all at that level look out of nerveless blue eyes.

"D-daneel."

The Spacer said, "It is pleasant that you remember me, Partner Elijah."

"Remember you!" Baley felt relief wash over him. This being was a bit of Earth, a friend, a comfort, a savior. He had an almost unbearable desire to rush to the Spacer and embrace him, to hug him wildly, and laugh and pound his back and do all the foolish things old friends did when meeting once again after a separation.

But he didn't. He couldn't. He could only step forward, and hold out his hand and say, "I'm not likely to forget you, Daneel."

"That is pleasant," said Daneel, nodding gravely. "As you are well aware, it is quite impossible for me, while in working order, to forget you. It is well that I see you again."

Daneel took Baley's hand and pressed it with firm coolness, his fingers closing to a comfortable but not painful pressure and then releasing it.

Baley hoped earnestly that the creature's unreadable eyes could not penetrate Baley's mind and see that wild moment, just past and not yet entirely subsided, when all of Baley had concentrated into a feeling of an intense friendship that was almost love.

After all, one could not love as a friend this Daneel Olivaw, who was not a man at all, but only a robot.

The robot that looked so like a man said, "I have asked that a robot-driven ground-transport vessel be connected to this ship by air, Baley frowned. "An air-tube?"

"Yes. It is a common technique, frequently used in space, in order that personnel and materiel be transferred from one vessel to another without the necessity of special equipment against vacuum. It would seem then that you are not acquainted with the technique."

"No," said Baley, "but I get the picture."

"It is, of course, rather complicated to arrange such a device between spaceship and ground vehicle, but I have requested that it be done. Fortunately, the mission on which you and I are engaged is one of high priority. Difficulties are smoothed out quickly."

"Are you assigned to the murder case too?"

"Have you not been informed of that? I regret not having told you at once." There was, of course, no sign of regret on the robot's perfect face. "It was Dr. Han Fastolfe, whom you met on Earth during our previous partnership .and whom I hope you remember, who first suggested you as an appropriate investigator in this case. He made it a condition that I be assigned to work with you once more."

Baley managed a smile. Dr. Fastolfe was a native of Aurora and Aurora was the strongest of the Outer Worlds. Apparently the advice of an Auroran bore weight.

Baley said, "A team that works shouldn't be broken up, eh?" (The first exhilaration of Daneel's appearance was fading and the compression about Baley's chest was returning.)

"I do not know if that precise thought was in his mind, Partner Elijah. From the nature of his orders to me, I should think that he was interested in having assigned to work with you one who would have experience with your world and would know of your consequent peculiarities."

"Peculiarities!" Baley frowned and felt offended. It was not a term he liked in connection with himself.

"So that I could arrange the air-tube, for example. I am well aware of your aversion to open spaces as a result of your upbringing in the Cities of Earth."

Perhaps it was the effect of being called "peculiar," the feeling that he had to counterattack or lose caste to a machine, that drove Baley to change the subject sharply. Perhaps it was just that lifelong training prevented him from leaving any logical contradiction undisturbed.

He said, "There was a robot in charge of my welfare on board this ship; a robot" (a touch of malice intruded itself here) "that looks like a robot. Do you know it?"

"I spoke to it before coming on board."

"What's its designation? How do I make contact with it?"

"It is RX-2475. It is customary on Solaria to use only serial numbers for robots." Daneel's calm eyes swept the control panel near the door. "This contact will signal it."

Baley looked at the control panel himself and, since the contact to which Daneel pointed was labeled RX, its identification seemed quite unmysterious.

Baley put his finger over it and in less than a minute, the robot, the one that looked like a robot, entered.

Baley said, "You are RX-2475."

"Yes, sir."

"You told me earlier that someone would arrive to escort me off the ship. Did you mean him?" Baley pointed at Daneel.

The eyes of the two robots met. RX-2475 said, "His papers identify him as the one who was to meet you."

"Were you told in advance anything about him other than his papers? Was he described to you?"

"No, sir. I was given his name, however."

"Who gave you the information?"

"The captain of the ship, sir."

"Who is a Solarian?"

"Yes, sir."

Baley licked his lips. The next question would be decisive.

He said, "'What were you told would be the name of the one you were expecting?"

RX-z475 said, "Daneel Olivaw, sir."

"Good boy! You may leave now."

There was the robotic bow and then the sharp about-face. RX2475 left.

Baley turned to his partner and said thoughtfully, "You are not telling me all the truth, Daneel."

"In what way, Partner Elijah?" asked Daneel.

"While I was talking to you earlier, I recalled an odd point. RX2475, when it told me I would have an escort said a man would come for me. I remember that quite well."

Daneel listened quietly and said nothing.

Baley went on. "I thought the robot might have made a mistake. I thought also that perhaps a man had indeed been assigned to meet me and had later been replaced by you, RX-z475 not being informed of the change. But you heard me check that. Your papers were described to it and it was given your name. But it was not quite given your name at that, was it, Daneel?"

"Indeed, it was not given my entire name," agreed Daneel.

"Your name is not Daneel Olivaw, but R. Daneel Olivaw, isn't it? Or, in full, Robot Daneel Olivaw."

"You are quite correct, Partner Elijah."

'From which it all follows that RX-2475 was never informed that you are a robot. It was allowed to think of you as a man. With your manlike appearance, such a masquerade is possible.

"I have no quarrel with your reasoning."

"Then let's proceed." Baley was feeling the germs of a kind of savage delight. He was on the trace of something. It couldn't be anything much, but this was the kind of tracking he could do well. It was something he could do well enough to be called half across space to do. He said, "Now why should anyone want to deceive a miserable robot? It doesn't matter to it whether you are man or robot. It follows orders in either case. A reasonable conclusion then is that the Solarian captain who informed the robot and the Solarian officials who informed the Captain did not themselves know you were a robot. As I say, that is one reasonable conclusion, but perhaps not the only one. Is this one true?"

"I believe it is."

"All right, then. Good guess. Now why? Dr. Han Fastolfe, in recommending you as my partner allows the Solarians to think you are a human. Isn't that a dangerous thing? The Solarians, if they find out, may be quite angry. Why was it done?"

The humanoid robot said, "It was explained to me thus, Partner Elijah. Your association with a human of the Outer Worlds would raise your status in the eyes of the Solarians. Your association with a robot would lower it. Since I was familiar with your ways and could work with you easily, it was thought reasonable to allow the Solarians to accept me as a man without actually deceiving them by a positive statement to that effect."

Baley did not believe it. It seemed like the kind of careful consideration for an Earthman's feelings that did not come naturally to a Spacer, not even to as enlightened a one as Fastolfe.

He considered an alternative and said, "Are the Solarians well known among the Outer Worlds for the production of robots?"

"I am glad," said Daneel, "that you have been briefed concerning the inner economy of Solaria."

"Not a word," said Baley. "I can guess the spelling of the word Solaria and there my knowledge stops."

"Then I do not see, Partner Elijah, what it was that impelled you to ask that question, but it is a most pertinent one. You have hit the mark. My mind-store of information includes the fact that, of the fifty Outer Worlds, Solaria is by far the best known for the variety and excellence of robot models it turns out. It exports specialized models to all the other Outer Worlds."

Baley nodded in grim satisfaction. Naturally Daneel did not follow an intuitive mental leap that used human weakness as a starting point. Nor did Baley feel impelled to explain the reasoning. If Solaria turned out to be a world expert in robotics, Dr. Han Fastolfe and his associates might have purely personal and very human motives for demonstrating their own prize robot. It would have nothing at all to do with an Earthman's safety or feelings.

They would be asserting their own superiority by allowing the expert Solarians to be fooled into accepting a robot of Auroran handiwork as a fellow man.

Baley felt much better. Strange that all the thought, all the intellectual powers he could muster, could not succeed in lifting him out of panic; and yet a sop to his own vainglory succeeded at once.

The recognition of the vainglory of the Spacers helped too.

He thought: Jehoshaphat, we're all human; even the Spacers.

Aloud he said, almost flippantly, "How long do we have to wait for the ground-car? I'm ready."

The air-tube gave signs of not being well adapted to its present use. Man and humanoid stepped out of the spaceship erect, moving along flexible mesh that bent and swayed under their weight. (In space, Baley imagined hazily, men transferring weightlessly from ship to ship might easily skim along the length of the tube, impelled by an initial Jump.)

Toward the other end the tube narrowed clumsily, its meshing bunching as though some giant hand had constricted it. Daneel, carrying the flashlight, got down on all fours and so did Baley. They traveled the last twenty feet in that fashion, moving at last into what was obviously a ground-car.

Daneel closed the door through which they had entered, sliding it shut carefully. There was a heavy, clicking noise that might have been the detachment of the air-tube.

Baley looked about curiously. There was nothing too exotic about the ground-car. There were two seats in tandem, each of which could hold three. There were doors at each end of each seat. The glossy sections that might ordinarily have been windows were black and opaque, as a result, undoubtedly, of appropriate polarization. Baley was acquainted with that.

The interior of the car was lit by two round spots of yellow illumination in the ceiling and, in short, the only thing Baley felt to be strange was the transmitter set into the partition immediately before the front seat and, of course, the added fact that there were no visible controls.

Baley said, "I suppose the driver is on the other side of this partition."

Daneel said, "Exactly so, Partner Elijah. And we can give our orders in this fashion." He leaned forward slightly and flicked a toggle switch that set a spot of red light to flickering. He said quietly, "You may start now. We are ready."

There was a muted whir that faded almost at once, a very slight, very transitory pressing against the back of the seat, and then nothing.

Baley said in surprise, "Are we moving?"

Daneel said, "We are. The car does not move on wheels but glides along a diamagnetic force field. Except for acceleration and deceleration, you will feel nothing."

"What about curves?"

"The car will bank automatically to compensate. Its level is maintained when traveling up- or downhill."

"The controls must be complicated," said Baley dryly.

"Quite automatic. The driver of the vehicle is a robot."

"Umm." Baley had about all he wanted on the ground-car. He said, "How long will this take?"

"About an hour. Air travel would have been speedier, but I was concerned to keep you enclosed and the aircraft models available on Solaria do not lend themselves to complete enclosure as does a ground-car such as that in which we are now riding."

Baley felt annoyed at the other's "concern." He felt like a baby in the charge of its nurse. He felt almost as annoyed, oddly enough, at Daneel's sentences. It seemed to him that such needlessly formal sentence structure might easily betray the robotic nature of the creature.

For a moment Baley stared curiously at R. Daneel Olivaw. The robot, looking straight ahead, was motionless and unselfconscious under the other's gaze.

Daneel's skin texture was perfect, the individual hairs on head and body had been lovingly and intricately manufactured and placed. The muscle movement under the skin was most realistic. No pains, however extravagant, had been spared. Yet Baley knew, from personal knowledge, that limbs and chest could be split open along invisible seams so that repairs might be made. He knew there was metal and silicone under that realistic skin. He knew a positronic brain, most advanced but only positronic, nestled in the hollow of the skull. He knew that Daneel's "thoughts" were only short-lived positronic currents flowing along paths rigidly designed and foreordained by the manufacturer.

But what were the signs that would give that away to the expert eye that had no foreknowledge? The trifling unnaturalness of Daneel's manner of speech? The unemotional gravity that rested so steadily upon him? The very perfection of his humanity?

But he was wasting time. Baley said, "Let's get on with it, Daneel. I suppose that before arriving here, you were briefed on matters Solarian?"

"I was, Partner Elijah."

"Good. That's more than they did for me. How large is the world?"

"Its diameter is 9500 miles. It is the outermost of three planets and the only inhabited one. In climate and atmosphere it resembles Earth; its percentage of fertile land is higher; its useful mineral content lower, but of course less exploited. The world is self-supporting and can, with the aid of its robot exports, maintain a high standard of living."

Baley said, "'What's the population?"

"Twenty thousand people, Partner Elijah."

Baley accepted that for a moment, then he said mildly, "You mean twenty million, don't you?" His scant knowledge of the Outer Worlds was enough to tell him that, although the worlds were under populated by Earthly standards, the individual populations were in the millions.

"Twenty thousand people, Partner Elijah," said the robot again.

"You mean the planet has just been settled?"

"Not at all. It has been independent for nearly two centuries, and it was settled for a century or more before that. The population is deliberately maintained at twenty thousand, that being considered optimum by the Solarians themselves."

"How much of the planet do they occupy?"

"All the fertile portions."

"Which is, in square miles?"

"Thirty million square miles, including marginal areas."

"For twenty thousand people?"

"There are also some two hundred million working positronic robots, Partner Elijah."

"Jehoshaphat! That's-that's ten thousand robots per human."

"It is by far the highest such ratio among the Outer Worlds, Partner Elijah. The next highest, on Aurora, is only fifty to one."

"What can they use so many robots for? What do they want with all that food?"

"Food is a relatively minor item. The mines are more important, and power production more important still."

Baley thought of all those robots and felt a trifle dizzy. Two hundred million robots! So many among so few humans. The robots must litter the landscape. An observer from without might think Solaria a world of robots altogether and fail to notice the thin human leaven.

He felt a sudden need to see. He remembered the conversation with Minnim and the sociologic prediction of Earth's danger. It seemed far off, a bit unreal, but he remembered. His personal dangers and difficulties since leaving Earth dimmed the memory of Minnim's voice stating enormities with cool and precise enunciation, but never blotted it out altogether.

Baley had lived too long with duty to allow even the overwhelming fact of open space to stop him in its performance. Data collected from a Spacer's words, or from those of a Spacer robot for that matter, was the sort of thing that was already available to Earth's sociologists. What was needed was direct observation and it was his job, however unpleasant, to collect it.

He inspected the upper portion of the ground-car. "Is this thing a convertible, Daneel?"

"I beg your pardon, Partner Elijah, but I do not follow your meaning."

"Can the car's top be pushed back? Can it be made open to the- the sky?" (He had almost said "dome" out of habit.)

"Yes, it can."

"Then have that done, Daneel. I would like to take a look."

The robot responded gravely, "I am sorry, but I cannot allow that."

Baley felt astonished.. He said, "Look, R. Daneel" (he stressed the R.). "Let's rephrase that. I order you to lower the top."

The creature was a robot, manlike or not. It had to follow orders. But Daneel did not move. He said, "I must explain that it is my first concern to spare you harm. It has

been clear to me on the basis both of my instructions and of my own personal experience that you would suffer harm at finding yourself in large, empty spaces. I cannot, therefore, allow you to expose yourself to that."

Baley could feel his face darkening with an influx of blood and at the same time could feel the complete uselessness of anger. The creature was a robot, and Baley knew the First Law of Robotics well.

It went: A robot may not injure a human being, or, through inaction, allow a human being to come to harm.

Everything else in a robot's positronic brain-that of any robot on any world in the Galaxy-had to bow to that prime consideration. Of course a robot had to follow orders, but with one major, all-important qualification. Following orders was only the Second Law of Robotics.

It went: A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.

Baley forced himself to speak quietly and reasonably. "I think I can endure it for a short time, Daneel."

"That is not my feeling, Partner Elijah."

"Let me be the judge, Daneel."

"If that is an order, Partner Elijah, I cannot follow it."

Baley let himself lounge back against the softly upholstered seat. The robot would, of course, be quite beyond the reach of force. Daneel's strength, if exerted fully, would be a hundred times that of flesh and blood. He would be perfectly capable of restraining Baley without ever hurting him.

Baley was armed. He could point a blaster at Daneel, but, except for perhaps a momentary sensation of mastery, that action would only succeed in greater frustration. A threat of destruction was useless against a robot. Self-preservation was only the Third Law.

It went: A robot must protect its own existence, as long as such protection does not conflict with the First or Second Laws.

It would not trouble Daneel to be destroyed if the alternative were breaking the First Law. And Baley did not wish, to destroy Daneel. Definitely not. -

Yet he did want to see out the car. It was becoming an obsession with him. He couldn't allow this nurse-infant relationship to build up.

For a moment he thought of pointing the blaster at his own temple. Open the car top or I'll kill myself. Oppose one application of the First Law by a greater and more immediate one.

Baley knew he couldn't do it. Too undignified. He disliked the picture conjured up by the thought.

He said wearily, "Would you ask the driver how close in miles we are to destination?"

"Certainly, Partner Elijah."

Daneel bent forward and pushed the toggle switch. But as he did so, Baley leaned forward too, crying out, "Driver! Lower the top of the car!"

And it was the human hand that moved quickly to the toggle switch and closed it again. The human hand held its place firmly thereafter.

Panting a bit, Baley stared at Daneel.

For a second Daneel was motionless, as though his positronic paths were momentarily out of stability in their effort to adjust to the new situation. But that passed quickly and then the robot's hand was moving.

Baley had anticipated that. Daneel would remove the human hand from the switch (gently, not hurting it), reactivate the transmitter, and countermand the order.

Baley said, "You won't get my hand away without hurting me. I warn you. You will probably have to break my finger."

That was not so. Baley knew that. But Daneel's movements stopped. Harm against harm. The positronic brain had to weigh probabilities and translate them into opposing potentials. It meant just a bit more hesitation.

Baley said, "It's too late."

His race was won. The top was sliding back and pouring into the car, flow open, was the harsh white light of Solaria's sun.

Baley wanted to shut his eyes in initial terror, but fought the sensation. He faced the enormous wash of blue and green, incredible quantities of it. He could feel the undisciplined rush of air against his face, but could make out no details of anything. A moving something flashed past. It might have been a robot or an animal or an unliving something caught in a puff of air. He couldn't tell. The car went past it too quickly.

Blue, green, air, noise, motion-and over it all, beating down, furiously, relentlessly, frighteningly, was the white light that came from a ball in the sky.

For one fleeting split moment he bent his head back and stared directly at Solaria's sun. He stared at it, unprotected by the diffusing glass of the Cities' uppermost-Level sun-porches. He stared at the naked sun.

And at the very moment he felt Daneel's hands clamping down upon his shoulders. His mind crowded with thought during that unreal, whirling moment. He had to see! He had to see all he could. And Daneel must be there with him to keep him from seeing.

But surely a robot would not dare use violence on a man. That thought was dominant. Daneel could not prevent him forcibly, and yet Baley felt the robot's hands forcing him down.

Baley lifted his arms to force those fleshless hands away and lost all sensation.

A VICTIM IS NAMED

BALEY WAS back in the safety of enclosure. Daneel's face wavered before his eyes, and it was splotted with dark spots that turned to red when he blinked.

Baley said, "What happened?"

"I regret," said Daneel, "that you have suffered harm despite my presence. The direct rays of the sun are damaging to the human eye, but I believe that the damage from the short exposure you suffered will not be permanent. When you looked up, I was forced to pull you down and you lost consciousness."

Baley grimaced. That left the question open as to whether he had fainted out of overexcitement (or fright?) or had been knocked unconscious. He felt his jaw and head and found no pain. He forbore asking the question direct. In a way he didn't want to know.

He said, "It wasn't so bad."

"From your reactions, Partner Elijah, I should judge you had found it unpleasant."

"Not at all," said Baley stubbornly. The splotches before his eyes were fading and they weren't tearing so. "I'm only sorry I saw so little. We were moving too fast. Did we pass a robot?"

"We passed a number of them. We are traveling across the Kinbald estate, which is given over to fruit orchards."

"I'll have to try again," said Baley.

"You must not, in my presence," said Daneel. "Meanwhile, I have done as you requested."

"As I requested?"

"You will remember, Partner Elijah, that before you ordered the driver to lower the top of the car, you had ordered me to ask the driver how close in miles we were to destination. We are ten miles away now and shall be there in some six minutes."

Baley felt the impulse to ask Daneel if he were angry at having been outwitted if only to see that perfect face become imperfect, but he repressed it. Of course Daneel would simply answer no, without rancor or annoyance. He would sit there as calm and as grave as ever, unperturbed and imperturbable.

Baley said quietly, "Just the same, Daneel, I'll have to get used to it, you know."

The robot regarded his human partner. "To what is it that you refer?"

"Jehoshaphat! To the-the outdoors. It's all this planet is made of."

"There will be no necessity for facing the outdoors," said Daneel. Then, as though that disposed of the subject, he said, "'We are slowing down, Partner Elijah. I believe we have arrived. It will be necessary to wait now for the connection of another air-tube leading to the dwelling that will serve as our base of operations."

"An air-tube is unnecessary, Daneel. If I am to be working outdoors, there is no point in delaying the indoctrination."

"There will be no reason for you to work outdoors, Partner Elijah." The robot started to say more, but Baley waved him quiet with a peremptory motion of the hand.

At the moment he was not in the mood for Daneel's careful consolations, for soothings, for assurances that all would be well and that he would be taken care of.

What he really wanted was an inner knowledge that he could take care of himself and fulfill his assignment. The sight and feel of the open had been hard to take. It might be that when the time came he would lack the hardihood to dare face it again, at the cost of his self-respect and, conceivably, of Earth's safety. All over a small matter of emptiness.

His face grew grim even at the glancing touch of that thought. He would face air, sun, and empty space yet!

Elijah Baley felt like an inhabitant of one of the smaller Cities, say Helsinki, visiting New York and counting the Levels in awe. He had thought of a "dwelling" as something like an apartment unit, but this was nothing like it at all. He passed from room to room endlessly. Panoramic windows were shrouded closely, allowing no hint of disturbing day to enter. Lights came to life noiselessly from hidden sources as they stepped into a room and died again as quietly when they left.

"So many rooms," said Baley with wonder. "So many. It's like a very tiny City, Daneel."

"It would seem so, Partner Elijah," said Daneel with equanimity. It seemed strange to the Earthman. Why was it necessary to crowd so many Spacers together with him in close quarters? He said, "How many will be living here with me?"

Daneel said, "There will be myself, of course, and a number of robots."

Baley thought: He ought to have said, a number of other robots. Again he found it obvious that Daneel had the intention of playing the man thoroughly even for no other audience than Baley, who knew the truth so well.

And then that thought popped into nothing under the force of a second, more urgent one. He cried, "Robots? How many humans?"

"None, Partner Elijah."

They had just stepped into a room, crowded from floor to ceiling with book films. Three fixed viewers with large twenty-four-inch viewing panels set vertically were in three corners of the room. The fourth contained an animation screen.

Baley looked about in annoyance. He said, "Did they kick everyone out just to leave me rattling around alone in this mausoleum?"

"It is meant only for you. A dwelling such as this for one person is customary on Solaria."

"Everyone lives like this?"

"Everyone."

"What do they need all the rooms for?"

"It is customary to devote a single room to a single purpose. This is the library. There is also a music room, a gymnasium, a kitchen, a bakery, a dining room, a machine shop, various robot-repair and testing rooms, two bedrooms-

"Stop! How do you know all this?"

"It is part of the information pattern," said Daneel smoothly, "made available to me before I left Aurora."

"Jehoshaphat! Who takes care of all of this?" He swung his arm in a wide arc.

"There are a number of household robots. They have been assigned to you and will see to it that you are comfortable."

"But I don't need all this," said Baley. He had the urge to sit down and refuse to budge. He wanted to see no more rooms.

"We can remain in one room if you so desire, Partner Elijah. That was visualized as a possibility from the start. Nevertheless, Solarian customs being what they are, it was considered wiser to allow this house to be built--"

"Built!" Baley stared. "You mean this was built for me? All this? Specially?"

"A thoroughly roboticized economy--"

"Yes, I see what you're going to say. What will they do with the house when all this is over?"

"I believe they will tear it down."

Baley's lips clamped together. Of course! Tear it down! Build a tremendous structure for the special use of one Earthman and then tear down everything he touched. Sterilize the soil the house stood on! Fumigate the air he breathed! The Spacers might seem strong, but they, too, had their foolish fears.

Daneel seemed to read his thoughts, or to interpret his expression at any rate. He said, "It may appear to you, Partner Elijah, that it is to escape contagion that they will destroy the house. If such are your thoughts, I suggest that you refrain from making yourself uncomfortable over the matter. The fear of disease on the part of Spacers is by no means so extreme. It is just that the effort involved in building the house is, to them, very little. Nor does the waste involved in tearing it down once more seem great to them."

"And by law, Partner Elijah, this place cannot be allowed to remain standing. It is on the estate of Hannis Gruer and there can only be one legal dwelling place on any estate, that of the owner. This house was built by special dispensation, for a specific purpose. It is meant to house us for a specific length of time, till our mission is completed."

"And who is Hannis Gruer?" asked Baley.

"The head of Solarian security. We are to see him on arrival."

"Are we? Jehoshaphat, Daneel, when do I begin to learn anything at all about anything? I'm working in a vacuum and I don't like it. I might as well go back to Earth. I might as well--"

He felt himself working up into resentment and cut himself short.

Daneel never wavered. He merely waited his chance to speak. He said, "I regret the fact that you are annoyed. My general knowledge of Solaria does seem to be greater than yours. My knowledge of the murder case itself is as limited as is your own. It is Agent Gruer who will tell us what we must know. The Solarian Government has arranged this."

"Well, then, let's get to this Gruer. How long a trip will it be?" Baley winced at the thought of more travel and the familiar constriction in his chest was making itself felt again.

Daneel said, "No travel is necessary, Partner Elijah. Agent Gruer will be waiting for us in the conversation room."

"A room for conversation, too?" Baley murmured wryly. Then, in a louder voice, "Waiting for us now?"

"I believe so."

"Then let's get to him, Daneel!"

Hannis Gruer was bald, and that without qualification. There was not even a fringe of hair at the sides of his skull. It was completely naked.

Baley swallowed and tried, out of politeness, to keep his eyes off that skull, but couldn't. On Earth there was the continuous acceptance of Spacers at the Spacers' own evaluation: The Spacers were the unquestioned lords of the Galaxy; they were tall, bronze of skin and hair, handsome, large, cool, aristocratic.

In short, they were all R. Daneel Olivaw was, but with the fact of humanity in addition.

And the Spacers who were sent to Earth often did look like that; perhaps were deliberately chosen for that reason.

But here was a Spacer who might have been an Earthman for all his appearance. He was bald. And his nose was misshapen, too. Not much, to be sure, but on a Spacer even a slight asymmetry was noteworthy.

Baley said, "Good afternoon, sir. I am sorry if we kept you waiting."

No harm in politeness. He would have to work with these people. He had the momentary urge to step across the expanse of room (how ridiculously large) and offer his hand in greeting. It was an urge easy to fight off. A Spacer certainly would not welcome such a greeting: a hand covered with Earthly germs?

Gruer sat gravely, as far away from Baley as he could get, his hands resting within long sleeves, and probably there were filters in his nostrils, although Baley couldn't see them.

It even seemed to him that Gruer cast a disapproving look at Daneel as though to say: You're a queer Spacer, standing that close to an Earthman.

That would mean Gruer simply did not know the truth. Then Baley noticed suddenly that Daneel was standing at some distance, at that; farther than he usually did.

Of course! Too close, and Gruer might find the proximity unbelievable. Daneel was intent on being accepted as human.

Gruer spoke in a pleasant, friendly voice, but his eyes tended to remain furtively on Daneel; looking away, then drifting back. He said, "I haven't been waiting long. Welcome to Solaria, gentlemen. Are you comfortable?"

"Yes, sir. Quite," said Baley. He wondered if etiquette would require that Daneel as the "Spacer" should speak for the two, but rejected that possibility resentfully. Jehoshaphat! It was he, himself, who had been requested for the investigation and

Daneel had been added afterward. Under the circumstances Baley felt he would not play the secondary to a genuine Spacer; it was out of the question when a robot was involved, even such a robot as Daneel.

But Daneel made no attempt to take precedence over Baley, nor did Gruer seem surprised or displeased at that. Instead, he turned his attention at once to Baley to the exclusion of Daneel.

Gruer said, "You have been told nothing, Plainclothesman Baley, about the crime for which your services have been solicited. I imagine you are quite curious about that." He shook his arms so that the sleeves fell backward and clasped his hands loosely in his lap. "Won't you gentlemen sit down?"

They did so and Baley said, "We are curious." He noted that Gruer's hands were not protected by gloves.

Gruer went on. "That was on purpose, Plainclothesman. We wanted you to arrive here prepared to tackle the problem with a fresh mind. We wanted no preconceived notions. You will have available to you shortly a full report of the details of the crime and of the investigations we have been able to conduct. I am afraid, Plainclothesman, that you will find our investigations ridiculously incomplete from the standpoint of your own experience. We have no police force on Solaria."

"None at all?" asked Baley.

Gruer smiled and shrugged. "No crime, you see. Our population is tiny and widely scattered. There is no occasion "for crime; therefore no occasion for police."

"I see. But for all that, you do have crime now."

"True, but the first crime of violence in two centuries of history."

"Unfortunate, then, that you must begin with murder."

"Unfortunate, yes. More unfortunately still, the victim was a man we could scarcely afford to lose. A most inappropriate victim. And the circumstances of the murder were particularly brutal."

Baley said, "I suppose the murderer is completely unknown." (Why else would the crime be worth the importation of an Earthly detective?)

Gruer looked particularly uneasy. He glanced sideways at Daneel, who sat motionless, an absorptive, quiet mechanism. Baley knew that Daneel would, at any time in the future, be able to reproduce any conversation he heard, of whatever length. He was a recording machine that walked and talked like a man.

Did Gruer know that? His look at Daneel had certainly something of the furtive about it.

Gruer said, "No, I cannot say the murderer is completely unknown. In fact, there is only one person that can possibly have done the deed."

"Are you sure you don't mean only one person who is likely to have done the deed?" Baley distrusted overstatement and had no liking for the armchair deducer who discovered certainty rather than probability in the workings of logic.

But Gruer shook his bald head. "No. Only one possible person. Anyone else is impossible. Completely impossible."

"Completely?"

"I assure you."

"Then you have no problem."

"On the contrary. We do have a problem. That one person couldn't have done it either."

Baley said calmly, "Then no one did it."

"Yet the deed was done. Rikaine Delmarre is dead."

That's something, thought Baley. Jehoshaphat, I've got something. I've got the victim's name.

He brought out his notebook and solemnly made note of it, partly out of a wry desire to indicate that he had scraped up, at last, a nubbin of fact, and partly to avoid making it too obvious that he sat by the side of a recording machine who needed no notes.

He said, "How is the victim's name spelled?"

Gruer spelled it.

"His profession, sir?"

"Fetologist."

Baley spelled that as it sounded and let it go. He said, "Now who would be able to give me a personal account of the circumstances surrounding the murder? As firsthand as possible."

Gruer's smile was grim and his eyes shifted to Daneel again, and then away. "His wife, Plainclothesman."

"His wife . . ."

"Yes. Her name is Gladia." Gruer pronounced it in three syllables, accenting the second.

"Any children?" Baley's eyes were fixed on his notebook. When no answer came, he looked up. "Any children?"

But Gruer's mouth had pursed up as though he had tasted something sour. He looked sick. Finally he said, "I would scarcely know."

Baley said, "What?"

Gruer added hastily, "In any case, I think you had better postpone actual operations till tomorrow. I know you've had a hard trip, Mr. Baley, and that you are tired and probably hungry."

Baley, about to deny it, realized suddenly that the thought of food had an uncommon attraction for him at the moment. He said, "Will you join us at our meal?" He didn't think Gruer would, being a Spacer. (Yet he had been brought to the point of saying "Mr. Baley" rather than "Plainclothesman Baley," which was something.)

As expected, Gruer said, "A business engagement makes that impossible. I will have to leave. I am sorry."

Baley rose. The polite thing would be to accompany Gruer to the door. In the first place, however, he wasn't at all anxious to approach the door and the unprotected open. And in the second he wasn't sure where the door was.

He remained standing in uncertainty.

Gruer smiled and nodded. He said, "I will see you again. Your robots will know the combination if you wish to talk to me."

And he was gone.

Baley exclaimed sharply.

Gruer and the chair he was sitting on were simply not there. The wall behind Gruer, the floor under his feet changed with explosive suddenness. -

Daneel said calmly, "He was not there in the flesh at any time. It was a trimensional image. It seemed to me you would know. You have such things on Earth."

"Not like this," muttered Baley.

A trimensional image on Earth was encased in a cubic force-field that glittered against the background. The image itself had a tiny flicker. On Earth there was no mistaking image for reality. Here.

No wonder Gruer had worn no gloves. He needed no nose filters, for that matter.

Daneel said, "Would you care to eat now, Partner Elijah?"

Dinner was an unexpected ordeal. Robots appeared. One set the table. One brought in the food.

"How many are there in the house, Daneel?" Baley asked.

"About fifty, Partner Elijah."

"Will they stay here while we eat?" (One had backed into a corner, his glossy, glowing-eyed face turned toward Baley.)

"It is the usual practice," said Daneel, "for one to do so in case its service is called upon. If you do not wish that, you have only to order it to leave."

Baley shrugged. "Let it stay!"

Under normal conditions Baley might have found the food delicious. Now he ate mechanically. He noted abstractedly that Daneel ate also, with a kind of unimpassioned efficiency. Later on, of course, he would empty the fluorocarbon sac within him into which the "eaten" food was now being stored. Meanwhile Daneel maintained his masquerade.

"Is it night outside?" asked Baley.

"It is," replied Daneel.

Baley stared somberly at the bed. It was too large. The whole bedroom was too large. There were no blankets to burrow under, only sheets. They would make a poor enclosure.

Everything was difficult! He had already gone through the Unnerving experience of showering in a stall that actually adjoined the bedroom. It was the height of luxury in a way, yet, on the other hand, it seemed an unsanitary arrangement.

He said abruptly, "How is the light put out?" The headboard of the bed gleamed with a soft light. Perhaps that was to facilitate book viewing before sleeping, but Baley was in no mood for that.

"It will be taken care of once you're in bed, if you compose yourself for sleep."

"The robots watch, do they?"

"It is their job."

"Jehoshaphat! What do these Solarians do for themselves?" Baley muttered. "I wonder now why a robot didn't scrub my back in the shower."

With no trace of humor Daneel said, "One would have, had you required it. As for the Solarians, they do what they choose. No robot performs his duty if ordered not to, except, of course, where the performance is necessary to the well-being of the human."

"Well, good night, Daneel."

"I will be in another bedroom, Partner Elijah. If, at any time during the night, you need anything--"

"I know. The robots will come."

"There is a contact patch on the side table. You have only to touch it. I will come too."

Sleep eluded Baley. He kept picturing the house he was in, balanced precariously at the outer skin of the world, with emptiness waiting just outside like a monster.

On Earth his apartment-his snug, comfortable, crowded apartment-sat nestled beneath many others. There were dozens of Levels and thousands of people between himself and the rim of Earth.

Even on Earth, he tried to tell himself, there were people on the topmost Level. They would be immediately adjacent to the outside. Sure! But that's what made those apartments low-rent.

Then he thought of Jessie, a thousand light-years away.

He wanted terribly to get out of bed right now, dress, and walk to her. His thoughts grew mistier. If there were only a tunnel, a nice, safe tunnel burrowing its way through safe, solid rock and metal from Solaria to Earth, he would walk and walk and walk. . . He would walk back to Earth, back to Jessie, back to comfort and security.

Security.

Baley's eyes opened. His arms grew rigid and he rose up on his elbow, scarcely aware that he was doing so.

Security! This man, Hannis Gruer, was head of Solarian security. So Daneel had said. What did "security" mean? If it meant the same as it meant on Earth, and surely it must, this man Gruer was responsible for the protection of Solaria against invasion from without and subversion from within.

Why was he interested in a murder case? Was it because there were no police on Solaria and the Department of Security would come the closest to knowing what to do about a murder?

Gruer had seemed at ease with Baley, yet there had been those furtive glances, again and again, in the direction of Daneel.

Did Gruer suspect the motives of Daneel? Baley, himself, had been ordered to keep his eyes open and Daneel might very likely have received similar instructions.

It would be natural for Gruer to suspect that espionage was possible. His job made it necessary for him to suspect that in any case where it was conceivable. And he would

not fear Baley overmuch, an Earthman, representative of the least formidable world in the Galaxy.

But Daneel was a native of Aurora, the oldest and largest and strongest of the Outer Worlds. That would be different.

Gruer, as Baley now remembered, had not addressed one word to Daneel.

For that matter, why should Daneel pretend so thoroughly to be a man? The earlier explanation that Baley had posed for himself, that it was a vainglorious game on the part of Daneel's Auroran designers, seemed trivial. It seemed obvious now that the masquerade was something more serious.

A man could be expected to receive diplomatic immunity; a certain courtesy and gentleness of treatment. A robot could not. But then why did not Aurora send a real man in the first place. Why gamble so desperately on a fake? The answer suggested itself instantly to Baley. A real man of Aurora, a real Spacer, would not care to associate too closely or for too long a time with an Earthman.

But if all this were true, why should Solaria find a single murder so important that it must allow an Earthman and an Auroran to come to their planet?

Baley felt trapped.

He was trapped on Solaria by the necessities of his assignment. He was trapped by Earth's danger, trapped in an environment he could scarcely endure, trapped by a responsibility he could not shirk. And, to add to all this, he was trapped somehow in the midst of a Spacer conflict the nature of which he did not understand.

A WOMAN IS VIEWED

HE SLEPT at last. He did not remember when he actually made the transition to sleep. There was just a period when his thoughts grew more erratic and then the headboard of his bed was shining and the ceiling was alight with a cool, daytime glow. He looked at his watch.

Hours had passed. The robots who ran the house had decided it was time for him to wake up and had acted accordingly.

He wondered if Daneel were awake and at once realized the illogic of the thought. Daneel could not sleep. Baley wondered if he had counterfeited sleep as part of the role he was playing. Had he undressed and put on nightclothes?

As though on cue Daneel entered. "Good morning, Partner Elijah."

The robot was completely dressed and his face was in perfect repose. He said, "Did you sleep well?"

"Yes," said Baley dryly, "did you?"

He got out of bed and tramped into the bathroom for a shave and for the remainder of the morning ritual. He shouted, "If a robot comes in to shave me, send him out again. They get on my nerves. Even if I don't see them, they get on my nerves."

He stared at his own face as he shaved, marveling a bit that it looked so like the mirrored face he saw on Earth. If only the image were another Earthman with whom he could consult instead of only the light-mimicry of himself. If he could go over what he had already learned, small as it was. .

"Too small! Get more," he muttered to the mirror.

He came out, mopping his face, and pulled trousers over fresh shorts. (Robots supplied everything, damn them.)

He said, "Would you answer a few questions, Daneel?"

"As you know, Partner Elijah, I answer all questions to the best of my knowledge."

Or to the letter of your instructions, thought Baley. He said, "Why are there only twenty thousand people on Solaria?"

"That is a mere fact," said Daneel. "A datum. A figure that is the result of a counting process."

"Yes, but you're evading the matter. The planet can support millions; why, then, only twenty thousand? You said the Solarians consider twenty thousand optimum. Why?"

"It is their way of life."

"You mean they practice birth control?"

"Yes."

"And leave the planet empty?" Baley wasn't sure why he was pounding away at this one point, but the planet's population was one of the few hard facts he had learned about it and there was little else he could ask about.

Daneel said, "The planet is not empty. It is parceled out into estates, each of which is supervised by a Solarian."

"You mean each lives on his estate. Twenty thousand estates, each with a Solarian."

"Fewer estates than those, Partner Elijah. Wives share the estate."

"No Cities?" Baley felt cold.

"None at all, Partner Elijah. They live completely apart and never see one another except under the most extraordinary circumstances."

"Hermits?"

"In a way, yes. In a way, no."

"What does that mean?"

"Agent Gruer visited you yesterday by trimensional image. Solarians visit one another freely that way and in no other way."

Baley stared at Daneel. He said, "Does that include us? Are we expected to live that way?"

"It is the custom of the world."

"Then how do I investigate this case? If I want to see someone--"

"From this house, Partner Elijah, you can obtain a trimensional view of anyone on the planet. There will be no problem. In fact, it will save you the annoyance of leaving this house. It was why I said when we arrived that there would be no occasion for you to feel it necessary to grow accustomed to facing the outdoors. And that is well. Any other arrangement would be most distasteful to you."

"I'll judge what's distasteful to me," said Baley. "First thing today, Daneel, I get in touch with the Gladia woman, the wife of the murdered man. If the trimensional business is unsatisfactory, I will go out to her place, personally. It's a matter for my decision."

"We shall see what is best and most feasible, Partner Elijah," said Daneel noncommittally. "I shall arrange for breakfast." He turned to leave.

Baley stared at the broad robotic back and was almost amused. Daneel Olivaw acted the master. If his instructions had been to keep Baley from learning any more than was absolutely necessary, a trump card had been left in Baley's hand.

The other was only R. Daneel Olivaw, after all. All that was necessary was to tell Gruer, or any Solarian, that Daneel was a robot and not a man.

And yet, on the other hand, Daneel's pseudo humanity could be of great use, too. A trump card need not be played at once. Sometimes it was more useful in the hand.

Wait and see, he thought, and followed Daneel out to breakfast.

Baley said, "Now how does one go about establishing trimensional contact?"

"It is done for us, Partner Elijah," said Daneel, and his finger sought out one of the contact patches that summoned robots.

A robot entered at once.

Where do they come from, Baley wondered. As one wandered aimlessly about the uninhabited maze that constituted the mansion, not one robot was ever visible. Did they

scramble out of the way as humans approached? Did they send messages to one another and clear the path?

Yet whenever a call went out, one appeared without delay.

Baley stared at the robotic newcomer. It was sleek, but not glossy. Its surface had a muted, grayish finish, with a checkerboard pattern on the right shoulder as the only bit of color. Squares in white and yellow (silver and gold, really, from the metallic luster) were placed in what seemed an aimless pattern.

Daneel said, "Take us to the conversation room." The robot bowed and turned, but said nothing. Baley said, "Wait, boy. What's your name?"

The robot faced Baley. It spoke in clear tones and without hesitation. "I have no name, master. My serial number"-and a metal finger lifted and rested on the shoulder patch-"is ACX-z745."

Daneel and Baley followed into a large room, which Baley recognized as having held Gruer and his chair the day before.

Another robot was waiting for them with the eternal, patient non boredom of the machine. The first bowed and left.

Baley compared shoulder patches of the two as the first bowed and started out. The pattern of silver and gold was different. The checkerboard was made up of a six-by-six square. The number of possible arrangements would be ~ then, or seventy billion. More than enough.

Baley said, "Apparently, there is one robot for everything. One to show us here. One to run the viewer."

Daneel said, "There is much robotic specialization in Solaria, Partner Elijah."

"With so many of them, I can understand why." Baley looked at the second robot. Except for the shoulder patch, and, presumably, for the invisible positronic patterns within its spongy platinum iridium brain it was the duplicate of the first. He said, "And your serial number?"

"ACC- i i z, master."

"I'll just call you boy. Now I want to speak to a Mrs. Gladia Delmarre, wife of the late Rikaine Delmarre-- Daneel, is there an address, some way of pin-pointing her location?"

Daneel said gently, "I do not believe any further information is necessary. If I may question the robot-"

"Let me do that," Baley said. "All right, boy, do you know how the lady is to be reached?"

"Yes, master. I have knowledge of the connection pattern of all masters." This was said without pride. It was a mere fact, as though it were saying: I am made of metal, master.

Daneel interposed, "That is not surprising, Partner Elijah. There are less than ten thousand connections that need be fed into the memory circuits, and that is a small number."

Baley nodded. "Is there more than one Gladia Delmarre, by any chance? There might be that chance of confusion."

"Master?" After the question the robot remained blankly silent.

"I believe," said Daneel, "that this robot does not understand your question. It is my belief that duplicate names do not occur on Solana. Names are registered at birth and no name may be adopted unless it is unoccupied at the time."

"All right," said Baley, "we learn something every minute. Now see here, boy, you tell me how to work whatever it is I am supposed to work; give me the connection pattern, or whatever you call it, and then step out."

There was a perceptible pause before the robot answered. It said, "Do you wish to make contact yourself, sir?"

"That's right."

Daneel touched Baley's sleeve gently. "One moment, Partner Elijah."

"Now what is it?"

"It is my belief that the robot could make the necessary contact with greater ease. It is his specialization."

Baley said grimly, "I'm sure he can do it better than I can. Doing it myself, I may make a mess of it." He stared levelly at the impassive Daneel. "Just the same, I prefer to make contact myself. Do I give the orders or don't I?"

Daneel said, "You give the orders, Partner Elijah, and your orders, where First Law permits, will be obeyed. However, with your permission, I would like to give you what pertinent information I have concerning the Solarian robots. Far more than on any other world, the robots on Solara are specialized. Although Solarian robots are physically capable of many things, they are heavily equipped mentally for one particular type of job. To perform functions outside their specialty requires the high potentials produced by direct application of one of the Three Laws. Again, for them not to perform the duty for which they are equipped also requires the direct application of the Three Laws."

"Well, then, a direct order from me brings the Second Law into play, doesn't it?"

"True. Yet the potential set up by it is 'unpleasant' to the robot. Ordinarily, the matter would not come up, since almost never does a Solarian interfere with the day-to-day workings of a robot. For one thing, he would not care to do a robot's work; for another, he would feel no need to."

"Are you trying to tell me, Daneel, that it hurts the robot to have me do its work?"

"As you know, Partner Elijah, pain in the human sense is not applicable to robotic reactions."

Baley shrugged. "Then?"

"Nevertheless," went on Daneel, "the experience which the robot undergoes is as upsetting to it as pain is to a human, as nearly as I can judge."

"And yet," said Baley, "I'm not a Solarian. I'm an Earthman. I don't like robots doing what I want to do."

"Consider, too," said Daneel, "that to cause distress to a robot might be considered on the part of our hosts to be an act of impoliteness since in a society such as

this there must be a number of more or less rigid beliefs concerning how it is proper to treat a robot and how it is not. To offend our hosts would scarcely make our task easier."

"All right," said Baley. "Let the robot do its job."

He settled back. The incident had not been without its uses. It was an educational example of how remorseless a robotic society could be. Once brought into existence, robots were not so easily removed, and a human who wished to dispense with them even temporarily found he could not.

His eyes half closed, he watched the robot approach the wall. Let the sociologists on Earth consider what had just occurred and draw their conclusions. He was beginning to have certain notions of his own.

Half a wall slid aside and the control panel that was revealed would have done justice to a City Section power station.

Baley longed for his pipe. He had been briefed that smoking on non-smoking Solaria would be a terrible breach of decorum, so he had not even been allowed to take his fixings. He sighed. There were moments when the feel of pipe stem between teeth and a warm bowl in his hand would have been infinitely comforting.

The robot was working quickly, adjusting variable resistances a trifle here and there and intensifying field-forces in proper pattern by quick finger pressures.

Daneel said, "It is necessary first to signal the individual one desires to view. A robot will, of course, receive the message. If the individual being signaled is available and wishes to receive the view, full contact is established."

"Are all those controls necessary?" asked Baley. "The robot's hardly touching most of the panel."

"My information on the matter is not complete, Partner Elijah. There is, however, the necessity of arranging, upon occasion, for multiple viewings and for mobile viewings. The latter, particularly, call for complicated and continuing adjustment."

The robot said, "Masters, contact is made and approved. When you are ready, it will be completed."

"Ready," growled Baley, and as though the word were a signal, the far half of the room was alive with light.

Daneel said at once, "I neglected to have the robot specify that all visible openings to the outside be draped. I regret that and we must arrange--"

"Never mind," said Baley, wincing. "I'll manage. Don't interfere." It was a bathroom he was staring at, or he judged it to be so from its fixtures. One end of it was, he guessed, a kind of beautician's establishment and his imagination pictured a robot (or robots?) working with unerring swiftness on the details of a woman's coiffure and on the externals that made up the picture she presented to the world.

Some gadgets and fittings he simply gave up on. There was no way of judging their purpose in the absence of experience. The walls were inlaid with an intricate pattern that all but fooled the eye into believing some natural object was being represented before fading away into an abstraction. The result was soothing and almost hypnotic in the way it monopolized attention.

What might have been the shower stall, a large one, was shielded off by nothing that seemed material, but rather by a trick of lighting that set up a wall of flickering opacity. No human was in sight.

Baley's glance fell to the floor. Where did his room end and the other begin? It was easy to tell. There was a line where the quality of the light changed and that must be it.

He stepped toward the line and after a moment's hesitation pushed his hand beyond it.

He felt nothing, any more than he would have had he shoved the hand into one of Earth's crude trimensionals. There, at least, he would have seen his own hand still; faintly, perhaps, and overlaid by the image, but he would have seen it. Here it was lost completely. To his vision, his arm ended sharply at the wrist.

What if he stepped across the line altogether? Probably his own vision would become inoperative. He would be in a world of complete blackness. The thought of such efficient enclosure was almost pleasant.

A voice interrupted him. He looked up and stepped backward with an almost clumsy haste.

Gladia Delmarre was speaking. At least Baley assumed it was she. The upper portion of the flickering light across the shower stall had faded and a head was clearly visible.

It smiled at Baley. "I said hello, and I'm sorry to keep you waiting. I'll be dry soon."

Hers was a triangular face, rather broad at the cheekbones (which grew prominent when she smiled) and narrowing with a gentle curve past full lips to a small chin. Her head was not high above the ground. Baley judged her to be about five feet two in height. (This was not typical. At least not to Baley's way of thinking. Spacer women were supposed to lean toward the tall and stately.) Nor was her hair the Spacer bronze. It was light brown, tingeing toward yellow, and worn moderately long. At the moment it was fluffed out in what Baley imagined must be a stream of warm air. The whole picture was quite pleasing.

Baley said in confusion, "If you want us to break contact and wait till you're through--"

"Oh no. I'm almost done, and we can talk meanwhile. Hannis Gruer told me you would be viewing. You're from Earth, I understand." Her eyes rested full on him, seemed to drink him in.

Baley nodded and sat down. "My companion is from Aurora."

She smiled and kept her glance fixed on Baley as though he remained the curiosity nevertheless, and of course, Baley thought, so he was.

She lifted her arms above her head, running her fingers through the hair and spreading it out as though to hasten drying. Her arms were slim and graceful. Very attractive, Baley thought.

Then he thought uneasily: Jessie wouldn't like this.

Daneel's voice broke in. "Would it be possible, Mrs. Delmarre, to have the window we see polarized or draped. My partner is disturbed by the sight of daylight. On Earth, as you may have heard-"

The young woman (Baley judged her to be twenty-five but had the doleful thought that the apparent ages of Spacers could be most deceptive) put her hands to her cheeks and said, "Oh my, yes. I know all about that. How ridiculously silly of me. Forgive me, please, but it won't take a moment. I'll have a robot in here-"

She stepped out of the drying cabinet, her hand extended toward the contact-patch, still talking. "I'm always thinking I ought to have more than one contact-patch in this room. A house is just no good if it doesn't have a patch within reach no matter where you stand- say not more than five feet away. It just-- Why, what's the matter?"

She stared in shock at Baley, who, having jumped out of his chair and upset it behind him, had reddened to his hairline and hastily turned away.

Daneel said calmly, "It would be better, Mrs. Delmarre, if, after you have made contact with the robot, you would return to the stall or, failing that, proceed to put on some articles of clothing."

Gladia looked down at her nudity in surprise and said, "Well, of course."

A CRIME IS DISCUSSED

"IT WAS only viewing, you see," said Gladia contritely. She was wrapped in something that left her arms and shoulders free. One leg showed to mid-thigh, but Baley, entirely recovered and feeling an utter fool, ignored it stoically.

He said, "It was the surprise, Mrs. Delmarre—"

"Oh, please. You can call me Gladia, unless—unless that's against your customs."

"Gladia, then. It's all right. I just want to assure you there was nothing repulsive about it, you understand. Just the surprise." Bad enough for him to have acted the fool, he thought, without having the poor girl think he found her unpleasant. As a matter of fact, it had been rather-rather.

Well, he didn't have the phrase, but he knew quite certainly that there was no way he would ever be able to talk of this to Jessie.

"I know I offended you," Gladia said, "but I didn't mean to. I just wasn't thinking. Of course I realize one must be careful about the customs of other planets, but the customs are so queer sometimes; at least, not queer," she hastened to add, "I don't mean queer. I mean strange, you know, and it's so easy to forget. As I forgot about keeping the windows darkened."

"Quite all right," muttered Baley. She was in another room now with all the windows draped and the light had the subtly different and more comfortable texture of artificiality.

"But about the other thing," she went on earnestly, "it's just viewing, you see. After all, you didn't mind talking to me when I was in the drier and I wasn't wearing anything then, either."

"Well," said Baley, wishing she would run down as far as that subject was concerned, "hearing you is one thing, and seeing you is another."

"But that's exactly it. Seeing isn't involved." She reddened a trifle and looked down. "I hope you don't think I'd ever do anything like that, I mean, just step out of the drier, if anyone were seeing me. It was just viewing."

"Same thing, isn't it?" said Baley.

"Not at all the same thing. You're viewing me right now. You can't touch me, can you, or smell me, or anything like that. You could if you were seeing me. Right now, I'm two hundred miles away from you at least. So how can it be the same thing?"

Baley grew interested. "But I see you with my eyes."

"No, you don't see me. You see my image. You're viewing me."

"And that makes a difference?"

"All the difference there is."

"I see." In a way he did. The distinction was not one he could make easily, but it had a kind of logic to it.

She said, bending her head a little to one side, "Do you really see?"

"Yes."

"Does that mean you wouldn't mind if I took off my wrapper?" She was smiling.

He thought: She's teasing and I ought to take her up on it. But aloud he said, "No, it would take my mind off my job. We'll discuss it another time."

"Do you mind my being in the wrapper, rather than something more formal? Seriously."

"I don't mind."

"May I call you by your first name?"

"If you have the occasion."

"What is your first name?"

"Elijah."

"All right." She snuggled into a chair that looked hard and almost ceramic in texture, but it slowly gave as she sat until it embraced her gently.

Baley said, "To business, now."

She said, "To business."

Baley found it all extraordinarily difficult. There was no way even to make a beginning. On Earth he would ask name, rating, City and Sector of dwelling, a million different routine questions. He might even know the answers to begin with, yet it would be a device to ease into the serious phase. It would serve to introduce him to the person, make his judgment of the tactics to pursue something other than a mere guess.

But here? How could he be certain of anything? The very verb "to see" meant different things to himself and to the woman. How many other words would be different? How often would they be at cross-purposes without his being aware of it?

He said, "How long were you married, Gladia?"

"Ten years, Elijah."

"How old are you?"

"Thirty-three."

Baley felt obscurely pleased. She might easily have been a hundred thirty-three.

He said, "Were you happily married?"

Gladia looked uneasy. "How do you mean that?"

"Well-" For a moment Baley was at a loss. How do you define a happy marriage. For that matter, what would a Solarian consider a happy marriage? He said, "Well, you saw one another often?"

"What? I should hope not. We're not animals, you know."

Baley winced. "You did live in the same mansion? I thought-"

"Of course, we did. We were married. But I had my quarters and he had his. He had a very important career which took much of his time and I have my own work. We viewed each other whenever necessary."

He saw you, didn't he?

"It's not a thing one talks about but he did see me."

"Do you have any children?"

Gladia jumped to her feet in obvious agitation. "That's too much. Of all the indecent--"

"Now wait. Wait!" Baley brought his fist down on the arm of his chair. "Don't be difficult. This is a murder investigation. Do you understand? Murder. And it was your husband who was murdered. Do you want to see the murderer found and punished or don't you?"

"Then ask about the murder, not about-about--"

"I have to ask all sorts of things. For one thing I want to know whether you're sorry your husband is dead." He added with calculated brutality, "You don't seem to be."

She stared at him haughtily. "I'm sorry when anyone dies, especially when he's young and useful."

"Doesn't the fact that he was your husband make it just a little more than that?"

"He was assigned to me and, well, we did see each other when scheduled and-and"-she hurried the next words-"and, if you must know, we don't have children because none have been assigned us yet. I don't see what all that has to do with being sorry over someone being dead."

Maybe it had nothing to do with it, Baley thought. It depended on the social facts of life and with those he was not acquainted.

He changed the subject. "I'm told you have personal knowledge of the circumstances of the murder."

For a moment she seemed to grow taut. "I-discovered the body. Is that the way I should say it?"

"Then you didn't witness the actual murder?"

"Oh no," she said faintly.

"Well, suppose you tell me what happened. Take your time and use your own words." He sat back and composed himself to listen.

She began, "It was on three-two of the fifth--"

"When was that in Standard Time?" asked Baley quickly.

"I'm not sure. I really don't know. You can check, I suppose."

Her voice seemed shaky and her eyes had grown large. They were a little too gray to be called blue, he noted.

She said, "He came to my quarters. It was our assigned day for seeing and I knew he'd come."

"He always came on the assigned day?"

"Oh yes. He was a very conscientious man, a good Solarian. He never skipped an assigned day and always came at the same time. Of course, he didn't stay long. We have not been assigned ch--"

She couldn't finish the word, but Baley nodded.

"Anyway," she said, "he always came at the same time, you know, so that everything would be comfortable. We spoke a few minutes; seeing is an ordeal, but he always spoke quite normally to me. It was his way. Then he left to attend to some project he was involved with; I'm not sure what. He had a special laboratory in my quarters to

which he could retire on seeing days. He had a much bigger one in his quarters, of course."

Baley wondered what he did in those laboratories. Fetology, perhaps, whatever that was.

He said, "Did he seem unnatural in any way? Worried?"

"No. No. He was never worried." She came to the edge of a small laugh and buried it at the last moment. "He always had perfect control, like your friend there." For a brief moment her small hand reached out and indicated Daneel, who did not stir.

"I see. Well, go on."

Gladia didn't. Instead she whispered, "Do you mind if I have myself a drink?"

"Please do."

Gladia's hand slipped along the arm of her chair momentarily. In less than a minute, a robot moved in silently and a warm drink (Baley could see the steam) was in her hand. She sipped slowly, then set the drink down.

She said, "That's better. May I ask a personal question?"

Baley said, "You may always ask."

"Well, I've read a lot about Earth. I've always been interested, you know. It's such a queer world." She gasped and added immediately, "I didn't mean that."

Baley frowned a little. "Any world is queer to people who don't live on it."

"I mean it's different. You know. Anyway, I want to ask a rude question. At least, I hope it doesn't seem rude to an Earthman. I wouldn't ask it of a Solarian, of course. Not for anything."

"Ask what, Gladia?"

"About you and your friend-Mr. Olivaw, is it?"

"Yes."

"You two aren't viewing, are you?"

"How do you mean?"

"I mean each other. You're seeing. You're there, both of you." Baley said, "We're physically together. Yes."

"You could touch him, if you wanted to."

"That's right."

She looked from one to the other and said, "Oh."

It might have meant anything. Disgust? Revulsion? Baley toyed with the idea of standing up, walking to Daneel and placing his hand flat on Daneel's face. It might be interesting to watch her reaction.

He said, "You were about to go' on with the events of that day when your husband came to see you." He was morally certain that her digression, however interesting it might have been intrinsically to her, was primarily motivated by a desire to avoid just that.

She returned to her drink for a moment. Then: "There isn't much to tell. I saw he would be engaged, and I knew he would be, anyway, because he was always at some sort of constructive work, so I went back to my own work. Then, perhaps fifteen minutes later, I heard a shout."

There was a pause and Baley prodded her. "What kind of a shout?"

She said, "Rikaine's. My husband's. Just a shout. No words. A kind of fright. No! Surprise, shock. Something like that. I'd never heard him shout before."

She lifted her hands to her ears as though to shut out even the memory of the sound and her wrapper slipped slowly down to her waist. She took no notice and Baley stared firmly at his notebook.

He said, "What did you do?"

"I ran. I ran. I didn't know where he was--"

"I thought you said he had gone to the laboratory he maintained in your quarters."

"He did, E-Elijah, but I didn't know where that was. Not for sure, anyway. I never went there. It was his. I had a general idea of its direction. I knew it was somewhere in the west, but I was so upset, I didn't even think to summon any robot. One of them would have guided me easily, but of course none came without being summoned. When I did get there-I found it somehow-he was dead."

She stopped suddenly and, to Baley's acute discomfort, she bent her head and wept. She made no attempt to obscure her face. Her eyes simply closed and tears slowly trickled down her cheeks. It was quite soundless. Her shoulders barely trembled.

Then her eyes opened and looked at him through swimming tears. "I never saw a dead man before. He was all bloody and his head was-just-all- I managed to get a robot and he called others and I suppose they took care of me and of Rikaine. I don't remember. I don't--"

Baley said, "What do you mean, they took care of Rikaine?"

"They took him away and cleaned up." There was a small wedge of indignation in her voice, the lady of the house careful of its condition. "Things were a mess."

"And what happened to the body?"

She shook her head. "I don't know. Burned, I suppose. Like any dead body."

"You didn't call the police?"

She looked at him blankly and Baley thought: No police!

He said, "You told somebody, I suppose. People found out about the matter."

She said, "The robots called a doctor. And I had to call Rikaine's place of work. The robots there had to know he wouldn't be back."

"The doctor was for you, I suppose."

She nodded. For the first time, she seemed to notice her wrapper draped about her hips. She pulled it up into position, murmuring forlornly, "I'm sorry. I'm sorry."

Baley felt uncomfortable, watching her as she sat there helpless, shivering, her face contorted with the absolute terror that had come over her with the memory.

She had never seen a dead body before. She had never seen blood and a crushed skull. And if the husband-wife relationship on Solaria was something thin and shallow, it was still a dead human being with whom she had been confronted.

Baley scarcely knew what to say or do next. He had the impulse to apologize, and yet, as a policeman, he was doing only his duty.

But there were no police on this world. Would she understand that this was his duty?

Slowly, and as gently as he could, he said, "Gladia, did you hear anything at all? Anything besides your husband's shout."

She looked up, her face as pretty as ever, despite its obvious distress-perhaps because of it. She said, "Nothing."

"No running footsteps? No other voice?"

She shook her head. "I didn't hear anything."

"When you found your husband, he was completely alone? You two were the only ones present?"

"Yes."

"No signs of anyone else having been there?"

"None that I could see. I don't see how anyone could have been there, anyway."

"Why do you say that?"

For a moment she looked shocked. Then she said dispiritedly, "You're from Earth. I keep forgetting. Well, it's just that nobody could have been there. My husband never saw anybody except me; not since he was a boy. He certainly wasn't the sort to see anybody. Not Rikaine. He was very strict; very custom-abiding."

"It might not have been his choice. What if someone had just come to see him without an invitation, without your husband knowing anything about it? He couldn't have helped seeing the intruder regardless of how custom-abiding he was."

She said, "Mayke, but he would have called robots at once and had the man taken away. He would have! Besides no one would try to see my husband without being invited to. I couldn't conceive of such a thing. And Rikaine certainly would never invite anyone to see him. It's ridiculous to think so."

Baley said softly, "Your husband was killed by being struck on the head, wasn't he? You'll admit that."

"I suppose so. He was-all-"

"I'm not asking for the details at the moment. Was there any sign of some mechanical contrivance in the room that would have enabled someone to crush his skull by remote control."

"Of course not. At least, I didn't see any."

"If anything like that had been there, I imagine you would have seen it. It follows then that a hand held something capable of crushing a man's skull and that hand swung it. Some person had to be within four feet of your husband to do that. So someone did see him."

"No one would," she said earnestly. "A Solarian just wouldn't see anyone."

"A Solarian who would commit murder wouldn't stick at a bit of seeing, would he?"

(To himself that statement sounded dubious. On Earth he had known the case of a perfectly conscienceless murderer who had been caught only because he could not bring himself to violate the custom of absolute silence in the community bathroom.)

Gladia shook her head. "You don't understand about seeing. Earthmen just see anybody they want to all the time, so you don't understand it. . . "

Curiosity seemed to be struggling within her. Her eyes lightened a bit. "Seeing does seem perfectly normal to you, doesn't it?"

"I've always taken it for granted," said Baley.

"It doesn't trouble you?"

"Why should it?"

"Well, the films don't say, and I've always wanted to know-- Is it all right if I ask a question?"

"Go ahead," said Baley stolidly.

"Do you have a wife assigned to you?"

"I'm married. I don't know about the assignment part."

"And I know you see your wife any time you want to and she sees you and neither of you thinks anything of it."

Baley nodded.

"Well, when you see her, suppose you just want to--" She lifted her hands elbow-high, pausing as though searching for the proper phrase. She tried again, "Can you just-any time" She let it dangle.

Baley didn't try to help.

She said, "Well, never mind. I don't know why I should bother you with that sort of thing now anyway. Are you through with me?" She looked as though she might cry again.

Baley said, "One more try, Gladia. Forget that no one would see your husband. Suppose someone did. Who might it have been?"

"It's just useless to guess. It couldn't be anyone."

"It has to be someone. Agent Gruer says there is reason to suspect some one person. So you see there must be someone."

A small, joyless smile flickered over the girl's face. "I know who he thinks did it."

"All right. Who?"

She put a small hand on her breast. "I."

A THEORY IS REFUTED

"I SHOULD have said, Partner Elijah," said Daneel, speaking suddenly, "that that is an obvious conclusion."

Baley cast a surprised look at his robot partner. "Why obvious?" he asked.

"The lady herself," said Daneel, "states that she was the only person who did or who would see her husband. The social situation on Solaria is such that even she cannot plausibly present anything else as the truth. Certainly Agent Gruer would find it reasonable, even obligatory, to believe that a Solarian husband would be seen only by his wife. Since only one person could be in seeing range, only one person could strike the blow and only one person could be the murderer. Or murderess, rather. Agent Gruer, you will remember, said that only one person could have done it. Anyone else he considered impossible. Well?"

"He also said," said Baley, "that that one person couldn't have done it, either."

"By which he probably meant that there was no weapon found at the scene of the crime. Presumably Mrs. Delmarre could explain that anomaly."

He gestured with cool robotic politeness toward where Gladia sat, still in viewing focus, her eyes cast down, her small mouth compressed.

Jehoshaphat, thought Baley, we're forgetting the lady.

Perhaps it was annoyance that had caused him to forget. It was Daneel who annoyed him, he thought, with his unemotional approach to problems. Or perhaps it was himself, with his emotional approach. He did not stop to analyze the matter.

He said, "That will be all for now, Gladia. However one goes about it, break contact. Good-by."

She said softly, "Sometimes one says, 'Done viewing,' but I like 'Good-by' better. You seem disturbed, Elijah. I'm sorry, because I'm used to having people think I did it, so you don't need to feel disturbed."

Daneel said, "Did you do it, Gladia?"

"No," she said angrily.

"Good-by, then."

With the anger not yet washed out of her face she was gone. For a moment, though, Baley could still feel the impact of those quite extraordinary gray eyes.

She might say she was used to having people think her a murderess, but that was very obviously a lie. Her anger spoke more truly than her words. Baley wondered of how many other lies she was capable.

And now Baley found himself alone with Daneel. He said, "All right, Daneel, I'm not altogether a fool."

"I have never thought you were, Partner Elijah."

"Then tell me what made you say there was no murder weapon found at the site of the crime? There was nothing in the evidence so far, nothing in anything I've heard that would lead us to that conclusion."

"You are correct. I have additional information not yet available to you."

"I was sure of that. What kind?"

"Agent Gruer said he would send a copy of the report of their own investigation. I have that copy. It arrived this morning."

"Why haven't you shown it to me?"

"I felt that it would perhaps be more fruitful for you to conduct your investigation, at least in the initial stages, according to your own ideas, without being prejudiced by the conclusions of other people who, self-admittedly, have reached no satisfactory conclusion. It was because I, myself, felt my logical processes might be influenced by those conclusions that I contributed nothing to the discussion."

Logical processes! Unbidden, there leaped into Baley's mind the fragment of a conversation he had once had with a roboticist. A robot, the man had said, is logical but not reasonable.

He said, "You entered the discussion at the end."

"So I did, Partner Elijah, but only because by that time I had independent evidence bearing out Agent Gruer's suspicions."

"What kind of independent evidence?"

"That which could be deduced from Mrs. Delmarre's own behavior."

"Let's be specific, Daneel."

"Consider that if the lady were guilty and were attempting to prove herself innocent, it would be useful to her to have the detective in the case believe her innocent."

"Well?"

"If she could warp his judgment by playing upon a weakness of his, she might do so, might she not?"

"Strictly hypothetical."

"Not at all," was the calm reply. "You will have noticed, I think, that she concentrated her attention entirely on you."

"I was doing the talking," said Baley.

"Her attention was on you from the start; even before she could guess that you would be doing the talking. In fact, one might have thought she would, logically, have expected that I, as an Auroran, would take the lead in the investigation. Yet she concentrated on you."

"And what do you deduce from this?"

"That it was upon you, Partner Elijah, that she pinned her hopes. You were the Earthman."

"What of that?"

"She had studied Earth. She implied that more than once. She knew what I was talking about when I asked her to blank out the outer daylight at the very start of the

interview. She did not act surprised or uncomprehending, as she would most certainly have done had she not had actual knowledge of conditions on Earth."

"Well?"

"Since she has studied Earth, it is quite reasonable to suppose that she discovered one weakness Earthmen possess. She must know of the nudity taboo, and of how such a display must impress an Earthman."

"She-she explained about viewing-"

"So she did. Yet did it seem entirely convincing to you? Twice she allowed herself to be seen in what you would consider a state of improper clothing--"

"Your conclusion," said Baley, "is that she was trying to seduce me. Is that it?"

"Seduce you away from your professional impersonality. So it would seem to me. And though I cannot share human reactions to stimuli, I would judge, from what has been imprinted on my instruction circuits, that the lady meets any reasonable standard of physical attractiveness. From your behavior, moreover, it seems to me that you were aware of that and that you approved her appearance. I would even judge that Mrs. Delmarre acted rightly in thinking her mode of behavior would predispose you in her favor."

"Look," said Baley uncomfortably, "regardless of what effect she might have had on me, I am still an officer of the law in full possession of my sense of professional ethics. Get that straight. Now let's see the report."

Baley read through the report in silence. He finished, turned back, and read it through a second time.

"This brings in a new item," he said. "The robot."

Daneel Olivaw nodded.

Baley said thoughtfully, "She didn't mention it."

Daneel said, "You asked the wrong question. You asked if he was alone when she found the body. You asked if anyone else had been present at the death scene. A robot isn't 'anybody else.'"

Baley nodded. If he himself were a suspect and were asked who else had been at the scene of a crime, he would scarcely have replied: "No one but this table."

He said, "I suppose I should have asked if any robots were present?" (Damn it, what questions does one ask anyway on a strange world?) He said, "How legal is robotic evidence, Daneel?"

"What do you mean?"

"Can a robot bear witness on Solaria? Can it give evidence?"

"Why should you doubt it?"

"A robot isn't human, Daneel. On Earth, it cannot be a legal witness."

"And yet a footprint can, Partner Elijah, although that is much less a human than a robot is. The position of your planet in this respect is illogical. On Solaria, robotic evidence, when competent, is admissible."

Baley did not argue the point. He rested his chin on the knuckles of one hand and went over this matter of the robot in his mind.

In the extremity of terror Gladia Delmarre, standing over her husband's body, had summoned robots. By the time they came she was unconscious.

The robots reported having found her there together with the dead body. And something else was present as well; a robot. That robot had not been summoned; it was already there. It was not one of the regular staff. No other robot had seen it before or knew its function or assignment.

Nor could anything be discovered from the robot in question. It was not in working order. When found, its motions were disorganized and so, apparently, was the functioning of its positronic brain. It could give none of the proper responses, either verbal or mechanical, and after exhaustive investigation by a robotics expert it was declared a total loss.

Its only activity that had any trace of organization was its constant repetition of "You're going to kill me-you're going to kill me- you're going to kill me. .

No weapon that could possibly have been used to crush the dead man's skull was located.

Baley said suddenly, "I'm going to eat, Daneel, and then we see Agent Gruer again-or view him, anyway."

Hannis Gruer was still eating when contact was established. He ate slowly, choosing each mouthful carefully from a variety of dishes, peering at each anxiously as though searching for some hidden combination he would find most satisfactory.

Baley thought: He may be a couple of centuries old. Eating may be getting dull for him.

Gruer said, "I greet you, gentlemen. You received our report, I believe." His bald head glistened, as he leaned across the table to reach a titbit.

"Yes. We have spent an interesting session with Mrs. Delmarre also," said Baley.

"Good, good," said Gruer. "And to what conclusion, if any, did you come?"

Baley said, "That she is innocent, sir."

Gruer looked up sharply. "Really?"

Baley nodded.

Gruer said, "And yet she was the only one who could see him, the only one who could possibly be within reach. . . "

Baley said, "That's been made clear to me, and no matter how firm social customs are on Solaria, the point is not conclusive. May I explain?"

Gruer had returned to his dinner. "Of course."

"Murder rests on three legs," said Baley, "each equally important. They are motive, means, and opportunity. For a good case against any suspect, each of the three must be satisfied. Now I grant you that Mrs. Delmarre had the opportunity. As for the motive, I've heard of none."

Gruer shrugged. "We know of none." For a moment his eyes drifted to the silent Daneel.

"All right. The suspect has no known motive, but perhaps she's a pathological killer. We can let the matter ride for a while, and continue. She is in his laboratory with

him and there's some reason why she wants to kill him. She waves some club or other heavy object threateningly. It takes him a while to realize that his wife really intends to hurt him. He shouts in dismay, 'You're going to kill me,' and so she does. He turns to run as the blow descends and it crushes the back of his head. Did a doctor examine the body, by the way?"

"Yes and no. The robots called a doctor to attend Mrs. Delmarre and, as a matter of course, he looked at the dead body, too."

"That wasn't mentioned in the report."

"It was scarcely pertinent. The man was dead. In fact, by the time the doctor could view the body, it had been stripped, washed, and prepared for cremation in the usual manner."

"In other words, the robots had destroyed evidence," said Baley, annoyed. Then: "Did you say he viewed the body? He didn't see it?"

"Great Space," said Gruer, "what a morbid notion. He viewed it, of course, from all necessary angles and at close focus, I'm sure. Doctors can't avoid seeing patients under some conditions, but I can't conceive of any reason why they should have to see corpses. Medicine is a dirty job, but even doctors draw the line somewhere."

"Well, the point is this. Did the doctor report anything about the nature of the wound that killed Dr. Delmarre?"

"I see what you're driving at.' You think that perhaps the wound was too severe to have been caused by a woman."

"A woman is weaker than a man, sir. And Mrs. Delmarre is a small woman."

"But quite athletic, Plainclothesman. Given a weapon of the proper type, gravity and leverage would do most of the work. Even not allowing for that, a woman in frenzy can do surprising things."

Baley shrugged. "You speak of a weapon. Where is it?"

Gruer shifted position. He held out his hand toward an empty glass and a robot entered the viewing field and filled it with a colorless fluid that might have been water.

Gruer held the filled glass momentarily, then put it down as though he had changed his mind about drinking. He said, "As is stated in the report, we have not been able to locate it."

"I know the report says that. I want to make absolutely certain of a few things. The weapon was searched for?"

"Thoroughly."

"By yourself?"

"By robots, but under my own viewing supervision at all times. We could locate nothing that might have been the weapon."

"That weakens the case against Mrs. Delmarre, doesn't it?"

"It does," said Gruer calmly. "It is one of several things about the case we don't understand. It is one reason why we have not acted against Mrs. Delmarre. It is one reason why I told you that the guilty party could not have committed the crime, either. Perhaps I should say that she apparently could not have committed the crime."

"Apparently?"

"She must have disposed of the weapon someway. So far, we have lacked the ingenuity to find it."

Baley said dourly, "Have you considered all possibilities?"

"I think so."

"I wonder. Let's see. A weapon has been used to crush a man's skull and it is not found at the scene of the crime. The only alternative is that it has been carried away. It could not have been carried away by Rikaine Delmarre. He was dead. Could it have been carried away by Gladia Delmarre?"

"It must have been," said Gruer.

"How? When the robots arrived, she was on the floor unconscious. Or she may have been feigning unconsciousness, but anyway she was there. How long a time between the murder and the arrival of the first robot?"

"That depends upon the exact time of the murder, which we don't know," said Gruer uneasily.

"I read the report, sir. One robot reported hearing a disturbance and a cry it identified as Dr. Delmarre's. It was apparently the closest to the scene. The summoning signal flashed five minutes afterward. It would take the robot less than a minute to appear on the scene." (Baley remembered his own experiences with the rapid-fire appearance of robots when summoned.) "In five minutes, even ten, how far could Mrs. Delmarre have carried a weapon and returned in time to assume unconsciousness?"

"She might have destroyed it in a disposer unit."

"The disposer unit was investigated, according to the report, and the residual gamma-ray activity, was quite low. Nothing sizable had been destroyed in it for twenty-four hours."

"I know that," said Gruer. "I simply present it as an example of what might have been done."

"True," said Baley, "but there may be a very simple explanation. I suppose the robots belonging to the Delmarre household have been checked and all were accounted for."

"Oh yes."

"And all in reasonable working order?"

"Yes."

"Could any of those have carried away the weapon, perhaps without being aware of what it was?"

"Not one of them had removed anything from the scene of the crime. Or touched anything, for that matter."

"That's not so. They certainly removed the body and prepared it for cremation."

"Well, yes, of course, but that scarcely counts. You would expect them to do that."

"Jehoshaphat!" muttered Baley. He had to struggle to keep calm.

He said, "Now suppose someone else had been on the scene."

"Impossible," said Gruer. "How could someone invade Dr. Delmarre's personal presence?"

"Suppose!" cried Baley. "Now there was never any thought in the robots' minds that an intruder might have been present. I don't suppose any of them made an immediate search of the grounds about the house. It wasn't mentioned in the report."

"There was no search till we looked for the weapon, but that was a considerable time afterward."

"Nor any search for signs of a ground-car or an air vehicle on the grounds?"

"Jo."

"Then if someone had nerved himself to invade Dr. Delmarre's personal presence, as you put it, he could have killed him and then walked away leisurely. No one would have stopped him or even seen him. Afterward, he could rely on everyone being sure no one could have been there."

"And no one could," said Gruer positively.

Baley said, "One more thing. Just one more. There was a robot involved. A robot was at the scene."

Daneel interposed for the first time. "The robot was not at the scene. Had it been there, the crime would not have been committed."

Baley turned his head sharply. And Gruer, who had lifted his glass a second time as though about to drink, put it down again to stare at Daneel.

"Is that not so?" asked Daneel.

"Quite so," said Gruer. "A robot would have stopped one person from harming another. First Law."

"All right," said Baley. "Granted. But it must have been close. It was on the scene when the other robots arrived. Say it was in the next room. The murderer is advancing on Delmarre and Delmarre cries out, 'You're going to kill me.' The robots of the household did not hear those words; at most they heard a cry, so, unsummoned, they did not come. But this particular robot heard the words and First Law made it come unsummoned. It was too late. Probably, it actually saw the murder committed."

"It must have seen the last stages of the murder," agreed Gruer. "That is what disordered it. Witnessing harm to a human without having prevented it is a violation of the First Law and, depending upon circumstances, more or less damage to the positronic brain is induced. In this case, it was a great deal of damage."

Gruer stared at his fingertips as he turned the glass of liquid to and fro, to and fro.

Baley said, "Then the robot was a witness. Was it questioned?"

"What use? He was disordered. It could only say 'You're going to kill me.' I agree with your reconstruction that far. They were probably Delmarre's last words burned into the robot's consciousness when everything else was destroyed."

"But I'm told Solaria specializes in robots. Was there no way in which the robot could be repaired? No way in which its circuits could be patched?"

"None," said Gruer sharply.

"And where is the robot, now?"

"Scrapped," said Gruer.

Baley raised his eyebrows. "This is a rather peculiar case. No motive, no means, no witnesses, no evidence. Where there was some evidence to begin with, it was destroyed. You have only one suspect and everyone seems convinced of her guilt; at least, everyone is certain no one else can be guilty.' That's your opinion, too, obviously. The question then is: Why was I sent for?"

Gruer frowned. "You seem upset, Mr. Baley." He turned abruptly to Daneel. "Mr. Olivaw."

"Yes, Agent Gruer."

"Won't you please go through the dwelling and make sure all windows are closed and blanked out? Plainclothesman Baley may be feeling the effects of open space."

The statement astonished Baley. It was his impulse to deny Gruer's assumption and order Daneel to keep his place when, on the brink, he caught something of panic in Gruer's voice, something of glittering appeal in his eyes.

He sat back and let Daneel leave the room.

It was as though a mask had dropped from Gruer's face, leaving it naked and afraid. Gruer said, "That was easier than I had thought. I'd planned so many ways of getting you alone. I never thought the Auroran would leave at a simple request, and yet I could think of nothing else to do."

Baley said, "Well, I'm alone now."

Gruer said, "I couldn't speak freely in his presence. He's an Auroran and he is here because he was forced on us as the price of having you." The Solarian leaned forward. "There's something more to this than murder. I am not concerned only with the matter of who did it. There are parties on Solaria, secret organizations. . . "

Baley stared. "Surely, I can't help you there."

"Of course you can. Now understand this: Dr. Delmarre was a Traditionalist. He believed in the old ways, the good ways. But there are new forces among us, forces for change, and Delmarre has been silenced."

"By Mrs. Delmarre?"

"Hers must have been the hand. That doesn't matter. There is an organization behind her and that is the important matter."

"Are you sure? Do you have evidence?"

"Vague evidence, only. I can't help that. Rikaine Delmarre was on the track of something. He assured me his evidence was good, and I believe him. I knew him well enough to know him as neither fool nor child. Unfortunately, he told me very little."

Naturally, he wanted to complete his investigation before laying the matter completely open to the authorities. He must have gotten close to completion, too, or they wouldn't have dared the risk of having him openly slaughtered by violence. One thing Delmarre told me, though. The whole human race is in danger."

Baley felt himself shaken. For a moment it was as though he were listening to Minnim again, but on an even larger scale. Was everyone going to turn to him with cosmic dangers?

"Why do you think I can help?" he asked.

"Because you're an Earthman," said Gruer. "Do you understand? We on Solaria have no experience with these things. In a way, we don't understand people. There are too few of us here."

He looked uneasy. "I don't like to say this, Mr. Baley. My colleagues laugh at me and some grow angry, but it is a definite feeling I have. It seems to me that you Earthmen must understand people far better than we do, just by living among such crowds of them. And a detective more than anyone. Isn't that so?"

Baley half nodded and held his tongue.

Gruer said, "In a way, this murder was fortunate. I have not dared speak to the others about Delmarre's investigation, since I wasn't sure who might be involved in the conspiracy, and Delmarre himself was not ready to give any details till his investigation was complete. And even if Delmarre had completed his work, how would we deal with the matter afterward? How does one deal with hostile human beings? I don't know. From the beginning, I felt we needed an Earthman. When I heard of your work in connection with the murder in Spacetown on Earth, I knew we needed you. I got in touch with Aurora, with whose men you had worked most closely, and through them approached the Earth government. Yet my own colleagues could not be persuaded into agreeing to this. Then came the murder and that was enough of a shock to give me the agreement I needed. At the moment, they would have agreed to anything."

Gruer hesitated, then added, "It's not easy to ask an Earthman to help, but I must do so. Remember, whatever it is, the human race is in danger. Earth, too."

Earth was doubly in danger, then. There was no mistaking the desperate sincerity in Gruer's voice.

But then, if the murder were so fortunate a pretext for allowing Gruer to do what he so desperately wanted to do all the time, was it entirely fortune? It opened new avenues of thought that were not reflected in Baley's face, eyes, or voice.

Baley said, "I have been sent here, sir, to help. I will do so to the best of my ability."

Gruer finally lifted his long-delayed drink and looked over the rim of the glass at Baley. "Good," he said. "Not a word to the Auroran, please. Whatever this is about, Aurora may be involved. Certainly they took an unusually intense interest in the case. For instance, they insisted on including Mr. Olivaw as your partner. Aurora is powerful; we had to agree. They say they include Mr. Olivaw only because he worked with you before, but it may well be that they wish a reliable man of their own on the scene, eh?"

He sipped slowly, his eyes on Baley.

Baley passed the knuckles of one hand against his long cheek, rubbing it thoughtfully. "Now if that-"

He didn't finish, but leaped from his chair and almost hurled himself toward the other, before remembering it was only an image he was facing.

For Gruer, staring wildly at his drink, clutched his throat, whispering hoarsely, "Burning. . . burning. . ."

The glass fell from his hand, its contents spilling. And Gruer dropped with it, his face distorted with pain.

A DOCTOR IS PRODDED

DANEEL STOOD in the doorway. 'What happened, Partner Eli-'

But no explanation was needed. Daneel's voice changed to a loud ringing shout.

"Robots of Hannis Gruer! Your master is hurt! Robots!"

At once a metal figure strode into the dining room and after it, in a minute or two, a dozen more entered. Three carried Gruer gently away. The others busily engaged in straightening the disarray and picking up the tableware strewn on the floor.

Daneel called out suddenly, "You there, robots, never mind the crockery. Organize a search. Search the house for any human being. Alert any robots on the grounds outside. Have them go over every acre of the estate. If you find a master, hold him. Do not hurt him" (unnecessary advice) "but do not let him leave, either. If you find no master present, let me know. I will remain at this viewer combination."

Then, as robots scattered, Elijah muttered to Daneel, "That's a beginning. It was poison, of course."

"Yes. That much is obvious, Partner Elijah." Daneel sat down queerly, as though there were a weakness in his knees. Baley had never seen him give way so, not for an instant, to any action that resembled anything so human as a weakness in the knees.

Daneel said, "It is not well with my mechanism to see a human being come to harm."

"There was nothing you could do."

"That I understand and yet it is as though there were certain cloggings in my thought paths. In human terms what I feel might be the equivalent to shock."

"If that's so, get over it." Baley felt neither patience nor sympathy for a queasy robot. "We've got to consider the little matter of responsibility. There is no poison without a poisoner."

"It might have been food-poisoning."

"Accidental food-poisoning? On a world this neatly run? Never. Besides, the poison was in a liquid and the symptoms were sudden and complete. It was a poisoned dose and a large one. Look, Daneel, I'll go into the next room to think this out a bit. You get Mrs. Delmarre. Make sure she's at home and check the distance between her estate and Gruer's."

"Is it that you think she--"

Baley held up a hand. "Just find out, will you?"

He strode out of the room, seeking solitude. Surely there could not be two independent attempts at murder so close together in time on a world like Solaria. And if a connection existed, the easiest assumption to make was that Gruer's story of a conspiracy was true.

Baley felt a familiar excitement growing within him. He had come to this world with Earth's predicament in his mind, and his own. The murder itself had been a faraway thing, but now the chase was really on. The muscles in his jaw knotted.

After all, the murderer or murderers (or murderess) had struck in his presence and he was stung by that. Was he held in so little account? It was professional pride that was hurt and Baley knew it and welcomed the fact. At least it gave him a firm reason to see this thing through as a murder case, simply, even without reference to Earth's dangers.

Daneel had located him now and was striding toward him. "I have done as you asked me to, Partner Elijah. I have viewed Mrs. Delmarre. She is at her home, which is somewhat over a thousand miles from the estate of Agent Gruer."

Baley said, "I'll see her myself later. View her, I mean." He stared thoughtfully at Daneel. "Do you think she has any connection with this crime?"

"Apparently not a direct connection, Partner Elijah."

"Does that imply there might be an indirect connection?"

"She might have persuaded someone else to do it."

"Someone else?" Baley asked quickly. "Who?"

"That, Partner Elijah, I cannot say."

"If someone were acting for her, that someone would have to be at the scene of the crime."

"Yes," said Daneel, "someone must have been there to place the poison in the liquid."

"Isn't it possible that the poisoned liquid might have been prepared earlier in the day? Perhaps much earlier?"

Daneel said quietly, "I had thought of that, Partner Elijah, which is why I used the word 'apparently' when I stated that Mrs. Delmarre had no direct connection with the crime. It is within the realm of possibility for her to have been on the scene earlier in the day. It would be well to check her movements."

"We will do that. We will check whether she was physically present at any time."

Baley's lips twitched. He had guessed that in some ways robotic logic must fall short and he was convinced of it now. As the roboticist had said: Logical but not reasonable.

He said, "Let's get back into the viewing room and get Gruer's estate back in view."

The room sparkled with freshness and order. There was no sign at all that less than an hour before a man had collapsed in agony.

Three robots stood, backs against the wall, in the usual robotic attitude of respectful submission.

Baley said, "What news concerning your master?"

The middle robot said, "The doctor is attending him, master."

"Viewing or seeing?"

"Viewing, master."

"What does the doctor say? Will your master live?"

"It is not yet certain, master."

Baley said, "Has the house been searched?"

"Thoroughly, master."

"Was there any sign of another master beside your own?"

"No, master."

"Were there any signs of such presence in the near past?"

"Not at all, master."

"Are the grounds being searched?"

"Yes, master."

"Any results so far?"

"No, master."

Baley nodded and said, "I wish to speak to the robot that served at the table this night."

"It is being held for inspection, master. Its reactions are erratic."

"Can it speak?"

"Yes, master."

"Then get it here without delay."

There was delay and Baley began again. "I said-"

Daneel interrupted smoothly. "There is interrado communication among these Solarian types. The robot you desire is being summoned. If it is slow in coming, it is part of the disturbance that has overtaken it as the result of what has occurred."

Baley nodded. He might have guessed at interrado. In a world so thoroughly given over to robots some sort of intimate communication among them would be necessary if the system were not to break down. It explained how a dozen robots could follow when one robot had been summoned, but only when needed and not otherwise.

A robot entered. It limped, one leg dragging. Baley wondered why and then shrugged. Even among the primitive robots on Earth reactions to injury of the positronic paths were never obvious to the layman. A disrupted circuit might strike a leg's functioning, as here, and the fact would be most significant to a roboticist and completely meaningless to anyone else.

Baley said cautiously, "Do you remember a colorless liquid on your master's table, some of which you poured into a goblet for him?"

The robot said, "Yeth, mathter." A defect in oral articulation, too!

Baley said, "What was the nature of the liquid?"

"It wath water, mathter."

"Just water? Nothing else?"

"Jutht water, mathter."

"Where did you get it?"

"From the rethervoir tap, mathter."

"Had it been standing in the kitchen before you brought it in?"

"The mathter preferred it not too cold, mathter. It wath a thtanding order that it be poured an hour before mealth."

How convenient, thought Baley, for anyone who knew that fact. He said, "Have one of the robots connect me with the doctor viewing your master as soon as he is available. And while that is being done, I want another one to explain how the reservoir tap works. I want to know about the water supply here."

The doctor was available with little delay. He was the oldest Spacer Baley had ever seen, which meant, Baley thought, that he might be over three hundred years old. The veins stood out on his hands and his close-cropped hair was pure white. He had a habit of tapping his ridged front teeth with a fingernail, making a little clicking noise that Baley found annoying. His name was Altim Thool.

The doctor said, "Fortunately, he threw up a good deal of the dose. Still, he may not survive. It is a tragic event." He sighed heavily.

"What was the poison, Doctor?" asked Baley.

"I'm afraid I don't know." (Click-click-click.)

Baley said, "What? Then how are you treating him?"

"Direct stimulation of the neuromuscular system to prevent paralysis, but except for that I am letting nature take its course." His face, with its faintly yellow skin, like well-worn leather of superior quality, wore a pleading expression. "We have very little experience with this sort of thing. I don't recall another case in over two centuries of practice."

Baley stared at the other with contempt. "You know there are such things as poisons, don't you?"

"Oh yes." (Click-click.) "Common knowledge."

"You have book-film references where you can gain some knowledge."

"It would take days. There are numerous mineral poisons. We make use of insecticides in our society, and it is not impossible to obtain bacterial toxins. Even with descriptions in the films it would take a long time to gather the equipment and develop the techniques to test for them."

"If no one on Solaria knows," said Baley grimly, "I'd suggest you get in touch with one of the other worlds and find out. Meanwhile, you had better test the reservoir tap in Gruer's mansion for poison. Get there in person, if you have to, and do it."

Baley was prodding a venerable Spacer roughly, ordering him about like a robot and was quite unconscious of the incongruity of it. Nor did the Spacer make any protest.

Dr. Thool said doubtfully, "How could the reservoir tap be poisoned? I'm sure it couldn't be."

"Probably not," agreed Baley, "but test it anyway to make sure." The reservoir tap was a dim possibility indeed. The robot's explanation had shown it to be a typical piece of Solarian self-care. Water might enter it from whatever source and be tailored to suit. Microorganisms were removed and non-living organic matter eliminated. The proper amount of aeration was introduced, as were various ions in just those trace amounts best suited to the body's needs. It was very unlikely that any poison could survive one or another of the control devices.

Still, if the safety of the reservoir were directly established, then the time element would be clear. There would be the matter of the hour before the meal, when the pitcher of water (exposed to air, thought Baley sourly) was allowed to warm slowly, thanks to Gruer's idiosyncrasy.

But Dr. Thool, frowning, was saying, "But how would I test the reservoir tap?"

"Jehoshaphat! Take an animal with you. Inject some of the water you take out of the tap into its veins, or have it drink some. Use your head, man. And do the same for what's left in the pitcher, and if that's poisoned, as it must be, run some of the tests the reference films describe. Find some simple ones. Do something."

"Wait, wait. What pitcher?"

"The pitcher in which the water was standing. The pitcher from which the robot poured the poisoned drink."

"Well, dear me-I presume it has been cleaned up. The household retinue would surely not leave it standing about."

Baley groaned. Of course not. It was impossible to retain evidence with eager robots forever destroying it in the name of household duty. He should have ordered it preserved, but of course, this society was not his own and he never reacted properly to it.

Jehoshaphat!

Word eventually came through that the Gruer estate was clear; no sign of any unauthorized human present anywhere.

Daneel said, "That rather intensifies the puzzle, Partner Elijah, since it seems to leave no one in the role of poisoner."

Baley, absorbed in thought, scarcely heard. He said, "What? . . . Not at all. Not at all. It clarifies the matter." He did not explain, knowing quite well that Daneel would be incapable of understanding or believing what Baley was certain was the truth.

Nor did Daneel ask for an explanation. Such an invasion of a human's thoughts would have been most unrobotic.

Baley prowled back and forth restlessly, dreading the approach of the sleep period, when his fears of the open would rise and his longing for Earth increase. He felt an almost feverish desire to keep things happening.

He said to Daneel, "I might as well see Mrs. Delmarre again. Have the robot make contact."

They walked to the viewing room and Baley watched a robot work with deft metal fingers. He watched through a haze of obscuring thought that vanished in startled astonishment when a table, elaborately spread for dinner, suddenly filled half the room.

Gladia's voice said, "Hello." A moment later she stepped into view and sat down. "Don't look surprised, Elijah. It's just dinnertime. And I'm very carefully dressed. See?"

She was. The dominant color of her dress was a light blue and it shimmered down the length of her limbs to wrists and ankles. A yellow ruff clung about her neck and shoulders, a little lighter than her hair, which was now held in disciplined waves.

Baley said, "I did not mean to interrupt your meal."

"I haven't begun yet. Why don't you join me?"

He eyed her suspiciously. "Join you?"

She laughed. "You Earthmen are so funny. I don't mean join me in personal presence. How could you do that? I mean, go to your own dining room and then you and the other one can dine with me."

"But if I leave--"

"Your viewing technician can maintain contact."

Daneel nodded gravely at that, and with some uncertainty Baley turned and walked toward the door. Gladia, together with her table, its setting, and its ornaments moved with him.

Gladia smiled encouragingly. "See? Your viewing technician is keeping us in contact."

Baley and Daneel traveled up a moving ramp that Baley did not recall having traversed before. Apparently there were numerous possible routes between any two rooms in this impossible mansion and he knew only few of them. Daneel, of course, knew them all.

And, moving through walls, sometimes a bit below floor level, sometimes a bit above, there was always Gladia and her dinner table.

Baley stopped and muttered, "This takes getting used to."

Gladia said at once, "Does it make you dizzy?"

"A little."

"Then I tell you what. Why don't you have your technicians freeze me right here. Then when you're in your dining room and all set, he can join us up."

Daneel said, "I will order that done, Partner Elijah."

Their own dinner table was set when they arrived, the plates steaming with a dark brown soup in which diced meat was bobbing, and in the center a large roast fowl was ready for the carving. Daneel spoke briefly to the serving robot and, with smooth efficiency, the two places that had been set were drawn to the same end of the table.

As though that were a signal, the opposite wall seemed to move outward, the table seemed to lengthen and Gladia was seated at the opposite end. Room joined to room and table to table so neatly that but for the varying pattern in wall and floor covering and the differing designs in tableware it would have been easy to believe they were all dining together in actual fact.

"There," said Gladia with satisfaction. "Isn't this comfortable?"

"Quite," said Baley. He tasted his soup gingerly, found it delicious, and helped himself more generously. "YOU know about Agent Gruer?"

Trouble shadowed her face at once and she put her spoon down. "Isn't it terrible? Poor Hannis."

"You use his first name. Do you know him?"

"I know almost all the important people on Solaria. Most Solarians do know one another. Naturally."

Naturally, indeed, thought Baley. How many of them were there, after all?

Baley said, "Then perhaps you know Dr. Altim Thool. He's taking care of Gruer."

Gladia laughed gently. Her serving robot sliced meat for her and added small, browned potatoes and slivers of carrots. "Of course I know him. He treated me."

"Treated you when?"

"Right after the-the trouble. About my husband, I mean."

Baley said in astonishment, "Is he the only doctor on the planet?"

"Oh no." For a moment her lips moved as though she were counting to herself.

"There are at least ten. And there's one youngster I know of who's studying medicine. But Dr. Thool is one of the best. He has the most experience. Poor Dr. Thool."

"Why poor?"

"Well, you know what I mean. It's such a nasty job, being a doctor. Sometimes you just have to see people when you're a doctor and even touch them. But Dr. Thool seems so resigned to it and he'll always do some seeing when he feels he must. He's always treated me since I was a child and was always so friendly and kind and I honestly feel I almost wouldn't mind if he did have to see me. For instance, he saw me this last time."

"After your husband's death, you mean?"

"Yes. You can imagine how he felt when he saw my husband's dead body and me lying there."

"I was told he viewed the body," said Baley.

"The body, yes. But after he made sure I was alive and in no real danger, he ordered the robots to put a pillow under my head and give me an injection of something or other, and then get out. He came over by jet. Really! By jet. It took less than half an hour and he took care of me and made sure all was well. I was so woozy when I came to that I was sure I was only viewing him, you know, and it wasn't till he touched me that I knew we were seeing, and I screamed. Poor Dr. Thool. He was awfully embarrassed, but I knew he meant well."

Baley nodded. "I suppose there's not much use for doctors on Solaria?"

"I should hope not."

"I know there are no germ diseases to speak of. What about metabolic disorders? Atherosclerosis? Diabetes? Things like that?"

"It happens and it's pretty awful when it does. Doctors can make life more livable for such people in a physical way, but that's the least of it."

"Oh?"

"Of course. It means the gene analysis was imperfect. You don't suppose we allow defects like diabetes to develop on purpose. Anyone who develops such things has to undergo very detailed re-analysis. The mate assignment has to be retracted, which is terribly embarrassing for the mate. And it means no-no"-her voice sank to a whisper-"children."

Baley said in a normal voice, "No children?"

Gladia flushed. "It's a terrible thing to say. Such a word! Children!"

"It comes easy after a while," said Baley dryly.

"Yes, but if I get into the habit, I'll say it in front of another Solarian someday and I'll just sink into the ground. . . Anyway, if the two of them have had children (see, I've

said it again) already, the children have to be found and examined-that was one of Rikaine's jobs, by the way-and well, it's just a mess."

So much for Thool, thought Baley. The doctor's incompetence was a natural consequence of the society, and held nothing sinister. Nothing necessarily sinister. Cross him off, he thought, but lightly.

He watched Gladia as she ate. She was neat and precisely delicate in her movements and her appetite seemed normal. (His own fowl was delightful. In one respect, anyway-food-he could easily be spoiled by these Outer Worlds.)

He said, "What is your opinion of the poisoning, Gladia?"

She looked up. "I'm trying not to think of it. There are so many horrors lately. Maybe it wasn't poisoning."

"It was."

"But there wasn't anyone around?"

"How do you know?"

"There couldn't have been. He has no wife, these days, since he's all through with his quota of ch-you know what. So there was no one to put the poison in anything, so how could he be poisoned?"

"But he was poisoned. That's a fact and must be accepted."

Her eyes clouded over. "Do you suppose," she said, "he did it himself?"

"I doubt it. Why should he? And so publicly?"

"Then it couldn't be done, Elijah. It just couldn't."

Baley said, "On the contrary, Gladia. It could be done very easily. And I'm sure I know exactly how."

A SPACER IS DEFIED

GLADIA SEEMED to be holding her breath for a moment. It came out through puckered lips in what was almost a whistle. She said, "I'm sure I don't see how. Do you know who did it?"

Baley nodded. "The same one who killed your husband."

"Are you sure?"

"Aren't you? Your husband's murder was the first in the history of Solaria. A month later there is another murder. Could that be a coincidence? Two separate murderers striking within a month of each other on a crime-free world? Consider, too, that the second victim was investigating the first crime and therefore represented a violent danger to the original murderer."

"Well!" Gladia applied herself to her dessert and said between mouthfuls, "If you put it that way, I'm innocent."

"How so, Gladia?"

"Why, Elijah. I've never been near the Gruer estate, never in my whole life. So I certainly couldn't have poisoned Agent Gruer. And if I haven't-why, neither did I kill my husband."

Then, as Baley maintained a stern silence, her spirit seemed to fade and the corners of her small mouth drooped. "Don't you think so, Elijah?"

"I can't be sure," said Baley. "I've told you I know the method used to poison Gruer. It's an ingenious one and anyone on Solaria could have used it, whether they were on the Gruer estate or not; whether they were ever on the Gruer estate or not."

Gladia clenched her hands into fists. "Are you saying I did it?"

"I'm not saying that."

"You're implying it." Her lips were thin with fury and her high cheekbones were splotchy. "Is that all your interest in viewing me? To ask me sly questions? To trap me?"

"Now wait--"

"You seemed so sympathetic. So understanding. You-you Earthman!"

Her contralto had become a tortured rasp with the last word.

Daneel's perfect face leaned toward Gladia and he said, "If you will pardon me, Mrs. Delmarre, you are holding a knife rather tightly and may cut yourself. Please be careful."

Gladia stared wildly at the short, blunt, and undoubtedly quite harmless knife she held in her hand. With a spasmodic movement she raised it high.

Baley said, "You couldn't reach me, Gladia."

She gasped. "Who'd want to reach you? Ugh!" She shuddered in exaggerated disgust and called out, "Break contact at once!"

The last must have been to a robot out of the line of sight, and Gladia and her end of the room were gone and the original wall sprang back.

Daneel said, "Am I correct in believing you now consider this woman guilty?"

"No," said Baley flatly. "Whoever did this needed a great deal more of certain characteristics than this poor girl has."

"She has a temper."

"What of that? Most people do. Remember, too, that she has been under a considerable strain for a considerable time. If I had been under a similar strain and someone had turned on me as she imagined I had turned on her, I might have done a great deal more than wave a foolish little knife."

Daneel said, "I have not been able to deduce the technique of poisoning at a distance, as you say you have."

Baley found it pleasant to be able to say, "I know you haven't. You lack the capacity to decipher this particular puzzle."

He said it with finality and Daneel accepted the statement as calmly and as gravely as ever.

Baley said, "I have two jobs for you, Daneel."

"And what are they, Partner Elijah?"

"First, get in touch with this Dr. Thool and find out Mrs. Delmarre's condition at the time of the murder of her husband. How long she required treatment and so on."

"Do you want to determine something in particular?"

"No. I'm just trying to accumulate data. It isn't easy on this world. Secondly, find out who will be taking Gruer's place as head of security and arrange a viewing session for me first thing in the morning. As for me," he said without pleasure in his mind, and with none in his voice, "I'm going to bed and eventually, I hope, I'll sleep." Then, almost petulantly, "Do you suppose I could get a decent bookfilm in this place?"

Daneel said, "I would suggest that you summon the robot in charge of the library."

Baley felt only irritation at having to deal with the robot. He would much rather have browsed at will.

"No," he said, "not a classic; just an ordinary piece of fiction dealing with everyday life on contemporary Solaria. About half a dozen of them."

The robot submitted (it would have to) but even as it manipulated the proper controls that plucked the requisite book-films out of their niches and transferred them first to an exit slot and then to Baley's hand, it rattled on in respectful tones about all the other categories in the library.

The master might like an adventure romance of the days of exploration, it suggested, or an excellent view of chemistry, perhaps, with animated atom models, or a fantasy, or a Galactography. The list was endless.

Baley waited grimly for his half dozen, said, "These will do," reached with his own hands (his own hands) for a scanner and walked away.

When the robot followed and said, "Will you require help with the adjustment, master?" Baley turned and snapped, "No. Stay where you are."

The robot bowed and stayed.

Lying in bed, with the headboard aglow, Baley almost regretted his decision. The scanner was like no model he had ever used and he began with no idea at all as to the method for threading the film. But he worked at it obstinately, and, eventually, by taking it apart and working it out bit by bit, he managed something.

At least he could view the film and, if the focus left a bit to be desired, it was small payment for a moment's independence from the robots.

In the next hour and a half he had skipped and switched through four of the six films and was disappointed.

He had had a theory. There was no better way, he had thought, to get an insight into Solarian ways of life and thought than to read their novels. He needed that insight if he were to conduct the investigation sensibly.

But now he had to abandon his theories. He had viewed novels and had succeeded only in learning of people with ridiculous problems who behaved foolishly and reacted mysteriously. Why should a woman abandon her job on discovering her child had entered the same profession and refuse to explain her reasons until unbearable and ridiculous complications had resulted? Why should a doctor and an artist be humiliated at being assigned to one another and what was so noble about the doctor's insistence on entering robotic research?

He threaded the fifth novel into the scanner and adjusted it to his eyes. He was bone-weary.

So weary, in fact, that he never afterward recalled anything of the fifth novel (which he believed to be a suspense story) except for the opening in which a new estate owner entered his mansion and looked through the past account films presented him by a respectful robot.

Presumably he fell asleep then with the scanner on his head and all lights blazing. Presumably a robot, entering respectfully, had gently removed the scanner and put out the lights.

In any case, he slept and dreamed of Jessie. All was as it had been. He had never left Earth. They were ready to travel to the community kitchen and then to see a subetheric show with friends. They would travel over the Expressways and see people and neither of them had a care in the world. He was happy.

And Jessie was beautiful. She had lost weight somehow. Why should she be so slim? And so beautiful?

And one other thing was wrong. Somehow the sun shone down on them. He looked up and there was only the vaulted base of the upper Levels visible, yet the sun shone down, blazing brightly on everything, and no one was afraid.

Baley woke up, disturbed. He let the robots serve breakfast and did not speak to Daneel. He said nothing, asked nothing, downed excellent coffee without tasting it.

Why had he dreamed of the visible-invisible sun? He could understand dreaming of Earth and of Jessie, but what had the sun to do with it? And why should the thought of it bother him, anyway?

"Partner Elijah," said Daneel gently.

"What?"

"Corwin Attlebish will be in viewing contact with you in half an hour. I have arranged that."

"Who the hell is Corwin Whatchamacallum?" asked Baley sharply, and refilled his coffee cup.

"He was Agent Gruer's chief aide, Partner Elijah, and is now Acting Head of Security."

"Then get him now."

"The appointment, as I explained, is for half an hour from now."

"I don't care when it's for. Get him now. That's an order."

"I will make the attempt, Partner Elijah. He may not, however, agree to receive the call."

"Let's take the chance, and get on with it, Daneel."

The Acting Head of Security accepted the call and, for the first time on Solaria, Baley saw a Spacer who looked like the usual Earthly conception of one. Attlebish was tall, lean, and bronze. His eyes were a light brown, his chin large and hard.

He looked faintly like Daneel. But whereas Daneel was idealized, almost godlike, Corwin Attlebish had lines of humanity in his face.

Attlebish was shaving. The small abrasive pencil gave out its spray of fine particles that swept over cheek and chin, biting off the hair neatly and then disintegrating into impalpable dust.

Baley recognized the instrument through hearsay but had never seen one used before.

"You the Earthman?" asked Attlebish slurringly through barely cracked lips, as the abrasive dust passed under his nose.

Baley said, "I'm Elijah Baley, Plainclothesman C-7. I'm from Earth."

"You're early." Attlebish snapped his shaver shut and tossed it somewhere outside Baley's range of vision. "What's on your mind, Earthman?"

Baley would not have enjoyed the other's tone of voice at the best of times. He burned now. He said, "How is Agent Gruer?"

Attlebish said, "He's still alive. He may stay alive."

Baley nodded. "Your poisoners here on Solaria don't know dosages. Lack of experience. They gave Gruer too much and he threw it up. Half the dose would have killed him."

"Poisoners? There is no evidence for poison."

Baley stared. "Jehoshaphat! What else do you think it is?"

"A number of things. Much can go wrong with a person." He rubbed his face, looking for roughness with his fingertips. "You would scarcely know the metabolic problems that arise past the age of two fifty."

"If that's the case, have you obtained competent medical advice?"

"Dr. Thool's report-"

That did it. The anger that had been boiling inside Baley since waking burst through. He cried at the top of his voice, "I don't care about Dr. Thool. I said competent medical advice. Your doctors don't know anything, any more than your detectives would, if you had any. You had to get a detective from Earth. Get a doctor as well.

The Solarian looked at him coolly. "Are you telling me what to do?"

"Yes, and without charge. Be my guest. Gruer was poisoned. I witnessed the process. He drank, retched, and yelled that his throat was burning. What do you call it when you consider that he was investigating-" Baley came to a sudden halt.

"Investigating what?" Attlebish was unmoved.

Baley was uncomfortably aware of Daneel at his usual position some ten feet away. Gruer had not wanted Daneel, as an Auroran, to know of the investigation. He said lamely, "There were political implications."

Attlebish crossed his arms and looked distant, bored, and faintly hostile. "We have no politics on Solaria in the sense we hear of it on other worlds. Hannis Gruer has been a good citizen, but he is imaginative. It was he who, having heard some story about you, urged that we import you. He even agreed to accept an Auroran companion for you as a condition. I did not think it necessary. There is no mystery. Rikaine Delmarre was killed by his wife and we shall find out how and why. Even if we do not, she will be genetically analyzed and the proper measures taken. As for Gruer, your fantasy concerning poisoning is of no importance."

Baley said incredulously, "You seem to imply that I'm not needed here."

"I believe not. If you wish to return to Earth, you may do so. I may even say we urge you to."

Baley was amazed at his own reaction. He cried, "No, sir. I don't budge."

"We hired you, Plainclothesman. We can discharge you. You will return to your home planet."

"No! You listen to me. I'd advise you to. You're a big-time Spacer and I'm an Earthman, but with all respect, with deepest and most humble apologies, you're scared."

"Withdraw that statement!" Attlebish drew himself to his six-foot plus, and stared down at the Earthman haughtily.

"You're scared as hell. You think you'll be next if you pursue this thing. You're giving in so they'll let you alone; so they'll leave you your miserable life." Baley had no notion who the "they" might be or if there were any "they" at all. He was striking out blindly at an arrogant Spacer and enjoying the thud his phrases made as they hit against the other's self-control.

"You will leave," said Attlebish, pointing his finger in cold anger, "within the hour. There'll be no diplomatic considerations about this, I assure you."

"Save your threats, Spacer. Earth is nothing to you, I admit, but I'm not the only one here. May I introduce my partner, Daneel Olivaw. He's from Aurora. He doesn't talk much. He's not here to talk. I handle that department. But he listens awfully well. He doesn't miss a word.

"Let me put it straight, Attlebish"-Baley used the unadorned name with relish-"whatever monkeyshines are going on here on Solaria, Aurora and forty-odd other Outer Worlds are interested. If you kick us off, the next deputation to visit Solaria will consist of warships. I'm from Earth and I know how the system works. Hurt feelings mean warships by return trip."

Attlebish transferred his regard to Daneel and seemed to be considering. His voice was gentler. "There is nothing going on here that need concern anyone outside the planet."

"Gruer thought otherwise and my partner heard him." This was no time to cavil at a lie.

Daneel turned to look at Baley, at the Earthman's last statement, but Baley paid no attention. He drove on: "I intend to pursue this investigation. Ordinarily, there's nothing I wouldn't do to get back to Earth. Even just dreaming about it gets me so restless I can't sit. If I owned this robot-infested palace I'm living in now, I'd give it with the robots thrown in and you and all your lousy world to boot for a ticket home.

"But I won't be ordered off by you. Not while there's a case to which I've been assigned that's still open. Try getting rid of me against my will and you'll be looking down the throats of space-based artillery.

"What's more, from now on, this murder investigation is going to be run my way. I'm in charge. I see the people I want to see. I see them. I don't view them. I'm used to seeing and that's the way it's going to be. I'll want the official approval of your office for all of that."

"This is impossible, unbearable--"

"Daneel, you tell him."

The humanoid's voice said dispassionately, "As my partner has informed you, Agent Attlebish, we have been sent here to conduct a murder investigation. It is essential that we do so. We, of course, do not wish to disturb any of your customs and perhaps actual seeing will be unnecessary, although it would be helpful if you were to give approval for such seeing as becomes necessary as Plainclothesman Baley has requested. As to leaving the planet against our will, we feel that would be inadvisable, although we regret any feeling on your part or on the part of any Solarian that our remaining would be unpleasant."

Baley listened to the stilted sentence structure with a dour stretching of his lips that was not a smile. To one who knew Daneel as a robot, it was all an attempt to do a job without giving offense to any human, not to Baley and not to Attlebish. To one who thought Daneel was an Auroran, a native of the oldest and most powerful militarily of the Outer Worlds, it sounded like a series of subtly courteous threats.

Attlebish put the tips of his fingers to his forehead. "I'll think about it."

"Not too long," said Baley, "because I have some visiting to do within the hour, and not by viewer. Done viewing!"

He signaled the robot to break contact, then he stared with surprise and pleasure at the place where Attlebish had been. None of this had been planned. It had all been

impulse born of his dream and of Attlebish's unnecessary arrogance. But now that it had happened, he was glad. It was what he had wanted, really-to take control.

He thought: Anyway, that was telling the dirty Spacer!

He wished the entire population of Earth could have been here to watch. The man looked such a Spacer, and that made it all the better, of course. All the better.

Only, why this feeling of vehemence in the matter of seeing? Baley scarcely understood that. He knew what he planned to do, and seeing (not viewing) was part of it. All right. Yet there had been the tight lift to his spirit when he spoke of seeing, as though he were ready to break down the walls of this mansion even though it served no purpose.

Why?

There was something impelling him beside the case, something that had nothing to do even with the question of Earth's safety. But what?

Oddly, he remembered his dream again; the sun shining down through all the opaque layers of the gigantic underground Cities of Earth.

Daneel said with thoughtfulness (as far as his voice could carry a recognizable emotion), "I wonder, Partner Elijah, if this is entirely safe."

"Bluffing this character? It worked. And it wasn't really a bluff. I think it is important to Aurora to find out what's going on on Solana, and that Aurora knows it. Thank you, by the way, for not catching me out in a misstatement."

"It was the natural decision. To have borne you out did Agent Attlebish a certain rather subtle harm. To have given you the lie would have done you a greater and more direct harm."

"Potentials countered and the higher one won out, eh, Daneel?"

"So it was, Partner Elijah. I understand that this process, in a less definable way, goes on within the human mind. I repeat, however, that this new proposal of yours is not safe."

"Which new proposal is this?"

"I do not approve your notion of seeing people. By that I mean seeing as opposed to viewing."

"I understand you. I'm not asking for your approval."

"I have my instructions, Partner Elijah. What it was that Agent Hannis Gruer told you during my absence last night I cannot know. That he did say something is obvious from the change in your attitude toward this problem. However, in the light of my instructions, I can guess. He must have warned you of the possibility of danger to other planets arising from the situation on Solaria."

Slowly Baley reached for his pipe. He did that occasionally and always there was the feeling of irritation when he found nothing and remembered he could not smoke. He said, "There are only twenty thousand Solarians. What danger can they represent?"

"My masters on Aurora have for some time been uneasy about Solaria. I have not been told all the information at their disposal-"

"And what little you have been told you have been told not to repeat to me. Is that it?" demanded Baley.

Daneel said, "There is a great deal to find out before this matter can be discussed freely."

"Well, what are the Solarians doing? New weapons? Paid subversion? A campaign of individual assassination? What can twenty thousand people do against hundreds of millions of Spacers?"

Daneel remained silent.

Baley said, "I intend to find out, you know."

"But not the way you have now proposed, Partner Elijah. I have been instructed most carefully to guard your safety."

"You would have to anyway. First Law!"

"Over and above that, as well. In conflict between your safety and that of another I must guard yours."

"Of course. I understand that. If anything happens to me, there is no further way in which you can remain on Solaria without complications that Aurora is not yet ready to face. As long as I'm alive, I'm here at Solaria's original request and so we can throw our weight around, if necessary, and make them keep us. If I'm dead, the whole situation is changed. Your orders are, then, to keep Baley alive. Am I right, Daneel?"

Daneel said, "I cannot presume to interpret the reasoning behind my orders."

Baley said, "All right, don't worry. The open space won't kill me, If I do find it necessary to see anyone. I'll survive. I may even get used to it."

"It is not the matter of open space alone, Partner Elijah," said Daneel. "It is this matter of seeing Solarians. I do not approve of it."

"You mean the Spacers won't like it. Too bad if they don't. Let them wear nose filters and gloves. Let them spray the air. And if it offends their nice morals to see me in the flesh, let them wince and blush. But I intend to see them. I consider it necessary to do so and I will do so."

"But I cannot allow you to."

"You can't allow me?"

"Surely you see why, Partner Elijah."

"I do not."

"Consider, then, that Agent Gruer, the key Solarian figure in the investigation of this murder, has been poisoned. Does it not follow that if I permit you to proceed in your plan for exposing yourself indiscriminately in actual person, the next victim will necessarily be you yourself. How then can I possibly permit you to leave the safety of this mansion?"

"How will you stop me, Daneel?"

"By force, if necessary, Partner Elijah," said Daneel calmly. "Even if I must hurt you. If I do not do so, you will surely die."

A ROBOT IS STYRNIED

BALEY SAID, "So the higher potential wins out again, Daneel. You will hurt me to keep me alive."

"I do not believe hurting you will be necessary, Partner Elijah. You know that I am superior to you in strength and you will not attempt a useless resistance. If it should become necessary, however, I will be compelled to hurt you."

"I could blast you down where you stand," said Baley. "Right now! There is nothing in my potentials to prevent me."

"I had thought you might take this attitude at some time in our present relationship, Partner Elijah. Most particularly, the thought occurred to me during our trip to this mansion, when you grew momentarily violent in the ground-car. The destruction of myself is unimportant in comparison with your safety, but such destruction would cause you distress eventually and disturb the plans of my masters. It was one of my first cares, therefore, during your first sleeping period, to deprive your blaster of its charge."

Baley's lips tightened. He was left without a charged blaster! His hand dropped instantly to his holster. He drew his weapon and stared at the charge reading. It hugged zero.

For a moment he balanced the lump of useless metal as though to hurl it directly into Daneel's face. What good? The robot would dodge efficiently.

Baley put the blaster back. It could be recharged in good time. Slowly, thoughtfully, he said, "I'm not fooled by you, Daneel."

"In what way, Partner Elijah."

"You are too much the master. I am too completely stopped by you. Are you a robot?"

"You have doubted me before," said Daneel.

"On Earth last year, I doubted whether R. Daneel Olivaw was truly a robot. It turned out he was. I believe he still is. My question, however is this: Are you R. Daneel Olivaw?"

"I am."

"Yes? Daneel was designed to imitate a Spacer closely. Why could not a Spacer be made up to imitate Daneel closely?"

"For what reason?"

"To carry on an investigation here with greater initiative and capacity than ever a robot could. And yet by assuming Daneel's role, you could keep me safely under control by giving me a false consciousness of mastery. After all, you are working through me and I must be kept pliable."

"All this is not so, Partner Elijah."

"Then why do all the Solarians we meet assume you to be human? They are robotic experts. Are they so easily fooled? It occurs to me that I cannot be one right against many wrong. It is far more likely that I am one wrong against many right."

"Not at all, Partner Elijah."

"Prove it," said Baley, moving slowly toward an end table and lifting a scrap-disposal unit. "You can do that easily enough, if you are a robot. Show the metal beneath your skin."

Daneel said, "I assure you-"

"Show the metal," said Baley crisply. "That is an order! Or don't you feel compelled to obey orders?"

Daneel unbuttoned his shirt. The smooth, bronze skin of his chest was sparsely covered with light hair. Daneel's fingers exerted a firm pressure just under the right nipple, and flesh and skin split bloodlessly the length of the chest, with the gleam of metal showing beneath.

And as that happened, Baley's fingers, resting on the end table, moved half an inch to the right and stabbed at a contact patch. Almost at once a robot entered.

"Don't move, Daneel," cried Baley. "That's an order! Freeze!"

Daneel stood motionless, as though life, or the robotic imitation thereof, had departed from him.

Baley shouted to the robot, "Can you get two more of the staff in here without yourself leaving? If so, do it."

The robot said, "Yes, master."

Two more robots entered, answering a radioed call. The three lined up abreast.

"Boys!" said Baley. "Do you see this creature whom you thought a master?"

Six ruddy eyes had turned solemnly on Daneel. They said in unison, We see him, master.

Baley said, "Do you also see that this so-called master is actually a robot like yourself since it is metal within. It is only designed to look like a man."

"Yes, master."

"You are not required to obey any order it gives you. Do you understand that?"

"Yes, master."

"I, on the other hand," said Baley, "am a true man."

For a moment the robots hesitated. Baley wondered if, having had it shown to them that a thing might seem a man yet be a robot, they would accept anything in human appearance as a man, anything at all.

But then one robot said, "You are a man, master," and Baley drew breath again.

He said, "Very well, Daneel. You may relax."

Daneel moved into a more natural position and said calmly, "Your expressed doubt as to my identity, then, was merely a feint designed to exhibit my nature to these others, I take it."

"So it was," said Baley, and looked away. He thought: The thing is a machine, not a man. You can't double-cross a machine.

And yet he couldn't entirely repress a feeling of shame. Even as Daneel stood there, chest open, there seemed something so human about him, something capable of being betrayed.

Baley said, "Close your chest, Daneel, and listen to me. Physically, you are no match for three robots. You see that, don't you?"

"That is clear, Partner Elijah."

"Good! . . . Now you boys," and he turned to the other robots again. "You are to tell no one, human or master, that this creature is a robot. Never at any time, without further instructions from myself and myself alone."

"I thank you," interposed Daneel softly.

"However," Baley went on, "this manlike robot is not to be allowed to interfere with my actions in any way. If it attempts any such interference, you will restrain it by force, taking care not to damage it unless absolutely necessary. Do not allow it to establish contact with humans other than myself, or with robots other than yourselves, either by seeing or by viewing. And do not leave it at any time. Keep it in this room and remain here yourselves. Your other duties are suspended until further notice. Is all this clear?"

"Yes, master," they chorused.

Baley turned to Daneel again. "There is nothing you can do now, so don't try to stop me."

Daneel's arms hung loosely at his side. He said, "I may not, through inaction, allow you to come to harm, Partner Elijah. Yet under the circumstances, nothing but inaction is possible. The logic is unassailable. I shall do nothing. I trust you will remain safe and in good health."

There it was, thought Baley. Logic was logic and robots had nothing else. Logic told Daneel he was completely stymied. Reason might have told him that all factors are rarely predictable, that the opposition might make a mistake.

None of that. A robot is logical only, not reasonable.

Again Baley felt a twinge of shame and could not forbear an attempt at consolation. He said, "Look, Daneel, even if I were walking into danger, which I'm not" (he added that hurriedly, with a quick glance at the other robots) "it would only be my job. It is what I'm paid to do. It is as much my job to prevent harm to mankind as a whole as yours is to prevent harm to man as an individual. Do you see?"

"I do not, Partner Elijah."

"Then that is because you're not made to see. Take my word for it that if you were a man, you would see."

Daneel bowed his head in acquiescence and remained standing, motionless, while Baley walked slowly toward the door of the room. The three robots parted to make room for him and kept their photoelectric eyes fixed firmly on Daneel.

Baley was walking to a kind of freedom and his heart beat rapidly in anticipation of the fact, then skipped a beat. Another robot was approaching the door from the other side.

Had something gone wrong?

"What is it, boy?" he snapped.

"A message has been forwarded to you, master, from the office of Acting Head of Security Attlebish."

Baley took the personal capsule handed to him and it opened at once. A finely inscribed strip of paper unrolled. (He wasn't startled. Solaria would have his fingerprints on file and the capsule would be adjusted to open at the touch of his particular convolutions.)

He read the message and his long face mirrored satisfaction. It was his official permission to arrange "seeing" interviews, subject to the wishes of the interviewees, who were nevertheless urged to give "Agents Baley and Olivaw" every possible co-operation.

Attlebish had capitulated, even to the extent of putting the Earthman's name first. It was an excellent omen with which to begin, finally, an investigation conducted as it should be conducted.

Baley was in an air-borne vessel again, as he had been on that trip from New York to Washington. This time, however, there was a difference. The vessel was not closed in. The windows were left transparent.

It was a clear, bright day and from where Baley sat the windows were so many patches of blue. Unrelieved, featureless. He tried not to huddle. He buried his head in his knees only when he could absolutely no longer help it.

The ordeal was of his own choosing. His state of triumph, his unusual sense of freedom at having beaten down first Attlebish and then Daneel, his feeling of having asserted the dignity of Earth against the Spacers, almost demanded it.

He had begun by stepping across open ground to the waiting plane with a kind of lightheaded dizziness that was almost enjoyable, and he had ordered the windows left unblanked in a kind of manic self-confidence.

I have to get used to it, he thought, and stared at the blue until his heart beat rapidly and the lump in his throat swelled beyond endurance.

He had to close his eyes and bury his head under the protective cover of his arms at shortening intervals. Slowly his confidence trickled away and even the touch of the holster of his freshly recharged blaster could not reverse the flow.

He tried to keep his mind on his plan of attack. First, learn the ways of the planet. Sketch in the background against which everything must be placed or fail to make sense.

See a sociologist!

He had asked a robot for the name of the Solarian most eminent as a sociologist. And there was that comfort about robots; they asked no questions.

The robot gave the name and vital statistics, and paused to remark that the sociologist would most probably be at lunch and would, therefore, possibly ask to delay contact.

"Lunch!" said Baley sharply. "Don't be ridiculous. It's not noon by two hours."

The robot said, "I am using local time, master."

Baley stared, then understood. On Earth, with its buried Cities, day and night, waking and sleeping, were man-made periods, adjusted to suit the needs of the community and the planet. On a planet such as this one, exposed nakedly to the sun, day and night were not a matter of choice at all, but were imposed on man willy filly.

Baley tried to picture a world as a sphere being lit and unlit as it turned. He found it hard to do and felt scornful of the so-superior Spacers who let such an essential thing as time be dictated to them by the vagaries of planetary movements.

He said, "Contact him anyway."

Robots were there to meet the plane when it landed and Baley, stepping out into the open again, found himself trembling badly.

He muttered to the nearest of the robots, "Let me hold your arm, boy."

The sociologist waited for him down the length of a hall, smiling tightly. "Good afternoon, Mr. Baley."

Baley nodded breathlessly. "Good evening, sir. Would you blank out the windows?"

The sociologist said, "They are blanked out already. I know something of the ways of Earth. Will you follow me?"

Baley managed it without robotic help, following at a considerable distance, across and through a maze of hallways. When he finally sat down in a large and elaborate room, he was glad of the opportunity to rest.

The walls of the room were set with curved, shallow alcoves. Statuary in pink and gold occupied each niche; abstract figures that pleased the eye without yielding instant meaning. A large, boxlike affair with white and dangling cylindrical objects and numerous pedals suggested a musical instrument.

Baley looked at the sociologist standing before him. The Spacer looked precisely as he had when Baley had viewed him earlier that day. He was tall and thin and his hair was pure white. His face was strikingly wedge-shaped, his nose prominent, his eyes deep-set and alive.

His name was Anselmo Quemot.

They stared at one another until Baley felt he could trust his voice to be reasonably normal. And then his first remark had nothing to do with the investigation. In fact it was nothing he had planned.

He said, "May I have a drink?"

"A drink?" The sociologist's voice was a trifle too high-pitched to be entirely pleasant. He said, "You wish water?"

"I'd prefer something alcoholic."

The sociologist's look grew sharply uneasy, as though the obligations of hospitality were something with which he was unacquainted.

And that, thought Baley, was literally so. In a world where viewing was the thing, there would be no sharing of food and drink.

A robot brought him a small cup of smooth enamel. The drink was a light pink in color. Baley sniffed at it cautiously and tasted it even more cautiously. The small sip of

liquid evaporated warmly in his mouth and sent a pleasant message along the length of his esophagus. His next sip was more substantial.

Quemot said, "If you wish more-"

"No, thank you, not now. It is good of you, sir, to agree to see me."

Quemot tried a smile and failed rather markedly, "It has been a long time since I've done anything like this. Yes."

He almost squirmed as he spoke.

Baley said, "I imagine you find this rather hard."

"Quite." Quemot turned away sharply and retreated to a chair at the opposite end of the room. He angled the chair so that it faced more away from Baley than toward him and sat down. He clasped his gloved hands and his nostrils seemed to quiver.

Baley finished his drink and felt warmth in his limbs and even the return of something of his confidence.

He said, "Exactly how does it feel to have me here, Dr. Quemot?" The sociologist muttered, "That is an uncommonly personal question."

"I know it is. But I think I explained when I viewed you earlier that I was engaged in a murder investigation and that I would have to ask a great many questions, some of which were bound to be personal."

"I'll help if I can," said Quemot. "I hope the questions will be decent ones." He kept looking away as he spoke. His eyes, when they struck Baley's face, did not linger, but slipped away.

Baley said, "I don't ask about your feelings out of curiosity only. This is essential to the investigation."

"I don't see how."

"I've got to know as much as I can about this world. I must understand how Solarians feel about ordinary matters. Do you see that?"

Quemot did not look at Baley at all now. He said slowly, "Ten years ago, my wife died. Seeing her was never very easy, but, of course, it is something one learns to bear in time and she was not the intrusive sort. I have been assigned no new wife since I am past the age of-of"-he looked at Baley as though requesting him to supply the phrase, and when Baley did not do so, he continued in a lower voice-"siring. Without even a wife, I have grown quite unused to this phenomenon of seeing."

"But how does it feel?" insisted Baley. "Are you in panic?" He thought of himself on the plane.

"No. Not in panic." Quemot angled his head to catch a glimpse of Baley and almost instantly withdrew. "But I will be frank, Mr. Baley. I imagine I can smell you."

Baley automatically leaned back in his chair, painfully self-conscious. "Smell me?"

"Quite imaginary, of course," said Quemot. "I cannot say whether you do have an odor or how strong it is, but even if you had a strong one, my nose filters would keep it from me. Yet, imagination - . ." He shrugged.

"I understand."

"It's worse. You'll forgive me, Mr. Baley, but in the actual presence of a human, I feel strongly as though something slimy were about to touch me. I keep shrinking away. It is most unpleasant."

Baley rubbed his ear thoughtfully and fought to keep down annoyance. After all, it was the other's neurotic reaction to a simple state of affairs.

He said, "If all this is so, I'm surprised you agreed to see me so readily. Surely you anticipated this unpleasantness."

"I did. But you know, I was curious. You're an Earthman." Baley thought sardonically that that should have been another argument against seeing, but he said only, "What does that matter?"

A kind of jerky enthusiasm entered Quemot's voice. "It's not something I can explain easily. Not even to myself, really. But I've worked on sociology for ten years now. Really worked. I've developed propositions that are quite new and startling, and yet basically true. It is one of these propositions that makes me most extraordinarily interested in Earth and Earthmen. You see, if you were to consider Solaria's society and way of life carefully, it will become obvious to you that the said society and way of life is modeled directly and closely on that of Earth itself."

A CULTURE IS TRACED

BALEY COULD not prevent himself from crying out, "What!"

Quemot looked over his shoulder as the moments of silence passed and said finally, "Not Earth's present culture. No."

Baley said, "Oh."

"But in the past, yes. Earth's ancient history. As an Earthman, you know it, of course."

"I've viewed books," said Baley cautiously.

"Ah. Then you understand."

Baley, who did not, said, "Let me explain exactly what I want, Dr. Quemot. I want you to tell me what you can about why Solaria is so different from the other Outer Worlds, why there are so many robots, why you behave as you do. I'm sorry if I seem to be changing the subject."

Baley most definitely wanted to change the subject. Any discussion of a likeness or unlikeness between Solaria's culture and Earth's would prove too absorbing by half. He might spend the day there and come away none the wiser as far as useful information was concerned.

Quemot smiled. "You want to compare Solaria and the other Outer Worlds and not Solaria and Earth."

"I know Earth, sir."

"As you wish." The Solarian coughed slightly. "Do you mind if I turn my chair completely away from you? It would be more-more comfortable."

"As you wish, Dr. Quemot," said Baley stiffly.

"Good." A robot turned the chair at Quemot's low-voiced order, and as the sociologist sat there, hidden from Baley's eyes by the substantial chair back, his voice took on added life and even deepened and strengthened in tone.

Quemot said, "Solaria was first settled about three hundred years ago. The original settlers were Nexonians. Are you acquainted with Nexon?"

"I'm afraid not."

"It is close to Solaria, only about two parsecs away. In fact, Solana and Nexon represent the closest pair of inhabited worlds in the Galaxy. Solaria, even when uninhabited by man, was lifebearing and eminently suited for human occupation. It represented an obvious attraction to the well-to-do of Nexon, who found it difficult to maintain a proper standard of living as their own planet filled up."

Baley interrupted. "Filled up? I thought Spacers practiced population control."

"Solaria does, but the Outer Worlds in general control it rather laxly. Nexon was completing its second million of population at the time I speak of. There was sufficient crowding to make it necessary to regulate the number of robots that might be owned by

a particular family. So those Nexonians who could established summer homes on Solaria, which was fertile, temperate, and without dangerous fauna.

"The settlers on Solaria could still reach Nexon without too much trouble and while on Solaria they could live as they pleased. They could use as many robots as they could afford or felt a need for. Estates could be as large as desired since, with an empty planet, room was no problem, and with unlimited robots, exploitation was no problem.

"Robots grew to be so many that they were outfitted with radio contact and that was the beginning of our famous robot industries. We began to develop new varieties, new attachments, new capabilities. Culture dictates invention; a phrase I believe I have invented." Quemot chuckled.

A robot, responding to some stimulus Baley could not see beyond the barrier of the chair, brought Quemot a drink similar to that Baley had had earlier. None was brought to Baley, and he decided not to ask for one.

Quemot went on, "The advantages of life on Solaria were obvious to all who watched. Solaria became fashionable. More Nexonians established homes, and Solaria became what I like to call a 'villa planet.' And of the settlers, more and more took to remaining on the planet all year round and carrying on their business on Nexon through proxies. Robot factories were established on Solaria. Farms and mines began to be exploited to the point where exports were possible.

"In short, Mr. Baley, it became obvious that Solaria, in the space of a century or less, would be as crowded as Nexon had been. It seemed ridiculous and wasteful to find such a new world and then lose it through lack of foresight.

"To spare you a great deal of complicated politics, I need say only that Solaria managed to establish its independence and make it stick without war. Our usefulness to other Outer Worlds as a source of specialty robots gained us friends and helped us, of course.

"Once independent, our first care was to make sure that population did not grow beyond reasonable limits. We regulate immigration and births and take care of all needs by increasing and diversifying the robots we use."

Baley said, 'Why is it the Solarians object to seeing one another?' He felt annoyed at the manner in which Quemot chose to expound sociology.

Quemot peeped around the corner of his chair and retreated almost at once. "It follows inevitably. We have huge estates. An estate ten thousand square miles in area is not uncommon, although the largest ones contain considerable unproductive areas. My own estate is nine hundred fifty square miles in area but every bit of it is good land.

"In any case, it is the size of an estate, more than anything else, that determines a man's position in society. And one property of a large estate is this: You can wander about in it almost aimlessly with little or no danger of entering a neighbor's territory and thus encountering your neighbor. You see?"

Baley shrugged. "I suppose I do."

"In short, a Solarian takes pride in not meeting his neighbor. At the same time, his estate is so well run by robots and so self-sufficient that there is no reason for him to have

to meet his neighbor. The desire not to do so led to the development of ever more perfect viewing equipment, and as the viewing equipment grew better there was less and less need ever to see one's neighbor. It was a reinforcing cycle, a kind of feedback. Do you see?"

Baley said, "Look here, Dr. Quemot. You don't have to make all this so simple for me. I'm not a sociologist but I've had the usual elementary courses in college. It's only an Earth college, of course," Baley added with a reluctant modesty designed to ward off the same comment, in more insulting terms, from the other, "but I can follow mathematics."

"Mathematics?" said Quemot, his voice squeaking the last syllable.

"Well, not the stuff they use in robotics, which I wouldn't follow, but sociological relationships I can handle. For instance, I'm familiar with the Teramin Relationship."

"The what, sir?"

"Maybe you have a different name for it. The differential of inconveniences suffered with privileges granted: dee eye sub jay taken to the nth--"

"What are you talking about?" It was the sharp and peremptory tone of a Spacer that Baley heard and he was silenced in bewilderment.

Surely the relationship between inconveniences suffered and privileges granted was part of the very essentials of learning how to handle people without an explosion. A private stall in the community bathroom for one person, given for cause, would keep x persons waiting patiently for the same lightning to strike them, the value of x varying in known ways with known variations in environment and human temperament, as quantitatively described in the Teramm Relationship.

But then again, in a world where all was privilege and nothing inconvenience, the Teramin Relationship might reduce to triviality. Perhaps he had chosen the wrong example.

He tried again. "Look, sir, it's one thing to get a qualitative fill-in on the growth of this prejudice against seeing, but it isn't helpful for my purposes. I want to know the exact analysis of the prejudice so I can counteract it effectively. I want to persuade people to see me, as you are doing now."

"Mr. Baley," said Quemot, "you can't treat human emotions as though they were built about a positronic brain."

"I'm not saying you can. Robotics is a deductive science and sociology an inductive one. But mathematics can be made to apply in either case."

There was silence for a moment. Then Quemot spoke in a voice that trembled. "You have admitted you are not a sociologist."

"I know. But I was told you were one. The best on the planet."

"I am the only one. You might almost say I have invented the science."

"Oh?" Baley hesitated over the next question. It sounded impertinent even to himself. "Have you viewed books on the subject?"

"I've looked at some Auroran books."

"Have you looked at books from Earth?"

"Earth?" Quemot laughed uneasily. "It wouldn't have occurred to me to read any of Earth's scientific productions. No offense intended."

"Well, I'm sorry. I had thought I would be able to get specific data that would make it possible for me to interview others face to face without having to--"

Quemot made a queer, grating, inarticulate sound and the large chair in which he sat scraped backward, then went over with a crash.

A muffled "My apologies" was caught by Baley.

Baley had a momentary glimpse of Quemot running with an ungainly stride, then he was out the room and gone.

Baley's eyebrows lifted. What the devil had he said this time? Jehoshaphat! What wrong button had he pushed?

Tentatively he rose from his seat, and stopped halfway as a robot entered.

"Master," said the robot, "I have been directed to inform you that the master will view you in a few moments."

"View me, boy?"

"Yes, master. In the meanwhile, you may desire further refreshment."

Another beaker of the pink liquid was at Baley's elbow and this time a dish of some confectionary, warm and fragrant, was added.

Baley took his seat again, sampled the liquor cautiously and put it down. The confectionary was hard to the touch and warm, but the crust broke easily in the mouth and the inner portion was at once considerably warmer and softer. He could not identify the components of the taste and wondered if it might not be a product of the native spices or condiments of Solaria.

Then he thought of the restricted, yeast-derived dietary of Earth and wondered if there might be a market for yeast strains designed to imitate the tastes of Outer World products.

But his thoughts broke off sharply as sociologist Quemot appeared out of nowhere and faced him. Faced him this time! He sat in a smaller chair in a room in which the walls and floor clashed sharply with those surrounding Baley. And he was smiling now, so that fine wrinkles in his face deepened and, paradoxically, gave him a more youthful appearance by accentuating the life in his eyes.

He said, "A thousand pardons, Mr. Baley. I thought I was enduring personal presence so well, but that was a delusion. I was quite on edge and your phrase pushed me over it, in a manner of speaking."

"What phrase was that, sir?"

"You said something about interviewing people face to--" He shook his head, his tongue dabbing quickly at his lips. "I would rather not say it. I think you know what I mean. The phrase conjured up the most striking picture of the two of us breathing-breathing one another's breath." The Solarian shuddered. "Don't you find that repulsive?"

"I don't know that I've ever thought of it so."

"It seems so filthy a habit. And as you said it and the picture arose in my mind, I realized that after all we were in the same room and even though I was not facing you, puffs of air that had been in your lungs must be reaching me and entering mine. With my sensitive frame of mind--"

Baley said, "Molecules all over Solaria's atmosphere have been in thousands of lungs. Jehoshaphat! They've been in the lungs of animals and the gills of fish."

"That is true," said Quemot with a rueful rub of his cheek, "and I'd just as soon not think of that, either. However there was a sense of immediacy to the situation with yourself actually there and with both of us inhaling and exhaling. It's amazing the relief I feel in viewing."

"I'm still in the same house, Dr. Quemot."

"That's precisely what is so amazing about the relief. You are in the same house and yet just the use of the trimensionals makes all the difference. At least I know what seeing a stranger feels like now. I won't try it again."

"That sounds as though you were experimenting with seeing."

"In a way," said the Spacer, "I suppose I was. It was a minor motivation. And the results were interesting, even if they were disturbing as well. It was a good test and I may record it."

"Record what?" asked Baley, puzzled.

"My feelings!" Quemot returned puzzled stare for puzzled stare. Baley sighed. Cross-purposes. Always cross-purposes. "I only asked because somehow I assumed you would have instruments of some sort to measure emotional responses. An electroencephalograph, perhaps." He looked about fruitlessly, "Though I suppose you could have a pocket version of the same that works without direct electrical connection. We don't have anything like that on Earth."

"I trust," said the Solarian stiffly, "that I am able to estimate the nature of my own feelings without an instrument. They were pronounced enough."

"Yes, of course, but for quantitative analysis . . ." began Baley.

Quemot said querulously, "I don't know what you're driving at. Besides I'm trying to tell you something else, my own theory, in fact, something I have viewed in no books, something I am quite proud."

Baley said, "Exactly what is that, sir?"

"Why, the manner in which Solaria's culture is based on one existing in Earth's past."

Baley sighed. If he didn't allow the other to get it off his chest, there might be very little co-operation thereafter. He said, "And that is?"

"Sparta!" said Quemot, lifting his head so that for a moment his white hair glistened in the light and seemed almost a halo. "I'm sure you've heard of Sparta!"

Baley felt relieved. He had been mightily interested in Earth's ancient past in his younger days (it was an attractive study to many Earthmen-an Earth supreme because it was an Earth alone; Earthmen the masters because there were no Spacers), but Earth's

past was a large one. Quemot might well have referred to some phase with which Baley was unacquainted and that would have been embarrassing.

As it was, he could say cautiously, "Yes. I've viewed films on the subject."

"Good. Good. Now Sparta in its heyday consisted of a relatively small number of Spartiates, the only full citizens, plus a somewhat larger number of second-class individuals, the Perioeci, and a really large number of outright slaves, the Helots. The Helots outnumbered the Spartiates a matter of twenty to one, and the Helots were men with human feelings and human failings.

"In order to make certain that a Helot rebellion could never be successful despite their overwhelming numbers, the Spartans became military specialists. Each lived the life of a military machine, and the society achieved its purpose. There was never a successful Helot revolt.

"Now we human beings on Solaria are equivalent, in a way, to the Spartiates. We have our Helots, but our Helots aren't men but machines. They cannot revolt and need not be feared even though they outnumber us a thousand times as badly as the Spartans' human Helots outnumbered them. So we have the advantage of Spartiate exclusiveness without any need to sacrifice ourselves to rigid mastery. We can, instead, model ourselves on the artistic and cultural way of life of the Athenians, who were contemporaries of the Spartans and who--"

Baley said, "I've viewed films on the Athenians, too."

Quemot grew warmer as he spoke. "Civilizations have always been pyramidal in structure. As one climbs toward the apex of the social edifice, there is increased leisure and increasing opportunity to pursue happiness. As one climbs, one finds also fewer and fewer people to enjoy this more and more. Invariably, there is a preponderance of the dispossessed. And remember this, no matter how well off the bottom layers of the pyramid might be on an absolute scale, they are always dispossessed in comparison with the apex. For instance, even the most poorly off humans on Aurora are better off than Earth's aristocrats, but they are dispossessed with respect to Aurora's aristocrats, and it is with the masters of their own world that they compare themselves.

"So there is always social friction in ordinary human societies. The action of social revolution and the reaction of guarding against such revolution or combating it once it has begun are the causes of a great deal of the human misery with which history is permeated.

"Now here on Solaria, for the first time, the apex of the pyramid stands alone. In the place of the dispossessed are the robots. We have the first new society, the first really new one, the first great social invention since the farmers of Sumeria and Egypt invented cities."

He sat back now, smiling.

Baley nodded. "Have you published this?"

"I may," said Quemot with an affectation of carelessness, "someday. I haven't yet. This is my third contribution."

"Were the other two as broad as this?"

"They weren't in sociology. I have been a sculptor in my time. The work you see about you"-he indicated the statuary-"is my own. And I have been a composer, too. But I am getting older and Rikaine Delmarre always argued strongly in favor of the applied arts rather than the fine arts and I decided to go into sociology."

Baley said, "That sounds as though Delmarre was a good friend of yours."

"We knew one another. At my time in life, one knows all adult Solarians. But there is no reason not to agree that Rikaine Delmarre and I were well acquainted."

"What sort of a man was Delmarre?" (Strangely enough, the name of the man brought up the picture of Gladia in Baley's mind and he was plagued with a sudden, sharp recall of her as he had last seen her, furious, her face distorted with anger at him.)

Quemot looked a bit thoughtful. "He was a worthy man; devoted to Solaria and to its way of life."

"An idealist, in other words."

"Yes. Definitely. You could see that in the fact that he volunteered for his job as-as fetal engineer. It was an applied art, you see, and I told you his feelings about that."

"Was volunteering unusual?"

"Wouldn't you say-- But I forget you're an Earthman. Yes, it is unusual. It's one of those jobs that must be done, yet finds no voluntary takers. Ordinarily, someone must be assigned to it for a period of so many years and it isn't pleasant to be the one chosen. Delmarre volunteered, and for life. He felt the position was too important to be left to reluctant draftees, and he persuaded me into that opinion, too. Yet I certainly would never have volunteered. I couldn't possibly make the personal sacrifice. And it was more of a sacrifice for him, since he was almost a fanatic in personal hygiene."

"I'm still not certain I understand the nature of his job."

Quemot's old cheeks flushed gently. "Hadn't you better discuss that with his assistant?"

Baley said, "I would certainly have done so by now, sir, if anyone had seen fit to tell me before this moment that he had an assistant."

"I'm sorry about that," said Quemot, "but the existence of the assistant is another measure of his social responsibility. No previous occupant of the post provided for one. Delmarre, however, felt it necessary to find a suitable youngster and conduct the necessary training himself so as to leave a professional heir behind when the time came for him to retire or, well, to die." The old Solarian sighed heavily. "Yet I outlived him and he was so much younger. I used to play chess with him. Many times."

"How did you manage that?"

Quemot's eyebrows lifted. "The usual way."

"You saw one another?"

Quemot looked horrified. "What an idea! Even if I could stomach it, Delmarre would never allow it for an instant. Being fetal engineer didn't blunt his sensibilities. He was a finicky man."

"Then how--"

"With two boards as any two people would play chess." The Solarian shrugged in a sudden gesture of tolerance. "Well, you're an Earthman. My moves registered on his board, and his on mine. It's a simple matter."

Baley said, "Do you know Mrs. Delmarre?"

"We've viewed one another. She's a field colorist, you know, and I've viewed some of her showings. Fine work in a way but more interesting as curiosities than as creations. Still, they're amusing and show a perceptive mind."

"Is she capable of killing her husband, would you say?"

"I haven't given it thought. Women are surprising creatures. But then, there's scarcely room for argument, is there? Only Mrs. Delmarre could have been close enough to Rikaine to kill him. Rikaine would never, under any circumstances, have allowed anyone else seeing privileges for any reason. Extremely finicky. Perhaps finicky is the wrong word. It was just that he lacked any trace of abnormality; anything of the perverse. He was a good Solarian."

"Would you call your granting me seeing privileges perverse?" asked Baley.

Quemot said, "Yes, I think I would. I should say there was a bit of scatophilia involved."

"Gould Delmarre have been killed for political reasons?"

"What?"

"I've heard him called a Traditionalist."

"Oh, we all are."

"You mean there is no group of Solarians who are not Traditionalists?"

"I dare say there are some," said Quemot slowly, "who think it is dangerous to be too Traditionalist. They are overconscious of our small population, of the way the other worlds outnumber us. They think we are defenseless against possible aggression from the other Outer Worlds. They're quite foolish to think so and there aren't many of them. I don't think they're a force."

"Why do you say they are foolish? Is there anything about Solaria that would affect the balance of power in spite of the great disadvantage of numbers? Some new type of weapon?"

"A weapon, certainly. But not a new one. The people I speak of are more blind than foolish not to realize that which a weapon is in operation continuously and cannot be resisted."

Baley's eyes narrowed. "Are you serious?"

"Certainly."

"Do you know the nature of the weapon?"

"All of us must. You do, if you stop to think of it. I see it a trifle easier than most, perhaps, since I am a sociologist. To be sure, it isn't used as a weapon ordinarily is used. It doesn't kill or hurt, but it is irresistible even so. All the more irresistible because no one notices it."

Baley said with annoyance, "And just what is this non-lethal weapon?"

Quemot said, "The positronic robot."

A FARM IS INSPECTED

FOR A MOMENT Baley went cold. The positronic robot was the symbol of Spacer superiority over Earthmen. That was weapon enough.

He kept his voice steady. "It's an economic weapon. Solaria is important to the other Outer Worlds as a source of advanced models and so it will not be harmed by them."

"That's an obvious point," said Quemot indifferently. "That helped us establish our independence. What I have in mind is something else, something more subtle and more cosmic." Quemot's eyes were fixed on his fingers' ends and his mind was obviously fixed on abstractions.

Baley said, "Is this another of your sociological theories?"

Quemot's poorly suppressed look of pride all but forced a short smile out of the Earthman.

The sociologist said, "It is indeed mine. Original, as far as I know, and yet obvious if population data on the Outer Worlds is carefully studied. To begin with, ever since the positronic robot was invented, it has been used more and more intensively everywhere."

"Not on Earth," said Baley.

"Now, now, Plainclothesman. I don't know much of your Earth, but I know enough to know that robots are entering your economy. You people live in large Cities and leave most of your planetary surface unoccupied. Who runs your farms and mines, then?"

"Robots," admitted Baley. "But if it comes to that, Doctor, Earthmen invented the positronic robot in the first place."

"They did? Are you sure?"

"You can check. It's true."

"Interesting. Yet robots made the least headway there." The sociologist said thoughtfully, "Perhaps that is because of Earth's large population. It would take that much longer. Yes. . . Still, you have robots even in your Cities."

"Yes," said Baley.

"More now than, say, fifty years ago."

Baley nodded impatiently. "Yes."

"Then it fits. The difference is only one of time. Robots tend to displace human labor. The robot economy moves in only one direction. More robots and fewer humans. I've studied population data very carefully and I've plotted it and made a few extrapolations." He paused in sudden surprise. "Why, that's rather an application of mathematics to sociology, isn't it?"

"It is," said Baley.

"There may be something to it, at that. I will have to give the matter thought. In any case, these are the conclusions I have come to, and I am convinced there is no doubt as to their correctness. The robot-human ratio in any economy that has accepted robot

labor tends continuously to increase despite any laws that are passed to prevent it. The increase is slowed, but never stopped. At first the human population increases, but the robot population increases much more quickly. Then, after a certain critical point is reached . .

Quemot stopped again, then said, "Now let's see. I wonder if the critical point could be determined exactly; if you could really put a figure to it. There's your mathematics again."

Baley stirred restlessly. "What happens after the critical point is reached, Dr. Quemot?"

"Eh? Oh, the human population begins actually to decline. A planet approaches a true social stability. Aurora will have to. Even your Earth will have to. Earth may take a few more centuries, but it is inevitable."

"What do you mean by social stability?"

"The situation here. In Solaria. A world in which the humans are the leisure class only. So there is no reason to fear the other Outer Worlds. We need only wait a century perhaps and they shall all be Solarias. I suppose that will be the end of human history, in a way; at least, its fulfillment. Finally, finally, all men will have all they can need and want. You know, there is a phrase I once picked up; I don't know where it comes from; something about the pursuit of happiness."

Baley said thoughtfully, "All men are 'endowed by their Creator with certain unalienable rights. . . among these are life, liberty, and the pursuit of happiness.'"

"You've hit it. Where's that from?"

"Some old document," said Baley.

"Do you see how that is changed here on Solaria and eventually in all the Galaxy? The pursuit will be over. The rights mankind will be heir to will be life, liberty, and happiness. Just that. Happiness."

Baley said dryly, "Maybe so, but a man has been killed on your Solaria and another may yet die."

He felt regret almost the moment he spoke, for the expression on Quemot's face was as though he had been struck with an open palm. The old man's head bowed. He said without looking up, "I have answered your questions as well as I could. Is there anything else you wish?"

"I have enough. Thank you, sir. I am sorry to have intruded on your grief at your friend's death."

Quemot looked up slowly. "It will be hard to find another chess partner. He kept our appointments most punctually and he played an extraordinarily even game. He was a good Solarian."

"I understand," said Baley softly. "May I have your permission to use your viewer to make contact with the next person I must see?"

"Of course," said Quemot. "My robots are yours. And now I will leave you. Done viewing."

A robot was at Baley's side within thirty seconds of Quemot's disappearance and Baley wondered once again how these creatures were managed. He had seen Quemot's fingers move toward a contact as he had left and that was all.

Perhaps the signal was quite a generalized one, saying only, "Do your duty!" Perhaps robots listened to all that went on and were always aware of what a human might desire at any given moment, and if the particular robot was not designed for a particular job in either mind or body, the radio web that united all robots went into action and the correct robot was spurred into action.

For a moment Baley had the vision of Solaria as a robotic net with holes that were small and continually growing smaller, with every human being caught neatly in place. He thought of Quemot's picture of worlds turning into Solarias; of nets forming and tightening even on Earth, until- His thoughts were disrupted as the robot who had entered spoke with the quiet and even respect of the machine. "I am ready to help you, master."

Baley said, "Do you know how to reach the place where Rikaine Delmarre once worked?"

"Yes, master."

Baley shrugged. He would never teach himself to avoid asking useless questions. The robots knew. Period. It occurred to him that, to handle robots with true efficiency, one must needs be expert, a sort of roboticist. How well did the average Solarian do, he wondered? Probably only so-so.

He said, "Get Delmarre's place and contact his assistant. If the assistant is not there, locate him wherever he is."

"Yes, master."

As the robot turned to go, Baley called after it, "Wait! What time is it at the Delmarre workplace?"

"About 0630, master."

"In the morning?"

"Yes, master."

Again Baley felt annoyance at a world that made itself victim of the coming and going of a sun. It was what came of living on bare planetary surface.

He thought fugitively of Earth, then tore his mind away. While he kept firmly to the matter in hand, he managed well. Slipping into homesickness would ruin him.

He said, "Call the assistant, anyway, boy, and tell him it's government business-and have one 'of the other boys bring something to eat. A sandwich and a glass of milk will do."

He chewed thoughtfully at the sandwich, which contained a kind of smoked meat, and with half his mind thought that Daneel Olivaw would certainly consider every article of food suspect after what had happened to Gruer. And Daneel might be right, too.

He finished the sandwich without ill effects, however (immediate ill effects, at any rate), and sipped at the milk. He had not learned from Quemot what he had come to

learn, but he had learned something. As he sorted it out in his mind, it seemed he had learned a good deal.

Little about the murder, to be sure, but more about the larger matter.

The robot returned. "The assistant will accept contact, master."

"Good. Was there any trouble about it?"

"The assistant was asleep, master."

"Awake now, though?"

"Yes, master."

The assistant was facing him suddenly, sitting up in bed and wearing an expression of sullen resentment.

Baley reared back as though a force-barrier had been raised before him without warning. Once again a piece of vital information had been withheld from him. Once again he had not asked the right questions.

No one had thought to tell him that Rikaine Delmarre's assistant was a woman.

Her hair was a trifle darker than ordinary Spacer bronze and there was a quantity of it, at the moment in disorder. Her face was oval, her nose a trifle bulbous, and her chin large. She scratched slowly at her side just above the waist and Baley hoped the sheet would remain in position. He remembered Gladia's free attitude toward what was permitted while viewing.

Baley felt a sardonic amusement at his own disillusion at that moment. Earthmen assumed, somehow, that all Spacer women were beautiful, and certainly Gladia had reinforced that assumption. This one, though, was plain even by Earthly standards.

It therefore surprised Baley that he found her contralto attractive when she said, "See here, do you know what time it is?"

"I do," said Baley, "but since I will be seeing you, I felt I should warn you."

"Seeing me? Skies above--" Her eyes grew wide and she put a hand to her chin. (She wore a ring on one finger, the first item of personal adornment Baley had yet seen on Solaria.) "Wait, you're not my new assistant, are you?"

"No. Nothing like that. I'm here to investigate the death of Rikaine Delmarre."

"Oh? Well, investigate, then."

"What is your name?"

"Kiorissa Cantoro."

"And how long have you been working with Dr. Delmarre?"

"Three years."

"I assume you're now at the place of business." (Baley felt uncomfortable at that noncommittal phrase, but he did not know what to call a place where a fetal engineer worked.)

"If you mean, am I at the farm?" said Kiorissa discontentedly, "I certainly am. I haven't left it since the old man was done in, and I won't leave it, looks like, till an assistant is assigned me. Can you arrange that, by the way?"

"I'm sorry, ma'am. I have no influence with anyone here."

"Thought I'd ask."

Kiorissa pulled off the sheet and climbed out of bed without any self-consciousness. She was wearing a one-piece sleeping suit and her hand went to the notch of the seam, where it ended at the neck.

Baley said hurriedly, "Just one moment. If you'll agree to see me, that will end my business with you for now and you may dress in privacy."

"In privacy?" She put out her lower lip and stared at Baley curiously. "You're finicky, aren't you? Like the boss."

"Will you see me? I would like to look over the farm."

"I don't get this business about seeing, but if you want to view the farm I'll tour you. If you'll give me a chance to wash and take care of a few things and wake up a little, I'll enjoy the break in routine."

"I don't want to view anything. I want to see."

The woman cocked her head to one side and her keen look had something of professional interest in it. "Are you a pervert or something? When was the last time you underwent a gene analysis?"

"Jehoshaphat!" muttered Baley. "Look, I'm Elijah Baley. I'm from Earth."

"From Earth?" She cried vehemently. "Skies above! Whatever are you doing here? Or is this some kind of complicated joke?"

"I'm not joking. I was called in to investigate Delmarre's death. I'm a plainclothesman, a detective."

"You mean that kind of investigation. But I thought everyone knew his wife did it."

"No, ma'am, there's some question about it in my mind. May I have your permission to see the farm and you. As an Earthman, you understand, I'm not accustomed to viewing. It makes me uncomfortable. I have permission from the Head of Security to see people who might help me. I will show you the document, if you wish."

"Let's see it."

Baley held the official strip up before her imaged eyes.

She shook her head. "Seeing! It's filthy. Still, skies above, what's a little more filth in this filthy job? Look here, though, don't you come close to me. You stay a good distance away. We can shout or send messages by robot, if we have to. You understand?"

"I understand."

Her sleeping suit split open at the seam just as contact broke off and the last word he heard from her was a muttered: "Earthman!"

"That's close enough," said Kiorissa.

Baley, who was some twenty-five feet from the woman, said, "It's all right this distance, but I'd like to get indoors quickly."

It had not been so bad this time, somehow. He had scarcely minded the plane trip, but there was no point in overdoing it. He kept himself from yanking at his collar to allow himself to breathe more freely.

Kiorissa said sharply, "What's wrong with you? You look kind of beat."

Baley said, "I'm not used to the outdoors."

"That's right! Earthman! You've got to be cooped up or something. Skies above!" Her tongue passed over her lips as though it tasted something unappetizing. "Well, come in, then, but let me move out of the way first. All right. Get in."

Her hair was in two thick braids that wound about her head in a complicated geometrical pattern. Baley wondered how long it took to arrange like that and then remembered that, in all probability, the unerring mechanical fingers of a robot did the job.

The hair set off her oval face and gave it a kind of symmetry that made it pleasant if not pretty. She did not wear any facial makeup, nor, for that matter, were her clothes meant to do more than cover her serviceably. For the most part they were a subdued dark blue except for her gloves, which covered her to mid-arm and were a badly clashing lilac in color. Apparently they were not part of her ordinary costume. Baley noted the thickening of one finger of the gloves owing to the presence of the ring underneath.

They remained at opposite ends of the room, facing one another.

Baley said, "You don't like this, do you, ma'am?"

Kiorissa shrugged. "Why should I like it? I'm not an animal. But I can stand it. You get pretty hardened, when you deal with-with" -she paused, and then her chin went up as though she had made up her mind to say what she had to say without mincing- "with children." She pronounced the word with careful precision.

"You sound as though you don't like the job you have."

"It's an important job. It must be done. Still, I don't like it."

"Did Pdkaine Delmarre like it?"

"I suppose he didn't, but he never showed it. He was a good Solarian."

"And he was finicky."

Kiorissa looked surprised.

Baley said, "You yourself said so. When we were viewing and I said you might dress in private, you said I was finicky like the boss."

"Oh. Well, he was finicky. Even viewing he never took any liberties. Always proper."

"Was that unusual?"

"It shouldn't be. Ideally, you're supposed to be proper, but no one ever is. Not when viewing. There's no personal presence involved so why take any pains? You know? I don't take pains when viewing, except with the boss. You had to be formal with him."

"Did you admire Dr. Delmarre?"

"He was a good Solarian."

Baley said, "You've called this place a farm and you've mentioned children. Do you bring up children here?"

"From the age of a month. Every fetus on Solaria comes here."

"Fetus?"

"Yes." She frowned. "We get them a month after conception. Does this embarrass you?"

"No," Baley said shortly. "Can you show me around?"

"I can. But keep your distance."

Baley's long face took on a stony grimness as he looked down the length of the long room from above. There was glass between the room and themselves. On the other side, he was sure, was perfectly controlled heat, perfectly controlled humidity, perfectly controlled asepsis. Those tanks, row on row, each contained its little creature floating in a watery fluid of precise composition, infused with a nutrient mixture of ideal proportions. Life and growth went on.

Little things, some smaller than half his fist, curled on themselves, with bulging skulls and tiny budding limbs and vanishing tails.

Kiorissa, from her position twenty feet away, said, "How do you like it, Plainclothesman?"

Baley said, "How many do you have?"

"As of this morning, one hundred and fifty-two. We receive fifteen to twenty each month and we graduate as many to independence."

"Is this the only such institution on the planet?"

"That's right. It's enough to keep the population steady, counting on a life expectancy of three hundred years and a population of twenty thousand. This building is quite new. Dr. Delmarre supervised its construction and made many changes in our procedures. Our fetal death rate now is virtually zero."

Robots threaded their way among the tanks. At each tank they stopped and checked controls in a tireless, meticulous way, looking in at the tiny embryos within.

"Who operates on the mother?" asked Baley. "I mean, to get the little things."

"Doctors," answered Kiorissa.

"Dr. Delmarre?"

"Of course not. Medical doctors. You don't think Dr. Delmarre would ever stoop to-- Well, never mind."

"Why can't robots be used?"

"Robots in surgery? First Law makes that very difficult, Plainclothesman. A robot might perform an appendectomy to save a human life, if he knew how, but I doubt that he'd be usable after that without major repairs. Cutting human flesh would be quite a traumatic experience for a positronic brain. Human doctors can manage to get hardened to it. Even to the personal presence required."

Baley said, "I notice that robots tend the fetuses, though. Do you and Dr. Delmarre ever interfere?"

"We have to, sometimes, when things go wrong. If a fetus has developmental trouble, for instance. Robots can't be trusted to judge the situation accurately when human life is involved."

Baley nodded. "Too much risk of a misjudgment and a life lost, I suppose."

"Not at all. Too much risk of overvaluing a life and saving one improperly." The woman looked stem. "As fetal engineers, Baley, we see to it that healthy children are born; healthy ones. Even the best gene analysis of parents can't assure that all gene permutations and combinations will be favorable, to say nothing of the possibility of

mutations. That's our big concern, the unexpected mutation. We've got the rate of those down to less than one in a thousand, but that means that, on the average, once a decade, we have trouble."

She motioned him along the balcony and he followed her.

She said, "I'll show you the infants' nurseries and the youngsters' dormitories. They're much more a problem than the fetuses are. With them, we can rely on robot labor only to a limited extent."

"Why is that?"

"You would know, Baley, if you ever tried to teach a robot the importance of discipline. First Law makes them almost impervious to that fact. And don't think youngsters don't learn that about as soon as they can talk. I've seen a three-year-old holding a dozen robots motionless by yelling, 'You'll hurt me. I'm hurt.' It takes an extremely advanced robot to understand that a child might be deliberately lying."

"Could Delmarre handle the children?"

"Usually."

"How did he do that? Did he get out among them and shake sense into them?"

"Dr. Delmarre? Touch them? Skies above! Of course not! But he could talk to them. And he could give a robot specific orders. I've seen him viewing a child for fifteen minutes, and keeping a robot in spanking position all that time, getting it to spank-spank-spank. A few like that and the child would risk fooling with the boss no more. And the boss was skillful enough about it so that usually the robot didn't need more than a routine readjustment afterward."

"How about you? Do you get out among the children?"

"I'm afraid I have to sometimes. I'm not like the boss. Maybe someday I'll be able to handle the long-distance stuff, but right now if I tried, I'd just ruin robots. There's an art to handling robots really well, you know. When I think of it, though. Getting out among the children. Little animals!"

She looked back at him suddenly. "I suppose you wouldn't mind seeing them."

"It wouldn't bother me."

She shrugged and stared at him with amusement. "Earthinan!"

She walked on again. "What's all this about, anyway? You'll have to end up with Gladia Delmarre as murderess. You'll have to."

"I'm not quite sure of that," said Baley.

"How could you be anything else but sure? Who else could it possibly be?"

"There are possibilities, ma'am."

"Who, for instance?"

"Well, you, for instance!"

And Kiorissa's reaction to that quite surprised Baley.

A TARGET IS MISSED

SHE LAUGHED.

The laughter grew and fed on itself till she was gasping for breath and her plump face had reddened almost to purple. She leaned against the wall and gasped for breath.

"No, don't come-closer," she begged. "I'm all right."

Baley said gravely, "Is the possibility that humorous?"

She tried to answer and laughed again. Then, in a whisper, she said, "Oh, you are an Earthman? How could it ever be me?"

"You knew him well," said Baley. "You knew his habits. You could have planned it."

"And you think I would see him? That I would get close enough to bash him over the head with something? You just don't know anything at all about it, Baley."

Baley felt himself redden. "Why couldn't you get close enough to him, ma'am. You've had practice-uh-mingling."

"With the children."

"One thing leads to another. You seem to be able to stand my presence."

"At twenty feet," she said contemptuously.

"I've just visited a man who nearly collapsed because he had to endure my presence for a while."

Kiorissa sobered and said, "A difference in degree."

"I suggest that a difference in degree is all that is necessary. The habit of seeing children makes it possible to endure seeing Delmarre just long enough."

"I would like to point out, Mr. Baley," said Kiorissa, no longer appearing the least amused, "that it doesn't matter a speck what I can endure. Dr. Delmarre was the finicky one. He was almost as bad as Leebig himself. Almost. Even if I could endure seeing him, he would never endure seeing me. Mrs. Delmarre is the only one he could possibly have allowed within seeing distance."

Baley said, "Who's this Leebig you mentioned?"

Kiorissa shrugged. "One of these odd-genius types, if you know what I mean. He's done work with the boss on robots."

Baley checked that off mentally and returned to the matter at hand. He said, "It could also be said you had a motive."

"What motive?"

"His death put you in charge of this establishment, gave you position."

"You call that a motive? Skies above, who could want this position? Who on Solaria? This is a motive for keeping him alive. It's a motive for hovering over him and protecting him. You'll have to do better than that, Earthman."

Baley scratched his neck uncertainly with one finger. He saw the justice of that.

Kiorissa said, "Did you notice my ring, Mr. Baley?"

For a moment it seemed she was about to strip the glove from her right hand, but she refrained.

"I noticed it," said Baley.

"You don't know its significance, I suppose?"

"I don't." (He would never have done with ignorance, he thought bitterly.)

"Do you mind a small lecture, then?"

"If it will help me make sense of this damned world," blurted out Baley, "by all means."

"Skies above!" Kiorissa smiled. "I suppose we seem to you as Earth would seem to us. Imagine. Say, here's an empty chamber. Come in here and we'll sit down-no, the room's not big enough. Tell you what, though. You take a seat in there and I'll stand out here."

She stepped farther down the corridor, giving him space to enter the room, then returned, taking up her stand against the opposite wall at a point from which she could see him.

Baley took his seat with only the slightest quiver of chivalry countering it. He thought rebelliously: Why not? Let the Spacer woman stand.

Kiorissa folded her muscular arms across her chest and said, "Gene analysis is the key to our society. We don't analyze for genes directly, of course. Each gene, however, governs one enzyme, and we can analyze for enzymes. Know the enzymes, know the body chemistry. Know the body chemistry, know the human being. You see all that?"

"I understand the theory," said Baley. "I don't know how it's applied."

"That part's done here. Blood samples are taken while the infant is still in the late fetal stage. That gives us our rough first approximation. Ideally, we should catch all mutations at that point and judge whether birth can be risked. In actual fact, we still don't quite know enough to eliminate all possibility of mistake. Someday, maybe. Anyway, we continue testing after birth; biopsies as well as body fluids. In any case, long before adulthood, we know exactly what our little boys and girls are made of."

(Sugar and spice. . . A nonsense phrase went unbidden through Baley's mind.)

"We wear coded rings to indicate our gene constitution," said Kiorissa. "It's an old custom, a bit of the primitive left behind from the days when Solarians had not yet been weeded eugenically. Nowadays, we're all healthy."

Baley said, "But you still wear yours. Why?"

"Because I'm exceptional," she said with an unembarrassed, unblunted pride. "Dr. Delmarre spent a long time searching for an assistant. He needed someone exceptional. Brains, ingenuity, industry, stability. Most of all, stability. Someone who could learn to mingle with children and not break down."

"He couldn't, could he? Was that a measure of his instability?"

Kiorissa said, "In a way, it was, but at least it was a desirable type of instability under most circumstances. You wash your hands, don't you?"

Baley's eyes dropped to his hands. They were as clean as need be. "Yes," he said.

"All right. I suppose it's a measure of instability to feel such revulsion at dirty hands as to be unable to clean an oily mechanism by hand even in an emergency. Still, in the ordinary course of living, the revulsion keeps you clean, which is good."

"I see. Go ahead."

"There's nothing more. My genic health is the third-highest ever recorded on Solaria, so I wear my ring. It's a record I enjoy carrying with me."

"I congratulate you."

"You needn't sneer. It may not be my doing. It may be the blind permutation of parental genes, but it's a proud thing to own, anyway. And no one would believe me capable of so seriously psychotic an act as murder. Not with my gene make-up. So don't waste accusations on me."

Baley shrugged and said nothing. The woman seemed to confuse gene make-up and evidence and presumably the rest of Solaria would do the same.

Kiorissa said, "Do you want to see the youngsters now?"

"Thank you. Yes."

The corridors seemed to go on forever. The building was obviously a tremendous one. Nothing like the huge banks of apartments in the Cities of Earth, of course, but for a single building clinging to the outside skin of a planet it must be a mountainous structure.

There were hundreds of cribs, with pink babies squalling, or sleeping, or feeding. Then there were playrooms for the crawlers.

"They're not too bad even at this age," said Kiorissa grudgingly, "though they take up a tremendous sum of robots. It's practically a robot per baby till walking age."

"Why is that?"

"They sicken if they don't get individual attention."

Baley nodded. "Yes, I suppose the requirement for affection is something that can't be done away with."

Kiorissa frowned and said brusquely, "Babies require attention."

Baley said, "I am a little surprised that robots can fulfill the need for affection."

She whirled toward him, the distance between them not sufficing to hide her displeasure. "See here, Baley, if you're trying to shock me by using unpleasant terms, you won't succeed. Skies above, don't be childish."

"Shock you?"

"I can use the word too. Affection! Do you want a short word, a good four-letter word. I can say that, too. Love! Love! Now if it's out of your system, behave yourself."

Baley did not trouble to dispute the matter of obscenity. He said, "Can robots really give the necessary attention, then?"

"Obviously, or this farm would not be the success it is. They fool with the child. They nuzzle it and snuggle it. The child doesn't care that it's only a robot. But then, things grow more difficult between three and ten."

"Oh?"

"During that interval, the children insist on playing with one another. Quite indiscriminately."

"I take it you let them."

"We have to, but we never forget our obligation to teach them the requirements of adulthood. Each has a separate room that can be closed off. Even from the first, they must sleep alone. We insist on that. And then we have an isolation time every day and that increases with the years. By the time a child reaches ten, he is able to restrict himself to viewing for a week at a time. Of course, the viewing arrangements are elaborate. They can view outdoors, under mobile conditions, and can keep it up all day."

Baley said, "I'm surprised you can counter an instinct so thoroughly. You do counter it; I see that. Still, it surprises me."

"What instinct?" demanded Kiorissa.

"The instinct of gregariousness. There is one. You say yourself that as children they insist on playing with each other."

Kiorissa shrugged. "Do you call that instinct? But then, what if it is? Skies above, a child has an instinctive fear of falling, but adults can be trained to work in high places even where there is constant danger of falling. Haven't you ever seen gymnastic exhibitions on high wires? There are some worlds where people live in tall buildings. And children have instinctive fear of loud noises, too, but are you afraid of them?"

"Not within reason," said Baley.

"I'm willing to bet that Earth people couldn't sleep if things were really quiet. Skies above, there isn't an instinct around that can't give way to a good, persistent education. Not in human beings, where instincts are weak anyway. In fact, if you go about it right, education gets easier with each generation. It's a matter of evolution."

Baley said, "How is that?"

"Don't you see? Each individual repeats his own evolutionary history as he develops. Those fetuses back there have gills and a tail for a time. Can't skip those steps. The youngster has to go through the social-animal stage in the same way. But just as a fetus can get through in one month a stage that evolution took a hundred million years to get through, so our children can hurry through the social animal stage. Dr. Delmarre was of the opinion that with the generations, we'd get through that stage faster and faster."

"Is that so?"

"In three thousand years, he estimated, at the present rate of progress, we'd have children who'd take to viewing at once. The boss had other notions, too. He was interested in improving robots to the point of making them capable of disciplining children without becoming mentally unstable. Why not? Discipline today for a better life tomorrow is a true expression of First Law if robots could only be made to see it."

"Have such robots been developed yet?"

Kiorissa shook her head. "I'm afraid not. Dr. Delmarre and Leebig had been working hard on some experimental models."

"Did Dr. Delmarre have some of the models sent out to his estate? Was he a good enough roboticist to conduct tests himself?"

"Oh yes. He tested robots frequently."

"Do you know that he had a robot with him when he was murdered?"

"I've been told so."

"Do you know what kind of a model it was?"

"You'll have to ask Leebig. As I told you, he's the roboticist who worked with Dr. Delmarre."

"You know nothing about it?"

"Not a thing."

"If you think of anything, let me know."

"I will. And don't think new robot models are all that Dr. Delmarre was interested in. Dr. Delmarre used to say the time would come when unfertilized ova would be stored in banks at liquid-air temperatures and utilized for artificial insemination. In that way, eugenic principles could be truly applied and we could get rid of the last vestige of any need for seeing. I'm not sure that I quite go along with him so far, but he was a man of advanced notions; a very good Solarian."

She added quickly, "Do you want to go outside? The five-through-eight group are encouraged to take part in outdoor play and you could see them in action."

Baley said cautiously, "I'll try that. I may have to come back inside on rather short notice."

"Oh yes, I forgot. Maybe you'd rather not go out at all?"

"No." Baley forced a smile. "I'm trying to grow accustomed to the outdoors."

The wind was hard to bear. It made breathing difficult. It wasn't cold, in a direct physical sense, but the feel of it, the feel of his clothes moving against his body, gave Baley a kind of chill.

His teeth chattered when he tried to talk and he had to force his words out in little bits. It hurt his eyes to look so far at a horizon so hazy green and blue and there was only limited relief when he looked at the pathway immediately before his toes. Above all, he avoided looking up at the empty blue, empty, that is, but for the piled-up white of occasional clouds and the glare of the naked sun.

And yet he could fight off the urge to run, to return to enclosure.

He passed a tree, following Kiorissa by some ten paces, and he reached out a cautious hand to touch it. It was rough and hard to the touch. Frondy leaves moved and rustled overhead, but he did not raise his eyes to look at them. A living tree!

Kiorissa called out. "How do you feel?"

"All right."

"You can see a group of youngsters from here," she said. "They're involved in some kind of game. The robots organize the games and see to it that the little animals don't kick each other's eyes out. With personal presence you can do just that, you know."

Baley raised his eyes slowly, running his glance along the cement of the pathway out to the grass and down the slope, farther and farther out-very carefully-ready to snap back to his toes if he grew frightened-feeling with his eyes. .

There were the small figures of boys and girls racing madly about, uncaring that they raced at the very outer rim of a world with nothing but air and space above them.

The glitter of an occasional robot moved nimbly among them. The noise of the children was a far-off incoherent squeaking in the air.

"They love it," said Kiorissa. "Pushing and pulling and squabbling and falling down and getting up and just generally contacting. Skies above! How do children ever manage to grow up?"

"What are those older children doing?" asked Baley. He pointed at a group of isolated youngsters standing to one side.

"They're viewing. They're not in a state of personal presence. By viewing, they can walk together, talk together, race together, play together. Anything except physical contact."

"Where do children go when they leave here?"

"To estates of their own. The number of deaths is, on the average, equal to the number of graduations."

"To their parents' estates?"

"Skies above, no! It would be an amazing coincidence, wouldn't it, to have a parent die just as a child is of age. No, the children take any one that falls vacant. I don't know that any of them would be particularly happy, anyway, living in a mansion that once belonged to their parents, supposing, of course, they knew who their parents were."

"Don't they?"

She raised her eyebrows. "Why should they?"

"Don't parents visit their children here?"

"What a mind you have. Why should they want to?"

Baley said, "Do you mind if I clear up a point for myself? Is it bad manners to ask a person if they have had children?"

"It's an intimate question, wouldn't you say?"

"In a way."

"I'm hardened. Children are my business. Other people aren't."

Baley said, "Have you any children?"

Kiorissa's Adam's apple made a soft but clearly visible motion in her throat as she swallowed. "I deserve that, I suppose. And you deserve an answer. I haven't."

"Are you married?"

"Yes, and I have an estate of my own and I would be there but for the emergency here. I'm just not confident of being able to control all the robots if I'm not here in person."

She turned away unhappily, and then pointed. "Now there's one of them gone tumbling and of course he's crying."

A robot was running with great space-devouring strides.

Kiorissa said, "He'll be picked up and cuddled and if there's any real damage, I'll be called in." She added nervously, "I hope I don't have to be."

Baley took a deep breath. He noted three trees forming a small triangle fifty feet to the left. He walked in that direction, the grass soft and loathsome under his shoes,

disgusting in its softness (like walking through corrupting flesh, and he nearly retched at the thought).

He was among them, his back against one trunk. It was almost like being surrounded by imperfect walls. The sun was only a wavering series of glitters through the leaves, so disconnected as almost to be robbed of horror.

Kiorissa faced him from the path, then slowly shortened the distance by half.

"Mind if I stay here awhile?" asked Baley.

"Go ahead," said Kiorissa.

Baley said, "Once the youngsters graduate out of the farm, how do you get them to court one another?"

"Court?"

"Get to know one another," said Baley, vaguely wondering how the thought could be expressed safely, "so they can marry."

"That's not their problem," said Kiorissa. "They're matched by gene analysis, usually when they are quite young. That's the sensible way, isn't it?"

"Are they always willing?"

"To be married? They never are! It's a very traumatic process. At first they have to grow accustomed to one another, and a little bit of seeing each day, once the initial queasiness is gone, can do wonders."

"What if they just don't like their partner?"

"What? If the gene analysis indicates a partnership what difference does it--"

"I understand," said Baley hastily. He thought of Earth and sighed.

Kiorissa said, "Is there anything else you would like to know?"

Baley wondered if there were anything to be gained from a longer stay. He would not be sorry to be done with Kiorissa and fetal engineering so that he might pass on to the next stage.

He had opened his mouth to say as much, when Kiorissa called out at some object far off, "You, child, you there! What are you doing?" Then, over her shoulder: "Earthman! Baley! Watch out! Watch out!"

Baley scarcely heard her. He responded to the note of urgency in her voice. The nervous effort that held his emotions taut snapped wide and he flamed into panic. All the terror of the open air and the endless vault of heaven broke in upon him.

Baley gibbered. He heard himself mouth meaningless sounds and felt himself fall to his knees and slowly roll over to his side as though he were watching the process from a distance.

Also from a distance he heard the sighing hum piercing the air above him and ending with a sharp thwack.

Baley closed his eyes and his fingers clutched a thin tree root that skimmed the surface of the ground and his nails burrowed into dirt.

He opened his eyes (it must only have been moments after). Kiorissa was scolding sharply at a youngster who remained at a distance. A robot, silent, stood closer to

Kiorissa. Baley had only time to notice the youngster held a stringed object in his hand before his eyes sheered away.

Breathing heavily, Baley struggled to his feet. He stared at the shaft of glistening metal that remained in the trunk of the tree against which he had been standing. He pulled at it and it came out readily. It had not penetrated far. He looked at the point but did not touch it. It was blunted, but it would have sufficed to tear his skin had he not dropped when he did.

It took him two tries to get his legs moving. He took a step toward Kiorissa and called, "You. Youngster."

Kiorissa turned, her face flushed. She said, "It was an accident. Are you hurt?"

No! What is this thing?

"It's an arrow. It is fired by a bow, which makes a taut string do the work."

"Like this," called the youngster impudently, and he shot another arrow into the air, then burst out laughing. He had light hair and a lithe body.

Kiorissa said, "You will be disciplined. Now leave!"

"Wait, wait," cried Baley. He rubbed his knee where a rock had caught and bruised him as he had fallen. "I have some questions. What is your name?"

"Rik," he said carelessly.

"Did you shoot that arrow at me, Rik?"

"That's right," said the boy.

"Do you realize you would have hit me if I hadn't been warned in time to duck?"

Rik shrugged. "I was aiming to hit."

Kiorissa spoke hurriedly. "You must let me explain. Archery is an encouraged sport. It is competitive without requiring contact. We have contests among the boys using viewing only. Now I'm afraid some of the boys will aim at robots. It amuses them and it doesn't hurt the robots. I'm the only adult human on the estate and when the boy saw you, he must have assumed you were a robot."

Baley listened. His mind was clearing, and the natural dourness of his long face intensified. He said, "Rik, did you think I was a robot?"

"No," said the youngster. "You're an Earthman."

"All right. Go now."

Rik turned and raced off whistling. Baley turned to the robot. "You! How did the youngster know I was an Earthman, or weren't you with him when he shot?"

"I was with him, master. I told him you were an Earthman."

"Did you tell him what an Earthman was?"

"Yes, master."

"What is an Earthman?"

"An inferior sort of human that ought not to be allowed on Solana because he breeds disease, master."

"And who told you that, boy?"

The robot maintained silence.

Baley said, "Do you know who told you?"

"I do not, master. It is in my memory store."

"So you told the boy I was a disease-breeding inferior and he immediately shot at me. Why didn't you stop him?"

"I would have, master. I would not have allowed harm to come to a human, even an Earthman. He moved too quickly and I was not fast enough."

"Perhaps you thought I was just an Earthman, not completely a human, and hesitated a bit."

"No, master."

It was said with quiet calm, but Baley's lips quirked grimly. The robot might deny it in all faith, but Baley felt that was exactly the factor involved.

Baley said, "What were you doing with the boy?"

"I was carrying his arrows, master."

"May I see them?"

He held out his hand. The robot approached and delivered a dozen of them. Baley put the original arrow, the one that had hit the tree, carefully at his feet, and looked the others over one by one. He handed them back and lifted the original arrow again.

He said, "Why did you give this particular arrow to the boy?"

"No reason, master. He had asked for an arrow some time earlier and this was the one my hand touched first. He looked about for a target, then noticed you and asked who the strange human was. I explained--"

"I know what you explained. This arrow you handed him is the only one with gray vanes at the rear. The others have black vanes."

The robot simply stared.

Baley said, "Did you guide the youngster here?"

"We walked randomly, master."

The Earthman looked through the gap between two trees through which the arrow had hurled itself toward its mark. He said, "Would it happen, by any chance, that this youngster, Rik, was the best archer you have here?"

The robot bent his head. "He is the best, master."

Kiorissa gaped. "How did you ever come to guess that?"

"It follows," said Baley dryly. "Now please observe this gray-vaned arrow and the others. The gray-vaned arrow is the only one that seems oily at the point. I'll risk melodrama, ma'am, by saying that your warning saved my life. This arrow that missed me is poisoned."

A ROBOTICIST IS CONFRONTED

KLORISSA GASPED, "Impossible! Skies above, absolutely impossible!"

"Above or below or any way you wish it. Is there an animal on the farm that's expendable? Get it and scratch it with the arrow and see what happens."

"But why should anyone want to--"

Baley said harshly, "I know why. The question is, who?"

"No one."

Baley felt the dizziness returning and he grew savage. He threw the arrow at her and she eyed the spot where it fell.

"Pick it up," Baley cried, "and if you don't want to test it, destroy it. Leave it there and you'll have an accident if the children get at it."

She picked it up hurriedly, holding it between forefinger and thumb.

Baley ran for the nearest entrance to the building and Kiorissa was still holding the arrow, gingerly, when she followed him back indoors.

Baley felt a certain measure of equanimity return with the comfort of enclosure. He said, "Who poisoned the arrow?"

"I can't imagine."

"I suppose it isn't likely the boy did it himself. Would you have any way of telling who his parents were?"

"We could check the records," said Kiorissa gloomily.

"Then you do keep records of relationships?"

"We have to for gene analysis."

"Would the youngster know who his parents were?"

"Never," said Kiorissa energetically.

"Would he have any way of finding out?"

"He would have to break into the records room. Impossible."

"Suppose an adult visited the estate and wanted to know who his child was--"

Kiorissa flushed. "Very unlikely."

"But suppose. Would he be told if he were to ask?"

"I don't know. It isn't exactly illegal for him to know. It certainly isn't customary."

"Would you tell him?"

"I'd try not to. I know Dr. Delmarre wouldn't have. He believed knowledge of relationship was for gene analysis only. Before him things may have been looser. . . Why do you ask all this, anyway?"

"I don't see how the youngster could have a motive on his own account. I thought that through his parents he might have."

"This is all horrible." In her disturbed state of mind Kiorissa approached more closely than at any previous time. She even stretched out an arm in his direction. "How can it all be happening? The boss killed; you nearly killed. We have no motives for

violence on Solaria. We all have all we can want, so there is no personal ambition. We have no knowledge of relationship, so there is no family ambition. We are all in good genetic health."

Her face cleared all at once. "Wait. This arrow can't be poisoned. I shouldn't let you convince me it is."

"Why have you suddenly decided that?"

"The robot with Rik. He would never have allowed poison. It's inconceivable that he could have done anything that might bring harm to a human being. The First Law of Robotics makes sure of that."

Baley said, "Does it? What is the First Law, I wonder?"

Kiorissa stared blankly. "What do you mean?"

"Nothing. You have the arrow tested and you will find it poisoned." Baley himself was scarcely interested in the matter. He knew it for poison beyond any internal questionings. He said, "Do you still believe Mrs. Delmarre to have been guilty of her husband's death?"

"She was the only one present."

"I see. And you are the only other human adult present on this estate at a time when I have just been shot at with a poisoned arrow."

She cried energetically, "I had nothing to do with it."

"Perhaps not. And perhaps Mrs. Delnierre is innocent as well. May I use your viewing apparatus?"

"Yes, of course."

Baley knew exactly whom he intended to view and it was not Gladia. It came as a surprise to himself then to hear his voice say, "Get Gladia Delmarre."

The robot obeyed without comment, and Baley watched the manipulations with astonishment, wondering why he had given the order.

Was it that the girl had just been the subject of discussion, or was it that he had been a little disturbed over the manner of the end of their last viewing, or was it simply the sight of the husky, almost overpoweringly practical figure of Kiorissa that finally enforced the necessity of a glimpse of Gladia as a kind of counterirritant?

He thought defensively: Jehoshaphat! Sometimes a man has to play things by ear.

She was there before him all at once, sitting in a large, upright chair that made her appear smaller and more defenseless than ever. Her hair was drawn back and bound into a loose coil. She wore pendant earrings bearing gems that looked like diamonds. Her dress was a simple affair that clung tightly at the waist.

She said in a low voice, "I'm glad you viewed, Elijah. I've been trying to reach you."

"Good morning, Gladia." (Afternoon? Evening? He didn't know Gladia's time and he couldn't tell from the manner in which she was dressed what time it might be.) "Why have you been trying to reach me?"

"To tell you I was sorry I had lost my temper last time we viewed. Mr. Olivaw didn't know where you were to be reached."

Baley had a momentary vision of Daneel still bound fast by the overseeing robots and almost smiled. He said, "That's all right. In a few hours, I'll be seeing you."

"Of course, if-- Seeing me?"

"Personal presence," said Baley gravely.

Her eyes grew wide and her fingers dug into the smooth plastic of the chair arms.

"Is there any reason for that?"

"It is necessary."

"Would you allow it?"

She looked away. "Is it absolutely necessary?"

"It is. First, though, there is someone else I must see. Your husband was interested in robots. You told me that, and I have heard it from other sources, but he wasn't a roboticist, was he?"

"That wasn't his training, Elijah." She still avoided his eyes.

"But he worked with a roboticist, didn't he?"

"Jothan Leebig," she said at once. "He's a good friend of mine."

"He is?" said Baley energetically.

Gladia looked startled. "Shouldn't I have said that?"

"Why not, if it's the truth?"

"I'm always afraid that I'll say things that will make me seem as though-- You don't know what it's like when everyone is sure you've done something."

"Take it easy. How is it that Leebig is a friend of yours?"

"Oh, I don't know. He's in the next estate, for one thing. Viewing energy is just about nil, so we can just view all the time in free motion with hardly any trouble. We go on walks together all the time; or we did, anyway."

"I didn't know you could go on walks together with anyone." Gladia flushed. "I said viewing. Oh well, I keep forgetting you're an Earthman. Viewing in free motion means we focus on ourselves and we can go anywhere we want to without losing contact. I walk on my estate and he walks on his and we're together." She held her chin high. "It can be pleasant."

Then, suddenly, she giggled. "Poor Jothan."

"Why do you say that?"

"I was thinking of you thinking we walked together without viewing. He'd die if he thought anyone could think that."

"Why?"

"He's terrible that way. He told me that when he was five years old he stopped seeing people. Insisted on viewing only. Some children are like that. Rikaine"-she paused in confusion, then went on.

-"Rikaine, my husband, once told me, when I talked about Jothan, that more and more children would be like that too. He said it was a kind of social evolution that favored survival of pro-viewing. Do you think that's so?"

"I'm no authority," said Baley.

"Jothan won't even get married. Rikaine was angry with him, told him he was anti-social and that he had genes that were necessary in the common pool, but Jothan just refused to consider it."

"Has he a right to refuse?"

"No-o," said Gladia hesitantly, "but he's a very brilliant roboticist, you know, and roboticists are valuable on Solaria. I suppose they stretched a point. Except I think Rikaine was going to stop working with Jothan. He told me once Jothan was a bad Solarian."

"Did he tell Jothan that?"

"I don't know. He was working with Jothan to the end."

"But he thought Jothan was a bad Solarian for refusing to marry?"

"Bikaine once said that marriage was the hardest thing in life, but that it had to be endured."

"What did you think?"

"About what, Elijah?"

"About marriage. Did you think it was the hardest thing in life?" Her expression grew slowly blank as though she were painstakingly washing emotion out of it. She said, "I never thought about it."

Baley said, "You said you go on walks with Jothan Leebig all the time, then corrected yourself and put that in the past. You don't go on walks with him any more, then?"

Gladia shook her head. Expression was back in her face. Sadness. "No. We don't seem to. I viewed him once or twice. He always seemed busy and I didn't like to-- You know."

"Was this since the death of your husband?"

"No, even some time before. Several months before."

"Do you suppose Dr. Delmarre ordered him not to pay further attention to you?"

Gladia looked startled. "Why should he? Jothan isn't a robot and neither am I. How can we take orders and why should Rikaine give them?"

Baley did not bother to try to explain. He could have done so only in Earth terms and that would make things no clearer to her. And if it did manage to clarify, the result could only be disgusting to her.

Baley said, "Only a question. I'll view you again, Gladia, when I'm done with Leebig. What time do you have, by the way?" He was sorry at once for asking the question. Robots would answer in Terrestrial equivalents, but Gladia might answer in Solarian units and Baley was weary of displaying ignorance.

But Gladia answered in purely qualitative terms. "Midafternoon," she said.

"Then that's it for Leebig's estate also?"

"Oh yes."

"Good. I'll view you again as soon as I can and we'll make arrangements for seeing."

Again she grew hesitant. "Is it absolutely necessary?"

"It is."

She said in a low voice, "Very well."

There was some delay in contacting Leebig and Baley utilized it in consuming another sandwich, one that was brought to him in its original packaging. But he had grown more cautious. He inspected the seal carefully before breaking it, then looked over the contents painstakingly.

He accepted a plastic container of milk, not quite unfrozen, bit an opening with his own teeth, and drank from it directly. He thought gloomily that there were such things as odorless, tasteless, slow-acting poisons that could be introduced delicately by means of hypodermic needles or high-pressure needle jets, then put the thought aside as being childish.

So far murders and attempted murders had been committed in the most direct possible fashion. There was nothing delicate or subtle about a blow on the head, enough poison in a glass to kill a dozen men, or a poisoned arrow shot openly at the victim.

And then he thought, scarcely less gloomily, that as long as he hopped between time zones in this fashion, he was scarcely likely to have regular meals. Or, if this continued, regular sleep.

The robot approached him. "Dr. Leebig directs you to call sometime tomorrow. He is engaged in important work."

Baley bounced to his feet and roared, "You tell that guy-"

He stopped. There was no use in yelling at a robot. That is, you could yell if you wished, but it would achieve results no sooner than a whisper.

He said in a conversational tone, "You tell Dr. Leebig, or his robot if that is as far as you've reached, that I am investigating the murder of a professional associate of his and a good Solarian. You tell him that I cannot wait on his work. You tell him that if I am not viewing him in five minutes, I will be in a plane and at his estate seeing him in less than an hour. You use that word, seeing, so there's no mistake."

He returned to his sandwich.

The five minutes were not quite gone, when Leebig, or at least a Solarian whom Baley presumed to be Leebig, was glaring at him.

Baley glared back. Leebig was a lean man, who held himself rigidly erect. His dark, prominent eyes had a look of intense abstraction about them, compounded now with anger. One of his eyelids drooped slightly.

He said, "Are you the Earthman?"

"Elijah Baley," said Baley, "Plainclothesman C-7, in charge of the investigation into the murder of Dr. Rikaine Delmarre. What is your name?"

"I'm Dr. Jothan Leebig. Why do you presume to annoy me at my work?"

"It's easy," said Baley quietly. "It's my business."

"Then take your business elsewhere."

"I have a few questions to ask first, Doctor. I believe you were a close associate of Dr. Delmarre. Right?"

One of Leebig's hands clenched suddenly into a fist and he strode hastily toward a mantelpiece on which tiny clockwork contraptions went through complicated periodic motions that caught hypnotically at the eye.

The viewer kept focused on Leebig so that his figure did not depart from central projection as he walked. Rather the room behind him seemed to move backward in little rises and dips as he strode.

Leebig said, "If you are the foreigner whom Gruer threatened to bring in-"
"I am."

"Then you are here against my advice. Done viewing."

"Not yet. Don't break contact." Baley raised his voice sharply and a finger as well. He pointed it directly at the roboticist, who shrank visibly away from it, full lips spreading into an expression of disgust.

Baley said, "I wasn't bluffing about seeing you, you know."

"No Earthman vulgarity, please."

"A straightforward statement is what it is intended to be. I will see you, if I can't make you listen any other way. I will grab you by the collar and make you listen."

Leebig stared back. "You are a filthy animal."

"Have it your way, but I will do as I say."

"If you try to invade my estate, I will-I will-"

Baley lifted his eyebrows. "Kill me? Do you often make such threats?"

"I made no threat."

"Then talk now. In the time you have wasted, a good deal might have been accomplished. You were a close associate of Dr. Delmarre. Right?"

The roboticist's head lowered. His shoulders moved slightly to a slow, regular breathing. When he looked up, he was in command of himself. He even managed a brief, sapless smile.

"I was."

"Delmarre was interested in new types of robots, I understand."

"He was."

"What kind?" -

"Are you a roboticist?"

"No. Explain it for the layman."

"I doubt that I can."

"Try! For instance, I think he wanted robots capable of disciplining children. What would that involve?"

Leebig raised his eyebrows briefly and said, "To put it very simply, skipping all the subtle details, it means a strengthening of the Cintegral governing the Sikorovich tandem route response at the W-65 level."

"Double-talk," said Baley.

"The truth."

"It's double-talk to me. How else can you put it?"

"It means a certain weakening of the First Law."

"Why so? A child is disciplined for its own future good. Isn't that the theory?"

"Ah, the future good!" Leebig's eyes glowed with passion and he seemed to grow less conscious of his listener and correspondingly more talkative. "A simple concept, you think. How many human beings are willing to accept a trifling inconvenience for the sake of a large future good? How long does it take to train a child that what tastes good now means a stomach-ache later, and what tastes bad now will correct the stomach-ache later? Yet you want a robot to be able to understand?"

"Pain inflicted by a robot on a child sets up a powerful disruptive potential in the positronic brain. To counteract that by an antipotential triggered through a realization of future good requires enough paths and bypaths to increase the mass of the positronic brain by 50 per cent, unless other circuits are sacrificed."

Baley said, "Then you haven't succeeded in building such a robot."

"No, nor am I likely to succeed. Nor anyone."

"Was Dr. Delmarre testing an experimental model of such a robot at the time of his death?"

"Not of such a robot. We were interested in other more practical things also."

Baley said quietly, "Dr. Leebig, I am going to have to learn a bit more about robotics and I am going to ask you to teach me."

Leebig shook his head violently, and his drooping eyelid dipped further in a ghastly travesty of a wink. "It should be obvious that a course in robotics takes more than a moment. I lack the time."

"Nevertheless, you must teach me. The smell of robots is the one thing that pervades everything on Solaria. If it is time we require, then more than ever I must see you. I am an Earthman and I cannot work or think comfortably while viewing."

It would not have seemed possible to Baley for Leebig to stiffen his stiff carriage further, but he did. He said, "Your phobias as an Earthman don't concern me. Seeing is impossible."

"I think you will change your mind when I tell you what I chiefly want to consult you about."

"It will make no difference. Nothing can."

"No? Then listen to this. It is my belief that throughout the history of the positronic robot, the First Law of Robotics has been deliberately misquoted."

Leebig moved spasmodically. "Misquoted? Fool! Madman! Why?"

"To hide the fact," said Baley with complete composure, "that robots can commit murder."

A MOTIVE IS REVEALED

LEEBIG'S MOUTH widened slowly. Baley took it for a snarl at first and then, with considerable surprise, decided that it was the most unsuccessful attempt at a smile that he had ever seen.

Leebig said, "Don't say that. Don't ever say that."

"Why not?"

"Because anything, however small, that encourages distrust of robots is harmful. Distrusting robots is a human disease!"

It was as though he were lecturing a small child. It was as though he were saying something gently that he wanted to yell. It was as though he were trying to persuade when what he really wanted was to enforce on penalty of death.

Leebig said, "Do you know the history of robotics?"

"A little."

"On Earth, you should. Yes. Do you know robots started with a Frankenstein complex against them? They were suspect. Men distrusted and feared robots. Robotics was almost an undercover science as a result. The Three Laws were first built into robots in an effort to overcome distrust and even so Earth would never allow a robotic society to develop. One of the reasons the first pioneers left Earth to colonize the rest of the Galaxy was so that they might establish societies in which robots would be allowed to free men of poverty and toil. Even then, there remained a latent suspicion not far below, ready to pop up at any excuse."

"Have you yourself had to counter distrust of robots?" asked Baley.

"Many times," said Leebig grimly.

"Is that why you and other roboticists are willing to distort the facts just a little in order to avoid suspicion as much as possible?"

"There is no distortion!"

"For instance, aren't the Three Laws misquoted?"

"No!"

"I can demonstrate that they are, and unless you convince me otherwise, I will demonstrate it to the whole Galaxy, if I can."

"You're mad. Whatever argument you may think you have is fallacious, I assure you."

"Shall we discuss it?"

"If it does not take too long."

"Face to face? Seeing?" Leebig's thin face twisted. "No!"

"Good-by, Dr. Leebig. Others will listen to me."

"Wait. Great Galaxy, man, wait!"

"Seeing?"

The roboticist's hands wandered upward, hovered about his chin. Slowly a thumb crept into his mouth and remained there. He stared, blankly, at Baley.

Baley thought: Is he regressing to the pie-five-year-old stage so that it will be legitimate for him to see me?

"Seeing?" he said.

But Leebig shook his head slowly. "I can't. I can't," he moaned, the words all but stifled by the blocking thumb. "Do whatever you want."

Baley stared at the other and watched him turn away and face the wall. He watched the Solarian's straight back bend and the Solarian's face hide in shaking hands.

Baley said, "Very well, then, I'll agree to view."

Leebig said, back still turned, "Excuse me a moment. I'll be back."

Baley tended to his own needs during the interval and stared at his fresh-washed face in the bathroom mirror. Was he getting the feel of Solaria and Solarians? He wasn't sure.

He sighed and pushed a contact and a robot appeared. He didn't turn to look at it. He said, "Is there another viewer at the farm, besides the one I'm using?"

"There are three other outlets, master."

"Then tell Kiorissa Cantoro-tell your mistress that I will be using this one till further notice and that I am not to be disturbed."

"Yes, master."

Baley returned to his position where the viewer remained focused on the empty patch of room in which Leebig had stood. It was still empty and he settled himself to wait.

It wasn't long. Leebig entered and the room once more jiggled as the man walked. Evidently focus shifted from room center to man center without delay. Baley remembered the complexity of viewing controls and began to feel a kind of appreciation of what was involved.

Leebig was quite master of himself now, apparently. His hair was slicked back and his costume had been changed. His clothes fitted loosely and were of a material that glistened and caught highlights. He sat down in a slim chair that folded out of the wall.

He said soberly, "Now what is this notion of yours concerning First Law?"

"Will we be overheard?"

"No. I've taken care."

Baley nodded. He said, "Let me quote the First Law."

"I scarcely need that."

"I know, but let me quote it, anyway: A robot may not harm a human being or, through inaction, allow a human being to come to harm."

"Well?"

"Now when I first landed on Solaria, I was driven to the estate assigned for my use in a ground-car. The ground-car was a specially enclosed job designed to protect me from exposure to open space. As an Earthman--"

"I know about that," said Leebig impatiently. "What has this to do with the matter?"

"The robots who drove the car did not know about it. I asked that the car be opened and was at once obeyed. Second Law. They had to follow orders. I was uncomfortable, of course, and nearly collapsed before the car was enclosed again. Didn't the robots harm me?"

"At your order," snapped Leebig.

"I'll quote the Second Law: A robot must obey the orders given it by human beings except where such orders would conflict with the First Law. So you see, my order should have been ignored."

"This is nonsense. The robot lacked knowledge--"

Baley leaned forward in his chair. "Ah! We have it. Now let's recite the First Law as it should be stated: A robot may do nothing that, to its knowledge, will harm a human being; nor, through inaction, knowingly allow a human being to come to harm."

"This is all understood."

"I think not by ordinary men. Otherwise, ordinary men would realize robots could commit murder."

Leebig was white. "Mad! Lunacy!"

Baley stared at his finger ends. "A robot may perform an innocent task, I suppose; one that has no damaging effect on a human being?"

"If ordered to do so," said Leebig.

"Yes, of course. If ordered to do so. And a second robot may perform an innocent task, also, I suppose; one that also can have no damaging effect on a human being? If ordered to do so?"

"Yes."

"And what if the two innocent tasks, each completely innocent, completely, amount to murder when added together?"

"What?" Leebig's face puckered into a scowl.

"I want your expert opinion on the matter," said Baley. "I'll set you a hypothetical case. Suppose a man says to a robot, 'Place a small quantity of this liquid into a glass of milk that you will find in such and such a place. The liquid is harmless. I wish only to know its effect on milk. Once I know the effect, the mixture will be poured out. After you have performed this action, forget you have done so.'"

Leebig, still scowling, said nothing.

Baley said, "If I had told the robot to add a mysterious liquid to milk and then offer it to a man, First Law would force it to ask, 'What is the nature of the liquid? Will it harm a man?' And if it were assured the liquid was harmless, First Law might still make the robot hesitate and refuse to offer the milk. Instead, however, it is told the milk will be poured out. First Law is not involved. Won't the robot do as it is told?"

Leebig glared.

Baley said, "Now a second robot has poured out the milk in the first place and is unaware that the milk has been tampered with. In all innocence, it offers the milk to a man and the man dies."

Leebig cried out, "No!"

"Why not? Both actions are innocent in themselves. Only together are they murder. Do you deny that that sort of thing can happen?"

"The murderer would be the man who gave the order," cried Leebig.

"If you want to be philosophical, yes. The robots would have been the immediate murderers, though, the instruments of murder."

"No man would give such orders."

"A man would. A man has. It was exactly in this way that the murder attempt on Dr. Gruer must have been carried through. You've heard about that, I suppose."

"On Solaria," muttered Leebig, "one hears about everything."

"Then you know Gruer was poisoned at his dinner table before the eyes of myself and my partner, Mr. Olivaw of Aurora. Can you suggest any other way in which the poison might have reached him? There was no other human on the estate. As a Solarian, you must appreciate that point."

"I'm not a detective. I have no theories."

"I've presented you with one. I want to know if it is a possible one. I want to know if two robots might not perform two separate actions, each one innocent in itself, the two together resulting in murder. You're the expert, Dr. Leebig. Is it possible?"

And Leebig, haunted and harried, said, "Yes," in a voice so low that Baley scarcely heard him.

Baley said, "Very well, then. So much for the First Law."

Leebig stared at Baley and his drooping eyelid winked once or twice in a slow tic. His hands, which had been clasped, drew apart, though the fingers maintained their clawed shape as though each hand still entwined a phantom hand of air. Palms turned downward and rested on knees and only then did the fingers relax.

Baley watched it all in abstraction.

Leebig said, "Theoretically, yes. Theoretically! But don't dismiss the First Law that easily, Earthman. Robots would have to be ordered very cleverly in order to circumvent the First Law."

"Granted," said Baley. "I am only an Earthman. I know next to nothing about robots and my phrasing of the orders was only by way of example. A Solarian would be much more subtle and do much better. I'm sure of that."

Leebig might not have been listening. He said loudly, "If a robot can be manipulated into doing harm to a man, it means only that we must extend the powers of the positronic brain. One might say we ought to make the human better. That is impossible, so we will make the robot more foolproof."

"We advance continuously. Our robots are more varied, more specialized, more capable, and more unharmed than those of a century ago. A century hence, we will have still greater advances. Why have a robot manipulate controls when a positronic brain can be built into the controls itself? That's specialization, but we can generalize, also. Why not a robot with replaceable and interchangeable limbs. Eh? Why not? If we-

Baley interrupted. "Are you the only roboticist on Solaria?"

"Don't be a fool."

"I only wondered. Dr. Delmarre was the only-uh-fetal engineer, except for an assistant."

"Solaria has over twenty roboticists."

"Are you the best?"

"I am," Leebig said without self-consciousness.

"Delmarre worked with you."

"He did."

Baley said, "I understand that he was planning to break the partnership toward the end."

"No sign of it. What gave you the idea?"

"I understand he disapproved of your bachelorhood."

"He may have. He was a thorough Solarian. However, it did not affect our business relationships."

"To change the subject. In addition to developing new model robots, do you also manufacture and repair existing types?"

Leebig said, "Manufacture and repair are largely robot-conducted. There is a large factory and maintenance shop on my estate."

"Do robots require much in the way of repair, by the way?"

"Very little."

"Does that mean that robot repair is an undeveloped science?"

"Not at all." Leebig said that stiffly.

"What about the robot that was at the scene of Dr. Delmarre's murder?"

Leebig looked away, and his eyebrows drew together as though a painful thought were being barred entrance to his mind. "It was a complete loss."

"Really complete? Could it answer any questions at all?"

"None at all. It was absolutely useless. Its positronic brain was completely short-circuited. Not one pathway was left intact. Consider! It had witnessed a murder it had been unable to halt-

"Why was it unable to halt the murder, by the way?"

"Who can tell? Dr. Delmarre was experimenting with that robot. I do not know in what mental condition he had left it. He might have ordered it, for instance, to suspend all operations while he checked one particular circuit element. If someone whom neither Dr. Delmarre nor the robot suspected of harm were suddenly to launch a homicidal attack, there might be a perceptible interval before the robot could use First Law potential to overcome Dr. Delmarre's freezing order. The length of the interval would depend on the nature of the attack and the nature of Dr. Delmarre's freezing order. I could invent a dozen other ways of explaining why the robot was unable to prevent the murder. Being unable to do so was a First Law violation, however, and that was sufficient to blast every positronic pathway in the robot's mind."

"But if the robot was physically unable to prevent the murder, was it responsible? Does the First Law ask impossibilities?"

Leebig shrugged. "The First Law, despite your attempts to make little of it, protects humanity with every atom of possible force. It allows no excuses. If the First Law is broken, the robot is ruined."

"That is a universal rule, sir?"

"As universal as robots."

Baley said, "Then I've learned something."

"Then learn something else. Your theory of murder by a series of robotic actions, each innocent in itself, will not help you in the case of Dr. Delmarre's death."

"Why not?"

"The death was not by poisoning, but by bludgeoning. Something had to hold the bludgeon, and that had to be a human arm. No robot could swing a club and smash a skull."

"Suppose," said Baley, "a robot were to push an innocent button which dropped a booby-trap weight on Delmarre's head."

Leebig smiled sourly. "Earthman, I've viewed the scene of the crime. I've heard all the news. The murder was a big thing here on Solaria, you know. So I know there was no sign of any machinery at the scene of the crime, or of any fallen weight."

Baley said, "Or of any blunt instrument, either." Leebig said scornfully, "You're a detective. Find it."

"Granting that a robot was not responsible for Dr. Delmarre's death, who was, then?"

"Everyone knows who was," shouted Leebig. "His wife! Gladia!" Baley thought: At least there's a unanimity of opinion. Aloud he said, "And who was the mastermind behind the robots who poisoned Gruer?"

"I suppose. . ." Leebig trailed off.

"You don't think there are two murderers, do you? If Gladia was responsible for one crime, she must be responsible for the second attempt, also."

"Yes. You must be right." His voice gained assurance. "No doubt of it."

"No doubt?"

"Nobody else could get close enough to Dr. Delmarre to kill him. He allowed personal presence no more than I did, except that he made an exception in favor of his wife, and I make no exceptions. The wiser I." The roboticist laughed harshly.

"I believe you knew her," said Baley abruptly.

"Whom?"

"Her. We are discussing only one 'her.' Gladia!"

"Who told you I knew her any more than I know anyone else?" demanded Leebig. He put his hand to his throat. His fingers moved slightly and opened the neck-seam of his garment for an inch downward, leaving more freedom to breathe.

"Gladia herself did. You two went for walks."

"So? We were neighbors. It is a common thing to do. She seemed a pleasant person."

"You approved of her, then?"

Leebig shrugged. "Talking to her was relaxing."

"What did you talk about?"

"Robotics." There was a flavor of surprise about the word as though there were wonder that the question could be asked.

"And she talked robotics too?"

"She knew nothing about robotics. Ignorant! But she listened. She has some sort of field-force rigmarole she plays with; field coloring, she calls it. I have no patience with that, but I listened."

"All this without personal presence?" Leebig looked revolted and did not answer. Baley tried again, "Were you attracted to her?"

"What?"

"Did you find her attractive? Physically?"

Even Leebig's bad eyelid lifted and his lips quivered. "Filthy animal," he muttered.

"Let me put it this way, then. When did you cease finding Gladia pleasant? You used that word yourself, if you remember."

"What do you mean?"

"You said you found her pleasant. Now you believe she murdered her husband. That isn't the mark of a pleasant person."

"I was mistaken about her."

"But you decided you were mistaken before she killed her husband, if she did so. You stopped walking with her some time before the murder. Why?"

Leebig said, "Is that important?"

"Everything is important till proven otherwise."

"Look, if you want information from me as a roboticist, ask it. I won't answer personal questions."

Baley said, "You were closely associated with both the murdered man and the chief suspect. Don't you see that personal questions are unavoidable? Why did you stop walking with Gladia?"

Leebig snapped, "There came a time when I ran out of things to say; when I was too busy; when I found no reason to continue the walks."

"When you no longer found her pleasant, in other words."

"All right. Put it so."

"Why was she no longer pleasant?"

Leebig shouted, "I have no reason."

Baley ignored the other's excitement. "You are still someone who has known Gladia well. What could her motive be?"

"Her motive?"

"No one has suggested any motive for the murder. Surely Gladia wouldn't commit murder without a motive."

"Great Galaxy!" Leebig leaned his head back as though to laugh, but didn't. "No one told you? Well, perhaps no one knew. I knew, though. She told me. She told me frequently."

"Told you what, Dr. Leebig?"

'Why, that she quarreled with her husband. Quarreled bitterly and frequently. She hated him, Earthman. Didn't anyone tell you that? Didn't she tell you?"

A PORTRAIT IS COLORED

BALEY TOOK it between the eyes and tried not to show it.

Presumably, living as they did, Solarians considered one another's private lives to be sacrosanct. Questions concerning marriage and children were in bad taste. He supposed then that chronic quarreling could exist between husband and wife and be a matter into which curiosity was equally forbidden.

But even when murder had been committed? Would no one commit the social crime of asking the suspect if she quarreled with her husband? Or of mentioning the matter if they happened to know of it?

Well, Leebig had.

Baley said, 'What did the quarrels concern?'

"You had better ask her, I think."

He better had, thought Baley. He rose stiffly, "Thank you, Dr. Leebig, for your co-operation. I may need your help again later. I hope you will keep yourself available."

'Done viewing," said Leebig, and he and the segment of his room vanished abruptly.

For the first time Baley found himself not minding a plane flight through open space. Not minding it at all. It was almost as though he were in his own element.

He wasn't even thinking of Earth or of Jessie. He had been away from Earth only a matter of weeks, yet it might as well have been years. He had been on Solaria only the better part of three days and yet it seemed forever.

How fast could a man adapt to nightmare?

Or was it Gladia? He would be seeing her soon, not viewing her. Was that what gave him confidence and this odd feeling of mixed apprehension and anticipation?

Would she endure it? he wondered. Or would she slip away after a few moments of seeing, begging off as Quemot had done?

She stood at the other end of a long room when he entered. She might almost have been an impressionistic representation of herself, she was reduced so to essentials.

Her lips were faintly red, her eyebrows lightly penciled, her earlobes faintly blue, and, except for that, her face was untouched. She looked pale, a little frightened, and very young.

Her brown-blond hair was drawn back, and her gray-blue eyes were somehow shy. Her dress was a blue so dark as to be almost black, with a thin white edging curling down each side. She wore long sleeves, white gloves, and flat-heeled shoes. Not an inch of skin showed anywhere but in her face. Even her neck was covered by a kind of unobtrusive ruching.

Baley stopped where he was. "Is this close enough, Gladia?"

She was breathing with shallow quickness. She said, "I had forgotten what to expect really. It's just like viewing, isn't it? I mean, if you don't think of it as seeing."

Baley said, "It's all quite normal to me."

"Yes, on Earth." She closed her eyes. "Sometimes I try to imagine it. Just crowds of people everywhere. You walk down a road and there are others walking with you and still others walking in the other direction. Dozens-

"Hundreds," said Baley. "Did you ever view scenes on Earth in a book-film? Or view a novel with an Earth setting?"

"We don't have many of those, but I've viewed novels set on the other Outer Worlds where seeing goes on all the time. It's different in a novel. It just seems like a multiview."

"Do people ever kiss in novels?"

She flushed painfully. "I don't read that kind."

"Never?"

"Well--there are always a few dirty films around, you know, and sometimes, just out of curiosity-- It's sickening, really."

"Is it?"

She said with sudden animation, "But Earth is so different. So many people. When you walk, Elijah, I suppose you even t-touch people. I mean, by accident."

Baley half smiled. "You even knock them down by accident." He thought of the crowds on the Expressways, tugging and shoving, bounding up and down the strips, and for a moment, inevitably, he felt the pang of homesickness.

Gladia said, "You don't have to stay way out there."

"Would it be all right if I came closer?"

"I think so. I'll tell you when I'd rather you wouldn't any more." Stepwise Baley drew closer, while Gladia watched him, wide-eyed.

She said suddenly, "Would you like to see some of my field colorings?"

Baley was six feet away. He stopped and looked at her. She seemed small and fragile. He tried to visualize her, something in her hand (what?), swinging furiously at the skull of her husband. He tried to picture her, mad with rage, homicidal with hate and anger.

He had to admit it could be done. Even a hundred and five pounds of woman could crush a skull if she had the proper weapon and were wild enough. And Baley had known murderesses (on Earth, of course) who, in repose, were bunny rabbits.

He said, "What are field colorings, Gladia?"

"An art form," she said.

Baley remembered Leebig's reference to Gladia's art. He nodded. "I'd like to see some."

"Follow me, then."

Baley maintained a careful six-foot distance between them. At that, it was less than a third the distance Kiorissa had demanded.

They entered a room that burst with light. It glowed in every corner and every color.

Gladia looked pleased, proprietary. She looked up at Baley, eyes anticipating.

Baley's response must have been what she expected, though he said nothing. He turned slowly, trying to make out what he saw, for it was light only, no material object at all.

The gobbets of light sat on embracing pedestals. They were living geometry, lines and curves of color, entwined into a coalescing whole yet maintaining distinct identities. No two specimens were even remotely alike.

Baley groped for appropriate words and said, "Is it supposed to mean anything?"

Gladia laughed in her pleasant contralto. "It means whatever you like it to mean. They're just light-forms that might make you feel angry or happy or curious or whatever I felt when I constructed one. I could make one for you, a kind of portrait. It might not be very good, though, because I would just be improvising quickly."

"Would you? I would be very interested."

"All right," she said, and half-ran to a light-figure in one corner, passing within inches of him as she did so. She did not seem to notice.

She touched something on the pedestal of the light-figure and the glory above died without a flicker.

Baley gasped and said, "Don't do that."

"It's all right. I was tired of it, anyway. I'll just fade the others temporarily so they don't distract me." She opened a panel along one featureless wall and moved a rheostat. The colors faded to something scarcely visible.

Baley said, "Don't you have a robot to do this? Closing contacts?"

"Shush, now," she said impatiently. "I don't keep robots in here. This is -me." She looked at him, frowning. "I don't know you well enough. That's the trouble."

She wasn't looking at the pedestal, but her fingers rested lightly on its smooth upper surface. All ten fingers were curved, tense, waiting.

One finger moved, describing a half curve over smoothness. A bar of deep yellow light grew and slanted obliquely across the air above. The finger inched backward a fraction and the light grew slightly less deep in shade.

She looked at it momentarily. "I suppose that's it. A kind of strength without weight."

"Jehoshaphat," said Baley.

"Are you offended?" Her fingers lifted and the yellow slant of light remained solitary and stationary.

"No, not at all. But what is it? How do you do it?"

"That's hard to explain," said Gladia, looking at the pedestal thoughtfully, "considering I don't really understand it myself. It's a kind of optical illusion, I've been told. We set up force-fields at different energy levels. They're extrusions of hyperspace, really, and don't have the properties of ordinary space at all. Depending on the energy level, the human eye sees light of different shades. The shapes and colors are controlled by the warmth of my fingers against appropriate spots on the pedestal. There are all sorts of controls inside each pedestal."

"You mean if I were to put my finger there-" Baley advanced and Gladia made way for him. He put a hesitant forefinger down upon the pedestal and felt a soft throbbing.

"Go ahead. Move your finger, Elijah," said Gladia.

Baley did so and a dirty-gray jag of light lifted upward, skewing the yellow light. Baley withdrew his finger sharply and Gladia laughed and then was instantly contrite.

"I shouldn't laugh," she said. "It's really very hard to do, even for people who've tried a long time." Her own hand moved lightly and too quickly for Baley to follow and the monstrosity he had set up disappeared, leaving the yellow light in isolation again.

"How did you learn to do this?" asked Baley.

"I just kept on trying. It's a new art form, you know, and only one or two really know how--"

"And you're the best," said Baley somberly. "On Solaria everyone is either the only or the best or both."

"You needn't laugh. I've had some of my pedestals on display. I've given shows." Her chin lifted. There was no mistaking her pride.

She continued, "Let me go on with your portrait." Her fingers moved again.

There were few curves in the light-form that grew under her ministrations. It was all sharp angles. And the dominant color was blue.

"That's Earth, somehow," said Gladia, biting her lower lip. "I always think of Earth as blue. All those people and seeing, seeing, seeing. Viewing is more rose. How does it seem to you?"

"Jehoshaphat, I can't picture things as colors."

"Can't you?" she asked abstractedly. "Now you say 'Jehoshaphat' sometimes and that's just a little blob of violet. A little sharp blob because it usually comes out ping, like that." And the little blob was there, glowing just off-center.

"And then," she said, "I can finish it like this." And a flat, lusterless hollow cube of slate gray sprang up to enclose everything. The light within shone through it, but dimmer; imprisoned, somehow.

Baley felt a sadness at it, as though it were something enclosing him, keeping him from something he wanted. He said, "What's that last?"

Gladia said, "Why, the walls about you. That's what's most in you, the way you can't go outside, the way you have to be inside. You are inside there. Don't you see?"

Baley saw and somehow he disapproved. He said, "Those walls aren't permanent. I've been out today."

"You have? Did you mind?"

He could not resist a counterdig. "The way you mind seeing me. You don't like it but you can stand it."

She looked at him thoughtfully. "Do you want to come out now? With me? For a walk?"

It was Baley's impulse to say: Jehoshaphat, no.

She said, "I've never walked with anyone, seeing. It's still daytime, and it's pleasant weather."

Baley looked at his abstractionist portrait and said, "If I go, will you take away the gray?"

She smiled and said, "I'll see how you behave."

The structure of light remained as they left the room. It stayed behind, holding Baley's imprisoned soul fast in the gray of the Cities.

Baley shivered slightly. Air moved against him and there was a chill to it.

Gladia said, "Are you cold?"

"It wasn't like this before," muttered Baley.

"It's late in the day now, but it isn't really cold. Would you like a coat? One of the robots could bring one in a minute."

"No. It's all right." They stepped forward along a narrow paved path. He said, "Is this where you used to walk with Dr. Leebig?"

"Oh no. We walked way out among the fields, where you only see an occasional robot working and you can hear the animal sounds. You and I will stay near the house though, just in case."

"In case what?"

"Well, in case you want to go in."

"Or in case you get weary of seeing?"

"It doesn't bother me," she said recklessly.

There was the vague rustle of leaves above and an all-pervading yellowness and greenness. There were sharp, thin cries in the air about, plus a strident humming, and shadows, too.

He was especially aware of the shadows. One of them stuck out before him, in shape like a man, that moved as he did in horrible mimicry. Baley had heard of shadows, of course, and he knew what they were, but in the pervasive indirect lighting of the Cities he had never been specifically aware of one.

Behind him, he knew, was the Solarian sun. He took care not to look at it, but he knew it was there.

Space was large, space was lonely, yet he found it drawing him. His mind pictured himself striding the surface of a world with thousands of miles and light-years of room all about him.

Why should he find attraction in this thought of loneliness? He didn't want loneliness. He wanted Earth and the warmth and companionship of the man-crammed Cities.

The picture failed him. He tried to conjure up New York in his mind, all the noise and fullness of it, and found he could remain conscious only of the quiet, air-moving chill of the surface of Solaria.

Without quite willing it Baley moved closer to Gladia until he was two feet away, then grew aware of her startled face.

"I beg your pardon," he said at once, and drew off.

She gasped, "It's all right. Won't you walk this way? We have some flower beds you might like."

The direction she indicated lay away from the sun. Baley followed silently.

Gladia said, "Later in the year, it will be wonderful. In the warm weather I can run down to the lake and swim, or just run across the fields, run as fast as I can until I'm just glad to fall down and lie still."

She looked down at herself. "But this is no costume for it. With all this on, I've got to walk. Sedately, you know."

"How would you prefer to dress?" asked Baley.

"Halter and shorts at the most," she cried, lifting her arms as though feeling the freedom of that in her imagination. "Sometimes less. Sometimes just sandals so you can feel the air with every inch-- Oh, I'm sorry. I've offended you."

Baley said, "No. It's all right. Was that your costume when you went walking with Dr. Leebig?"

"It varied. It depended on the weather. Sometimes I wore very little, but it was viewing, you know. You do understand, I hope."

"I understand. What about Dr. Leebig, though? Did he dress lightly too?"

"Jothan dress lightly?" Gladia smiled flashingly. "Oh no. He's very solemn, always." She twisted her face into a thin look of gravity and half winked, catching the very essence of Leebig and forcing a short grunt of appreciation out of Baley.

"This is the way he talks," she said. "'My dear Gladia, in considering the effect of a first-order potential on positron flow-'"

"Is that what he talked to you about? Robotics?"

"Mostly. Oh, he takes it so seriously, you know. He was always trying to teach me about it. He never gave up."

"Did you learn anything?"

"Not one thing. Nothing. It's just all a complete mix-up to me. He'd get angry with me sometimes, but when he'd scold, I'd dive into the water, if we were anywhere near the lake, and splash him."

"Splash him? I thought you were viewing."

She laughed. "You're such an Earthman. I'd splash where he was standing in his own room or on his own estate. The water couldn't touch him, but he would duck just the same. Look at that."

Baley looked. They had circled a wooded patch and now came upon a clearing, centered about an ornamental pond. Small bricked walks penetrated the clearing and broke it up. Flowers grew in profusion and order. Baley knew them for flowers from book-films he had viewed.

In a way the flowers were like the light-patterns that Gladia constructed and Baley imagined that she constructed them in the spirit of flowers. He touched one cautiously, then looked about. Reds and yellows predominated.

In turning to look about Baley caught a glimpse of the sun.

He said uneasily, "The sun is low in the sky."

"It's late afternoon," called Gladia back to him. She had run toward the pond and was sitting on a stone bench at its edge. "Come here," she shouted, waving. "You can stand if you don't like to sit on stone."

Baley advanced slowly. "Does it get this low every day?" and at once he was sorry he asked. If the planet rotated, the sun must be below in the sky both mornings and afternoons. Only at midday could it be high.

Telling himself this couldn't change a lifetime of pictured thought. He knew there was such a thing as night and had even experienced it, with a planet's whole thickness interposing safely between a man and the sun. He knew there were clouds and a protective grayness hiding the worst of outdoors. And still, when he thought of planetary surfaces, it was always a picture of a blaze of light with a sun high in the sky.

He looked over his shoulder, just quickly enough to get a flash of sun, and wondered how far the house was if he should decide to return.

Gladia was pointing to the other end of the stone bench.

Baley said, "That's pretty close to you, isn't it?"

She spread out her little hands, palms up. "I'm getting used to it. Really."

He sat down, facing toward her to avoid the sun.

She leaned over backward toward the water and pulled a small cup-shaped flower, yellow without and white-streaked within, not at all flamboyant. She said, "This is a native plant. Most of the flowers here are from Earth originally."

Water dripped from its severed stem as she extended it gingerly toward Baley.

Baley reached for it as gingerly. "You killed it," he said.

"It's only a flower. There are thousands more." Suddenly, before his fingers more than touched the yellow cup, she snatched it away, her eyes kindling. "Or are you trying to imply I could kill a human being because I pulled a flower?"

Baley said in soft conciliation, "I wasn't implying anything. May I see it?"

Baley didn't really want to touch it. It had grown in wet soil and there was still the effluvium of mud about it. How could these people, who were so careful in contact with Earthmen and even with one another, be so careless in their contact with ordinary dirt?

But he held the stalk between thumb and forefinger and looked at it. The cup was formed of several thin pieces of papery tissue, curving up from a common center. Within it was a white convex swelling, damp with liquid and fringed with dark hairs that trembled lightly in the wind.

She said, "Can you smell it?"

At once Baley was aware of the odor that emanated from it. He leaned toward it and said, "It smells like a woman's perfume."

Gladia clapped her hands in delight. "How like an Earthman. What you really mean is that a woman's perfume smells like that."

Baley nodded ruefully. He was growing weary of the outdoors. The shadows were growing longer and the land was becoming somber. Yet he was determined not to give in. He wanted those gray walls of light that dimmed his portrait removed. It was quixotic, but there it was.

Gladia took the flower from Baley, who let it go without reluctance. Slowly she pulled its petals apart. She said, "I suppose every woman smells different."

"It depends on the perfume," said Baley indifferently.

"Imagine being close enough to tell. I don't wear perfume because no one is close enough. Except now. But I suppose you smell perfume often, all the time. On Earth, your wife is always with you, isn't she?" She was concentrating very hard on the flower, frowning as she plucked it carefully to pieces.

"She's not always with me," said Baley. "Not every minute."

"But most of the time. And whenever you want to--"

Baley said suddenly, "Why did Dr. Leebig try so hard to teach you robotics, do you suppose?"

The dismembered flower consisted now of a stalk and the inner swelling. Gladia twirled it between her fingers, then tossed it away, so that it floated for a moment on the surface of the pond. "I think he wanted me to be his assistant," she said.

"Did he tell you so, Gladia?"

"Toward the end, Elijah. I think he grew impatient. Anyway, he asked me if I didn't think it would be exciting to work in robotics. Naturally, I told him I could think of nothing duller. He was quite angry."

"And he never walked with you again after that."

She said, "You know, I think that may have been it. I suppose his feelings were hurt. Really, though, what could I do?"

"It was before that, though, that you told him about your quarrels with Dr. Delmarre."

Her hands became fists and held so in a tight spasm. Her body held stiffly to its position, head bent and a little to one side. Her voice was unnaturally high. "What quarrels?"

"Your quarrels with your husband. I understand you hated him." Her face was distorted and blotched as she glared at him. "Who told you that? Jothan?"

"Dr. Leebig mentioned it. I think it's true."

She was shaken. "You're still trying to prove I killed him. I keep thinking you're my friend and you're only-only a detective."

She raised her fists and Baley waited.

He said, "You know you can't touch me."

Her hands dropped and she began crying without a sound. She turned her head away.

Baley bent his own head and closed his eyes, shutting out the disturbing long shadows. He said, "Dr. Delmarre was not a very affectionate man, was he?"

She said in a strangled way, "He was a very busy man."

Baley said, "You are affectionate, on the other hand. You find a man interesting. Do you understand?"

"I c-can't help it. I know it's disgusting, but I can't help it. It's even disgusting t-to talk about it."

"You did talk about it to Dr. Leebig, though?"

"I had to do something and Jothan was handy and he didn't seem to mind and it made me feel better."

"Was this the reason you quarreled with your husband? Was it that he was cold and unaffectionate and you resented it?"

"Sometimes I hated him." She shrugged her shoulders helplessly. "He was just a good Solarian and we weren't scheduled for ch-for ch--" She broke down.

Baley waited. His own stomach was cold and open air pressed down heavily upon him. When Gladia's sobs grew quieter, he asked, as gently as he could, "Did you kill him, Gladia?"

"N-no." Then, suddenly, as though all resistance had corroded within her: "I haven't told you everything."

"Well, then, please do so now."

"We were quarreling that time, the time he died. The old quarrel. I screamed at him but he never shouted back. He hardly ever even said anything and that just made it worse. I was so angry, so angry. I don't remember after that."

"Jehoshaphat!" Baley swayed slightly and his eyes sought the neutral stone of the bench. "What do you mean you don't remember?"

"I mean he was dead and I was screaming and the robots came--"

"Did you kill him?"

"I don't remember it, Elijah, and I would remember it if I did, wouldn't I? Only I don't remember anything else, either, and I've been so frightened, so frightened. Help me, please, Elijah."

"Don't worry, Gladia. I'll help you." Baley's reeling mind fastened on the murder weapon. What happened to it? It must have been removed. If so, only the murderer could have done it. Since Gladia was found immediately after the murder on the scene, she could not have done it. The murderer would have to be someone else. No matter how it looked to everyone on Solaria, it had to be someone else.

Baley thought sickly: I've got to get back to the house.

He said, "Gladia--"

Somehow he was staring at the sun. It was nearly at the horizon. He had to turn his head to look at it and his eyes locked with a morbid fascination. He had never seen it so. Fat, red, and dim somehow, so that one could look at it without blinding, and see the bleeding clouds above it in thin lines, with one crossing it in a bar of black.

Baley mumbled, "The sun is so red."

He heard Gladia's choked voice say drearily, "It's always red at sunset, red and dying."

Baley had a vision. The sun was moving down to the horizon because the planet's surface was moving away from it, a thousand miles an hour, spinning under that naked

sun, spinning with nothing to guard the microbes called men that scurried over its spinning surface, spinning madly forever, spinning-spinning. .

It was his head that was spinning and the stone bench that was slanting beneath him and the sky heaving, blue, dark blue, and the sun was gone, with the tops of trees and the ground rushing up and Gladia screaming thinly and another sound. .

A SOLUTION IS OFFERED

BALEY WAS aware first of enclosure, the absence of the open, and then of a face bending over him.

He stared for a moment without recognition. Then: "Daneel!"

The robot's face showed no sign of relief or of any other recognizable emotion at being addressed. He said, "It is well that you have recovered consciousness, Partner Elijah. I do not believe you have suffered physical injury."

"I'm all right," said Baley testily, struggling to his elbows. "Jehoshaphat, am I in bed? What for?"

"You have been exposed to the open a number of times today. The effects upon you have been cumulative and you need rest."

"I need a few answers first." Baley looked about and tried to deny to himself that his head was spinning just a little. He did not recognize the room. The curtains were drawn. Lights were comfortably artificial. He was feeling much better. "For instance, where am I?"

"In a room of Mrs. Delmarre's mansion."

"Next, let's get something straight. What are you doing here? How did you get away from the robots I set over you?"

Daneel said, "It had seemed to me that you would be displeased at this development and yet in the interests of your safety and of my orders, I felt that I had no choice but—"

"What did you do? Jehoshaphat!"

"It seems Mrs. Delmarre attempted to view you some hours ago."

"Yes." Baley remembered Gladia saying as much earlier in the day. "I know that."

"Your order to the robots that held me prisoner was, in your words: 'Do not allow him' (meaning myself) 'to establish contact with other humans or other robots, either by seeing or by viewing.' However, Partner Elijah, you said nothing about forbidding other humans or robots to contact me. You see the distinction?"

Baley groaned.

Daneel said, "No need for distress, Partner Elijah. The flaw in your orders was instrumental in saving your life, since it brought me to the scene. You see, when Mrs. Delmarre viewed me, being allowed to do so by my robot guardians, she asked after you and I answered, quite truthfully, that I did not know of your whereabouts, but that I could attempt to find out. She seemed anxious that I do so. I said I thought it possible you might have left the house temporarily and that I would check that matter and would she, in the meanwhile, order the robots in the room with me, to search the mansion for your presence."

"Wasn't she surprised that you didn't deliver the orders to the robots yourself?"

"I gave her the impression, I believe, that as an Auroran I was not as accustomed to robots as she was; that she might deliver the orders with greater authority and effect a more speedy consummation. Solarians, it is quite clear, are vain of their skill with robots and contemptuous of the ability of natives of other planets to handle them. Is that not your opinion as well, Partner Elijah?"

"And she ordered them away, then?"

"With difficulty. They protested previous orders but, of course, could not state the nature thereof since you had ordered them to tell no one of my own true identity. She overrode them, although the final orders had to be thrilled out in fury."

"And then you left."

"I did, Partner Elijah."

A pity, thought Baley, that Gladia did not consider that episode important enough to relay to him when he viewed her. He said, "It took you long enough to find me, Daneel."

"The robots on Solara have a network of information through subetheric contact. A skilled Solarian could obtain information readily, but, mediated as it is through millions of individual machines, one such as myself, without experience in the matter, must take time to unearth a single datum. It was better than an hour before the information as to your whereabouts reached me. I lost further time by visiting Dr. Delmarre's place of business after you had departed."

"What were you doing there?"

"Pursuing researches of my own. I regret that this had to be done in your absence, but the exigencies of the investigation left me no choice."

Baley said, "Did you view Kiorissa Cantoro, or see her?" -

"I viewed her, but from another part of her building, not from our own estate. There were records at the farm I had to see. Ordinarily viewing would have been sufficient, but it might have been inconvenient to remain on our own estate since three robots knew my real nature and might easily have imprisoned me once more."

Baley felt almost well. He swung his legs out of bed and found himself in a kind of nightgown. He stared at it with distaste. "Get me my clothes."

Daneel did so.

As Baley dressed, he said, "Where's Mrs. Delmarre?"

"Under house arrest, Partner Elijah."

"What? By whose order?"

"By my order. She is confined to her bedroom under robotic guard and her right to give orders other than to meet personal needs has been neutralized."

"By yourself?"

"The robots on this estate are not aware of my identity."

Baley finished dressing. "I know the case against Gladia," he said. "She had the opportunity; more of it, in fact, than we thought at first. She did not rush to the scene at the sound of her husband's cry, as she first said. She was there all along."

"Does she claim to have witnessed the murder and seen the murderer?"

"No. She remembers nothing of the crucial moments. That happens sometimes. It turns out, also, that she has a motive."

"What was it, Partner Elijah?"

"One that I had suspected as a possibility from the first. I said to myself, if this were Earth, and Dr. Delmarre were as he was described to be and Gladia Delmarre as she seemed to be, I would say that she was in love with him, or had been, and that he was in love only with himself. The difficulty was to tell whether Solarians felt love or reacted to love in any Earthly sense. My judgment as to their emotions and reactions wasn't to be trusted. It was why I had to see a few. Not view them, but see them."

"I do not follow you, Partner Elijah."

"I don't know if I can explain it to you. These people have their gene possibilities carefully plotted before birth and the actual gene distribution tested after birth."

"I know that."

"But genes aren't everything. Environment counts too, and environment can bend into actual psychosis where genes indicate only a potentiality for a particular psychosis. Did you notice Gladia's interest in Earth?"

"I remarked upon it, Partner Elijah, and considered it an assumed interest designed to influence your opinions."

"Suppose it were a real interest, even a fascination. Suppose there were something about Earth's crowds that excited her. Suppose she were attracted against her will by something she had been taught to consider filthy. There was possible abnormality. I had to test it by seeing Solarians and noticing how they reacted to it, and seeing her and noticing how she reacted to it. It was why I had to get away from you, Daneel, at any cost. It was why I had to abandon viewing as a method for carrying on the investigation."

"You did not explain this, Partner Elijah."

"Would the explanation have helped against what you conceived your duty under First Law to be?"

Daneel was silent.

Baley said, "The experiment worked. I saw or tried to see several people. An old sociologist tried to see me and had to give up midway. A roboticist refused to see me at all even under terrific force, The bare possibility sent him into an almost infantile frenzy. He sucked his finger and wept. Dr. Delmarre's assistant was used to personal presence in the way of her profession and so she tolerated me, but at twenty feet only. Gladia, on the other hand--"

"Yes, Partner Elijah?"

"Gladia consented to see me without more than a slight hesitation. She tolerated my presence easily and actually showed signs of decreasing strain as time went on. It all fits into a pattern of psychosis. She didn't mind seeing me; she was interested in Earth; she might have felt an abnormal interest in her husband. All of it could be explained by a strong and, for this world, psychotic interest in the personal presence of members of the opposite sex. Dr. Delmarre, himself, was not the type to encourage such a feeling or co-operate with it. It must have been very frustrating for her."

Daneel nodded. "Frustrating enough for murder in a moment of passion."

"In spite of everything, I don't think so, Daneel."

"Are you perhaps being influenced by extraneous motives of your own, Partner Elijah? Mrs. Delmarre is an attractive woman and you are an Earthman in whom a preference for the personal presence of an attractive woman is not psychotic."

"I have better reasons," said Baley uneasily. (Daneel's cool glance was too penetrating and soul-dissecting by half. Jehoshaphat! The thing was only a machine.) He said, "If she were the murderess of her husband, she would also have to be the attempted murderess of Gruer." He had almost the impulse to explain the way murder could be manipulated through robots, but held back. He was not sure how Daneel would react to a theory that made unwitting murderers of robots.

Daneel said, "And the attempted murderess of yourself as well." Baley frowned. He had had no intention of telling Daneel of the poisoned arrow that had missed; no intention of strengthening the other's already too strong protective complex vis-à-vis himself.

He said angrily, "What did Kiorissa tell you?" He ought to have warned her to keep quiet, but then, how was he to know that Daneel would be about, asking questions?

Daneel said calmly, "Mrs. Cantoro had nothing to do with the matter. I witnessed the murder attempt myself."

Baley was thoroughly confused. "You were nowhere about."

Daneel said, "I caught you myself and brought you here an hour ago."

"What are you talking about?"

"Do you not remember, Partner Elijah? It was almost a perfect murder. Did not Mrs. Delmarre suggest that you go into the open? I was not a witness to that, but I feel certain she did."

"She did suggest it. Yes."

"She may even have enticed you to leave the house."

Baley thought of the "portrait" of himself, of the enclosing gray walls. Could it have been clever psychology? Could a Solarian have that much intuitive understanding of the psychology of an Earthman?

"No," he said.-

Daneel said, "Was it she who suggested you go down to the ornamental pond and sit on the bench?"

"Well, yes."

"Does it occur to you that she might have been watching you, noticing your gathering dizziness?"

"She asked once or twice if I wanted to go back."

"She might not have meant it seriously. She might have been watching you turn sicker on that bench. She might even have pushed you, or perhaps a push wasn't necessary. At the moment I reached you and caught you in my arms, you were in the process of falling backward off the stone bench and into three feet of water, in which you would surely have drowned."

For the first time Baley recalled those last fugitive sensations. "Jehoshaphat!"

"Moreover," said Daneel with calm relentlessness, "Mrs. Delmarre sat beside you, watching you fall, without a move to stop you. Nor would she have attempted to pull you out of the water. She would have let you drown. She might have called a robot, but the robot would surely have arrived too late. And afterward, she would explain merely that, of course, it was impossible for her to touch you even to save your life."

True enough, thought Baley. No one would question her inability to touch a human being. The surprise, if any, would come at her ability to be as close to one as she was.

Daneel said, "You see, then, Partner Elijah, that her guilt can scarcely be in question. You stated that she would have to be the attempted murderess of Agent Gruer as though this were an argument against her guilt. You see now that she must have been. Her only motive to murder you was the same as her motive for trying to murder Gruer; the necessity of getting rid of an embarrassingly persistent investigator of the first murder."

Baley said, "The whole sequence might have been an innocent one. She might never have realized how the outdoors would affect me."

"She studied Earth. She knew the peculiarities of Earthmen."

"I assured her I had been outdoors today and that I was growing used to it." -

"She may have known better."

Baley pounded fist against palm. "You're making her too clever. It doesn't fit and I don't believe it. In any case, no murder accusation can stick unless and until the absence of the murder weapon can be accounted for."

Daneel looked steadily at the Earthman, "I can do that, too, Partner Elijah."

Baley looked at his robot partner with a stunned expression. "How?"

"Your reasoning, you will remember, Partner Elijah, was this. Were Mrs. Delmarre the murderess, then the weapon, whatever it was, must have remained at the scene of the murder. The robots, appearing almost at once, saw no sign of such a weapon, hence it must have been removed from the scene, hence the murderer must have removed it, hence the murderer could not be Mrs. Delmarre. Is all that correct?"

"Correct."

"Yet," continued the robot, "there is one place where the robots did not look for the weapon."

"Where?"

"Under Mrs. Delmarre. She was lying in a faint, brought on by the excitement and passion of the moment, whether murderess or not, and the weapon, whatever it was, lay under her and out of sight."

Baley said, "Then the weapon would have been discovered as soon as she was moved."

"Exactly," said Daneel, "but she was not moved by the robots. She herself told us yesterday at dinner that Dr. Thool ordered the robots to put a pillow under her head and leave her. She was first moved by Dr. Altim Thool, himself, when he arrived to examine her."

"So?"

"It follows, therefore, Partner Elijah, that a new possibility arises. Mrs. Delmarre was the murderess, the weapon was at the scene of the crime, but Dr. Thool carried it off and disposed of it to protect Mrs. Delmarre."

Baley felt contemptuous. He had almost been seduced into expecting something reasonable. He said, "Completely motiveless. Why should Dr. Thool do such a thing?"

"For a very good reason. You remember Mrs. Delmarre's remarks concerning him: 'He always treated me since I was a child and was always so friendly and kind.' I wondered if he might have some motive for being particularly concerned about her. It was for that reason that I visited the baby farm and inspected the records. What I had merely guessed at as a possibility turned out to be the truth."

"What?"

"Dr. Altim Thool was the father of Gladia Delmarre, and what is more, he knew of the relationship."

Baley had no thought of disbelieving the robot. He felt only a deep chagrin that it had been Robot Daneel Olivaw and not himself that had carried through the necessary piece of logical analysis. Even so, it was not complete.

He said, "Have you spoken to Dr. Thool?"

"Yes. I have placed him under house arrest, also."

"What does he say?"

"He admits that he is the father of Mrs. Delmarre. I confronted him with the records of the fact and the records of his inquiries into her health when she was a youngster. As a doctor, he was allowed more leeway in this respect than another Solarian might have been allowed."

"Why should he have inquired into her health?"

"I have considered that, too, Partner Elijah. He was an old man when he was given special permission to have an additional child and, what is more, he succeeded in producing one. He considers this a tribute to his genes and to his physical fitness. He is prouder of the result, perhaps, than is quite customary on this world. Moreover, his position as physician, a profession little regarded on Solaria because it involves personal presences, made it the more important to him to nurture this sense of pride. For that reason, he maintained unobtrusive contact with his offspring."

"Does Gladia know anything of it?"

"As far as Dr. Thool is aware, Partner Elijah, she does not."

Baley said, "Does Thool admit removing the weapon?"

"No. That he does not."

"Then you've got nothing, Daneel."

"Nothing?"

"Unless you can find the weapon and prove he took it, or at the very least induce him to confess, you have no evidence. A chain of deduction is pretty, but it isn't evidence."

"The man would scarcely confess without considerable questioning of a type I myself could not carry through. His daughter is dear to him."

"Not at all," said Baley. "His feeling for his daughter is not at all what you and I are accustomed to. Solaria is different!"

He strode the length of the room and back, letting himself cool. He said, "Daneel, you have worked out a perfect exercise in logic, but none of it is reasonable, just the same." (Logical but not reasonable. Wasn't that the definition of a robot?)

He went on, "Dr. Thool is an old man and past his best years, regardless of whether he was capable of siring a daughter thirty years or so ago. Even Spacers get senile. Picture him then examining his daughter in a faint and his son-in-law dead by violence. Can you imagine the unusual nature of the situation for him? Can you suppose he could have remained master of himself? So much the master of himself, in fact, as to carry out a series of amazing actions?

"Look! First, he would have had to notice a weapon under his daughter, one that must have been so well covered by her body that the robots never noticed it. Secondly, from whatever small scrap of object he noted, he must have deduced the presence of the weapon and seen at once that if he could but sneak off with that weapon, unseen, a murder accusation against his daughter would be hard to substantiate. That's pretty subtle thinking for an old man in a panic. Then, thirdly, he would have had to carry the plan through, also tough for an old man in a panic. And now, lastly, he would have to dare to compound the felony further by sticking to his lie. It all may be the result of logical thinking, but none of it is reasonable."

Daneel said, "Do you have an alternate solution to the crime, Partner Elijah?"

Baley had sat down during the course of his last speech and now he tried to rise again, but a combination of weariness and the depth of the chair defeated him. He held out his hand petulantly. "Give me a hand, will you, Daneel?"

Daneel stared at his own hand. "I beg your pardon, Partner Elijah?"

Baley silently swore at the other's literal mind and said, "Help me out of the chair."

-

Daneel's strong arm lifted him out of the chair effortlessly.

Baley said, "Thanks. No, I haven't an alternate solution. At least, I have, but the whole thing hinges on the location of the weapon."

He walked impatiently to the heavy curtains that lined most of one wall and lifted a corner without quite realizing what he was doing. He stared at the black patch of glass until he became aware of the fact that he was looking out into the early night, and then dropped the curtain just as Daneel, approaching quietly, took it out of his fingers.

In the split fraction of a moment in which Baley watched the robot's hand take the curtain away from him with the loving caution of a mother protecting her child from the fire, a revolution took place within him.

He snatched the curtain back, yanking it out of Daneel's grasp. Throwing his full weight against it, he tore it away from the window, leaving shreds behind.

"Partner Elijah!" said Daneel softly. "Surely you know now what the open will do to you."

"I know," said Baley, "what it will do for me."

He stared out the window. There was nothing to see, only blackness, but that blackness was open air. It was unbroken, unobstructed space, even if unlit, and he was facing it.

And for the first time he faced it freely. It was no longer bravado, or perverse curiosity, or the pathway to a solution of a murder. He faced it because he knew he wanted to and because he needed to. That made all the difference.

Walls were crutches! Darkness and crowds were crutches! He must have thought them so, unconsciously, and hated them even when he most thought he loved and needed them. Why else had he so resented Gladia's gray enclosure of his portrait?

He felt himself filling with a sense of victory, and, as though victory were contagious, a new thought came, bursting like an inner shout.

Baley turned dizzily to Daneel. "I know," he whispered. "Jehoshaphat! I know!"

"Know what, Partner Elijah?"

"I know what happened to the weapon; I know who is responsible. All at once, everything falls into place."

A MEETING IS HELD

DANEEL WOULD allow no immediate action.

"Tomorrow!" he had said with respectful firmness. "That is my suggestion, Partner Elijah. It is late and you are in need of rest."

Baley had to admit the truth of it, and besides there was the need of preparation; a considerable quantity of it. He had the solution of the murder, he felt sure of that, but it rested on deduction, as much as had Daneel's theory, and it was worth as little as evidence. Solarians would have to help him.

And if he were to face them, one Earthman against half a dozen Spacers, he would have to be in full control. That meant rest and preparation.

Yet he would not sleep. He was certain he would not sleep. Not all the softness of the special bed set up for him by smoothly functioning robots nor all the soft perfume and softer music in the special room of Gladia's mansion would help. He was sure of it.

Daneel sat unobtrusively in one darkened corner.

Baley said, "Are you still afraid of Gladia?"

The robot said, "I do not think it wise to allow you to sleep alone and unprotected."

"Well, have your way. Are you clear as to what I want you to do, Daneel?"

"I am, Partner Elijah."

"You have no reservations under the First Law, I hope."

"I have some with respect to the conference you wish arranged. Will you be armed and careful of your own safety?"

"I assure you, I will."

Daneel delivered himself of a sigh that was somehow so human that for a moment Baley found himself trying to penetrate the darkness that he might study the machine-perfect face of the other.

Daneel said, "I have not always found human behavior logical."

"We need Three Laws of our own," said Baley, "but I'm glad we don't have them."

He stared at the ceiling. A great deal depended on Daneel and yet he could tell him very little of the whole truth. Robots were too involved. The planet, Aurora, had its reasons for sending a robot as representative of their interests, but it was a mistake. Robots had their limitations.

Still, if all went right, this could all be over in twelve hours. He could be heading back to Earth in twenty-four, bearing hope. A strange kind of hope. A kind he could scarcely believe himself, yet it was Earth's way out. It must be Earth's way out.

Earth! New York! Jessie and Ben! The comfort and familiarity and dearness of home!

He dwelled on it, half asleep, and the thought of Earth failed to conjure the comfort he expected. There was an estrangement between himself and the Cities.

And at some unknown point in time it all faded and he slept.

Baley, having slept and then wakened, showered and dressed. Physically he was quite prepared. Yet he was unsure. It was not that his reasoning seemed any less cogent to himself in the pallor of morning. It was rather the necessity of facing Solarians.

Could he be sure of their reactions after all? Or would he still be working blind?

Gladia was the first to appear. It was simple for her, of course. She was on an intramural circuit, since she was in the mansion itself. She was pale and expressionless, in a white gown that draped her into a cold statue.

She stared helplessly at Baley. Baley smiled back gently and she seemed to take comfort from that.

One by one, they appeared now. Attlebish, the Acting Head of Security, appeared next after Gladia, lean and haughty, his large chin set in disapproval. Then Leebig, the roboticist, impatient and angry, his weak eyelid fluttering periodically. Quemot, the sociologist, a little tired, but smiling at Baley out of deep-set eyes in a condescending way, as though to say: We have seen one another, we have been intimate.

Kiorissa Cantoro, when she appeared, seemed uneasy in the presence of the others. She glanced at Gladia for a moment with an audible sniff, then stared at the floor. Dr. Thool, the physician, appeared last. He looked haggard, almost sick.

They were all there, all but Gruer, who was slowly recovering and for whom attendance was physically impossible. (Well, thought Baley, we'll do without him.) All were dressed formally; all sat in rooms that were well curtained into enclosure.

Daneel had arranged matters well. Baley hoped fervently that what remained for Daneel to do would work as well.

Baley looked from one Spacer to the other. His heart thudded. Each figure viewed him out of a different room and the clash of lighting, furniture, and wall decoration was dizzying.

Baley said, "I want to discuss the matter of the killing of Dr. Rikaine Delmarre under the heading of motive, opportunity, and means, in that order-

Attlebish interrupted. "Will this be a long speech?"

Baley said sharply, "It may be. I have been called here to investigate a murder and such a job is my specialty and my profession. I know best how to go about it." (Take nothing from them now, he thought, or this whole thing won't work. Dominate! Dominate!)

He went on, making his words as sharp and incisive as he could. "Motive first. In a way, motive is the most unsatisfactory of the three items. Opportunity and means are objective. They can be investigated factually. Motive is subjective. It may be something that can be observed by others; revenge for a known humiliation, for instance. But it may also be completely unobservable; an irrational, homicidal hate on the part of a well-disciplined person who never lets it show.

"Now almost all of you have told me at one time or another that you believed Gladia Delmarre to have committed the crime. Certainly, no one has suggested an alternate suspect. Has Gladia a motive? Dr. Leebig suggested one. He said that Gladia

quarreled frequently with her husband and Gladia later admitted this to me. The rage that can arise out of a quarrel can, conceivably, move a person to murder. Very well.

"The question remains, though, whether she is the only one with a motive. I wonder. Dr. Leebig, himself--"

The roboticist almost jumped. His hand extended rigidly in the direction of Baley. "Watch what you say, Earthman."

"I am only theorizing," said Baley coldly. "You, Dr. Leebig, were working with Dr. Delmarre on new robot models. You are the best man in Solaria as far as robotics is concerned. You say so and I believe it."

Leebig smiled with open condescension.

Baley went on. "But I have heard that Dr. Delmarre was about to break off relations with you for matters concerning yourself of which he disapproved."

"False! False!"

"Perhaps. But what if it were true? Wouldn't you have a motive to get rid of him before he humiliated you publicly by breaking with you? I have a feeling you could not easily bear such humiliation."

Baley went on rapidly to give Leebig no chance to retort. "And you, Mrs. Cantoro. Dr. Delmarre's death leaves you in charge of fetal engineering, a responsible position."

"Skies above, we talked about that before," cried Kiorissa in anguish.

"I know we did, but it's a point that must be considered, anyway. As for Dr. Quemot, he played chess with Dr. Delmarre regularly. Perhaps he grew annoyed at losing too many games."

The sociologist interposed quietly. "Losing a chess game is insufficient motive surely, Plainclothesman."

"It depends on how seriously you take your chess. Motives can seem all the world to the murderer and completely insignificant to everyone else. Well, it doesn't matter. My point is that motive alone is insufficient. Anyone can have a motive, particularly for the murder of a man such as Dr. Delmarre."

"What do you mean by that remark," demanded Quemot in indignation.

"Why, only that Dr. Delmarre was a 'good Solarian.' You all described him as such. He rigidly fulfilled all the requirements of Solarian custom. He was an ideal man, almost an abstraction. Who could feel love, or even liking, for such a man? A man without weaknesses serves only to make everyone else conscious of his own imperfections. A primitive poet named Tennyson once wrote: 'He is all fault who has no fault at all.'"

"No one would kill a man for being too good," said Kiorissa, frowning.

"You little know," said Baley, and went on without amplification. "Dr. Delmarre was aware of a conspiracy on Solaria, or thought he was; a conspiracy that was preparing an assault on the rest of the Galaxy for purposes of conquest. He was interested in preventing that. For that reason, those concerned in the conspiracy might find it necessary to do away with him. Anyone here could be a member of the conspiracy, including, to be sure, Mrs. Delmarre, but including even the Acting Head of Security, Corwin Attlebish."

"I?" said Attlebish, unmoved.

"You certainly attempted to end the investigation as soon as Gruer's mishap put you in charge."

Baley took a few slow sips at his drink (straight from its original container, untouched by human hands others than his own, or robotic hands, either) and gathered his strength. So far, this was a waiting game, and he was thankful the Solarians were sitting still for it. They hadn't the Earthman's experience of dealing with people at close quarters. They weren't in-fighters.

He said, "Opportunity next. It is the general opinion that only Mrs. Delmarre had opportunity since only she could approach her husband in actual personal presence.

"Are we sure of that? Suppose someone other than Mrs. Delmarre had made up his or her mind to kill Dr. Delmarre? Would not such a desperate resolution make the discomfort of personal presence secondary? If any of you were set on murder, wouldn't you bear personal presence just long enough to do the job? Couldn't you sneak into the Delmarre mansion-"

Attlebish interposed frigidly. "You are ignorant of the matter, Earthman. Whether we would or would not doesn't matter. The fact is that Dr. Delmarre himself would not allow seeing, I assure you. If anyone came into his personal presence, regardless of how valued and long-standing a friendship there was between them, Dr. Delmarre would order him away and, if necessary, call robots to help with the ejection."

"True," said Baley, "if Dr. Delmarre were aware that personal presence was involved."

"What do you mean by that?" demanded Dr. Thool in surprise, his voice quavering.

"When you treated Mrs. Delmarre at the scene of the murder," replied Baley, looking full at his questioner, "she assumed you were viewing her, until you actually touched her. So she told me and so I believe. I am, myself, accustomed only to seeing. When I arrived at Solaria and met Security Head Gruer, I assumed I was seeing him. When at the end of our interview, Gruer disappeared, I was taken completely by surprise.

"Now assume the reverse. Suppose that for all a man's adult life, he had been viewing only; never seeing anyone, except on rare occasions his wife. Now suppose someone other than his wife walked up to him in personal presence. Would he not automatically assume that it was a matter of viewing, particularly if a robot had been instructed to advise Delmarre that viewing contact was being set up?"

"Not for a minute," said Quemot. "The sameness of background would give it away."

"Maybe, but how many of you are aware of background now? There would be a minute or so, at least, before Dr. Delmarre would grow aware that something was wrong and in that time, his friend, whoever he was, could walk up to him, raise a club, and bring it down."

"Impossible," said Quemot stubbornly.

"I think not," said Baley. "I think opportunity must be canceled out as absolute proof that Mrs. Delmarre is the murderess. She had opportunity, but so might others."

Baley waited again. He felt perspiration on his forehead, but wiping it away would have made him look weak. He must maintain absolute charge of the proceedings. The person at whom he was aiming must be placed in self-convinced inferiority. It was hard for an Earthman to do that to a Spacer.

Baley looked from face to face and decided that matters were at least progressing satisfactorily. Even Attlebish looked quite humanly concerned.

"And so we come," he said, "to means, and that is the most puzzling factor of all. The weapon with which the murder was committed was never found."

"We know that," said Attlebish. "If it were not for that point, we would have considered the case against Mrs. Delmarre conclusive. We would never have required an investigation."

"Perhaps," said Baley. "Let's analyze the matter of means, then. There are two possibilities. Either Mrs. Delmarre committed the murder, or someone else did. If Mrs. Delmarre committed the murder, the weapon would have had to remain at the scene of the crime, unless it were removed later. It has been suggested by my partner, Mr. Olivaw of Aurora, who is not present at the moment, that Dr. Thool had the opportunity to remove the weapon. I ask Dr. Thool now, in the presence of all of us, if he did this, if he removed a weapon while examining the unconscious Mrs. Delmarre?"

Dr. Thool was shaking. "No, no. I swear it. I'll abide any questioning. I swear I removed nothing."

Baley said, "Is there anyone who wishes to suggest at this point that Dr. Thool is lying?"

There was a silence, during which Leebig looked at an object outside of Baley's field of vision and muttered something about the time.

Baley said, "The second possibility is that someone else committed the crime and carried the weapon off with him. But if that were so, one must ask why. Carrying the weapon away is an advertisement of the fact that Mrs. Delmarre was not the murderess. If an outsider were the murderer, he would have to be a complete imbecile not to leave the weapon with the corpse to convict Mrs. Delmarre. Either way, then, the weapon -must be there! Yet it was not seen."

Attlebish said, "Do you take us for fools or for blind men?"

"I take you for Solarians," said Baley calmly, "and therefore incapable of recognizing the particular weapon that was left at the scene of the crime as a weapon."

"I don't understand a word," muttered Kiorissa in distress.

Even Gladia, who had scarcely moved a muscle during the course of the meeting, was staring at Baley in surprise.

Baley said, "Dead husband and unconscious wife were not the only individuals on the scene. There was also a disorganized robot."

"Well?" said Leebig angrily.

"Isn't it obvious, then, that, in having eliminated the impossible, what remains, however improbable, is the truth. The robot at the scene of the crime was the murder weapon, a murder weapon none of you could recognize by force of your training."

They all talked at once; all but Gladia, who simply stared.

Baley raised his arms. "Hold it. Quiet! Let me explain!" And once again he told the story of the attempt on Gruer's life and the method by which it could have been accomplished. This time he added the attempt on his own life at the baby farm.

Leebig said impatiently, "I suppose that was managed by having one robot poison an arrow without knowing it was using poison, and having a second robot hand the poisoned arrow to the boy after telling him that you were an Earthman, without its knowing that the arrow was poisoned."

"Something like that. Both robots would be completely instructed."

"Very farfetched," said Leebig.

Quemot was pale and looked as though he might be sick at any moment. "No Solarian could possibly use robots to harm a human."

"Maybe so," said Baley with a shrug, "but the point is that robots can be so manipulated. Ask Dr. Leebig. He is the roboticist."

Leebig said, "It does not apply to the murder of Dr. Delmarre. I told you that yesterday. How can anyone arrange to have a robot smash a man's skull?"

"Shall I explain how?"

"Do so if you can."

Baley said, "It was a new-model robot that Dr. Delmarre was testing. The significance of that wasn't plain to me until last evening, when I had occasion to say to a robot, in asking for his help in rising out of a chair, 'Give me a hand!' The robot looked at his own hand in confusion as though he thought he was expected to detach it and give it to me. I had to repeat my order less idiomatically. But it reminded me of something Dr. Leebig had told me earlier that day. There was experimentation among robots with replaceable limbs.

"Suppose this robot that Dr. Delmarre had been testing was one such, capable of using any of a number of interchangeable limbs of various shapes for different kinds of specialized tasks. Suppose the murderer knew this and suddenly said to the robot, 'Give me your arm.' The robot would detach its arm and give it to him. The detached arm would make a splendid weapon. With Dr. Delmarre dead, it could be snapped back into place."

Stunned horror gave way to a babble of objection as Baley talked. His last sentence had to be shouted, and, even so, was all but drowned out.

Attlebish, face flushed, raised himself from his chair and stepped forward. "Even if what you say is so, then Mrs. Delmarre is the murderess. She was there, she quarreled with him, she would be watching her husband working with the robot, and would know of the replaceable-limb situation-which I don't believe, by the way. No matter what you do, Earthman, everything points to her."

Gladia began to weep softly.

Baley did not look at her. He said, "On the contrary, it is easy to show that, whoever committed the murder, Mrs. Delmarre did not.

Jothan Leebig suddenly folded his arms and allowed an expression of contempt to settle on his face.

Baley caught that and said, "You'll help me do so, Dr. Leebig. As a roboticist, you know that maneuvering robots into actions such as indirect murder takes enormous skill. I had occasion yesterday to try to put an individual under house arrest. I gave three robots detailed instructions intended to keep this individual safe. It was a simple thing, but I am a clumsy man with robots. There were loopholes in my instructions and my prisoner escaped."

"Who was the prisoner?" demanded Attlebish.

"Beside the point," said Baley impatiently. "What is the point is the fact that amateurs can't handle robots well. And some Solarians may be pretty amateurish as Solarians go. For instance, what does Gladia Delmarre know about robotics? . . . Well, Dr. Leebig?"

"What?" The roboticist stared.

"You tried to teach Mrs. Delmarre robotics. What kind of a pupil was she? Did she learn anything?"

Leebig looked about uneasily. "She didn't. . ." and stalled.

"She was completely hopeless, wasn't she? Or would you prefer not to answer?"

Leebig said stiffly, "She might have pretended ignorance."

"Are you prepared to say, as a roboticist, that you think Mrs. Delmarre is sufficiently skilled to drive robots to indirect murder?"

"How can I answer that?"

"Let me put it another way. Whoever tried to have me killed at the baby farm must have had to locate me by using interrobot communications. After all, I told no human where I was going and only the robots who conveyed me from point to point knew of my whereabouts. My partner, Daneel Olivaw, managed to trace me later in the day, but only with considerable difficulty. The murderer, on the other hand, must have done it easily, since, in addition to locating me, he had to arrange for arrow poisoning and arrow shooting, all before I left the farm and move on. Would Mrs. Delmarre have the skill to do that?"

Corwin Attlebish leaned forward. "Who do you suggest would have the necessary skill, Earthman?"

Baley said, "Dr. Jothan Leebig is self-admittedly the best robot man on the planet."

"Is that an accusation?" cried Leebig.

"Yes!" shouted Baley.

The fury in Leebig's eyes faded slowly. It was replaced not by calm, exactly, but by a kind of clamped-down tension. He said, "I studied the Delmarre robot after the murder. It had no detachable limbs. At least, they were detachable only in the usual sense of

requiring special tools and expert handling. So the robot wasn't the weapon used in killing Delmarre and you have no argument."

Baley said, "Who else can vouch for the truth of your statement?"

"My word is not to be questioned."

"It is here. I'm accusing you, and your unsupported word concerning the robot is valueless. If someone else will bear you out, that would be different. Incidentally, you disposed of that robot quickly. Why?"

"There was no reason to keep it. It was completely disorganized. It was useless."

"Why?"

Leebig shook his finger at Baley and said violently, "You asked me that once before, Earthman, and I told you why. It had witnessed a murder which it had been powerless to stop."

"And you told me that that always brought about complete collapse; that that was a universal rule. Yet when Gruer was poisoned, the robot that had presented him with the poisoned drink was harmed only to the extent of a limp and a lisp. It had actually itself been the agent of what looked like murder at the moment, and not merely a witness, and yet it retained enough sanity to be questioned."

"This robot, the robot in the Delmarre case, must therefore have been still more intimately concerned with murder than the Gruer robot. This Delmarre robot must have had its own arm used as the murder weapon."

"All nonsense," gasped out Leebig. "You know nothing about robotics."

Baley said, "That's as may be. But I will suggest that Security Head Attlebish impound the records of your robot factory and maintenance shop. Perhaps we can find out whether you have built robots with detachable limbs and, if so, whether any were sent to Dr. Delmarre, and, if so, when."

"No one will tamper with my records," cried Leebig.

"Why? If you have nothing to hide, why?"

"But why on Solaria should I want to kill Delmarre? Tell me that. What's my motive?"

"I can think of two," said Baley. "You were friendly with Mrs. Delmarre. Overly friendly. Solarians are human, after a fashion. You never consorted with women, but that didn't keep you immune from, shall we say, animal urges. You saw Mrs. Delmarre-I beg your pardon, you viewed her-when she was dressed rather informally and--"

"No," cried Leebig in agony.

And Gladia whispered energetically, "No."

"Perhaps you didn't recognize the nature of your feelings yourself," said Baley, "or if you had a dim notion of it, you despised yourself for your weakness, and hated Mrs. Delmarre for inspiring it. And yet you might have hated Delmarre, too, for having her. You did ask Mrs. Delmarre to be your assistant. You compromised with your libido that far. She refused and your hatred was the keener for that. By killing Dr. Delmarre in such a way as to throw suspicion on Mrs. Delmarre, you could be avenged on both at once."

"Who would believe that cheap, melodramatic filth?" demanded Leebig in a hoarse whisper. "Another Earthman, another animal, maybe. No Solarian."

"I don't depend on that motive," said Baley. "I think it was there, unconsciously, but you had a plainer motive, too. Dr. Bikaine Delmarre was in the way of your plans, and had to be removed."

"What plans?" demanded Leebig.

"Your plans aiming at the conquest of the Galaxy, Dr. Leebig," said Baley.

A QUESTION IS ANSWERED

"THE EARTHMAN is mad," cried Leebig, turning to the others. "Isn't that obvious?"

Some stared at Leebig wordlessly, some at Baley.

Baley gave them no chance to come to decisions. He said, "You know better, Dr. Leebig. Dr. Delmarre was going to break off with you. Mrs. Delmarre thought it was because you wouldn't marry. I don't think so. Dr. Delmarre himself was planning a future in which ectogenesis would be possible and marriage unnecessary. But Dr. Delmarre was working with you; he would know, and guess, more about your work than anyone else. He would know if you were attempting dangerous experiments and he would try to stop you. He hinted about such matters to Agent Gruer, but gave no details, because he was not yet certain of the details. Obviously, you discovered his suspicions and killed him."

"Mad!" said Leebig again. "I will have nothing more to do with this."

But Attlebish interrupted. "Hear him out, Leebig!"

Baley bit his lip to keep from a premature display of satisfaction at the obvious lack of sympathy in the Security Head's voice. He said, "In the same discussion with me in which you mentioned robots with detachable limbs, Dr. Leebig, you mentioned spaceships with built-in positronic brains. You were definitely talking too much then. Was it that you thought I was only an Earthman and incapable of understanding the implications of robotics? Or was it that you had just been threatened with personal presence, had the threat lifted, and were a little delirious with relief? In any case, Dr. Quemot had already told me that the secret weapon of Solaria against the Outer Worlds was the positronic robot."

Quemot, thus unexpectedly referred to, started violently, and cried, "I meant--"

"You meant it sociologically, I know. But it gives rise to thoughts. Consider a spaceship with a built-in positronic brain as compared to a manned spaceship. A manned spaceship could not use robots in active warfare. A robot could not destroy humans on enemy spaceships or on enemy worlds. It could not grasp the distinction between friendly humans and enemy humans.

"Of course, a robot could be told that the opposing spaceship had no humans aboard. It could be told that it was an uninhabited planet that was being bombarded. That would be difficult to manage. A robot could see that its own ship carried humans; it would know its own world held humans. It would assume that the same was true of enemy ships and worlds. It would take a real expert in robotics, such as you, Dr. Leebig, to handle them properly in that case, and there are very few such experts.

"But a spaceship that was equipped with its own positronic brain would cheerfully attack any ship it was directed to attack, it seems to me. It would naturally assume all other ships were unmanned. A positronic-brained ship could easily be made incapable of receiving messages from enemy ships that might deceive it. With its weapons and

defenses under the immediate control of a positronic brain, it would be more maneuverable than any manned ship. With no room necessary for crewmen, for supplies, for water or air purifiers, it could carry more armor, more weapons and be more invulnerable than any ordinary ship. One ship with a positronic brain could defeat fleets of ordinary ships. Am I wrong?"

The last question was shot at Dr. Leebig, who had risen from his seat and was standing, rigid, almost cataleptic with-what? Anger? Horror?

There was no answer. No answer could have been heard. Something tore loose and the others were yelling madly. Kiorissa had the face of a Fury and even Gladia was on her feet, her small fist beating the air threateningly.

And all had turned on Leebig.

Baley relaxed and closed his eyes. He tried for just a few moments to unknot his muscles, unfreeze his tendons.

It had worked. He had pressed the right button at last. Quemot had made an analogy between the Solarian robots and the Spartan Helots. He said the robots could not revolt so that the Solarians could relax.

But what if some human threatened to teach the robots how to harm humans; to make them, in other words, capable of revolting?

Would that not be the ultimate crime? On a world such as Solaria would not every last inhabitant turn fiercely against anyone even suspected of making a robot capable of harming a human; on Solana, where robots outnumbered humans by twenty thousand to one?

Attlebish cried, "You are under arrest. You are absolutely forbidden to touch your books or records until the government has a chance to inspect them-" He went on, almost incoherent, scarcely heard in the pandemonium.

A robot approached Baley. "A message, master, from the master Olivaw."

Baley took the message gravely, turned, and cried, "One moment." His voice had an almost magical effect. All turned to look at him solemnly and in no face (outside Leebig's frozen glare) was there any sign of anything but the most painful attention to the Earthman.

Baley said, "It is foolish to expect Dr. Leebig to leave his records untouched while waiting for some official to reach them. So even before this interview began, my partner, Daneel Olivaw, left for Dr. Leebig's estate. I have just heard from him. He is on the grounds now and will be with Dr. Leebig in a moment in order that he may be put under restraint."

"Restraint!" howled Leebig in an almost animal terror, His eyes widened into staring holes in his head. "Someone coming here? Personal presence? No! No!" The second "No" was a shriek.

"You will not be harmed," said Baley coldly, "if you co-operate."

"But I won't see him. I can't see him." The roboticist fell to his knees without seeming aware of the motion. He put his hands together in a desperate clasped gesture of appeal. "What do you want? Do you want a confession? Delmarre's robot had

detachable limbs. Yes. Yes. Yes. I arranged Gruer's poisoning. I arranged the arrow meant for you. I even planned the spaceships as you said. I haven't succeeded, but, yes, I planned it. Only keep the man away. Don't let him come. Keep him away!"

He was babbling.

Baley nodded. Another right button. The threat of personal presence would do more to induce confession than any physical torture.

But then, at some noise or movement outside the field of sound or vision of any of the others, Leebig's head twisted and his mouth opened. He lifted a pair of hands, holding something off.

"Away," he begged. "Go away. Don't come. Please don't come. Please--"

He scrambled away on hands and knees, then his hand went suddenly to a pocket in his jacket. It came out with something and moved rapidly to his mouth. Swaying twice, he fell prone.

Baley wanted to cry: You fool, it isn't a human that's approaching; only one of the robots you love.

Daneel Olivaw darted into the field of vision and for a moment stared down at the crumpled figure.

Baley held his breath. If Daneel should realize it was his own pseudo humanity that had killed Leebig, the effect on his First Law enslaved brain might be drastic.

But Daneel only knelt and his delicate fingers touched Leebig here and there. Then he lifted Leebig's head as though it were infinitely precious to him, cradling it, caressing it.

His beautifully chiseled face stared out at the others and he whispered, "A human is dead!"

Baley was expecting her; she had asked for a last interview; but his eyes widened when she appeared.

He said, "I'm seeing you."

"Yes," said Gladia, "how can you tell?"

"You're wearing gloves."

"Oh." She looked at her hands in confusion. Then, softly, "Do you mind?"

"No, of course not. But why have you decided to see, rather than view?"

"Well"-she smiled weakly-"I've got to get used to it, don't I, Elijah? I mean, if I'm going to Aurora."

"Then it's all arranged?"

"Mr. Olivaw seems to have influence. It's all arranged. I'll never come back."

"Good. You'll be happier, Gladia. I know you will."

"I'm a little afraid."

"I know. It will mean seeing all the time and, you won't have all the comforts you had on Solaria. But you'll get used to it and, what's more, you'll forget all the terror you've been through."

"I don't want to forget everything," said Gladia softly.

"You will." Baley looked at the slim girl who stood before him and said, not without a momentary pang, "And you will be married someday, too. Really married, I mean."

"Somehow," she said mournfully, "that doesn't seem so attractive to me-right now."

"You'll change your mind."

And they stood there, looking at each other for a wordless moment.

Gladia said, "I've never thanked you." Baley said, "It was only my job."

"You'll be going back to Earth now, won't you?"

"Yes."

"I'll never see you again."

"Probably not. But don't feel badly about that. In forty years at most, I'll be dead and you won't look a bit different from the way you do now."

Her face twisted. "Don't say that."

"It's true."

She said rapidly, as though forced to change the subject, "It's all true about Jothan Leebig, you know."

"I know. Other roboticists went over his records and found experiments toward unmanned intelligent spaceships. They also found other robots with replaceable limbs."

Gladia shuddered, "Why did he do such a horrible thing, do you suppose?"

"He was afraid of people. He killed himself to avoid personal presence and he was ready to kill other worlds to make sure that Solania and its personal-presence taboo would never be touched."

"How could he feel so," she murmured, "when personal presence can be so very-"

Again a silent moment while they faced each other at ten paces. Then Gladia cried suddenly, "Oh, Elijah, you'll think it abandoned of me."

"Think what abandoned?"

"May I touch you? I'll never see you again, Elijah."

"If you want to."

Step by step, she came closer, her eyes glowing, yet looking apprehensive, too. She stopped three feet away, then slowly, as though in a trance, she began to remove the glove on her right hand.

Baley started a restraining gesture. "Don't be foolish, Gladia."

"I'm not afraid," said Gladia.

Her hand was bare. It trembled as she extended it.

And so did Baley's as he took her hand in his. They remained so for one moment, her hand a shy thing, frightened as it rested in his. He opened his hand and hers escaped, darted suddenly and without warning toward his face until her fingertips rested feather-light upon his cheek for the barest moment.

She said, "Thank you, Elijah. Good-by."

He said, "Good-by, Gladia," and watched her leave.

Even the thought that a ship was waiting to take him back to Earth did not wipe out the sense of loss he felt at that moment.

Undersecretary Albert Minnim's look was intended to be one of prim welcome. "I am glad to see you back on Earth. Your report, of course, arrived before you did and is being studied. You did a good job. The matter will look well in your record."

"Thank you," said Baley. There was no room for further elation in him. Being back on Earth; being safe in the Caves; being in hearing of Jessie's voice (he had spoken to her already) had left him strangely empty.

"However," said Minnim, "your report concerned only the murder investigation. There was another matter we were interested in. May I have a report on that, verbally?"

Baley hesitated and his hand moved automatically toward the inner pocket where the warm comfort of his pipe could once more be found.

Minnim said at once, "You may smoke, Baley."

Baley made of the lighting process a rather drawn-out ritual. He said, "I am not a sociologist."

"Aren't you?" Minnim smiled briefly. "It seems to me we discussed that once. A successful detective must be a good rule-of-thumb sociologist even if he never heard of Hackeuls Equation. I think, from your discomfort at the moment, that you have notions concerning the Outer Worlds but aren't sure how it will sound to me?"

"If you put it that way, sir. . . When you ordered me to Solaria, you asked a question; you asked what the weaknesses of the Outer Worlds were. Their strengths were their robots, their low population, their long lives, but what were their weaknesses?"

"Well?"

"I believe I know the weaknesses of the Solarians, sir."

"You can answer my question? Good. Go ahead."

"Their weaknesses, sir, are their robots, their low population, their long lives."

Minnim stared at Baley without any change of expression. His hands worked in jerky finger-drawn designs along the papers on his desk.

He said, "Why do you say that?"

Baley had spent hours organizing his thoughts on the way back from Solaria; had confronted officialdom, in imagination, with balanced, well-reasoned arguments. Now he felt at a loss.

He said, "I'm not sure I can put them clearly."

"No matter. Let me hear. This is first approximation only."

Baley said, "The Solarians have given up something mankind has had for a million years; something worth more than atomic power, cities, agriculture, tools, fire, everything; because it's something that made everything else possible."

"I don't want to guess, Baley. What is it?"

"The tribe, sir. Cooperation between individuals. Solaria has given it' up entirely. It is a world of isolated individuals and the planet's only sociologist is delighted that this is so. That sociologist, by the way, never heard of sociomathematics, because he is inventing his own science. There is no one to teach him, no one to help him, no one to

think of something he himself might miss. The only science that really flourishes on Solaria is robotics and there are only a handful of men involved in that, and when it came to an analysis of the interaction of robots and men, they had to call in an Earthman to help.

"Solarian art, sir, is abstract. We have abstract art on Earth as one form of art; but on Solaria it is the only form. The human touch is gone. The looked-for future is one of ectogenesis and complete isolation from birth."

Minnim said, "It all sounds horrible. But is it harmful?"

"I think so. Without the interplay of human against human, the chief interest in life is gone; most of the intellectual values are gone; most of the reason for living is gone. Viewing is no substitute for seeing. The Solarians, themselves, are conscious that viewing is a long-distance sense.

"And if isolation isn't enough to induce stagnation, there is the matter of their long lives. On Earth, we have a continuous influx of young people who are willing to change because they haven't had time to grow hard-set in their ways. I suppose there's some optimum. A life long enough for real accomplishment and short enough to make way for youth at a rate that's not too slow. On Solaria, the rate is too slow."

Minnim still drew patterns with his finger. "Interesting! Interesting!" He looked up, and it was as though a mask had fallen away. There was glee in his eyes.

"Plainclothesman, you're a man of penetration."

"Thank you," said Baley stiffly.

"Do you know why I encouraged you to describe your views to me?" He was almost like a little boy, hugging his pleasure. He went on without waiting for an answer. "Your report has already undergone preliminary analysis by our sociologists and I was wondering if you had any idea yourself as to the excellent news for Earth you had brought with you. I see you have."

"But wait," said Baley. "There's more to this."

"There is, indeed," agreed Minnim jubilantly. "Solaria cannot possibly correct its stagnation. It has passed a critical point and their dependence on robots has gone too far. Individual robots can't discipline an individual child, even though discipline may do the child eventual good. The robot can't see past the immediate pain. And robots collectively cannot discipline a planet by allowing its institutions to collapse when the institutions have grown harmful. They can't see past the immediate chaos. So the only end for the Outer Worlds is perpetual stagnation and Earth will be freed of their domination. This new data changes everything. Physical revolt will not even be necessary. Freedom will come of itself."

"Wait," said Baley again, more loudly. "It's only Solaria we're discussing, not any other Outer World."

"It's the same thing. Your Solarian sociologist-Kimot--"

"Quemot, sir."

"Quemot, then. He said, did he not, that the other Outer Worlds were moving in the direction of Solaria?"

"He did, but he knew nothing about the other Outer Worlds firsthand, and he was no sociologist. Not really. I thought I made that clear."

"Our own men will check."

"They'll lack data too. We know nothing about the really big Outer Worlds. Aurora, for instance; Daneel's world. To me, it doesn't seem reasonable to expect them to be anything like Solaria. In fact, there's only one world in the Galaxy which resembles Solaria--"

Minnim was dismissing the subject with a small, happy wave of his neat hand. "Our men will check. I'm sure they will agree with Quemot."

Baley's stare grew somber. If Earth's sociologists were anxious enough for happy news, they would find themselves agreeing with Quemot, at that. Anything could be found in figures if the search were long enough and hard enough and if the proper pieces of information were ignored or overlooked.

He hesitated. Was it best now to speak while he had the ear of a man high in the government or-- He hesitated a trifle too long. Minnim was speaking again, shuffling a few papers and growing more matter-of-fact. "A few minor matters, Plainclothesman, concerning the Delmarre case itself and then you will be free to go. Did you intend to have Leebig commit suicide?"

"I intended to force a confession, sir. I had not anticipated suicide at the approach, ironically, of someone who was only a robot and who would not really be violating the taboo against personal presence. But, frankly, I don't regret his death. He was a dangerous man. It will be a long time before there will be another man who will combine his sickness and his brilliance."

"I agree with that," said Minnim dryly, "and consider his death fortunate, but didn't you consider your danger if the Solarians had stopped to realize that Leebig couldn't possibly have murdered Delmane?"

Baley took his pipe out of his mouth and said nothing.

"Come, Plainclothesman," said Minnim. "You know he didn't."

The murder required personal presence and Leebig would die rather than allow that. He did die rather than allow it."

Baley said, "You're right, sir. I counted on the Solarians being too horrified at his misuse of robots to stop to think of that."

"Then who did kill Delmarre?"

Baley said slowly, "If you mean who struck the actual blow, it was the person everyone knew had done so. Gladia Delmarre, the man's wife."

"And you let her go?"

Baley said, "Morally, the responsibility wasn't hers. Leebig knew Gladia quarreled bitterly with her husband, and often. He must have known how furious she could grow in moments of anger. Leebig wanted the death of the husband under circumstances that would incriminate the wife. So he supplied Delmarre with a robot and, I imagine, instructed it with all the skill he possessed to hand Gladia one of its detachable limbs at the moment of her full fury. With a weapon in her hand at the crucial moment, she acted

in a temporary black-out before either Delmarre or the robot could stop her. Gladia was as much Leebig's unwitting instrument as the robot itself."

Minnim said, "The robot's arm must have been smeared with blood and matted hair."

"It probably was," said Baley, "but it was Leebig who took the murder robot in charge. He could easily have instructed any other robots who might have noticed the fact to forget it. Dr. Thool might have noticed it, but he inspected only the dead man and the unconscious woman. Leebig's mistake was to think that guilt would rest so obviously on Gladia that the matter of the absence of an obvious weapon at the scene wouldn't save her. Nor could he anticipate that an Earthman would be called in to help with the investigation."

"So with Leebig dead, you arranged to have Gladia leave Solaria. Was that to save her in case any Solarians began thinking about the case?"

Baley shrugged. "She had suffered enough. She had been victimized by everyone; by her husband, by Leebig, by the world of Solana."

Minnim said, "Weren't you bending the law to suit a personal whim?"

Baley's craggy face grew hard. "It was not a whim. I was not bound by Solarian law. Earth's interests were paramount, and for the sake of those interests, I had to see that Leebig, the dangerous one, was dealt with. As for Mrs. Delmarre." He faced Minnim now, and felt himself taking a crucial step. He had to say this. "As for Mrs. Delmarre, I made her the basis of an experiment."

"What experiment?"

"I wanted to know if she would consent to face a world where personal presence was permitted and expected. I was curious to know if she had the courage to face disruption of habits so deeply settled in her. I was afraid she might refuse to go; that she might insist on remaining on Solaria, which was purgatory to her, rather than bring herself to abandon her distorted Solarian way of life. But she chose change and I was glad she did, because to me it seemed symbolic. It seemed to open the gates of salvation for us."

"For us?" said Minnim with energy. "What the devil do you mean?"

"Not for you and me, particularly, sir," said Baley gravely, "but for all mankind. You're wrong about the other Outer Worlds. They have few robots; they permit personal presence; and they have been investigating Solaria. R. Daneel Olivaw was there with me, you know, and he'll bring back a report. There is a danger they may become Solarias someday, but they will probably recognize that danger and work to keep themselves in a reasonable balance and in that way remain the leaders of mankind."

"That is your opinion," said Minnim testily.

"And there's more to it. There is one world like Solaria and that's Earth."

"Plainclothesman Baley!"

"It's so, sir. We're Solaria inside out. They retreated into isolation from one another. We retreated into isolation from the Galaxy. They are at the dead end of their inviolable estates. We are at the dead end of underground Cities. They're leaders without

followers, only robots who can't talk back. We're followers without leaders, only enclosing Cities to keep us safe." Baley's fists clenched.

Minnim disapproved. "Plainclothesman, you have been through an ordeal. You need a rest and you will have one. A month's vacation, full pay, and a promotion at the end of it."

"Thank you, but that's not all I want. I want you to listen. There's only one direction out of our dead end and that's outward, toward Space. There are a million worlds out there and the Spacers own only fifty. They are few and long-lived. We are many and shortlived. We: are better suited than they for exploration and colonization. We have population pressure to push us and a rapid turnover of generation to keep us supplied with the young and reckless. It was our ancestors who colonized the Outer Worlds in the first place."

"Yes, I see-but I'm afraid our time is up."

Baley could feel the other's anxiety to be rid of him and he remained stolidly in place. He said, "When the original colonization established worlds superior to our own in technology, we escaped by building wombs beneath the ground for ourselves. The Spacers made us feel inferior and we hid from them. That's no answer. To avoid the destructive rhythm of rebellion and suppression, we must compete with them, follow them, if we must, lead them, if we can. To do that, we must face the open; we must teach ourselves to face the open. If it is too late to teach ourselves, then we must teach our children. It's vital!"

"You need a rest, Plainclothesman."

Baley said violently, "Listen to me, sir. If the Spacers are strong and we remain as we are, then Earth will be destroyed within a century. That has been computed, as you yourself told me. If the Spacers are really weak and are growing weaker, then we may escape, but who says the Spacers are weak? The Solarians, yes, but that's all we know."

"But--"

"I'm not through. One thing we can change, whether the Spacers are weak or strong. We can change the way we are. Let us face the open and we'll never need rebellion. We can spread out into our own crowd of worlds and become Spacers ourselves. If we stay here on Earth, cooped up, then useless and fatal rebellion can't be stopped. It will be all the worse if the people build any false hopes because of supposed Spacer weakness. Go ahead, ask the sociologists. Put my argument to them. And if they're still in doubt, find a way to send me to Aurora. Let me bring back a report on the real Spacers, and you'll see what Earth must do."

Minnim nodded. "Yes, yes. Good day, now, Plainclothesman Baley."

Baley left with a feeling of exaltation. He had not expected an open victory over Minnim. Victories over ingrained patterns of thought are not won in a day or a year. But he had seen the look of pensive uncertainty that had crossed Minnim's face and had blotted out, at least for a while, the earlier uncritical joy.

He felt he could see into the future. Minnim would ask the sociologists and one or two of them would be uncertain. They would wonder. They would consult Baley.

Give it one year, thought Baley, one year, and I'll be on my way to Aurora. One generation, and we'll be out in space once more.

Baley stepped onto the northbound Expressway. Soon he would see Jessie. Would she understand? And his son, Bentley, now seventeen. When Ben had a seventeen-year-old of his own, would he be standing on some empty world, building a spacious life?

It was a frightening thought. Baley still feared the open. But he no longer feared the fear! It was not something to run from, that fear, but something to fight.

Baley felt as though a touch of madness had come over him. From the very first the open had had its weird attraction over him; from the time in the ground-car when he had tricked Daneel in order to have the top lowered so that he might stand up in the open air.

He had failed to understand then. Daneel thought he was being perverse. Baley himself thought he was facing the open out of professional necessity, to solve a crime. Only on that last evening on Solaria, with the curtain tearing away from the window, did he realize his need to face the open for the open's own sake; for its attraction and its promise of freedom.

There must be millions on Earth who would feel that same urge, if the open were only brought to their attention, if they could be made to take the first step.

He looked about.

The Expressway was speeding on. All about him was artificial light and huge banks of apartments gliding backward and flashing signs and store windows and factories and lights and noise and crowds and more noise and people and people and people. .

It was all he had loved, all he had hated and feared to leave, all he had thought he longed for on Solaria.

And it was all strange to him.

He couldn't make himself fit back in.

He had gone out to solve a murder and something had happened to him.

He had told Minnim the Cities were wombs, and so they were. And what was the first thing a man must do before he can be a man? He must be born. He must leave the womb. And once left, it could not be re-entered.

Baley had left the City and could not re-enter. The City was no longer his; the Caves of Steel were alien. This had to be. And it would be so for others and Earth would be born again and reach outward.

His heart beat madly and the noise of life about him sank to an unheard murmur.

He remembered his dream on Solaria and he understood it at last. He lifted his head and he could see through all the steel and concrete and humanity above him. He could see the beacon set in space to lure men outward. He could see it shining down. The naked sun!

THE ROBOTS OF DAWN

1983

Dedicated to

Marvin Minsky

and

Joseph F. Engelberger,

who epitomize (respectively)

the theory and practice of robotics

1. BALEY

1.

Elijah Baley found himself in the shade of the tree and muttered to himself, "I knew it. I'm sweating."

He paused, straightened up, wiped the perspiration from his brow with the back of his hand, then looked dourly at the moisture that covered it.

"I hate sweating," he said to no one, throwing it out as a cosmic law. And once again he felt annoyance with the Universe for making something both essential and unpleasant.

One never perspired (unless one wished to, of course) in the City, where temperature and humidity were absolutely controlled and where it was never absolutely necessary for the body to perform in ways that made heat production greater than heat removal.

Now that was civilized.

He looked out into the field, where a straggle of men and women were, more or less, in his charge. They were mostly youngsters in their late teens, but included some middle-aged people like himself. They were hoeing inexpertly and doing a variety of other things that robots were designed to do-and could do much more efficiently had they not been ordered to stand aside and Wait while the human beings stubbornly practiced.

There were clouds in the sky and the sun, at the moment, was going behind one of them. He looked up uncertainly. On the one hand, it meant the direct heat of the sun (and the sweating) would be cut down. On the other hand, was there a chance of rain?

That was the trouble with the Outside. One teetered forever between unpleasant alternatives.

It always amazed Baley that a relatively small cloud could cover the sun completely, darkening Earth from horizon to horizon yet leaving most of the sky blue.

He stood beneath the leafy canopy of the tree (a kind of primitive wall and ceiling, with the solidity of the bark comforting to the touch) and looked again at the group, studying it. Once a week they were out there, whatever the weather.

They were gaining recruits, too. They were definitely more in number than the stout-hearted few who had started out. The City government, if not an actual partner in the endeavor, was benign enough to raise no obstacles.

To the horizon on Baley's right-eastward, as one could tell by the position of the late-afternoon sun-he could see the blunt, many-fingered domes of the City, enclosing all that made life worthwhile. He saw, as well, a small moving speck that was too far off to be made out clearly.

From its manner of motion and from indications too subtle to describe, Baley was quite sure it was a robot, but that did not surprise him. The Earth's surface, outside the Cities, was the domain of robots, not of human beings-except for those few, like himself, who were dreaming of the stars.

Automatically, his eyes turned back toward the hoeing star-dreamers and went from one to the other. He could identify and name each one. All working, all learning how to endure the Outside, and- He frowned and muttered in a low voice, "Where's Bentley?" And another voice, sounding behind with a somewhat breathless exuberance, said, "Here I am, Dad."

Baley whirled. "Don't do that, Ben."

"Do what?"

"Sneak up on me like that. It's hard enough trying to keep my equilibrium in the Outside without my having to worry about surprises, too."

"I wasn't trying to surprise you. It's tough to make much noise walking on the grass. One can't help that. -Bust don't you think you ought to go in, Dad? You've been out two hours now and I think you've had enough."

"Why? Because I'm forty-five and you're a punk kid of nineteen? You think you have to take care of your decrepit father, do you?"

Ben said, "Yes, I guess that's it. And a bit of good detective work on your part, too. You cut right through to the nub."

Ben smiled broadly. His face was round, his eyes sparkling. There was a lot of Jessie in him, Baley thought, a lot of his mother. There was little trace of the length and solemnity of Baley's own face.

And yet Ben had his father's way of thinking. He could at times furrow into a grave solemnity that made it quite clear that he was of perfectly legitimate origin.

"I'm doing very well," said Baley.

"You are, Dad. You're the best of us, considering-"

"Considering what?"

"Your age, of course. And I'm not forgetting that you're the one who started this. Still, I saw you take cover under the tree and I thought-well, maybe the old man has had enough."

"I'll 'old man' you," said Baley. The robot he had noted in the direction of the City was now close enough to be made out clearly, but Baley dismissed it as unimportant. He said, "It makes sense to get under a tree once in a while when the sun's too bright. We've got to learn to use the advantages of the Outside, as well as learning to bear its disadvantages. -And there's the sun coming out from behind that cloud."

"Yes, it will do that. -Well, then, don't you want to go in?"

"I can stick it out. Once a week, I have an afternoon off and I spend it here. That's my privilege. It goes with my C-7 rating."

"It's not a question of privilege, Dad. It's a question of getting overtired."

"I feel fine, I tell you."

"Sure. And when you get home, you'll go straight to bed and lie in the dark."

"Natural antidote to overbrightness."

"And Mom worries."

"Well, let her worry. It will do her good. Besides, what's the harm in being out here? The worst part is I sweat, but I just have to get used to it. I can't run away from it. When I started, I couldn't even walk this far from the City without having to turn back-and you were the only one with me. Now look at how many we've got and how far I can come without trouble. I can do plenty of work, too. I can last another hour. Easy. -I tell you, Ben, it would do your mother good to come out here herself."

"Who? Mom? Surely you jest."

"Some lest. When the time comes to take off, I won't be able to go along-because she won't."

"And you'll be glad of it. Don't kid yourself, Dad. it won't be for quite a while-and if you're not too old now, you'll be too old then. It's going to be a game for young people."

"You know," said Baley, half-balling his fist, "you are such a wise guy with your 'young people.' Have you ever been off Earth? Have any of those people in the field been off Earth? I have. Two years ago. That was before I had any of this acclimatization-and I survived."

"I know, Dad, but that was briefly, and in the line of duty, and you were taken care of in a going society. It's not the same."

"It was the same," said Baley stubbornly, knowing in his heart that it wasn't. "And it won't take us so long to be able to leave. If I could get permission to go to Aurora, we could get this act off the ground."

"Forget it. It's not going to happen that easily."

"We've got to try. The government won't let us go without Aurora giving us the go-ahead. It's the largest and strongest of the Spacer worlds and what it says-"

"Goes! I know. We've all talked this over a million times. But you don't have to go there to get permission. There are such things as hyper-relays. You can talk to them from here. I've said that any number of times before."

"It's not the same. We'll need face-to-face contact-and I've said that any number of times before."

"In any case," said Ben, "we're not ready yet."

"We're not ready because Earth won't give us the ships. The Spacers will, together with the necessary technical help."

"Such faith! Why should the Spacers do it? When did they start feeling kindly toward us short-lived Earthpeople?"

"If I could talk to them-"

Ben laughed. "Come on, Dad. You just want to go to Aurora to see that woman again."

Baley frowned and his eyebrows beetled over his deep-set eyes. "Woman? Jehoshaphat, Ben, what are you talking about?"

"Now, Dad, just between us-and not a word to Mom-what did happen with that woman on Solaria? I'm old enough. You can tell me."

"What woman on Solaria?"

"How can you look at me and deny any knowledge of the woman everyone on Earth saw in the hyperwave dramatization? Gladia Delmarre. That woman!"

"Nothing happened. That hyperwave thing was nonsense. I've told you that a thousand times. She didn't look that way. I didn't look that way. It was all made up and you know it was produced over my protests, just because the government thought it would put Earth in a good light with the Spacers. -And you make sure you don't imply anything different to your mother."

"Wouldn't dream of it. Still, this Gladia went to Aurora and you keep wanting to go there, too."

"Are you trying to tell me that you honestly think the reason I want to go to Aurora- Oh, Jehoshaphat!"

His son's eyebrows raised, "What's the matter?"

"The robot. That's R. Ceronimo."

"Who?"

"One of our Department messenger robots. And it's out here! I'm off-time and I deliberately left my receiver at home because I didn't want them to get at me. That's my C-7 privilege and yet they send for me by robot."

"How do you know it's coming to you, Dad?"

"By very clever deduction. One: there's no one else here who has any connection with the Police Department; and two: that miserable thing is heading right toward me. From that I deduce that it wants me. I should get on the other side of the tree and stay there."

"It's not a wall, Dad. The robot can walk around the tree."

And the robot called out, "Master Baley, I have a message for you. You are wanted at Headquarters."

The robot stopped, waited, then said again, "Master Baley, I have a message for you. You are wanted at Headquarters."

"I hear and understand," Baley said tonelessly. He had to say that or the robot would have continued to repeat.

Baley frowned slightly as he studied the robot. It was a new model, a little more humaniform than the older models were. It had been uncased and activated only a month before and with some degree of fanfare. The government was always trying for something-anything-that might produce more acceptance of robots.

It had a grayish surface with a dull finish and a somewhat resilient touch (perhaps like soft leather). The facial expression, while largely changeless, was not quite as idiotic as that of most robots. It was, though, in actual fact, quite as idiotic, mentally, as all the rest.

For a moment, Baley thought of R. Daneel Olivaw, the Spacer robot who had been on two assignments with him, one on Earth and one on Solaria, and whom he had last

encountered when Daneel had consulted him in the mirror-image case. Daneel was a robot who was so human that Baley could treat him as a friend and could still miss him, even now. If all robots were like that- Baley said, "This is my day off, boy. There is no necessity for me to go to Headquarters."

R. Geronimo paused. There was a trifling vibration in his hands. Baley noticed that and was quite aware that it meant a certain amount of conflict in the robot's positronic pathways. They had to obey human beings, but it was quite common for two human beings to want two different types of obedience.

The robot made a choice. It said, "It is your day off, master.

-You are wanted at Headquarters."

Ben said uneasily, "If they want you, Dad-

Baley shrugged. "Don't be fooled, Ben. If they really wanted me badly, they'd have sent an enclosed car and probably used a human volunteer, instead of ordering a robot to do the walking -and irritate me with one of its messages."

Ben shook his head. "I don't think so, Dad. They wouldn't know where you were or how long it would take to find you. I don't think they would want to send a man being on an uncertain search."

"Yes? Well, let's see how strong the order is. -R. Geronimo, go back to Headquarters and tell them I'll be at work at 0900." Then sharply, "Go back! That's an order!"

The robot hesitated perceptibly, then turned, moved away, turned again, made an attempt to come back toward Baley, and finally remained in one spot, its whole body vibrating.

Baley recognized it for what it was and muttered to Ben, "I may have to go. Jehoshaphat!"

What was troubling the robot was what the roboticists called an equipotential of contradiction on the second level. Obedience was the Second Law and R. Ceronimo was now suffering from two roughly equal and contradictory orders. Robot-block was what the general population called it or, more frequently, roblock for short.

Slowly, the robot turned. Its original order was the stronger, but not by much, so that its voice was slurred. "Master, I was told you might say that. If so I was to say-" It paused, then added hoarsely, "I was to say-if you are alone."

Baley nodded curtly to his son and Ben didn't wait. He knew when his father was Dad and when he was a policeman. Ben retreated hastily.

For a moment, Baley played irritably with the notion of strengthening his own order and making the roblock more nearly complete, but that would surely cause the kind of damage that would require positronic analysis and reprogramming. The expense of that would be taken out of his salary and it might easily amount to a year's pay.

He said, "I withdraw my order. What were you told to say?"

R. Geronimo's voice at once cleared. "I was told to say that you are wanted in connection with Aurora."

Baley turned toward Ben and called out, "Give them another half hour and then say I want them back in. I've got to leave now."

And as he walked off with long strides, he said petulantly to the robot, "Why couldn't they tell you to say that at once? And why can't they program you to use a car so that I wouldn't have to walk?"

He knew very well why that wasn't done. Any accident involving a robot-driven car would set off another antirobot riot.

He did not slacken his pace. There were two kilometers to walk before they even got to the City wall and, thereafter, they would have to reach Headquarters through heavy traffic.

Aurora? What kind of crisis was brewing now?

2.

It took half an hour for Baley to reach the entranceway into the City and he stiffened himself for what he suspected ahead. Perhaps-perhaps-it wouldn't happen this time.

He reached the dividing plane between Outside and City, the wall that marked off chaos from civilization. He placed his hand over the signal patch and an opening appeared. As usual, he didn't wait for the opening to be completed, but slipped in as soon as it was wide enough. R. Geronimo followed.

The police sentry on duty looked startled, as he always did when someone came in from Outside. Each time there was the same look of disbelief, the same coming to attention, the same sudden hand upon the blaster, the same frown of uncertainty.

Baley presented his identity card with a scowl and the sentry saluted. The door closed behind him-and it happened.

Baley was inside the City. The walls closed around him and the City became the Universe. He was again immersed in the endless, eternal hum and odor of people and machinery that would soon fade below the threshold of consciousness; in the soft, indirect artificial light that was nothing at all like the partial and varying glare of the Outside, with its green and brown and blue and white and its interruptions of red and yellow. Here there was no erratic wind, no heat, no cold, no threat of rain; here there was instead the quiet permanence of unfelt air currents that kept everything fresh. Here was a designed combination of temperature and humidity so perfectly adjusted to humans it remained unsensed.

Baley felt his breath drawn in tremulously and he gladdened in the realization that he was home and safe with the known and knowable.

That was what always happened. Again he had accepted the City as the womb and moved back into it with glad relief. He knew that such a womb was something from which humanity must emerge and be born. Why did he always sink back this way?

And would that always be? Would it really be that, though he might lead countless numbers out of the City and off the Earth and out to the stars, he would not, in the end, be able to go himself? Would he always feel at home only in the City?

He clenched his teeth-but there was no use thinking about it.

He said to the robot, "Were you brought to this point by car, boy?"

"Yes, master."

"Where is it now?"

"I do not know, master."

Baley turned to the sentry. "Officer, this robot was brought to this spot two hours ago. What has happened to the car that brought him?"

"Sir, I went on duty less than an hour ago."

Actually, it was foolish to ask. Those in the car did not know how long it would take the robot to find him, so they would not wait. Baley had a brief impulse to call in, but they would tell him to take the Expressway; it would be quicker.

The only reason he hesitated was the presence of R. Geronimo. He didn't want its company on the Expressway and yet he could not expect the robot to make its way back to Headquarters through hostile crowds.

Not that he had a choice. Undoubtedly, the Commissioner was not eager to make this easy for him. He would be annoyed at not having had him on call, free time or not.

Baley said, "This way, boy."

The City covered over five thousand square kilometers and contained over four hundred kilometers of Expressway, plus hundreds of kilometers of Feederway, to serve its well over twenty million people. The intricate net of movement existed on eight levels and there were hundreds of interchanges of varying degrees of complexity.

As a plainclothesman, Baley was' expected to know them all- and he did. Put him down blindfolded in any corner of the City, whip off the blindfold, and he could make his way flawlessly to any other designated portion.

There was no question then but that he knew how to get to Headquarters. There were eight reasonable routes he could follow, however, and for a moment he hesitated over which might be least crowded at this time.

Only for a moment. Then he decided and said, "Come with me, boy." The robot followed docilely at his heels.

They swung onto a passing Feeder and Baley seized one of the vertical poles: white, warm, and textured to give a good grip. Baley did not want to sit down; they would not be on for long. The robot had waited for Baley's quick gesture before placing its hand upon the same pole. It might as well have remained standing without a grip-it would not have been difficult to maintain balance-but Baley wanted to take no chance of being separated. He was responsible for the robot and did not wish to risk being asked to replace the financial loss to the City should anything happen to B. Geronimo.

The Feeder had a few other people on board and the eyes of each turned curiously-and inevitably-to the robot. One by one, Baley caught those glances. Baley had the look of one used to authority and the eyes he caught turned uneasily away.

Baley gestured again as he swung off the Feeder. It had reached the strips now and was moving at the same speed as the nearest strip, so that there was no necessity for it to slow down. Baley stepped onto that nearest strip and felt the whipping of air once they were no longer protected by plastic enclosure.

He leaned into the wind with the ease of long practice, lifting one arm to break the force at eye level. He ran the strips downward to the intersection with the Expressway and then began the run upward to the speed-strip that bordered the Expressway.

He heard the teenage cry of "Robot!" (he had been a teenager himself once) and knew exactly what would happen. A group of them-two or three or half a dozen-would swarm up or down the strips and somehow the robot would be tripped and would go clanging down. Then, if it ever came before a magistrate, any teenager taken into custody would claim the robot had collided with him and was a menace on the strips-and would undoubtedly be let go.

The robot could neither defend itself in the first instance, nor testify in the second.

Baley moved rapidly and was between the first of the teenagers and the robot. He sidestepped onto a faster strip, brought his arm higher, as though to adjust to the increase in wind speed, and somehow the young man was nudged off course and onto a slower strip for which he was not prepared. He called out wildly, "Hey!" as he went sprawling. The others stopped, assessed the situation quickly, and veered away.

Baley said, "Onto the Expressway, boy."

The robot hesitated briefly. Robots were not allowed, unaccompanied, on the Expressway. Baley's order had been a firm one, however, and it moved aboard. Baley followed, which relieved the pressure on the robot.

Baley moved brusquely through the crowd of standees, forcing R. Ceronimo ahead of him, making his way up to the less crowded upper level. He held on to a pole and kept one foot firmly on the robot's, again glaring down all eye contact.

Fifteen and a half kilometers brought him to the close-point for the Police Headquarters and he was off. B. Geronimo came off with him. It hadn't been touched, not a scuff. Baley delivered it at the door and accepted a receipt. He carefully checked the date, the time, and the robot's serial number, then placed the receipt in his wallet. Before the day was over, he would check and make certain that the transaction had been computer-registered.

Now he was going to see the Commissioner-and he knew the Commissioner. Any failing on Baley's part would be suitable cause for demotion. He was a harsh man, the Commissioner. He considered Baley's past triumphs a personal offense.

3.

The Commissioner was Wilson Roth. He had held the post for two and a half years, since Julius Enderby had resigned once the furor roused by the murder of a Spacer had subsided and the resignation could be safely offered.

Baley had never quite reconciled himself to the change. Julius, with all his shortcomings, had been a friend as well as a superior; Roth was merely a superior. He was not even City-bred. Not this City. He had been brought in from outside.

Roth was neither unusually tall nor unusually fat. His head was large, though, and seemed to be set on a neck that slanted slightly forward from his torso. It made him appear heavy: heavy-bodied and heavy-headed. He even had heavy lids half-obscuring his eyes.

Anyone would think him sleepy, but he never missed anything. Baley had found that out very soon after Roth had taken over the office. He was under no illusion that Roth liked him. He was under less illusion that he liked Roth.

Roth did not sound petulant—he never did—but his words did not exude pleasure, either. "Baley, why is it so hard to find you?" he said.

Baley said in a carefully respectful voice, "It is my afternoon off, Commissioner."

"Yes, your C-7 privilege. You've heard of a Waver, haven't you? Something that receives official messages? You are subject to recall, even on your off-time."

"I know that very well, Commissioner, but there are no longer any regulations concerning the wearing of a Waver. We can be reached without one."

"Inside the City, yes, but you were Outside—or am I mistaken?"

"You are not mistaken, Commissioner. I was Outside. The regulations do not state that, in such a case, I am to wear a Waver."

"You hide behind the letter of the statute, do you?"

"Yes, Commissioner," said Baley calmly.

The Commissioner rose, a powerful and vaguely threatening man, and sat on the desk. The window to the Outside, which Enderby had installed, had long been closed off and painted over. In the closed-in room (warmer and more comfortable for that), the Commissioner seemed the larger.

He said, without raising his voice, "You rely, Baley, on Earth's gratitude, I think."

"I rely on doing my job, Commissioner, as best I can and in accord with the regulations."

"And on Earth's gratitude when you bend the spirit of those regulations."

Baley said nothing to that.

The Commissioner said, "You are considered as having done well in the Sarton murder case three years ago."

"Thank you, Commissioner," said Baley. "The dismantling of Spacetown was a consequence, I believe."

"It was—and that was something applauded by all Earth. You are also considered as having done well on Solaria two years ago and, before you remind me, the result was a revision in the terms of the trade treaties with the Spacer worlds, to the considerable advantage of Earth."

"I believe that is on record, sir."

"And you are very much the hero as a result."

"I make no such claim."

"You have received two promotions, one in the aftermath of each affair. There has even been a hyperwave drama based on the events on Solaria."

"Which was produced without my permission and against my will, Commissioner."

"Which nevertheless made you a kind of hero."

Baley shrugged.

The Commissioner, having waited for a spoken comment for a few seconds, went on, "But you have done nothing of importance in nearly two years."

"It is natural for Earth to ask what I have done for it lately."

"Exactly. It probably does ask. It knows that you are a leader in this new fad of venturing Outside, in fiddling with the soil, and in pretending to be a robot."

"It is permitted."

"Not all that is permitted is admired. It is possible that more people think of you as peculiar than as heroic."

- "That is, perhaps, in accord with my own opinion of myself," said Baley.

"The public has a notoriously short memory. The heroic is vanishing rapidly behind the peculiar in your case, so that if you make a mistake you will be in serious trouble. The reputation you rely on-

"With respect, Commissioner, I do not rely on it."

"The reputation the Police Department feels you rely on will not save you and I will not be able to save you."

The shadow of a smile seemed to pass for one moment over Baley's dour features. "I would not want you, Commissioner, to risk your position in a wild attempt to save me."

The Commissioner shrugged and produced a smile precisely as shadowy and fleeting. "You need not worry about that."

"Then why are you telling me all this, Commissioner?"

"To warn you. I am not trying to destroy you, you understand, so I am warning you once. You are going to be involved in a very delicate matter, in which you may easily make a mistake, and I am warning you that you must not make one." Here his face relaxed into an unmistakable smile.

Baley did not respond to the smile. He said, "Can you tell me what the very delicate matter is?"

"I do not know."

"Does it involve Aurora?"

"R. Geronimo was instructed to tell you that it did, if it had to, but I know nothing about it."

"Then how can you tell, Commissioner, that it is a very delicate matter?"

"Come, Baley, you are an investigator of mysteries. What brings a member of the Terrestrial Department of Justice to the City, when you might easily have been asked to go to Washington, as you did two years ago in connection with the Solaria incident? And what makes the person from Justice frown and seem ill-tempered and grow impatient at the fact that you were not reached instantly? Your decision to make yourself unavailable

was a mistake, one that was in no way my responsibility. It is perhaps not fatal in itself, but you are off on the wrong foot, I believe."

"You are delaying me further, however," said Baley, frowning.

"Not really. The official from Justice is having some light refreshment-you know the perks that the Terries allow themselves. We will be joined when that is done. The news of your arrival has been transmitted, so just continue to wait, as I am doing."

Baley waited. He had known, at the time, that the hyperwave drama, forced upon him against his will, however it might have helped Earth's position, had ruined him in the Department. It had cast him in three-dimensional relief against the two-dimensional flatness of the organization and had made him a marked man.

He had risen to higher rank and greater privileges, but that, too, had increased Department hostility against him. And the higher he rose, the more easily he would shatter in case of a fall.

If he made a mistake-

4.

The official from Justice entered, looked about casually, walked to the other side of Roth's desk, and took the seat. As highest-classified individual, the official behaved properly. Roth calmly took a secondary seat.

Baley remained standing, laboring to keep his face unsurprised.

Roth might have warned him, but he had not. He had clearly chosen his words deliberately, in order to give no sign.

The official was a woman.

There was no reason for this not to be. Any official might be a woman. The Secretary-General might be a woman. There were women on the police force, even a woman with the rank of captain.

It was just that, without warning, one didn't expect it in any given case. There were times in history when women entered administrative posts in considerable numbers. Baley knew that; he knew history well. But this wasn't one of those times.

She was quite tall and sat stiffly upright in the chair. Her uniform was not very different from that of a man, nor was her hair styling or facial adornment. What gave her sex away immediately were her breasts, the prominence of which she made no attempt to hide.

She was fortyish, her facial features regular and cleanly chiseled. She had middle-aged attractively, with, as yet, no visible gray in her dark hair.

She said, "You are Plainclothesman Elijah Baley, Classification C-7." It was a statement, not a question.

"Yes, ma'am," Baley answered, nevertheless.

"I am Undersecretary Lavinia Demachek. You don't look very much as you did in that hyperwave drama concerning you."

Baley had been told that often. "They couldn't very well portray me as I am and collect much of an audience, ma'am," said Baley dryly.

"I'm not sure of that. You look stronger than the baby-faced actor they used."

Baley hesitated a second or so and decided to take the chance -or perhaps felt he couldn't resist taking it. Solemnly, he said, "You have a cultivated taste, ma'am."

She laughed and Baley let out his breath very gently. She said, "I like to think I have. -Now what do you mean by keeping me waiting?"

"I was not informed you would come, ma'am, and it was off-time for me."

"Which you spent Outside, I understand."

"Yes, ma'am."

"You are one of those cranks, as I would say were my taste not a cultivated one. Let me ask, instead, if you are one of those enthusiasts."

"Yes, ma'am."

"You expect to emigrate some day and found new worlds in the wildernesses of the Galaxy?"

"Perhaps not I, ma'am. I may prove to be too old, but-"

"How old are you?"

"Forty-five, ma'am."

"Well, you look it. I am forty-five also, as it happens."

"You do not look it, ma'am."

"Older or younger?" She broke into laughter again, then said, "But let's not play games. Do you imply I am too old to be a pioneer?"

"No one can be a pioneer in our society, without training Outside. The training works best with the young. My son, I hope, will someday stand on another world."

"Indeed? You know, of course, that the Galaxy belongs to the Spacer worlds."

"There are only fifty of them, ma'am. There are millions of worlds in the Galaxy that are habitable-or can be made habitable-and that probably do not possess indigenous intelligent life."

"Yes, but not one ship can leave Earth without Spacer permission."

"That might be granted, ma'am."

"I do not share your optimism, Mr. Baley."

"I have spoken to Spacers who-"

"I know you have," said Demachek. "My superior is Albert Minnim, who, two years ago, sent you to Solaria." She permitted herself a small curve of the lips. "An actor portrayed him in a bit role on that hyperwave drama, one that resembled him closely, as I recall. He was not pleased, as I also recall."

Baley changed the subject. "I asked Undersecretary Minnim- "He has been promoted, you know."

Baley thoroughly understood the importance of grades in classification. "His new title, ma'am?"

"Vice-Secretary."

"Thank you. I asked Vice-Secretary Minnim to request permission for me to visit Aurora to deal with this subject."

"When?"

"Not very long after my return from Solaria. I have renewed the request twice since."

"But have not received a favorable reply?"

"No, ma'am."

"Are you surprised?"

"I am disappointed, ma'am."

"No point in that." She leaned back a trifle in the chair. "Our relationship with the Spacer worlds is very touchy. You may feel that your two feats of detection have eased the situation-and so they have. That awful hyperwave drama has also helped. The total easing, however, has been this much" -she placed her thumb and forefinger close together-"out of this much," and she spread her hands far apart, "Under those circumstances," she went on, "we could scarcely take the risk of sending you to Aurora, the leading Spacer world, and having you perhaps do something that could create interstellar tension."

Baley's eyes met hers. "I have been on Solaria and have done no harm. On the contrary-"

"Yes, I know, but you were there at Spacer request, which is parsecs distant from being there at our request. You cannot fail to see that."

Baley was silent.

She made a soft snorting sound of non-surprise and said, "The situation has grown worse since your requests were placed with -and very correctly ignored by- the Vice-Secretary. It has grown particularly worse in the last month."

"Is that the reason for this conference, ma'am?"

"Do you grow impatient, sir?" She addressed him sardonically in the to-a-superior intonation. "Do you direct me to come to the point?"

"No, ma'am."

"Certainly you do. And why not? I grow tedious. Let me approach the point by asking if you know Dr. Han Fastolfe."

Baley said carefully, "I met him once, nearly three years ago, in what was then Spacetown."

"You liked him, I believe."

"He was friendly-for a Spacer."

She made another soft snorting sound. "I imagine so. Are you aware that he has been an important political power on Aurora over the last two years?"

"I had heard he was in the government from a-a partner I once had."

"From R. Daneel Olivaw, your Spacer robot friend?"

"My ex-partner, ma'am."

"On the occasion when you solved a small problem concerning two mathematicians on board a Spacer ship?"

Baley nodded. "Yes, ma'am."

"We keep informed, you see. Dr. Han Fastolfe has been, more or less, the guiding light of the Auroran government for two years, an important figure in their World Legislature, and he is even spoken of as a possible future Chairman. -The Chairman, you understand, is the closest thing to a chief executive that the Aurorans have."

Baley said, "Yes, ma'am," and wondered when she would get to the very delicate matter of which the Commissioner had spoken.

Demachek seemed in no hurry. She said, "Fastolfe is a- moderate. That's what he calls himself. He feels Aurora-and the Spacer worlds generally-have gone too far in their direction, as you, perhaps, feel that we on Earth have gone too far in ours. He wishes to step backward to less robotry, to a more rapid turnover of generations, and to alliance and friendship with Earth. Naturally, we support him-but very quietly. If we were too demonstrative in our affection, that might well be the kiss of death for him."

Baley said, "I believe he would support Earth's exploration and settlement of other worlds."

"I believe so, too. I am of the opinion he said as much to you."

"Yes, ma'am, when we met."

Demachek steepled her hands and put the tips of her fingers to her chin. "Do you think he represents public opinion on the Spacer worlds?"

"I don't know, ma'am."

"I'm afraid he does not. Those who are with him are lukewarm. Those who are against him are an ardent legion. It is only his political skills and his personal warmth that have kept him as close to the seats of power as he is. His greatest weakness, of course, is his sympathy for Earth. That is constantly used against him and it influences many who would share his views in every other respect. If you were sent to Aurora, any mistake you made would help strengthen anti-Earth feeling and would therefore weaken him, possibly fatally. Earth simply cannot take that risk."

Baley muttered, "I see."

"Fastolfe is willing to take the risk. It was he who arranged to have you sent to Solaria at a time when his political power was barely beginning and when he was very vulnerable. But then, he has only his personal power to lose, whereas we must be concerned with the welfare of over eight billion Earthpeople. That is what makes the present political situation almost unbearably delicate."

She paused and, finally, Baley was forced to ask the question. "What is the situation that you are referring to, ma'am?"

"It seems," said Demachek, "that Fastolfe has become implicated in a serious and unprecedented scandal. If he is clumsy, the chances are that he will undergo political destruction in a matter of weeks. If he is superhumanly clever, perhaps he will hold out for some months. A little sooner, a little later, he could be destroyed as a political force on Aurora-and that would be a real disaster for Earth, you see."

"May I ask what he is accused of? Corruption? Treason?"

"Nothing that small. His personal integrity is, in any case, unquestioned even by his enemies."

"A crime of passion, then? Murder?"

"Not quite murder."

"I don't understand, ma'am."

"There are human beings on Aurora, Mr. Baley. And there are robots, too, most of them something like ours, not very much more advanced in most cases. However, there are a few humanoid robots, robots so humanoid that they can be taken for human."

Baley nodded,. "I know that very well."

"I suppose that destroying a humanoid robot is not exactly murder in the strict sense of the word."

Baley leaned forward, eyes widening. He shouted, "Jehoshaphat, woman! Stop playing games. Are you telling me that Dr. Fastolfe has killed R. Daneel?"

Roth leaped to his feet and seemed about to advance on Baley, but Undersecretary Demachek waved him back. She seemed unruffled.

She said, "Under the circumstances, I excuse your disrespect, Baley. No, R. Daneel has not been killed. He is not the only humanoid robot on Aurora. Another such robot, not R. Daneel, has been killed, if you wish to use the term loosely. To be more precise, its mind has been totally destroyed; it was placed into permanent and irreversible roblock."

Baley said, "And they say that Dr. Fastolfe did it?"

"His enemies are saying so. The extremists, who wish only Spacers to spread through the Galaxy and who wish Earthpeople to vanish from the Universe, are saying so. If these extremists can maneuver another election within the next few weeks, they will surely gain total control of the government, with incalculable results."

"Why is this roblock so important politically? I don't understand."

"I am not myself certain," said Demachek. "I do not pretend to understand Auroran politics. I gather that the humanoids were in some way involved with the extremist plans and that the destruction has infuriated them." She whinnied her nose. "I find their politics very confusing and I will only mislead you if I try to interpret it."

Baley labored to control himself under the Undersecretary's level stare. He said in a low voice, "Why am I here?"

"Because of Fastolfe. Once before you went out into space in order to solve a murder and succeeded. Fastolfe wants you to try again. You are to go to Aurora and discover who was responsible for the roblock. He feels that to be his only chance of turning back the extremists."

"I am not a roboticist. I know nothing about Aurora-"

"You knew nothing about Solaria, either, yet you managed. The point is, Baley, we are as eager to find out what really happened as Fastolfe is. We don't want him destroyed. If he is, Earth will be subject to a kind of hostility from these Spacer extremists that will probably be greater than anything we have yet experienced. We don't want that to happen."

"I can't take on this responsibility, ma'am. The task is-"

"Next to impossible. We know that, but we have no choice. Fastolfe insists-and behind him, for the moment, stands the Auroran government. If you refuse to go or if we refuse to let you go, we will have to face the Auroran fury. If you do go and are successful, we'll be saved and you will be suitably rewarded."

"And if I go-and fail?"

"We will do our best to see to it that the blame will be yours and not Earth's."

"The skins of officialdom will be saved, in other words."

Demachek said, "A kinder way of putting it is that you will be thrown to the wolves in the hope that Earth will not suffer too badly. One man is not a bad price to pay for our planet."

"It seems to me that, since I am sure to fail, I might as well not go."

"You know better than that," said Demachek softly. "Aurora has asked for you and you cannot refuse. -And why should you want to refuse? You've been trying to go to Aurora for two years and you've been bitter over your failure to get our permission."

"I've wanted to go in peace to arrange for help in the settlement of other worlds, not to-"

"You might still try to get their help for your dream of settling other worlds, Baley. After all, suppose you do succeed. It's possible, after all. In that case, Fastolfe will be much beholden to you and he may do far more for you than he ever would have otherwise. And we ourselves will be sufficiently grateful to you to help. Isn't that worth a risk, even a large one? However small your chances of success are if you go, those chances are zero if you do not go. Think of that, Baley, but please-not too long."

Baley's lips tightened and, finally, realizing there was no alternative, he said, "How much time do I have to-"

And Demachek said calmly, "Come. Haven't I been explaining that we have no choice-and no time, either? You leave," she looked at the timeband on her wrist, "in just under six hours."

5.

The spaceport was at the eastern outskirts of the City in an all-but-deserted Sector that was, strictly speaking, Outside. This was palliated by the fact that the ticket offices and the waiting rooms were actually in the City and that the approach to the ship itself was by vehicle through a covered path. By tradition, all takeoffs were at night, so that a pall of darkness further deadened the effect of Outside.

The spaceport was not very busy, considering the populous character of Earth. Earthmen very rarely left the planet and the traffic consisted entirely of commercial activity organized by robots and Spacers.

Elijah Baley, waiting for the ship to be ready for boarding, felt already cut off from Earth.

Bentley sat with him and there was a glum silence between the two. Finally, Ben said, "I didn't think Mom would want to come."

Baley nodded. "I didn't think so, either. I remember how she was when I went to Solaria. This is no different."

"Did you manage to calm her down?"

"I did what I could, Ben. She thinks I'm bound to be in a space crash or that the Spacers will kill me once I'm on Aurora."

"You got back from Solaria."

"That just makes her the less eager to risk me a second time. She assumes the luck will run out. However, she'll manage."

-You rally round, Ben. Spend some time with her and, whatever you do, don't talk about heading out to settle a new planet. That's what really bothers her, you know. She feels you'll be leaving her one of these years. She knows she won't be able to go and so she'll never see you again."

"She may not," said Ben. "That's the way it might work out."

"You can face that easily, maybe, but she can't, so just don't discuss it while I'm gone. All right?"

"All right. -I think she's a little upset about Gladia."

Baley looked up sharply. "Have you been-"

"I haven't said a word. But she saw that hyperwave thing, too, you know, and she knows Gladia's on Aurora."

"What of it? It's a big planet. Do you think Gladia Delmarre will be waiting at the spaceport for me? -Jehoshaphat, Ben, doesn't your mother know that hyperwave axle grease was nineteenth's fiction?"

Ben changed the subject with a tangible effort. "It seems funny-you sitting here with no luggage of any kind."

"I'm sitting here with too much. I've got the clothes I'm wearing, don't I? They'll get rid of those as soon as I'm on board. Off they go-to be chemically treated. then dumped into space. After that, they'll give me a totally new wardrobe, after I have been personally fumigated and cleaned and polished, inside and out. I've been through that once before."

Again silence and then Ben said, "You know, Dad-" and stopped suddenly. He tried again, "You know Dad-" and did no better.

Baley looked at him steadily. "What are you trying to say, Ben?"

"Dad, I feel like an awful jackass saying this, but I think I'd better. You're not the hero type. Even I never thought you were. You're a nice guy and the best father there could be, but not the hero type."

Baley grunted.

"Still," said Ben, "when you stop to think of it, it was you who got Spacetown off the map; it was you who got Aurora on our side; it was you who started this whole project of settling other worlds. Dad, you've done more for Earth than everyone in the government put together. So why aren't you appreciated more?"

Baley said, "Because I'm not the hero type and because this stupid hyperwave drama was foisted on me. It has made an enemy of every man in the Department, it's unsettled your mother, and it's given me a reputation I can't live up to." The light flashed on his wrist-caller and he stood up. "I've got to go now, Ben."

"I know. But what I want to say, Dad, is that I appreciate you. And this time when you come back, you'll get that from everybody and not just from me."

Baley felt himself melting. He nodded rapidly, put a hand on his son's shoulder, and muttered, "Thanks. Take care of yourself -and your mother- while I'm gone."

He walked away, not looking back. He had told Ben that he was going to Aurora to discuss the settlement project. If that were so, he might come back in triumph. As it was- He thought: I'll come back in disgrace-if I come back at all.

2. DANEEL

6.

It was Baley's third time on a spaceship and the passage of two years had in no way dimmed his memory of the first two times. He knew exactly what to expect.

There would be the isolation-the fact that no one would see him or have anything to do with him, with the exception (perhaps) of a robot. There would be the constant medical treatment-the fumigation and sterilization. (No other way of putting it.) There would be the attempt to make him fit to approach the disease-conscious Spacers who thought of Earthpeople as walking bags of multifarious infections.

There would be differences, too, however. He would not, this time, be quite so afraid of the process. Surely the feeling of loss at being out of the womb would be less dreadful.

He would be prepared for the wider surroundings. This time, he told himself boldly (but with a small knot in his stomach, for all that), he might even be able to insist on being given a view of space.

Would it look different from photographs of the night sky as seen from Outside? he wondered.

He remembered his first view of a planetarium dome (safely within the City, of course). It had given him no sensation of being Outside, no discomfort at all.

Then there were the two times-no, three-that he had been in the open at night and saw the real stars in the real dome of the sky. That had been far less impressive than the planetarium dome had been, but there had been a cool wind each time and a feeling of distance, which made it more frightening than the dome-but less frightening than daytime, for the darkness was a comforting wall about him.

Would, then, the sight of the stars through a spaceship viewing window seem more like a planetarium or more like Earth's night sky? Or would it be a different sensation altogether?

He concentrated on that, as though to wash out the thought of leaving Jessie, Ben, and the City.

With nothing less than bravado, he refused the car and insisted on walking the short distance from the gate to the ship in the company of the robot who had come for him. It was just a roofed-over arcade, after all.

The passage was slightly curved and he looked back while he could still see Ben at the other end. He lifted his hand casually, as though he were taking the Expressway to Trenton, and Ben waved both arms wildly, holding up the first two fingers of each hand outspread in the ancient symbol of victory.

Victory? A useless gesture, Baley was certain.

He switched to another thought that might serve to fill and occupy him. What would it be like to board a spaceship by day, with the sun shining brightly on its metal and with himself and the others who were boarding all exposed to the Outside.

How would it feel to be entirely aware of a tiny cylindrical world, one that would detach itself from the infinitely larger world to which it was temporarily attached and that would then lose itself in an Outside infinitely larger than any Outside on Earth, until after an endless stretch of Nothingness it would find another- He held himself grimly to a steady walk, letting no change in expression show-or so he thought, at least. The robot at his side, however, brought him to a halt.

"Are you ill, sir?" (Not "master," merely "sir." It was an Auroran robot.)

"I'm all right, boy," said Baley hoarsely. "Move on."

He kept his eyes turned to the ground and did not lift them again till the ship itself was towering above him.

An Auroran ship!

He was sure of that. Outlined by a warm spotlight, it soared taller, more gracefully, and yet more powerfully than the Solarian ships had.

Baley moved inside and the comparison remained in favor of Aurora. His room was larger than the ones two years before had been: more luxurious, more comfortable.

He knew exactly what was coming and removed all his clothes without hesitation. (Perhaps they would be disintegrated by plasma torch. Certainly, he would not get them back on returning to Earth-if he returned. He hadn't the first time.)

He would receive no other clothes till he had been thoroughly bathed, examined, dosed, and injected. He almost welcomed the humiliating procedures imposed on him. After all, it served to keep his mind off what was taking place. He was scarcely aware of the initial acceleration and scarcely had time to think of the moment during which he left Earth and entered space.

When he was finally dressed again, he surveyed the results unhappily in a mirror. The material, whatever it was, was smooth and reflective and shifted color with any change in angle. The trouser legs hugged his ankles and were, in turn, covered by the tops of shoes that molded themselves softly to his feet. The sleeves of his blouse hugged his wrists and his hands were covered by thin, transparent gloves. The top of the blouse covered his neck and an attached hood could, if desired, cover his head. He was being so covered, not for his own comfort, he knew, but to reduce his danger to the Spacers.

He thought, as he looked at the outfit, that he should feel uncomfortably enclosed, uncomfortably hot, uncomfortably damp. But he did not. He wasn't, to his enormous relief, even sweating.

He made the reasonable deduction. He said to the robot that had walked him to the ship and was still with him, "Boy, are these clothes temperature-controlled?"

The robot said, "Indeed they are, sir. It is all-weather clothing and is considered very desirable. It is also exceedingly expensive. Few on Aurora are in a position to wear it."

"That so? Jehoshaphat!"

He stared at the robot. It seemed a fairly primitive model, not very much different from Earth models, in fact. Still, there was a certain subtlety of expression that Earth models lacked. It could change expression in a limited way, for instance. It had smiled very slightly when it indicated that Baley had been given that which few on Aurora could afford.

The structure of its body resembled metal and yet had the look of something woven, something shifting slightly with movement, something with colors that matched and contrasted pleasingly. In short, unless one looked very closely and steadily, the robot, though definitely nonhumaniform, seemed to be wearing clothing.

Baley said, "What ought I to call you, boy?"

"I am Giskard, sir."

"R. Giskard?"

"If you wish, sir."

"Do you have a library on this ship?"

"Yes, sir."

"Can you get me book-films on Aurora?"

"What kind, sir?"

"Histories-political science-geographies-anything that will let me know about the planet."

"Yes, sir."

"And a viewer."

"Yes, sir."

The robot left through the double door and Baley nodded grimly to himself. On his trip to Solaria, it had never occurred to him to spend the useless time crossing space in learning something useful. He had come along a bit in the last two years.

He tried the door the robot had just passed through. It was locked and utterly without give. He would have been enormously surprised at anything else.

He investigated the room. There was a hyperwave screen. He handled the controls idly, received a blast of music, managed to lower the volume eventually, and listened with disapproval. Tinidy and discordant. The instruments of the orchestra seemed vaguely distorted.

He touched other contacts and finally managed to change the view. What he saw was a space-soccer game that was played, obviously, under conditions of zero-gravity. The ball flew in straight lines and the players (too many of them on each side- with fins on backs, elbows, and knees that must serve to control movement) soared in graceful sweeps. The unusual movements made Baley feel dizzy. He leaned forward and had just found and used the off-switch when he heard the door open behind him.

He turned and, because he thoroughly expected to see R. Giskard, he was aware at first only of someone who was not R. Giskard. It took a blink or two to realize that he saw a thoroughly human shape, with a broad, high-cheekboned face and with short, bronze hair lying flatly backward, someone dressed in clothing with a conservative cut and color scheme.

"Jehoshaphat!" said Baley in a nearly strangled voice.

"Partner Elijah," said the other, stepping forward, a small, grave smile on his face.

"Daneel!" cried Baley, throwing his arms around the robot and hugging tightly.

"Daneel!"

7.

Baley continued to hold Daneel, the one unexpected familiar object on the ship, the one strong link to the past. He clung to Daneel in a gush of relief and affection.

And then, little by little, he collected his thoughts and knew that he was hugging not Daneel but R. Daneel-Robot Daneel Olivaw. He was hugging a robot and the robot was holding him lightly, allowing himself to be hugged, judging that the action gave pleasure to a human being and enduring that action because the positronic potentials of his brain made it impossible to repel the embrace and so cause disappointment and embarrassment to the human being.

The insurmountable First Law of Robotics states: "A robot may not injure a human being-" and to repel a friendly gesture would do injury.

Slowly, so as to reveal no sign of his own chagrin, Baley released his hold. He even gave each upper arm of the robot a final squeeze, so that there might seem to be no shame to the release.

"Haven't seen you, Daneel," said Baley, "since you brought that ship to Earth with the two mathematicians. Remember?"

"Of a certainty, Partner Elijah. It is a pleasure to see you."

"You feel emotion, do you?" said Baley lightly.

"I cannot say what I feel in any human sense, Partner Elijah. I can say, however, that the sight of you seems to make my thoughts flow more easily, and the gravitational pull on my body seems to assault my senses with lesser insistence, and that there are other changes I can identify. I imagine that what I sense corresponds in a rough way to what it is that you may sense when you feel pleasure."

Baley nodded. "Whatever it is you sense when you see me, old partner, that makes it seem preferable to the state in which you are when you don't see me, suits me well-if you follow my meaning. But how is it you are here?"

"Giskard Reventlov, having reported you-" R. Daneel paused.

"Purified?" asked Baley sardonically.

"Disinfected," said R. Daneel. "I felt it appropriate to enter then."

"Surely you would not fear infection otherwise?"

"Not at all, Partner Elijah, but others on the ship might then be reluctant to have me approach them. The people of Aurora are sensitive to the chance of infection, sometimes to a point beyond a rational estimate of the probabilities."

"I understand, but I wasn't asking why you were here at this moment. I meant why are you here at all?"

"Dr. Fastolfe, of whose establishment I am part, directed me to board the ship that had been sent to pick you up for several reasons. He felt it desirable that you have one immediate item of the known in what he was certain would be a difficult mission for you."

"That was a kindly thought on his part. I thank him."

R. Daneel bowed gravely in acknowledgment. "Dr. Fastolfe also felt that the meeting would give me"-the robot paused- "appropriate sensations."

"Pleasure, you mean, Daneel."

"Since I am permitted to use the term, yes. And as a third reason-and the most important-"

The door opened again at that point and R. Giskard walked in.

Baley's head turned toward it and he felt a surge of displeasure. There was no mistaking R. Giskard as a robot and its presence emphasized, somehow, the robotism of Daneel (R. Daneel, Baley suddenly thought again), even though Daneel was far the superior of the two. Baley didn't want the robotism of Daneel emphasized; he didn't want himself humiliated for his inability to regard Daneel as anything but a human being with a somewhat stilted way with the language.

He said impatiently, "What is it, boy?"

R. Giskard said, "I have brought the book-films you wished to see, sir, and the viewer."

"Well, put them down. Put them down. -And you needn't stay. Daneel will be here with me."

"Yes, sir." The robot's eyes-faintly glowing, Baley noticed, as Daneel's were not-turned briefly to R. Daneel, as though seeking orders from a superior being.

R. Daneel said quietly, "It will be appropriate, friend Giskard, to remain just outside the door."

"I shall, friend Daneel," said B. Giskard.

It left and Baley said with some discontent, "Why does it have to stay just outside the door? Am I a prisoner?"

"In the sense," said R. Daneel, "that it would not be permitted for you to mingle with the ship's company in the course of this voyage, I regret to be forced to say you are indeed a prisoner. Yet that is not the reason for the presence of Giskard. -And I should tell you at this point that it might well be advisable, Partner Elijah, if you did not address Giskard-or any robot-as 'boy.'"

Baley frowned. "Does it resent the expression?"

"Giskard does not resent any action of a human being. It is simply that 'boy' is not a customary term of address for robots on Aurora and it would be inadvisable to create friction with the Aurorans by unintentionally stressing your place of origin through habits of speech that are nonessential."

"How do I address it, then?"

"As you address me, by the use of his accepted identifying name. That is, after all, merely a sound indicating the particular person you are addressing-and why should one sound be preferable to another? It is merely a matter of convention. And it is also the

custom on Aurora to refer to a robot as 'he'-or sometimes 'she'-rather than as 'it.' Then, too, it is not the custom on Aurora to use the initial 'R.' except under formal conditions where the entire name of the robot is appropriate-and even then the initial is nowadays often left out."

"In that case-Daneel," (Baley repressed the sudden impulse to say "B. Daneel") "how do you distinguish between robots and human beings?"

"The distinction is usually self-evident, Partner Elijah. There would seem to be no need to emphasize it unnecessarily. At least that is the Auroran view and, since you have asked Giskard for films on Aurora, I assume you wish to familiarize yourself with things Auroran as an aid to the task you have undertaken."

"The task which has been dumped on me, yes. And what if the distinction between robot and human being is not self-evident, Daneel? As in your case?"

"Then why make the distinction, unless the situation is such that it is essential to make it?"

Baley took a deep breath. It was going to be difficult to adjust to this Auroran pretense that robots did not exist. He said, "But then, if Giskard is not here to keep me prisoner, why is it-he- outside the door?"

"Those are according to the instructions of Dr. Fastolfe, Partner Elijah. Giskard is to protect you."

"Protect me? Against what? -Or against whom?"

"Dr. Fastolfe was not precise on that point, Partner Elijah. Still, as human passions are running high over the matter of Jander Panell-"

"Jander Panell?"

"The robot whose usefulness was terminated."

"The robot, in other words, who was killed?"

"Killed, Partner Elijah, is a term that is usually applied to human beings."

"But on Aurora distinctions between robots and human beings are avoided, are they not?"

"So they are! Nevertheless, the possibility of distinction or lack of distinction in the particular case of the ending of functioning has never arisen-to my knowledge. I do not know what the rules are."

Baley pondered the matter. It was a point of no real importance, purely a matter of semantics. Still, he wanted to probe the manner of thinking of the Aurorans. He would get nowhere otherwise.

He said slowly, "A human being who is functioning is alive. If that life is violently ended by the deliberate action of another human being, we call that 'murder' or 'homicide.' 'Murder' is, somehow, the stronger word. To be witness, suddenly, to an attempted violent end to the life of a human being, one would shout 'Murder!' It is not at all likely that one would shout 'Homicide!' It is the more formal word, the less emotional word."

R. Daneel said, "I do not understand the distinction you are making, Partner Elijah. Since 'murder' and 'homicide' are both used to represent the violent ending of the life of a human being, the two words must be interchangeable. Where, then, is the distinction?"

"Of the two words, one screamed out will more effectively chill the blood of a human being than the other will, Daneel."

"Why is that?"

"Connotations and associations; the subtle effect, not of dictionary meaning, but of years of usage; the nature of the sentences and conditions and events in which one has experienced the use of one word as compared with that of the other."

"There is nothing of this in my programming," said Daneel, with a curious sound of helplessness hovering over the apparent lack of emotion with which he said this (the same lack of emotion with which he said everything).

Baley said, "Will you accept my word for it, Daneel?"

Quickly, Daneel said, almost as though he had just been presented with the solution to a puzzle, "Without doubt."

"Now, then, we might say that a robot that is functioning is alive," said Baley.

"Many might refuse to broaden the word so far, but we are free to devise definitions to suit ourselves if it is useful. It is easy to treat a functioning robot as alive and it would be unnecessarily complicated to try to invent a new word for the condition or to avoid the use of the familiar one. You are alive, for instance, Daneel, aren't you?"

Daneel said, slowly and with emphasis, "I am functioning!"

"Come. If a squirrel is alive, or a bug, or a tree, or a blade of grass, why not you? I would never remember to say-or to think-that I am alive but that you are merely functioning, especially if I am to live for a while on Aurora, where I am to try not to make unnecessary distinctions between a robot and myself. Therefore, I tell you that we are both alive and I ask you to take my word for it."

"I will do so, Partner Elijah."

"And yet can we say that the ending of robotic life by the deliberate violent action of a human being is also 'murder'? We might hesitate. If the crime is the same, the punishment should be the same, but would that be right? If the punishment of the murder of a human being is death, should one actually execute a human being who puts an end to a robot?"

"The punishment of a murderer is psychic-probing, Partner Elijah, followed by the construction of a new personality. It is the personal structure of the mind that has committed the crime, not the life of the body."

"And what is the punishment on Aurora for putting a violent end to the functioning of a robot?"

"I do not know, Partner Elijah. Such an incident has never occurred on Aurora, as far as I know."

"I suspect the punishment would not be psychic-probing," said Baley. "How about 'roboticide'?"

"Roboticide?"

"As the term used to describe the killing of a robot."

Daneel said, "But what about the verb derived from the noun, Partner Elijah? One never says 'to homicide' and it would therefore not be proper to say 'to roboticide.'"

"You're right. You would have to say 'to murder' in each case."

"But murder applies specifically to human beings. One does not murder an animal, for instance."

Baley said, "True. And one does not murder even a human being by accident, only by deliberate intent. The more general term is 'to kill.' That applies to accidental death as well as to deliberate murder-and it applies to animals as well as human beings. Even a tree may be killed by disease, so why may not a robot be killed, eh, Daneel?"

"Human beings and other animals and plants as well, Partner Elijah, are all living things," said Daneel. "A robot is a human artifact, as much as this viewer is. An artifact is 'destroyed,' 'damaged,' 'demolished,' and so on. It is never 'killed.'"

"Nevertheless, Daneel, I shall say 'idled.' Jander Panell was killed."

Daneel said, "Why should a difference in a word make any difference to the thing described?"

"That which we call a rose by any other name would smell as sweet.' Is that it, Daneel?"

Daneel paused, then said, "I am not certain what is meant by the smell of a rose, but if a rose on Earth is the common flower that is called a rose on Aurora, and if by its 'smell' you mean a property that can be detected, sensed, or measured by human beings, then surely calling a rose by another sound-combination -and holding all else equal- would not affect the smell or any other of its intrinsic properties."

"True. And yet changes in name do result in changes in perception where human beings are concerned."

"I do not see why, Partner Elijah."

"Because human beings are often illogical, Daneel. It is not an admirable characteristic."

Baley sank deeper into his chair and fiddled with his viewer, allowing his mind, for a few minutes, to retreat into private thought. The discussion with Daneel was useful in itself, for while Baley played with the question of words, he managed to forget that he was in space, to forget that the ship was moving forward until it was far enough from the mass centers of the Solar System to make the Jump through hyperspace; to forget that he would soon be several million kilometers from Earth and, not long after that, several light-years from Earth.

More important, there were positive conclusions to be drawn. It was clear that Daneel's talk about Aurorans making no distinction between robots and human beings was misleading. The Aurorans might virtuously remove the initial "B.," the use of "boy" as a form of address, and the use of "it" as the customary pronoun, but from Daneel's resistance to the use of the same word for the violent ends of a robot and of a human being (a resistance inherent in his programming which was, in turn, the natural consequence of Auroran assumptions about how Daneel ought to behave) one had to

conclude that these were merely superficial changes. In essence, Aurorans were as firm as Earthmen in their belief that robots were machines that were infinitely inferior to human beings.

That meant that his formidable task of finding a useful resolution of the crisis (if that were possible at all) would not be hampered by at least one particular misperception of Auroran society.

Baley wondered if he ought to question Giskard, in order to confirm the conclusions he reached from his conversation with Daneel-and, without much hesitation, decided not to. Giskard's simple and rather unsubtle mind would be of no use. He would "Yes, sir" and "No, sir" to the end. It would be like questioning a recording.

Well, then, Baley decided, he would continue with Daneel, who was at least capable of responding with something approaching subtlety.

He said, "Daneel, let us consider the case of Jander Panel!, which I assume, from what you have said so far, is the first case of roboticide in the history of Aurora. The human being responsible-the killer-is, I take it, not known."

"If," said Daneel, "one assumes that a human being was responsible, then his identity is not known. In that, you are right, Partner Elijah."

"What about the motive? Why was Jander Panel! killed?"

"That, too, is not known."

"But Jander Panel! was a humaniform robot, one like yourself and not one like, for instance, R. Gis- I mean, Giskard."

"That is so. Jander was a humaniform robot like myself."

"Might it not be, then, that no case of roboticide was intended?"

"I do not understand, Partner Elijah."

Baley said, a little impatiently, "Might not the killer have thought this Jander was a human being, that the intention was homicide, not roboticide?"

Slowly, Daneel shook his head. "Humaniform robots are quite like human beings in appearance, Partner Elijah, down to the hairs and pores in our skin. Our voices are thoroughly natural, we can go through the motions of eating, and so on. And yet, in our behavior there are noticeable differences. There may be fewer such differences with time and with refinement of technique, but as yet they are many. You-and other Earthmen not used to humaniform robots-may not easily note these differences, but Aurorans would. No Auroran would mistake Jander -or me- for a human being, not for a moment."

"Might some Spacer, other than an Auroran, make the mistake?"

Daneel hesitated. "I do not think so. I do not speak from personal observation or from direct programmed knowledge, but I do have the programming to know that all the Spacer worlds are as intimately acquainted with robots as Aurora is-some, like Solaria, even more so-and I deduce, therefore, that no Spacer would miss the distinction between human and robot."

"Are there humaniform robots on the other Spacer worlds?"

"No, Partner Elijah, they exist only on Aurora so far."

"Then other Spacers would not be intimately acquainted with humaniform robots and might well miss the distinctions and mistake them for human beings."

"I do not think that is likely. Even humaniform robots will behave in robotic fashion in certain definite ways that any Spacer would recognize."

"And yet surely there are Spacers who are not as intelligent as most, not as experienced, not as mature. There are Spacer children, if nothing else, who would miss the distinction."

"It is quite certain, Partner Elijah, that the-roboticide-was not committed by anyone unintelligent, inexperienced, or young. Completely certain."

"We're making eliminations. Good. If no Spacer would miss the distinction, what about an Earthman? Is it possible that-"

"Partner Elijah, when you arrive in Aurora, you will be the first Earthman to set foot on the planet since the period of original settlement was over. All Aurorans now alive were born on Aurora or, in a relatively few cases, on other Spacer worlds."

"The first Earthman," muttered Baley. "I am honored. Might not an Earthman be present on Aurora without the knowledge of Aurorans?"

"No!" said Daneel with simple certainty.

"Your knowledge, Daneel, might not be absolute."

"No!" came the repetition, in tones precisely similar to the first.

"We conclude, then," said Baley with a shrug, "that the roboticide was intended to be roboticide and nothing else."

"That was the conclusion from the start."

Baley said, "Those Aurorans who concluded this at the start had all the information to begin with. I am getting it now for the first time."

"My remark, Partner Elijah, was not meant in any pejorative manner. I know better than to belittle your abilities."

"Thank you, Daneel. I know there was no intended sneer in your remark. -You said just a while ago that the roboticide was not committed by anyone unintelligent, inexperienced, or young and that this is completely certain. Let us consider your remark-"

Baley knew that he was taking the long route. He had to. Considering his lack of understanding of Auroran ways and of their manner of thought, he could not afford to make assumptions and skip steps. If he were dealing with an intelligent human being in this way, that person would be likely to grow impatient and blurt out information-and consider Baley an idiot into the bargain. Daneel, however, as a robot, would follow Baley down the winding road with total patience.

That was one type of behavior that gave away Daneel as a robot, however humaniform he might be. An Auroran might be able to judge him a robot from a single answer to a single question. Daneel was right as to the subtle distinctions.

Baley said, "One might eliminate children, perhaps also most women, and many male adults by presuming that the method of roboticide involved great strength-that Jander's head was perhaps crushed by a violent blow or that his chest was smashed inward. This would not, I imagine, be easy for anyone who was not a particularly large and

strong human being." From what Demachek had said on Earth, Baley knew that this was not the manner of the roboticide, but how was he to tell that Demachek herself had not been misled?

Daneel said, "It would not be possible at all for any human being."

"Why not?"

"Surely, Partner Elijah, you are aware that the robotic skeleton is metallic in nature and much stronger than human bone. Our movements are more strongly powered, faster, and more delicately controlled. The Third Law of Robotics states: 'A robot must protect its own existence.' An assault by a human being could easily be fended off. The strongest human being could be immobilized. Nor is it likely that a robot can be caught unaware. We are always aware of human beings. We could not fulfill our functions otherwise."

Baley said, "Come, now, Daneel. The Third Law states: 'A robot must protect its own existence, as long as such protection does not conflict with the First or Second Law.' The Second Law states: 'A robot must obey the orders given it by a human being, except where such orders would conflict with the First Law.' And the First Law states: 'A robot may not injure a human being or, through inaction, allow a human being to come to harm.' A human being could order a robot to destroy himself -and a robot would then use his own strength to smash his own skull. And if a human being attacked a robot, that robot could not fend off the attack without harming the human being, which would violate First Law."

Daneel said, "You are, I suppose, thinking of Earth's robots. On Aurora-or on any of the Spacer worlds-robots are regarded more highly than on Earth and are, in general, more complex, versatile, and valuable. The Third Law is distinctly stronger in comparison to the Second Law on Spacer worlds than it is on Earth. An order for self-destruction would be questioned and there would have to be a truly legitimate reason for it to be carried through-a clear and present danger. And in fending off an attack, the First Law would not be violated, for Auroran robots are deft enough to immobilize a human being without hurting him."

"Suppose, though, that a human being maintained that, unless a robot destroyed himself, he-the human being-would be destroyed? Would not the robot then destroy himself?"

"An Auroran robot would surely question a mere statement to that effect. There would have to be clear evidence of the possible destruction of a human being."

"Might not a human being be sufficiently subtle to so arrange matters in such a way as to make it seem to a robot that that human being was indeed in great danger? Is it the ingenuity that would be required that makes you eliminate the unintelligent, inexperienced, and young?"

And Daneel said, "No, Partner Elijah, it is not."

"Is there an error in my reasoning?"

"None."

"Then the error may lie in my assumption that he was physically damaged. He was not, in actual fact, physically damaged. Is that right?"

"Yes, Partner Elijah."

(That meant Demachek had had her facts straight, Baley thought.)

"In that case, Daneel, Jander was mentally damaged. Roblock! Total and irreversible!"

"Roblock?"

"Short for robot-block, the permanent shutdown of the functioning of the positronic pathways."

"We do not use the word 'roblock' on Aurora, Partner Elijah."

"What do you say?"

"We say 'mental freeze-out.'"

"Either way, it is the same phenomenon being described."

"It might be wise, Partner Elijah, to use our expression or the Aurorans you speak to may not understand; conversation may be impeded. You stated a short while ago that different words make a difference."

"Very well. I will say 'freeze-out.' -Could such a thing happen spontaneously?"

"Yes, but the chances are infinitesimally small, roboticists say. As a humaniform robot, I can report that I have never myself experienced any effect that could even approach mental freeze out."

"Then one must assume that a human being deliberately set up a situation in which mental freeze-out would take place."

"That is precisely what Dr. Fastolfe's opposition contends, Partner Elijah."

"And since this would take robotic training, experience, and skill, the unintelligent, the inexperienced, and the young cannot have been responsible."

"That is the natural reasoning, Partner Elijah."

"It might even be possible to list the number of human beings on Aurora with sufficient skill and thus set up a group of suspects that might not be very large in number."

"That has, in actual fact, been done, Partner Elijah."

"And how long is the list?"

"The longest list suggested contains only one name."

It was Baley's turn to pause. His brows drew together in an angry frown and he said, quite explosively, "Only one name?"

Daneel said quietly, "Only one name, Partner Elijah. That is the judgment of Dr. Han Fastolfe, who is Aurora's greatest theoretical roboticist."

"But what is, then, the mystery in all this? Whose is the one name?"

R. Daneel said, "Why, that of Dr. Han Fastolfe, of course. I have just stated that he is Aurora's greatest theoretical roboticist and, in Dr. Fastolfe's professional opinion,, he himself is the only one who could possibly have maneuvered Jander Panel into total mental freeze-out without leaving any sign of the process. However, Dr. Fastolfe also states that he did not do it."

"But that no one else could have, either?"

"Indeed, Partner Elijah. There lies the mystery."

"And what if Dr. Fastolfe-" Baley paused. There would be no point in asking Daneel if Dr. Fastolfe was lying or was somehow mistaken, either in his own judgment that no one but he could have done it or in the statement that he himself had not done it. Daneel had been programmed by Fastolfe and there would be no chance that the programming included the ability to doubt the programmer.

Baley said, therefore, with as close an approach to mildness as he could manage, "I will think about this, Daneel, and we will talk again."

"That is well, Partner Elijah. It is, in any case, time for sleep. Since it is possible that, on Aurora, the pressure of events may force an irregular schedule upon you, it would be wise to seize the opportunity for sleep now. I will show you how one produces a bed and how one manages the bedclothes."

"Thank you, Daneel," muttered Baley. He was under no illusion that sleep would come easily. He was being sent to Aurora for the specific purpose of demonstrating that Fastolfe was innocent of roboticide-and success in that was required for Earth's continued security and (much less important but equally dear to Baley's heart) for the continued prospering of Baley's own career-yet, even before reaching Aurora, he had discovered that Fastolfe had virtually confessed to the crime.

8.

Baley did sleep-eventually, after Daneel demonstrated how to reduce the field intensity that served as a form of pseudogravity. This was not true antigravity and it consumed so much energy that the process could only be used at restricted times and under unusual conditions.

Daneel was not programmed to be able to explain the manner in which this worked and, if he had, Baley was quite certain he would not have understood it. Fortunately, the controls could be operated without any understanding of the scientific justification.

Daneel said, "The field intensity cannot be reduced to zero- at least, not by these controls. Sleeping under zero-gravity is not, in any case, comfortable, certainly not for those inexperienced in space travel. What one needs is an intensity low enough to give one a feeling of freedom from the pressure of one's own weight, but high enough to maintain an up-down orientation. The level varies with the individual. Most people would feel most comfortable at the minimum intensity allowed by the control, but you might find that, on first use, you would wish a higher intensity, so that you might retain the familiarity of the weight sensation to a somewhat greater extent. Simply experiment with different levels and find the one that suits."

Lost in the novelty of the sensation, Baley found his mind drifting away from the problem of Fastolfe's affirmation/denial, even as his body drifted away from wakefulness. Perhaps the two were one process.

He dreamed he was back on Earth (of course), moving along an Expressway but not in one of the seats. Rather, he was floating along beside the high-speed strip, just over the head of the moving people, gaining on them slightly. Noise of the groundbound people seemed surprised; none looked up at him. It was a rather pleasant sensation and he missed it upon waking.

After breakfast the following morning -Was it morning actually? Could it be morning-or any other time of day-in space?

Clearly, it couldn't. He thought awhile and decided he would define morning as the time after waking, and he would define breakfast as the meal eaten after waking, and abandon specific timekeeping as objectively unimportant. -For him, at least, if not for the ship.

After breakfast, then, the following morning, he studied the news sheets offered him only long enough to see that they said nothing about the roboticide on Aurora and then turned to those book-films that had been brought to him the previous day ("wake period"?) by Giskard.

He chose those whose titles sounded historical and, after viewing through several hastily, he decided that Giskard had brought him books for adolescents. They were heavily illustrated and simply written. He wondered if that was Giskard's estimate of Baley's intelligence-or, perhaps, of his needs. After some thought, Baley decided that Giskard, in his robotic innocence, had chosen well and that there was no point in brooding over a possible insult.

He settled down to viewing with greater concentration and noted at once that Daneel was viewing the book-film with him. Actual curiosity? Or just to keep his eyes occupied?

Daneel did not once ask to have a page repeated. Nor did he stop to ask a question. Presumably, he merely accepted what he read with robotic trust and did not permit himself the luxury of either doubt or curiosity.

Baley did not ask Daneel any questions concerning what he read, though he did ask for instructions on the operation of the print-out mechanism of the Auroran viewer, with which he was not familiar.

Occasionally, Baley stopped to make use of the small room that adjoined his room and could be used for the various private physiological functions, so private that the room was referred to as "the Personal," with the capital letter always understood, both on Earth and-as Baley discovered when Daneel referred to it- on Aurora. It was just large enough for one person-which made it bewildering to a City-dweller accustomed to huge banks of urinals, excretory seats, washbasins, and showers.

In viewing the book-films, Baley did not attempt to memorize details. He had no intention of becoming an expert on Auroran society, nor even of passing a high school test on the subject. Rather, he wished to get the feel of it.

He noticed, for instance, even through the hagiographic attitude of historians writing for young people, that the Auroran pioneers-the founding fathers, the Earthpeople who had first come to Aurora to settle in the early days of interstellar travel-

had been very much Earthpeople. Their politics, their quarrels, every facet of their behavior had been Earthish; what happened on Aurora was, in ways, similar to the events that took place when the relatively empty sections of Earth had been settled a couple of thousand years before.

Of course, the Aurorans had no intelligent life to encounter and to fight, no thinking organisms to puzzle the invaders from Earth with questions of treatment, humane or cruel. There was precious little life of any kind, in fact. So the planet was quickly settled by human beings, by their domesticated plants and animals, and by the parasites and other organisms that were adventitiously brought along. And, of course, the settlers brought robots with them.

The first Aurorans quickly felt the planet to be theirs, since it fell into their laps with no sense of competition, and they had called the planet New Earth to begin with. That was natural, since it was the first extrasolar planet -the first Spacer world- to be settled. It was the first fruit of interstellar travel, the first dawn of an immense new era. They quickly cut the umbilical cord, however, and renamed the planet Aurora after the Roman goddess of the dawn.

It was the World of the Dawn. And so did the settlers from the start self-consciously declare themselves the progenitors of a new kind. All previous history of humanity was a dark Night and only for the Aurorans on this new world was the Day finally approaching.

It was this great fact, this great self-praise, that made itself felt over all the details: all the names, dates, winners, losers. It was the essential.

Other worlds were settled, some from Earth, some from Aurora, but Baley paid no attention to that or to any of the details. He was after the broad brushstrokes and he noted the two massive changes that took place and pushed the Aurorans ever farther away from their Earthly origins. These were first, the increasing integration of robots into every facet of life and second, the extension of the life-span.

As the robots grew more advanced and versatile, the Aurorans grew more dependent on them. But never helplessly so. Not like the world of Solaria, Baley remembered, on which a very few human beings were in the collective womb of very many robots. Aurora was not like that.

And yet they grew more dependent.

Viewing as he did for intuitive feel-for trend and generality -every step in the course of human/robot interaction seemed to depend on dependence. Even the manner in which a consensus of robotic rights was reached-the gradual dropping of what Daneel would call "unnecessary distinctions"-was a sign of the dependence. To Baley, it seemed not that the Aurorans were growing more humane in their attitude out of a liking for the humane, but that they were denying the robotic nature of the objects in order to remove the discomfort of having to recognize the fact that human beings were dependent upon objects of artificial intelligence.

As for the extended life-span, that was accompanied by a slowing of the pace of history. The peaks and troughs smoothed out. There was a growing continuity and a growing consensus.

There was no question but that the history he was viewing grew less interesting as it went along; it became almost soporific. For those living through it, this had to be good. History was interesting to the extent that it was catastrophic and, while that might make absorbing viewing, it made horrible living. Undoubtedly, personal lives continued to be interesting for the vast majority of Aurorans and, if the collective interaction of lives grew quiet, who would mind?

If the World of the Dawn had a quiet sunlit Day, who on that world would clamor for storm?

-Somewhere in the course of his viewing, Baley felt an indescribable sensation. If he had been forced to attempt a description, he would have said it was that of a momentary inversion. It was as though he had been turned inside out- and then back as he had been-in the course of a small fraction of a second.

So momentary had it been that he almost missed it, ignoring it as though it had been a tiny hiccup inside himself.

It was only perhaps a minute later, suddenly going over the feeling in retrospect, that he remembered the sensation as something he had experienced twice before: once when traveling to Solaria and once when returning to Earth from that planet.

It was the "Jump," the passage through hyperspace that, in a timeless, spaceless interval, sent the ship across the parsecs and defeated the speed-of-light limit of the Universe. (No mystery in words, since the ship merely left the Universe and traversed something which involved no speed limit. Total mystery in concept, however, for there was no way of describing what hyperspace was, unless one made use of mathematical symbols which could, in any case, not be translated into anything comprehensible.)

If one accepted the fact that human beings had learned to manipulate hyperspace without understanding the thing they manipulated, then the effect was clear, At one moment, the ship had been within microparsecs of Earth and, at the next moment, it was within microparsecs of Aurora.

Ideally, the Jump took zero-time-literally zero-and, if it were carried through with perfect smoothness, there would not, could not be any biological sensation at all. Physicists maintained, however, that perfect smoothness required infinite energy so that there was always an "effective time" that was not quite zero, though it could be made as short as desired. It was that which produced that odd and essentially harmless feeling of inversion.

The sudden realization that he was very far from Earth and very close to Aurora filled Baley with a desire to see the Spacer world.

Partly, it was the desire to see somewhere people lived. Partly, it was a natural curiosity to see something that had been filling his thoughts as a result of the book-films he had been viewing.

Giskard entered just then with the middle meal between waking and sleeping (call it "lunch") and said, "We are approaching Aurora, sir, but it will not be possible for you to observe it from the bridge. There would, in any case, be nothing to see. Aurora's sun is merely a bright star and it will be several days before we are near enough to Aurora itself

to see any detail." Then he added, as though in afterthought, "It will not be possible for you to observe it from the bridge at that time, either."

Baley felt strangely abashed. Apparently, it was assumed he would want to observe and that want was simply squashed. His presence as a viewer was not desired.

He said, "Very well, Giskard," and the robot left.

Baley looked after him somberly. How many other constraints would be placed on him? Improbable as successful completion of his task was, he wondered in how many different ways Aurorans would conspire to make it impossible.

3. GISKARD

9.

Baley turned and said to Daneel, "It annoys me, Daneel, that I must remain a prisoner here because the Aurorans on board this ship fear me as a source of infection. This is pure superstition. I have been treated."

Daneel said, "It is not because of Auroran fears that you are being asked to remain in your cabin, Partner Elijah."

"No? What other reason?"

"Perhaps you remember that, when we first met on this ship, you asked me my reasons for being sent to escort you. I said it was to give you something familiar as an anchor and to please me. I was then about to tell you the third reason, when Giskard interrupted us with your viewer and viewing material-and thereafter we launched into a discussion of roboticide."

"And you never told me the third reason. What is it?"

"Why, Partner Elijah, it is merely that I might help protect you."

"Against what?"

"Unusual passions have been stirred by the incident we have agreed to call roboticide. You are being called to Aurora to help demonstrate Dr. Fastolfe's innocence. And the hyperwave drama-"

"Jehoshaphat, Daneel," said Baley in outrage. "Have they seen that thing on Aurora, too?"

"They have seen it throughout the Spacer worlds, Partner Elijah. It was a most popular program and has made it quite plain that you are a most extraordinary investigator."

"So that whoever might be behind the roboticide may well have exaggerated fears of what I might accomplish and might therefore risk a great deal to prevent my arrival -or to kill me."

"Dr. Fastolfe," said Daneel calmly, "is quite convinced that no one is behind the roboticide, since no human being other than himself could have carried it through. It was a purely fortuitous occurrence, in Dr. Fastolfe's view. However, there are those who are trying to capitalize on the occurrence and it would be to their interest to keep you from proving that. For that reason, you must be protected."

Baley took a few hasty steps to one wall of the room and then back to the other, as though to speed his thought processes by physical example. Somehow he did not feel any sense of personal danger.

He said, "Daneel, how many humanoid robots are there all together on Aurora?"

"Do you mean now that Jander no longer functions?"

"Yes, now that Jander is dead."

"One, Partner Elijah."

Baley stared at Daneel in shock. Soundlessly, he mouthed the word: One?

Finally, he said, "Let me understand this, Daneel. You are the only humaniform robot on Aurora?"

"Or on any world, Partner Elijah. I thought you were aware of this. I was the prototype and then Jander was constructed. Since then, Dr. Fastolfe has refused to construct any more and no one else has the skill to do it."

"But in that case, since of two humaniform robots, one has been killed, does it not occur to Dr. Fastolfe that the remaining humaniform -you, Daneel- might be in danger."

"He recognizes the possibility. But the chance that the fantastically unlikely occurrence of mental freeze-out would take place a second time is remote. He doesn't take it seriously. He feels, however, that there might be a chance of other misadventure. That, I think, played some small part in his sending me to Earth to get you. It kept me away from Aurora for a week or so."

"And you are now as much a prisoner as I am, aren't you, Daneel?"

"I am a prisoner," said Daneel gravely, "only in the sense, Partner Elijah, that I am expected not to leave this room."

"In what other sense is one a prisoner?"

"In the sense that the person so restricted in his movements resents the restriction. A true imprisonment has the implication of being involuntary. I quite understand the reason for being here and I concur in the necessity."

"You do," grumbled Baley. "I do not. I am a prisoner in the full sense. And what keeps us safe here, anyway?"

"For one thing, Partner Elijah, Giskard is on duty outside."

"Is he intelligent enough for the job?"

"He understands his orders entirely. He is rugged and strong and quite realizes the importance of his task."

"You mean he is prepared to be destroyed to protect the two of us?"

"Yes, of course, just as I am prepared to be destroyed to protect you."

Baley felt abashed. He said, "You do not resent the situation in which you may be forced to give up your existence for me?"

"It is my programming, Partner Elijah," said Daneel in a voice that seemed to soften, "yet somehow it seems to me that, even were it not for my programming, saving you makes the loss of my own existence seem quite trivial in comparison."

Baley could not resist this. He held out his hand and closed it on Daneel's with a fierce grip. "Thank you, Partner Daneel, but please do not allow it to happen. I do not wish the loss of your existence. The preservation of my own would be inadequate compensation, it seems to me."

And Baley was amazed to discover that he really meant it. He was faintly horrified to realize that he would be ready to risk his life for a robot. -No, not for a robot. For Daneel.

10.

Giskard entered without signaling. Baley had come to accept that. The robot, as his guard, had to be able to come and go as he pleased. And Giskard was only a robot, in Baley's eyes, however much he might be a "he" and however much one did not mention the "R." If Baley were scratching himself, picking his nose, engaged in any messy biological function, it seemed to him that Giskard would be indifferent, non-judgmental, incapable of reacting in any way, but coldly recording the observation in some inner memory bank.

It made Giskard simply a piece of mobile furniture and Baley felt no embarrassment in his presence. -Not that Giskard had ever intruded on him at an inconvenient moment, Baley thought idly.

Giskard brought a small cubicle with him. "Sir, I suspect that you still wish to observe Aurora from space."

Baley started. No doubt, Daneel had noted Baley's irritation and had deduced its cause and taken this way of dealing with it. To have Giskard do it and present it as an idea of his simpleminded own was a touch of delicacy on Daneel's part. It would free Baley of the necessity of expressing gratitude. Or so Daneel would think.

Baley had, as a matter of fact, been more irritated at being, to his way of thinking, needlessly kept from the view of Aurora than at being kept imprisoned generally. He had been fretting over the loss of the view during the two days since the Jump.

-So he turned and said to Daneel, "Thank you, my friend."

"It was Giskard's idea," said Daneel.

"Yes, of course," said Baley with a small smile. "I thank him, too. What is this, Giskard?"

"It is an astro-simulator, sir. It works essentially like a trimensional receiver and is connected to the view-room. If I might add-"

"Yes?"

"You will not find the view particularly exciting, sir. I would not wish you to be unnecessarily disappointed."

"I will try not to expect too much, Giskard. In any case, I will not hold you responsible for any disappointment I might feel."

"Thank you, sir. I must return to my post, but Daneel will be able to help you with the instrument if any problem arises."

He left and Baley turned to Daneel with approval. "Giskard handled that very well, I thought. He may be a simple model, but he's well-designed."

"He, too, is a Fastolfe robot, Partner Elijah. -This astro-simulator is self-contained and self-adjusted. Since it is already focused on Aurora, it is only necessary to touch the control-edge. That will put it in operation and you need do nothing more. Would you care to set it going yourself?"

Baley shrugged. "No need. You may do it."

"Very well."

Daneel had placed the cubicle upon the table on which Baley had done his book-film viewing.

"This," he said, indicating a small rectangle in his hand, "is the control, Partner Elijah. You need only hold it by the edges in this manner and then exert a small inward pressure to turn the mechanism on-and then another to turn it off."

Daneel pressed the control-edge and Baley shouted in a strangled way.

Baley had expected the cubicle to light up and to display within itself a holographic representation of a star field. That was not what happened. Instead, Baley found himself in space- in space-with bright, unblinking stars in all directions.

It lasted for only a moment and then everything was back as it was: the room and, within it, Baley, Daneel, and the cubicle.

"My regrets, Partner Elijah," said Daneel. "I turned it off as soon as I understood your discomfort. I did not realize you were not prepared for the event."

"Then prepare me. What happened?"

"The astro-simulator works directly on the visual center of the human brain. There is no way of distinguishing the impression it leaves from three-dimensional reality. It is a comparatively recent device and so far it has been used only for astronomical scenes which are, after all, low in detail."

"Did you see it, too, Daneel?"

"Yes, but very poorly and without the realism a human being experiences. I see the dim outline of a scene superimposed upon the still-clear contents of the room, but it has been explained to me that human beings see the scene only. Undoubtedly, when the brains of those such as myself are still more finely tuned and adjusted-

Baley had recovered his equilibrium. "The point is, Daneel, that I was aware of nothing else. I was not aware of myself. I did not see my hands or sense where they were. I felt as though I were a disembodied spirit or-er-as I imagine I would feel if I were dead but were consciously existing in some sort of immaterial afterlife."

"I see now why you would find that rather disturbing."

"Actually, I found it very disturbing."

"My regrets, Partner Elijah. I shall have Giskard take this away."

"No. I'm prepared now. Let me have that cube. -Will I be able to turn it off, even though I am not conscious of the existence of my hands?"

"It will cling to your hand, so that you will not drop it, Partner Elijah. I have been told by Dr. Fastolfe, who has experienced this phenomenon, that the pressure is automatically applied when the human being holding it wills an end. It is an automatic phenomenon based on nerve manipulation, as the vision itself is. At least, that is how it works with Aurorans and I imagine-

"That Earthmen are sufficiently similar to Aurorans, physiologically, for it to work with us as well. -Very well, give me the control and I will try."

With a slight internal wince, Baley squeezed the control-edge and was in space again. He was expecting it this time and, once he found he could breathe without difficulty and did not feel in any way as though he were immersed in a vacuum, he

labored to accept it all as a visual illusion. Breathing rather stertorously (perhaps to convince himself he was actually breathing), he stared about curiously in all directions.

Suddenly aware he was hearing his breath rasp in his nose, he said, "Can you hear me, Daneel?"

He heard his own voice-a little distant, a little artificial-but he heard it.

And then he heard Daneel's, different enough to be distinguishable.

"Yes, I can," said Daneel. "And you should be able to hear me, Partner Elijah. The visual and kinesthetic senses are interfered with for the sake of a greater illusion of reality, but the auditory sense remains untouched. Largely so, at any rate."

"Well, I see only stars-ordinary stars, that is. Aurora has a sun. We are close enough to Aurora, I imagine, to make the star that is its sun considerably brighter than the others."

"Entirely too bright,. Partner Elijah. It is blanked out or you might suffer retina! damage."

"Then where is the planet Aurora?"

"Do you see the constellation of Orion?"

"Yes, I do. -Do you mean we still see the constellations as we see them in Earth's sky, as in the City planetarium?"

"Just about. As stellar distances go, we are not far from Earth and the Solar System of which it is part, so that they have the starview in common. Aurora's sun is known as Tau Ceti on Earth and is only 3.67 parsecs from there. -Now if you'll imagine a line from Betelgeuse to the middle star of Orion's belt and continue it for an equal length and a bit more, the middling-bright star you see is actually the planet Aurora. It will become increasingly unmistakable over the next few days, as we approach it rapidly."

Baley regarded it gravely. It was just a bright star-like object. There was no luminous arrow, going on and off, pointing to it. There was no carefully lettered inscription arched over it.

He said, "Where's the sun? Earth's star, I mean."

"It's in the constellation Virgo, as seen from Aurora. It is a second-magnitude star. Unfortunately, the astro-simulator we have is not properly computerized and it would not be easy to point it out to you. It would, in any case, just appear to be a star, quite an ordinary one."

"Never mind," said Baley. "I am going to turn off this thing now. If I have trouble-help out."

He didn't have trouble. It flicked off just as he thought of doing so and he sat blinking in the suddenly harsh light of the room.

It was only then, when he had returned to his normal senses, that it occurred to him that for some minutes he had seemed to himself to have been out in space, without a protecting wall of any kind, and yet his Earthly agoraphobia had not been activated. He had been perfectly comfortable, once he had accepted his own nonexistence.

The thought puzzled him and distracted him from his bookfilm viewing for a while.

Periodically, he returned to the astro-simulator and took another look at space as seen from a vantage point just outside the spaceship, with himself nowhere present (apparently). Sometimes it was just for a moment, to reassure himself that he was still not made uneasy by the infinite void. Sometimes he found himself lost in the pattern of the stars and he began lazily counting them or forming geometrical figures, rather luxuriating in the ability to do something which, on Earth, he would never have been able to do because the mounting agoraphobic uneasiness would quickly have overwhelmed everything else.

Eventually, it grew quite obvious that Aurora was brightening. It soon became easy to detect among the other dots of light, then unmistakable, and finally unavoidable. It began as a tiny sliver of light and, thereafter, it enlarged rapidly and began to show phases.

It was almost precisely a half-circle of light when Baley became aware of the existence of phases.

Baley inquired and Daneel said, "We are approaching from outside the orbital plane, Partner Elijah. Aurora's south pole is more or less in the center of its disk, somewhat into the lighted half. It is spring in the southern hemisphere."

Baley said, "According to the material I have been reading, Aurora's axis is tipped sixteen degrees." He had glanced over the physical description of the planet with insufficient attention in his anxiety to get to the Aurorans, but he remembered that.

"Yes, Partner Elijah. Eventually, we will move into orbit about Aurora and the phases will then change rapidly. Aurora revolves more rapidly than Earth does--"

"It has a zz-hour day. Yes."

"A day of 22.3 traditional hours. The Auroran day is divided into 10 Auroran hours, with each hour divided into 100 Auroran minutes, which are, in turn, divided into 100 Auroran seconds. An Auroran second is thus roughly equal to 0.8 Earth seconds."

"Is that what the books mean when they refer to metric hours, metric minutes, and so on?"

"Yes. It was difficult to persuade the Aurorans, at first, to abandon the time units to which they were accustomed and both systems--the standard and the metric--were in use. Eventually, of course, the metric won out. At present we speak only of hours, minutes, and seconds, but the decimalized versions are invariably meant. The same system has been adopted throughout the Spacer worlds, even though, on the other worlds, it does not tie in with the natural rotation of the planet. Each planet also uses a local system, of course."

"As Earth does."

"Yes, Partner Elijah, but Earth uses only the original standard time units. That inconveniences the Spacer worlds where trade is concerned, but they allow Earth to go its way in this."

"Not out of friendliness, I imagine. I suspect they wish to emphasize Earth's difference. -How does decimalization fit in with the year? After all, Aurora must have a

natural period of revolution about its sun that controls the cycle of its seasons. How is that measured?'

Daneel said, "Aurora revolves about its sun in 373.5 Auroran days or in about 0.95 Earth years. That is not considered a vital matter in chronology. Aurora accepts 30 of its days as equaling a month and 10 months as equaling a metric year. The metric year is equal to about 0.8 seasonal years or about three-quarters of an Earth year. The relationship is different on each world, of course. Ten days is usually referred to as a decimonth. All the Spacer worlds use this system."

"Surely, there must be some convenient way of following the cycle of the seasons?"

"Each world has its seasonal year, too, but it is little regarded. One can, by computer, convert any day-past or present-into its position in the seasonal year if, for any reason, such information is desired. And this is true on any world, where conversion to and from the local days is also as easily possible. And, of course, Partner Elijah, any robot can do the same and can guide human activity where the seasonal year or local time is relevant. The advantage of metricized units is that it supplies humanity with a unified chronometry that involves little more than decimal point shifts."

It bothered Baley that the books he viewed made none of this clear. But then, from his own knowledge of Earth's history, he knew that, at one time, the lunar month had been the key to the calendar and that there had come a time when, for ease of chronometry, the lunar month came to be ignored and was never missed. Yet if he had given books on Earth to some stranger, that stranger would have very likely found no mention of the lunar month or any historical change in calendars. Dates would have been given without explanation.

What else would be given without explanation?

How far could he rely, then, on the knowledge he was gaining? He would have to ask questions constantly, take nothing for granted.

There would be so many opportunities to miss the obvious, so many chances to misunderstand, so many ways of taking the wrong path.

11.

Aurora filled his vision now when he used the astro-simulator and it looked like Earth. (Baley had never seen Earth in the same way, but there had been photographs in astronomy texts and he had seen those.)

Well, what Baley saw on Aurora were the same cloud patterns, the same glimpse of desert areas, the same large stretches of day and night, the same pattern of twinkling light in the expanse of the night hemisphere as the photographs showed on Earth's globe.

Baley watched raptly and thought: What if, for some reason, he had been taken into space, told he was being brought to Aurora, and was in reality being returned to

Earth for some reason-for some subtle and insane reason. How could he tell the difference before landing?

Was there reason to be suspicious? Daneel had carefully told him that the constellations were the same in the sky of both planets, but wouldn't that be naturally so for planets circling neighboring stars? The gross appearance of both planets from space was identical, but wouldn't that be expected if both were habitable and comfortably suited to human life?

Was there any reason to suppose such a farfetched deception would be played upon him? What purpose would it serve? And yet why shouldn't it be made to appear farfetched and useless?

If there were an obvious reason to do such a thing, he would have seen through it at once.

Would Daneel be party to such a conspiracy? Surely not, if he were a human being. But he was only a robot; might there not be a way to order him to behave appropriately?

There was no way of coming to a decision. Baley found himself watching for glimpses of continental outlines that he could recognize as Earthly or as non-Earthly. That would be the telling test-except that it didn't work.

The glimpses that came and went hazily through the clouds were of no use to him. He was not sufficiently knowledgeable about Earth's geography. What he really knew of Earth were its underground Cities, its caves of steel.

The bits of coastline he saw were unfamiliar to him-whether Aurora or Earth, he did not know.

Why this uncertainty, anyway? When he had gone to Solaria, he had never doubted his destination; he had never suspected that they might be bringing him back to Earth. -Ah, but then he had gone on a clear-cut mission in which there was reasonable chance for success. Now he felt there was no chance at all.

Perhaps it was, then, that he wanted to be returned to Earth and was building a false conspiracy in his mind so that he could imagine it possible.

The uncertainty in his mind had come to have a life of its own. He couldn't let go. He found himself watching Aurora with an almost mad intensity, unable to come back to the cabin reality.

Aurora was moving, turning slowly- He had watched long enough to see that. While he had been viewing space, everything had seemed motionless, like a painted backdrop, a silent and static pattern of dots of light, with, later on, a small half-circle included. Was it the motionlessness that had enabled him to be non-agoraphobic?

But now he could see Aurora moving and he realized that the ship was spiraling down in the final stage before landing. The clouds were bellying upward- No, not the clouds; the ship was spiraling downward. The ship was moving. He was moving. He was suddenly aware of his own existence. He was hurtling downward through the clouds.

He was falling, unguarded, through thin air toward solid ground.

His throat constricted; it was becoming very hard to breathe. He told himself desperately: You are enclosed. The walls of the ship are around you.

But he sensed no walls.

He thought: Even without considering the walls, you are still enclosed. You are wrapped in skin.

But he sensed no skin.

The sensation was worse than simple nakedness-he was an unaccompanied personality, the essence of identity totally uncovered, a living point, a singularity surrounded by an open and infinite world, and he was falling.

He wanted to close off the vision, contract his fist upon the control-edge, but nothing happened. His nerve-endings had so abnormalized that the automatic contraction at an effort of will did not work. He had no will. Eyes would not close, fist would not contract. He was caught and hypnotized by terror, frightened into immobility.

All he sensed before him were clouds, white-not quite white -off-white- a slight golden-orange cast. And all turned to gray-and he was drowning. He could not breathe. He struggled desperately to open his clogged throat, to call to Daneel for help- He could make no sound-

12.

Baley was breathing as though he had just breasted the tape at the end of a long race. The room was askew and there was a hard surface under his left elbow.

He realized he was on the floor.

Giskard was on his knees beside him, his robot's hand (firm but somewhat cold) closed on Baley's right fist. The door to the cabin, visible to Baley just beyond Giskard's shoulder, stood ajar.

Baley knew, without asking, what had happened. Giskard had seized that helpless human hand and clenched it upon the control-edge to end the astrosimulation. Otherwise-

Daneel was there as well, his face close to Baley's, with a look on it that might well have been pain.

He said, "You said nothing, Partner Elijah. Had I been more quickly aware of your discomfort-"

Baley tried to gesture that he understood, that it did not matter. He was still unable to speak.

The two robots waited until Baley made a feeble movement to get up. Arms were under him at once, lifting him. He was placed in a chair and the control was gently taken away from him by Giskard.

Giskard said, "We will be landing soon. You will have no further need of the astro-simulator, I believe."

Daneel added gravely, "It would be best to remove it, in any case."

Baley said, "Wait!" His voice was a hoarse whisper and he was not sure the word could be made out. He drew a deep breath, cleared his throat feebly, and said again, "Wait!"-and then, "Giskard."

Giskard turned back. "Sir?"

Baley did not speak at once. Now that Giskard knew he was wanted, he would wait a lengthy interval, perhaps indefinitely. Baley tried to gather his scattered wits. Agoraphobia or not, there still remained his uncertainty about their destination. That had existed first and it might well have intensified the agoraphobia.

He had to find out. Giskard would not lie. A robot could not lie-unless very carefully instructed to do so. And why instruct Giskard? It was Daneel who was his companion, who was to be in his company at all times. If there was lying to be done, that would be Daneel's job. Giskard was merely a fetcher and carrier, a guard at the door. Surely there was no need to undergo the task of carefully instructing him in the web of lies.

"Giskard!" said Baley, almost normally now.

"Sir?"

"We are about to land, are we?"

"In a little less than two hours, sir."

That was two metric hours, thought Baley. More than two real hours? Less? It didn't matter. It would only confuse. Forget it.

Baley said, as sharply as he could manage, "Tell me right now the name of the planet we are about to land on."

A human being, if he had answered at all, would have done so only after a pause-and then with an air of considerable surprise.

Giskard answered at once, with a flat and uninflected assertion, "It is Aurora, sir?"

"How do you know?"

"It is our destination. Then, too, it could not be Earth, for instance, since Aurora's sun, Tau Ceti, is only ninety percent the mass of Earth's sun. Tau Ceti is a little cooler, therefore, and its light has a distinct orange tinge to fresh and unaccustomed Earth eyes. You may have already seen the characteristic color of Aurora's sun in the reflection upon the upper surface of the cloud bank. You will certainly see it in the appearance of the landscape-until your eyes grow accustomed to it."

Baley's eyes left Giskard's impassive face. He had noticed the color difference, Baley thought, and had attached no importance to it. A bad error.

"You may go, Giskard."

"Yes, sir."

Baley turned bitterly to Daneel. "I've made a fool of myself, Daneel."

"I gather you wondered if perhaps we were deceiving you and taking you somewhere that was not Aurora. Did you have a reason for suspecting this, Partner Elijah?"

"None. It may have been the result of the uneasiness that arose from subliminal agoraphobia. Staring at seemingly motionless space, I felt no perceptible illness, but it may have lain just under the surface, creating a gathering uneasiness."

"The fault was ours, Partner Elijah. Knowing of your dislike for open spaces, it was wrong to subject you to astrosimulation or, having done so, to subject you to no closer supervision."

Baley shook his head in annoyance. "Don't say that, Daneel. I have supervision enough. The question in my mind is how closely I am to be supervised on Aurora itself."

Daneel said, "Partner Elijah, it seems to me it will be difficult to allow you free access to Aurora and Aurorans."

"That is just what I must be allowed, nevertheless. If I'm to get to the truth of this case of roboticide, I must be free to seek information directly on the site-and from the people involved."

Baley was, by now, feeling quite himself though a bit weary. Embarrassingly enough, the intense experience he had passed through left him with a keen desire for a pipe of tobacco, something he thought he had done away with altogether better than a year before. He could feel the taste and odor of the tobacco smoke making its way through his throat and nose.

He would, he knew, have to make do with the memory. On Aurora, he would on no account be allowed to smoke. There was no tobacco on any of the Spacer worlds and, if he had had any on him to begin with, it would have been removed and destroyed.

Daneel said, "Partner Elijah, this must be discussed with Dr. Fastolfe once we land. I have no power to make any decisions in this matter."

"Be aware of that, Daneel, but how do I speak to Fastolfe? Through the equivalent of an astro-simulator? With controls in my hand?"

"Not at all, Partner Elijah. You will speak face-to-face. He plans to meet you at the spaceport."

13.

Baley listened for the noises of landing. He did not know what they might be, of course. He did not know the mechanism of the ship, how many men and women it carried, what they would have to do in the process of landing, what in the way of noise would be involved.

Shouts? Rumbles? A dim vibration?

He heard nothing.

Daneel said, "You seem to be under tension, Partner Elijah. I would prefer that you did not wait to tell me of any discomfort you might feel. I must help you at the very moment you are, for any reason, unhappy."

There was a faint stress on the word "must."

Baley thought absently: The First Law drives him. He surely suffered as much in his way as I suffered in mine when I collapsed and he did not foresee it in time. A forbidden imbalance of positronic potentials may have no meaning to me, but it may produce in him the same discomfort and the same reaction as acute pain would to me.

He thought further: How can I tell what exists inside the pseudoskin and pseudoconsciousness of a robot, any more than Daneel can tell what exists inside me.

And then, feeling remorse at having thought of Daneel as a robot, Baley looked into the other's gentle eyes (when did he start thinking of their expression as gentle?) and said, "I would tell you of any discomfort at once. There is none. I am merely trying to hear any noise that might tell me of the progress of the landing procedure, Partner Daneel."

"Thank you, Partner Elijah," said Daneel gravely. He bowed his head slightly and went on, "There should be no discomfort in the landing. You will feel acceleration, but that will be minimal, for this room will yield, to a certain extent, in the direction of the acceleration. The temperature may go up, but not more than two degrees Celsius. As for sonic effects, there may be a low hiss as we pass through the thickening atmosphere. Will any of this disturb you?"

"It shouldn't. What does disturb me is not being free to participate in the landing. I would like to know about such things. I do not want to be imprisoned and to be kept from the experience."

"You have already discovered, Partner Elijah, that the nature of the experience does not suit your temperament."

"And how am I to get over that, Daneel?," he said strenuously. "That is not enough reason to keep me here?"

"Partner Elijah, I have already explained that you are kept here for your own safety."

Baley shook his head in clear disgust. "I have thought of that and I say it's nonsense. My chances of straightening out this mess are so small, with all the restrictions being placed on me and with the difficulty I will have in understanding anything about Aurora, that I don't think anyone in his right mind would bother to take the trouble to try to stop me. And if they did, why bother attacking me personally? Why not sabotage the ship? If we imagine ourselves to be facing no-holds-barred villains, they should find a ship-and the people aboard it-and you and Giskard-and myself, of course-to be a small price to pay."

"This has, in point of fact, been considered, Partner Elijah. The ship has been carefully studied. Any signs of sabotage would be detected."

"Are you sure? One hundred percent certain?"

"Nothing of this sort can be absolutely certain. Giskard and I were comfortable, however, with the thought that the certainty was quite high and that we might proceed with minimal expectation of disaster."

"And if you were wrong?"

Something like a small sign of spasm crossed Daneel's face, as though he were being asked to consider something that interfered with the smooth working of the positronic pathways in his brain. He said, "But we have not been wrong."

"You cannot say that. We are approaching the landing and that is sure to be the danger moment. In fact, at this point there is no need to sabotage the ship. My personal danger is greatest now-right now. I can't hide in this room if I'm to disembark at Aurora. I will have to pass through the ship and be within reach of others. Have you taken precautions to keep the landing safe?" (He was being petty-striking out at Daneel needlessly because he was chafing at his long imprisonment-and at the indignity of his moment of collapse.)

But Daneel said calmly, "We have, Partner Elijah. And, incidentally, we have landed. We are now resting on the surface of Aurora."

For a moment, Baley was bewildered. He looked around wildly, but of course there was nothing to see but an enclosing room. He had felt and heard nothing of what Daneel had described. None of the acceleration, or heat, or wind whistle. -Or had Daneel deliberately brought up the matter of his personal danger once again, in order to make sure he would not think of other unsettling-but minor-matters.

Baley said, "And yet there's still the matter of getting off the ship. How do I do that without being vulnerable to possible enemies?"

Daneel walked to one wall and touched a spot upon it. The wall promptly split in two, the two halves moving apart. Baley found himself looking into a long cylinder, a tunnel.

Giskard had entered the room at that moment from the other side and said, "Sir, the three of us will move through the exit tube. Others have it under observation from without. At the other end of the tube, Dr. Fastolfe is waiting."

"We have taken every precaution," said Daneel.

Baley muttered, "My apologies, Daneel-Giskard." He moved into the exit tube somberly. Every effort to assure that precautions had been taken also assured him that those precautions were thought necessary.

Baley liked to think he was no coward, but he was on a strange planet, with no way of telling friend from enemy, with no way of taking comfort in anything familiar (except, of course, Daneel). At crucial moments, he thought with a shiver, he would be without enclosure to warm him and to give him relief.

4. FASTOLFE

14.

Dr. Han Fastolfe was indeed waiting-and smiling. He was tall and thin, with light brown hair that was not very thick, and there were, of course, his ears. It was the ears that Baley remembered, even after three years. Large ears, standing away from his head, giving him a vaguely humorous appearance, a pleasant homeliness. It was the ears that made Baley smile, rather than Fastolfe's welcome.

Baley wondered briefly if Auroran medical technology did not extend to the minor plastic surgery required to correct the ungainliness of those ears. -But then, it might well be that Fastolfe liked their appearance as Baley himself (rather to his surprise) did. There is something to be said about a face that makes one smile.

Perhaps Fastolfe valued being liked at first glance. Or was it that he found it useful to be underestimated? Or just different?

Fastolfe said, "Plainclothesman Elijah Baley. I remember you well, even though I persist in thinking of you as possessing the face of the actor who portrayed you."

Baley's face turned grim. "That hyperwave dramatization haunts me, Dr. Fastolfe. If I knew where I could go to escape it-"

"Nowhere," said Fastolfe genially. "At least ordinarily. So if you don't like it, we'll expunge it from our conversations right now. I shall never mention it again. Agreed?"

"Thank you." With calculated suddenness, he thrust out his hand at Fastolfe.

Fastolfe hesitated perceptibly. Then he took Baley's hand, holding it gingerly-and not for long-and said, "I shall assume you are not a walking sack of infection, Mr. Baley."

Then he said ruefully, staring at his hands, "I must admit, though, that my hands have been treated with an inert film that doesn't feel entirely comfortable. I'm a creature of the irrational fears of my society."

Baley shrugged. "So are we all. I do not relish the thought of being Outside-in the open air, that is. For that matter, I do not relish having had to come to Aurora under the circumstances in which I find myself."

"I understand that well, Mr. Baley. I have a closed car for you here and, when we come to my establishment, we will do our best to continue to keep you enclosed."

"Thank you, but in the course of my stay on Aurora, I feel that it will be necessary for me to stay Outside on occasion. I am prepared for that-as best I can be."

"I understand, but we will inflict the Outside on you only when it is necessary. That is not now the case, so please consent to be enclosed."

The car was waiting in the shadow of the tunnel and there would scarcely be a trace of Outside in passing from the latter to the former. Behind him, Baley was aware of both Daneel and Giskard, quite dissimilar in appearance but both identical in grave and waiting attitude-and both endlessly patient.

Fastolfe opened the back door and said, "Please to get in."

Baley entered. Quickly and smoothly, Daneel entered behind him, while Giskard, virtually simultaneously, in what seemed almost like a well-choreographed dance movement, entered on the other side. Baley found himself wedged, but not oppressively so, between them. In fact, he welcomed the thought that, between himself and the Outside, on both sides, was the thickness of a robotic body.

But there was no Outside. Fastolfe climbed into the front seat and, as the door closed behind him, the windows blanked out and a soft, artificial light suffused the interior.

Fastolfe said, "I don't generally drive this way, Mr. Baley, but I don't mind a great deal and you may find it more comfortable. The car is completely computerized, knows where it's going, and can deal with any obstructions or emergencies. We need interfere in no way."

There was the faintest feeling of acceleration and then a vague, barely noticeable sensation of motion.

Fastolfe said, "This is a secure passage, Mr. Baley. I have gone to considerable trouble to make certain that as few people as possible know you will be in this car and certainly you will not be detected within it. The trip by car-which rides on air-jets, by the way, so that it is an airfoil, actually-will not take long, but, if you wish, you can seize the opportunity to rest. You are quite safe now."

"You speak," said Baley, "as though you think I'm in danger. I was protected to the point of imprisonment on the ship-and again now." Baley looked about the small, enclosed interior of the car, within which he was hemmed by the frame of metal and opacified glass, to say nothing of the metallic frame of two robots.

Fastolfe laughed lightly. "I am overreacting, I know, but feeling runs high on Aurora. You arrive here at a time of crisis for us and I would rather be made to look silly by overreacting than to run the terrible risk that undercoating entails."

Baley said, "I believe you understand, Dr. Fastolfe, that my failure here would be a blow to Earth."

"I understand that well. I am as determined as you are to prevent your failure. Believe me."

"I do. Furthermore, my failure here, for whatever reason, will also be my personal and professional ruin on Earth."

Fastolfe turned in his seat to look at Baley with a shocked expression. "Really? That would not be warranted."

Baley shrugged. "I agree, but it will happen. I will be the obvious target for a desperate Earth government."

"This was not in my mind when I asked for you, Mr. Baley. You may be sure I will do what I can. Though, in all honesty"- his eyes fell away-"that will be little enough, if we lose."

"I know that," said Baley dourly. He leaned back against the soft upholstery and closed his eyes. The motion of the car was limited to a gentle lulling sway, but Baley did not sleep. Instead, he thought hard-for what that was worth.

15.

Baley did not experience the Outside at the other end of the trip, either. When he emerged from the airfoil, he was in an underground garage and a small elevator brought him up to ground level (as it turned out).

He was ushered into a sunny room and, as he passed through the direct rays of the sun (yes, faintly orange), he shrank away a bit.

Fastolfe noticed. He said, "The windows are not opacifiable, though they can be darkened. I will do that, if you like. In fact, I should have thought of that-"

"No need," said Baley gruffly. "I'll just sit with my back to it. I must acclimate myself."

"If you wish, but let me know if, at any time, you grow too uncomfortable. -Mr. Baley, it is late morning here on this part of Aurora. I don't know your personal time on the ship. If you have been awake for many hours and would like to sleep, that can be arranged. If you are wakeful but not hungry, you need not eat. However, if you feel you can manage it, you are welcome to have lunch with me in a short while."

"That would fit in well with my personal time, as it happens."

"Excellent. I'll remind you that our day is about seven percent shorter than Earth's. It shouldn't involve you in too much biorhythmic difficulties, but if it does, we will try to adjust ourselves to your needs."

"Thank you."

"Finally- I have no clear idea what your food preferences might be."

"I'll manage to eat whatever is put before me."

"Nevertheless, I won't feel offended if anything seems-not palatable."

"Thank you."

"And you won't mind if Daneel and Giskard join us?"

Baley smiled faintly. "Will they be eating, too?"

There was no answering smile from Fastolfe. He said seriously, "No, but I want them to be with you at all times."

"Still danger? Even here?"

"I trust nothing entirely. Even here."

A robot entered. "Sir, lunch is served."

Fastolfe nodded. "Very good, Faber. We will be at the table in a few moments."

Baley said, "How many robots do you have?"

"Quite a few. We are not at the Solarian level of ten thousand robots to a human being, but I have more than the average number-fifty-seven. The house is a large one and it serves as my office and my workshop as well. Then, too, my wife, when I have one, must

have space enough to be insulated from my work in a separate wing and must be served independently."

"Well, with fifty-seven robots, I imagine you can spare two. I feel the less guilty at your having sent Giskard and Daneel to escort me to Aurora."

"It was no casual choice, I assure you, Mr. Baley. Giskard is my majordomo and my right hand. He has been with me all my adult life."

"Yet you sent him on the trip to get me. I am honored," said Baley.

"It is a measure of your importance, Mr. Baley. Giskard is the most reliable of my robots, strong and sturdy."

Baley's eye flickered toward Daneel and Fastolfe added, "I don't include my friend Daneel in these calculations. He is not my servant, but an achievement of which I have the weakness to be extremely proud. He is the first of his class and, while Dr. Roj Nemennuh Sarton was his designer and model, the man who-

He paused delicately, but Baley nodded brusquely and said, "I understand."

He did not require the phrase to be completed with a reference to Sarton's murder on Earth.

"While Sarton supervised the actual construction," Fastolfe went on, "it was I whose theoretical calculations made Daneel possible."

Fastolfe smiled at Daneel, who bowed his head in acknowledgment.

Baley said, "There was Jander, too."

"Yes." Fastolfe shook his head and looked downcast. "I should perhaps have kept him with me, as I do Daneel. But he was my second humanoid and that makes a difference. It is Daneel who is my first-born, so to speak-a special case."

"And you construct no more humanoid robots now?"

"No more. But come," said Fastolfe, rubbing his hands. "We must have our lunch. -I do not think, Mr. Baley, that on Earth the population is accustomed to what I might term natural food. We are having shrimp salad, together with bread and cheese, milk, if you wish, or any of an assortment of fruit juices. It's all very simple. Ice cream for dessert."

"All traditional Earth dishes," said Baley, "which exist now in their original form only in Earth's ancient literature."

"None of it is entirely common here on Aurora, but I didn't think it made sense to subject you to our own version of gourmet dining, which involves food items and spices of Auroran varieties. The taste would have to be acquired."

He rose. "Please come with me, Mr. Baley. There will just be the two of us and we will not stand on ceremony or indulge in unnecessary dining ritual."

"Thank you," said Baley. "I accept that as a kindness. I have relieved the tedium of the trip here by a rather intensive viewing of material relating to Aurora and I know that proper politeness requires many aspects to a ceremonial meal that I would dread."

"You need not dread."

Baley said, "Could we break ceremony even to the extent of talking business over the meal, Dr. Fastolfe? I must not lose time unnecessarily."

"I sympathize with that point of view. We will indeed talk business and I imagine I can rely on you to say nothing to anyone concerning that lapse. I would not want to be expelled from polite society." He chuckled, then said, "Though I should not laugh. It is nothing to laugh at. Losing time may be more than an inconvenience alone. It could easily be fatal."

16.

The room that Baley left was a spare one: several chairs, a chest of drawers, something that looked like a piano but had brass valves in the place of keys, some abstract designs on the walls that seemed to shimmer with light. The floor was a smooth checkerboard of several shades of brown, perhaps designed to be reminiscent of wood, and although it shone with highlights as though freshly waxed, it did not feel slippery underfoot.

The dining room, though it had the same floor, was like it in no other way. It was a long rectangular room, overburdened with decoration. It contained six large square tables that were clearly modules that could be assembled in various fashions. A bar was to be found along one short wall, with gleaming bottles of various colors standing before a curved mirror that seemed to lend a nearly infinite extension to the room it reflected. Along the other short wall were four recesses, in each of which a robot waited.

Both long walls were mosaics, in which the colors slowly changed. One was a planetary scene, though Baley could not tell if it were Aurora, or another planet, or something completely imaginary. At one end there was a wheat field (or something of that sort) filled with elaborate farm machinery, all robot-controlled. As one's eye traveled along the length of the wall, that gave way to scattered human habitations, becoming, at the other end, what Baley felt to be the Auroran version of a City.

The other long wall was astronomical. A planet, blue-white, lit by a distant sun, reflected light in such a manner that not the closest examination could free one from the thought that it was slowly rotating. The stars that surrounded it—some faint, some bright—seemed also to be changing their patterns, though when the eye concentrated on some small grouping and remained fixed there, the stars seemed immobile.

Baley found it all confusing and repellent.

Fastolfe said, "Rather a work of art, Mr. Baley. Far too expensive to be worth it, though, but Fanya would have it. -Fanya is my current partner."

"Will she be joining us, Dr. Fastolfe?"

"No, Mr. Baley. As I said, just the two of us. For the duration, I have asked her to remain in her own quarters. I do not want to subject her to this problem we have. You understand, I hope?"

"Yes, of course."

"Come. Please take your scat."

One of the tables was set with dishes, cups, and elaborate cutlery, not all of which were familiar to Baley. In the center was a tall, somewhat tapering cylinder that looked as though it might be a gigantic chess pawn made out of a gray rocky material.

Baley, as he sat down, could not resist reaching toward it and touching it with a finger.

Fastolfe smiled. "It's a spicer. It possesses simple controls that allows one to use it to deliver a fixed amount of any of a dozen different condiments on any portion of a dish. To do it properly, one picks it up and performs rather intricate evolutions that are meaningless in themselves but that are much valued by fashionable Aurorans as symbols of the grace and delicacy with which meals should be served. When I was younger, I could, with my thumb and two fingers, do the triple genuflection and produce salt as the spicer struck my palm. Now if I tried it, I'd run a good risk of braining my guest. I trust you won't mind if I do not try."

"I urge you not to try, Dr. Fastolfe."

A robot placed the salad on the table, another brought a tray of fruit juices, a third brought the bread and cheese, a fourth adjusted the napkins. All four operated in close coordination, weaving in and out without collision or any sign of difficulty. Baley watched them in astonishment.

They ended, without any apparent sign of prearrangements, one at each side of the table. They stepped back in unison, bowed in unison, turned in unison, and returned to the recesses along the wall at the far end of the room. Baley was suddenly aware of Daneel and Giskard in the room as well. He had not seen them come in. They waited in two recesses that had somehow appeared along the wall with the wheat field. Daneel was the closer.

Fastolfe said, "Now that they've gone-" He paused and shook his head slowly in rueful conclusion. "Except that they haven't. Ordinarily, it is customary for the robots to leave before lunch actually begins. Robots do not eat, while human beings do. It therefore makes sense that those who eat do so and that those who do not leave. And it has ended by becoming one more ritual. It would be quite unthinkable to eat until the robots left. In this case, though-"

"They have not left," said Baley.

"No. I felt that security came before etiquette and I felt that, not being an Auroran, you would not mind."

Baley waited for Fastolfe to make the first move. Fastolfe lifted a fork, so did Baley. Fastolfe made use of it, moving slowly and allowing Baley to see exactly what he was doing.

Baley bit cautiously into a shrimp and found it delightful. He recognized the taste, which was like the shrimp paste produced on Earth but enormously more subtle and rich. He chewed slowly and, for a while, despite his anxiety to get on with the investigation while dining, he found it quite unthinkable to do anything but give his full attention to the lunch.

It was, in fact, Fastolfe who made the first move. "Shouldn't we make a beginning on the problem, Mr. Baley?"

Baley felt himself flush slightly. "Yes. By all means. I ask your pardon. Your Auroran food caught me by surprise, so that it was difficult for me to think of anything else. -The problem, Dr. Fastolfe, is of your making, isn't it?"

"Why do you say that?"

"Someone has committed roboticide in a manner that requires great expertise-as I have been told."

"Roboticide? An amusing term." Fastolfe smiled. "Of course, I understand what you mean by it. -You have been told correctly; the manner requires enormous expertise."

"And only you have the expertise to carry it out-as I have been told."

"You have been told correctly there, too."

"And even you yourself admit-in fact, you insist-that only you could have put Jander into a mental freeze-out."

"I maintain what is, after all, the truth, Mr. Baley. It would do me no good to lie, even if I could bring myself to do so. It is notorious that I am the outstanding theoretical roboticist in all the Fifty Worlds."

"Nevertheless, Dr. Fastolfe, might not the second-best theoretical roboticist in all the worlds-or the third-best, or even the fifteenth-best-nevertheless possess the necessary ability to commit the deed? Does it really require all the ability of the very best?"

Fastolfe said calmly, "In my opinion, it really requires all the ability of the very best. Indeed, again in my opinion, I, myself, could only accomplish the task on one of my good days. Remember that the best brains in robotics-including mine- have specifically labored to design positronic brains that could not be driven into mental freeze-out."

"Are you certain of all that? Really certain?"

"Completely."

"And you stated so publicly?"

"Of course. There was a public inquiry, my dear Earthman. I was asked the questions you are now asking and I answered truthfully. It is an Auroran custom to do so."

Baley said, "I do not, at the moment, question that you were convinced you were answering truthfully. But might you not have been swayed by a natural pride in yourself? That might also be typically Auroran, might it not?"

"You mean that my anxiety to be considered the best would make me willingly put myself in a position where everyone would be forced to conclude I had mentally frozen Jander?"

"I picture you, somehow, as content to have your political and social status destroyed, provided your scientific reputation remained intact."

"I see. You have an interesting way of thinking, Mr. Baley. This would not have occurred to me. Given a choice between admitting I was second-best and admitting I was guilty of, to use your phrase, a roboticide, you are of the opinion I would knowingly accept the latter."

"No, Dr. Fastolfe, I do not wish to present the matter quite so simplistically. Might it not be that you deceive yourself into thinking you are the greatest of all roboticists and that you are completely unrivaled, clinging to that at all costs, because you unconsciously-unconsciously, Dr. Fastolfe-realize that, in fact, you are being overtaken -or have even already been overtaken- by others."

Fastolfe laughed, but there was an edge of annoyance in it. "Not so, Mr. Baley. Quite wrong."

"Think, Dr. Fastolfe! Are you certain that none of your roboticist colleagues can approach you in brilliance?"

"There are only a few who are capable of dealing at all with humaniform robots. Daneel's construction created virtually a new profession for which there is not even a name-humaniformicists, perhaps. Of the theoretical roboticists on Aurora, not one, except for myself, understands the workings of Daneel's positronic brain. Dr. Sarton did, but he is dead-and he did not understand it as well as I do. The basic theory is mine."

"It may have been yours to begin with, but surely you can't expect to maintain exclusive ownership. Has no one learned the theory?"

Fastolfe shook his head firmly. "Not one. I have taught no one and I defy any other living roboticist to have developed the theory on his own."

Baley said, with a touch of irritation, "Might there not be a bright young man, fresh out of the university, who is cleverer than anyone yet realizes, who-"

"No, Mr. Baley, no. I would have known such a young man. He would have passed through my laboratories. He would have worked with me. At the moment, no such young man exists. Eventually, one will; perhaps many will. At the moment, no one."

"If you died, then, the new science dies with you?"

"I am only a hundred and sixty-five years old. That's metric years, of course, so it is only a hundred and twenty-four of your Earth years, more or less. I am still quite young by Auroran standards and there is no medical reason why my life should be considered even half over. It is not entirely unusual to reach an age of four hundred years-metric years. There is yet plenty of time to teach."

They had finished eating, but neither man made any move to leave the table. Nor did any robot approach to clear it. It was as though they were transfixed into immobility by the intensity of the back and forth flow of talk.

Baley's eyes narrowed. He said, "Dr. Fastolfe, two years ago I was on Solania. There I was given the clear impression that the Solarians were, on the whole, the most skilled roboticists in all the worlds."

"On the whole, that's probably true."

"And not one of them could have done the deed?"

"Not one, Mr. Baley. Their skill is with robots who are, at best, no more advanced than my poor, reliable Giskard. The Solarians know nothing of the construction of humaniform robots."

"How can you be sure of that?"

"Since you were on Solaria, Mr. Baley, you know very well that Solarians can approach each other with only the greatest of difficulty, that they interact by trimensional viewing-except where sexual contact is absolutely required. Do you think that any of them would dream of designing a robot so human in appearance that it would activate their neuroses? They would so avoid the possibility of approaching him, since he would look so human, that they could make no reasonable use of him."

"Might not a Solarian here or there display a surprising tolerance for the human body? How can you be sure?"

"Even if a Solariari could, which I do not deny, there are no Solarian nationals on Aurora this year."

"None?"

"None! They do not like to be thrown into contact even with Aurorans and, except on the most urgent business, none will come here-or to, any other world. Even in the case of urgent business, they will come no closer than orbit and then they deal with us only by electronic communication."

Baley said, "In that case, if you are-literally and actually- the only person in all the worlds who could have done it, did you kill Jander?"

Fastolfe said, "I cannot believe that Daneel did not tell you I have denied this deed."

"He did tell me so, but I want to hear it from you."

Fastolfe crossed his arms and frowned. He said, through clenched teeth, "Then I'll tell you so. I did not do it."

Baley shook his head. "I believe you believe that statement."

"I do. And most sincerely. I am telling the truth. I did riot kill Jander."

"But if you did not do it, and if no one else can possibly have done it, then- But wait. I am, perhaps, making an unwarranted assumption. Is Jander really dead or have I been brought here under false pretenses?"

"The robot is really destroyed. It will be quite possible to show him to you, if the Legislature does not bar my access to him before the day is over-which I don't think they will do."

"In that case, if you did not do it, and if no one else could possibly have done it, and if the robot is actually dead-who committed the crime?"

Fastolfe sighed. "I'm sure Daneel told you what I have maintained at the inquiry-but you want to hear it from my own lips."

"That is right, Dr. Fastolfe."

"Well, then, no one committed the crime. It was a spontaneous event in the positronic flow along the brain paths that set up the mental freeze-out in Jander."

"Is that likely?"

"No, it is not. It is extremely unlikely-but if I did not do it, then that is the only thing that can have happened."

"Might it not be argued that there is a greater chance that you are lying than that a spontaneous mental freeze-out took place."

"Many do so argue. But I happen to know that I did not do it and that leaves only the spontaneous event as a possibility."

"And you have had me brought here to demonstrate -to prove- that the spontaneous event did, in fact, take place?"

"Yes."

"But how does one go about proving the spontaneous event? Only by proving it, it seems, can I save you, Earth, and myself."

"In order of increasing importance, Mr. Baley?"

Baley looked annoyed. "Well, then, you, me, and Earth."

"I'm afraid," said Fastolfe, "that after considerable thought, I have come to the conclusion that there is no way of obtaining such a proof."

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Baley stared at Fastolfe in horror. "No way?"

"No way. None." And then, in a sudden fit of apparent abstraction, he seized the spicer and said, "You know, I am curious to see if I can still do the triple genuflection."

He tossed the spicer into the air with a calculated flip of the wrist. It somersaulted and, as it came down, Fastolfe caught the narrow end on the side of his right palm (his thumb tucked down). It went up slightly and swayed and was caught on the side of the left palm. It went up again in reverse and was caught on the side of the right palm and then again on the left palm. After this third genuflection, it was lifted with sufficient force to produce a ftp. Fastolfe caught it in his right fist, with his left hand nearby, palm upward. Once the spicer was caught, Fastolfe displayed his left hand and there was a fine sprinkling of salt in it.

Fastolfe said, "It is a childish display to the scientific mind and the effort is totally disproportionate to the end, which is, of course, a pinch of salt, but the good Auroran host is proud of being able to put on a display. There are some experts who can keep the spicer in the air for a minute and a half, moving their hands almost more rapidly than the eye can follow.

"Of course," he added thoughtfully, "Daneel can perform such actions with greater skill and speed than any human. I have tested him in this manner in order to check on the workings of his brain paths, but it would be totally wrong to have him display such talents in public. It would needlessly humiliate human spicists-a popular term for them, you understand, though you won't find it in dictionaries."

Baley grunted.

Fastolfe sighed. "But we must get back to business."

"You brought me through several parsecs of space for that purpose."

"Indeed, I did. -Let us proceed!"

Baley said, "Was there a reason for that display of yours, Dr. Fastolfe?"

Fastolfe said, "Well, we seem to have come to an impasse. I've brought you here to do something that can't be done. Your face was rather eloquent and, to tell you the truth, I felt no better. It seemed, therefore, that we could use a breathing space. And now-let us proceed."

"On the impossible task?"

"Why should it be impossible for you, Mr. Baley? Your reputation is that of an achiever of the impossible."

"The hyperwave drama? You believe that foolish distortion of what happened on Solaria?"

Fastolfe spread his arms. "I have no other hope."

Baley said, "And I have no choice. I must continue to try; I cannot return to Earth a failure. That has been made clear to me. -Tell me, Dr. Fastolfe, how could Jander have been killed? What sort of manipulation of his mind would have been required?"

"Mr. Baley, I don't know how I could possibly explain that, even to another roboticist, which you certainly are not, and even if I were prepared to publish my theories, which I certainly am not. However, let me see if I can't explain something. -You know, of course, that robots were invented on Earth."

"Very little concerning robotics is dealt with on Earth-"

"Earth's strong antirobot bias is well-known on the Spacer worlds."

"But the Earthly origin of robots is obvious to any person on Earth who thinks about it. It is well-known that hyperspatial travel was developed with the aid of robots and, since the Spacer worlds could not have been settled without hyperspatial travel, it follows that robots existed before settlement had taken place and while Earth was still the only inhabited planet. Robots were therefore invented on Earth by Earthpeople."

"Yet Earth feels no pride in that, does it?"

"We do not discuss it," said Baley shortly.

"And Earthpeople know nothing about Susan Calvin?"

"I have come across her name in a few old books. She was one of the early pioneers in robotics."

"Is that all you know of her?"

Baley made a gesture of dismissal. "I suppose I could find out more if I searched the records, but I have had no occasion to do so."

"How strange," said Fastolfe. "She's a demigod to all Spacers, so much so that I imagine that few Spacers who are not actually roboticists think of her as an Earthwoman. It would seem a profanation. They would refuse to believe it if they were told that she died after having lived scarcely more than a hundred metric years. And yet you know her only as an early pioneer."

"Has she got something to do with all this, Dr. Fastolfe?"

"Not directly, but in a way. You must understand that numerous legends cluster about her name. Most of them are undoubtedly untrue, but they cling to her, nonetheless. One of the most famous legends-and one of the least likely to be true-

concerns a robot manufactured in those primitive days that, through some accident on the production lines, turned out to have telepathic abilities-

"What!"

"A legend! I told you it was a legend-and undoubtedly untrue! Mind you, there is some theoretical reason for supposing this might be possible, though no one has ever presented a plausible design that could even begin to incorporate such an ability. That it could have appeared in positronic brains as crude and simple as those in the pre-hyperspatial era is totally unthinkable. That is why we are quite certain that this particular tale is an invention. But let me go on anyway, for it points out a moral."

"By all means, go on."

"The robot, according to the tale, could read minds. And when asked questions, he read the questioner's mind and told the questioner what he wanted to hear. Now the First Law of Robotics states quite clearly that a robot may not injure a human being or, through inaction, allow a person to come to harm, but to robots generally that means physical harm. A robot who can read minds, however, would surely decide that disappointment or anger or any violent emotion would make the human being feeling those emotions unhappy and the robot would interpret the inspiring of such emotions under the heading of 'harm.' If, then, a telepathic robot knew that the truth might disappoint or enrage a questioner or cause that person to feel envy or unhappiness, he would tell a pleasing lie, instead. Do you see that?"

"Yes, of course."

"So the robot lied even to Susan Calvin herself. The lies could not long continue, for different people were told different things that were not only inconsistent among themselves but unsupported by the gathering evidence of reality, you see. Susan Calvin discovered she had been lied to and realized that those lies had led her into a position of considerable embarrassment. What would have disappointed her somewhat to begin with had now, thanks to false hopes, disappointed her unbearably. -You never heard the story?"

"I give you my word."

"Astonishing! Yet it certainly wasn't invented on Aurora, for it is equally current on all the worlds. -In any case, Calvin took her revenge. She pointed out to the robot that, whether he told the truth or told a lie, he would equally harm the person with whom he dealt. He could not obey the First Law, whatever action he took. The robot, understanding this, was forced to take refuge in total inaction. If you want to put it colorfully, his positronic pathways burned out. His brain was irrecoverably destroyed. The legend goes on to say that Calvin's last word to the destroyed robot was 'Liar!'"

Baley said, "And something like this, I take it, was what happened to Jander Panel. He was faced with a contradiction in terms and his brain burned out?"

"It's what appears to have happened, though that is not as easy to bring about as it would have been in Susan Calvin's day. Possibly because of the legend, roboticists have always been careful to make it as difficult as possible for contradictions to arise. As the theory of positronic brains has grown more subtle and as the practice of positronic brain

design has grown more intricate, increasingly successful systems have been devised to have all situations that might arise resolve into nonequality, so that some action can always be taken that will be interpreted as obeying the First Law."

"Well, then, you can't burn out a robot's brain. Is that what you're saying? Because if you arc, what happened to Jander?"

"It's not what I'm saying. The increasingly successful systems I speak of, are never completely successful. They cannot be. No matter how subtle and intricate a brain might be, there is always some way of setting up a contradiction. That is a fundamental truth of mathematics. It will remain forever impossible to produce a brain so subtle and intricate as to reduce the chance of contradiction to zero. Never quite to zero. However, the systems have been made so close to zero that to bring about a mental freeze-out by setting up a suitable contradiction would require a deep understanding of the particular positronic brain being dealt with-and that would take a clever theoretician."

"Such as yourself, Dr. Fastolfe?"

"Such as myself. In the case of humaniform robots, only myself."

"Or no one at all," said Baley, heavily ironic.

"Or no one at all. Precisely," said Fastolfe, ignoring the irony. "The humaniform robots have brains -and, I might add, bodies- constructed in conscious imitation of the human being. The positronic brains are extraordinarily delicate and they take on some of the fragility of the human brain, naturally. Just as a human being may have a stroke, though some chance event within the brain and without the intervention of any external effect, so a humaniform brain might, through chance alone-the occasional aimless drifting of positrons-go into mental freeze."

"Can you prove that, Dr. Fastolfe?"

"I can demonstrate it mathematically, but of those who could follow the mathematics, not all would agree that the reasoning was valid. It involves certain suppositions of my own that do not fit into the accepted modes of thinking in robotics."

"And how likely is spontaneous mental freeze-out?"

"Given a large number of humaniform robots, say a hundred thousand, there is an even chance that one of them might undergo spontaneous mental freeze-out in an average Auroran lifetime. And yet it could happen much sooner, as it did to Jander, although then the odds would be very greatly against it."

"But look here, Dr. Fastolfe, even if you were to prove conclusively that a spontaneous mental freeze-out could take place in robots generally, that would not be the same as proving that such a thing happened to Jander in particular at this particular time."

"No," admitted Fastolfe, "you arc quite right."

"You, the greatest expert in robotics, cannot prove it in the specific case of Jander."

"Again, you are quite right."

"Then what do you expect me to be able to do, when I know nothing of robotics."

"There is no need to prove anything. It would surely be sufficient to present an ingenious suggestion that would make spontaneous mental freeze-out plausible to the general public."

"Such as-"

"I don't know."

Baley said harshly. "Are you sure you don't know, Dr. Fastolfe?"

"What do you mean? I have just said I don't know"

"Let me point out something. I assume that Aurorans, generally, know that I have come to the planet for the purpose of tackling this problem. it would be difficult to manage to get me here secretly, considering that I am an Earthman and this is Aurora."

"Yes, certainly, and I made no attempt to do that. I consulted the Chairman of the Legislature and persuaded him to grant me permission to bring you here, It is how I've managed to win a stay in judgment. You are to be given a chance to solve the mystery before I go on trial, I doubt that they'll give me a very long stay."

"I repeat, then- Aurorans, in general, know I'm here and I imagine they know precisely why I am here-that I am supposed to solve the puzzle of the death of Jander."

"Of course. What other reason could there be?"

"And from the time I boarded the ship that brought me here, you have kept me under close and constant guard because of the danger that your enemies might try to eliminate me-judging me to be some sort of wonderman who just might solve the puzzle in such a way as to place you on the winning side, even though all the odds are against me."

"I fear that as a possibility, yes"

"And suppose someone who does not want to see the puzzle solved and you, Dr. Fastolfe, exonerated should actually succeed in killing me. Might that not swing sentiment in your favor?"

Might not people reason that your enemies felt you were, in actual fact, innocent or they would not fear the investigation so much that they would want to kill me?"

"Rather complicated reasoning, Mr. Baley. I suppose that, properly exploited, your death might be used to such a purpose, but it's not going to happen. You are being protected and you will not be killed"

"But why protect me, Dr. Fastolfe? Why not let them kill me and use my death as a way of winning?"

"Because I would rather you remained alive and succeeded in actually demonstrating my innocence."

Baley said, "But surely you know that I can't demonstrate your innocence."

"Perhaps you can. You have every incentive. The welfare of Earth hangs on your doing so and, as you have told me, your own career."

"What good is incentive? If you ordered me to fly by flapping my arms and told me further that if I failed, I would be promptly killed by slow torture and that Earth would be blown up and all its population destroyed, I would have enormous incentive to flap my wings and fly-and yet still be unable to do so."

Fastolfe said uneasily, "I know the chances are small."

"You know they are nonexistent," said Baley violently, "and that only my death can save you."

"Then I will not be saved, for I am seeing to it that my enemies cannot reach you."

"But you can reach me."

"What?"

"I have the thought in my head, Dr. Fastolfe, that you yourself might kill me in such a way as to make it appear that your enemies have done the deed. You would then use my death against them-and that that is why you have brought me to Aurora."

For a moment, Fastolfe looked at Baley with a kind of mild surprise and then, in an excess of passion both sudden and extreme, his face reddened and twisted into a snarl. Sweeping up the spicer from the table, he raised it high and brought his arm down to hurl it at Baley.

And Baley, caught utterly by surprise, barely managed to cringe back against his chair.

5. DANEEL AND GISKARD

18.

If Fastolfe had acted quickly, Daneel had reacted far more quickly still.

To Baley, who had all but forgotten Daneel's existence, there seemed a vague rush, a confused sound, and then Daneel was standing to one side of Fastolfe, holding the spicer, and saying, "I trust, Dr. Fastolfe, that I did not in any way hurt you."

Baley noted, in a dazed sort of way, that Giskard was not far from Fastolfe on the other side and that every one of the four robots at the far wall had advanced almost to the dining room table.

Panting slightly, Fastolfe, his hair quite disheveled, said, "No, Daneel. You did very well, indeed." He raised his voice. "You all did well, but remember, you must allow nothing to slow you down, even my own involvement."

He laughed softly and took his seat once more, straightening his hair with his hand.

"I'm sorry," he said, "to have startled you so, Mr. Baley, but I felt the demonstration might be more convincing than any words of mine would have been."

Baley, whose moment of cringing had been purely a matter of reflex, loosened his collar and said, with a touch of hoarseness, "I'm afraid I expected words, but I agree the demonstration was convincing. I'm glad that Daneel was close enough to disarm you."

"Any one of them was close enough to disarm me, but Daneel was the closest and got to me first. He got to me quickly enough to be gentle about it. Had he been farther away, he might have had to wrench my arm or even knock me out."

"Would he have gone that far?"

"Mr. Baley," said Fastolfe. "I have given instructions for your protection and I know how to give instructions. They would not have hesitated to save you, even if the alternative was harm to me. They would, of course, have labored to inflict minimum harm, as Daneel did. All he harmed was my dignity and the neatness of my hair. And my fingers tingle a bit." Fastolfe flexed them ruefully.

Baley drew a deep breath, trying to recover from that short period of confusion. He said, "Would not Daneel have protected me, even without your specific instruction?"

"Undoubtedly. He would have had to. You must not think, however, that robotic response is a simple yes or no, up or down, in or out. It is a mistake the layman often makes. There is the matter of speed of response. My instructions with regard to you were so phrased that the potential built up within the robots of my establishment, including Daneel, is abnormally high, as high as I can reasonably make it, in fact. The response, therefore, to a clear and present danger to you is extraordinarily rapid. I knew it would be and it was for that reason that I could strike out at you as rapidly as I did-knowing I could give you a most convincing demonstration of my inability to harm you."

"Yes, but I don't entirely thank you for it."

"Oh, I was entirely confident in my robots, especially Daneel. It did occur to me, though, a little too late, that if I had not instantly released the spicer, he might, quite against his will-or the robotic equivalent of will-have broken my wrist."

Baley said, "It occurs to me that it was a foolish risk for you to have undertaken."

"It occurs to me, as well-after the fact. Now if you had prepared yourself to hurl the spicer at me, Daneel would have at once countered your move, but not with quite the same speed, for he has received no special instructions as to my safety. I can hope he would have been fast enough to save me, but I'm not sure-and I would prefer not to test that matter." Fastolfe smiled genially.

Baley said, "What if some explosive device were dropped on the house from some airborne vehicle?"

"Or if a gamma beam were trained upon us from a neighboring hilltop. -My robots do not represent infinite protection, but such radical terrorist attempts are unlikely in the extreme here on Aurora. I suggest we do not worry about them."

"I am willing not to worry about them. Indeed, I did not seriously suspect that you were a danger to me, Dr. Fastolfe, but I needed to eliminate the possibility altogether if I were to continue. We can now proceed."

Fastolfe said, "Yes, we can. Despite this additional and very dramatic distraction, we still face the problem of proving that Jander's mental freeze-out was spontaneous chance."

But Baley had been made aware of Daneel's presence and he now turned to him and said uneasily, "Daneel, does it pain you that we discuss this matter?"

Daneel, who had deposited the spicer on one of the farther of the empty tables, said, "Partner Elijah, I would prefer that past friend Jander were still operational, but since he is not and since he cannot be restored to proper functioning, the best of what is left is that action be taken to prevent similar incidents in the future. Since the discussion now has that end in view, it pleases rather than pains me."

"Well, then, just to settle another matter, Daneel, do you believe that Dr. Fastolfe is responsible for the end of your fellow robot Jander? -You'll pardon my inquiring, Dr. Fastolfe "

Fastolfe gestured his approval and Daneel said, "Dr. Fastolfe has stated that he was not responsible, so he, of course, was not."

"You have no doubts on the matter, Daneel?"

"None, Partner Elijah."

Fastolfe seemed a little amused. "You are cross-examining a robot, Mr. Baley."

"I know that, but I cannot quite think of Daneel as a robot and so I have asked."

"His answers would have no standing before any Board of Inquiry. He is compelled to believe me by his positronic potentials."

"I am not a Board of Inquiry, Dr. Fastolfe, and I am clearing out the underbrush. Let me go back to where I was. Either you burned out Jander's brain or it happened by random circumstance. You assure me that I cannot prove random circumstance and that leaves me only with the task of disproving any action by you. In other words, if I can show

that it is impossible for you to have killed Jander, we are left with random circumstance as the only alternative."

"And how can you do that?"

"It is a matter of means, opportunity, and motive. You had the means of killing Jander-the theoretical ability to so manipulate him that he would end in a mental freeze-out. But did you have the opportunity? He was your robot, in that you designed his brain paths and supervised his construction, but was he in your actual possession at the time of the mental freeze-out?"

"No, as a matter of fact. He was in the possession of another."

"For how long?"

"About eight months-or a little over half of one of your years."

"Ah. It's an interesting point. Were you with him-or near him-at the time of his destruction? Could you have reached him? In short, can we demonstrate the fact that you were so far from him-or so out of touch with him-that it is not reasonable to suppose that you could have done the deed at the time it is supposed to have been done?"

Fastolfe said, "That, I'm afraid, is impossible. There is a rather broad interval of time during which the deed might have been done. There are no robotic changes after destruction equivalent to rigor mortis or decay in a human being. We can only say that, at a certain time, Jander was known to be in operation and, at a certain other time, he was known not to be in operation. Between the two was a stretch of about eight hours. For that period, I have no alibi."

"None? During that time, Dr. Fastolfe, what were you doing?"

"I was here in my establishment."

"Your robots were surely aware, perhaps, that you were here and could bear witness."

"They were certainly aware, but they cannot bear witness in any legal sense and on that day Fanya was off on business of her own."

"Does Fanya share your knowledge of robotics, by the way?"

Fastolfe indulged in a wry smile. "She knows less than you do."

"Besides, none of this matters."

"Why not?"

Fastolfe's patience was clearly beginning to stretch to the cracking point. "My dear Mr. Baley, this was not a matter of close-range physical assault, such as my recent pretended attack on you. What happened to Jander did not require my physical presence. As it happens, although not actually in my establishment, Jander was not far away geographically, but it wouldn't have mattered if he were on the other side of Aurora. I could always reach him electronically and could, by the orders I gave him and the responses I could elicit, send him into mental freeze-out. The crucial step would not even necessarily require much in the way of time-"

Baley said at once, "It's a short process, then, one that someone else might move through by chance, while intending something perfectly routine?"

"No!" said Fastolfe. "For Aurora's sake, Earthman, let me talk. I've already told you that's not the case. Inducing mental freeze-out in Jander would be a long and complicated and tortuous process, requiring the greatest understanding and wit, and could be done by no one accidentally, without incredible and long-continued coincidence. There would be far less chance of accidental progress over that enormously complex route than of spontaneous mental freeze-out, if my mathematical reasoning were only accepted.

"However, if I wished to induce mental freeze-out, I could carefully produce changes and reactions, little by little, over a period of weeks, months, even years, until I had brought Jander to the very point of destruction. And at no time in that process would he show any signs of being at the edge of catastrophe, just as you could approach closer and closer to a precipice in the dark and yet feel no loss in firmness of footing whatever, even at the very edge. Once I had brought him to the very brink, however-the lip of the precipice-a single remark from me would send him over. It is that final step that would take but a moment of time. You see?"

Baley tightened his lips. There was no use trying to mask his disappointment. "In short, then, you had the opportunity."

"Anyone would have had the opportunity. Anyone on Aurora, provided he or she had the necessary ability."

"And only you have the necessary ability."

"I'm afraid so."

"Which brings us to motive, Dr. Fastolfe."

"And it's there that we might be able to make a good case. These humaniform robots are yours. They are based on your theory and you were involved in their construction at every step of the way, even if Dr. Sarton supervised that construction. They exist because of you and only because of you. You have spoken of Daneel as your 'first-born.' They are your creations, your children, your gift to humanity, your hold on immortality." (Baley felt himself growing eloquent and, for a moment, imagined himself to be addressing a Board of Inquiry.) "Why on Earth-or Aurora, rather-why on Aurora should you undo this work? Why should you destroy a life you have produced by a miracle of mental labor?"

Fastolfe looked wanly amused. "Why, Mr. Baley, you know nothing about it. How can you possibly know that my theory was the result of a miracle of mental labor? It might have been the very dull extension of an equation that anyone might have accomplished but which none had bothered to do before me."

"I think not," said Baley, endeavoring to cool down. "If no one but you can understand the humaniform brain well enough to destroy it, then I think it likely that no one but you can understand it well enough to create it. Can you deny that?"

Fastolfe shook his head. "No, I won't deny that. And yet, Mr. Baley"-his face grew grimmer than it had been since they had met-"your careful analysis is succeeding only in making matters far worse for us. We have already decided that I am the only one with the means and the opportunity. As it happens, I also have a motive-the best motive in the

world-and my enemies know it. How on Earth, then, to quote you-or on Aurora, or on anywhere-are we going to prove I didn't do it?"

19.

Baley's face crumpled into a furious frown. He stepped hastily away, making for the corner of the room, as though seeking enclosure. Then he turned suddenly and said sharply, "Dr. Fastolfe, it seems to me that you are taking some sort of pleasure in frustrating me."

Fastolfe shrugged. "No pleasure. I'm merely presenting you with the problem as it is. Poor Jander died the robotic death by the pure uncertainty of positronic drift. Since I know I had nothing to do with it, I know that's how it must be. However, no one else can be sure I'm innocent and all the indirect evidence points to me-and this must be faced squarely in deciding what, if anything, we can do."

Baley said, "Well, then, let's investigate your motive. What seems like an overwhelming motive to you may be nothing of the sort."

"I doubt that. I am no fool, Mr. Baley."

"You are also no judge, perhaps, of yourself and your motives. People sometimes are not. You may be dramatizing yourself for some reason."

"I don't think so."

"Then tell me your motive. What is it? Tell me!"

"Not so quickly, Mr. Baley. It's not easy to explain it. -Could you come outside with me?"

Baley looked quickly toward the window. Outside?

The sun had sunk lower in the sky and the room was the sunnier for it. He hesitated, then said, rather more loudly than was necessary, "Yes, I will!"

"Excellent," said Fastolfe. And then, with an added note of amiability, he added, "But perhaps you would care to visit the Personal first."

Baley thought for a moment. He felt no immediate urgency, but he did not know what might await him Outside, how long he would be expected to stay, what facilities there might or might not be there. Most of all, he did not know Auroran customs in this respect and he could not recall anything in the book-films he had viewed on the ship that served to enlighten him in this respect. It was safest, perhaps, to acquiesce in whatever one's host suggested.

"Thank you," he said, "if it will be convenient for me to do so, Fastolfe nodded. "Daneel," he said, "show Mr. Baley to the Visitors' Personal."

Daneel said, "Partner Elijah, would you come with me?"

As they stepped together into the next room, Baley said, "I am sorry, Daneel, that you were not part of the conversation between myself and Dr. Fastolfe."

"It would not have been fitting, Partner Elijah. When you asked me a direct question, I answered, but I was not invited to take part fully."

"I would have issued the invitation, Daneel, if I did not feel constrained by my position as guest. I thought it might be wrong to take the initiative in this respect."

"I understand. -This is the Visitors' Personal, Partner Elijah. The door will open at a touch of your hand anywhere upon it if the room is unoccupied."

Baley did not enter. He paused thoughtfully, then said, "If you had been invited to speak, Daneel, is there anything you would have said? Any comment you would have cared to make? I would value your opinion, my friend."

Daneel said, with his usual gravity, "The one remark I care to make is that Dr. Fastolfe's statement that he had an excellent motive for placing Jander out of operation was unexpected to me. I do not know what the motive might be. Whatever he states to be his motive, however, you might ask why he would not have the same motive to put me in mental freeze-out. If they can believe he had a motive to put Jander out of operation, why would the same motive not apply to me? I would be curious to know."

Baley looked at the other sharply, seeking automatically for expression in a face not given to lack of control. He said, "DO you feel insecure, Daneel? Do you feel Fastolfe is a danger to you?"

Daneel said, "By the Third Law, I must protect my own existence, but I would not resist Dr. Fastolfe or any human being if it were their considered opinion that it was necessary to end my existence. That is the Second Law. However, I know that I am of great value, both in terms of investment of material, labor, and time, and in terms of scientific importance. It would therefore be necessary to explain to me carefully the reasons for the necessity of ending my existence. Dr. Fastolfe has never said anything to me-never, Partner Elijah-that would sound as though such a thing were in his mind. I do not believe it is remotely in his mind to end my existence or that it ever was in his mind to end Jander's existence. Random positronic drift must have ended Jander and may, someday, end me. There is always an element of chance in the Universe."

Baley said, "You say so, Fastolfe says so, and I believe so-but the difficulty is to persuade people generally to accept this view of the matter." He turned gloomily to the door of the Personal and said, "Are you coming in with me, Daneel?"

Daneel's expression contrived to seem amused. "It is flattering, Partner Elijah, to be taken for human to this extent. I have no need, of course."

"Of course. But you can enter anyway."

"It would not be appropriate for me to enter. It is not the custom for robots to enter the Personal. The interior of such a room is purely human. -Besides, this is a one-person Personal."

"One person!" Momentarily, Baley was shocked. He ruffled, however. Other worlds, other customs! And this one he did not recall being described in the book-films. He said, "That's what you meant, then, by saying that the door would open only if it were unoccupied. What if it is occupied, as it will be in a moment?"

"Then it will not open at a touch from outside, of course, and your privacy will be protected. Naturally, it will open at a touch from the inside."

"And what if a visitor fell into a faint, had a stroke or a heart seizure while in there and could not touch the door from inside. Wouldn't that mean no one could enter to help him?"

"There are emergency ways of opening the door, Partner Elijah, if that should seem advisable." Then, clearly disturbed, "Are you of the opinion that something of this sort will occur?"

"No, of course not. -I am merely curious."

"I will be immediately outside the door," said Daneel uneasily. "If I hear a call, Partner Elijah, I will take action."

"I doubt that you'll have to." Baley touched the door, casually and lightly, with the back of his hand and it opened at once. He waited a moment or two to see if it would close. It didn't. He stepped through and the door then closed promptly.

While the door was open, the Personal had seemed like a room that flatly served its purpose. A sink, a stall (presumably equipped with a shower arrangement), a tub, a translucent halfdoor with a toilet seat beyond in all likelihood. There were several devices that he did not quite recognize. He assumed they were intended for the fulfillment of personal services of one sort or another.

He had little chance to study any of these, for in a moment it was all gone and he was left to wonder if what he had seen had really been there at all or if the devices had seemed to exist because they were what he had expected to see.

As the door closed, the room darkened, for there was no window. When the door was completely closed, the room lit up again, but nothing of what he had seen returned. It was daylight and he was Outside-or so it appeared.

There was open sky above, with clouds drifting across it in a fashion just regular enough to seem clearly unreal. On every side there seemed an outstretching of greenery moving in equally repetitive fashion.

He felt the familiar knotting of his stomach that arose whenever he found himself Outside-but he was not Outside. He had walked into a windowless room. It had to be a trick of the lighting.

He stared directly ahead of him and slowly slid his feet forward. He put his hands out before him. Slowly. Staring hard.

His hands touched the smoothness of a wall. He followed the flatness to either side. He touched what he had seen to be a sink in that moment of original vision and, guided by his hands, he could see it now-faintly, faintly against the overpowering sensation of light.

He found the faucet, but no water came from it. He followed its curve backward and found nothing that was the equivalent of the familiar handles that would control the flow of water. He did find an oblong strip whose slight roughness marked it off from the surrounding wall. As his fingers slid along it, he pushed slightly and experimentally against it and at once the greenery, which stretched far beyond the plane along which his fingers told him the wall existed, was parted by a rivulet of water, falling quickly from a height toward his feet with a loud noise of splashing.

He jumped backward in automatic panic, but the water ended before it reached his feet. It didn't stop coming, but it didn't reach the floor. He put his hand out. It was not water, but a light-illusion of water. It did not wet his hand; he felt nothing. But his eyes stubbornly resisted the evidence. They saw water.

He followed the rivulet upward and eventually came to something that was water-a thinner stream issuing from the faucet. It was cold.

His fingers found the oblong again and experimented, pushing here and there, The temperature shifted quickly and he found the spot that produced water of suitable tepidity.

He did not find any soap. Somewhat reluctantly, he began to rub his unsoaped hands against each other under what seemed a natural spring that should have been soaking him from head to foot but did not. And as though the mechanism could read his mind or, more likely, was guided by the rubbing together of his hands, he felt the water grow soapy, while the spring he did! didn't see grew bubbles and developed into foam.

Still reluctant, he bent over the sink and rubbed his face with the same soapy water. He felt the bristles of his beard, but knew that there was no way in which he could translate the equipment of this room into a shave without instruction.

He finished and held his hands helplessly under the water. How did he stop the soap? He did not have to ask. Presumably, his hands, no longer rubbing either themselves or his face, controlled that. The water lost its soapy feel and the soap was rinsed from his hands. He splashed the water against his face- without rubbing-and that was rinsed too. Without the help of vision and with the clumsiness of one unused to the process, he managed to soak his shirt badly.

Towels? Paper?

He stepped back, eyes closed, holding his' head forward to avoid dripping more water on his clothes. Stepping back was, apparently, the key action, for he felt the warm flow of an air current. He placed his face within it and then his hands.

He opened his eyes and found the spring no longer flowing. He used his hands and found that he could feel no real water.

The knot in his stomach had long since dissolved into irritation. He recognized that Personals varied enormously from world to world, but somehow this nonsense of simulated Outside went too far.

On Earth, a Personal was a huge community chamber restricted to one gender, with private cubicles to which one had a key. On Solaria, one entered a Personal through a narrow corridor appended to one side of a house, as though Solarians hoped that it would not be considered a part of their home. In both worlds, however, though so different in every possible way, the Personals were clearly defined and the function of everything in them could not be mistaken. Why should there be, on Aurora, this elaborate pretense of rusticity that totally masked every part of a Personal?

Why?

At any rate, his annoyance gave him little emotional room in which to feel uneasy over the pretense of Outside. He moved in the direction in which he recalled having seen the translucent half-door.

It was not the correct direction. He found it only by following the wall slowly and after barking various parts of his body against protuberances.

In the end, he found himself urinating into the illusion of a small pond that did not seem to be receiving the stream properly. His knees told him that he was aiming correctly between the sides of what he took to be a urinal and he told himself that if he were using the wrong receptacle or misjudging his aim, the fault was not his.

For a moment, when done, he considered finding the sink again for a final hand rinse and decided against it. He just couldn't face the search and that false waterfall.

Instead, he found, by groping, the door through which he had entered, but he did not know he had found it until his hand touch resulted in its opening. The light died out at once and the normal non-illusory gleam of day surrounded him.

Daneel was waiting for him, along with Fastolfe and Giskard.

Fastolfe said, "You took nearly twenty minutes. We were beginning to fear for you."

Baley felt himself grow warm with rage. "I had problems with your foolish illusions," he said in a tightly controlled fashion.

Fastolfe's mouth pursed and his eyebrows rose in a silent:

Oh-h!

He said, "There is a contact just inside the door that controls the illusion. It can make it dimmer and allow you to see reality through it-or it can wipe out the illusion altogether, if you wish."

"I was not told. Are all your Personals like this?"

Fastolfe said, "No. Personals on Aurora commonly possess illusory qualities, but the nature of the illusion varies with the individual. The illusion of natural greenery pleases me and I vary its details from time to time. One grows tired of anything, you know, after a while. There are some people who make use of erotic illusions, but that is not to my taste.

"Of course, when one is familiar with Personals, the illusions offer no trouble. The rooms are quite standard and one knows where everything is. It's no worse than moving about a well known place in the dark. -But tell me, Mr. Baley, why didn't you find your way out and ask for directions?"

Baley said, "Because I didn't wish to. I admit that I was extremely irritated over the illusions, but I accepted them. After all, it was Daneel who led me to the Personal and he gave me no instructions, nor any warning. He would certainly have instructed me at length, if he had been left to his own devices, for he would surely have foreseen harm to me otherwise. I had to assume, therefore, that you had carefully instructed him not to warn me and, since I didn't really expect you to play a practical joke on me, I had to assume that you had a serious purpose in doing so."

"Oh?"

"After all, you had asked me to come Outside and, when I agreed, you immediately asked me if I wished to visit the Personal. I decided that the purpose of sending me into an illusion of Outside was to see whether I could endure it-or if I would come running out in panic. If I could endure it, I might be trusted with the real thing. Well, I endured it. I'm a little wet, thank you, but that will dry soon enough."

Fastolfe said, "You are a clear-thinking person, Mr. Baley. I apologize for the nature of the test and for the discomfort I caused you. I was merely trying to ward off the possibility of far greater discomfort. Do you still wish to come out with me?"

"I not only wish it, Dr. Fastolfe. I insist on it."

20.

They made their way through a corridor, with Daneel and Giskard following close behind.

Fastolfe said chattily, "I hope you won't mind the robots accompanying us. Aurorans never go anywhere without at least one robot in attendance and, in your case in particular, I must insist that Daneel and Giskard be with you at all times."

He opened a door and Baley tried to stand firm against the beat of sunshine and wind, to say nothing of the envelopment of the strange and subtly alien smell of Aurora's land.

Fastolfe stayed to one side and Giskard went out first. The robot looked keenly about for a few moments. One had the impression that all his senses were intently engaged. He looked back and Daneel joined him and did the same.

"Leave them for a moment, Mr. Baley," said Fastolfe, "and they will tell us when they think it safe for us to emerge. Let me take the opportunity of once again apologizing for the scurvy trick I played on you with respect to the Personal. I assure you we would have known if you were in trouble-your various vital signs were being recorded. I am very pleased, though not entirely surprised, that you penetrated my purpose." He smiled and, with almost unnoticeable hesitation, placed his hand upon Baley's left shoulder and gave it a friendly squeeze.

Baley held himself stiffly. "You seem to have forgotten your earlier scurvy trick-your apparent attack on me with the spicer. If you will assure me that we will now deal with each other frankly and honestly, I will consider these matters as having been of reasonable intent."

"Done!"

"Is it safe to leave now?" Baley looked out to where Giskard and Daneel had moved farther and had separated from each other to right and left, still watching and sensing.

"Not quite yet. They will move all around the establishment. -Daneel tells me that you invited him into the Personal with you. Was that seriously meant?"

"Yes. I knew he had no need, but I felt it might be impolite to exclude him. I wasn't sure of Auroran custom in that respect, despite all the reading I did on Auroran matters.'

"I suppose that isn't one of those things Aurorans feel necessary to mention and of course one can't expect the books to make any attempt to prepare visiting Earthmen concerning these subjects-"

"Because there are so few visiting Earthmen?"

"Exactly. The point is, of course, that robots never visit Personals. It is the one place where human beings can be free of them. I suppose there is the feeling that one should feel free of them at some periods and in some places."

Baley said, "And yet when Daneel was on Earth on the occasion of Sarton's death three years ago, I tried to keep him out of the Community Personal by saying he had no need. Still, he insisted on entering."

"And rightly so. He was, on that occasion, strictly instructed to give no indication he was not human, for reasons you well remember. Here on Aurora, however- Ah, they are done."

The robots were coming toward the door and Daneel gestured them outward.

Fastolfe held out his arm to bar Baley's way. "if you don't mind, Mr. Baley, I will go out first. Count to one hundred patiently and then join us."

21.

Baley, on the count of one hundred, stepped out firmly and walked toward Fastolfe. His face was perhaps too stiff, his jaws too tightly clenched, his back too straight.

He looked about. The scene was not very different from that which had been presented in the Personal. Fastolfe had, perhaps, used his own grounds as a model. Everywhere there was green and in one place there was a stream filtering down a slope. It was, perhaps, artificial, but it was not an illusion. The water was real. He could feel the spray when he passed near it.

There was somehow a tameness to it all. The Outside on Earth seemed wilder and more grandly beautiful, what little Baley had seen of it.

Fastolfe said, with a gentle touch on Baley's upper arm and a motion of his hand, "Come in this direction. Look there!"

A space between two trees revealed an expanse of lawn.

For the first time, there was a sense of distance and on the horizon one could see a dwelling place: low-roofed, broad, and so green in color that it almost melted into the countryside.

"This is a residential area," said Fastolfe. "it might not seem so to you, since you are accustomed to Earth's tremendous hives, but we are in the Auroran city of Eos, which is actually the administrative center of the planet. There are twenty thousand human beings living here, which makes it the largest city, not only on Aurora but on all the

Spacer worlds. There are as many people in Eos as on all of Solaria." Fastolfe said it with pride.

"How many robots, Dr. Fastolfe?"

"In this area? Perhaps a hundred thousand. On the planet as a whole, there are fifty robots to each human being on the average, not ten thousand per human as on Solaria. Most of our robots are on our farms, in our mines, in our factories, in space. If anything, we suffer from a shortage of robots, particularly of household robots. Most Aurorans make do with two or three such robots, some with only one. Still, we don't want to move in the direction of Solaria."

"How many human beings have no household robots at all?"

"None at all. That would not be in the public interest. If a human being, for any reason, could not afford a robot, he or she would be granted one which would be maintained, if necessary, at public expense."

"What happens as the population rises? Do you add more robots?"

Fastolfe shook his head. "The population does not rise. Aurora's population is two hundred million and that has remained stable for three centuries. It is the number desired. Surely you have read that in the books you viewed."

"Yes, I have," admitted Baley, "but I found it difficult to believe."

"Let me assure you it's true. It gives each of us ample land, ample space, ample privacy, and an ample share of the world's resources. There are neither too many people as on Earth, nor too few as on Solaria." He held out his arm for Baley to take, so they might continue walking.

"What you see," Fastolfe said, "is a tame world. It is what I have brought you out to show you, Mr. Baley?"

"There is no danger in it?"

"Always some danger. We do have storms, rock slides, earthquakes, blizzards, avalanches, a volcano or two- Accidental death can never be entirely done away with. And there are even the passions of angry or envious persons, the follies of the immature, and the madness of the shortsighted. These things are very minor irritants, however, and do not much affect the civilized quiet that rests upon our world."

Fastolfe seemed to ruminate over his words for a moment, then he sighed and said, "I can scarcely want it to be any other way, but I have certain intellectual reservations. We have brought here to Aurora only those plants and animals we felt would be useful, ornamental, or both. We did our best to eliminate anything we would consider weeds, vermin, or even less than standard. We selected strong, healthy, and attractive human beings, according to our own views, of course. We have tried- But you smile, Mr. Baley."

Baley had not. His mouth had merely twitched. "No no," he said. "There is nothing to smile about."

"There is, for I know as well as you do that I myself am not attractive by Auroran standards. The trouble is that we cannot altogether control gene combinations and intrauterine influences. Nowadays, of course, with ectogenesis becoming more common -

though I hope it shall never be as common as it is on Solaria- I would be eliminated in the late fetal stage."

"In which case, Dr. Fastolfe, the worlds would have lost a great theoretical roboticist."

"Perfectly correct," said Fastolfe, without visible embarrassment, "but the worlds would never have known that, would they? -In any case, we have labored to set up a very simple but completely workable ecological balance, an equable climate, a fertile soil, and resources as evenly distributed as is possible. The result is a world that produces all of everything that we need and that is, if I may personify, considerate of our wants. -Shall I tell you the ideal for which we have striven?"

"Please do," said Baley.

"We have labored to produce a planet which, taken as a whole, would obey the Three Laws of Robotics. It does nothing to harm human beings, either by commission or omission. It does what we want it to do, as long as we do not ask it to harm human beings. And it protects itself, except at times and in places where it must serve us or save us even at the price of harm to itself. Nowhere else, neither on Earth nor in the other Spacer worlds, is this so nearly true as here on Aurora."

Baley said sadly, "Earthmen, too, have longed for this, but we have long since grown too numerous and we have too greatly damaged our planet in the days of our ignorance to be able to do very much about it now. -But what of Aurora's indigenous life-forms? Surely you did not come to a dead planet."

Fastolfe said, "You know we didn't, if you have viewed books on our history. Aurora had vegetation and animal life when we arrived-and a nitrogen-oxygen atmosphere. This was true of all the fifty Spacer worlds. Peculiarly, in every case, the life-forms were sparse and not very varied. Nor were they particularly tenacious in their hold on their own planet. We took over, so to speak, without a struggle-and what is left of the indigenous life is in our aquaria, our zoos, and in a few carefully maintained primeval areas.

"We do not really understand why the life-bearing planets that human beings have encountered have been so feebly life bearing, why only Earth itself has been overflowing with madly tenacious varieties of life filling every environmental niche, and why only Earth has developed any sign of intelligence whatever."

Baley said, "Maybe it is coincidence, the accident of incomplete exploration. We know so few planets so far."

"I admit," said Fastolfe, "that that is the most likely explanation. Somewhere there may be an ecological balance as complex as that of Earth. Somewhere there may be intelligent life and a technological civilization. Yet Earth's life and intelligence has spread outward for parsecs in every direction. If there is life and intelligence elsewhere, why have they not spread out as well- and why have we not encountered each other?"

"That might happen tomorrow, for all we know."

"It might. And if such an encounter is imminent, all the more reason why we should not be passively waiting. For we are growing passive, Mr. Baley. No new Spacer world has

been settled in two and a half centuries. Our worlds are so tame, so delightful, we do not wish to leave them. This world was originally settled, you see, because Earth had grown so unpleasant that the risks and dangers of new and empty worlds seemed preferable by comparison. By the time our fifty Spacer worlds were developed-Solaria last of all-there was no longer any push, any need to move out elsewhere. And Earth itself had retreated to its underground caves of steel. The End. Finis."

"You don't really mean that."

"If we stay as we are? If we remain placid and comfortable and unmoving? Yes, I do mean that. Humanity must expand its range somehow if it is to continue to flourish. One method of expansion is through space, through a constant pioneering reach toward other worlds. If we fail in this, some other civilization that is undergoing such expansion will reach us and we will not be able to stand against its dynamism."

"You expect a space war-like a hyperwave shoot-'em-up."

"No, I doubt that that would be necessary. A civilization that is expanding through space will not need our few worlds and will probably be too intellectually advanced to feel the need to batter its way into hegemony here. If, however, we are surrounded by a more lively, a more vibrant civilization, we will wither away by the mere force of the comparison; we will die of the realization of what we have become and of the potential we have wasted. Of course, we might substitute other expansions- an expansion of scientific understanding or of cultural vigor, for instance. I fear, however, that these expansions are not separable. To fade in one is to fade in all. Certainly, we are fading in all. We live too long. We are too comfortable."

Baley said, "On Earth, we think of Spacers as all-powerful, as totally self-confident. I cannot believe I'm hearing this from one of you."

"You won't from any other Spacer. My views are unfashionable. Others would find them intolerable and I don't often speak of such things to Aurorans. Instead, I simply talk about a new drive for further settlement, without expressing my fears of the catastrophes which will result if we abandon colonization. In that, at least, I have been winning. Aurora has been seriously- even enthusiastically-considering a new era of exploration and settlement."

"You say that," said Baley, "without any noticeable enthusiasm. What's wrong?"

"It's just that we are approaching my motive for the destruction of Jander Panell."

Fastolfe paused, shook his head, and continued, "I wish, Mr. Baley, I could understand human beings better. I have spent six decades in studying the intricacies of the positronic brain and I expect to spend fifteen to twenty more on the problem. In this time, I have barely brushed against the problem of the human brain, which is enormously more intricate. Are there Laws of Humanics as there are Laws of Robotics? How many Laws of Humanics might there be and how can they be expressed mathematically? I don't know."

"Perhaps, though, there may come a day when someone will work out the Laws of Humanics and then be able to predict the broad strokes of the future, and know what might be in store for humanity, instead of merely guessing as I do, and know what to do

to make things better, instead of merely speculating. I dream sometimes of founding a mathematical science which I think of as 'psychohistory,' but I know I can't and I fear no one ever will."

He faded to a halt.

Baley waited, then said softly, "And your motive for the destruction of Jander Panell, Dr. Fastolfe?"

Fastolfe did not seem to hear the question. At any rate, he did not respond. He said, instead, "Daneel and Giskard are again signaling that all is clear. Tell me, Mr. Baley, would you consider walking with me farther a-field?"

"Where?" asked Baley cautiously.

"Toward a neighboring establishment. In that direction, across the lawn. Would the openness disturb you?"

Baley pressed his lips together and looked in that direction, as though attempting to measure its effect. "I believe I could endure it I anticipate no trouble."

Giskard, who was close enough to hear, now approached still closer, his eyes showing no glow in the daylight. If his voice was without human emotion, his words marked his concern. "Sir, may I remind you that on the journey here you suffered serious discomfort on the descent to the planet?"

Baley turned to face him. However he might feel toward Daneel, whatever warmth of past association might paper over his attitude toward robots, there was none here. He found the more primitive Giskard distinctly repellent. He labored to fight down the touch of anger he felt and said, "I was incautious aboard ship, boy, because I was overly curious. I faced a vision I had never experienced before and I had no time for adjustment. This is different."

"Sir, do you feel discomfort now? May I be assured of that?"

"Whether I do or not," said Baley firmly (reminding himself that the robot was helplessly in the grip of the First Law and trying to be polite to a lump of metal who, after all, had Baley's welfare as his only care) "doesn't matter. I have my duty to perform and that cannot be done if I am to hide in enclosures."

"Your duty?" Giskard said it as though he had not been programmed to understand the word.

Baley looked quickly in Fastolfe's direction, but Fastolfe stood quietly in his place and made no move to intervene. He seemed to be listening with abstracted interest, as though weighing the reaction of a robot of a given type to a new situation and comparing it with relationships, variables, constants, and differential equations only he understood.

Or so Baley thought. He felt annoyed at being part of an observation of that type and said (perhaps too sharply, he knew), "Do you know what 'duty' means?"

"That which should be done, sir," said Giskard.

"Your duty is to obey the Laws of Robotics. And human beings have their laws, too-as your master, Dr. Fastolfe, was only this moment saying-which must be obeyed. I must do that which I have been assigned to do. It is important"

"But to go into the open when you are not-"

"It must be done, nevertheless. My son may someday go to another planet, one much less comfortable than this one, and expose himself to the Outside for the rest of his life. And if I could, I would go with him."

"But why would you do that?"

"I have told you. I consider it my duty."

"Sir, I cannot disobey the Laws. Can you disobey yours? For I must urge you to-"

"I can choose not to do my duty, but I do not choose to-and that is sometimes the stronger compulsion, Giskard."

There was silence for a moment and then Giskard said, "Would it do you harm if I were to succeed in persuading you not to walk into the open?"

"Insofar as I would then feel I have failed in my duty, it would."

"More harm than any discomfort you might feel in the open?"

"Much more."

"Thank you for explaining this, sir," said Giskard and Baley imagined there was a look of satisfaction on the robot's largely expressionless face. (The human tendency to personify was irrepressible.)

Giskard stepped back and now Dr. Fastolfe spoke. "That was interesting, Mr. Baley. Giskard needed instructions before he could quite understand how to arrange the positronic potential response to the Three Laws or, rather, how those potentials were to arrange themselves in the light of the situation. Now he knows how to behave."

Baley said, "I notice that Daneel asked no questions."

Fastolfe said, "Daneel knows you. He has been with you on Earth and on Solaria. - But come, shall we walk? Let us move slowly. Look about carefully and, if at any time you should wish to rest, to wait, even to turn back, I will count on you to let me know."

"I will, but what is the purpose of this walk? Since you anticipate possible discomfort on my part, you cannot be suggesting it idly."

"I am not," said Fastolfe. "I think you will want to see the inert body of Jander."

"As a matter of form, yes, but I rather think it will tell me nothing."

"I'm sure of that, but then you might also have the opportunity to question the one who was Jander's quasi-owner at the time of the tragedy. Surely you would like to speak to some human being other than myself concerning the matter."

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Fastolfe moved slowly forward, plucking a leaf from a shrub that he passed, bending it in two, and nibbling at it.

Baley looked at him curiously, wondering how Spacers could put something untreated, unheated, even unwashed into their mouths, when they feared infection so badly. He remembered that Aurora was free (entirely free?) of pathogenic microorganisms, but found the action repulsive anyway. Repulsion did not have to have a

rational basis, he thought defensively-and suddenly found himself on the edge of excusing the Spacers their attitude toward Earthmen.

He drew back! That was different! Human beings were involved there!

Giskard moved ahead, forward and toward the right. Daneel lagged behind and toward the left. Aurora's orange sun (Baley scarcely noted the orange tinge now) was mildly warm on his back, lacking the febrile heat that Earth's sun had in summer (but, then, what was the climate and season on this portion of Aurora right now?).

The grass or whatever it was (it looked like grass) was a bit stiffer and springier than he recalled it being on Earth and the ground was hard, as though it had not rained for a while.

They were moving toward the house up ahead, presumably the house of Jander's quasi-owner.

Baley could hear the rustle of some animal in the grass to the right, the sudden chirrup of a bird somewhere in a tree behind him, the small unplaceable clatter of insects all about. These, he told himself, were all animals with ancestors that had once lived on Earth. They had no way of knowing that this patch of ground they inhabited was not all there was-forever and forever back in time. The very trees and grass had arisen from other trees and grass that had once grown on Earth.

Only human beings could live on this world and know that they were not autochthonous but had stemmed from Earthmen -and yet did the Spacers really know it or did they simply put it out of their mind? Would the time come, perhaps, when they would not know it at all? When they would not remember which world they had come from or whether there was a world of origin at all?

"Dr. Fastolfe," he said suddenly, in part to break the chain of thought that he found to be growing oppressive, "you still have not told me your motive for the destruction of Jander."

"True! I have not! -Now why do you suppose, Mr. Baley, I have labored to work out the theoretical basis for the positronic brains of humaniform robots?"

"I cannot say."

"Well, think. The task is to design a robotic brain as close to the human as possible and that would require, it would seem, a certain reach into the poetic-" He paused and his small smile became an outright grin. "You know it always bothers some of my colleagues when I tell them that, if a conclusion is not poetically balanced, it cannot be scientifically true. They tell me they don't know what that means."

Baley said, "I'm afraid I don't, either."

"But I know what it means. I can't explain it, but I feel the explanation without being able to put it into words, which may be why I have achieved results my colleagues have not. However, I grow grandiose, which is a good sign I should become prosaic. To imitate a human brain, when I know almost nothing about the workings of the human brain, needs an intuitive leap-something that feels to me like poetry. And the same intuitive leap that would give me the humaniform positronic brain should surely give me a new access of knowledge about the human brain itself. That was my belief-that through

humaniformity I might take at least a small step toward the psychohistory I told you about."

"I see."

"And if I succeeded in working out a theoretical structure that would imply a humaniform positronic brain, I would need a humaniform body to place it in. The brain does not exist by itself, you understand. It interacts with the body, so that a humaniform brain in a nonhumaniform body would become, to an extent, itself nonhuman."

"Are you sure of that?"

"Quite. You have only to compare Daneel with Giskard."

"Then Daneel was constructed as an experimental device for furthering the understanding of the human brain?"

"You have it. I labored two decades at the task with Sarton. There were numerous failures that had to be discarded. Daneel was the first true success and, of course, I kept him for further study-and out of"-he grinned lopsidedly, as though admitting to something silly-"affection. After all, Daneel can grasp the notion of human duty, while Giskard, with all his virtues, has trouble doing so. You saw."

"And Daneel's stay on Earth with me, three years ago, was his first assigned task?"

"His first of any importance, yes. When Sarton was murdered, we needed something that was a robot and could withstand the infectious diseases of Earth and yet looked enough like a man to get around the antirobotic prejudices of Earth's people."

"An astonishing coincidence that Daneel should be right at hand at that time."

"Oh? Do you believe in coincidences? It is my feeling that any time at which a development as revolutionary as the humaniform robot came into being, some task that would require its use would present itself. Similar tasks had probably been presenting themselves regularly in all the years that Daneel did not exist- and because Daneel did not exist, other solutions and devices had to be used."

"And have your labors been successful, Dr. Fastolfe? Do you now understand the human brain better than you did?"

Fastolfe had been moving more and more slowly and Baley had been matching his progress to the other's. They were now standing still, about halfway between Fastolfe's establishment and the other's. It was the most difficult point for Baley, since it was equally distant from protection in either direction, but he fought down the growing uneasiness, determined not to provoke Giskard. He did not wish by some motion or outcry -or even expression- to activate the inconvenience of Giskard's desire to save him. He did not want to have himself lifted up and carried off to shelter.

Fastolfe showed no sign of understanding Baley's difficulty. He said, "There's no question but that advances in mentology have been carried through. There remain enormous problems and perhaps these will always remain, but there has been progress. Still-"

"Still?"

"Still, Aurora is not satisfied with a purely theoretical study of the human brain. Uses for humaniform robots have been advanced that I do not approve of."

"Such as the use on Earth."

"No, that was a brief experiment that I rather approved of and was even fascinated by. Could Daneel fool Earthpeople? It turned out he could, though, of course, the eyes of Earthmen for robots are not very keen. Daneel cannot fool the eyes of Aurorans, though I dare say future humanoid robots could be improved to the point where they would. There are other tasks that have been proposed, however."

"Such as?"

Fastolfe gazed thoughtfully into the distance. "I told you this world was tame. When I began my movement to encourage a renewed period of exploration and settlement, it was not to the supercomfortable Aurorans-or Spacers generally-that I looked for leadership. I rather thought we ought to encourage Earthmen to take the lead. With their horrid world-excuse me-and short life-span, they have so little to lose, I thought that they would surely welcome the chance, especially if we were to help them technologically. I spoke to you about such a thing when I saw you on Earth three years ago. Do you remember?" He looked sidelong at Baley.

Baley said stolidly, "I remember quite well. In fact, you started a chain of thought in me that has resulted in a small movement on Earth in that very direction."

"Indeed? It would not be easy, I imagine. There is the claustrophobia of you Earthmen, your dislike of leaving your walls."

"We are fighting it, Dr. Fastolfe. Our organization is planning to move out into space. My son is a leader' in the movement and I hope the day may come when he leaves Earth at the head of an expedition to settle a new world. If we do indeed receive the technological help you speak of-" Baley let that dangle.

"If we supplied the ships, you mean?"

"And other equipment. Yes, Dr. Fastolfe."

"There are difficulties. Many Aurorans do not want Earthmen to move outward and settle new worlds. They fear the rapid spread of Earthish culture, its beehive Cities, its chaoticism." He stirred uneasily and said, "Why are we standing here, I wonder? Let's move on."

He walked slowly forward and said, "I have argued that that would not be the way it would be. I have pointed out that the settlers from Earth would not be Earthmen in the classical mode. They would not be enclosed in Cities. Coming to a new world, they would be like the Auroran Fathers coming here. They would develop a manageable ecological balance and would be closer to Aurorans than to Earthmen in attitude."

"Would they not then develop all the weaknesses you find in Spacer culture, Dr. Fastolfe?"

"Perhaps not. They would learn from our mistakes. -But that is academic, for something has developed which makes the argument moot."

"And what is that?"

"Why, the humanoid robot. You see, there are those who see the humanoid robot as the perfect settler. It is they who can build the new worlds."

Baley said, "You've always had robots. Do you mean this idea was never advanced before?"

"Oh, it was, but it was always clearly unworkable. Ordinary nonhumaniform robots, without immediate human supervision, building a world that would suit their own nonhumaniform selves, could not be expected to tame and build a world that would be suitable for the more delicate and flexible minds and bodies of human beings."

"Surely the world they would build would serve as a reasonable first approximation."

"Surely it would, Mr. Baley. It is a sign of Auroran decay, however, that there is an overwhelming feeling among our people that a reasonable first approximation is unreasonably insufficient. -A group of humaniform robots, on the other hand, as closely resembling human beings in body and mind as possible, would succeed in building a world which, in suiting themselves, would also inevitably suit Aurorans. Do you follow the reasoning?"

"Completely."

"They would build a world so well, you see, that when they are done and Aurorans are finally willing to leave, our human beings will step out of Aurora and into another Aurora. They will never have left home; they will simply have another newer home, exactly like the older one, in which to continue their decay. Do you follow that reasoning, too?"

"I see your point, but I take it that Aurorans do not."

"May not. I think I can argue the point effectively, if the opposition does not destroy me politically via this matter of the destruction of Jander. Do you see the motive attributed to me? I am supposed to have embarked on a program of the destruction of humaniform robots rather than allow them to be used to settle other planets. Or so my enemies say."

It was Baley now who stopped walking. He looked thoughtfully at Fastolfe and said, "You understand, Dr. Fastolfe, that it is to Earth's interest that your point of view win out completely."

"And to your own interests as well, Mr. Baley."

"And to mine. But if I put myself to one side for the moment, it still remains vital to my world that our people be allowed, encouraged, and helped to explore the Galaxy; that we retain as much of our own ways as we are comfortable with; that we not be condemned to imprisonment on Earth forever, since there we can only perish."

Fastolfe said, "Some of you, I think, will insist on remaining imprisoned."

"Of course. Perhaps almost all of us will. However, at least some of us-as many of us as possible-will escape if given permission. -It is therefore my duty, not only as a representative of the law of a large fraction of humanity but as an Earthman, plain and simple, to help you clear your name, whether you are guilty or innocent. Nevertheless, I can throw myself wholeheartedly into this task only if I know that, "in fact, the accusations against you are unjustified."

"Of course! I understand."

"In the light, then, of what you have told me of the motive attributed to you, assure me once again that you did not do this thing."

Fastolfe said, "Mr. Baley, I understand completely that you have no choice in this matter. I am quite aware that I can tell you, with impunity, that I am guilty and that you would still be compelled by the nature of your needs and those of your world to work with me to mask that fact. Indeed, if I were actually guilty, I would feel compelled to tell you so, so that you could take that fact into consideration and, knowing the truth, work the more efficiently to rescue me-and yourself. But I cannot do so, because the fact is I am innocent. However much appearances may be against me, I did not destroy Jander. Such a thing never entered my mind."

"Never?"

Fastolfe smiled sadly. "Oh, I may have thought once or twice that Aurora would have been better off if I had never worked out the ingenious notions that led to the development of the humaniform positronic brain-or that it would be better off if such brains proved unstable and readily subject to mental freeze-out. But those were fugitive thoughts. Not for a split second did I contemplate bringing about Jander's destruction for this reason."

"Then we must destroy this motive that they attribute to you."

"Good. But how?"

"We could show that it serves no purpose. What good does it do to destroy Jander? More humaniform robots can be built. Thousands. Millions."

"I'm afraid that's not so, Mr. Baley. None can be built. I alone know how to design them, and, as long as robot colonization is a possible destiny, I refuse to build any more. Jander is gone and only Daneel is left."

"The secret will be discovered by others."

Fastolfe's chin went up. "I would like to see the roboticist capable of it. My enemies have established a Robotics Institute with no other purpose than to work out the methods behind the construction of a humaniform robot, but they won't succeed. They certainly haven't succeeded so far and I know they won't succeed."

Baley frowned. "If you are the only man who knows the secret of the humaniform robots, and if your enemies are desperate for it, will they not try to get it out of you?"

"Of course. By threatening my political existence, by perhaps maneuvering some punishment that will forbid my working in the field and thus putting an end to my professional existence as well, they hope to have me agree to share the secret with them. They may even have the Legislature direct me to share the secret on the pain of confiscation of property, imprisonment-who knows what? However, I have made up my mind to submit to anything-anything-rather than give in. But I don't want to have to, you understand."

"Do they know of your determination to resist?"

"I hope so. I have told them plainly enough. I presume they think I'm bluffing, that I'm not serious. -But I am."

"But if they believe you, they might take more serious steps."

"What do you mean?"

"Steal your papers. Kidnap you. Torture you."

Fastolfe broke into a loud laugh and Baley flushed. He said, "I hate to sound like a hyperwave drama, but have you considered that?"

Fastolfe said, "Mr. Baley- First, my robots can protect me. It would take full-scale war to capture me or my work. Second, even if somehow they succeeded, not one of the roboticists opposed to me could bear to make it plain that the only way he could obtain the secret of the humaniform positronic brain is to steal it or force it from me. His or her professional reputation would be completely wiped out. Third, such things on Aurora are unheard of. The merest hint of an unprofessional attempt upon me would swing the Legislature-and public opinion-in my favor at once."

"Is that so?" muttered Baley, silently damning the fact of having to work in a culture whose details he simply didn't understand.

"Yes. Take my word for it. I wish they would try something of this melodramatic sort. I wish they were so incredibly stupid as to do so. In fact, Mr. Baley, I wish I could't persuade you to go to them, worm your way into their confidence, and cajole them into mounting an attack on my establishment or waylaying me on an empty road-or anything of the sort that, I imagine, is common on Earth."

Baley said stiffly, "I don't think that would be my style."

"I don't think so, either, so I have no intention of trying to implement my wish. And believe me, that is too bad, for if we cannot persuade them to try the suicidal method of force, they will continue to do something much better, from their standpoint. They will destroy me by falsehoods."

"What falsehoods?"

"It is not just the destruction of one robot they attribute to me. That is bad enough and just might suffice. They are whispering-it is only a whisper as yet-that the death is merely an experiment of mine and a dangerous, successful one. They whisper that I am working out a system for destroying humaniform brains rapidly and efficiently, so that when my enemies do create their own humaniform robots, I, together with members of my party, will be able to destroy them all, thus preventing Aurora from settling new worlds and leaving the Galaxy to my Earthmen confederates."

"Surely there can be no truth in this."

"Of course not. I told you these are lies. And ridiculous lies, too. No such method of destruction is even theoretically possible and the Robotics Institute people are not on the point of creating their own humaniform robots. I cannot conceivably indulge in an orgy of mass destruction even if I wanted to. I cannot."

"Doesn't the whole thing fall by its own weight, then?"

"Unfortunately, it's not likely to do so in time. It may be silly nonsense, but it will probably last long enough to sway public opinion against me to the point of swinging just enough votes in the Legislature to defeat me. Eventually, it will all be recognized as nonsense, but by then it will be too late. And please notice that Earth is being used as a whipping boy in this. The charge that I am laboring on behalf of Earth is a powerful one

and many will choose to believe the whole farrago, against their own better sense, because of their dislike of Earth and Earthpeople."

Baley said, "What you're telling me is that active resentment against Earth is being built up."

Fastolfe said, "Exactly, Mr. Baley. The situation grows worse for me-and for Earth-every day and we have very little time."

"But isn't there an easy way of knocking this thing on its head?" (Baley, in despair, decided it was time to fall back on Daneel's point.) "If you were indeed anxious to test a method for the destruction of a humanoid robot, why seek out one in another establishment, one with which it might be inconvenient to experiment? You had Daneel, himself, in your own establishment. He was at hand and convenient. Would not the experiment have been conducted upon him if there were any truth at all in the rumor?"

"No no," said Fastolfe. "I couldn't get anyone to believe that. Daneel was my first success, my triumph. I wouldn't destroy him under any circumstances. Naturally, I would turn to Jander. Everyone would see that and I would be a fool to try to persuade them that it would have made more sense for me to sacrifice Daneel."

They were walking again, nearly at their destination. Baley was in deep silence, his face tight-lipped.

Fastolfe said, "How do you feel, Mr. Baley?"

Baley said in a low voice, "If you mean as far as being Outside is concerned, I am not even aware of it. If you mean as far as our dilemma is concerned, I think I am as close to giving up as I can possibly be without putting myself into an ultrasonic brain-dissolving chamber." Then passionately, "Why did you send for me, Dr. Fastolfe? Why have you given me this job? What have I ever done to you to be treated so?"

"Actually," said Fastolfe, "it was not my idea to begin with and I can only plead my desperation."

"Well, whose idea was it?"

"It was the owner of this establishment we have now reached who suggested it originally-and I had no better idea."

"The owner of this establishment? Why would he-"

"She."

"Well, then, why would she suggest anything of the sort?"

"Oh! I haven't explained that she knows you, have I, Mr. Baley? There she is, waiting for us now."

Baley looked up, bewildered.

"Jehoshaphat," he whispered.

6. GLADIA

23.

The young woman who faced them said with a wan smile, "I knew that when I met you again, Elijah, that would be the first word I would hear."

Baley stared at her. She had changed. Her hair was shorter and her face was even more troubled now than it had been two years ago and seemed more than two years older, somehow. She was still unmistakably Gladia, however. There was still the triangular face, with its pronounced cheekbones and small chin. She was still short, still slight of figure, still vaguely childlike.

He had dreamed of her frequently-though not in an overtly erotic fashion-after returning to Earth. His dreams were always stories of not being able to quite reach her. She was always there, a little too far off to speak to easily. She never quite heard when he called her. She never grew nearer when he approached her.

It was not hard to understand why the dreams had been as they were. She was a Solarian-born person and, as such, was rarely supposed to be in the physical presence of other human beings.

Elijah had been forbidden to her because he was human-and beyond that (of course) because he was from Earth. Though the exigencies of the murder case he was investigating forced them to meet, throughout their relationship she was completely covered, when physically together, to prevent actual contact. And yet, at their last meeting, she had, in defiance of good sense, fleetingly touched his cheek with her bare hand. She must have known she could be infected as a result. He cherished the touch the more, for every aspect of her upbringing combined to make it unthinkable.

The dreams had faded in time.

Baley said, rather stupidly, "It was you who owned the-"

He paused and Gladia finished the sentence for him. "The robot. And two years ago, it was I who possessed the husband. Whatever I touch is destroyed."

Without really knowing what he was doing, Baley reached up to place his hand on his cheek. Gladia did not seem to notice.

She said, "You came to rescue me that first time. Forgive me, but I had to call on you again. -Come in, Elijah. Come in, Dr. Fastolfe."

Fastolfe stepped back to allow Baley to walk in first. He followed. Behind Fastolfe came Daneel and Giskard-and they, with the characteristic self-effacement of robots, stepped to unoccupied wall niches on opposite sides and remained silently standing, backs to the wall.

For one moment, it seemed that Gladia would treat them with the indifference with which human beings commonly treated robots. After a glance at Daneel, however, she

turned away and said to Fastolfe in a voice that choked a little, "That one. Please. Ask him to leave."

Fastolfe said, with a small motion of surprise, "Daneel?"

"He's too-too Jander-like!"

Fastolfe turned to look at Daneel and a look of clear pain crossed his face momentarily. "Of course, my dear. You must forgive me. I did not think. -Daneel, move into another room and remain there while we are here."

Without a word, Daneel left.

Gladia glanced a moment at Giskard, as though to judge whether he, also, was too Jander-like, and turned away with a small shrug.

She said, "Would either of you like refreshment of any kind? I have an excellent coconut drink, fresh and cold."

"No, Gladia," said Fastolfe. "I have merely brought Mr. Baley here as I promised I would. I will not stay long. "

"If I may have a glass of water," said Baley, "I won't trouble you for anything more."

Gladia raised one hand. Undoubtedly, she was under observation, for, in a moment, a robot moved in noiselessly, with a glass of water on a tray and a small dish of what looked like crackers with a pinkish blob on each.

Baley could not forbear taking one, even though he was not certain what it might be. It had to be something Earth-descended, for he could not believe that on Aurora, he - or anyone- would be eating any portion of the planet's sparse indigenous biota or anything synthetic either. Nevertheless, the descendants of Earthly food species might change with time, either through deliberate cultivation or the action of a strange environment- and Fastolfe, at lunchtime, had said that much of the Auroran diet was an acquired taste.

He was pleasantly surprised. The taste was sharp and spicy, but he found it delightful and took a second almost at once. He said, "Thank you" to the robot (who would not have objected to standing there indefinitely) and took the entire dish, together with the glass of water.

The robot left.

It was late afternoon now and the sunlight came ruddily through the western windows. Baley had the impression that this house was smaller than Fastolfe's, but it would have been more cheerful had not the sad figure of Gladia standing in its midst provoked a dispiriting effect.

That might, of course, be Baley's imagination. Cheer, in any case, seemed to him impossible in any structure purporting to house and protect human beings that yet remained exposed to the Outside beyond each wall. Not one wall, he thought, had the warmth of human life on the other side. In no direction could one look for companionship and community. Through every outer wall, every side, top and bottom, there was inanimate world. Cold! Cold!

And coldness flooded back upon Baley himself as he thought again of the dilemma in which he found himself. (For a moment, the shock of meeting Gladia again had driven it from his mind.)

Gladia said, "Come. Sit down, Elijah. You must excuse me for not quite being myself. I am, for a second time, the center of a planetary sensation-and the first time was more than enough."

"I understand, Gladia. Please do not apologize," said Baley.

"And as for you, dear Doctor, please don't feel you need go."

"Well-" Fastolfe looked at the time strip on the wall. "I will stay for a short while, but then, my dear, there is work that must be done though the skies fall. All the more so, since I must look forward to a near future in which I may be restrained from doing any work at all."

Gladia blinked rapidly, as though holding back tears. "I know, Dr. Fastolfe. You are in deep trouble because of-what happened here and I don't seem to have time to think of anything but my own-discomfort."

Fastolfe said, "I'll do my best to take care of my own problem, Gladia, and there is no need for you to feel guilt over the matter. -Perhaps Mr. Baley will be able to help us both."

Baley pressed his lips together at that, then said heavily, "I was not aware, Gladia, that you were in any way involved in this affair."

"Who else would be?" she said with a sigh.

"You are-were-in possession of Jander Panell?"

"Not truly in possession. I had him on loan from Dr. Fastolfe."

"Were you with him when he-" Baley hesitated over some way of putting it.

"Died? Mightn't we say died? -No, I was not. And before you ask, there was no one else in the house at the time. I was alone. I am usually alone. Almost always. That is my Solarian upbringing, you remember. Of course, that is not obligatory. You two are here and I do not mind-very much."

"And you were definitely alone at the time Jander died? No mistake?"

"I have said so," said Gladia, sounding a little irritated. "No, never mind, Elijah. I know you must have everything repeated and repeated. I was alone. Honestly."

"There were robots present, though."

"Yes, of course. When I say 'alone,' I mean there were no other human beings present."

"How many robots do you possess, Gladia? Not counting Jander."

Gladia paused as though she were counting internally. Finally, she said, "Twenty. Five in the house and fifteen on the grounds. Robots move freely between my house and Dr. Fastolfe's, too, so that it isn't always possible to judge, when a robot is quickly seen at either establishment, whether it is one of mine or one of his."

"Au," said Baley, "and since Dr. Fastolfe has fifty-seven robots in his establishment, that means, if we combine the two, that there are seventy-seven robots

available, altogether. Are there any other establishments whose robots may mingle with yours indistinguishably?"

Fastolfe said, "There's no other establishment near enough to make that practical. Nor is the practice of mixing robots really encouraged. Gladia and I are a special case because she is not Auroran and because I have taken rather a responsibility for her."

"Even so. Seventy-seven robots," said Baley.

"Yes," said Fastolfe, "but why are you making this point?"

Baley said, "Because it means you can have any of seventy seven moving objects, each vaguely human in form, that you are used to seeing out of the corner of the eye and to which you would pay no particular attention. Isn't it possible, Gladia, that if an actual human being were to penetrate the house, for whatever purpose, you would scarcely be aware of it? It would be one more moving object, vaguely human in form, and you would pay no attention."

Fastolfe chuckled softly and Gladia, unsmiling, shook her head.

"Elijah," she said, "one can tell you are an Earthman. Do you imagine that any human being, even Dr. Fastolfe here, could possibly approach my house without my being informed of the fact by my robots. I might ignore a moving form, assuming it to be a robot, but no robot ever would. I was waiting for you just now when you arrived, but that was because my robots had informed me you were approaching. No, no, when Jander died, there was no other human being in the house."

"Except yourself?"

"Except myself. Just as there was no one in the house except myself when my husband was killed."

Fastolfe interposed gently. "There is a difference, Gladia. Your husband was killed with a blunt instrument. The physical presence of the murderer was necessary and, if you were the only one present, that was serious. In this case, Jander was put out of operation by a subtle spoken program. Physical presence was not necessary. Your presence here alone means nothing, especially since you do not know how to block the mind of a humaniform robot."

They both turned to look at Baley, Fastolfe with a quizzical look on his face, Gladia with a sad one. (It irritated Baley that Fastolfe, whose future was as bleak as Baley's own, nevertheless seemed to face it with humor. What on Earth is there to the situation to cause one to laugh like an idiot? Baley thought morosely.)

"Ignorance," said Baley slowly, "may mean nothing. A person may not know how to get to a certain place and yet may just happen to reach it while walking blindly. One might talk to Jander and, all unknowingly, push the button for mental freezeout."

Fastolfe said, "And the chances of that?"

"You're the expert, Dr. Fastolfe, and I suppose you will tell me they are very small."

"Incredibly small. A person may not know how to get to a certain place, but if the only route is a series of tight ropes stretched in sharply changing directions, what are the chances of reaching it by walking randomly while blindfolded?"

Gladia's hands fluttered in extreme agitation. She clenched her fists, as though to hold them steady, and brought them down on her knees. "I didn't do it, accident or not. I wasn't with him when it happened. I wasn't. I spoke to him in the morning. He was well, perfectly normal. Hours later, when I summoned him, he never came. I went in search of him and he was standing in his accustomed place, seeming quite normal. The trouble was, he didn't respond to me. He didn't respond at all. He has never responded since."

Baley said, "Could something you had said to him, quite in passing, have produced mind-freeze only after you had left him -an hour after, perhaps?"

Fastolfe interposed sharply, "Quite impossible, Mr. Baley. If mind-freeze is to take place, it takes place at once. Please do not badger Gladia in this fashion, She is incapable of producing mind-freeze deliberately and it is unthinkable that she would produce it accidentally."

"Isn't it unthinkable that it would be produced by random positronic drift, as you say it must have?"

"Not quite as unthinkable."

"Both alternatives are extremely unlikely. What is the difference in unthinkability?"

"A great one. I imagine that a mental freeze-out through positronic drift might have a probability of 1 in 10^{12} ; that by accidental pattern-building 1 in $10^{\sim\infty}$. That is just an estimate, but a reasonable one. The difference is greater than that between a single electron and the entire Universe-and it is in favor of the positronic drift."

There was silence for a while.

Baley said, "Dr. Fastolfe, you said earlier that you couldn't stay long."

"I have stayed too long already."

"Good. Then would you leave now?"

Fastolfe began to rise, then said, "Why?"

"Because I want to speak to Gladia alone."

"To badger her?"

"I must question her without your interference. Our situation is entirely too serious to worry about politeness."

Gladia said, "I am not afraid of Mr. Baley, dear Doctor." She added wistfully, "My robots will protect me if his impoliteness becomes extreme."

Fastolfe smiled and said, "Very well, Gladia." He rose and held out his hand to her. She took it briefly.

He said, "I would like to have Giskard remain here for general protection-and Daneel will continue to be in the next room, if you don't mind. Could you lend me one of your own robots to escort me back to my establishment?"

"Certainly," said Gladia, raising her arms. "You know Pandion, I believe."

"Of course! A sturdy and reliable escort." He left, with the robot following closely.

Baley waited, watching Gladia, studying her. She sat there, her eyes on her hands, which were folded limply together in her lap.

Baley was certain there was more for her to tell. How he could persuade her to talk, he couldn't say, but of one thing more he was certain. While Fastolfe was there, she would not tell the whole truth.

24.

Finally, Gladia looked up, her face like a little girl's. She said in a small voice, "How are you, Elijah? How do you feel?"

"Well enough, Gladia."

She said, "Dr. Fastolfe said he would lead you here across the open and see to it that you would have to wait some time in the worst of it."

"Oh? Why was that? For the fun of it?"

"No, Elijah. I had told him how you reacted to the open. You remember the time you fainted and fell into the pond?"

Elijah shook his head quickly. He could not deny the event or his memory thereof, but neither did he approve of the reference. He said gruffly, "I'm not quite like that anymore. I've improved."

"But Dr. Fastolfe said he would test you. Was it all right?"

"It was sufficiently all right. I didn't faint." He remembered the episode aboard the spaceship during the approach to Aurora and ground his teeth faintly. That was different and there was no call to discuss the matter.

He said, in a deliberate change of subject, "What do I call you here? How do I address you?"

"You've been calling me Gladia."

"It's inappropriate, perhaps. I could say Mrs. Delmarre, but you may have-"

She gasped and interrupted sharply, "I haven't used that name since arriving here. Please don't you use it."

"What do the Aurorans call you, then?"

"They say Gladia Solaria, but that's just an indication that I'm an alien and I don't want that either. I am simply Gladia. One name. It's not an Auroran name and I doubt that there's another one on this planet, so it's sufficient. I'll continue to call you Elijah, if you don't mind."

"I don't mind."

Gladia said, "I would like to serve tea." It was a statement and Baley nodded.

He said, "I didn't know that Spacers drank tea."

"It's not Earth tea. It's a plant extract that is pleasant but is not considered harmful in any way. We call it tea."

She lifted her arm and Baley noted that the sleeve held tightly at the wrist and that joining it were thin, flesh-colored gloves. She was still exposing the minimum of body surface in his presence. She was still minimizing the chance of infection.

Her arm remained in the air for a moment and, after a few more moments, a robot appeared with a tray. He was patently even more primitive than Giskard, but he distributed the teacups, the small sandwiches, and the bite-sized bits of pastry smoothly. He poured tea with what amounted to grace.

Baley said curiously, "How do you do that, Gladia?"

"Do what, Elijah?"

"You lift your arm whenever you want something and the robots always know what it is. How did this one know you wanted tea served?"

"It's not difficult. Every time I lift my arm, it distorts a small electromagnetic field that is maintained continuously across the room. Slightly different positions of my hand and fingers produce different distortions and my robots can interpret these distortions as orders. I only use it for simple orders: Come here! Bring tea! and so on."

"I haven't noticed Dr. Fastolfe using the system at his establishment."

"It's not really Auroran. It's our system in Solaria and I'm used to it. -Besides, I always have tea at this time. Borgraf expects it."

"This is Borgraf?" Baley eyed the robot with some interest, aware that he had only glanced at him before. Familiarity was quickly breeding indifference. Another day and he would not notice robots at all. They would flutter about him unseen and chores would appear to do themselves.

Nevertheless, he did not want to fail to notice them. He wanted them to fail to be there. He said, "Gladia, I want to be alone with you. Not even robots. -Giskard, join Daneel. You can stand guard from there."

"Yes, sir," said Giskard, brought suddenly to awareness and response by the sound of his name.

Gladia seemed distantly amused. "You Earthpeople are so odd. I know you have robots on Earth, but you don't seem to know how to handle them. You bark your orders, as though they're deaf."

She turned to Borgraf and, in a low voice, said, "Borgraf, none of you are to enter the room until summoned. Do not interrupt us for anything short of a clear and present emergency."

Borgraf said, "Yes, ma'am." He stepped back, glanced over the table as though checking whether he had omitted anything, turned, and left the room.

Baley was amused, in his turn. Gladia's voice had been soft, but her tone had been as crisp as though she were a sergeant-major addressing a recruit. But then, why should he be surprised? He had long known that it was easier to see another's follies than one's own.

Gladia said, "We are now alone, Elijah. Even the robots are gone."

Baley said, "You are not afraid to be alone with me?"

Slowly, she shook her head. "Why should I be? A raised arm, a gesture, a startled outcry-and several robots would be here promptly. No one on any Spacer world has any reason to fear any other human being. This is not Earth. Whyever should you ask, anyway?"

"Because there are other fears than physical ones. I would not offer you violence of any kind or mistreat you physically in any way. But are you not afraid of my questioning and what it might uncover about you? Remember that this is not Solaria, either. On Solaria, I sympathized with you and was intent on demonstrating your innocence."

She said in a low voice, "Don't you sympathize with me now?"

"It's not a husband dead this time. You are not suspected of murder. It's only a robot that has been destroyed and, as far as I know, you are suspected of nothing. Instead, it is Dr. Fastolfe who is my problem. It is of the highest importance to me-for reasons I need not go into-that I be able to demonstrate his innocence. if the process turns out to be damaging to you, I will not be able to help it. I do not intend to go out of my way to save you pain. It is only fair that I tell you this."

She raised her head and fixed her eyes on his arrogantly. "Why should anything be damaging to me?"

"Perhaps we will now proceed to find out," said Baley coolly, "without Dr. Fastolfe present to interfere." He plucked one of the small sandwiches out of the dish with a small fork (there was no point in using his fingers and perhaps making the entire dish unusable to Gladia), scraped it off onto his own plate, popped it into his mouth, and then sipped at his tea.

She matched him sandwich for sandwich, sip for sip. If he were going to be cool, so was she, apparently.

"Gladia," said Baley, "it is important that I know, exactly, the relationship between you and Dr. Fastolfe. You live near him and the two of you form what is virtually a single robotic household. He is clearly concerned for you. He has made no effort to defend his own innocence, aside from the mere statement that he is innocent, but he defends you strongly the moment I harden my questioning."

Gladia smiled faintly. "What do you suspect, Elijah?"

Baley said, "Don't fence with me. I don't want to suspect. I want to know."

"Has Dr. Fastolfe mentioned Fanya?"

"Yes, he has."

"Have you asked him whether Fanya is his wife or merely his companion? Whether he has children?"

Baley stirred uneasily. He might have asked such questions, of course. In the close quarters of crowded Earth, however, privacy was cherished, precisely because it had all but perished. It was virtually impossible on Earth not to know all the facts about the family arrangements of others, so one never asked and pretended ignorance. It was a universally maintained fraud.

Here on Aurora, of course, the Earth ways would not hold, yet Baley automatically held with them. Stupid!

He said, "I have not yet asked. Tell me."

Gladia said, "Fanya is his wife. He has been married a number of times, consecutively of course, though simultaneous marriage for either or both sexes is not

entirely unheard of on Aurora." The bit of mild distaste with which she said that brought an equally mild defense. "It is unheard of on Solaria.

"However, Dr. Fastolfe's current marriage will probably soon be dissolved. Both will then be free to make new attachments, though often either or both parties do not wait for dissolution to do that. -I don't say I understand this casual way of treating the matter, Elijah, but it is how Aurorans build their relationships. Dr. Fastolfe, to my knowledge, is rather straitlaced. He always maintains one marriage or another and seeks nothing outside of it. On Aurora, that is considered old-fashioned and rather silly."

Baley nodded. "I've gathered something of this in my reading. Marriage takes place when there's the intention to have children, I understand."

"In theory, that is so, but I'm told hardly anyone takes that seriously these days. Dr. Fastolfe already has two children and can't have any more, but he still marries and applies for a third. He gets turned down, of course, and knows he will. Some people don't even bother to apply."

"Then why bother marrying?"

"There are social advantages to it. It's rather complicated and, not being an Auroran, I'm not sure I understand it."

"Well, never mind. Tell me about Dr. Fastolfe's children."

"He has two daughters by two different mothers. Neither of the mothers was Fanya, of course. He has no sons. Each daughter was incubated in the mother's womb, as is the fashion on Aurora. Both daughters are adults now and have their own establishments."

"Is he close with his daughters?"

"I don't know. He never talks about them. One is a roboticist and I suppose he must keep in touch with her work. I believe the other is running for office on the council of one of the cities or that she is actually in possession of the office. I don't really know."

"Do you know if there are family strains?"

"None that I am aware of, which may not go for much, Elijah. As far as I know, he is on civil terms with all his past wives. None of the dissolutions were carried through in anger. For one thing, Dr. Fastolfe is not that kind of person. I can't imagine him greeting anything in life with anything more extreme than a good-natured sigh of resignation. He'll joke on his deathbed."

That, at least, rang true, Baley thought. He said, "And Dr. Fastolfe's relationship to you. The truth, please. We are not in a position to dodge the truth in order to avoid embarrassment."

She looked up and met his eyes levelly. She said, "There is no embarrassment to avoid. Dr. Han Fastolfe is my friend, my very good friend."

"How good, Gladia?"

"As I said-very good."

"Are you waiting for the dissolution of his marriage so that you may be his next wife?"

"No." She said it very calmly.

"Are you lovers, then?"

"No."

"Have you been?"

"No. -Are you surprised?"

"I merely need information," said Baley.

"Then let me answer your questions connectedly, Elijah, and don't bark them at me as though you expected to surprise me into telling you something I would otherwise keep secret." She said it without noticeable anger. It was almost as though she were amused.

Baley, flushing slightly, was about to say that this was not at all his intention, but, of course, it was and he would gain nothing by denying it. He said in a soft growl, "Well, then, go ahead."

The remains of the tea littered the table between them. Baley wondered if, under ordinary conditions, she would not have lifted her arm and bent it just so-and if the robot, Borgraf, would not have then entered silently and cleared the table.

Did the fact that the litter remained upset Gladia-and would it make her less self-controlled in her response? If so, it had better remain-but Baley did not really hope for much, for he could see no signs of Gladia being disturbed over the mess or even of her being aware of it.

Gladia's eyes had fallen to her lap again and her face seemed to sink lower and to become a touch harsh, as though she were reaching into a past she would much rather obliterate.

She said, "You caught a glimpse of my life on Solaria. It was not a happy one, but I knew no other. It was not until I experienced a touch of happiness that I suddenly knew exactly to what an extent-and how intensively-my earlier life was not happy. The first hint came through you, Elijah."

"Through me?" Baley was caught by surprise.

"Yes, Elijah. Our last meeting on Solaria-I hope you remember it, Elijah-taught me something. I touched you! I removed my glove, one that was similar to the glove I am wearing now, and I touched your cheek. The contact did not last long. I don't know what it meant to you-no, don't tell me, it's not important-but it meant a great deal to me."

She looked up, meeting his eyes defiantly. "It meant ever thing to me. It changed my life. Remember, Elijah, that until then, after my few years of childhood, I had never touched a man-or any human being, actually-except for my husband. And I touched my husband very rarely. I had viewed men on trimensic, of course, and in the process I had become entirely familiar with every physical aspect of males, every part of them. I had nothing to learn, in that respect.

"But I had no reason to think that one man felt much different from another. I knew what my husband's skin felt like, what his hands felt like when he could bring himself to touch me, what- everything. I had no reason to think that anything would be different with any man. There was no pleasure in contact with my husband, but why should there be? Is

there particular pleasure in the contact of my fingers with this table, except to the extent that I might appreciate its physical smoothness?

"Contact with my husband was part of an occasional ritual that he went through because it was expected of him and, as a good Solarian, he therefore carried it through by the calendar and clock and for the length of time and in the manner prescribed by good breeding. Except that, in another sense, it wasn't good breeding, for although this periodic contact was for the precise purpose of sexual intercourse, my husband had not applied for a child and was not interested, I believe, in producing one. And I was too much in awe of him to apply for one on my own initiative, as would have been my right.

"As I look back on it, I can see that the sexual experience was perfunctory and mechanical. I never had an orgasm. Not once. That such a thing existed I gathered from some of my reading, but the descriptions merely puzzled me and-since they were to be found only in imported books-Solarian books never dealt with sex-I could not trust them. I thought they were merely exotic metaphors.

"Nor could I' experiment-successfully, at least-with autoeroticism. Masturbation is, I think, the common word. At least, I have heard that word used on Aurora. On Solaria, of course, no aspect of sex is ever discussed, nor is any sex-related word used in polite society. -Nor is there any other kind of society on Solaria.

"From something I occasionally read, I had an idea of how one might go about masturbating and, on a number of occasions, I made a halfhearted attempt to do what was described. I could not carry it through. The taboo against touching human flesh made even my own seem forbidden and unpleasant to me. I could brush my hand against my side, cross one leg over another, feel the pressure of thigh against thigh, but these were casual touches, unregarded. To make the process of touch an instrument of deliberate pleasure was different. Every fiber of me knew it shouldn't be done and, because I knew that, the pleasure wouldn't come.

"And it never occurred to me, never once, that there might be pleasure in touching under other circumstances. Why should it occur to me? How could it occur to me?

"Until I touched you that time. Why I did, I don't know. I felt a gush of affection for you because you had saved me from being a murderess. And besides, you were not altogether forbidden. You were not a Solarian. You were not-forgive me-altogether a man. You were a creature of Earth. You were human in appearance, but you were short-lived and infection-prone, something to be dismissed as semi human at best.

"So because you had saved me and were not really a man, I could touch you. And what's more, you looked at me not with the hostility and repugnance of my husband-or with the carefully schooled indifference of someone viewing me on trimensic. You were right there, palpable, and your eyes were warm and concerned. You actually trembled when my hand approached your cheek. I saw that.

"Why it was, I don't know. The touch was so fugitive and there was no way in which the physical sensation was different from what it would have been if I had touched my husband or any other man-or, perhaps, even any woman. But there was more to it than

the physical sensation. You were there, you welcomed it, you showed me every sign of what I accepted as- affection. And when our skins-my hand, your cheek-made contact, it was as though I had touched gentle fire that made its way up my hand and arm instantaneously and set me all in flame.

"I don't know how long it lasted-it couldn't be for more than a moment or two-but for me time stood still. Something happened to me that had never happened to me before and, looking back on it long afterward, when I had learned about it, I realized that I had very nearly experienced an orgasm.

"I tried not to show it-"

(Baley, not daring to look at her, shook his head.)

"Well, then, I didn't show it. I said, 'Thank you, Elijah.' I said it for what you had done for me in connection with my husband's death. But I said it much more for lighting my life and showing me, without even knowing it, what there was in life; for opening a door; for revealing a path; for pointing out a horizon. The physical act was nothing in itself. Just a touch. But it was the beginning of everything."

Her voice had faded out and, for a moment, she said nothing, remembering.

Then one finger lifted. "No. Don't say anything. I'm not done yet.

"I had had imaginings before, very vague uncertain things. A man and I, doing what my husband and I did, but somehow different-I didn't even know different in what Sway-and feeling something different-something I could not even imagine when imagining with all my might. I might conceivably have gone through my whole life trying to imagine the unimaginable and I might have died as I suppose women on Solaria-and men, too-often do, never knowing, even after three or four centuries. Never knowing. Having children, but never knowing.

"But one touch of your cheek, Elijah, and I knew. Isn't that amazing? You taught me what I might imagine. Not the mechanics of it, not the dull, reluctant approach of bodies, but something that I could never have conceived as having anything to do with it. The look on a face, the sparkle in an eye, the feeling of -gentleness, kindness- something I can't even describe -acceptance- a lowering of the terrible barrier between individuals. Love, I suppose -a convenient word to encompass all of that and more.

"I felt love for you, Elijah, because I thought you could feel love for me. I don't say you loved me, but it seemed to me you could. I never had that and, although in ancient literature they talked of it, I didn't know what they meant any more than when men in those same books talked about 'honor' and killed each other for its sake. I accepted the word, but never made Out its meaning. I still haven't. And so it was with 'love' until I touched you.

"After that I could imagine-and I came to Aurora remembering you, and thinking of you, and talking to you endlessly in my mind, and thinking that in Aurora I would meet a million Elijahs."

She stopped, lost in her own thoughts for a moment, then suddenly went on:

"I didn't. Aurora, it turned out, was, in its way, as bad as Solaria. In Solaria, sex was wrong. It was hated and we all turned away from it. We could not love for the hatred that sex aroused.

"In Aurora, sex was boring. It was accepted calmly, easily-as easily as breathing. If one felt the impulse, one reached out toward anyone who seemed suitable and, if that suitable person was not at the moment engaged in something that could not be put aside, sex followed in any fashion that was convenient. Like breathing. -But where is the ecstasy in breathing? If one were choking, then perhaps the first shuddering breath that followed upon deprivation might be an overwhelming delight and relief. But if one never choked?

"And if one never unwillingly went without sex? If it were taught to youngsters on an even basis with reading and programming? If children were expected to experiment as a matter of course, and if older children were expected to help out?

"Sex-permitted and free as water-has nothing to do with love on Aurora, just as sex-forbidden and a thing of shame- has nothing to do with love on Solaria. In either case, children are few and must come about only after formal application.

-And then, if permission is granted, there must be an interlude of sex designed for childbearing only, dull and brackish. If, after a reasonable time, impregnation doesn't follow, the spirit rebels and artificial insemination is resorted to.

"In time, as on Solaria, ectogenesis will be the thing, so that fertilization and fetal development will take place in genotaria and sex will be left to itself as a form of social interaction and play that has no more to do with love than space-polo does.

"I could not move into the Auroran attitude, Elijah. I had not been brought up to it. With terror, I had reached out for sex and no one refused-and no one mattered. Each man's eyes were blank when I offered myself and remained blank as they accepted. Another one, they said, what matter? They were willing, but no more than willing.

"And touching them meant nothing. I might have been touching my husband. I learned to go through with it, to follow their lead, to accept their guidance-and it all still meant nothing. I gained not even the urge to do it to myself and by myself. The feeling you had given me never returned and, in time, I gave up.

"In all this, Dr. Fastolfe was my friend. He alone, on all Aurora, knew everything that happened on Solaria. At least, so I think You know that the full story was not made public and certainly did not appear in that dreadful hyperwave program that I've heard of-I refused to watch it.

"Dr. Fastolfe protected me against the lack of understanding on the part of Aurorans and against their general contempt for Solarians. He protected me also against the despair that filled me after a while.

"No, we were not lovers. I would have offered myself, but by the time it occurred to me that I might do so, I no longer felt that the feeling you had inspired, Elijah, would ever recur. I thought it might have been a trick of memory and I gave up. I did not offer myself. Nor did he offer himself. I do not know why he did not. Perhaps he could see that my despair arose over my failure to find anything useful in sex and did not want to

accentuate the despair by repeating the failure. It would be typically kind of him to be careful of me in this way-so we were not lovers. He was merely my friend at a time when I needed that so much more.

"There you are, Elijah. You have the whole answer to the questions you asked. You wanted to know my relationship with Dr. Fastolfe and said you needed information. You have it. Are you satisfied?"

Baley tried not let his misery show. "I am sorry, Gladia, that life has been so hard for you. You have given me the information I needed. You have given me more information than, perhaps, you think you have."

Gladia frowned. "In what way?"

Baley did not answer directly. He said, "Gladia, I am glad that your memory of me has meant so much to you. It never occurred to me at any time on Solaria, that I was impressing you so and, even if it had, I would not have tried- You know."

"I know, Elijah," she said, softening. "Nor would it have availed you if you had tried. I couldn't have."

"And I know that. -Nor do I take what you have told me as an invitation now. One touch, one moment of sexual insight, need be no more than that. Very likely, it can never be repeated and that onetime existence ought not to be spoiled by foolish attempts at resurrection. That is a reason why I do not now-offer myself. My failure to do so is not to be interpreted as one more blank ending for you. Besides-"

"Yes."

"You have, as I said earlier, told me perhaps more than you realize you did. You have told me that the story does not end with your despair."

"Why do you say that?"

"In telling me of the feeling that was inspired by the touch upon my cheek, you said something like 'looking back on it long afterward, when I had learned, I realized that I had very nearly experienced an orgasm.' -But then you went on to explain that sex with Aurorans was never successful and, I presume, you did not then experience orgasm either. Yet you must have, Gladia, if you recognized the sensation you experienced that time on Solaria. You could not look back and recognize it for what it was, unless you had learned to love successfully. In other words, you have had a lover and you have experienced love. If I am to believe that Dr. Fastolfe is not your lover and has not been, then it follows that someone else is-or was."

"And if so? Why is that your concern, Elijah?"

"I don't know if it is or is not, Gladia. Tell me who it is and, if it proves to be not my concern, that will be the end of it."

Gladia was silent.

Baley said, "If you don't tell me, Gladia, I will have to tell you. I told you earlier that I am not in a position to spare your feelings."

Gladia remained silent, the corners of her lips whitening with pressure.

"It must be someone, Gladia, and your sorrow over Jander's loss is extreme. You sent Daneel out because you could not bear to look at him for the reminder of Jander

that his face brought. If I am wrong in deciding that it was Jander Panell-" He paused a moment, then said harshly, "If the robot, Jander Panell, was not your lover, say so."

And Gladia whispered, "Jander Panell, the robot, was not my lover." Then, loudly and firmly, she said, "He was my husband!"

25.

Baley's lips moved soundlessly, but there was no mistaking the tetra-syllabic exclamation.

"Yes," said Gladia. "Jehoshaphat! You are startled. Why? Do you disapprove?"

Baley said tonelessly, "It is not my place either to approve or disapprove."

"Which means you disapprove."

"Which means I seek only information. How does one distinguish between a lover and a husband on Aurora?"

"If two people live together in the same establishment for a period of time, they may refer to each other as 'wife' or 'husband,' rather than as 'lover.'"

"How long a period of time?"

"That varies from region to region, I understand, according to local option. In the city of Eos, the period of time is three months."

"Is it also required that during this period of time one refrain from sexual relations with others?"

Gladia's eyebrows lifted in surprise. "Why?"

"I merely ask."

"Exclusivity is unthinkable on Aurora. Husband or lover, it makes no difference. One engages in sex at pleasure."

"And did you please while you were with Jander?"

"As it happens I did not, but that was my choice."

"Others offered themselves?"

"Occasionally."

"And you refused?"

"I can always refuse at will. That is part of the non-exclusivity."

"But did you refuse?"

"I did."

"And did those whom you refused know why you refused?"

"What do you mean?"

"Did they know that you had a robot husband?"

"I had a husband. Don't call him a robot husband. There is no such expression."

"Did they know?"

She paused. "I don't know if they knew."

"Did you tell them?"

"What reason was there to tell them?"

"Don't answer my questions with questions. Did you tell them?"

"I did not."

"How could you avoid that? Don't you think an explanation for your refusal would have been natural?"

"No explanation is ever required. A refusal is simply a refusal and is always accepted. I don't understand you."

Baley stopped to gather his thoughts. Gladia and he were not at cross-purposes; they were running down parallel tracks.

He started again. "Would it have seemed natural on Solaria to have a robot for a husband?"

"On Solaria, it would have been unthinkable and I would never have thought of such a possibility. On Solaria, everything was unthinkable. -And on Earth, too, Elijah. Would your wife ever have taken a robot for a husband?"

"That's irrelevant, Gladia."

"Perhaps, but your expression was answer enough. We may not be Aurorans, you and I, but we are on Aurora. I have lived here for two years and I accept its mores."

"Do you mean that human-robot sexual connections are common here on Aurora?"

"I don't know. I merely know that they are accepted because everything is accepted where sex is concerned-everything that is voluntary, that gives mutual satisfaction, and that does no physical harm to anyone. What conceivable difference would it make to anyone else how an individual or any combination of individuals found satisfaction? Would anyone worry about which books I viewed, what food I ate, what hour I went to sleep or awoke, whether I was fond of cats or disliked roses? Sex, too, is a matter of indifference-on Aurora."

"On Aurora," echoed Baley. "But you were not born on Aurora and were not brought up in its ways. You told me just a while ago that you couldn't adjust to this very indifference to sex that you now praise. Earlier, you expressed your distaste for multiple marriages and for easy promiscuity. If you did not tell those whom you refused why you refused, it might have been because, in some hidden pocket of your being, you were ashamed of having Jander as a husband. You might have known-or suspected, or even merely supposed-that you were unusual in this- unusual even on Aurora-and you were ashamed."

"No, Elijah, you won't talk me into being ashamed. If having a robot as a husband is unusual even on Aurora, that would be because robots like Jander are unusual. The robots we have on Solaria, or on Earth-or on Aurora, except for Jander and Daneel-are not designed to give any but the most primitive sexual satisfaction. They might be used as masturbation devices, perhaps, as a mechanical vibrator might be, but nothing much more. When the new humaniform robot becomes widespread, so will human-robot sex become widespread."

Baley said, "How did you come to possess Jander in the first place, Gladia? Only two existed-both in Dr. Fastolfe's establishment. Did he simply give one of them-half of the total-to you?"

"Yes."

"Why?"

"Out of kindness, I suppose. I was lonely, disillusioned, wretched, a stranger in a strange land. He gave me Jander for company and I will never be able to thank him enough for it. It only lasted for half a year, but that half-year may be worth all my life beside."

"Did Dr. Fastolfe know that Jander was your husband?"

"He never referred to it, so I don't know."

"Did you refer to it?"

"Why not?"

"I saw no need. -And no, it was not because I felt shame."

"How did it happen?"

"That I saw no need?"

"No. That Jander became your husband."

Gladia stiffened. She said in a hostile voice, "Why do I have to explain that?"

Baley said, "Gladia, it's getting late. Don't fight me every step of the way. Are you distressed that Jander is-is gone?"

"Need you ask?"

"Do you want to find out what happened?"

"Again, need you ask?"

"Then help me. I need all the information I can get if I am to begin_-even begin-to make progress in working out an apparently insoluble problem. How did Jander become your husband?"

Gladia sat back in her chair and her eyes were suddenly brimming with tears. She pushed at the plate of crumbs that had once been pastry and said in a choked voice:

"Ordinary robots do not wear clothes, but they are so designed as to give the effect of wearing clothes. I know robots well, having lived on Solaria, and I have a certain amount of artistic talent-"

"I remember your light-forms," said Baley softly.

Gladia nodded in acknowledgment. "I constructed a few designs for new models that would possess, in my opinion, more style and more interest than some of those in use in Aurora. Some of my paintings, based on those designs, are on the walls here. Others I have in other places in this establishment."

Baley's eyes moved to the paintings. He had seen them. They were of robots, unmistakably. They were not naturalistic, but seemed elongated and unnaturally curved. He noted now that the distortions were so designed as to stress, quite cleverly, those portions which, now that he looked at them from a new perspective, suggested clothing. Somehow there was an impression of servants' costumes he had once viewed in a book devoted to the Victorian England of medieval times. Did Gladia know of these things or

was it a merely chance, if circumstantial, similarity? It was a question of no account, probably, but not something (perhaps) to be forgotten.

When he had first noticed them, he had thought it was Gladia's way of surrounding herself with robots in imitation of life on Solaria. She hated that life, she said, but that was only a product of her thinking mind. Solaria had been the only home she had really known and that is not easily sloughed off- perhaps not at all. And perhaps that remained a factor in her painting, even if her new occupation gave her a more plausible motive.

She was speaking. "I was successful. Some of the robot-manufacturing concerns paid well for my designs and there were numerous cases of existing robots being resurfaced according to my directions. There was a certain satisfaction in all this that, in a small measure, compensated for the emotional emptiness of my life.

"When Jander was given me by Dr. Fastolfe, I had a robot who, of course, wore ordinary clothing. The dear doctor was, indeed, kind enough to give me a number of changes of clothing for Jander.

"None of it was in the least imaginative and it amused me to buy what I considered more appropriate garb. That meant measuring him quite accurately, since I intended to have my designs made to order-and that meant having him remove his clothing in stages.

"He did so-and it was only when he was completely unclothed that I quite realized how close to human he was. Nothing was lacking and those portions which might be expected to be erectile were, indeed, erectile. Indeed, they were under what, in a human, would be called conscious control. Jander could tumesce and detumesce on order. He told me so when I asked him if his penis was functional in that respect. I was curious and he demonstrated.

"You must understand that, although he looked very much like a man, I knew he was a robot. I have a certain hesitation about touching men-you understand-and I have no doubt that played a part in my inability to have satisfactory sex with Aurorans. But this was not a man and I had been with robots all my life. I could touch Jander freely.

"It didn't take me long to realize that I enjoyed touching him and it didn't take Jander long to realize that I enjoyed it. He was a finely tuned robot who followed the Three Laws carefully. To have failed to give joy when he could would have been to disappoint. Disappointment could be reckoned as harm and he could not harm a human being. He took infinite care then to give me joy and, because I saw in him the desire to give joy, something I never saw in Auroran men, I was indeed joyful and, eventually, I found out, to the full, I think, what an orgasm is."

Baley said, "You were, then, completely happy?"

"With Jander? Of course. Completely."

"You never quarreled?"

"With Jander? How could I? His only aim, his only reason for existence, was to please me."

"Might that not disturb you? He only pleased you because he had to."

"What motive would anyone have to do anything but that, for one reason or another, he had to?"

"And you never had the urge to try real-to try Aurorans after you had learned to experience orgasm?"

"It would have been an unsatisfactory substitute. I wanted only Jander. -And do you understand, now, what I have lost?"

Baley's naturally grave expression lengthened into solemnity. He said, "I understand, Gladia. If I gave you pain earlier, please forgive me, for I did not entirely understand then."

But she was weeping and he waited, unable to say anything more, unable to think of a reasonable way to console her.

Finally, she shook her head and wiped her eyes with the back of her hand. She whispered, "Is there anything more?"

Baley said apologetically, "A few questions on another subject and then I will be through annoying you." He added cautiously, "For now."

"What is it?" She seemed very tired.

"Do you know that there are people who seem to think that Dr. Fastolfe was responsible for the killing of Jander?"

"Yes."

"Do you know that Dr. Fastolfe himself admits that only he possesses the expertise to kill Jander in the way that he was killed?"

"Yes. The dear doctor told me so himself."

"Well, then, Gladia, do you think Dr. Fastolfe killed Jander?" She looked up at him, suddenly and sharply, and then said angrily, "Of course not. Why should he? Jander was his robot to begin with and he was full of care for him. You don't know the dear doctor as I do, Elijah. He is a gentle person who would hurt no one and who would never hurt a robot. To suppose he would kill one is to suppose that a rock would fall upward."

"I have no further questions, Gladia, and the only other business I have here, at the moment, is to see Jander-what remains of Jander-if I have your permission."

She was suspicious again, hostile. "Why? Why?"

"Gladia! Please! I don't expect it to be of any use, but I must see Jander and know that seeing him is of no use. I will try to do nothing that will offend your sensibilities."

Gladia stood up. Her gown, so simple as to be nothing more than a closely fitting sheath, was not black (as it would have been on Earth) but of a dull color that showed no sparkle anywhere in it. Baley, no connoisseur of clothing, realized how well it represented mourning.

"Come with me," she whispered.

26.

Baley followed Gladia through several rooms, the walls of which glowed dully. On one or two occasions, he caught a hint of movement, which he took to be a robot getting rapidly out of the way, since they had been told not to intrude.

Through a hallway, then, and up a short flight of stairs into a small room in which one part of one wall gleamed to give the effect of a spotlight.

The room held a cot and a chair-and no other furnishings.

"This was his room," said Gladia. Then, as though answering Baley's thought, she went on to say, "It was all he needed. I left him alone as much as I could-all day if I could. I did not want to ever grow tired of him." She shook her head. "I wish now I had stayed with him every second. I didn't know our time would be so short. -Here he is."

Jander was lying on the cot and Baley looked at him gravely. The robot was covered with a smooth and shiny material. The spotlighted wall cast its glow on Jander's head, which was smooth and almost inhuman in its serenity. The eyes were wide open, but they were opaque and lusterless. He looked enough like Daneel to give ample point to Gladia's discomfort at Daneel's presence. His neck and bare shoulders showed above the sheet.

Baley said, "Has Dr. Fastolfe inspected him?"

"Yes, thoroughly. I came to him in despair and, if you had seen him rush here, the concern he felt, the pain, the-the panic, you would never think he could have been responsible. There was nothing he could do."

"Is he unclothed?"

"Yes. Dr. Fastolfe had to remove the clothing for a thorough examination. There was no point in replacing them."

"Would you permit me to remove the covering, Gladia?"

"Must you?"

"I do not wish to be blamed for having missed some obvious point of examination."

"What can you possibly find that Dr. Fastolfe didn't?"

"Nothing, Gladia, but I must know that there is nothing for me to find. Please cooperate."

"Well, then, go ahead, but please put the covering back exactly as it is now when you are done."

She turned her back on him and on Jander, put her left arm against the wall, and rested her forehead on it. There was no sound from her-no motion_-but Baley knew that she was weeping again.

The body was, perhaps, not quite human. The muscular contours were somehow simplified and a bit schematic, but all the parts were there: nipples, navel, penis, testicles, pubic hair, and so on. Even fine, light hair on the chest.

How many days was it since Jander had been killed? It struck Baley that he didn't know, but it had been sometime before his trip to Aurora had begun. Over a week had passed and there was no sign of decay, either visually or olfactorily. A clear robotic difference.

Baley hesitated and then thrust one arm under Jander's shoulders and another under his hips, working them through to the other side. He did not consider asking for

Gladia's help-that would be impossible. He heaved and, with some difficulty, turned Jander over without throwing him off the cot.

The cot creaked. Gladia must know what he was doing, but she did not turn around. Though she did not offer to help, she did not protest either.

Baley withdrew his arms. Jander felt warm to the touch. Presumably, the power unit continued to do so simple a thing as to maintain temperature, even with the brain inoperative. The body felt firm and resilient, too. Presumably, it never went through any stage analogous to rigor mortis.

One arm was now dangling off the cot in quite a human fashion. Baley moved it gently and released it. It swung to and fro slightly and came to a halt. He bent one leg at the knee and studied the foot, then the other. The buttocks were perfectly formed and there was even an anus.

Baley could not get rid of the feeling of uneasiness. The notion that he was violating the privacy of a human being would not go away. If it were a human corpse, its coldness and its stiffness would have deprived it of humanity.

He thought uncomfortably: A robot corpse is much more human than a human corpse.

Again he reached under Jander, lifted, and turned him over. He smoothed out the sheet as best he could, then replaced the cover as it had been and smoothed that. He stepped back and decided it was as it had been at first-or as near to that as he could manage.

"I'm finished, Gladia," he said.

She turned, looked at Jander with wet eyes, and said, "May we go, then?"

"Yes, of course, but Gladia-"

"Well?"

"Will you be keeping him this way? I imagine he won't decay."

"Does it matter if I do?"

"In some ways, yes. You must give yourself a chance to recover. You can't spend three centuries mourning. What is over is over." (His statements sounded hollowly sententious in his own ear. What must they have sounded like in hers?)

She said, "I know you mean it kindly, Elijah. I have been requested to keep Jander till the investigation is done. He will then be torched at my request."

"Torched?"

"Put under a plasma torch and reduced to his elements, as human corpses are. I will have holograms of him-and memories. Will that satisfy you?"

"Of course. I must return to Dr. Fastolfe's house now."

"Yes. Have you learned anything from Jander's body?"

"I did not expect to, Gladia."

She faced him full. "And Elijah, I want you to find who did this and why. I must know."

"But Gladia-"

She shook her head violently, as though keeping out anything she wasn't ready to hear. "I know you can do this."

7. AGAIN FASTOLFE

27.

Baley emerged from Gladia's house into the sunset. He turned toward what he assumed must be the western horizon and found Aurora's sun, a deep scarlet in color, topped by thin strips of ruddy clouds set in an apple-green sky.

"Jehoshaphat," he murmured. Clearly, Aurora's sun, cooler and more orange than Earth's sun, accentuated the difference at setting, when its light passed through a greater thickness of Aurora.

Daneel was behind him; Giskard, as before, well in front.

Daneel's voice was in his ear. "Are you well, Partner Elijah?"

"Quite well," said Baley, pleased with himself. "I'm handling the Outside well, Daneel. I can even admire the sunset. Is it always like this?"

Daneel gazed dispassionately at the setting sun and said, "Yes. But let us move quickly toward Dr. Fastolfe's establishment. At this time of year, the twilight does not last long, Partner Elijah, and I would wish you there while you can still see easily."

"I'm ready. Let's go." Baley wondered if it might not be better to wait for the darkness. It would not be pleasant not to see, but, then, it would give him the illusion of being enclosed-and he was not, in his heart, sure as to how long this euphoria induced by admiring a sunset (a sunset, mind you, Outside) would last.

But that was a cowardly uncertainty and he would not own up to it.

Giskard noiselessly drifted backward toward him and said, "Would you prefer to wait, sir? Would the darkness suit you better? We ourselves will not be discommoded."

Baley became aware of other robots, farther off, on every side. Had Gladia marked off her field robots for guard duty or had Fastolfe sent his?

It accentuated the way they were all caring for him and, perversely, he would not admit to weakness. He said, "No, we'll go now," and struck off at a brisk walk toward Fastolfe's establishment, which he could just see through the distant trees.

Let the robots follow or not, as they wished, he thought boldly. He knew that, if he let himself think about it, there would be something within him that would still quail at the thought of himself on the outer skin of a planet with no protection but air between himself and the great void, but he would not think of it.

It was the exhilaration at being free of the fear that made his jaws tremble and his teeth click. Or it was the cool wind of evening that did it-and that also set the gooseflesh to appearing on his arms.

It was not the Outside.

It was not.

He said, trying to unclench his teeth, "How well did you know Jander, Daneel?"

Daneel said, "We were together for some time. From the time of friend Jander's construction, till he passed into the establishment of Miss Gladia, we were together steadily."

"Did it bother you, Daneel, that Jander resembled you so closely?"

"No, sir. He and I each knew ourselves apart, Partner Elijah, and Dr. Fastolfe did not mistake us either. We were, therefore, two individuals."

"And could you tell them apart, too, Giskard?" They were closer to him now, perhaps because the other robots had taken over the long-distance duties.

Giskard said, "There was no occasion, as I recall, on which it was important that I do so."

"And if there had been, Giskard?"

"Then I could have done so."

"What was your opinion of Jander, Daneel?"

Daneel said, "My opinion, Partner Elijah? Concerning what aspect of Jander do you wish my opinion?"

"Did he do his work well, for instance?"

"Certainly."

"Was he satisfactory in every way?"

"In every way, to my knowledge."

"How about you, Giskard? What is your opinion?"

Giskard said, "I was never as close to friend Jander as friend Daneel was and it would not be proper for me to state an opinion. I can say that, to my knowledge, Dr. Fastolfe was uniformly pleased with friend Jander. He seemed equally pleased with friend Jander and with friend Daneel. However, I do not think my programming is such as to allow me to offer certainty in such matters."

Baley said, "What about the period after Jander entered the household of Miss Gladia? Did you know him then, Daneel?"

"No, Partner Elijah. Miss Gladia kept him at her establishment. On those occasions when she visited Dr. Fastolfe, he was never with her, as far as I was aware. On occasions when I accompanied Dr. Fastolfe on a visit to Miss Gladia's establishment, I did not see friend Jander."

Baley felt a little surprised at that. He turned to Giskard in order to ask the same question, paused, and then shrugged. He was not really getting anywhere and, as Dr. Fastolfe had indicated earlier, there is not really much use in cross-examining a robot. They would not knowingly say anything that would harm a human being, nor could they be badgered, bribed, or cajoled into it. They would not openly lie, but they would remain stubbornly-if politely-insistent on giving useless answers.

And-perhaps-it no longer mattered.

They were at Fastolfe's doorstep now and Baley felt his breath quickening. The trembling of his arms and lower lip, he was confident, was, indeed, only because of the cool wind.

The sun had gone now, a few stars were visible, the sky was darkening to an odd greenish-purple that made it seem bruised, and he passed through the door into the warmth of the glowing walls.

He was safe.

Fastolfe greeted him. "You are back in good time, Mr. Baley. Was your session with Gladia fruitful?"

Baley said, "Quite fruitful, Dr. Fastolfe. It is even possible that I hold the key to the answer in my hand."

28.

Fastolfe merely smiled politely, in a way that signaled neither surprise, elation, nor disbelief. He led the way into what was obviously a dining room, a smaller and friendlier one than the one in which they had had lunch.

"You and I, my dear Mr. Baley," said Fastolfe pleasantly, "will eat an informal dinner alone. Merely the two of us. We will even have the robots absent if that will please you. Nor shall we talk business unless you desperately want to."

Baley said nothing, but paused to look at the walls in astonishment. They were a wavering, luminous green, with differences in brightness and in tint that were slowly progressive from bottom to top. There was a hint of fronds of deeper green and shadowy flickers this way and that. The walls made the room appear to be a well-lit grotto at the bottom of a shallow arm of the sea. The effect was vertiginous—at least, Baley found it so.

Fastolfe had no trouble interpreting Baley's expression. He said, "It's an acquired taste, Mr. Baley, I admit. -Giskard, subdue the wall illumination. -Thank you."

Baley drew a breath of relief. "And thank you, Dr. Fastolfe. May I visit the Personal, sir?"

"But of course."

Baley hesitated. "Could you—"

Fastolfe chuckled. "You'll find it perfectly normal, Mr. Baley. You will have no complaints."

Baley bent his head. "Thank you very much."

Without the intolerable make-believe, the Personal—he believed it to be the same one he had used earlier in the day—was merely what it was, a much more luxurious and hospitable one than he had ever seen. It was incredibly different from those on Earth, which were rows of identical units stretching indefinitely, each ticked off for use by one—and only one—individual at a time.

It gleamed somehow with hygienic cleanliness. Its outermost molecular layer might have been peeled off after every use and a new layer laid on. Obscurely, Baley felt that, if he stayed on Aurora long enough, he would find it difficult to readjust himself to Earth's crowds, which forced hygiene and cleanliness into the background—something to pay a distant obeisance to—a not quite attainable ideal.

Baley, standing there surrounded by conveniences of ivory and gold (not real ivory, no doubt, nor real gold), gleaming and smooth, suddenly found himself shuddering at Earth's casual exchange of bacteria and wincing at its richness in infectivity. Was that not what the Spacers felt? Could he blame them?

He washed his hands thoughtfully, playing with the tiny touches here and there along the control-strip in order to change the temperature. And yet these Aurorans were so unnecessarily garish in their interior decorations, so insistent in pretending they were living in a state of nature when they had tamed nature and broken it. -Or was that only Fastolfe?

After all, Gladia's establishment had been far more austere.

-Or was that only because she had been brought up on Solaria?

The dinner that followed was an unalloyed delight. Again, as at lunch, there was the distinct feeling of being closer to nature. The dishes were numerous-each different, each in small portions-and, in a number of cases, it was possible to see that they had once been part of plants and animals. He was beginning to look upon the inconveniences-the occasional small bone, bit of gristle, strand of fiber, which might have repelled him earlier- as a bit of adventure.

The first course was a little fish-a little fish that one ate whole, with whatever internal organs it might have-and that struck him, at first sight, as another foolish way of rubbing one's nose in Nature with a capital "N." But he swallowed the little fish anyway, as Fastolfe did, and the taste converted him at once. He had never experienced anything like it. It was as though taste buds had suddenly been invented and inserted in his tongue.

Tastes changed from dish to dish and some were distinctly odd and not entirely pleasant, but he found it didn't matter. The thrill of a distinct taste, of different distinct tastes (at Fastolfe's instruction, he took a sip of faintly flavored water between dishes) was what counted-and not the inner detail.

He tried not to gobble, nor to concentrate his attention entirely on the food, nor to lick his plate. Desperately, he continued to observe and imitate Fastolfe and to ignore the other's kindly but definitely amused glance.

"I trust," said Fastolfe, "you find this to your taste."

"Quite good," Baley managed to choke out.

"Please don't force yourself into useless politeness. Do not eat anything that seems strange or unpalatable to you. I will have additional helpings of anything you do like brought in its place."

"Not necessary, Dr. Fastolfe. It is all rather satisfactory."

"Good."

Despite Fastolfe's offer to eat without robots present, it was a robot who served. (Fastolfe, accustomed to this, probably did not even notice the fact, Baley thought-and he did not bring the matter up.)

As was to be expected, the robot was silent and his motions were flawless. His handsome livery seemed to be out of historical dramas that Baley had seen on

hyperwave. It was only at very close view that one could see how much the costume was an illusion of the lighting and how close the robot exterior was to a smooth metal finish-and no more.

Baley said, "Has the waiter's surface been designed by Gladia?"

"Yes," said Fastolfe, obviously pleased. "How complimented she will feel to know that you recognized her touch. She is good, isn't she? Her work is coming into increasing popularity and she fills a useful niche in Auroran society."

Conversation throughout the meal had been pleasant but unimportant. Baley had had no urge to "talk business" and had, in fact, preferred to be largely silent while enjoying the meal and leaving it to his unconscious-or whatever faculty took over in the absence of hard thought-to decide on how to approach the matter that seemed to him now to be the central point of the Jander problem.

Fastolfe took the matter out of his hands, rather, by saying, "And now that you've mentioned Gladia, Mr. Baley, may I ask how it came about that you left for her establishment rather deep in despair and have returned almost buoyant and speaking of perhaps having the key to the whole affair in your hand? Did you learn something new-and unexpected, perhaps-at Gladia's?"

"That I did," said Baley absently-but he was lost in the dessert, which he could not recognize at all, and of which (after some yearning in his eyes had acted to inspire the waiter) a second small helping was placed before him. He felt replete. He had never in his life so enjoyed the act of eating and for the first time found himself resenting the physiological limits that made it impossible to eat forever. He felt rather ashamed of himself that he should feel so.

"And what was it learned that was new and unexpected?" asked Fastolfe with quiet patience. "Presumably something I didn't know myself?"

"Perhaps. Gladia told me that you had given Jander to her about half a year ago."

Fastolfe nodded. "I knew that. So I did."

Baley said sharply, "Why?"

The amiable look on Fastolfe's face faded slowly. Then he said, "Why not?"

Baley said, "I don't know why not, Dr. Fastolfe. I don't care. My question is: Why?"

Fastolfe shook his head slightly and said nothing.

Baley said, "Dr. Fastolfe, I am here in order to straighten out what seems to be a miserable mess. Nothing you have done- nothing-has made things simple. Rather, you have taken what seems to be pleasure in showing me how bad a mess it is and in destroying any speculation I may advance as a possible solution. Now, I don't expect others to answer my questions. I have no official standing on this world and have no right to ask questions, let alone force answers.

"You, however, are different. I am here at your request and I am trying to save your career as well as mine and, according to your own account of matters, I am trying to save Aurora as well as Earth. Therefore, I expect you to answer my questions fully and truthfully. Please don't indulge in stalemating tactics, such as asking me why not when I ask why. Now, once again-and for the last time: Why?"

Fastolfe thrust out his lips and looked grim. "My apologies, Mr. Baley. If I hesitated to answer, it is because, looking back on it, it seems there is no very dramatic reason. Gladia Delmarre -no, she doesn't want her surname used- Gladia is a stranger on this planet; she has undergone traumatic experiences on her home world, as you know, and traumatic experiences on this one, as perhaps you don't know-

"I do know. Please be more direct."

"Well, then, I was sorry for her. She was alone and Jander, I thought, would make her feel less alone."

"Sorry for her? Just that. Are you lovers? Have you been?"

"No, not at all. I did not offer. Nor did she. -Why? Did she tell you we were lovers?"

"No, she did not, but I need independent confirmation, in any case. I'll let you know when there is a contradiction; you needn't concern yourself about that. How is it that with you sympathizing so with her and-from what I gather from Gladia, she feeling so grateful to you-that neither of you offered yourself? I gather that on Aurora offering sex is about on a par with commenting upon the weather."

Fastolfe frowned. "You know nothing about it, Mr. Baley. Don't judge us by the standards of your own world. Sex is not a matter of great importance to us, but we are careful as to how we use it. It may not seem so to you, but none of us offer it lightly. Gladia, unused to our ways and sexually frustrated on Solaria, perhaps did offer it lightly-or desperately might be the better word-and it may not be surprising, therefore, that she did not enjoy the results."

"Didn't you try to improve matters?"

"By offering myself? I am not what she needs and, for that matter, she is not what I need. I was sorry for her. I like her. I admire her artistic talent. And I want her to be happy. -After all, Mr. Baley, surely you'll agree that the sympathy of one human being for another need not rest on sexual desire or on anything but decent human feeling. Have you never felt sympathy for anyone? Have you never wanted to help someone for no reason other than the good feeling it gave you to relieve another's misery? What kind of planet do you come from?"

Baley said, "What you say is justified, Dr. Fastolfe. I do not question the fact that you are a decent human being. Still, bear with me. When I first asked you why you had given Jander to Gladia, you did not tell me then what you have told me just now -and with considerable emotion, too, I might add. Your first impulse was to duck, to hesitate, to play for time by asking why not."

"Granted that what you finally told me is so, what is it about the question that embarrassed you at first? What reason-that you did not want to admit-came to you before you settled on the reason you did want to admit? Forgive me for insisting, but I must know-and not out of personal curiosity, I assure you. If what you tell me is of no use in this sorry business, then you may consider it thrown into a black hole."

Fastolfe said in a low voice, "In all honesty, I am not sure why I parried your question. You surprised me into something that, perhaps, I don't want to face. Let me think, Mr. Baley."

They sat there together quietly. The server cleared the table and left the room. Daneel and Giskard were elsewhere (presumably, they were guarding the house). Baley and Fastolfe were at last alone in a robot-free room.

Finally, Fastolfe said, "I don't know what I ought to tell you, but let me go back some decades. I have two daughters. Perhaps you know that. They are by two different mothers-"

"Would you rather have had sons, Dr. Fastolfe?"

Fastolfe looked genuinely surprised. "No. Not at all. The mother of my second daughter wanted a son, I believe, but I wouldn't give my consent to artificial insemination with selected sperm-not even with my own sperm-but insisted on the natural throw of the genetic dice. Before you ask why, it is because I prefer a certain operation of chance in life and because I think, on the whole, I wanted a chance to have a daughter. I would have accepted a son, you understand, but I didn't want to abandon the chance of a daughter. I approve of daughters, somehow. Well, my second proved a daughter and that may have been one of the reasons that the mother dissolved the marriage soon after the birth. On the other hand, a sizable percentage of marriages are dissolved after a birth in any case, so perhaps I needn't look for special reasons."

"She took the child with her, I take it,"

Fastolfe bent a puzzled glance at Baley. "Why should she do that? -But I forget. You're from Earth. No, of course not. The child would have been brought up in a nursery, where she could be properly cared for, of course. Actually, though"-he whinnied his nose as though in sudden embarrassment over a peculiar memory-"she wasn't put there. I decided to bring her up myself. It was legal to do so but very unusual. I was quite young, of course, not yet having attained the century mark, but already I had made my mark in robotics."

"Did you manage?"

"You mean to bring her up successfully? Oh yes. I grew quite fond of her. I named her Vasilia. It was my mother's name, you see." He chuckled reminiscently. "I get these odd streaks of sentiment-like my affection for my robots. I never met my mother, of course, but her name was on my charts. And she's still alive, as far as I know, so I could see her-but I think there's something queasy about meeting someone in whose womb you once were. -Where was I?"

"You named your daughter Vasilia."

"Yes-and I did bring her up and actually grew fond of her. Very fond of her. I could see where the attraction lay in doing something like that, but, of course, I was an embarrassment to my friends and I had to keep her out of their way when there was contact to be made, either social or professional. I remember once-" He paused.

"Yes?"

"It's something I haven't thought of for decades. She came running out, weeping for some reason, and threw herself into my arms when Dr. Sarton was with me, discussing one of the very earliest design programs for humaniform robots. She was only seven years old, I think and, of course, I hugged her, and kissed her, and ignored the business at hand, which was quite unforgivable of me. Sarton left, coughing and choking-and most indignant. It was a full week before I could renew contact with him and resume deliberation. Children shouldn't have that effect on people, I suppose, but there are so few children and they are so rarely encountered."

"And your daughter-Vasilia-was fond of you?"

"Oh yes-at least, until- She was very fond of me. I saw to her schooling and made sure her mind was allowed to expand to the fullest."

"You said she was fond of you until-something. You did not finish the sentence. There came a time, then, when she was no longer fond of you. When was that?"

"She wanted to have her own establishment once she grew old enough. It was only natural."

"And you did not want it?"

"What do you mean I did not want it? Of course, I wanted it. You keep assuming I'm a monster, Mr. Baley."

"Am I to assume, instead, that once she reached the age when she was to have her own establishment, she no longer felt the same affection for you that she naturally had when she was actively your daughter, living in your establishment as a dependent?"

"Not quite that simple. In fact, it was rather complicated. You see-" Fastolfe seemed embarrassed. "I refused her when she offered herself to me."

"She offered herself to you?" said Baley, horrified.

"That part was only natural," said Fastolfe indifferently. "She knew me best. I had instructed her in sex, encouraged her experimentation, taken her to the Games of Eros, done my best for her. It was something to be expected and I was foolish for not expecting it and letting myself be caught."

"But incest?"

Fastolfe said, "Incest? Oh yes, an Earthly term. On Aurora, there's no such thing, Mr. Baley. Very few Aurorans know their immediate family. Naturally, if marriage is in question and children are applied for, there is a genealogical search, but what has that to do with social sex? No no, the unnatural thing is that I refused my own daughter." He reddened-his large ears most of all.

"I should hope so," muttered Baley.

"I had no decent reasons for it, either-at least none that I could explain to Vasilia. It was criminal of me not to foresee the matter and prepare a foundation for a rational rejection Of one so young and inexperienced, if that were necessary, that would not wound her and subject her to a fearful humiliation. I am really unbearably ashamed that I took the unusual responsibility of bringing up a child, only to subject her to such an unpalatable experience. It seemed to me that we could continue our relationship as father

and daughter-as friend and friend-but she did not give up. Whenever I rejected her, no matter how affectionately I tried to do so, matters grew worse between us."

"Until finally-"

"Finally, she wanted her own establishment. I opposed it at first, not because I didn't want her to have one, but because I wanted to reestablish our loving relationship before she left. Nothing I did helped. It was, perhaps, the most trying time of my life. Eventually, she simply-and rather violently-insisted on leaving and I could hold out no longer. She was a professional roboticist by then-I am grateful that she didn't abandon the profession out of distaste for me-and she was. able to found an establishment without any help from me. She did so, in fact, and since then there has been little contact between us."

Baley said, "It might be, Dr. Fastolfe, that, since she did not abandon robotics, she does not feel wholly estranged."

"It is what she does best and is most interested in. It has nothing to do with me. I know that, for to begin with, I thought as you did and I made friendly overtures, but they were not received."

"Do you miss her, Dr. Fastolfe?"

"Of course I miss her, Mr. Baley. -That is an example of the mistake of bringing up a child. You give into an irrational impulse-an atavistic desire-and it leads to inspiring the child with the strongest possible feeling of love and then subject yourself to the possibility of having to refuse that same child's first offer of herself and scarring her emotionally for life. And, to add to that, you subject yourself to this thoroughly irrational feeling of regret-of-absence. It's something I never felt before and have never felt since. She and I have both suffered needlessly and the fault is entirely mine."

Fastolfe fell into a kind of rumination and Baley said gently, "And what has all this to do with Gladia?"

Fastolfe started. "Oh! I had forgotten. Well, it's rather simple. Everything I've said about Gladia is true. I liked her. I sympathized with her. I admired her talent. But, in addition, she resembles Vasilia. I noticed the similarity when I saw the first hyperwave account of her arrival from Solaria. It was quite startling and it made me take an interest." He sighed. "When I realized that she, like Vasilia, had been sex-scarred, it was more than I could endure. I arranged to have her established near me, as you see. I have been her friend and done my best to cushion the difficulties of adapting to a strange world."

"She is a daughter-substitute, then."

"After a fashion, yes, I suppose you could call it that, Mr. Baley. -And you have no idea how glad I am she never took it into her head to offer herself to me. To have rejected her would have been to relive my rejection of Vasilia. To have accepted her out of an inability to repeat the rejection would have embittered my life, for then I would have felt that I was doing for this stranger-this faint reflection of my daughter-what I would not do for my daughter herself. Either way- But, never mind, you can see now why I hesitated to answer you at first. Somehow, thinking about it led my mind back to this tragedy in my life."

"And your other daughter?"

"Lumen?" said Fastolfe indifferently. "I never had any contact with her, though I hear of her from time to time."

"She's running for political office, I understand."

"A local one. On the Globalist ticket."

"What is that?"

"The Globalists? They favor Aurora alone-just our own globe, you see. Aurorans are to take the lead in settling the Galaxy. Others are to be barred, as far as possible, particularly Earthmen. 'Enlightened self-interest' they call it."

"This is not your view, of course."

"Of course not. I am heading the Humanist party, which believes that all human beings have a right to share in the Galaxy. When I refer to 'my enemies,' I mean the Globalists."

"Lumen, then, is one of your enemies."

"Vasilia is one, also. She is, indeed, a member of the Robotics Institute of Aurora - the RIA- that was founded a few years ago and which is run by roboticists who view me 'as a demon to be defeated at all costs. As far as I know, however, my various ex-wives are apolitical, perhaps even Humanist." He smiled wryly and said, "Well, Mr. Baley, have you asked all the questions you wanted to ask?"

Baley's hands aimlessly searched for pockets in his smooth, loose Auroran breeches-something he had been doing periodically since he had begun wearing them on the ship-and found none. He compromised, as he sometimes did, by folding his arms across his chest.

He said, "Actually, Dr. Fastolfe. I'm not at all sure you have yet answered The first question. It seems to me that you never tire of evading that. Why did you give Jander to Gladia? Let's get all of it into the open, so that we may be able to see light in what now seems darkness."

29.

Fastolfe reddened again. It might have been anger this time, but he continued to speak softly.

He said, "Do not bully me, Mr. Baley. I have given you your answer. I was sorry for Gladia and I thought Jander would be company for her. I have spoken more frankly to you than I would to anyone else, partly because of the position I am in and partly because you are not an Auroran. In return, I demand a reasonable respect."

Baley bit his lower lip. He was not on Earth. He had no official authority behind him and he had more at stake than his professional pride.

He said, "I apologize, Dr. Fastolfe, if I have hurt your feelings. I do not mean to imply you are being untruthful or uncooperative. Nevertheless, I cannot operate without the whole truth. Let me suggest the possible answer I am looking for and you can then

tell me if I am correct, or nearly correct, or totally wrong. Can it be that you have given Jander to Gladia, in order that he might serve as a focus for her sexual drive and so that she might not have occasion to offer herself to you? Perhaps that was not your conscious reason, but think about it now. Is it possible that such a feeling contributed to the gift?"

Fastolfe's hand picked up a light and transparent ornament that had been resting on the dining room table. It turned it over and over, over and over. Except for that motion, Fastolfe seemed frozen. Finally, he said, "That might be so, Mr. Baley. Certainly, after I loaned her Jander-it was never an outright gift, incidentally-I was less concerned about her offering herself to me."

"Do you know whether Gladia made use of Jander for sexual purposes?"

"Did you ask Gladia if she made use of him, Mr. Baley?"

"That has nothing to do with my question. Do you know? Did you witness any overt sexual actions between them? Did any of your robots inform you of such? Did she herself tell you?"

"The answer to all those questions, Mr. Baley, is no. If I stop to think about it, there is nothing particularly unusual about the use of robots for sexual purposes by either men or women. Ordinary robots are not particularly adapted to it, but human beings are ingenious in this respect. As for Jander, he is adapted to it because he is as humaniform as we could make him-"

"So that he might take part in sex."

"No, that was never in our minds. It was the abstract problem of building a totally humaniform robot that exercised the late Dr. Sarton and myself."

"But such humaniform robots are ideally designed for sex, are they not?"

"I suppose they are and, now that I allow myself to think of it -and I admit I may have had it hidden in my mind from the start- Gladia might well have used Jander so. If she did, I hope the process gave her pleasure. I would consider my loan to her a good deed, if it had."

"Could it have been more of a good deed than you counted upon?"

"In what way?"

"What would you say if I told you that Gladia and Jander were wife and husband?"

Fastolfe's hand, still holding the ornament, closed convulsively upon it, held it tightly for a moment, then let it drop. "What?"

"That's ridiculous. It is legally impossible. There is no question of children, so there can't conceivably be an application for any. Without the intention of such an application, there can be no marriage."

"This is not a matter of legality, Dr. Fastolfe. Gladia is a Solarian, remember, and doesn't have the Auroran outlook. It is a matter of emotion. Gladia herself told me that she considered Jander to have been her husband. I think she considers herself now his widow and that she has had another sexual trauma- and a very severe one. If, in any way, you knowingly contributed to this event-"

"By all the stars," said Fastolfe with unwonted emotion, "I didn't. Whatever else was in my mind, I never imagined that Gladia could fantasize marriage to a robot, however humaniform he might be. No Auroran could have imagined that."

Baley nodded and raised his hand. "I believe you. I don't think you are actor enough to be drowning me in a faked sincerity. But I had to know. It was, after all, just possible that-

"No, it was not. Possible that I foresaw this situation? That I deliberately created this abominable widowhood, for some reason? Never. It was not conceivable, so I did not conceive it. Mr. Baley, whatever I meant in placing Jander in her establishment, I meant well. I did not mean this. Meaning well is a poor defense, I know, but it is all that I have to offer."

"Dr. Fastolfe, let us refer to that no more," said Baley. "What I have now to offer is a possible solution to the mystery."

Fastolfe breathed deeply and sat back in his chair. "You hinted as much when you returned from Gladia's." He looked at Baley with a hint of savagery in his eyes. "Could you not have told me this 'key' you have at the start? Need we have gone through all- this?"

"I'm sorry, Dr. Fastolfe. The key makes no sense without all- this."

"Well, then. Get on with it."

"I will. Jander was in a position that you, the greatest robotics theoretician in all the world, did not foresee, by your own admission. He was pleasing Gladia so well that she was deeply in love with him and considered him her husband. What if it turns out that, in pleasing her, he was also displeasing her?"

"I'm not sure as to your meaning."

"Well, see here, Dr. Fastolfe. She was rather secretive about the matter. I gather that on Aurora sexual matters are not something one hides at all costs."

"We don't broadcast it over the hyperwave," said Fastolfe dryly, "but we don't make a greater secret of it than we do of any other strictly personal matter. We generally know who's been whose latest partner and, if one is dealing with friends, we often get an idea of how good, or how enthusiastic, or how much the reverse one or the other partner- or both-might be. It's a matter of small talk on occasion."

"Yes, but you knew nothing of Gladia's connection with Jander."

"I suspected-"

"Not the same thing. She told you nothing. You saw nothing. Nor could any robots report anything. She kept it secret even from you, her best friend on Aurora. Clearly, her robots were given careful instructions never to discuss Jander and Jander himself must have been thoroughly instructed to give nothing away."

"I suppose that's a fair conclusion."

"Why should she do that, Dr. Fastolfe?"

"A Solarian sense of privacy about sex?"

"Isn't that the same as saying she was ashamed of it?"

"She had no cause to be, although the matter of considering Jander a husband would have made her a laughingstock."

"She might have concealed that portion very easily without concealing everything. Suppose, in her Solarian way, she was ashamed."

"Well, then?"

"No one enjoys being ashamed-and she might have blamed Jander for it, in the rather unreasonable way people have of seeking to attribute to others the blame for unpleasantness that is clearly their own fault."

"Yes?"

"There might have been times when Gladia, who has a short-fused temper, might have burst into tears, let us say, and upbraided Jander for being the source of her shame and her misery. It might not have lasted long and she might have shifted quickly to apologies and caresses, but would not Jander have clearly gotten the idea that he was actually the source of her shame and her misery?"

"Perhaps."

"And might this not have meant to Jander that if he continued the relationship, he would make her miserable, and that if he ended the relationship, he would make her miserable. Whatever he did, he would be breaking the First Law and, unable to act in any way without such a violation, he could only find refuge in not acting at all-and so went into mental freeze-out. -Do you remember the story you told me earlier today of the legendary mind-reading robot who was driven into stasis by that robotics pioneer?"

"By Susan Calvin, yes. I see! You model your scenario on that old legend. Very ingenious, Mr. Baley, but it won't work."

"Why not? When you said only you could bring about a mental freeze-out in Jander, you did not have the faintest idea that he was involved so deeply in so unexpected a situation. It runs exactly parallel to the Susan Calvin situation."

"Let's suppose that the story about Susan Calvin and the mind-reading robot is not merely a totally fictitious legend. Let's take it seriously. There would still be no parallel between that story and the Jander situation. In the case of Susan Calvin, we would be dealing with an incredibly primitive robot, one that today would not even achieve the status of a toy. It could deal only qualitatively with such matters: A creates misery; not-A creates misery; therefore mental freeze-out."

Baley said, "And Jander?"

"Any modern robot-any robot of the last century-would weigh such matters quantitatively. Which of the two situations, A or not-A, would create the most misery? The robot would come to a rapid decision and opt for minimum misery. The chance that he would judge the two mutually exclusive alternatives to produce precisely equal quantities of misery is small and, even if that should turn out to be the case, the modern robot is supplied with a randomization factor. If A and not-A are precisely equal misery-producers according to his judgment, he chooses one or the other in a completely unpredictable way and then follows that unquestioningly. He does not go into mental freeze-out."

"Are you saying it is impossible for Jander to go into mental freeze-out? You have been saying you could have produced it."

"In the case of the humaniform positronic brain, there is a way of sidetracking the randomization factor that depends entirely on the way in which that brain is constructed. Even if you know the basic theory, it is a very difficult and long-sustained process to so lead the robot down the garden path, so to speak, by a skillful succession of questions and orders as to finally induce the mental freeze-out. It is unthinkable that it be done by accident and the mere existence of all apparent contradiction as that produced by simultaneous love and shame could not do the trick without the most careful quantitative adjustment under the most unusual conditions, which leaves us, as I keep saying, with indeterministic chance as the only possible way in which it happened."

"But your enemies will insist that your own guilt is the more likely. -Could we not, in our turn, insist that Jander was brought to mental freeze-out by the conflict brought on by Gladia's love and shame? Would this not sound plausible? And would it not win public opinion to your side?"

Fastolfe frowned. "Mr. Baley, you are too eager. Think about it seriously. If we were to try to get out of our dilemma in this rather dishonest fashion, what would be the consequence? I say nothing of the shame and misery it would bring to Gladia, who would suffer not only the loss of Jander but the feeling that she herself had brought about that loss if, in fact, she had really felt and had somehow revealed her shame. I would not want to do that, but let us put that to one side, if we can. Consider, instead, that my enemies would say that I had loaned her Jander precisely to bring about what had happened. I would have done it, they would say, in order to develop a method for mental freezeout in humaniform robots while escaping all apparent responsibility myself. We would be worse off than we are now, for I would not only be accused of being an underhanded intriguer, as I am now, but, in addition, of having behaved monstrously toward an unsuspecting woman whom I had pretended to befriend, something I have so far been spared."

Baley was staggered. He felt his jaw drop and his voice degenerate to a stutter. "Surely they would not-"

"But they would. You yourself were at least half-inclined to think so not very many minutes ago."

"Merely as a remote-"

"My enemies would not find it remote and they would not publicize it as remote."

Baley knew he had reddened. He felt the wave of heat and found he could not look Fastolfe in the face. He cleared his throat and said, "You are right. I jumped for a way out without thinking and I can only ask your pardon. I am deeply ashamed."

"-There's no way out, I suppose, but the truth-if we can find it."

Fastolfe said, "Don't despair. You have already uncovered events in connection with Jander that I never dreamed of. You may uncover more and, eventually, what seems altogether a mystery to us now may unfold and become plain. What do you plan to do next?"

But Baley could think of nothing through the shame of his fiasco. He said, "I don't really know."

"Well, then, it was unfair of me to ask. You have had a long day and not an easy one. It is not surprising that your brain is a bit sluggish now. Why not rest, view a film, go to sleep? You will be better off in the morning."

Baley nodded and mumbled, "Perhaps you're right."

But, at the moment, he didn't think he'd be any better off in the morning at all.

30.

The bedroom was cold, both in temperature and ambience. Baley shivered slightly. So low a temperature within a room gave it the unpleasant feeling of being Outside. The walls were faintly off-white and (unusual for Fastolfe's establishment) were not decorated. The floor seemed to the sight to be of smooth ivory, but to the bare feet it felt carpeted. The bed was white and the smooth blanket was cold to the touch.

He sat down at the edge of the mattress and found it yielded very slightly to the pressure of his weight.

He said to Daneel, who had entered with him, "Daneel, does it disturb you when a human being tells a lie?"

"I am aware that human beings lie on occasion, Partner Elijah. Sometimes, a lie might be useful or even mandatory. My feeling about a lie depends upon the liar, the occasion, and the reason."

"Can you always tell when a human being lies?"

"No, Partner Elijah."

"Does it seem to you that Dr. Fastolfe often lies?"

"It has never seemed to me that Dr. Fastolfe has told a lie."

"Even in connection with Jander's death?"

"As far as I can tell, he tells the truth in every respect."

"Perhaps he has instructed you to say that-were I to ask?"

"He has not, Partner Elijah."

"But perhaps he instructed you to say that, too-"

He paused. Again-of what use was it to cross-examine a robot? And in this particular case, he was inviting infinite regression.

He was suddenly aware that the mattress had been yielding slowly under him until it now half-enfolded his hips. He rose suddenly and said, "Is there any way of warming the room, Daneel?"

"It will feel warmer when you are under the cover with the light out, Partner Elijah."

"Ah." He looked about suspiciously. "Would you put the light out, Daneel, and remain in the room when you have done so?"

The light went out almost at once and Baley realized that his supposition that this room, at least, was undecorated was totally wrong. As soon as it was dark, he felt he was

Outside. There was the soft sound of wind in trees and the small, sleepy mutters of distant life-forms. There was also the illusion of stars overhead, with an occasional drifting cloud that was just barely visible.

"Put the light back on, Daneel!"

The room flooded with light.

"Daneel," said Baley. "I don't want any of that. I want no stars, no clouds, no sounds, no trees, no wind-no scents, either. I want darkness-featureless darkness. Could you arrange that?"

"Certainly, Partner Elijah."

"Then do so. And show me how I may myself put out the light when I am ready to sleep."

"I am here to protect you, Partner Elijah."

Baley said grumpily, "You can do that, I am sure, from just the other side of the door. Giskard, I imagine, will be just outside the windows, if, indeed, there are windows beyond the draperies."

"There are. -If you cross that threshold, Partner Elijah, you will find a Personal reserved for yourself. That section of the wall is not material and you will move easily through it. The light will turn on as you enter and it will go out as you leave- and there are no decorations. You will be able to shower, if you wish, or do anything else that you care to before retiring or after waking."

Baley turned in the indicated direction. He saw no break in the wall, but the floor molding in that spot did show a thickening as though it were a threshold.

"How do I see it in the dark, Daneel?" he asked.

"That section of the wall-which is not a wall-will glow faintly. As for the room light, there is this depression in the headboard of your bed which, if you place your finger within it, will darken the room if light-or lighten it if dark."

"Thank you. You may leave now."

Half an hour later, he was through with the Personal and found himself huddling beneath the blanket, with the light out, enveloped by a warm spirit-hugging darkness.

As Fastolfe had said, it had been a long day. It was almost unbelievable that it had been only that morning that he had arrived on Aurora. He had learned a great deal and yet none of it had done him any good.

He lay in the dark and went over the events of the day in quiet succession, hoping that something might occur to him that had eluded him before-but nothing like that happened.

So much for the quietly thoughtful, keen-eyed, subtle-brained Elijah Baley of the hyperwave drama.

The mattress was again half-enfolding him and it was like a warm enclosure. He moved slightly and it straightened beneath him, then slowly molded itself to fit his new position.

There was no point in frying, with his worn, sleep-seeking mind, to go over the day again, but he could not help trying a second time, following his own footsteps on this, his

first day on Aurora-from the spaceport to Fastolfe's establishment, then to Gladia's, then back to Fastolfe.

Gladia-more beautiful than he remembered but hard-something hard about her-or has she just grown a protective shell- poor woman. He thought warmly of her reaction to the touch of her hand against his cheek-if he could have remained with her, he could have taught her-stupid Aurorans-disgustingly casual attitude toward sex-anything goes-which means nothing really goes-not worthwhile-stupid-to Fastolfe, to Gladia, back to Fastolfe-back to Fastolfe.

He moved a little and then abstractedly felt the mattress remold again. Back to Fastolfe. What happened on the way back to Fastolfe? Something said? Something not said? And on the ship before he ever got to Aurora-something that fit in- Baley was in the never-never world of half-sleep, when the mind is liberated and follows a law of its own. It is like the body flying, soaring through the air and liberated of gravity.

Of its own accord, it was taking the events-little aspects he had not noted-putting them together-one thing adding to another-clicking into place-forming a web-a fabric- And then, it seemed to him, he heard a sound and he roused himself to a level of wakefulness. He listened, heard nothing, and sank once more into the half-sleep to take up the line of thought-and it eluded him.

It was like a work of art sinking into a morass. He could still see its outlines, the masses of color. They got dimmer, but he still knew it was there. And even as he scrambled desperately for it, it was gone altogether and he remembered nothing of it. Nothing at all.

Had he actually thought of anything or was the memory of having done so itself an illusion born of some drifting nonsense in a mind asleep? And he was, indeed, asleep.

When he woke briefly during the night, he thought to himself; I had an idea. An important idea.

But he remembered nothing, except that something had been there.

He remained awake a while, staring into the darkness. If, in fact, something had been there-it would come back in time.

Or it might not! (Jehoshaphat!)

-And he slept again.

8. FASTOLFE AND VASILIA

31.

Baley woke with a start and drew in his breath with sharp suspicion. There was a faint and unrecognizable odor in the air that vanished by his second breath.

Daneel stood gravely at the side of the bed. He said, "I trust, Partner Elijah, that you have slept well."

Baley looked around. The drapes were still closed, but it was clearly daylight Outside. Giskard was laying out clothing, totally different, from shoes to jacket, from anything he had worn the day before.

He said, "Quite well, Daneel. Did something awaken me?"

"There was an injection of antisomnin in the room's air circulation, Partner Elijah. It activates the arousal system. We used a smaller than normal amount, since we were uncertain of your reaction. Perhaps we should have used a smaller amount still."

Baley said, "It did seem to be rather like a paddle over the rear. What time is it?"

Daneel said, "It is 0705, by Auroran measure. Physiologically, breakfast will be ready in half an hour." He said it without a trace of humor, though a human being might have found a smile appropriate.

Giskard said, his voice stiffer and a trifle less intoned than Daneel's, "Sir, friend Daneel and I may not enter the Personal. If you will do so and let us know if there is anything you will need, we will supply it at once."

"Yes, of course." Baley raised himself, swung around, and got out of bed.

Giskard began stripping the bed at once. "May I have your pajamas, sir?"

Baley hesitated for a moment only. It was a robot who asked, nothing more. He disrobed and handed the garment to Giskard, who took it with a small, grave nod of acceptance.

Baley looked at himself with distaste. He was suddenly conscious of a middle-aged body that was very likely in less good condition than Fastolfe's, which was nearly three times as old.

Automatically, he looked for his slippers and found there were none. Presumably, he needed none. The floor seemed warm and soft to his feet.

He stepped into the Personal and called out for instructions. From the other side of the illusory section of the wall, Giskard solemnly explained the working of the shaver, of the toothpaste dispenser, explained how to put the flushing device on automatic, how to control the temperature of the shower.

Everything was on a grander and more elaborate scale than anything Earth had to offer and there were no partitions on the other side of which he could hear the movements and involuntary sounds of someone else, something he had to ignore rigidly to maintain the illusion of privacy.

It was effete, thought Baley somberly as he went through the luxurious ritual, but it was an effeteness that (he already knew) he could become accustomed to. If he stayed here on Aurora any length of time, he would find the culture shock of returning to Earth painfully intense, particularly with respect to the Personal. He hoped that the readjustment would not take long, but he also hoped that any Earthpeople who settled new worlds would not feel impelled to cling to the concept of Community Personals.

Perhaps, thought Baley, that was how one ought to define "effete": That to which one can become easily accustomed.

Baley stepped out of the Personal, various functions completed, chin new-cropped, teeth glistening, body showered and dry. He said, "Giskard, where do I find the deodorant?"

Giskard said, "I do not understand, sir."

Daneel said quickly, "When you activated the lathering control, Partner Elijah, that introduced a deodorant effect. I ask pardon for friend Giskard's failure to understand. He lacks my experience on Earth."

Baley lifted his eyebrows dubiously and began to dress with Giskard's help.

He said, "I see that you and Giskard are still with me every step of the way. Has there been any sign of any attempt at putting me out of the way?"

Daneel said, "None thus far, Partner Elijah. Nevertheless, it would be wise to have friend Giskard and myself with you at all times, if that can possibly be managed."

"Why is that, Daneel?"

"For two reasons, Partner Elijah. First, we can help you with any aspect of Auroran culture or folkways with which you are unfamiliar. Second, friend Giskard, in particular, can record and reproduce every word of every conversation you may have. This may be of value to you. You will recall that there were times in your conversations with both Dr. Fastolfe and with Miss Gladia when friend Giskard and I were at a distance or in another room-

"So that conversations were not recorded by Giskard?"

"Actually, they were, Partner Elijah, but with low fidelity-and there may be portions that will not be as clear as we would want them to be. It would be better if we stayed as close to you as is convenient."

Baley said, "Daneel, are you of the opinion that I will be more at ease if I think of you as guides and as recording devices, rather than as guards? Why not simply come to the conclusion that, as guards, you two are completely unnecessary. Since there have been no attempts at me so far, why isn't it possible to conclude that there will be no attempts at me in the future?"

"No, Partner Elijah, that would be incautious. Dr. Fastolfe feels that you are viewed with great apprehension by his enemies. They had made attempts to persuade the Chairman not to give Dr. Fastolfe permission to call you in and they will surely continue to attempt to persuade him to have you ordered back to Earth at the earliest possible moment."

"That sort of peaceful opposition requires no guards."

"No, sir, but if the opposition has reason to fear that you may exculpate Dr. Fastolfe, it is possible that they may feel driven to extremes. You are, after all, not an Auroran and the inhibitions against violence on our world would therefore be weakened in your case."

Baley said dourly, "The fact that I've been here a whole day and that nothing has happened should relieve their minds greatly and reduce the threat of violence considerably."

"It would indeed seem so," said Daneel, showing no signs that he recognized the irony in Baley's voice.

"On the other hand," said Baley, "if I seem to make progress, then the danger to me immediately increases."

Daneel paused to consider, then said, "That would seem to be a logical consequence."

"And, therefore, you and Giskard will come with me wherever I go, just in case I manage to do my job a little too well."

Daneel paused again, then said, "Your way of putting it, Partner Elijah, puzzles me, but you seem to be correct."

"In that case," said Baley, "I'm ready for breakfast, though it does take the edge off my appetite to be told that the alternative to failure is attempted assassination."

32.

Fastolfe smiled at Baley across the breakfast table. "Did you sleep well, Mr. Baley?"

Baley studied the slice of ham with fascination. It had to be cut with a knife. It was grainy. It had a discrete strip of fat running down one side. It had, in short, not been processed. The result was that it tasted hammier, so to speak.

There were also fried eggs, with the yolk a flattened semi-sphere in the center, rimmed by white, rather like some daisies that Ben had pointed out to him in the field back on Earth. Intellectually, he knew what an egg looked like before it was processed and he knew that it contained both a yolk and a white, but he had never seen them still separate when ready to eat. Even on the ship coming here and even on Solaria, eggs, when served, were scrambled.

He looked up sharply at Fastolfe. "Pardon me?"

Fastolfe said patiently, "Did you sleep well?"

"Yes. Quite well. I would probably still be sleeping if it hadn't been for the antisomnin."

"Ah yes. Not quite the hospitality a guest has the right to expect, but I felt you might want an early start."

"You are entirely right. And I'm not exactly a guest, either."

Fastolfe ate in silence for a moment or two. He sipped at his hot drink, then said, "Has any enlightenment come overnight? Have you awakened, perhaps, with a new perspective, a new thought?"

Baley looked at Fastolfe suspiciously, but the other's face reflected no sarcasm. As Baley lifted his drink to his lips, he said, "I'm afraid not. I am as ineffectual now as I was last night." He sipped and involuntarily made a face.

Fastolfe said, "I'm sorry. You find the drink unpalatable?"

Baley grunted and cautiously tasted it again.

Fastolfe said, "It is simply coffee, you know. Decaffeinated."

Baley frowned. "It doesn't taste like coffee and- Pardon me, Dr. Fastolfe, I don't want to begin to sound paranoid, but Daneel and I have just had a half-joking exchange on the possibility of violence against me-half-joking on my part, of course, not on Daneel's-and it is in my mind that one way they might get at me is-

His voice trailed away.

Fastolfe's eyebrows moved upward. He reached for Baley's coffee with a murmur of apology and smelled it. He then ladled out a small portion by spoon and tasted it. He said, "Perfectly normal, Mr. Baley. This is not an attempt at poisoning."

Baley said, "I'm sorry to behave so foolishly, since I know this has been prepared by your own robots-but are you certain?"

Fastolfe smiled. "Robots have been tampered with before now. -However, there has been no tampering this time. It is just that coffee, although universally popular on the various worlds, comes in different strains. It is notorious that each human being prefers the coffee of his own world. I'm sorry, Mr.

Baley, I have no Earth strain to give you. Would you prefer milk? That is relatively constant from world to world. Fruit juice? Aurora's grape juice is considered superior throughout the worlds, generally. There are some who hint, darkly, that we allow it to ferment somewhat, but that, of course, is not true. Water?"

"I'll try your grape juice." Baley looked at the coffee dubiously. "I suppose I ought to try to get used to this."

"Not at all," said Fastolfe. "Why seek out the unpleasant if that is unnecessary? - And so"-his smile seemed a bit strained as he returned to his earlier remark-"night and sleep have brought no useful reflection to you?"

"I'm sorry," said Baley. Then, frowning at a dim memory, "Although-

"Yes?"

"I have the impression that just before falling asleep, in the free-association limbo between sleep and waking, it seemed to me that I had something."

"Indeed? What?"

"I don't know. The thought drove me into wakefulness but didn't follow me there. Or else some imagined sound distracted me. I don't remember. I snatched at the thought, but didn't retrieve it. It's gone. I think that this sort of thing is not uncommon."

Fastolfe looked thoughtful. "Are you sure of this?"

"Not really. The thought grew so tenuous so rapidly I couldn't even be sure that I had actually had it. And even if I had, it may have seemed to make sense to me only because I was half-asleep. If it were repeated to me now in broad daylight, it might make no sense at all."

"But whatever it was and however fugitive, it would have left a trace, surely."

"I imagine so, Dr. Fastolfe. In which case, it will come to me again. I'm confident of that."

"Ought we to wait?"

"What else can we do?"

"There's such a thing as a Psychic Probe."

Baley sat back in his chair and stared at Fastolfe for a moment. He said, "I've heard of it, but it isn't used in police work on Earth."

"We're not on Earth, Mr. Baley," said Fastolfe softly.

"It can do brain damage. Am I not right?"

"Net likely, in the proper hands."

"Not impossible, even in the proper hands," said Baley. "It's my understanding that it cannot be used on Aurora except under sharply defined conditions. Those it is used on must be guilty of a major crime or must-"

"Yes, Mr. Baley, but that refers to Aurorans. You are not an Auroran."

"You mean because I'm an Earthman I'm to be treated as inhuman?"

Fastolfe smiled and spread his hands. "Come, Mr. Baley. It was just a thought. Last night you were desperate enough to suggest frying to solve our dilemma by placing Gladia in a horrible and tragic position. I was wondering if you were desperate enough to risk yourself?"

Baley rubbed his eyes and, for a minute or so, remained silent. Then, in an altered voice, he said, "I was wrong last night. I admitted it. As for this matter now, there is no assurance that what I thought of, when half-asleep, had any relevance to the problem. It may have been pure fantasy-illogical nonsense. There may have been no thought at all. Nothing. Would you consider it wise, for so small a likelihood of gain, to risk damage to my brain, when it is upon that for which you say you depend for a solution to the problem?"

Fastolfe nodded. "You plead your case eloquently-and I was not really serious."

"Thank you, Dr. Fastolfe."

"But where are we to go from here?"

"For one thing, I wish to speak to Gladia again. There are points concerning which I need clarification."

"You should have taken them up last night."

"So I should, but I had more than I could properly absorb last night and there were points that escaped me. I am an investigator and not an infallible computer."

Fastolfe said, "I was not imputing blame. It's just that I hate to see Gladia unnecessarily disturbed. In view of what you told me last night, I can only assume she must be in a state of deep distress."

"Undoubtedly. But she is also desperately anxious to find out what happened-who, if anyone, killed the one she viewed as her husband. That's understandable, too. I'm sure she'll be willing to help me. -And I wish to speak to another person as well."

"To whom?"

"To your daughter Vasilia."

"To Vasilia? Why? What purpose will that serve?"

"She is a roboticist. I would like to talk to a roboticist other than yourself."

"I do not wish that, Mr. Baley."

They had finished eating. Baley stood up. "Dr. Fastolfe, once again I must remind you that I am here at your request. I have no formal authority to do police work. I have no connection with any Auroran authorities. The only chance I have of getting to the bottom of this miserable mess is to hope that various people will voluntarily cooperate with me and answer my questions.

"If you stop me from attempting this, then it is clear that I can get no farther than I am right now, which is nowhere. It will also look extremely bad for you-and therefore for Earth-so I urge you not to stand in my way. If you make it possible for me to interview anyone I wish-or even simply try to make it possible by interceding on my behalf-then the people of Aurora will surely consider that to be a sign of self-conscious innocence on your part. If you hamper my investigation, on the other hand, to what conclusion can they come but that you are guilty and fear exposure?"

Fastolfe said, with poorly suppressed annoyance, "I understand that, Mr. Baley. But why Vasilia? There are other roboticists."

"Vasilia is your daughter. She knows you. She might have strong opinions concerning the likelihood of your destroying a robot. Since she is a member of the Robotics Institute and on the side of your political enemies, any favorable evidence she may give would be persuasive."

"And if she testifies against me?"

"We'll face that when it comes. Would you get in touch with her and ask her to receive me?"

Fastolfe said resignedly, "I will oblige you, but you are mistaken if you think I can easily persuade her to see you. She may be too busy-or think she is. She may be away from Aurora. She may simply not wish to be involved. I tried to explain last night that she has reason-thinks she has reason-to be hostile to me. My asking her to see you may indeed impel her to refuse, merely as a sign of her displeasure with me."

"Would you try, Dr. Fastolfe?"

Fastolfe sighed. "I will try while you are at Gladia's. -I presume you wish to see her directly? I might point out that a trimensional viewing would do. The image is high enough in quality so that you will not be able to tell it from personal presence."

"I'm aware of that, Dr. Fastolfe, but Gladia is a Solarian and has unpleasant associations with trimensional viewing. And, in any case, I am of the opinion that there is an intangible additional effectiveness in being within touching distance. The present

situation is too delicate and the difficulties too great for me to want to give up that additional effectiveness."

"Well, I'll alert Gladia." He turned away, hesitated, and turned back. "But, Mr. Baley-

"Yes, Dr. Fastolfe?"

"Last night you told me that the situation was serious enough for you to disregard any convenience it might cause Gladia. There were, you pointed out, greater things at stake."

"That's so, but you can rely on me not to disturb her if I can help it."

"I am not talking about Gladia now. I merely warn you that this essentially proper view of yours should be extended to myself. I don't expect you to worry about my convenience or pride if you should get a chance to talk to Vasilia. I don't look forward to the results, but if you do talk to her, I will have to endure any ensuing embarrassment and you must not seek to spare me. Do you understand?"

"To be perfectly honest, Dr. Fastolfe, it was never my attention to spare you. If I have to weigh your embarrassment or shame against the welfare of your policies and against the welfare of my world, I would not hesitate a moment to shame you."

"Good! -And Mr. Baley, we must extend that attitude also to yourself. Your convenience must not be allowed to stand in the way."

"It wasn't allowed to do so when you decided to have me brought here without consulting me."

"I'm referring to something else. If, after a reasonable time- not a long time, but a reasonable time-you make no progress toward a solution, we will have to consider the possibilities of psychic-probing, after all. Our last chance might be to find out what it is your mind knows that you do not know it knows."

"It may know nothing, Dr. Fastolfe."

Fastolfe looked at Baley sadly. "Agreed. But, as you said concerning the possibility of Vasilia testifying against me-we'll face that when it comes."

He turned away again and walked out of the room.

Baley looked after him thoughtfully. It seemed to him now that if he made progress he would face physical reprisals of an unknown-but possibly dangerous-kind. And if he did not make progress, he would face the Psychic Probe, which could scarcely be better.

"Jehoshaphat!" he muttered softly to himself.

33.

The walk to Gladia's seemed shorter than it had on the day before. The day was sunlit and pleasant again, but the vista looked not at all the same. The sunlight slanted from the opposite direction, of course, and the coloring seemed slightly different.

It could be that the plant life looked a bit different in the morning than in the evening-or smelled different. Baley had, on occasion, thought that of Earth's plant life as well, he remembered.

Daneel and Giskard accompanied him again, but they traveled more closely to him and seemed less intensely alert.

Baley said idly, "Does the sun shine here all the time?"

"It does not, Partner Elijah," said Daneel. "Were it to do so, that would be disastrous for the plant world and, therefore, for humanity. The prediction is, in fact, for the sky to cloud over in the course of the day."

"What was that?" asked Baley, startled. A small and gray-brown animal was crouched in the grass. Seeing them, it hopped away in leisurely fashion.

"A rabbit, sir," said Giskard.

Baley relaxed. He had seen them in the fields of Earth, too.

Gladia was not waiting for them at the door this time, but she was clearly expecting them. When a robot ushered them in, she did not stand up, but said, with something between crossness and weariness, "Dr. Fastolfe told me you had to see me again. What now?"

She was wearing a robe that clung tightly to her body and was clearly wearing nothing underneath. Her hair was pulled back shapelessly and her face was pallid. She looked more drawn than she had the day before and it was clear that she had had little sleep.

Daneel, remembering what had happened the day before, did not enter the room. Giskard entered, however, glanced keenly about, then retired to a wall niche. One of Gladia's robots stood in another niche.

Baley said, "I'm terribly sorry, Gladia, to have to bother you again."

Gladia said, "I forgot to tell you last night that, after Jander is torched, he will, of course, be recycled for use in the robot factories again. It will be amusing, I suppose, to know that each time I see a newly formed robot, I can take time to realize that many of Jander's atoms form part of him."

Baley said, "We, ourselves, when we die, are recycled-and who knows what atoms of whom are in you and me right now or in whom ours will someday be."

"You are very right, Elijah. And you remind me how easy it is to philosophize over the sorrows of others."

"That is right, too, Gladia, but I did not come to philosophize."

"Do what you came to do, then."

"I must ask questions."

"Weren't yesterday's enough? Have you spent the time since then in thinking up new ones?"

"In part, yes, Gladia. -Yesterday, you said that even after you were with Jander-as wife and husband-there were men who offered themselves to you and that you refused. It is that which I must question you about."

"Why?"

Baley ignored the question. "Tell me," he said, "how many men offered themselves to you during the time you were married to Jander?"

"I don't keep records, Elijah. Three or four."

"Were any of them persistent? Did anyone offer himself more than once?"

Gladia, who had been avoiding his eyes, now looked at him full and said, "Have you talked to others about this?"

Baley shook his head. "I have talked on this subject to no one but you. From your question, however, I suspect that there was at least one who was persistent."

"One. Santirix Gremionis." She sighed. "Aurorans have such peculiar names and he was peculiar-for an Auroran. I had never met one as repetitious in the matter as he. He was always polite, always accepted my refusal with a small smile and a stately bow, and then, as like as not, he would try again the next week or even the next day. The mere repetition was a small discourtesy. A decent Auroran would accept a refusal permanently unless the prospective partner made it reasonably plain there was a change of mind."

"Tell me again- Did those who offered themselves to you know of your relationship with Jander?"

"It was not something I mentioned in casual conversation."

"Well, then, consider this Gremionis, specifically. Did he know that Jander was your husband?"

"I never told him so."

"Don't dismiss it like that, Gladia. It's not a matter of his being told. Unlike the others, he offered himself repeatedly. How often would you say, by the way? Three times? Four? How many?"

"I did not count," said Gladia wearily. "It might have been a dozen times or more. If he weren't a likable person otherwise, I would have had my robots bar the establishment to him."

"Ah, but you didn't. And it takes time to make multiple offerings. He came to see you. He encountered you. He had time to note Jander's presence and how you behaved to him. Might he not have guessed at the relationship?"

Gladia shook her head. "I don't think so. Jander never intruded when I was with any human being."

"Were those your instructions? I presume they must have been."

"They were. And before you suggest I was ashamed of the relationship, it was merely an attempt to avoid bothersome complications. I have retained some instinct of privacy about sex that Aurorans don't have."

"Think again. Might he have guessed? Here he is, a man in love-"

"In love!" The sound she made was almost a snort. "What do Aurorans know of love?"

"A man who considers himself in love. You are not responsive. Might he not, with the sensitivity and suspicion of a disappointed lover, have guessed? Consider! Did he ever make any roundabout reference to Jander? Anything to cause you the slightest suspicion-"

"No! No! It would be unheard of for any Auroran to comment adversely on the sexual preferences or habits of another."

"Not necessarily adversely. A humorous comment, perhaps. Any indication that he suspected the relationship."

"No! If young Gremionis had ever breathed a word of that sort, he would never have seen the inside of my establishment again and I would have seen to it that he never approached me again. -But he wouldn't have done anything of the sort. He was the soul of eager politeness to me."

"You say 'young.' How old is this Gremionis?"

"About my age. Thirty-five. Perhaps even a year or two younger."

"A child," said Baley sadly. "Even younger than I am. But at that age- Suppose he guessed at your relationship with Jander and said nothing-nothing at all. Might he not, nevertheless, have been jealous?"

"Jealous?"

It occurred to Baley that the word might have little meaning on Aurora or Solaria. "Angered that you should prefer another to himself."

Gladia said sharply, "I know the meaning of the word 'jealous.' I repeated it only out of surprise that you should think any Auroran was jealous. On Aurora, people are not jealous over sex. Over other things certainly, but not over sex." There was a definite sneer upon her face. "Even if he were jealous, what would it matter? What could he do?"

"Wasn't it possible he might have told Jander that the relationship with a robot would endanger your position on Aurora-"

"That would not have been true!"

"Jander might have believed it if he were told so-believed he was endangering you, harming you. Might not that have been the reason for the mental freeze-out?"

"Jander would never have believed that. He made me happy every day he was my husband and I told him so."

Baley remained calm. She was missing the point, but he would simply have to make it clearer. "I am sure he believed you, but he might also feel impelled to believe someone else who told him the reverse. If he were then caught in an unbearable First Law dilemma-"

Gladia's face contorted and she shrieked, "That's mad. You're just telling me the old fairy tale of Susan Calvin and the mind reading robot. No one over the age of ten can possibly believe that."

"Isn't it possible that-"

"No, it isn't. I'm from Solaria and I know enough about robots to know it isn't possible. It would take an incredible expert to tie First Law knots in a robot. Dr. Fastolfe might be able to do it, but certainly not Santirix Gremionis. Gremionis is a stylist. He works on human beings. He cuts hair, designs clothing. I do the same, but at least I work on robots. Gremionis has never touched a robot. He knows nothing about them, except to order one to close the window or something like that. Are you trying to tell me that it was the relationship between Jander and me- me"-she tapped herself harshly on the

breastbone with one rigid finger, the swells of her small breasts scarcely showing under her robe-"that caused Jander's death?"

"It was nothing you did knowingly," said Baley, wanting to stop but unable to quit probing. "What if Gremionis had learned from Dr. Fastolfe how to-"

"Gremionis didn't know Dr. Fastolfe and couldn't have understood anything Dr. Fastolfe might have told him; anyhow."

"You can't know for certain what Gremionis might or might not understand and, as for not knowing Dr. Fastolfe-Gremionis must have been frequently in your establishment if he hounded you so and-"

"And Dr. Fastolfe was almost never in my establishment. Last night, when he came with you, it was only the second time he had crossed my threshold. He was afraid that to be too close to me would drive me away. He admitted that once. He lost his daughter that way, he thought-something foolish like that. -You see, Elijah, when you live several centuries, you have plenty of time to lose thousands of things. Be thankful for short life, Elijah." She was weeping uncontrollably.

Baley looked and felt helpless. "I'm sorry, Gladia. I have no more questions. Shall I call a robot? Will you need help?"

She shook her head and waved her hand at him. "Just go away-go away," she said in a strangled voice. "Go away."

Baley hesitated and then strode out of the room, taking one last, uncertain look at her as he walked out the door. Giskard followed in his footsteps and Daneel joined him as he left the house. He scarcely noticed. It occurred to him, abstractedly, that he was coming to accept their presence as he would have that of his shadow or of his clothing, that he was reaching a point where he would feel bare without them.

He walked rapidly back toward the Fastolfe establishment, his mind churning. His desire to see Vasilisa had at first been a matter of desperation, a lack of any other object of curiosity, but now things had changed. There was just a chance that he had stumbled on something vital.

34.

Fastolfe's homely face was set in grim lines when Baley returned.

"Any progress?" he asked.

"I eliminated part of a possibility. -Perhaps."

"Part of a possibility? How do you eliminate the other part? Better yet, how do you establish a possibility?"

Baley said, "By finding it impossible to eliminate a possibility, a beginning is made at establishing one."

"And if you find it impossible to eliminate the other part of the possibility you mysteriously mentioned?"

Baley shrugged. "Before we waste our time considering that, I must see your daughter."

Fastolfe looked dejected. "Well, Mr. Baley, I did as you asked me to do and tried to contact her. It was necessary to awaken her."

"You mean she is in part of the planet where it is night? I hadn't thought of that." Baley felt chagrined. "I'm afraid I'm fool enough to imagine I'm on Earth still. In underground Cities, day and night lose their meaning and time tends to be uniform."

"It's not that bad. Eos is the robotics center of Aurora and you'll find few roboticists who live out of it. She was simply sleeping and being awakened did not improve her temper, apparently. She would not speak to me."

"Call again," said Baley urgently.

"I spoke to her secretarial robot and there was an uncomfortable relaying of messages. She made it quite plain she will not speak to me in any fashion. She was a little more flexible with you. The robot announced that she would give you five minutes on her private viewing channel, if you call"-Fastolfe consulted the time-strip on the wall-"in half an hour. She will not see you in person under any conditions."

"The conditions are insufficient and so is the time. I must see her in person for as long as is needed. Did you explain the importance of this, Dr. Fastolfe?"

"I tried. She is, not concerned."

"You are her father. Surely-"

"She is less inclined to bend her decision for my sake than for a randomly chosen stranger. I knew this, so I made use of Giskard."

"Giskard?"

"Oh yes. Giskard is a great favorite of hers. When she was studying robotics at the university, she took the liberty of adjusting some minor aspects of his programming-and nothing makes for a closer relationship with a robot than that-except for Gladia's method, of course. It was almost as though Giskard were Andrew Martin-"

"Who is Andrew Martin?"

"Was, not is," said Fastolfe. "You have never heard of him?"

"Never!"

"How odd! These ancient legends of ours all have Earth as their setting, yet on Earth they are not known. -Andrew Martin was a robot who, gradually, step by step, was supposed to have become humaniform. To be sure, there have been humaniform robots before Daneel, but they were all simple toys, little more than automatons. Nevertheless, amazing stories are told of the abilities of Andrew Martin-a sure sign of the legendary nature of the tale. There was a woman who was part of the legends who is usually known as Little Miss. The relationship is too complicated to describe now, but I suppose that every little girl on Aurora has daydreamed of being Little Miss and of having Andrew Martin as a robot. Vasilisa did-and Giskard was her Andrew Martin."

"Well, then?"

"I asked her robot to tell her that you would be accompanied by Giskard. She hasn't seen him in years and I thought that might lure her into agreeing to see you."

"But it didn't, I presume."

"It didn't."

"Then we must think of something else. There must be some way of inducing her to see me."

Fastolfe said, "Perhaps you will think of one. In a few minutes, you will view her on trimensic and you will have five minutes to convince her that she ought to see you personally."

"Five minutes! What can I do in five minutes?"

"I don't know. It is better, after all, than nothing."

35.

Fifteen minutes later, Baley stood before the trimensional viewing screen, ready to meet Vasilia Fastolfe.

Dr. Fastolfe had left, saying, with a wry smile, that his presence would certainly make his daughter less amenable to persuasion. Nor was Daneel present. Only Giskard remained behind to keep Baley company.

Giskard said, "Dr. Vasilia's trimensic channel is open for reception. Are you ready, sir?"

"As ready as I can be," said Baley grimly. He had refused to sit, feeling he might be more imposing if he were standing. (How imposing could an Earthman be?)

The screen grew bright as the rest of the room dimmed and a woman appeared in rather uncertain focus, at first. She was standing facing him, her right hand resting on a laboratory bench laden with sets of diagrams. (No doubt she planned to be imposing, too.)

As the focus sharpened, the edges of the screen seemed to melt away and the image of Vasilia (if it were she) deepened and became three-dimensional. She was standing in the room with every sign of solid reality, except that the decor of the room she was in did not match the room Baley was in and the break was a sharp one.

She was wearing a dark brown skirt that divided into loose trouser legs that were semitransparent, so that her legs, from mid-thigh down, were shadowily visible. Her blouse was tight and sleeveless, so that her arms were bare to the shoulder. Her neckline was low and her hair, quite blond, was in tight curls.

She had none of her father's plainness and certainly not his large ears. Baley could only assume she had had a beautiful mother and was fortunate in the allotment of genes.

She was short and Baley could see a remarkable resemblance to Gladia in her facial features, although her expression was far colder and seemed to bear the mark of a dominating personality.

She said sharply, "Are you the Earthman come to solve my father's problems?"

"Yes, Dr. Fastolfe," said Baley in an equally clipped manner.

"You may call me Dr. Vasilia. I do not wish the confusion of being mistaken for my father."

"Dr. Vasilia, I must have a chance to deal with you, face-to-face, for a reasonably extended period."

"No doubt you feel that. You are, of course, an Earthman and a certain source of infection."

"I have been medically treated and I am quite safe to be with. Your father has been constantly with me for over a day."

"My father pretends to be an idealist and must do foolish things at times to support the pretense. I will not imitate him."

"I take it you do not wish him harm. You will bring him harm if you refuse to see me."

"You are wasting time. I will not see you, except in this manner, and half the period I have allotted is gone. If you wish, we can stop this now if you find it unsatisfactory."

"Giskard is here, Dr. Vasilia, and would like to urge you to see me."

Giskard stepped into the field of vision. "Good morning, Little Miss," he said in a low voice.

For a moment, Vasilia looked embarrassed and, when she spoke, it was in a somewhat softer tone. "I am glad to view you, Giskard, and will see you any time you wish, but I will not see this Earthman, even at your urging."

"In that case," said Baley, throwing in all his reserves desperately, "I must take the case of Santirix Gremionis to the public without the benefit of having consulted you."

Vasilia's eyes widened and her hand on the table lifted upward and clenched into a fist, "What is this about Gremionis?"

"Only that he is a handsome young man and he knows you well. Am I to deal with these matters without hearing what you have to say?"

"I will tell you right now that-

"No," said Baley loudly. "You will tell me nothing unless I see you face-to-face."

Her mouth twitched. "I will see you, then, but I will not remain with you one moment more than I choose. I warn you."

-And bring Giskard."

The trimensional connection broke off with a snap and Baley felt himself turn dizzy at the sudden change in background that resulted. He made his way to a chair and sat down.

Giskard's hand was on his elbow, making certain that he reached the chair safely. "Can I help you in any way, sir?" he asked.

"I'm all right," said Baley. "I just need to catch my breath." Dr. Fastolfe was standing before him. "My apologies, again, for failure in my duties as a host. I listened on an extension that was equipped to receive and not transmit. I wanted to see my daughter, even if she didn't see me."

"I understand," said Baley, panting slightly. "If manners dictate that what you did requires an apology, then I forgive you."

"But what is this about Santirix Gremionis? The name is unfamiliar to me."

Baley looked up at Fastolfe and said, "Dr. Fastolfe, I heard his name from Gladia this morning. I know very little about him, but I took the chance of saying what I did to your daughter anyway. The odds were heavily against me, but the results were what I wanted them to be, nevertheless. As you see, I can make useful deductions, even when I have very little information, so you had better leave me in peace to continue to do so. Please, in the future, cooperate to the full and make no further mention of a Psychic Probe."

Fastolfe was silent and Baley felt a grim satisfaction at having imposed his will first on the daughter, then on the father.

How long he could continue to do so he did not know.

36.

Baley paused at the door of the airfoil and said firmly, "Giskard, I do not wish the windows opacified. I do not wish to sit in the back. I want to sit in the front seat and observe the Outside. Since I will be sitting between you and Daneel, I should be safe enough, unless the car itself is destroyed. And, in that case, we will all be destroyed and it won't matter whether I am in front or in back."

Giskard responded to the force of the statement by retreating into greater respectfulness. "Sir, if you should feel ill--"

"Then you will stop the car and I will climb into the back seat and you can opacify the rear windows. Or you needn't even stop. I can climb over the front seat while you are moving. The point is, Giskard, that it is important for me to become as acquainted with Aurora as is possible and it is important for me, in any case, to become accustomed to the Outside. I am stating this as an order, Giskard."

Daneel said softly, "Partner Elijah is quite correct in his request, friend Giskard. He will be reasonably safe."

Giskard, perhaps reluctantly (Baley could not interpret the expression on his not-quite-human face), gave in and took his place at the controls. Baley followed and looked out of the clear glass of the windshield without quite the assurance he had presented in his voice. However, the pressure of a robot on either side was comforting.

The car rose on its jets of compressed air and swayed a bit as though it were finding its footing. Baley felt a queasy sensation in the pit of his stomach and tried not to regret his brave performance of moments before. There was no use trying to tell himself that Daneel and Giskard showed no signs of fear and should be imitated. They were robots and could not feel fear.

And then the car moved forward suddenly and Baley felt himself pushed hard against the seat. Within a minute he was moving at as fast a speed as he had ever experienced on the Expressways of the City. A wide, grassy road stretched out ahead.

The speed seemed the greater for the fact that there were none of the friendly lights and structures of the City on either side but rather wide gulfs of greenery and irregular formations.

Baley fought to keep his breath steady and to talk as naturally as he might of neutral things.

He said, "We don't seem to be passing any farmland, Daneel. This seems to be unused land."

Daneel said, "This is city territory, Partner Elijah. It is privately owned parkland and estates."

"City?" Baley could not accept the word. He knew what a City was.

"Eos is the largest and most important city on Aurora. The first to be established. The Auroran World Legislature sits here. The Chairman of the Legislature has his estate here and we will be passing it."

Not only a city but the largest. Baley looked about to either side. "I was under the impression that the Fastolfe and Gladia establishments were on the outskirts of Eos. I should think we would have passed the city limits by now."

"Not at all, Partner Elijah. We're passing through its center. The limits are seven kilometers away and our destination is nearly forty kilometers beyond that."

"The center of the city? I see no structures."

"They are not meant to be seen from the road, but there's one you can make out between the trees. That is the establishment of Fuad Labord, a well-known writer."

"Do you know all the establishments by sight?"

"They are in my memory banks," said Daneel solemnly.

"There's no traffic on the road. Why is that?"

"Long distances are covered by air-cars or magnetic subcars. Trimensional connections-"

"They call it viewing on Solaria," said Baley.

"And here, too, in informal conversation, but TVC more formally. That takes care of much communication. Finally, Aurorans are fond of walking and it is not unusual to walk several kilometers for social visiting or even for business meetings where time is not of the essence."

"And we have to get somewhere that's too far to walk, too close for air-cars, and trimensional viewing is not wanted-so we use a ground-car."

"An airfoil, more specifically, Partner Elijah, but that qualifies as a ground-car, I suppose."

"How long will it take to reach Vasilia's establishment?"

"Not long, Partner Elijah. She is at the Robotics Institute, as perhaps you know."

There were some moments of silence and then Baley said, "It looks cloudy near the horizon there."

Giskard negotiated a curve at high speed, the airfoil tipping through an angle of some thirty degrees. Baley choked back a moan and clung to Daneel, who flung his left arm about Baley's shoulders and held him in a strong viselike grip, one hand on each shoulder. Slowly, Baley let out his breath as the airfoil righted itself.

Daneel said, "Yes, those clouds will bring precipitation later in the day, as predicted."

Baley frowned. He had been caught in the rain once-once- during his experimental work in the field Outside on Earth. It was like standing under a cold shower with his clothes on. There had been sheer panic for a moment when he realized that there was no way in which he could reach for any controls that would turn it off. The water would come down forever! -Then everyone was running and he ran with them, making for the dryness and controllability of the City.

But this was Aurora and he had no idea what one did when it began to rain and there was no City to escape into. Run into the nearest establishment? Would refugees automatically be welcome?

Then there was another brief turn and Giskard said, "Sir, we are in the parking lot of the Robotics Institute. We can now enter and visit the establishment that Dr. Vasilia maintains on the Institute grounds."

Baley nodded. The trip had taken something between fifteen and twenty minutes (as nearly as he could judge, Earth time) and he was glad it was over. He said, rather breathlessly, "I want to know something about Dr. Fastolfe's daughter before I meet her. You did not know her, did you, Daneel?"

Daneel said, "At the time I came into existence, Dr. Fastolfe and his daughter had been separated for a considerable time. I have never met her."

"But as for you, Giskard, you and she knew each other well. Is that not so?"

"It is so, sir," said Giskard impassively.

"And were fond of each other?"

"I believe, sir," said Giskard, "that it gave Dr. Fastolfe's daughter pleasure to be with me."

"Did it give you pleasure to be with her?"

Giskard seemed to pick his words. "It gives me a sensation that I think is what human beings mean by 'pleasure' to be with any human being."

"But more so with Vasilia, I think. Am I right?"

"Her pleasure at being with me, sir," said Giskard, "did seem to stimulate those positronic potentials that produce actions in me that are equivalent to those that pleasure produces in human beings. Or so I was once told by Dr. Fastolfe."

Baley said suddenly, "Why did Vasilia leave her father?"

Giskard said nothing.

Baley said, with the sudden peremptoriness of an Earthman addressing a robot, "I asked you a question, boy."

Giskard turned his head and stared at Baley, who, for a moment, thought the glow in the robot's eyes might be brightening into a blaze of resentment at the demeaning word.

However, Giskard spoke mildly and there was no readable expression in his eyes when he said, "I would like to answer, sir, but in all matters concerning that separation, Miss Vasilia ordered me at that time to say nothing."

"But I'm ordering you to answer me and I can order you very firmly indeed-if I wish to."

Giskard said, "I am sorry. Miss Vasilia, even at that time, was skilled in robotics and the orders she gave me were sufficiently powerful to remain, despite anything you are likely to say, sir."

Baley said, "She must have been skified in robotics, since Dr. Fastolfe told me she reprogrammed you on occasion."

"It was not dangerous to do so, sir. Dr. Fastolfe himself could always correct any errors."

"Did he have to?"

"He did not, sir."

"What was the nature of the reprogramming?"

"Minor matters, sir."

"Perhaps, but humor me. Just what was it she did?"

Giskard hesitated and Baley knew what that meant at once. The robot said, "I fear that any questions concerning the reprogramming cannot be answered by me."

"You were forbidden?"

"No, sir, but the reprogramming automatically wipes out what went before. If I am changed in any particular, it would seem to me that I have always been as changed and I would have no memory of what I was before I was changed."

"Then how do you know the reprogramming was minor?"

"Since Dr. Fastolfe never saw any need of correcting what Miss Vasilia did-or so he once told me-I can only suppose the changes were minor. You might ask Miss Vasilia, sir."

"I will," said Baley.

"I fear, however, that she will not answer, sir."

Baley's heart sank. So far he had questioned only Dr. Fastolfe, Gladia, and the two robots, all of whom had overriding reasons to cooperate. Now, for the first time, he would be facing an unfriendly subject.

37.

Baley stepped out of the airfoil, which was resting on a grassy plot, and felt a certain pleasure in feeling solidity beneath his feet.

He looked around in surprise, for the structures were rather thickly spread, and to his right was a particularly large one, built plainly, rather like a huge right-angled block of metal and glass.

"Is that the Robotics Institute?" he asked.

Daneel said, "This entire complex is the Institute, Partner Elijah. You are seeing only a portion and it is more thickly built up than is common on Aurora because it is a self-contained political entity. It contains home establishments, laboratories, libraries, communal gymnasia, and so on. The large structure is the administrative center."

"This is so un-Auroran, with all these buildings in view-at least judging from what I saw of Eos-that I should think there would be considerable disapproval."

"I believe there was, Partner Elijah, but the head of the Institute is friendly with the Chairman, who has much influence, and there was a special dispensation, I understand, because of research necessities." Daneel looked about thoughtfully. "It is indeed more compact than I had supposed."

"Than you had supposed? Have you never been here before, Daneel?"

"No, Partner Elijah."

"How about you, Giskard?"

"No, sir," said Giskard.

Baley said, "You found your way here without trouble-and you seem to know the place."

"We have been suitably informed, Partner Elijah," said Daneel, "since it was necessary that we come with you."

Baley nodded thoughtfully, then said, "Why didn't Dr. Fastolfe come with us?" and decided, once again, that it made no sense to try to catch a robot off-guard. Ask a question rapidly- or unexpectedly-and they simply waited until the question was absorbed and then answered. They were never caught off-guard.

Daneel said, "As Dr. Fastolfe said, he is not a member of the Institute and feels it would be improper to visit uninvited."

"But why is he not a member?"

"The reason for that I have never been told, Partner Elijah."

Baley's eyes turned to Giskard, who said at once, "Nor I, sir."

Did not know? Were told not to know? -Baley shrugged. It did not matter which. Human beings could lie and robots be instructed.

Of course, human beings could be browbeaten or maneuvered out of a lie-if the questioner were skillful enough or brutal enough-and robots could be maneuvered out of instruction-if the questioner were skillful enough or unscrupulous enough- but the skills were different and Baley had none at all with respect to robots.

He said, "Where would we be likely to find Dr. Vasilia Fastolfe?"

Daneel said, "This is her establishment immediately before us."

"You have been instructed, then, as to its location?"

"That has been imprinted in our memory banks, Partner Elijah."

"Well, then, lead the way."

The orange sun was well up in the sky now and it was clearly nearing midday. As they approached Vasilia's establishment, they stepped into the shadow of the factory and Baley twitched a little as he felt the temperature drop immediately.

His lips tightened at the thought of occupying and setting worlds without Cities, where the temperature was uncontrolled and subject to unpredictable, idiotic changes. - And, he noted uneasily, the line of clouds at the horizon had advanced somewhat. It could also rain whenever it wished, with water cascading down.

Earth! He longed for the Cities.

Giskard had walked into the establishment first and Daneel held out his arm to prevent Baley from following.

Of course! Giskard was reconnoitering.

So was Daneel, for that matter. His eyes traversed the landscape with an intentness no human being could have duplicated. Baley was certain that those robotic eyes missed nothing. (He wondered why robots were not equipped with four eyes equally distributed about the perimeter of the head-or an optic strip totally circumnavigating it. Daneel could

not be expected to, of course, since he had to be human in appearance, but why not Giskard? Or did that introduce complications of vision that the positronic pathways could not handle? For a moment, Baley had a faint vision of the complexities that burdened the life of a roboticist.)

Giskard reappeared in the doorway and nodded. Daneel's arm exerted a respectful pressure and Baley moved forward. The door stood ajar.

There was no lock on Vasilisa's establishment, but there had also been none (Baley suddenly remembered) on those of Gladia and of Dr. Fastolfe. A sparse population and separation helped insure privacy and, no doubt, the custom of noninterference helped, too. And, come to think of it, the ubiquitous robot guards were more efficient than any lock could be.

The pressure of Daneel's hand on Baley's upper arm brought the latter to a halt. Giskard, ahead of them, was speaking in a low voice to two robots, who were themselves rather Giskard-like.

A sudden coldness struck the pit of Baley's stomach. What if some rapid maneuver substituted another robot for Giskard? Would he be able to recognize the substitution? Tell two such robots apart? Would he be left with a robot without special instructions to guard him, one who might innocently lead him into danger and then react with insufficient quickness when protection was necessary?

Controlling his voice, he said calmly to Daneel, "Remarkable the similarity in those robots, Daneel. Can you tell them apart?"

"Certainly, Partner Elijah. Their clothing designs are different and their code numbers are different, as well."

"They don't look different to me."

"You are not accustomed to notice that sort of detail."

Baley stared again. "What code numbers?"

"They are easily visible, Partner Elijah, when you know where to look and when your eyes are sensitive farther into the infrared than human eyes are."

"Well, then, I would be in trouble if I had to do the identifying, wouldn't I?"

"Not at all, Partner Elijah. You had but to ask a robot for its full name and serial number. It would tell you."

"Even if instructed to give me a false one?"

"Why should any robot be so instructed?"

Baley decided not to explain.

Giskard was, in any case, returning. He said to Baley, "Sir, you will be received. Come this way, please."

The two robots of the establishment led. Behind them came Baley and Daneel, the latter retaining his grip protectively.

Following in the rear was Giskard.

The two robots stopped before a double door which opened, apparently automatically, in both directions. The room within was suffused with a dim, grayish light-daylight diffusing through thick drapery.

Baley could make out, not very clearly, a small human figure in the room, half-seated on a tall stool, with one elbow resting on a table that ran the length of the wall.

Baley and Daneel entered, Giskard coming up behind them. The door closed, leaving the room dimmer than ever.

A female voice said sharply, "Come no closer! Stay where you are!"

And the room burst into full daylight.

38.

Baley blinked and looked upward. The ceiling was glassed and, through it, the sun could be seen. The sun seemed oddly dim, however, and could be looked at, even though that did not seem to affect the quality of the light within. Presumably, the glass (or whatever the transparent substance was) diffused the light without absorbing it.

He looked down at the woman, who still maintained her pose at the stool, and said, "Dr. Vasilia Fastolfe?"

"Dr. Vasilia Aliena, if you want a full name. I do not borrow the names of others. You may call me Dr. Vasilia. It is the name by which I am commonly known at the Institute." Her voice, which had been rather harsh, softened, "And how are you, my old friend Giskard?"

Giskard said, in tones oddly removed from his usual one, "I greet you-" He paused and then said, "I greet you, Little Miss."

Vasilia smiled. "And this, I suppose, is the humaniform robot of whom I have heard-Daneel Olivaw?"

"Yes, Dr. Vasilia," said Daneel briskly.

"And finally, we have-the Earthman."

"Elijah Baley, Doctor," said Baley stiffly.

"Yes, I'm aware that Earthmen have names and that Elijah Baley is yours," she said coolly. "You don't look one blasted thing like the actor who played you in the hyperwave show."

"I am aware of that, Doctor."

"The one who played Daneel was rather a good likeness, however, but I suppose we are not here to discuss the show."

"We are not."

"I gather we are here, Earthman, to talk about whatever it is you want to say about Santirix Gremionis and get it over with. Bight?"

"Not entirely," said Baley. "That is not the primary reason for my coming, though I imagine we will get to it."

"Indeed? Are you under the impression that we are here to engage in a long and complicated discussion on whatever topic you choose to deal with?"

"I think, Dr. Vasilia, you would be well-advised to allow me to manage this interview as I wish."

"Is that a threat?"

"No."

"Well, I have never met an Earthman and it might be interesting to see how closely you resemble the actor who played your role-that is, in ways other than appearance. Are you really the masterful person you seemed to be in the show?"

"The show," said Baley with clear distaste, "was overdramatic and exaggerated my personality in every direction. I would rather you accept me as I am and judge me entirely from how I appear to you right now."

Vasilia laughed. "At least you don't seem overawed by me. That's a point in your favor. Or do you think this Gremionis thing you've got in mind puts you in a position to order me about?"

"I am not here to do anything but uncover the truth in the matter of the dead humaniform robot, Jander Panell."

"Dead? Was he ever alive, then?"

"I use one syllable in preference to phrases such as 'rendered inoperative.' Does saying 'dead' confuse you?"

Vasilia said, "You fence well. -Debrett, bring the Earthman a chair. He will grow weary standing if this is to be a long conversation. Then get into your niche. And you may choose one, too, Daneel. -Giskard, come stand by me."

Baley sat down. "Thank you, Debrett. -Dr. Vasilia, I have no authority to question you; I have no legal means of forcing you to answer my questions. However, the death of Jander Panell has put your father in a position of some-"

"It has put whom in a position?"

"Your father."

"Earthman, I sometimes refer to a certain individual as my father, but no one else does. Please use a proper name."

"Dr. Han Fastolfe. He is your father, isn't he? As a matter of record?"

Vasilia said, "You are using a biological term. I share genes with him in a manner characteristic of what on Earth would be considered a father-daughter relationship. This is a matter of indifference on Aurora, except in medical and genetic matters. I can conceive of my suffering from certain metabolic states in which it would be appropriate to consider the physiology and biochemistry of those with whom I share genes-parents, siblings, children, and so on. Otherwise these relationships are not generally referred to in polite Auroran society. -I explain this to you because you are an Earthman."

"if I have offended against custom," said Baley, "it is through ignorance and I apologize. May I refer to the gentleman under discussion by name?"

"Certainly."

"In that case, the death of Jander Panell has put Dr. Han Fastolfe into a position of some difficulty and I would assume that you would be concerned enough to desire to help him."

"You assume that, do you? Why?"

"He is your- He brought you up. He cared for you. You had a profound affection for each other. He still feels a profound affection for you."

"Did he tell you that?"

"It was obvious from the details of our conversations-even from the fact that he has taken an interest in the Solarian woman, Cladia Delmarre, because of her resemblance to you."

"Did he tell you that?"

"He did, but even if he hadn't, the resemblance is obvious."

"Nevertheless, Earthman, I owe Dr. Fastolfe nothing. Your assumptions can be dismissed."

Baley cleared his throat. "Aside from any personal feelings you might or might not have, there is the matter of the future of the Galaxy. Dr. Fastolfe wishes new worlds to be explored and settled by human beings. If the political repercussions of Jander's death lead to the exploration and settlement of the new worlds by robots, Dr. Fastolfe believes that this will be catastrophic for Aurora and humanity. Surely you would not be a party to such a catastrophe."

Vasilia said indifferently, watching him closely, "Surely not, if I agreed with Dr. Fastolfe. I do not. I see no harm in having humaniform robots doing the work. I am here at the Institute, in fact, to make that possible. I am a Globalist. Since Dr. Fastolfe is a Humanist, he is my political enemy."

Her answers were clipped and direct, no longer than they had to be. Each time there followed a definite silence, as though she were waiting, with interest, for the next question. Baley had the impression that she was curious about him, amused by him, making wagers with herself as to what the next question might be, determined to give him just the minimum information necessary to force another question.

He said, "Have you long been a member of this Institute?"

"Since its formation."

"Are there many members?"

"I should judge about a third of Aurora's roboticists are members, though only about half of these actually live and work on the Institute grounds."

"Do other members of the Institute share your views on the robotic exploration of other worlds? Do they oppose Dr. Fastolfe's views one and all?"

"I suspect that most of them are Globalists, but I don't know that we have taken a vote on the matter or even discussed it formally. You had better ask them all individually."

"Is Dr. Fastolfe a member of the Institute?"

"No."

Baley waited a bit, but she said nothing beyond the negative.

He said, "Isn't that surprising? I should think lie, of all people, would be a member."

"As it happens, we don't want him. What is perhaps less important, he doesn't want us."

"Isn't that even more surprising?"

"I don't think so." -And then, as though goaded into saying something more by an irritation within herself, she said, "He lives in the city of Eos. I suppose you know the significance of the name, Earthman?"

Baley nodded and said, "Eos is the ancient Greek goddess of the dawn, as Aurora is the ancient Roman goddess of the dawn."

"Exactly. Dr. Han Fastolfe lives in the City of the Dawn on the World of the Dawn, but he is not himself a believer in the Dawn. He does not understand the necessary method of expansion through the Galaxy, of converting the Spacer Dawn into broad Galactic Day. The robotic exploration of the Galaxy is the only practical way to carry the task through and he won't accept it-or us."

Baley said slowly, "Why is it the only practical method? Aurora and the other Spacer worlds were not explored and settled by robots but by human beings."

"Correction. By Earthpeople. It was a wasteful and inefficient procedure and there are now no Earthpeople that we will allow to serve as further settlers. We have become Spacers, long-lived and healthy, and we have robots who are infinitely more versatile and flexible than those available to the human beings who originally settled our worlds. Times and matters are wholly different-and today only robotic exploration is feasible."

"Let us suppose you are right and Dr. Fastolfe is wrong. Even so, he has a logical view. Why won't he and the Institute accept each other? Simply because they disagree on this point?"

"No, this disagreement is comparatively minor. There is a more fundamental conflict."

Again Baley paused and again she added nothing to her remark. He did not feel it safe to display irritation, so he said quietly, almost tentatively, "What is the more fundamental conflict?"

The amusement in Vasilisa's voice came nearer the surface. It softened the lines of her face somewhat and, for a moment, she looked more like Gladia. "You couldn't guess, unless it were explained to you, I think."

"Precisely why I am asking, Dr. Vasilisa."

"Well, then, Earthman, I have been told that Earthpeople are short-lived. I have not been misled in that, have I?"

Baley shrugged, "Some of us live to be a hundred years old, Earth time." He thought a bit. "Perhaps a hundred and thirty or so metric years."

"And how old are you?"

"Forty-five standard, sixty metric."

"I am sixty-six metric. I expect to live three metric centuries more at least-if I am careful."

Baley spread his hands wide. "I congratulate you."

"There are disadvantages."

"I was told this morning that, in three or four centuries, many, many losses have a chance to accumulate."

"I'm afraid so," said Vasilia. "And many, many gains have a chance to accumulate, as well. On the whole, it balances."

"What, then, are the disadvantages?"

"You are not a scientist, of course."

"I am a plainclothesman-a policeman, if you like."

"But perhaps you know scientists on your world."

"I have met some," said Baley cautiously.

"You know how they work? We are told that on Earth they cooperate out of necessity. They have, at most, half a century of active labor in the course of their short lives. Less than seven metric decades. Not much can be done in that time."

"Some of our scientists had accomplished quite a deal in considerably less time."

"Because they have taken advantage of the findings others have made before them and profit from the use they can make of contemporary findings by others. Isn't that so?"

"Of course. We have a scientific community to which all contribute, across the expanse of space and of time."

"Exactly. It won't work otherwise. Each scientist, aware of the unlikelihood of accomplishing much entirely by himself, is forced into the community, cannot help becoming part of the clearinghouse. Progress thus becomes enormously greater than it would be if this did not exist."

"Is not this the case on Aurora and the other Spacer worlds, too?" asked Baley.

"In theory it is; in practice not so much. The pressures in a long-lived society are less. Scientists here have three or three and a half centuries to devote to a problem, so that the thought arises that significant progress may be made in that time by a solitary worker. It becomes possible to feel a kind of intellectual greed-to want to accomplish something on your own, to assume a property right to a particular facet of progress, to be willing to see the general advance slowed-rather than give up what you conceive to be yours alone. And the general advance is slowed on Spacer worlds as a result, to the point where it is difficult to outpace the work done on Earth, despite our enormous advantages."

"I assume you wouldn't say this if I were not to take it that Dr. Han Fastolfe behaves in this manner."

"He certainly does. It is his theoretical analysis of the positronic brain that has made the humaniform robot possible. He has used it to construct-with the help of the late Dr. Sarton- your robot friend Daneel, but he has not published the important details of his theory, nor does he make it available to anyone else. In this way, he-and he alone-holds a stranglehold on the production of humaniform robots."

Baley furrowed his brow. "And the Robotics Institute is dedicated to cooperation among scientists?"

"Exactly. This Institute is made up of over a hundred topnotch roboticists of different ages, advancements, and skills and we hope to establish branches on other worlds and make it an interstellar association. All of us are dedicated to communicating

our separate discoveries or speculations to the common fund- doing voluntarily for the general good what you Earthpeople do perforce because you live such short lives.

"This, however, Dr. Han Fastolfe will not do. I'm sure you think of Dr. Han Fastolfe as a nobly idealistic Auroran patriot, but he will not put his intellectual property -as he thinks of it- into the common fund and therefore he does not want us. And because he assumes a personal property right upon scientific discoveries, we do not want him. -You no longer find the mutual distaste a mystery, I take it."

Baley nodded his head, then said, "You think this will work- this voluntary giving up of personal glory?"

"It must," said Vasilisa grimly.

"And has the Institute, through community endeavor, duplicated Dr. Fastolfe's individual work and rediscovered the theory of the humaniform positronic brain?"

"We will, in time. It is inevitable."

"And you are making no attempt to shorten the time it will take by persuading Dr. Fastolfe to yield the secret?"

"I think we are on the way to persuading him."

"Through the working of the Jander scandal?"

"I don't think you really have to ask that question. -Well, have I told you what you wanted to know, Earthman?"

Baley said, "You have told me some things I didn't know."

"Then it is time for you to tell me about Gremionis. Why have you brought up the name of this barber in connection with me?"

"Barber?"

"He considers himself a hair stylist, among other things, but he is a barber, plain and simple. Tell me about him-or let us consider this interview at an end."

Baley felt weary. It seemed clear to him that Vasilisa had enjoyed the fencing. She had given him enough to whet his appetite and now he would be forced to buy additional material with information of his own. -But he had none. Or at least he had only guesses. And if any of them were wrong, vitally wrong, he was through.

He therefore fenced on his own. "You understand, Dr. Vasilisa, that you can't get away with pretending that it is farcical to suppose there is a connection between Gremionis and yourself."

"Why not, when it is farcical?"

"Oh no. If it were farcical, you would have laughed in my face and shut off trimensional contact. The mere fact that you were willing to abandon your earlier stand and receive me-the mere fact that you have been talking to me at length and telling me a great many things-is a clear admission that you feel that I just possibly might have my knife at your jugular."

Vasilisa's jaw muscles tightened and she said, in a low and angry voice, "See here, little Earthman, my position is vulnerable and you probably know it. I am the daughter of Dr. Fastolfe and there are some here at the Institute who are foolish enough -or knavish enough- to mistrust me therefore. I don't know what kind of story you may have heard -or

made up- but that it's more or less farcical is certain. Nevertheless, no matter how farcical, it might be used effectively against me. So I am willing to trade for it. I have told you some things and I might tell you more, but only if you now tell me what you have in your hand and convince me you are telling me the truth. So tell me now.

"If you try to play games with me, I will be in no worse position than at present if I kick you out-and I will at least get pleasure out of that. And I will use what leverage I have with the Chairman to get him to cancel his decision to let you come here and have you sent right back to Earth. There is considerable pressure on him now to do this and you won't want the addition of mine.

"So talk! Now!"

39.

Baley's impulse was to lead up to the crucial point, feeling his way to see if he were right. That, he felt, would not work. She would see what he was doing-she was no fool-and would stop him. He was on the track of something, he knew, and he didn't want to spoil it. What she said about her vulnerable position as the result of her relationship to her father might well be true, but she still would not have been frightened into seeing him if she hadn't suspected that some notion he had was not completely farcical.

He had to come out with something, then, with something important that would establish, at once, some sort of domination over her. Therefore-the gamble.

He said, "Santirix Gremionis offered himself to you." And, before Vasilia could react, he raised the ante by saying, with an added touch of harshness, "And not once but many times."

Vasilia clasped her hands over one knee, then pulled herself up and seated herself on the stool, as though to make herself more comfortable. She looked at Giskard, who stood motionless and expressionless at her side.

Then she looked at Baley and said, "Well, the idiot offers himself to everyone he sees, regardless of age and sex. I would be unusual if he paid me no attention."

Baley made the gesture of brushing that to one side. (She had not laughed. She had not brought the interview to an end. She had not even put on a display of fury. She was waiting to see what he would build out of the statement, so he did have something by the tail.)

He said, "That is exaggeration, Dr. Vasilia. No one, however indiscriminating, would fail to make choices and, in the case of this Gremionis, you were selected and, despite your refusal to accept him, he continued to offer himself, quite out of keeping with Auroran custom."

Vasilia said, "I am glad you realize I refused him. There are some who feel that, as a matter of courtesy, any offer-or almost any offer-should be accepted, but that is not my opinion. I see no reason why I have to subject myself to some uninteresting event that will merely waste my time. Do you find something objectionable in that, Earthman?"

"I have no opinion to offer-either favorable or unfavorable- in connection with Auroran custom." (She was still waiting, listening to him. What was she waiting for? Would it be for what he wanted to say but yet wasn't sure he dared to?)

She said, with an effort at lightness, "Do you have anything at all to offer-or are we through?"

"Not through," said Baley, who was now forced to take another gamble. "You recognized this non-Auroran perseverance in Gremionis and it occurred to you that you could make use of it."

"Really? How mad! What possible use could I make of it?"

"Since he was clearly attracted to you very strongly, it would not be difficult to arrange to have him attracted by another who resembled you very closely. You urged him to do so, perhaps promising to accept him if the other did not."

"Who is this poor woman who resembles me closely?"

"You do not know? Come now, that is naïve, Dr. Vasilia. I am talking of the Solarian woman, Gladia, whom I already have said has come under the protection of Dr. Fastolfe precisely because she does resemble you. You expressed no surprise when I referred to this at the beginning of our talk. It is too late to pretend ignorance now."

Vasilia looked at him sharply. "And from his interest in her, you deduced that he must first have been interested in me? It was this wild guess with which you approached me?"

"Not entirely a wild guess. There are other substantiating factors. Do you deny all this?"

She brushed thoughtfully at the long desk beside her and Baley wondered what details were carried by the long sheets of paper on it. He could make out, from a distance, complexities of patterns that he knew would be totally meaningless to him, no matter how carefully and thoroughly he studied them.

Vasilia said, "I grow weary. You have told me that Gremionis was interested first in me, and then in my look-alike, the Solarian. And now you want me to deny it. Why should I take the trouble to deny it? Of what importance is it? Even if it were true, how could this damage me in any way? You are saying that I was annoyed by attentions I didn't want and that I ingeniously deflected them. Well?"

Baley said, "It is not so much what you did, as why. You knew that Gremionis was the type of person who would be persistent. He had offered himself to you over and over and he would offer himself to Gladia over and over."

"If she would refuse him."

"She was a Solarian, having trouble with sex, and was refusing everyone, something I dare say you knew, since I imagine that, for all your estrangement from Dr. Fastolfe, you have enough feeling to keep an eye on your replacement."

"Well, then, good for her. If she refused Gremionis, she showed good taste."

"You knew there was no 'if' about it. You knew she would."

"Still-what of it?"

"Repeated offers to her would mean that Gremionis would be in Gladia's establishment frequently, that he would cling to her."

"One last time. Well?"

"And in Gladia's establishment was a very unusual object, one of the two humaniform robots in existence, Jander Panell."

Vasilia hesitated. Then, "What are you driving at?"

"I think it struck you that if, somehow, the humaniform robot were killed under circumstances that would implicate Dr. Fastolfe, that could be used as a weapon to force the secret of the humaniform positronic brain out of him. Gremionis, annoyed over Gladia's persistent refusal to accept him and given the opportunity by his constant presence at Gladia's establishment, could be induced to seek a fearful revenge by killing the robot."

Vasilia blinked rapidly. "That poor barber might have twenty such motives and twenty such opportunities and it wouldn't matter. He wouldn't know how to order a robot to shake hands with any efficiency. How would he manage to come within a light-year of imposing mental freeze-out on a robot?"

"Which now," said Baley softly, "finally brings us to the point, a point I think you have been anticipating, for you have somehow restrained yourself from throwing me out because you had to make sure whether I had this point in mind or not. What I'm saying is that Gremionis did the job, with the help of this Robotics Institute, working through you."

10. AGAIN VASILIA

40.

It was as though a hyperwave drama had come to a halt in a holographic still.

None of the robots moved, of course, but neither did Baley and neither did Dr. Vasilia Aliena. Long seconds-abnormally long ones-passed, before Vasilia let out her breath and, very slowly, rose to her feet.

Her face had tightened itself into a humorless smile and her voice was low. "You are saying, Earthman, that I am an accessory in the destruction of the humaniform robot?"

Baley said, "Something of the sort had occurred to me, Doctor."

"Thank you for the thought. The interview is over and you will leave." She pointed to the door.

Baley said, "I'm afraid I do not wish to."

"I don't consult your wishes, Earthman."

"You must, for how can you make me leave against my wishes?"

"I have robots who, at my request, will put you out politely but firmly and without hurting anything but your self-esteem-if you have any."

"You have but one robot here. I have two that will not allow that to happen."

"I have twenty on instant call."

Baley said, "Dr. Vasilia, please understand! You were surprised at seeing Daneel. I suspect that, even though you work at the Robotics Institute, where humaniform robots are the first order of business, you have never actually seen a completed and functioning one. Your robots, therefore, haven't seen one, either. Now look at Daneel. He looks human. He looks more human than any robot who has ever existed, except for the dead Jander. To your robots, Daneel will surely look human. He will know how to present an order in such a way that they will obey him in preference, perhaps, to you."

Vasilia said, "I can, if necessary, summon twenty human beings from within the Institute who will put you out, perhaps with a little damage, and your robots, even Daneel, will not be able to interfere effectively."

"How do you intend to call them, since my robots are not going to allow you to move? They have extraordinarily quick reflexes."

Vasilia showed her teeth in something that could not be called a smile. "I cannot speak for Daneel, but I've known Giskard for most of my life. I don't think he will do anything to keep me from summoning help and I imagine he will keep Daneel from interfering, too."

Baley tried to keep his voice from trembling as he skated on ever-thinner ice-and knew it. He said, "Before you do anything, perhaps you might ask Giskard what he will do if you and I give conflicting orders."

"Giskard?" said Vasilia with supreme confidence.

Giskard's eyes turned full on Vasilia and he said, with an odd timbre to his voice, "Little Miss, I am compelled to protect Mr. Baley. He takes precedence."

"Indeed? By whose order? By this Earthman's? This stranger's?"

Giskard said, "By Dr. Han Fastolfe's order."

Vasilia's eyes flashed and she slowly sat down on the stool again. Her hands, resting in her lap, trembled and she said through lips that scarcely moved, "He's even taken you away."

"If that is not enough, Dr. Vasilia," said Daneel, speaking suddenly, of his own accord, "I, too, would place Partner Elijah's welfare above yours."

Vasilia looked at Daneel with bitter curiosity. "Partner Elijah? Is that what you call him?"

"Yes, Dr. Vasilia. My choice in this matter-the Earthman over you-arises not only out of Dr. Fastolfe's instructions, but because the Earthman and I are partners in this investigation and because-" Daneel paused as though puzzled by what he was about to say, and then said it anyway, "-we are friends."

Vasilia said, "Friends? An Earthman and a humaniform robot? Well, there is a match. Neither quite human."

Baley said, sharply, "Nevertheless bound by friendship. Do not, for your own sake, test the force of our-" Now it was he who paused and, as though to his own surprise, completed the sentence impossibly, "-love."

Vasilia turned to Baley. "What do you want?"

"Information. I have been called to Aurora-this World of the Dawn-to straighten out an event that does not seem to have an easy explanation, one in which Dr. Fastolfe stands falsely accused, with the possibility, therefore, of terrible consequences for your world and mine. Daneel and Giskard understand this situation well and know that nothing but the First Law at its fullest and most immediate can take precedence over my efforts to solve the mystery. Since they have heard what I have said and know that you might possibly be an accessory to the deed, they understand that they must not allow this interview to end. Therefore, I say again, don't risk the actions they may be forced to take if you refuse to answer my questions. I have accused you of being an accessory in the murder of Jander Panell. Do you deny that accusation or not? You must answer."

Vasilia said bitterly, "I will answer. Never fear! Murder? A robot is put out of commission and that's murder? Well, I do deny it, murder or whatever! I deny it with all possible force. I have not given Gremionis information on robotics for the purpose of allowing him to put an end to Jander. I don't know enough to do so and I suspect that no one at the Institute knows enough."

Baley said, "I can't say whether you know enough to have helped commit the crime or whether anyone at the Institute knows enough. We can, however, discuss motive. First, you might have a feeling of tenderness for this Gremionis. However much you might reject his offers-however contemptible you might find him as a possible lover-would it be so strange that you would feel flattered by his persistence, sufficiently so to be willing to

help him if he turned to you prayerfully and without any sexual demands with which to annoy you?"

"You mean he may have come to me and said, 'Vasilia, dear, I want to put a robot out of commission. Please tell me how to do it and I will be terribly grateful to you.' And I would say, 'Why, certainly, dear, I would just love to help you commit a crime.'

-Preposterous! No one except an Earthman, who knows nothing of Auroran ways, could believe anything like this could happen. It would take a particularly stupid Earthman, too."

"Perhaps, but all possibilities must be considered. For instance, as a second possibility, might you yourself not be jealous over the fact that Gremionis has switched his affections, so that you might help him not out of abstract tenderness but out of a very concrete desire to win him back?"

"Jealous? That is an Earthly emotion. If I do not wish Gremionis for myself, how can I possibly care whether he offers himself to another woman and she accepts or, for that matter, if another woman offers herself to him and he accepts?"

"I have been told before that sexual jealousy is unknown on Aurora and I am willing to admit that is true in theory, but such theories rarely hold up in practice. There are surely some exceptions. What's more, jealousy is all too often an irrational emotion and not to be dismissed by mere logic. Still, let us leave that for the moment. As a third possibility, you might be jealous of Gladia and wish to do her harm, even if you don't care the least bit for Gremionis yourself."

"Jealous of Gladia? I have never even seen her, except once on the hyperwave when she arrived in Aurora. The fact that people have commented on her resemblance to me, every once in a long while, hasn't bothered me."

"Does it perhaps bother you that she is Dr. Fastolfe's ward, his favorite, almost the daughter that you were once? She has replaced you."

"She is welcome to that. I could not care less."

"Even if they were lovers?"

Vasilia stared at Baley with growing fury and beads of perspiration appeared at her hairline.

She said, "There is no need to discuss this. You have asked me to deny the allegation that I was accessory to what you call murder and I have denied it. I have said I lacked the ability and I lacked the motive. You are welcome to present your case to all Aurora. Present your foolish attempts at supplying me with a motive. Maintain, if you wish, that I have the ability to do so. You will get nowhere. Absolutely nowhere."

And even while she trembled with anger, it seemed to Baley that there was conviction in her voice.

She did not fear the accusation.

She had agreed to see him, so he was on the track of something that she feared- perhaps feared desperately.

But she did not fear this.

Where, then, had he gone wrong?

41.

Baley said (troubled, casting about for some way out), "Suppose I accept your statement, Dr. Vasilia. Suppose I agree that my suspicion that you might have been an accessory in this- roboticide-was wrong. Even that would not mean that it is impossible for you to help me."

"Why should I help you?"

Baley said, "Out of human decency. Dr. Han Fastolfe assures us he did not do it, that he is not a robot-killer, that he did not put this particular robot, Jander, out of operation. You've known Dr. Fastolfe better than anyone ever has, one would suppose. You spent years in an intimate relationship with him as a beloved child and growing daughter. You saw him at times and under conditions that no one else saw him. Whatever your present feelings toward him might be, the past is not changed by them. Knowing him as you do, you must be able to bear witness that his character is such that he could not harm a robot, certainly not a robot that is one of his supreme achievements. Would you be willing to bear such witness openly? To all the worlds? It would help a great deal."

Vasilia's face seemed to harden. "Understand me," she said, pronouncing the words distinctly. "I will not be involved."

"You must be involved."

"Why?"

"Do you owe nothing to your father? He is your father. Whether the word means anything to you or not, there is a biological connection. And besides that-father or not-he took care of you, nurtured and brought you up, for years. You owe him something for that."

Vasilia trembled. It was a visible shaking and her teeth were chattering. She tried to speak, failed, took a deep breath, another, then tried again. She said, "Giskard, do you hear all that is going on?"

Giskard bowed his head. "Yes, Little Miss."

"And you, the humaniform- Daneel?"

"Yes, Dr. Vasilia."

"You hear all this, too?"

"Yes, Dr. Vasilia."

"You both understand the Earthman insists that I bear evidence on Dr. Fastolfe's character?"

Both nodded.

"Then I will speak-against my will and in anger. It is because I have felt that I did owe this father of mine some minimum consideration as my gene-bearer and, after a fashion, my upbringer, that I have not borne witness. But now I will. Earthman, listen to me. Dr. Han Fastolfe, some of whose genes I share, did not take care of me-me-me-as a

separate, distinct human being. I was to him nothing more than an experiment, an observational phenomenon."

Baley shook his head. "That is not what I was asking."

She drove furiously over him. "You insisted that I speak and I will speak-and it will answer you. -One thing interests Dr. Han Fastolfe. One thing. One thing only. That is the functioning of the human brain. He wishes to reduce it to equations, to a wiring diagram, to a solved maze, and thus found a mathematical science of human behavior which will allow him to predict the human future. He calls the science 'psychohistory.' I can't believe that you have talked to him for as little as an hour without his mentioning it. it is the monomania that drives him."

Vasilisa searched Baley's face and cried out in a fierce joy, "I can tell! He has talked to you about it. Then he must have told you that he is interested in robots only insofar as they can bring him to the human brain. He is interested in humaniform robots only insofar as they can bring him still closer to the human brain. -Yes, he's told you that, too.

"The basic theory that made humaniform robots possible arose, I am quite certain, out of his attempt to understand the human brain and he hugs that theory to himself and will allow no one else to see it because he wants to solve the problem of the human brain totally by himself in the two centuries or so he has left. Everything is subordinate to that. And that most certainly included me."

Baley, trying to breast his way against the flood of fury, said in a low voice, "In what way did it include you, Dr. Vasilisa?"

"When I was born, I should have been placed with others of my kind, with professionals who knew how to care for infants. I should not have been kept by myself in the charge of an amateur-father or not, scientist or not. Dr. Fastolfe should not have been allowed to subject a child to such an environment and would not-if he had been anyone else but Han Fastolfe. He used all his prestige to bring it about, called in every debt he had, persuaded every key person he could, until he had control of me."

"He loved you," muttered Baley.

"Loved me? Any other infant would have done as well, but no other infant was available. What he wanted was a growing child in his presence, a developing brain. He wanted to make a careful study of the method of its development, the fashion of its growth. He wanted a human brain in simple form, growing complex, so that he could study it in detail. For that purpose, he subjected me to an abnormal environment and to subtle experimentation, with no consideration for me as a human being at all."

"I can't believe that. Even if he were interested in you as an experimental object, he could still care for you as a human being."

"No. You speak as an Earthman. Perhaps on Earth there is some sort of regard for biological connections. Here there is not. I was an experimental object to him. Period."

"Even if that were so to start with, Dr. Fastolfe couldn't help but learn to love you-a helpless object entrusted to his care. Even if there were no biological connection at all, even if you were an animal, let us say, he would have learned to love you."

"Oh, would he now?" she said bitterly. "You don't know the force of indifference in a man like Dr. Fastolfe. If it would have advanced his knowledge to snuff out my life, he would have done so without hesitation."

"That is ridiculous, Dr. Vasilia. His treatment of you was so kind and considerate that it evoked love from you. I know that. You-you offered yourself to him."

"He told you that, did he? Yes, he would. Not for a moment, even today, would he stop to question whether such a revelation might not embarrass me. -Yes, I offered myself to him and why not? He was the only human being I really knew. He was superficially gentle to me and I didn't understand his true purposes. He was a natural target for me. Then, too, he saw to it that I was introduced to sexual stimulation under controlled conditions-the controls he set up. It was inevitable that eventually I would turn to him. I had to, for there was no one else-and he refused."

"And you hated him for that?"

"No. Not at first. Not for years. Even though my sexual development was stunted and distorted, with effects I feel to this day, I did not blame him. I did not know enough. I found excuses for him. He was busy. He had others. He needed older women. You would be astonished at the ingenuity with which I uncovered reasons for his refusal. It was only years later that I became aware that something was wrong and I managed to bring it out openly, face-to-face. 'Why did you refuse me?' I asked. 'Obliging me might have put me on the right track, solved everything.'"

She paused, swallowing, and for a moment covered her eyes. Baley waited, frozen with embarrassment. The robots were expressionless (incapable, for all Baley knew, of experiencing any balance or imbalance of the positronic pathways that would produce a sensation in any way analogous to human embarrassment).

She said, calmer, "He avoided the question for as long as he could, but I faced him with it over and over. 'Why did you refuse me?' 'Why did you refuse me?' He had no hesitation in engaging in sex. I knew of several occasions- I remember wondering if he simply preferred men. Where children are not involved, personal preference in such things is not of any importance and some men can find women distasteful or, for that matter, vice versa. It was not so with this man you call my father, however. He enjoyed women-sometimes young women-as young as I was when I first offered myself. 'Why did you refuse me?' He finally answered me-and you are welcome to guess what that answer was."

She paused and waited sardonically.

Baley stirred uneasily and said in a mumble, "He didn't want to make love to his daughter?"

"Oh, don't be a fool. What difference does that make? Considering that hardly any man on Aurora knows who his daughter is, any man making love to any woman a few decades younger might be- But never mind, it's self-evident. -What he answered-and oh, how I remember the words-was 'You great fool! If I involved myself with you in that manner, how could I maintain my objectivity-and of what use would my continuing study of you be?'

"By that time, you see, I knew of his interest in the human brain. I was even following in his footsteps and becoming a roboticist in my own right. I worked with Giskard in this direction and experimented with his programming. I did it very well, too, didn't I, Giskard?"

Giskard said, "So you did, Little Miss."

"But I could see that this man whom you call my father did not view me as a human being. He was willing to see me distorted for life, rather than risk his objectivity. His observations meant more to him than my nonnality. From that time on, I knew what I was and what he was-and I left him."

The silence hung heavy in the air.

Baley's head was throbbing slightly. He wanted to ask: could you not take into account the self-centeredness of a great scientist? The importance of a great problem? Could you make no allowances for something spoken perhaps in irritation at being forced to discuss what one did not want to discuss? Was not Vasilia's own anger just now much the same thing? Did not Vasilia's concentration on her own "normality" (whatever she meant by that) to the exclusion of perhaps the two most important problems facing humanity -the nature of the human brain and the settling of the Galaxy- represent an equal self-centeredness with much less excuse?

But he could ask none of those things. He did not know how to put it so that it would make real sense to this woman, nor was he sure he would understand her if she answered.

What was he doing on this world? He could not understand their ways, no matter how they explained. Nor could they understand his.

He said wearily, "I am sorry, Dr. Vasilia. I understand that you are angry, but if you would dismiss your anger for a moment and consider, instead, the matter of Dr. Fastolfe and the murdered robot, could you not see that we are dealing with two different things? Dr. Fastolfe might have wanted to observe you in a detached and objective way, even at the cost of your unhappiness, and yet be light-years removed from the desire to destroy an advanced humaniform robot."

Vasilia reddened. She shouted, "Don't you understand what I'm telling you, Earthman? Do you think I have told you what I have Just told you because I think you-or anyone-would be interested in the sad story of my life? For that matter, do you think I enjoy revealing myself in this manner?"

"I'm telling you this only to show you that Dr. Han Fastolfe- my biological father, as you never tire of pointing out-did destroy Jander. Of course he did. I have refrained from saying so because no one-until you-was idiot enough to ask me and because of some foolish remnant of consideration I have for that man. But now that you have asked me, I say so and, by Aurora, I will continue to say so-to anyone and everyone. Publicly, if necessary.

"Dr. Han Fastolfe did destroy Jander Panell. I am certain of it. Does that satisfy you?"

Baley stared at the distraught woman in horror.

He stuttered and began again. "I don't understand at all, Dr. Vasilia. Please quiet down and consider. Why should Dr. Fastolfe destroy the robot? What has that to do with his treatment of you? Do you imagine it is some kind of retaliation against you?"

Vasilia was breathing rapidly (Baley noted absently and without conscious intention that, although Vasilia was as small-boned as Gladia was, her breasts were larger) and she seemed to wrench at her voice to keep it under control.

She said, "I told you, Earthman, did I not, that Han Fastolfe was interested in observing the human brain? He did not hesitate to put it under stress in order to observe the results. And he preferred brains that were out of the ordinary-that of an infant, for instance-so that he might watch their development. Any brain but a commonplace one."

"But what has that to do-"

"Ask yourself, then, why he gained this interest in the foreign woman."

"In Gladia? I asked him and he told me. She reminded him of you and the resemblance is indeed distinct."

"And when you told me this earlier, I was amused and asked if you believed him? I ask again. Do you believe him?"

"Why shouldn't I believe him?"

"Because it's not true. The resemblance may have attracted his attention, but the real key to his interest is that the foreign woman is-foreign. She had been brought up in Solaria, under assumptions and social axioms not like those on Aurora. He could therefore study a brain that was differently molded from ours and could gain an interesting perspective. Don't you understand that? -For that matter, why is he interested in you, Earthman? Is he silly enough to imagine that you can solve an Auroran problem when you know nothing about Aurora?"

Daneel suddenly intervened again and Baley started at the sound of the other's voice. Daneel said, "Dr. Vasilia, Partner Elijah solved a problem on Solaria, though he knew nothing of Solaria."

"Yes," said Vasilia sourly, "so all the worlds noted on that hyperwave program. And lightning may strike, too, but I don't think that Han Fastolfe is confident it will strike twice in the same place in rapid succession. No, Earthman, he was attracted to you, in the first place, because you are an Earthman. You possess another alien brain he can study and manipulate."

"Surely you cannot believe, Dr. Vasilia, that he would risk matters of vital importance to Aurora and call in someone he knew to be useless, merely to study an unusual brain."

"Of course he would. Isn't that the whole point of what I am telling you? There is no crisis that could face Aurora that he would believe, for a single moment, to be as important as solving the problem of the brain. I can tell you exactly what he would say if you were to ask him. Aurora might rise or fall; flourish or decay, and that would all be of

little concern compared to the problem of the brain, for if human beings really understood the brain, all that might have been lost in the course of a millennium of neglect or wrong decisions would be regained in a decade of cleverly directed human development guided by his dream of 'psychohistory.' He would use the same argument to justify anything-lies, cruelty, anything-by merely saying that it is all intended to serve the purpose of advancing the knowledge of the brain."

"I can't imagine that Dr. Fastolfe would be cruel. He is the gentlest of men."

"Is he? How long have you been with him?"

Baley said, "A few hours on Earth three years ago. A day, now, here on Aurora."

"A whole day. A whole day. I was with him for thirty years almost constantly and I have followed his career from a distance with some attention ever since. And you have been with him a whole day, Earthman? Well, on that one day, has he done nothing that frightened or humiliated you?"

Baley kept silent. He thought of the sudden attack with the spicer from which Daneel had rescued him; of the Personal that presented him with such difficulty, thanks to its masked nature; the extended walk Outside designed to test his ability to adapt to the open.

Vasilia said, "I see he did. Your face, Earthman, is not quite the mask of disguise you may think it is. Did he threaten you with a Psychic Probe?"

Baley said, "It was mentioned."

"One day-and it was already mentioned. I assume it made you feel uneasy?"

"It did."

"And that there was no reason to mention it?"

"Oh, but there was," said Baley quickly. "I had said that, for a moment, I had a thought which I then lost and it was certainly legitimate to suggest that a Psychic Probe might help me relocate that thought."

Vasilia said, "No, it wasn't. The Psychic Probe cannot be used with sufficient delicacy of touch for that-and, if it were attempted, the chances would be considerable that there would be permanent brain damage."

"Surely not if it were wielded by an expert-by Dr. Fastolfe, for instance."

"By him? He doesn't know one end of the Probe from the other. He is a theoretician, not a technician."

"By someone else, then. He did not, in actual fact, specify himself."

"No, Earthman. By no one. Think! Think! If the Psychic Probe could be used on human beings safely by anyone, and if Han Fastolfe were so concerned about the problem of the inactivation of the robot, then why didn't he suggest the Psychic Probe be used on himself?"

"On himself?"

"Don't tell me this hasn't occurred to you? Any thinking person would come to the conclusion that Fastolfe is guilty. The only point in favor of his innocence is that he himself insists he is innocent. Well, then, why does he not offer to prove his innocence by being

psychically probed and showing that no trace of guilt can be dredged up from the recesses of his brain? Has he suggested such a thing, Earthman?"

"No, he hasn't. At least, not to me."

"Because he knows very well that it is deadly dangerous. Yet he does not hesitate to suggest it in your case, merely to observe how your brain works under pressure, how you react to fright. Or perhaps it occurs to him that, however dangerous the Probe is to you, it may come up with some interesting data for him, as far as the details of your Earth-molded brain are concerned. Tell me, then, isn't that cruel?"

Baley brushed it aside with a tight gesture of his right arm. "How does this apply to the actual case-to the roboticide?"

"The Solarian woman, Gladia, caught my onetime father's eye. She had an interesting brain-for his purposes. He therefore gave her the robot, Jander, to see what would happen if a woman not raised on Aurora were faced with a robot that seemed human in every particular. He knew that an Auroran woman would very likely make use of the robot for sex immediately and have no trouble doing so. I myself would have some trouble, I admit, because I was not brought up normally, but no ordinary Auroran would. The Solarian woman, on the other hand, would have a great deal of trouble because she was brought up on an extremely robotic world and had unusually rigid mental attitudes toward robots. The difference, you see, might be very instructive to my father, who tried, out of these variations, to build his theory of brain functioning. Han Fastolfe waited half a year for the Solarian woman to get to the point where she could perhaps begin making the first experimental approaches-

Baley interrupted. "Your father knew nothing at all about the relationship between Gladia and Jander."

"Who told you that, Earthman? My father? Gladia? If the former, he was naturally lying; if the latter, she simply didn't know, very likely. You may be sure Fastolfe knew what was going on; he had to, for it must have been part of his study of how a human brain was bent under Solarian conditions.

"And then he thought-and I am as sure of this as I would be if I could read his thoughts-what would happen now, at the point where the woman is just beginning to rely on Jander, if, suddenly, without reason, she lost him. He knew what an Auroran woman would do. She would feel some disappointment and then seek out some substitute, but what would a Solarian woman do? So he arranged to put Jander out of commission-

"Destroy an immensely valuable robot just to satisfy a trivial curiosity?"

"Monstrous, isn't it? But that's what Han Fastolfe would do. So go back to him, Earthman, and tell him that his little game is over, If the planet, generally, doesn't believe him to be guilty now, they most certainly will after I have had my say."

43.

For a long moment, Baley sat there stunned, while Vasilia looked at him with a kind of grim delight, her face looking harsh and totally unlike that of Gladia.

There seemed nothing to do- Baley got to his feet, feeling old-much older than his forty-five standard years (a child's age to these Aurorans). So far everything he had done had led to nothing. To worse than nothing, for at every one of his moves, the ropes seemed to tighten about Fastolfe.

He looked upward at the transparent ceiling. The sun was quite high, but perhaps it had passed its zenith, as it was dimmer than ever. Lines of thin clouds obscured it intermittently.

Vasilia seemed to become aware of this from his upward glance. Her arm moved on the section of the long bench near which she was sitting and the transparency of the ceiling vanished. At the same time, a brilliant light suffused the room, bearing the same faint orange tinge that the sun itself had.

She said, "I think the interview is over. I shall have no reason to see you again, Earthman-or you me. Perhaps you had better leave Aurora. You have done"-she smiled humorlessly and said the next words almost savagely-"my father enough damage, though scarcely as much as he deserves."

Baley took a step toward the door and his two robots closed in on him. Giskard said in a low voice, "Are you well, sir?"

Baley shrugged. What was there to answer to that? Vasilia called out, "Giskard! When Dr. Fastolfe finds he has no further use for you, come join my staff?"

Giskard looked at her calmly. "If Dr. Fastolfe permits, I will do so, Little Miss,"

Her smile grew warm. "Please do so, Giskard. I've never stopped missing you."

"I often think of you, Little Miss."

Baley turned at the door. "Dr. Vasilia, would you have a Personal I might use?"

Vasilia's eyes widened. "Of course not, Earthian. There are Community Personals here and there at the Institute. Your robots should be able to guide you."

He stared at her and shook his head. It was not surprising that she wanted no Earthman infecting her rooms and yet it angered him just the same.

He said out of anger, rather than out of any rational judgment, "Dr. Vasilia, I would not, were I you, speak of the guilt of Dr. Fastolfe."

"What is there to stop me?"

"The danger of the general uncovering of your dealings with Gremionis. The danger to you."

"Don't be ridiculous. You have admitted there was no conspiracy between myself and Gremionis."

"Not really. I agreed there seemed reason to conclude there was no direct conspiracy between you and Gremionis to destroy Jander. There remains the possibility of an indirect conspiracy."

"You are mad. What is an indirect conspiracy?"

"I am not ready to discuss that in front of Dr. Fastolfe's robots -unless you insist. And why should you? You know very well what I mean." There was no reason why Baley should think she would accept this bluff. It might simply worsen the situation still further.

But it didn't! Vasilisa seemed to shrink within herself, frowning.

Baley thought: There is then an indirect conspiracy, whatever it might be, and this might hold her till she sees through my bluff.

Baley said, his spirits rising a little, "I repeat, say nothing about Dr. Fastolfe."

But, of course, he didn't know how much time he had bought -perhaps very little.

11. GREMIONIS

44.

They were sitting in the airfoil again-all three in the front, with Baley once more in the middle and feeling the pressure on either side. Baley was grateful to them for the care they unfailingly gave him, even though they were only machines, helpless to disobey instructions.

And then he thought: Why dismiss them with a word- "machines"? They're good machines in a Universe of sometimes evil people. I have no right to favor the machines vs. people subcategorization over the good vs. evil one. And Daneel, at least, I cannot think of as a machine.

Giskard said, "I must ask again, sir. Do you feel well?"

Baley nodded. "Quite well, Giskard. I am glad to be out here with you two."

The sky was, for the most part, white-off-white, actually. There was a gentle wind and it had felt distinctly cool until they got into the car.

Daneel said, "Partner Elijah, I was listening carefully to the conversation between yourself and Dr. Vasilia. I do not wish to comment unfavorably on what Dr. Vasilia has said, but I must tell you that, in my observation, Dr. Fastolfe is a kind and courteous human being. He has never, to my knowledge, been deliberately cruel, nor has he, as nearly as I can judge, sacrificed a human being's essential welfare to the needs of his curiosity."

Baley looked at Daneel's face. which gave the impression, somehow, of intent sincerity. He said, "Could you say anything against Dr. Fastolfe, even if he were, in fact, cruel and thoughtless?"

"I could remain silent."

"But would you?"

"if, by telling a lie, I were to harm a truthful Dr. Vasilia by casting unjustified doubt on her truthfulness, and if, by remaining silent, I would harm Dr. Fastolfe by lending further color to the true accusations against him, and if the two harms were, to my mind, roughly equal in intensity, then it would be necessary for me to remain silent. Harm through an active deed outweighs, in general, harm through passivity-all things being reasonably equal."

Baley said, "Then, even though the First Law states: 'A robot may not injure a human being or, through inaction, allow a human being to come to harm,' the two halves of the law are not equal? A fault of commission, you say, is greater than one of omission?"

"The words of the law are merely an approximate description of the constant variations in positronomotive force along the robotic brain paths, Partner Elijah. I do not know enough to describe the matter mathematically, but I know what my tendencies are."

"And they are always to choose not doing over doing, if the harm is roughly equal in both directions?"

"In general. And always to choose truth over nontruth, if the harm is roughly equal in both directions. In general, that is."

"And, in this case, since you speak to refute Dr. Vasilia and thus do her harm, you can only do so because the First Law is mitigated sufficiently by the fact that you are telling the truth?"

"That is so, Partner Elijah."

"Yet the fact is, you would say what you have said, even though it were a lie-provided Dr. Fastolfe had instructed you, with sufficient intensity, to tell that lie when necessary and to refuse to admit that you had been so instructed."

There was a pause and then Daneel said, "That is so, Partner Elijah."

"It is a complicated mess, Daneel-but you still believe that Dr. Fastolfe did not murder Jander Panell?"

"My experience with him is that he is truthful, Partner Elijah, and that he would not do harm to friend Jander."

"And yet Dr. Fastolfe has himself described a powerful motive for his having committed the deed, while Dr. Vasilia has described a completely different motive, one that is just as powerful and is even more disgraceful than the first." Baley brooded a bit. "If the public were made aware of either motive, belief in Dr. Fastolfe's guilt would be universal."

Baley turned suddenly to Giskard. "How about you, Giskard? You have known Dr. Fastolfe longer than Daneel has. Do you agree that Dr. Fastolfe could not have committed the deed and could not have destroyed Jander, on the basis of your understanding of Dr. Fastolfe's character?"

"I do, sir."

Baley regarded the robot uncertainly. He was less advanced than Daneel. How far could he be trusted as a corroborating witness? Might he not be impelled to follow Daneel in whatever direction Daneel chose to take?

He said, "You knew Dr. Vasilia, too, did you not?"

"I knew her very well," said Giskard.

"And liked her, I gather?"

"She was in my charge for many years and the task did not in any way trouble me."

"Even though she fiddled with your programming?"

"She was very skillful."

"Would she lie about her father-about Dr. Fastolfe, that is?"

Giskard hesitated. "No, sir. She would not."

"Then you are saying that what she says is the truth."

"Not quite, sir. What I am saying is that she herself believes she is telling the truth."

"But why should she believe such evil things about her father to be true if, in actual fact, he is as kind a person as Daneel has just told me he was?"

Giskard said slowly, "She has been embittered by various events in her youth, events for which she considers Dr. Fastolfe to have been responsible and for which he may indeed have been unwittingly responsible-to an extent. It seems to me it was not his intention that the events in question should have the consequences they did. However, human beings are not governed by the straightforward laws of robotics. It is therefore difficult to judge the complexities of their motivations under most conditions."

"True enough," muttered Baley.

Giskard said, "Do you think the task of demonstrating Dr. Fastolfe's innocence to be hopeless?"

Baley's eyebrows moved toward each other in a frown. "It may be. As it happens, I see no way out-and if Dr. Vasilia talks, as she has threatened to do-

"But you ordered her not to talk. You explained that it would be dangerous to herself if she did."

Baley shook his head. "I was bluffing. I didn't know what else to say."

"Do you intend to give up, then?"

And Baley said forcefully, "No! If it were merely Fastolfe, I might. After all, what physical harm would come to him? Roboticide is not even a crime, apparently, merely a civil offense. At worst, he will lose political influence and, perhaps, find himself unable to continue with his scientific labors for a time. I would be sorry to see that happen, but if there's nothing more I can do, then there's nothing more I can do.

"And if it were just myself, I might give up, too. Failure would damage my reputation, but who can build a brick house without bricks? I would go back to Earth a bit tarnished, I would lead a miserable and unclassified life, but that is the chance that faces every Earthman and woman. Better men than I have had to face that as unjustly.

"However, it is a matter of Earth. If I fail, then along with the grievous loss to Dr. Fastolfe and to myself, there would be an end for any hope Earthpeople might have to move out of Earth and into the Galaxy generally. For that reason, I must not fail and I must keep on somehow, as long as I am not physically thrust off this world."

Having ended in what was almost a whisper, he suddenly looked up and said in a peevish tone, "Why are we sitting here parked, Giskard? Are you running the motor for your own amusement?"

"With respect, sir," said Giskard, "you have not told me where to take you."

"True! -I beg your pardon, Giskard. First, take me to the nearest of the Community Personals that Dr. Vasilia made mention of. You two may be immune to such things, but I have a bladder that needs emptying. After that, find someplace nearby where I can get something to eat. I have a stomach that needs filling. And after that-

"Yes, Partner Elijah?" asked Daneel.

"To tell you the truth, Daneel, I don't know. However, after I tend to these purely physical needs, I will think of something."

And how Baley wished he could believe that.

45.

The airfoil did not skim the ground for long. It came to a halt, swaying a bit, and Baley felt the usual odd tightening of his stomach. That small unsteadiness told him he was in a vehicle and it drove away the temporary feeling of being safe within walls and between robots. Through the glass ahead and on either side (and backward, if he craned his neck) was the whiteness of sky and the greenness of foliage, all amounting to Outside—that is, to nothing. He swallowed uneasily.

They had stopped at a small structure.

Baley said, "Is this the Community Personal?"

Daneel said, "It is the nearest of a number on the Institute grounds, Partner Elijah."

"You found it quickly. Are these structures also included in the map that has been pumped into your memory?"

"That is the case, Partner Elijah."

"Is this one in use now?"

"It may be, Partner Elijah, but three or four may use it simultaneously."

"Is there room for me?"

"Very likely, Partner Elijah."

"Well, then, let me out. I'll go there and see—"

The robots did not move. Giskard said, "Sir, we may not enter with you."

"Yes, I am aware of that, Giskard."

"We will not be able to guard you properly, sir."

Baley frowned. The lesser robot would naturally have the more rigid mind and Baley suddenly recognized the danger that he would simply not be allowed out of their sight and, therefore, not allowed to enter the Personal. He put a note of urgency into his voice and turned his attention to Daneel, who might be expected to more nearly understand human needs. "I can't help that, Giskard. -Daneel, I have no choice in the matter. Let me out of the car."

Giskard looked at Baley without moving and, for one horrid moment, Baley thought the robot would suggest that he unburden himself in the nearby field—in the open, like an animal.

The moment passed. Daneel said, "I think we must allow Partner Elijah to have his way in this respect."

Whereupon Giskard said to Baley, "If you can wait for a short while, sir, I will approach the structure first."

Baley grimaced. Giskard walked slowly toward the building and then, deliberately, circumnavigated it. Baley might have predicted the fact that, once Giskard disappeared, his own sense of urgency would increase.

He tried to distract his own nerve endings by staring around at the prospect. After some study, he became aware of thin wires in the air, here and there—fine, dark hairs against the white sky. He did not see them, to begin with. What he saw first was an oval object sliding along beneath the clouds. He became aware of it as a vehicle and realized

that it was not floating but was suspended from a long horizontal wire. He followed that long wire with his eyes, forward and back, noting others of the sort. He then saw another vehicle farther off-and yet another still farther off. The farthest of the three was a featureless speck whose nature he understood only because he had seen the nearer ones.

Undoubtedly, these were cable-cars for internal transportation from one part of the Robotics Institute to another.

How spread out it all was, thought Baley. How needlessly the Institute consumed space.

And yet, in doing so, it did not consume the surface. The structures were sufficiently widely spaced so that the greenery seemed untouched and the plant and animal life continued (Baley imagined) as they might in emptiness.

Solaria, Baley remembered, had been empty. No doubt all the Spacer worlds were empty, since Aurora, the most populous, was so empty, even here in the most built-up region of the planet. For that matter, even Earth-outside the Cities-was empty.

But there were the Cities and Baley felt a sharp pang of homesickness, which he had to push to one side.

Daneel said, "Ah, friend Giskard has completed his examination."

Giskard was back and Baley said tartly, "Well? Will you be so kind as to grant me permission-" He stopped. Why expend sarcasm on the impenetrable hide of a robot?

Giskard said, "It seems quite certain that the Personal is unoccupied."

"Good! Then get out of my way." Baley flung open the door of the airfoil and stepped out onto the gravel of a narrow path. He strode rapidly, with Daneel following.

When he reached the door of the structure, Daneel wordlessly indicated the contact that would open it. Daneel did not venture to touch the contact himself. Presumably, thought Baley, to have done so without specific instructions would have indicated an intention to enter-and even the intention was not permitted.

Baley pushed the contact and entered, leaving the two robots behind.

It was not until he was inside that it occurred to him that Giskard could not possibly have entered the Personal to see that it was unoccupied, that the robot must have been judging the matter from external appearance-a dubious proceeding at best.

And Baley realized, with some discomfort, that, for the first time, he was isolated and separated from all protectors-and that the protectors on the other side of the door couldn't easily enter if he were suddenly in trouble. What, then, if he were, at this moment, not alone? What if some enemy had been alerted by Vasilisa, who knew he would be in search of a Personal, and what if that enemy was in hiding right now in the structure?

Baley grew suddenly and uncomfortably aware that (as would not have been the case on Earth) he was totally unarmed.

To be sure, the structure was not large. There were small urinals, side by side, half a dozen of them; small washbasins, side by side, again half a dozen. No showers, no clothes-fresheners, no shaving devices.

There were half a dozen stalls, separated by partitions and with small doors to each. Might there not be someone waiting inside one of them- The doors did not come down to the ground. Moving softly, he bent and glanced under each door, looking for any sign of legs. He then approached each door, testing it, swinging it open tensely, ready to slam it shut at the least sign of anything untoward, and then to dash to the door that led to the Outside.

All the stalls were empty.

He looked around to make sure there were no other hiding places.

He could find none.

He went to the door to the Outside and found no indication of a way of locking it. It occurred to him that there would naturally be no way of locking it. The Personal was clearly for the use of several men at the same time. Others would have to be able to enter at need.

Yet he could not very well leave and try another, for the danger would exist at any- and besides, he could delay no longer.

For a moment, he found himself unable to decide which of the series of urinals he should use. He could approach and use any of them. So could anyone else.

He forced the choice of one upon himself and, aware of openness all around, was afflicted at once with bashful bladder. He felt the urgency, but had to wait impatiently for the feeling of apprehension at the possible entrance of others to dissipate itself.

He no longer feared the entrance of enemies, just the entrance of anyone.

And then he thought: The robots will at least delay anyone approaching.

With that, he managed to relax- He was quite done, greatly relieved, and about to turn to a washbasin, when he heard a moderately high-pitched, rather tense voice. "Are you Elijah Baley?"

Baley froze. After all his apprehension and all his precautions, he had been unaware of someone entering. In the end, he had been entirely wrapped up in the simple act of emptying his bladder, something that should not have taken up even the tiniest fraction of his conscious mind. (Was he getting old?)

To be sure, there seemed no threat of any kind in the voice he heard. It seemed empty of menace. It may have been that Baley simply felt certain-and had the sure confidence within him- that Daneel, at least, if not Giskard, would not have allowed a threat to enter.

What bothered Baley was merely the entrance. In his whole life, he had never been approached-let alone addressed-by a man in a Personal. On Earth that was the most strenuous taboo and on Solaria (and, until now, on Aurora) he had used only one-person Personals.

The voice came again. Impatient. "Come! You must be Elijah Baley."

Slowly, Baley turned. It was a man of moderate height, delicately dressed in well-fitted clothing in various shades of blue. He was light-skinned, light-haired, and had a small mustache that was a shade darker than the hair on his head. Baley found himself staring with fascination at the small strip of hair on the upper lip. It was the first time he had seen a Spacer with a mustache.

Baley said (and was filled with shame at speaking in a Personal), "I am Elijah Baley." His voice, even in his own ears, seemed a scratchy and unconvincing whisper.

The Spacer seemed to find it unconvincing, certainly. He said, narrowing his eyes and staring, "The robots outside said Elijah Baley was in here, but you don't look at all the way you looked on hyperwave. Not at all."

That foolish dramatization! thought Baley fiercely. No one would meet him to the end of time without having been preliminarily poisoned by that impossible representation. No one would accept him as a human being at the start, as a fallible human being -and when they discovered the fallibility, they would, in disappointment, consider him a fool.

He turned resentfully to the washbasin and splashed water, then shook his hands vaguely in the air, while wondering where the hot-air jet might be found. The Spacer touched a contact and seemed to pluck a thin bit of absorbent fluff out of midair.

"Thank you," said Baley, taking it. "That was not me in the hyperwave show. It was an actor."

"I know that, but they might have picked one that looked more like you, mightn't they?" It seemed to be a source of grievance to him. "I want to speak to you."

"How did you get past my robots?"

That was another source of grievance, apparently. "I nearly didn't," said the Spacer. "They tried to stop me and I only had one robot with me. I had to pretend I had to get in here on an emergency basis and they searched me. They absolutely laid hands on me to see if I was carrying anything dangerous. I'd have you up on charges-if you weren't an Earthman. You can't give robots the kind of orders that embarrass a human being."

"I'm sorry," said Baley stiffly, "but I am not the one who gave them their orders. What can I do for you?"

"I want to speak to you."

"You are speaking to me. -Who are you?"

The other seemed to hesitate, then said, "Gremionis."

"Santirix Gremionis?"

"That's right."

"Why do you want to speak to me?"

For a moment, Gremionis stared at Baley, apparently with embarrassment. Then he mumbled, "Well, as long as I'm here- if you don't mind-I might as well-" and he stepped toward the line of urinals.

Baley realized, with the last refinement of horrified queasiness, what it was Gremionis intended to do. He turned hastily and said, "I'll wait for you outside."

"No no, don't go," said Gremionis desperately, in what was almost a squeak. "This won't take a second. Please!"

It was only that Baley now wanted, just as desperately, to talk to Gremionis and did not want to do anything that might offend the other and make him unwilling to talk; otherwise he would not have been willing to accede to the request.

He kept his back turned and squinted his eyes nearly shut in a sort of horrified reflex. It was only when Gremionis came up around him, his hands kneading a fluffy towel of his own, that Baley could relax again, after a fashion.

"Why do you want to speak to me?" he said again.

"Gladia-the woman from Solaria-" Gremionis looked dubious and stopped.

"I know Gladia," said Baley coldly.

"Gladia viewed me -trimensionally, you know- and told me you had asked about me. And she asked me if I had, in any way, mistreated a robot she owned-a human-looking robot like one of those outside-"

"Well, did you, Mr. Gremionis?"

"No! I didn't even know she owned a robot like that, until- Did you tell her I did?"

"I was only asking questions, Mr. Gremionis."

Gremionis had made a fist of his right hand and was grinding it nervously into his left. He said intensely, "I don't want to be falsely accused of anything-and especially where such a false accusation would affect my relationship with Gladia."

Baley said, "How did you find me?"

Gremionis said, "She asked me about that robot and said you had asked about me. I had heard you had been called to Aurora by Dr. Fastolfe to solve this-puzzle-about the robot. It was on the hyperwave news. And-" The words ground out as though they were emerging from him with the utmost difficulty.

"Go on," said Baley.

"I had to talk to you and explain that I had had nothing to do with that robot. Nothing! Gladia didn't know where you were, but I thought Dr. Fastolfe would know."

"So you called him?"

"Oh no, I-I don't think I'd have the nerve to- He's such an important scientist. But Gladia called him for me. She's-that kind of person. He told her you had gone to see his daughter, Dr. Vasilia Aliena. That was good because I know her."

"Yes, I know you do," said Baley.

Gremionis looked uneasy. "How did you- Did you ask her about me, too?" His uneasiness seemed to be degenerating to misery. "I finally called Dr. Vasilia and she said you had just left and I'd probably find you at some Community Personal-and this one is the closest to her establishment. I was sure there would be no reason for you to delay in order to find a farther one. I mean why should you?"

"You reason quite correctly, but how is it you got here so quickly?"

"I work at the Robotics Institute and my establishment is on the Institute grounds. My scooter brought me here in minutes."

"Did you come here alone?"

"Yes! With only one robot. The scooter is a two-seater, you see."

"And your robot is waiting outside?"

"Yes."

"Tell me again why you want to see me."

"I've got to make sure you don't think I've had anything to do with that robot. I never even heard of him till this whole thing exploded in the news. So can I talk to you now? "

"Yes, but not here," said Baley firmly. "Let's get out."

How strange it was, thought Baley, that he was so pleased to get out from behind walls and into the Outside. There was something more totally alien to this Personal than anything else he had encountered on either Aurora or Solaria. Even more disconcerting than the fact of planet-wide indiscriminate use had been the horror of being openly and casually addressed-of behavior that drew no distinction between this place and its purpose and any other place and purpose.

The book-films he had viewed had said nothing of this. Clearly, as Fastolfe had pointed out, they were not written for Earthpeople but for Aurorans and, to a lesser extent, for possible tourists from the other forty-nine Spacer worlds. Earthpeople, after all, almost never went to the Spacer worlds, least of all to Aurora. They were not welcome there. Why, then, should they be addressed?

And why should the book-films expand on what everyone knew? Should they make a fuss over the fact that Aurora was spherical in shape, or that water was wet, or that one man might address another freely in a Personal?

Yet did that not make a mockery of the very name of the structure? Yet Baley found himself unable to avoid thinking of the Women's Personals on Earth where, as Jessie had frequently told him, women chattered incessantly and felt no discomfort about it. Why women, but not men? Baley had never thought seriously about it before, but had accepted it merely as custom -as unbreakable custom-but if women, why not men?

It didn't matter. The thought only affected his intellect and not whatever it was about his mind that made him feel overwhelming and ineradicable distaste for the whole idea. He repeated, "Let's get out."

Gremionis protested, "But your robots are out there."

"So they are. What of it?"

"But this is something I want to talk about privately, man-to-man." He stumbled over the phrase.

"I suppose you mean Spacer to Earthman."

"If you like."

"My robots are necessary. They are my partners in my investigation."

"But this has nothing to do with the investigation. That's what I'm trying to tell you."

"I'll be the judge of that," said Baley firmly, walking out of the Personal. Gremionis hesitated and then followed.

47.

Daneel and Giskard were waiting-impassive, expressionless, patient. On Daneel's face, Baley thought he could make out a trace of concern, but, on the other hand, he might merely be reading that emotion into those inhumanly human features. Giskard, the less human-looking, showed nothing, of course, even to the most willing personifier.

A third robot waited as well-presumably that of Gremionis. He was simpler in appearance even than Giskard and had an air of shabbiness about him. It was clear that Gremionis was not very well-to-do.

Daneel said, with what Baley automatically assumed to be the warmth of relief, "I am pleased that you are well, Partner Elijah."

"Entirely well. I am curious, however, about something. If you had heard me call out in alarm from within, would you have come in?"

"At once, sir," said Giskard.

"Even though you are programmed not to enter Personals?"

"The need to protect a human being-you, in particular- would be paramount, sir."

"That is so, Partner Elijah," said Daneel.

"I'm glad to hear that," said Baley. "This person is Santirix Gremionis. Mr. Gremionis, this is Daneel and this is Giskard."

Each robot bent his head solemnly. Gremionis merely glanced at them and lifted one hand in indifferent acknowledgment. He made no effort to introduce his own robot.

Baley looked around. The light was distinctly dimmer, the wind was brisker, the air was cooler, the sun was completely hidden by clouds. There was a gloom to the surroundings that did not seem to affect Baley, who continued to be delighted at having escaped from the Personal. It lifted his spirits amazingly that he was actually experiencing the feeling of being pleased at being Outside. It was a special case, he knew, but it was a beginning and he could not help but consider it a triumph.

Baley was about to turn to Gremionis to resume the conversation, when his eye caught movement. Walking across the lawn came a woman with an accompanying robot. She was coming toward them but seemed totally oblivious to them. She was clearly making for the Personal.

Baley put out his arm in the direction of the woman, as though to stop her, even though she was still thirty meters away, and muttered, "Doesn't she know that's a Men's Personal?"

"What?" said Gremionis.

The woman continued to approach, while Baley watched in total puzzlement. Finally, the woman's robot stepped to one side to wait and the woman entered the structure.

Baley said helplessly, "But she can't go in there."

Gremionis said, "Why not? It's communal."

"But it's for men."

"It's for people," said Gremionis. He seemed utterly confused.

"Either sex? Surely you can't mean that."

"Any human being. Of course I mean it! How would you want it to be? I don't understand."

Baley turned away. It had not been many minutes before that he had thought that open conversation in a Personal was the acme in bad taste, of Things Not Done.

If he had tried to think of something worse yet, he would have completely failed to dredge up the possibility of encountering a woman in a Personal. Convention on Earth required him to ignore the presence of others in the large Community Personals on that world, but not all the conventions ever invented would have prevented him from knowing whether a person passing him was a man or a woman.

What if, while he had been in the Personal, a woman had entered-casually, indifferently-as this one had just done? Or, worse still, what if he had entered a Personal and found a woman already there?

He could not estimate his reaction. He had never weighed the possibility, let alone met with such a situation, but he found the thought totally intolerable.

And the book-films had told him nothing about that, either.

He had viewed those films in order that he might not approach the investigation in total ignorance of the Auroran way of life-and they had left him in total ignorance of all that was important.

Then how could he handle this triply knotted puzzle of Jander's death, when at every step he found himself lost in ignorance?

A moment before he had felt triumph at a small conquest over the terrors of Outside, but now he was faced with the feeling of being ignorant of everything, ignorant even of the nature of his ignorance.

It was now, while fighting not to picture the woman passing through the airspace lately occupied by himself, that he came near to utter despair.

48.

Again Giskard said (and in a way that made it possible to read concern into his words-if not into the tone), "Are you unwell, sir? Do you need help?"

Baley muttered, "No, no. I'm all right. -But let's move away. We're in the path of people wishing to use that structure."

He walked rapidly toward the airfoil that was resting in the open stretch beyond the gravel path. On the other side was a small two-wheeled vehicle, with two seats, one behind the other. Baley assumed it to be Gremionis' scooter.

His feeling of depression and misery, Baley realized, was accentuated by the fact that he felt hungry. It was clearly past lunchtime and he had not eaten.

He turned to Gremionis. "Let's talk-but if you don't mind, let's do it over lunch. That is, if you haven't already eaten-and if you don't mind eating with me."

"Where are you going to eat?"

"I don't know. Where does one eat at the Institute?"

Gremionis said, "Not at the Community Diner. We can't talk there."

"Is there an alternative?"

"Come to my establishment," said Gremionis at once. "It isn't one of the fancier ones here. I'm not one of your high executives. Still, I have a few serviceable robots and we can set a decent table. -I tell you what. I'll get on my scooter with Brundij-my robot, you know-and you follow me. You'll have to go slowly, but I'm only a little over a kilometer away. It will just take two or three minutes."

He moved away at an eager half-run. Baley watched him and thought there seemed to be a kind of gangly youthfulness about him. There was no easy way of actually judging his age, of course; Spacers didn't show age and Gremionis might easily be fifty. But he acted young, almost what an Earthman would consider teenage young. Baley wasn't sure exactly what there was about him that gave that impression.

Baley turned suddenly to Daneel. "Do you know Gremionis, Daneel?"

"I have never met him before, Partner Elijah."

"You, Giskard?"

"I have met him once, sir, but only in passing."

"Do you know anything about him, Giskard?"

"Nothing that is not apparent on the surface, sir."

"His age? His personality?"

"No, sir."

Gremionis shouted, "Ready?" His scooter was humming rather roughly. It was clear that it was not air-jet assisted. The wheels would not leave the ground. Brundij sat behind Gremionis.

Giskard, Daneel, and Baley moved quickly into their airfoil once again.

Gremionis moved outward in a loose circle. Gremionis' hair flew backward in the wind and Baley had a sudden sensation of how the wind must feel when one traveled in an open vehicle such as a scooter. He was thankful he was totally enclosed in an airfoil-which suddenly seemed to him a much more civilized way of traveling.

The scooter straightened out and darted off with a muted roar, Gremionis waving one hand in a follow-me gesture. The robot behind him maintained his balance with almost negligent ease and did not hold on to Gremionis' waist, as Baley was certain a human being would have needed to.

The airfoil followed. Although the scooter's smooth forward progression seemed high-speed, that was apparently the illusion of its small size. The airfoil had some difficulty maintaining a speed low enough to avoid running it down.

"Just the same," said Baley thoughtfully, "one thing puzzles me."

"What is that, Partner Elijah?" asked Daneel.

"Vasilia referred to this Gremionis disparagingly as a 'barber.' Apparently, he deals with hair, clothes, and other matters of personal human adornment. How is it, then, that he has an establishment on the grounds of the Robotics Institute?"

12. AGAIN GREMIONIS

49.

It took only a few minutes before Baley found himself in the fourth Auroran establishment he had seen since his arrival on the planet a day and a half before: Fastolfe's, Gladia's, Vasilia's, and now Gremionis'.

Gremionis' establishment appeared smaller and drabber than the others, even though it showed, to Baley's unpracticed eye in Auroran matters, signs of recent construction. The distinctive mark of the Auroran establishment-the robotic niches-were, however, present. On entering, Giskard and Daneel moved quickly into two that were empty and faced the room, unmoving and silent. Gremionis' robot, Brundij, moved into a third niche almost as quickly.

There was no sign of any difficulty in making their choices or of any tendency for any one niche to be the target of two robots, however briefly. Baley wondered how the robots avoided conflict and decided there must be signal communication among them of a kind that was subliminal to human beings. It was something (provided he remembered to do so) concerning which he might consult Daneel.

Gremionis was studying the niches also, Baley noticed.

Gremionis' hand had gone to his upper lip and, for a moment, his forefinger stroked the small mustache. He said, a bit uncertainly, "Your robot, the human-looking one, doesn't seem right in the niche. That's Daneel Olivaw, isn't it? Dr. Fastolfe's robot?"

"Yes," said Baley. "He was in the hyperwave drama, too. Or at least an actor was-one who better fit the part."

"Yes, I remember."

Baley noted that Gremionis-like Vasilia and even like Gladia and Fastolfe-kept a certain distance. There seemed to be a repulsion field-unseen, unfelt, unsensed in any way-around Baley that kept these Spacers from approaching too closely, that sent them into a gentle curve of avoidance when they passed him.

Baley wondered if Gremionis was aware of this or if it was entirely automatic. And what did they do with the chairs he sat in while in their establishments, the dishes he ate from, the towels he used? Would ordinary washing suffice? Were there special sterilizing procedures? Would they discard and replace everything? Would the establishments be fumigated once he left the planet-or every night? What about the Community Personal he used? Would they tear it down and rebuild it? What about the woman who had ignorantly entered it after he had left? Or could she possibly have been the fumigator?

He realized he was getting silly.

To outer space with it. What the Aurorans did and how they dealt with their problems was their affair and he would bother his head no more with them. Jehoshaphat!

He had his own problems and, right now, the particular splinter of it was Gremionis -and he would tackle that after lunch.

Lunch was rather simple, largely vegetarian, but for the first time he had a little trouble. Each separate item was too sharply defined in taste. The carrots tasted rather strongly of carrots and the peas of peas, so to speak.

A little too much so, perhaps.

He ate rather reluctantly and tried not to show a slightly rising gorge.

And, as he did so, he became aware that he grew used to it- as though his taste buds saturated and could handle the excess more easily. It dawned on Baley, in a rather sad way, that if his exposure to Auroran food was to continue for any length of time, he would return to Earth missing that distinctiveness of flavor and resenting the flowing together of Earth tastes.

Even the crispness of various items-which had startled him at first, as each closing of his teeth seemed to create a noise that surely (he thought) must interfere with conversation-had already grown to seem exciting evidence that he was, in fact, eating. There would be a silence about an Earth meal that would leave him missing something.

He began to eat with attention, to study the tastes. Perhaps, when Earthpeople established themselves on other worlds, this Spacer-fashion food would be the mark of the new diet, especially if there were no robots to prepare and serve the meals.

And then he thought uncomfortably, not when but if Earthpeople established themselves on other worlds -and the finess of it all depended on him, on Plainclothesman Elijah Baley. The burden of it weighed him down.

The meal was over. A pair of robots brought in the heated, moistened napkins with which one could clean one's hands. Except that they weren't ordinary napkins, for when Baley put his down on the plate, it seemed to move slightly, thin out, and grow cobwebby. Then, quite suddenly, it leaped up insubstantially and was carried into an outlet in the ceiling. Baley jumped slightly and his eyes moved upward, following the disappearing item open-mouthed.

Gremionis said, "That's something new I just picked up. Disposable, you see, but I don't know if I like it yet. Some people say it will clog the disposal vent after a while and others worry about pollution because they say some of it will surely get in your lungs. The manufacturer says not, but-

Baley realized suddenly that he had said not a word during the meal and that this was the first time either of them had spoken since the short exchange on Daneel before the meal had been served. -And there was no use in small talk about napkins.

Baley said, rather gruffly, "Are you a barber, Mr. Gremionis?"

Gremionis flushed, his light skin reddening to the hairline. He said in a choked voice, "Who told you that?"

Baley said, "If that is an impolite way of referring to your profession, I apologize. It is a common way of speaking on Earth and is no insult there."

Gremionis said, "I am a hair designer and a clothing designer. It is a recognized branch of art. I am, in fact, a personnel artist." His finger went to his mustache again.

Baley said gravely, "I notice your mustache. Is it common to grow them on Aurora?"

"No, it is not. I hope it will become so. You take your masculine face- A great many of them can be strengthened and improved by the artful design of facial hair. Everything is in the design-that's part of my profession. You can go too far, of course. On the world of Pallas, facial hair is common, but it is the practice there to indulge in parti-colored dying. Each individual hair is separately dyed to produce some sort of mixture.

-Now, that's foolish. It doesn't last, the colors change with time, and it looks terrible. But even so, it's better than facial baldness in some ways. Nothing is less attractive than a facial desert. -That's my own phrase. I use it in my personal talks with potential clients and it's very effective. Females can get by with no facial hair because they make up for it in other ways. On the world of Smitheus-

There was a hypnotic quality to his quiet, rapid words and his earnest expression, the way in which his eyes widened and remained fixed on Baley with an intense sincerity. Baley had to shake loose with an almost physical force.

He said, "Are you a roboticist, Mr. Gremionis?"

Gremionis looked startled and a little confused at being interrupted in midflow. "A roboticist?"

"Yes. A roboticist."

"No, not at all. I use robots as everyone does, but I don't know what's inside them. -Don't care really."

"But you live here on the grounds of the Robotics Institute. How is that?"

"Why shouldn't I?" Gremionis' voice was measurably more hostile.

"If you're not a roboticist-

Gremionis grimaced. "That's stupid! The Institute, when it was designed some years ago, was intended to be a self-contained community. We have our own transport vehicle repair shops, our own personal robot maintenance shops, our own physicians, our own structuralists. Our personnel live here and, if they have use for a personnel artist, that's Santirix Gremionis and I live here, too. -Is there something wrong with my profession that I should not?"

"I haven't said that."

Gremionis turned away with a residual petulance that Baley's hasty disclaimer had not allayed. He pressed a button, then, after studying a varicolored rectangular strip, did something that was remarkably like drumming his fingers briefly.

A sphere dropped gently from the ceiling and remained suspended a meter or so above their heads. It opened as though it were an orange that was unsegmenting and a play of colors began within it, together with a soft wash of sound. The two melted together so skillfully that Baley, watching with astonishment, discovered that, after a short while, it was hard to distinguish one from the other.

The windows opacified and the segments grew brighter.

"Too bright?" asked Gremionis.

"No," said Baley, after some hesitation.

"It's meant for background and I've picked a soothing combination that will make it easier for us to talk in a civilized way, you know." Then he said briskly, "Shall we get to the point?"

Baley withdrew his attention from the-whatever it was (Gremionis had not given it a name)-with some difficulty and said, "If you please. I would like to."

"Have you been accusing me of having anything to do with the immobilization of that robot Jander?"

"I've been inquiring into the circumstances of the robot's ending.

"But you've mentioned me in connection with that ending.

-In fact, just a little while ago, you asked me if I were a roboticist. I know what you had in mind. You were trying to get me to admit I knew something about robotics, so that you could build up a case against me as the-as the-ender of the robot."

"You might say the killer."

"The killer? You can't kill a robot. -In any case, I didn't end it, or kill it, or anything you want to call it. I told you, I'm not a roboticist. I know nothing about robotics. How can you even think that-"

"I must investigate all connections, Mr. Gremionis. Jander belonged to Gladia-the Solarian woman-and you were friendly with her. That's a connection."

"There could be any number of people friendly with her. That's no connection."

"Are you willing to state that you never saw Jander in all the times you may have been in Gladia's establishment?"

"Never! Not once!"

"You never knew she had a humaniform robot?"

"No!"

"She never mentioned him."

"She had robots all over the place. All ordinary robots. She said nothing about having anything else."

Baley shrugged. "Very well. I have no reason-so far-to suppose that that is not the truth."

"Then say so to Gladia. That is why I wanted to see you. To ask you to do that. To insist."

"Has Gladia any reason to think otherwise?"

"Of course. You poisoned her mind. You questioned her about me in that connection and she assumed-she was made uncertain- The fact is, she called this morning and asked me if I had anything to do with it. I told you that."

"And you denied it?"

"Of course I denied it and very strenuously, too, because I didn't have anything to do with it. But it's not convincing if I do 'the denying. I want you to do it. I want you to tell

her that, in your opinion, I had nothing to do with the whole business. You just said I didn't and you can't, without any evidence at all, destroy my reputation. I can report you."

"To whom?"

"To the Committee on Personal Defense. To the Legislature. The head of this Institute is a close personal friend of the Chairman himself and I've already sent a full report to him on this matter. I'm not waiting, you understand. I'm taking action."

Gremionis shook his head with an attitude that might have been intended for fierceness but that did not entirely carry conviction, considering the mildness of his face. "Look," he said, "this isn't Earth. We are protected here. Your planet, with its overpopulation, makes your people exist in so many beehives, so many anthills. You push against each other, suffocate each other -and it doesn't matter. One life or a million lives- it doesn't matter."

Baley, fighting to keep contempt from showing in his voice, said, "You've been reading historical novels."

"Of course I have-and they describe it as it is. You can't have billions of people on a single world without its being so. -On Aurora, we are each a valuable life. We are protected physically, each of us, by our robots, so that there is never an assault, let alone murder, on Aurora."

"Except for Jander."

"That's not murder; it's only a robot. And we are protected from the kinds of harm more subtle than assault by our Legislature. The Committee on Personal Defense takes a dim view -a very dim view- of any action that unfairly damages the reputation or the social status of any individual citizen. An Auroran, acting as you did, would be in trouble enough. As for an Earthman -well- "

Baley said, "I am carrying on an investigation at the invitation, I presume, of the Legislature. I don't suppose Dr. Fastolfe could have brought me here without Legislative permission."

"Maybe so, but that wouldn't give you the right to overstep the limits of fair investigation."

"Are you going to put this up to the Legislature, then?"

"I'm going to have the Institute head-"

"What is his name, by the way?"

"Kelden Amadiro. I'm going to ask him to put it up to the Legislature-and he's in the Legislature, you know-he's one of the leaders of the Globalist party. So I think you had better make it plain to Gladia that I am completely innocent."

"I would like to, Mr. Gremionis, because I suspect that you are innocent, but how can I change suspicion to certainty, unless you will allow me to ask you some questions?"

Gremionis hesitated. Then, with an air of defiance, he leaned back in his chair and placed his hands behind his neck, the picture of a man utterly failing to appear at ease. He said, "Ask away. I have nothing to hide. And after you're done, you'll have to call Gladia, right on that trimensional transmitter behind you and say your piece-or you will be in more trouble than you can imagine."

"I understand. But first- How long have you known Dr. Vasilia Fastolfe, Mr. Gremionis? Or Dr. Vasilia Aliena, if you know her by that name?"

Gremionis hesitated, then said in a tense voice, "Why do you ask that? What does that have to do with it?"

Baley sighed and his dour face seemed to sadden further. "I remind you, Mr. Gremionis, that you have nothing to hide and that you want to convince me of your innocence, so that I can convince Gladia of the same. Just tell me how long you have known her. If you have not known her, just say so-but before you do, it is only fair to tell you that Dr. Vasilia has stated that you knew her well-well enough, at least, to offer yourself to her."

Gremionis looked chagrined. He said in a shaky voice, "I don't know why people have to make a big thing out of it. An offer is a perfectly natural social interaction that concerns no one else.

-Of course, you're an Earthman, so you'd make a fuss about it."

"I understand she .didn't accept your offer."

Gremionis brought his hands down upon his lap, fists clenched. "Accepting or rejecting is entirely up to her. There've been people who've offered themselves to me and whom I've rejected. It's no large matter."

"Well, then. How long have you known her?"

"For some years. About fifteen."

"Did you know her when she was still living with Dr. Fastolfe?"

"I was just a boy then," he said, flushing.

"How did you get to know her?"

"When I finished my training as a personnel artist, I was called in to design a wardrobe for her. It gave her pleasure and after that she used my services-in that respect-exclusively."

"Was it on her recommendation, then, that you received your present position as-might we say-official personnel artist for the members of the Robotics Institute?"

"She recognized my qualifications. I was tested, along with others, and won the position on my merits."

"But she did recommend you?"

Briefly and with annoyance, Gremionis said, "Yes."

"And you felt the only decent return you could make was to offer yourself to her."

Gremionis grimaced and drew his tongue across his lips, as though tasting something unpleasant. "That-is-disgusting! I suppose an Earthman would think in such a way. My offer meant only that it pleased me to do so."

"Because she is attractive and has a warm personality?" Gremionis hesitated.

"Well, I wouldn't say she has a warm personality," he said cautiously, "but certainly she's attractive."

"I've been told that you offer yourself to everybody-without distinction."

"That is a lie."

"What is a lie? That you offer yourself to everybody or that I have been told so?"

"That I offer myself to everybody. Who said that?"

"I don't know that it would serve any purpose to answer that question. Would you expect me to quote you as a source of embarrassing information? Would you speak freely to me if you thought I would?"

"Well, whoever said it is a liar."

"Perhaps it was merely dramatic exaggeration. Had you offered yourself to others before you offered yourself to Dr. Vasilia?"

Gremionis looked away. "Once or twice. Never seriously."

"But Dr. Vasilia was someone you were serious about?"

"Well-"

"It is my understanding you offered yourself to her repeatedly, which is quite against Aurorari custom."

"Oh, Auroran custom-" Gremionis began furiously. Then he pressed his lips together firmly and his forehead furrowed. "See here, Mr. Baley, can I speak to you confidentially?"

"Yes. All my questions are intended to satisfy myself that you had nothing to do with Jander's death. Once I am satisfied of that, you may be sure I'll keep your remarks in confidence."

"Very well, then. It's nothing wrong-it's nothing I'm ashamed of, you understand. It's just that I have a strong sense of privacy and I have a right to that if I wish, don't I?"

"Absolutely," said Baley consolingly.

"You see, I feel that social sex is best when there is a profound love and affection between partners."

"I imagine that's very true."

"And then there's no need for others, wouldn't you say?"

"It sounds-plausible."

"I've always dreamed of finding the perfect partner and never seeking anyone else. They call it monogamy. It doesn't exist on Aurora, but on some worlds it does-and they have it on Earth don't they, Mr. Baley?"

"In theory, Mr. Gremionis."

"It's what I want. I've looked for it for years. When I experimented with sex sometimes, I could tell something was missing. Then I met Dr. Vasilia and she told me-well, people get confidential with their personnel artists because it's very personal work-and this is the really confidential part-"

"Well, go on."

Gremionis licked his lips. "If what I say now gets out, I'm ruined. She'll do her best to see to it that I get no further commissions. Are you sure this has something to do with the case?"

"I assure you with as much force as I can, Mr. Gremionis, that this can be totally important."

"Well, then"-Gremionis did not look quite convinced-"the fact is, that I gathered from what Dr. Vasilia told me, in bits and pieces, that she is"-his voice dropped to a whisper-"a virgin.

"I see," said Baley quietly (remembering Vasilia's certainty that her father's refusal had distorted her life and getting a firmer understanding of her hatred of her father).

"That excited me. It seemed to me I could have her all to myself and I would be the only one that she would ever have. I can't explain how much that meant to me. It made her look gloriously beautiful in my eyes and I just wanted her so much."

"So you offered yourself to her?"

"Yes."

"Repeatedly. You weren't discouraged by her refusals?"

"It just reinforced her virginity, so to speak, and made me more eager. It was more exciting that it wasn't easy. I can't explain and I don't expect you to understand."

"Actually, Mr. Gremionis, I do understand. -But there came a time when you stopped offering yourself to Dr. Vasilia?"

"Well, yes."

"And began offering yourself to Gladia?"

"Well, yes."

"Repeatedly?"

"Well, yes."

"Why? Why the change?"

Gremionis said, "Dr. Vasilia finally made it clear that there was no chance and then Gladia came along and she looked like Dr. Vasilia and-and-that was it."

Baley said, "But Gladia is no virgin. She was married on Solaria and she experimented rather widely on Aurora, I am told."

"I knew about that, but she-stopped. You see, she's a Solarian by birth, not an Auroran, and she didn't quite understand Auroran customs. But she stopped because she doesn't like what she calls 'promiscuity.'"

"Did she tell you that?"

"Yes. Monogamy is the custom on Solaria. She wasn't happily married, but it is still the custom she's used to, so she never enjoyed the Auroran way when she tried it-and monogamy is what I want, too. Do you see?"

"I see. But how did you meet her in the first place?"

"I just met her. She was on the hyperwave when she arrived in Aurora, a romantic refugee from Solaria. And she played a part in that hyperwave drama-"

"Yes yes, but there was something else, wasn't there?"

"I don't know what else you want."

"Well, let me guess. Didn't there come a point when Dr. Vasilia said she was rejecting you forever-and didn't she suggest an alternative to you?"

Gremionis, in sudden fury, shouted, "Did Dr. Vasilia tell you that! "

"Not in so many words, but I think I know what happened, even so. Did she not tell you that it might be advantageous if you looked up a new arrival on the planet, a young lady from Solaria who was a ward or protégée of Dr. Fastolfe-who you know is Dr. Vasilias father? Did Dr. Vasilias perhaps not tell you that people thought this young lady, Gladia, rather resembled herself, but that she was younger and had a warmer personality? Did Dr. Vasilias not, in short, encourage you to transfer your attentions from herself to Gladia?"

Gremionis was visibly suffering. His eyes flicked to those of Baley and away again. It was the first time that Baley saw in the eyes of any Spacer a look of fright-or was it awe? (Baley shook his head slightly. He must not take too much satisfaction at having overawed a Spacer. It could damage his objectivity.)

He said, "Well? Am I right or wrong?"

And Gremionis said in a low voice. "That hyperwave show was no exaggeration, then. -Do you read minds?"

50.

Baley said calmly, "I just ask questions. -And you haven't answered directly. Am I right or wrong?"

Gremionis said, "It didn't quite happen like that. Not just like that. She did talk about Gladia, but-" He bit at his lower lip and then said, "Well, it amounted to what you said. It was just about the way you described it."

"And you were not disappointed? You found that Gladia did resemble Dr. Vasilias?"

"In a way, she did." Gremionis' eyes brightened. "But not really. Stand them side by side and you'll see the difference. Gladia has much greater delicacy and grace. A greater spirit of -of fun."

"Have you offered yourself to Vasilias since you met Gladia?"

"Are you mad? Of course not."

"But you have offered yourself to Gladia?"

"Yes."

"And she rejected you?"

"Well, yes, but you have to understand that she has to be sure, as I would have to be. Think what a mistake I would have made if I had moved Dr. Vasilias to accept me. Gladia doesn't want to make that mistake and I don't blame her."

"But you don't think it would be a mistake for her to accept you, so you have offered yourself again-and again-and again."

Gremionis stared vacantly at Baley for a moment and then seemed to shudder. He thrust out his lower lip, as though he were a rebellious child. "You say it in an insulting way-"

"I'm sorry. I don't mean it to be insulting. Please answer the question."

"Well, I have."

"How many times have you offered yourself?"

"I haven't counted. Four times. Well, five. Or maybe more."

"And she has always rejected you."

"Yes. Or I wouldn't have to offer again, would I?"

"Did she reject you angrily?"

"Oh no. That's not Gladia. Very kindly."

"Has it made you offer yourself to anyone else?"

"What?"

"Well, Gladia has rejected you. One way of responding would be to offer yourself to someone else. Why not? If Gladia doesn't want you-"

"No. I don't want anyone else."

"Why is that, do you suppose?"

And, strenuously, Gremionis said, "How should I know why that is? I want Gladia. It's a-it's a kind of madness, except that I think it's the best kind of insanity. I'd be mad not to have that kind of madness. -I don't expect you to understand."

"Have you tried to explain this to Gladia? She might understand."

"Never. I'd distress her. I'd embarrass her. You don't talk about such things. I should see a mentologist."

"Have you?"

"Why not?"

Gremionis frowned. "You have a way of asking the rudest questions, Earthman."

"Perhaps because I'm an Earthman. I know no better. But I'm also an investigator and I must know these things. Why have you not seen a mentologist?"

Surprisingly, Gremionis laughed. "I told you. The cure would be greater madness than the disease. I would rather be with Gladia and be rejected than be with anyone else and be accepted. -Imagine having your mind out of whack and wanting it to stay out of whack. Any mentologist would put me in for major treatment."

Baley thought awhile, then said, "Do you know whether Dr. Vasilisa is a mentologist in any way?"

"She's a roboticist. They say that's the closest thing to it. If you know how a robot works, you've got a hint as to how a human brain works. Or so they say."

"Does it occur to you that Vasilisa knows these strange feelings you have in connection with Gladia?"

Gremionis stiffened. "I've never told her. -I mean in so many words."

"Isn't it possible that she understands your feelings without having to ask? Is she aware that you have repeatedly offered yourself to Gladia?"

"Well- She would ask how I was getting along. In the way of long-standing acquaintanceship, you know. I would say certain things. Nothing intimate."

"Are you sure that it was never anything intimate? Surely she encouraged you to continue to offer."

"You know-now that you mention it, I seem to see it all in a new way. I don't see quite how you managed to put it into my head. It's the questions you ask, I suppose, but it seems to me now that she did continue to encourage my friendship with Gladia. She

actively supported it." He looked very uneasy. "This never occurred to me before. I never really thought about it."

"Why do you think she encouraged you to make repeated offers to Gladia?"

Gremionis twitched his eyebrows ruefully and his finger went to his mustache. "I suppose some might guess she was trying to get rid of me. Trying to make sure I wouldn't want to bother her." He made a small laughing sound. "That's not very complimentary to me, is it?"

"Did Dr. Vasilia cease being friendly with you?"

"Not at all. She was more friendly-if anything."

"Did she try to tell you how to be more successful with Gladia? To show a greater interest in Gladia's work, for example?"

"She didn't have to do that. Gladia's work and mine are very similar. I work with human beings and she with robots, but we're both designers -artists-. That does make for closeness, you know. We even help each other at times. When I'm not offering and being rejected, we're good friends. -That's a lot, when you come to think of it."

"Did Dr. Vasilia suggest you show a greater interest in Dr. Fastolfe's work?"

"Why should she suggest that? I don't know anything about Dr. Fastolfe's work."

"Gladia might be interested in her benefactor's work and it might be a way for you to ingratiate yourself with her."

Gremionis' eyes narrowed. He rose with almost explosive force, walked to the other end of the room, came back, stood in front of Baley, and said, "Now-you-look-here! I'm not the biggest brain on the planet, not even the second-biggest, but I'm not a blithering idiot. I see what you're getting at, you know."

"Oh?"

"All your questions have served to sort of wriggle me into saying that Dr. Vasilia got me to fall in love- That's it"-he stopped in sudden surprise-"I'm in love, like in the historical novels." He thought about that with the light of wonder in his eyes. Then the anger returned. "That she got me to fall in love and to stay in love, so that I could find out things from Dr. Fastolfe and learn how to immobilize that robot, Jander."

"You don't think that's so?"

"No, it's not!" shouted Gremionis. "I don't know anything about robotics. Anything. No matter how carefully anything about robotics were explained to me, I wouldn't understand it. And I don't think Gladia would either. Besides, I never asked anyone about robotics. I was never told-by Dr. Fastolfe or anyone-anything about robotics. No one ever suggested I get involved with robotics. Dr. Vasilia never suggested it. Your whole rotten theory doesn't work." He shot his arms out to either side. "It doesn't work. Forget it."

He sat back, folded his arms rigidly across his chest, and forced his lips together in a thin line, making his small mustache bristle.

Baley looked up at the unsegmented orange, which was still humming its low, pleasantly varying tune and displaying a gentle change of color as it swayed hypnotically through a small, slow arc.

If Gremionis' outburst had upset his line of attack, he showed no sign of it. He said, "I understand what you're saying, but it's still true that you see much of Gladia, isn't it?"

"Yes, I do."

"Your repeated offers do not offend her-and her repeated rejections do not offend you?"

Gremionis shrugged. "My offers are polite. Her refusals are gentle. Why should we be offended?"

"But how do you spend time together? Sex is out, obviously, and you don't talk robotics. What do you do?"

"Is that all there is to companionship-sex and robotics? We do a great deal together. We talk, for one thing. She is very curious about Aurora and I spend hours describing the planet. She's seen very little of it, you know. And she spends hours telling me about Solaria and what a hellhole it is. I'd rather live on Earth- no offense intended. And there's her dead husband. What a miserable character he was. Gladia's had a hard life, poor woman.

"We go to concerts, I took her to the Art Institute a few times, and we work together. I told you that. We go over my designs- or her designs-together. To be perfectly honest, I don't see that working on robots is very rewarding, but we all have our own notions, you know. For that matter, she seemed to be amused when I explained why it was so important to cut hair correctly- her own hair isn't quite right, you know. But mostly, we go for walks."

"Walks? Where?"

"Nowhere particularly. Just walks. That is her habit-because of the way she was brought up on Solaria. Have you ever been on Solaria? -Yes, you have been, of course. I'm sorry. -On Solaria, there are these huge estates with only one or two human beings on them, just robots otherwise. You can walk for miles and be completely alone and Gladia says that it makes you feel as though you owned the entire planet. The robots are always there, of course, keeping an eye on you and taking care of you, but, of course, they keep out of sight. Gladia misses that feeling of world ownership here on Aurora."

"Do you mean that she wants world ownership?"

"You mean a kind of lust for power? Gladia? That's crazy. All she means is that she misses the feeling of being alone with nature. I don't see it myself, you understand, but I like humoring her. Of course, you can't quite get the Solarian feeling in Aurora. There are bound to be people about, especially in the Eos metropolitan area, and robots haven't been programmed to keep out of sight. In fact, Aurorans generally walk with robots. -Still, I know some routes that are pleasant and not very crowded and Gladia enjoys them."

"Do you enjoy them, too?"

"Well, only because I would be with Gladia. Aurorans are walkers, too, by and large, but I must admit I'm not. I had protesting muscles at first and Vasilia laughed at me."

"She knew you went on walks, did she?"

"Well, I came in limping one day and creaking at the thighs, so I had to explain. She laughed and said it was a good idea and the best way to get a walker to accept an offer was to walk with them. 'Keep it up,' she said, 'and she'll cancel her rejection before you get a chance to offer again. She'll make the offer herself.' As it happened, Gladia didn't, but eventually I grew to like the walks very much, just the same."

He seemed to have gotten over his flash of anger and was now very much at his ease. He might have been thinking of the walks, Baley thought, for there was a half-smile on his face. He looked rather likable-and vulnerable-with his mind back on who-knew-what conversational passage on a walk that had taken them who-knew-where. Baley almost smiled in response.

"Vasilia knew, then, that you continued the walks."

"I suppose so. I began to take Wednesdays and Saturdays off because that fit in with Gladia's schedule choice-and Vasilia would sometimes joke about my 'WS walks' when I brought in some sketches."

"Did Dr. Vasilia ever join the walks?"

"Certainly not."

Baley shifted in his seat and stared intently at his fingertips as he said, "I presume you had robots accompanying you on your walks."

"Absolutely. One of mine, one of hers. They kept rather out of the way, though. They didn't tag along in what Gladia called Aurora fashion. She wanted Solarian solitude, she said. So I obliged, though at first I got a crick in my neck looking around to see if Brundij was with me."

"And which robot accompanied Gladia?"

"It wasn't always the same one. Whichever he was, he held off, too. I didn't get to talk to him."

"What about Jander?"

Some of the sunniness left Gremionis' expression at once.

"What about him?" he asked.

"Did he ever come along? If he did, you would know, wouldn't you?"

"A humaniform robot? I certainly would. And he did not accompany us-not ever."

"Are you certain?"

"Completely certain." Gremionis scowled. "I imagine she thought him far too valuable to waste on duties any ordinary robot could perform."

"You seem annoyed. Did you think so, too?"

"He was her robot. I didn't worry about it."

"And you never saw him when you were at Gladia's establishment?"

"Never."

"Did she ever say anything about him? Discuss him?"

"Not that I recall."

"Didn't you consider that strange?"

Gremionis shook his head. "No. Why talk about robots?" Baley's somber eyes fixed on the other's face. "Did you have any idea of the relationship between Gladia and Jander?"

Gremionis said, "Are you going to tell me that there was sex between them?"

Baley said, "Would you be surprised if I did?"

Gremionis said stolidly, "It happens. It's not unusual. You can use a robot sometimes, if you feel like it. And a humaniform robot-completely humaniform, I believe-

"Completely," said Baley with an appropriate gesture. Gremionis' lips curved downward. "Well, then, it would be hard for a woman to resist."

"She resisted you. Doesn't it bother you that Gladia would prefer a robot to you?"

"Well, if it comes to that, I'm not sure that I believe this is true-but if it is, it's nothing to worry about. A robot is just a robot. A woman and a robot-or a man and a robot-it's just masturbation."

"You honestly never knew of the relationship, Mr. Gremionis? You never suspected?"

"I never gave it any thought," insisted Gremionis.

"Didn't know? Or did know, but paid it no mind?"

Gremionis scowled. "You're pushing again. What do you want me to say? Now that you put it into my head and push, it seems to me, if I look back, that maybe I was wondering about something like that. Just the same, I never felt anything was happening before you started asking questions."

"Are you sure?"

"Yes, I'm sure. Don't badger me."

"I'm not badgering you. I'm just wondering if it were possible that you did know that Gladia was regularly engaging in sex with Jander, that you knew that you would never be accepted as her lover as long as that was so, that you wanted her so much that you would stop at nothing to eliminate Jander, that, in short, you were so jealous that you-"

And at that moment, Gremionis-as though some tightly coiled spring, held back with difficulty for some minutes, had suddenly twitched loose-hurled himself at Baley with a loud and incoherent cry. Baley, taken completely by surprise, pushed backward instinctively and his chair went over.

51.

There were strong arms upon him at once. Baley felt himself lifted, the chair righted, and was aware that he was in the grip of a robot. How easy it was to forget they were in the room when they stood silent and motionless in their niches.

It was neither Daneel nor Giskard who had come to his rescue, however. It was Gremionis' robot, Brundij.

"Sir," said Brundij, his voice just a bit unnatural, "I hope you are not hurt."

Where were Daneel and Giskard?

The question answered itself at once. The robots had divided the labor neatly and quickly. Daneel and Giskard, estimating instantly that an overturned chair offered less chance of harm to Daley than a maddened Gremionis, had launched themselves at the host. Brundij, seeing at once that he was not needed in that direction, saw to the welfare of the guest.

Gremionis stood standing, his breath heaving-was completely immobilized in the careful double-grasp of Baley's robots.

Gremionis said, in very little above a whisper, "Release me. I am in control of myself."

"Yes, sir," said Giskard.

"Of course, Mr. Gremionis," said Daneel with what was almost suavity.

But although their arms released their hold, neither moved back for a period of time. Gremionis looked right and left, adjusted the smoothness of his clothing, and then, deliberately, sat down. His breathing was still rapid and his hair was, to a small extent, in disarray.

Baley now stood, one hand on the back of the chair on which he had been sitting.

Gremionis said, "I am sorry, Mr. Baley, for losing control. It is something I have not done in my adult life. You accused me of being j-jealous. It is a word no respectable Auroran would use of another, but I should have remembered you are an Earthman. It is a word we encounter only in historical romances and even then the word is usually spelled with a 'j,' followed by a dash. Of course, that is not so on your world. I understand that."

"I am sorry, too, Mr. Gremionis," said Baley gravely, "that my forgetfulness of Auroran custom led me astray in this instance. I assure you that such a lapse will not happen again." He seated himself and said, "I don't know that there is much more to discuss-"

Gremionis did not seem to be listening. "When I was a child," he said, "I would sometimes push against another, and be pushed, and it would be awhile before the robots would take the trouble to separate us, of course-"

Daneel said, "If I may explain, Partner Elijah. It has been well-established that total suppression of aggression in the very young has undesirable consequences. A certain amount of youthful play involving physical competition is permitted-even encouraged-provided no real hurt is involved. Robots in charge of the young are carefully programmed to be able to distinguish the chances and level of harm that may take place. I, for instance, am not properly programmed in this respect and would not qualify as a guardian of the young except under emergency conditions for brief periods. -Nor would Giskard."

Baley said, "Such aggressive behavior is stopped during adolescence, I suppose."

"Gradually," said Daneel, "as the level of harm that may be inflicted increases and as the desirability of self-control becomes more pronounced."

Gremionis said, "By the time I was ready for higher schooling, I, like all Aurorans, knew quite well that all competition rested on the comparison of mental capacity and talent-"

"No physical competition?" said Baley.

"Certainly, but only in fashions that do not involve deliberate physical contact with intent to injure."

"But since you've been an adolescent-"

"I've attacked no one. Of course I haven't. I've had the urge to do so on a number of occasions, to be sure. I suppose I wouldn't be entirely normal if I hadn't, but until this moment, I've been able to control it. But then, no one ever called me-that before."

Baley said, "It would do no good to attack, in any case, if you are going to be stopped by robots, would it? I presume there is always a robot within reach on both sides of both the attacker and the attacked."

"Certainly. -All the more reason for me to be ashamed of having lost my self-control. I trust that this won't have to go into your report."

"I assure you I will tell no one of this. It has nothing to do with the case."

"Thank you. Did you say that the interview is over?"

"I think it is."

"In that case, will you do as I have asked you to do?"

"What is that?"

"To tell Gladia I had nothing to do with Jander's immobilization."

Baley hesitated. "I will tell her that that is my opinion."

Gremionis said, "Please make it stronger than that. I want her to be absolutely certain that I had nothing to do with it; all the more so if she was fond of the robot from a sexual standpoint. I couldn't bear to have her think I was j-j- Being a Solarian, she might think that."

"Yes, she might," said Baley thoughtfully.

"But look," said Gremionis, speaking quickly and earnestly. "I don't know anything about robots and no one-Dr. Vasilia or anyone else-has told me anything about them-how they work, I mean. There is just no way in which I could have destroyed Jander."

Baley seemed, for a moment, to be deep in thought. Then he said, with clear reluctance, "I can't help but believe you. To be sure, I don't know everything. And it is possible-I say this without meaning offense-that either you or Dr. Vasilia-or both-are lying. I know surprisingly little about the intimate nature of Auroran society and I can perhaps be easily fooled. And yet, I can't help but believe you. Nevertheless, I can't do more than tell Gladia that, in my opinion, you are completely innocent. I must say 'in my opinion,' however. I am sure she will find that strong enough."

Gremionis said gloomily, "Then I will have to be satisfied with that. -If it will help, though, I assure you, on the word of an Auroran citizen, that I am innocent."

Baley smiled slightly. "I wouldn't dream of doubting your word, but my training forces me to rely on objective evidence alone."

He stood up, stared solemnly at Gremionis for a moment, then said, "What I am about to say should not be taken amiss, Mr. Gremionis. I take it that you are interested in having me give Gladia this reassurance because you want to retain her friendship."

"I want that very much, Mr. Baley."

"And you intend, on some suitable occasion, to offer yourself again?"

Gremionis flushed, swallowed visibly, then said, "Yes, I do."

"May I then give you a word of advice, sir? Don't do it."

"You may keep your advice, if that's what you're going to tell me. I don't intend ever to give up."

"I mean do not go through the usual formal procedure. You might consider simply"-Baley looked away, feeling unaccountably embarrassed-"putting your arms around her and kissing her."

"No," said Gremionis earnestly. "Please. An Auroran woman would not endure that. Nor an Auroran man."

"Mr. Gremionis, won't you remember that Gladia is not Auroran? She is Solarian and has other customs, other traditions. I would try it if I were you."

Baley's level gaze masked a sudden internal fury. What was Gremionis to him that he should give such advice? Why tell another to do that which he himself longed to do?

13. AMADIRO

52.

Baley got back to business, with a somewhat deeper baritone to his voice than was usual. He said, "Mr. Gremionis, you mentioned the name of the head of the Robotics Institute earlier. Could you give me that name again?"

"Kelden Amadiro."

"And would there be some way of reaching him from here?" Gremionis said, "Well, yes and no. You can reach his receptionist or his assistant. I doubt that you'll reach him. He's a rather standoffish person, I'm told. I don't know him personally, of course. I've seen him now and then, but I've never talked to him."

"I take it, then, he doesn't use you as a clothes designer or for personal grooming?"

"I don't know that he uses anyone and, from the few occasions when I've seen him, I can tell you he looks it, though I'd rather you didn't repeat that remark."

"I'm sure you're right, but I'll keep the confidence," said Baley gravely. "I would like to try to reach him, despite his standoffish reputation. If you have a trimensic outlet, would you mind my making use of it for that purpose?"

"Brundij can make the call for you."

"No, I think my partner, Daneel, should-that is, if you don't mind."

"I don't mind at all," said Gremionis. "The outlet is in there, so just follow me, Daneel. The pattern you must use is 75-30-up-20."

Daneel bowed his head. "Thank you, sir."

The room with the trimensic outlet was quite empty, except for a thin pillar toward one side of the room. It ended waist-high in a flat surface on which there was a rather complicated console. The pillar stood in the center of a circle marked off on the light green floor in a neutral gray. Near it was an identical circle in size and color, but on the second one there stood no pillar.

Daneel stepped to the pillar and, as he did so, the circle on which it stood glowed with a faint white radiance. His hand moved over the console, his fingers flicking too quickly for Baley to make out clearly what it was they did. It only took a second and then the other circle glowed in precisely the same way. A robot appeared on it, three-dimensional in appearance but with a very faint flicker that gave away the fact that it was a holographic image. Next to him was a console like that next to which Daneel stood, but the robot's console also flickered and was also an image.

Daneel said, "I am R. Daneel Olivaw" -he faintly emphasized the "R." so the robot would not mistake him for a human being-" and I represent my partner, Elijah Baley, a plainclothesman from Earth. My partner would like to speak with Master Robotist Kelden Amadiro."

The robot said, "Master Robotacist Amadiro is in conference. Would it be sufficient to speak to Robotacist Cicis?"

Daneel looked quickly in Baley's direction. Baley nodded and Daneel said, "That will be quite satisfactory."

The robot said, "If you will ask Plainclothesman Baley to take your place, I will try to locate Robotacist Cicis."

Daneel said smoothly, "It would perhaps be better if you were first to-"

But Baley called out, "It's all right, Daneel. I don't mind waiting."

Daneel said, "Partner Elijah, as the personal representative of Master Robotacist Han Fastolfe, you have assimilated his social status, at least temporarily. It is not your place to have to wait for-"

"It's all right, Daneel," said Baley, with enough emphasis to preclude further discussion. "I don't wish to create delay by a dispute over social etiquette."

Daneel stepped off the circle and Baley stepped on. He felt a slight tingle as he did so (perhaps a purely imaginary one), but it quickly passed.

The robot's image, standing on the other circle, faded and disappeared. Baley waited patiently and eventually another image darkened and took on apparent three-dimensionality.

"Robotacist Maloon Cicis here," said the figure in a rather sharp, clear voice. He had the close-cut bronze hair that alone sufficed to give him what Baley thought of as a typical Spacer look, though there was a certain un-Spacerlike asymmetry to the line of his nose.

Baley said quietly, "I am Plainclothesman Elijah Baley from Earth. I would like to speak with Master Robotacist Kelden Amadiro."

"Do you have an appointment, Plainclothesman?"

"No, sir."

"You will have to make one if you wish to see him-and there's no time slot available for this week or next."

"I am Plainclothesman Elijah Baley of Earth-"

"So I have been given to understand. It doesn't alter the facts."

Baley said, "At the request of Dr. Han Fastolfe and with the permission of the World Legislature of Aurora, I am investigating the murder of Robot Jander Panell-"

"The murder of Robot Jander Panell?" asked Cicis so politely as to indicate contempt.

"Roboticide, if you prefer, then. On Earth, the destruction of a robot would not be so great a matter, but on Aurora, where robots are treated more or less as human beings, it seemed to me that the word 'murder' might be used."

Cicis said, "Nevertheless, whether murder, roboticide, or nothing at all, it is still impossible to see Master Robotacist Amadiro."

"May I leave a message for him?"

"You may."

"Will it be delivered to him instantly? Now?"

"I can try, but obviously I can make no guarantee."

"Good enough. I will make several points and I will number them. Perhaps you would like to make notes."

Cicis smiled faintly. "I think I will be able to remember."

"First, where there is a murder, there is a murderer, and I would like to give Dr. Amadiro a chance to speak in his own defense-

"What!" said Cicis.

(And Gremionis, watching from the other side of the room, let his jaw drop.)

Baley managed to imitate the faint smile that had suddenly disappeared from the other's lips. "Am I too fast for you, sir? Would you like to make notes after all?"

"Are you accusing the Master Robotist of having had anything to do with this Jander Panell business?"

"On the contrary, Robotist. It is because I don't want to accuse him that I must see him. I would hate to imply any connection between the Master Robotist and the immobilized robot on the basis of incomplete information, when a word from him might make everything clear."

"You are mad!"

"Very well. Then tell the Master Robotist that a madman wants a word with him in order to avoid accusing him of murder. That's my first point. I have a second. Could you tell him that the same madman has just completed a detailed interrogation of Personnel Artist Santirix Gremionis and is calling from Gremionis' establishment. And the third point-am I going too fast for you?"

"No! Finish!"

"The third point is this. It may be that the Master Robotist, who surely has a great deal on his mind that is of much moment, does not remember who Personnel Artist Santirix Gremionis is. In that case, please identify him as someone living on the Institute grounds who has, in the last year, taken many long walks with Gladia, a woman from Solaria who now lives on Aurora."

"I cannot deliver a message so ridiculous and offensive, Earthman."

"In that case, would you tell him I will go straight to the Legislature and I will announce that I cannot continue with my investigation because one Maloon Cicis takes it upon himself to assure me that Master Robotist Kelden Amadiro will not assist me in the investigation of the destruction of Robot Jander Panell and will not defend himself against accusations of being responsible for that destruction?"

Cicis reddened. "You wouldn't dare say anything of the sort."

"Wouldn't I? What would I have to lose? On the other hand, how will it sound to the general public? After all, Aurorans are perfectly aware that Dr. Amadiro is second only to Dr. Fastolfe himself in expertise in robotics and that, if Fastolfe himself is not responsible for the roboticide- Is it necessary to continue?"

"You will find, Earthman, that the laws of Aurora against slander are strict."

"Undoubtedly, but if Dr. Amadiro is effectively slandered, his punishment is likely to be greater than mine. But why don't you simply deliver my message now? Then, if he explains just a few minor points, we can avoid all question of slander or accusation or anything of the sort."

Cicis scowled and said stiffly, "I will tell Dr. Amadiro this and I will strongly advise him to refuse to see you." He disappeared.

Again, Baley waited patiently, while Gremionis gestured fiercely and said in a loud whisper, "You can't do that, Baley. You can't do it." Baley waved him quiet.

After some five minutes (it seemed much longer to Baley), Cicis reappeared, looking enormously angry. He said, "Dr. Amadiro will take my place here in a few minutes and will talk to you. Wait!"

And Baley said at once, "There is no point in waiting. I will come directly to Dr. Amadiro's office and I will see him there."

He stepped off the gray circle and made a cutting gesture to Daneel, who promptly broke the connection.

Gremionis said, with a kind of strangled gasp, "You can't talk to Dr. Amadiro's people that way, Earthman."

"I just have," said Baley.

"He'll have you thrown off the planet within twelve hours."

"If I don't make progress in straightening out this mess, I may in any case be thrown off the planet within twelve hours."

Daneel said, "Partner Elijah, I fear that Mr. Gremionis is justified in his alarm. The Auroran World Legislature cannot do more than evict you, since you are not an Auroran citizen. Nevertheless, they can insist that the Earth authorities punish you severely and Earth will do so. They could not resist an Auroran demand, in this case. I would not wish you to be punished in this way, Partner Elijah."

Baley said heavily, "Nor do I wish the punishment, Daneel, but I must take the chance. -Mr. Gremionis, I am sorry that I had to tell him I was calling from your establishment. I had to do something to persuade him to see me and I felt he might attach importance to that fact. What I said was, after all, the truth."

Gremionis shook his head. "If I had known what you were going to do, Mr. Baley, I would not have permitted you to call from my establishment. I feel sure that I'm going to lose my position here and"-with bitterness-"what are you going to do for me that will make up for that?"

"I will do my best, Mr. Gremionis, to see that you do not lose your position. I feel confident that you will be in no trouble. If I fail, however, you are free to describe me as a madman who made wild accusations against you and frightened you with threats of slander, so that you had to let me use your viewer. I'm sure Dr. Amadiro will believe you. After all, you have already sent him a memo complaining that I have been slandering you, have you not?"

Baley lifted his hand in farewell. "Good-bye, Mr. Gremionis. Thank you again. Don't worry and-remember what I said about Gladia."

With Daneel and Giskard sandwiching him fore and aft, Baley stepped out of Gremionis' establishment, scarcely conscious of the fact that he was moving out into the open once more.

53.

Once out in the open, it was a different matter. Baley stopped and looked up.

"Odd," he said. "I didn't think that that much time had passed, even allowing for the fact that the Aurorian day is a little shorter than standard."

"What is it, Partner Elijah?" asked Daneel solicitously.

"The sun has set. I wouldn't have thought it."

"The sun has not yet set, sir," put in Giskard. "It is about two hours before sunset."

Daneel said, "It is the gathering storm, Partner Elijah. The clouds are thickening, but the storm will not actually break for some time yet."

Baley shivered. Dark, in itself, did not disturb him. In fact, when Outside, night, with its suggestion of enclosing walls, was far more soothing than the day, which broadened the horizons and opened space in every direction.

The trouble was that this was neither day nor night.

Again, he tried to remember what it had been like that time it had rained when he had been Outside.

It suddenly occurred to him that he had never been out when it snowed and that he wasn't even sure what the rain of crystalline solid water was like. Descriptions in words were surely insufficient. The younger ones sometimes went out to go sliding or sledding-or whatever-and returned shrieking with excitement-but always glad to get within the City walls. Ben had once tried to make a pair of skis, according to directions in some ancient book or other, and had gotten himself half-buried in a drift of the white stuff. And even Ben's descriptions of what it was like to see and feel snow were distressingly vague and unsatisfying.

Then, too, no one went out when it was actually snowing, as opposed to having the material merely lying about on the ground. Baley told himself, at this point, that the one thing everyone agreed on was that it only snowed when it was very cold. It was not very cold now; it was merely cool. Those clouds did not mean it was going to snow. - Somehow, he felt only minimally consoled.

This was not like the cloudy days on Earth, which he had seen. On Earth, the clouds were lighter; he was sure of that. They were grayish-white, even when they covered the sky solidly. Here, the light-what there was of it-was rather bilious, a ghastly yellowish-slate.

Was that because Aurora's sun was more orange than Earth's was?

He said, "Is the color of the sky-unusual?"

Daneel looked up at the sky. "No, Partner Elijah. It is a storm."

"Do you often have storms like this?"

"At this time of year, yes. Occasional thunderstorms. This is no surprise. It was predicted in the weather forecast yesterday and again this morning. It will be over well before daybreak and the fields can use the water. We've been a bit subnormal in rainfall lately."

"And it gets this cold, too? Is that normal, too?"

"Oh yes. -But let us get into the airfoil, Partner Elijah. It can be heated."

Baley nodded and walked toward the airfoil, which lay on the grassy plot where it had been brought to rest before lunch. He paused.

"Wait. I did not ask Gremionis for directions to Amadiro's establishment-or office."

"No need, Partner Elijah," said Daneel immediately, his hand in the crook of Baley's elbow, propelling him gently but unmistakably onward. "Friend Giskard has the map of the Institute clearly in his memory banks and he will take us to the Administration Building. It is very likely that Dr. Amadiro has his office there."

Giskard said, "My information is to the effect that Dr. Amadiro's office is in the Administration Building. If, by some chance, he is not at his office but is in his establishment, that is nearby."

Again, Baley found himself crammed into the front seat between the two robots. He welcomed Daneel particularly, with his humanlike body warmth. Although Giskard's textile-like outermost layer was insulating and not as cold to the touch as bare metal would have been, he was the less attractive of the two in Baley's current chilly state.

Baley caught himself on the verge of putting an arm around Daneel's shoulder, with the intention of finding comfort by drawing him even closer. He brought his arm down to his lap in confusion.

He said, "I don't like the way it looks out there."

Daneel, perhaps in an effort to take Baley's 'mind off the appearance Outside, said, "Partner Elijah, how is it you knew that Dr. Vasilisa had encouraged Mr. Gremionis' interest in Miss Gladia? I did not see that you had received any evidence to that effect."

"I didn't," said Baley. "I've been desperate enough to play long shots-that is, to gamble on events of low probability. Gladia told me that Gremionis was the one person sufficiently interested in her to offer himself repeatedly. I thought he might have killed Jander out of jealousy. I didn't think he could possibly know enough about robotics to do it, but then I heard that Fastolfe's daughter Vasilisa was a roboticist and resembled Gladia physically. I wondered if Gremionis, having been fascinated by Gladia, might not have been fascinated by Vasilisa earlier- and if the killing might possibly have been the result of a conspiracy between the two. It was by hinting obscurely at the existence of such a conspiracy that I was able to persuade Vasilisa to see me."

Daneel said, "But there was no conspiracy, Partner Elijah-at least as far as the destruction of Jander was concerned. Vasilisa and Gremionis could not have engineered that destruction, even if they had worked together."

"Granted-and yet Vasilisa had been made nervous by the suggestion of having had a connection with Gremionis. Why? When Gremionis told us of having been attracted to Vasilisa first, and then to Gladia, I wondered if the connection between the two had been

more indirect, if Vasilia might have encouraged the transfer for some reason more distantly connected-but connected nevertheless-to Jander's death. After all, there had to be some connection between the two; Vasilia's reaction to the original suggestion showed that.

"My suspicion was correct. Vasilia had engineered Gremionis' switch from one woman to the other. Gremionis was astonished at my knowing this and that, too, was useful, for if the matter were something completely innocent, there would have been no reason to make a secret of it-and a secret it obviously was. You remember that Vasilia mentioned nothing of urging Gremionis to turn to Gladia. When I told her that Gremionis had offered himself to Gladia, she acted as though that was the first time she had heard of it."

"But, Partner Elijah, of what importance is this?"

"We may find out. It seemed to me that there was no importance in it to either Gremionis or Vasilia. Therefore, if it had any importance at all, it might be that a third person was involved. If it had anything to do with the Jander affair, then it ought to be a roboticist still more skillful than Vasilia-and that might be Amadiro. So I hinted to him of the existence of a conspiracy by deliberately pointing out I had been questioning Gremionis and was calling from his establishment-and that worked, too."

"Yet I still don't know what it all means, Partner Elijah."

"Nor I-except for some speculations. But perhaps we'll find out at Amadiro's. Our situation is so bad, you see, we have nothing to lose by guessing and gambling."

During this exchange, the airfoil has risen on its air-jets, and had moved to a moderate height. It cleared a line of bushes and was now once again speeding along over grassy areas and graveled roads. Baley noticed that, where the grass was taller, it was swept to one side by the wind as though an invisible-and much larger-airfoil were passing over it.

Baley said, "Giskard, you have been recording the conversations which have taken place in your presence, haven't you?"

"Yes, sir."

"And can reproduce them at need?"

"Yes, sir."

"And can easily locate-and reproduce-some particular statement made by some given person?"

"Yes, sir. You would not have to listen to the entire recording."

"And could you, at need, serve as a witness in a courtroom?"

"I, sir? No, sir." Giskard's eyes were fixed firmly on the road. "Since a robot can be directed to lie by a skillful enough command and not all the exhortations or threats of a judge might help, the law wisely considers a robot an incompetent witness."

"But, in that case, of what use are your recordings?"

"That, sir, is a different thing. A recording, once made, cannot be altered on simple command, though it might be erased. Such a recording can, therefore, be

admitted as evidence. There are no firm precedents, however, and whether it is -or is not- admitted depends on the individual case and on the individual judge."

Baley could not tell whether that statement was depressing in itself or whether he was influenced by the unpleasant livid light that bathed the landscape. He said, "Can you see well enough to drive, Giskard?"

"Certainly, sir, but I do not need to. The airfoil is equipped with a computerized radar that would enable it to avoid obstacles on its own, even if I were, unaccountably, to fail in my task. It was this that was in operation yesterday morning when we traveled comfortably though all the windows were opacified."

"Partner Elijah," said Daneel, again veering the conversation away from Baley's uncomfortable awareness of the coming storm, "do you have hope that Dr. Amadiro might indeed be helpful?"

Giskard brought the airfoil to rest on a wide lawn before a broad but not very high building, with an intricately-carved façade that was clearly new and yet gave the impression of imitating something quite old.

Baley knew it was the Administration Building without being told. He said, "No, Daneel, I suspect that Amadiro may be far too intelligent to give us the least handle to grasp him by."

"And if that is so, what do you plan to do next?"

"I don't know," said Baley, with a grim feeling of *déjà vu*, "but I'll try to think of something."

54.

When Baley entered the Administration Building, his first feeling was one of relief at removing himself from the unnatural lighting Outside. The second was one of wry amusement.

Here on Aurora, the establishments-the private dwelling places-were all strictly Auroran. He couldn't, for a moment, while sitting in Gladia's living room, or breakfasting in Fastolfe's dining room, or talking in Vasilis's work room, or making use of Gremionis' trimensional viewing device, have thought himself on Earth. All four were distinct from each other, but all fell within a certain genus, widely different from that of the underground apartments on Earth.

The Administration Building, however, breathed officialdom and that, apparently, transcended ordinary human variety. It did not belong to the same genus as the dwelling places on Aurora, any more than an official building in Baley's home City resembled an apartment in the dwelling Sectors-but the two official buildings on the two worlds of such widely different natures strangely resembled each other.

This was the first place on Aurora where, for an instant, Baley might have imagined himself on Earth. Here were the same long cold bare corridors, the same lowest common

denominator of design and decoration, with every light source designed so as to irritate as few people as possible and to please just as few.

There were some touches here that would have been absent on Earth-the occasional suspended pots of plants, for instance, flourishing in the light and outfitted with devices (Baley guessed) for controlled and automatic watering. That natural touch was absent on Earth and its presence did not delight him. Might such pots not sometimes fall? Might they not attract insects? Might not the water drip?

There were some things missing here, too. On Earth, when one was within a City, there was always the vast, warm hum of people and machinery-even in the most coldly official of administrative structures. It was the "Busy Buzz of Brotherhood," to use the phrase popular among Earth's politicians and journalists.

Here, on the other hand, it was quiet. Baley had not particularly noticed the quiet in the establishments he had visited that day and the day before, since everything had seemed so unnatural there that one more oddity escaped his notice. Indeed, he had been more aware of the soft susurrations of insect life outside or of the wind through the vegetation than of the absence of the steady "Hum of Humanity" (another popular phrase).

Here, however, where there seemed a touch of Earth, the absence of the "Hum" was as disconcerting as was the distinct orange touch to the artificial light-which was far more noticeable against the blank off-white of the walls here than among the busy decoration that marked the Auroran establishments.

Baley's reverie did not last long. They were standing just inside the main entrance and Daneel had held out his arm to stop the other two. Some thirty seconds passed before Baley, speaking in an automatic whisper in view of the silence everywhere, said, "Why are we waiting?"

"Because it is advisable to do so, Partner Elijah," said Daneel. "There is a tingle field ahead."

"A what?"

"A tingle field, Partner Elijah. Actually, the name is a euphemism. It stimulates the nerve endings and produces a rather sharp pain. Robots can pass, but human beings cannot. Any breach, of course, whether by human or robot, will set off an alarm."

Baley said, "How can you tell there's a tingle field?"

"It can be seen, Partner Elijah, if you know what to look for. The air seems to twinkle a bit and the wall beyond that region has a faint greenish tinge as compared to the wall in front of it."

"I'm not at all sure I see it," said Baley indignantly. "What's to prevent me-or any innocent outsider-from walking into it and experiencing agony?"

Daneel said, "Those who are members of the Institute carry a neutralizing device; those who are visitors are almost always attended by one or more robots who will surely detect the tingle field."

A robot was approaching down the corridor on the other side of the field. (The twinkling of the field was more easily noted against the muted smoothness of his metallic

surface.) He seemed to ignore Giskard, but, for a moment, he hesitated as he looked from Baley to Daneel and back. And then, having made a decision, he addressed Baley. (Perhaps, thought Baley, Daneel looks too human to be human.)

The robot said, "Your name, sir?"

Baley said, "I am Plainclothesman Elijah Baley from Earth. I am accompanied by two robots of the establishment of Dr. Han Fastolfe-Daneel Olivaw and Giskard Reventlov."

"Identification, sir?"

Giskard's serial number flared out in soft phosphorescence on the left side of his chest. "I vouch for the other two, friend," he said.

The robot studied the number a moment, as though comparing it with a file in his memory banks. Then he nodded and said, "Serial number accepted. You may pass."

Daneel and Giskard moved forward at once, but Baley found himself edging ahead slowly. He put out one arm as a way of testing the coming of pain.

Daneel said, "The field is gone, Partner Elijah. It will be restored after we have passed through."

Better safe than sorry, thought Baley, and continued his shuffle till he was well past the point where the barrier of the field might have existed.

The robots, showing no sign of impatience or condemnation, waited for Baley's reluctant steps to catch up with them.

They then stepped onto a helical ramp that was only two people wide. The robot was first, by himself; Baley and Daneel stood side by side behind him (Daneel's hand rested lightly, but almost possessively, on Baley's elbow); and Giskard brought up the rear.

Baley was conscious of his shoes pointing upward just a bit uncomfortably and felt vaguely that it would be a little tiresome mounting this too-steep ramp and having to lean forward in order to avoid a clumsy slip. Either the soles of his shoes or the surface of the ramp-or both-ought to be ridged. In fact, neither was.

The robot in the lead said, "Mr. Baley," as though warning of something, and the robot's hand then visibly tightened on the railing that it held.

At once, the ramp divided into sections that slid against each other to form steps. Immediately thereafter, the whole ramp began to move upward. It made a complete turn, passing up through the ceiling, a section of which had retracted, and, when it came to a halt, they were on what was (presumably) the second floor. The steps disappeared and the four stepped off.

Baley looked back curiously. "I suppose it will service those who want to go down as well, but what if there is a period where more people want to go up than down? It would end up sticking half a kilometer into the sky-or into the ground, in reverse."

"That is an up-helix," said Daneel in a low voice "There are separate down-helices."

"But it has to get down again, doesn't it?"

"It collapses at the top-or the bottom-depending on which we're speaking of, Partner Elijah, and, in periods of nonuse, it unwinds, so to speak. This up-helix is descending now."

Baley looked back. The smooth surface might be sliding downward, but it showed no irregularity or mark whose motion he could notice.

"And if someone should want to use it when it has moved up as far as it can?"

"Then one must wait for the unwinding, which would take less than a minute. - There are ordinary flights of stairs as well, Partner Elijah, and most Aurorans are not reluctant to use them. Robots almost always use the stairs. Since you are a visitor, you are being offered the courtesy of the helix."

They were walking down a corridor again, toward a door more ornate than the others. "They are offering me courtesy, then," said Baley. "A hopeful sign."

It was perhaps another hopeful sign that an Auroran now appeared in the ornate doorway. He was tall, at least eight centimeters taller than Daneel, who was some five centimeters taller than Baley. The man in the doorway was broad as well, somewhat heavysset, with a round face, a somewhat bulbous nose, curly dark hair, a swarthy complexion, and a smile.

It was the smile that was most noticeable. Wide and apparently unforced, it revealed prominent teeth that were white and well-shaped.

He said, "Ah, it is Mr. Baley, the famous investigator from Earth, who has come to our little planet to show that I am a dreadful villain. Come in, come in. You are welcome. I am sorry if my able aide, Roboticist Maloon Cicis, gave you the impression that I would be unavailable, but he is a cautious fellow and is a great deal more concerned about my time than I myself am.

He stepped to one side as Baley walked in and tapped him lightly with the fiat of his hand on the shoulder blade as he passed. It seemed to be a gesture of friendship of a kind that Baley had not yet experienced on Aurora.

Baley said, cautiously (was he assuming too much?), "I take it you are Master Roboticist Kelden Amadiro?"

"Exactly. Exactly. The man who intends to destroy Dr. Han Fastolfe as a political force upon this planet-but that, as I hope to persuade you, does not really make me a villain. After all, I am not trying to prove that it is Fastolfe who is a villain simply because of the foolish vandalism he committed on the structure of his own creation-poor Jander. Let us say only that I will demonstrate that Fastolfe is-mistaken."

He gestured lightly and the robot who had guided them in stepped forward and into a niche.

As the door closed, Amadiro gestured Baley jovially to a well upholstered armchair and, with admirable economy, indicated, with his other arm, wall niches for Daneel and Giskard as well.

Baley noticed that Amadiro stared with a moment's hunger at Daneel and that, for that moment, his smile disappeared and a look that was almost predatory appeared on

his face. It was gone quickly and he was smiling again. Baley was left to wonder if, perhaps, that momentary change of expression was an invention of his own imagination.

Amadiro said, "Since it looks as though we're in for some mildly nasty weather, let's do without the ineffective daylight we are now dubiously blessed with."

Somehow (Baley did not follow exactly what it was that Amadiro did on the control-panel of his desk) the windows opacified and the walls glowed with gentle daylight.

Amadiro's smile seemed to broaden. "We do not really have much to talk about, you and I, Mr. Baley. I took the precaution of speaking to Mr. Gremionis while you were coming here. From what he said, I decided to call Dr. Vasilia as well. Apparently, Mr. Baley, you have more or less accused both of complicity in the destruction of Jander and, if I can understand the language, you have also accused me."

"I merely asked questions, Dr. Amadiro, as I intend to do now."

"No doubt, but you are an Earthman, so you are not aware of the enormity of your actions and I am really sorry that you must nonetheless suffer the consequences of them. - You know perhaps that Gremionis sent me a memo concerning your slander of him."

"He told me he had, but he misinterpreted my action. It was not slander."

Amadiro pursed his lips as though considering the statement. "I dare say you are right from your standpoint, Mr. Baley, but you don't understand the Auroran definition of the word. I was forced to send Gremionis' memo on to the Chairman and, as a result, it is very likely that you'll be ordered off the planet by tomorrow morning. I regret this, of course, but I fear that your investigation is about to come to an end."

14. AGAIN AMADIRO

55.

Baley was taken aback. He did not know what to make of Amadiro and he had not expected this confusion within himself. Gremionis had described him as "standoffish." From what Cicis had said, he expected Amadiro to be autocratic. In person, however, Amadiro seemed jovial, outgoing, even friendly. Yet if his words were to be trusted, Amadiro was calmly moving to end the investigation. He was doing it pitilessly-and yet with what seemed to be a commiserating smile.

What was he?

Automatically, Baley glanced toward the niches where Giskard and Daneel were standing, the primitive Giskard of course without expression, the advanced Daneel calm and quiet. That Daneel had ever met Amadiro in his short existence was, on the face of it, unlikely. Giskard, on the other hand, in his-how many?-decades of life might very well have met him.

Baley's lips tightened as he thought he might have asked Giskard in advance what Amadiro might be like. He might, in that case, be now better able to judge how much of this roboticist's present persona was real and how much was cleverly calculated.

Why on Earth-or off it, Baley wondered, didn't he use these robotic resources of his more intelligently? Or why didn't Giskard volunteer information-but no, that was unfair. Giskard clearly lacked the capacity for independent activity of that sort. He would yield information on request, Baley thought, but would produce none on his own initiative.

Amadiro followed the brief flicking of Baley's eyes and said, "I'm one against three, I think. As you see, I have none of my robots here in my office-although any number are on instant call, I admit-while you have two of Fastolfe's robots: the old reliable Giskard and that marvel of design, Daneel."

"You know them both, I see," said Baley.

"By reputation only. I actually see them-I, a roboticist, was about to say 'in the flesh'-I actually see them physically for the first time now, although I saw Daneel portrayed by an actor in that hyperwave show."

"Everyone in all the worlds has apparently seen that hyperwave show," said Baley glumly. "It makes my life-as a real and limited individual-difficult."

"Not with me," said Amadiro, his smile broadening. "I assure you I did not take your fictional representation with any seriousness whatever. I assumed you were limited in real life. And so you are-or you would not have indulged so freely in unwarranted accusations on Aurora."

"Dr. Amadiro," said Baley, "I assure you I was making no formal accusations. I was merely pursuing an investigation and considering possibilities."

"Don't misunderstand me," said Amadiro with sudden earnestness. "I don't blame you. I am sure that you were behaving perfectly by Earth standards. It is just that you are up against Auroran standards now. We treasure reputation with unbelievable intensity."

"If that were so, Dr. Amadiro, then haven't you and other Globalists been slandering Dr. Fastolfe with suspicion, to a far greater extent than any small thing I have done?"

"Quite true," agreed Amadiro, "but I am an eminent Auroran and have a certain influence, while you are an Earthman and have no influence whatever. That is most unfair, I admit, and I deplore it, but that is the way the worlds are. What can we do? Besides, the accusation against Fastolfe can be maintained-and will be maintained-and slander isn't slander when it is the truth. Your mistake was to make accusations that simply can't be maintained. I'm sure you must admit that neither Mr. Gremionis nor Dr. Vasilia Aliena-nor both together-could possibly have disabled poor Jander."

"I did not formally accuse either."

"Perhaps not, but you can't hide behind the word 'formally' on Aurora. It's too bad Fastolfe didn't warn you of this when he brought you in to take up this investigation, this-as it now is, I'm afraid-ill-fated investigation."

Baley felt the corner of his mouth twitch as he thought that Fastolfe might indeed have warned him.

He said, "Am I to get a hearing in the matter or is it all settled?"

"Of course you will get a hearing before being condemned. We are not barbarians here on Aurora. The Chairman will consider the memo I have sent him, together with my own suggestions in the matter. He will probably consult Fastolfe as the other party intimately concerned and then arrange to meet with all three of us, perhaps tomorrow. Some decision might be reached then-or later-and it would be ratified by the full Legislature. All due process of law will be followed, I assure you."

"The letter of the law will be followed, no doubt, but what if the Chairman has already made up his mind, what if nothing I say will be accepted, and what if the Legislature simply rubberstamps a foregone decision? Is that possible?"

Amadiro did not exactly smile at that, but he seemed subtly amused. "You are a realist, Mr. Baley. I am pleased with that. People who dream of justice are so apt to be disappointed-and they are usually such wonderful people that one hates to see that happen."

Amadiro's glance fixed itself on Daneel again. "A remarkable job, this humaniform robot," he said. "It is astonishing how close to his vest Fastolfe has kept things. And it is a shame that Jander was lost. There Fastolfe did the unforgivable."

"Dr. Fastolfe, sir, denies that he was in any way implicated."

"Yes, Mr. Baley, of course he would. Does he say that I am implicated? Or is my implication entirely your own idea?"

Baley said deliberately, "I have no such idea. I merely wish to question you on the matter. As for Dr. Fastolfe, he is not a candidate for one of your accusations of slander."

He is certain you have had nothing to do with what happened to Jander because he is quite certain you lack the knowledge and capacity to immobilize a humanoid robot."

If Baley hoped to stir things up in that manner, he failed. Amadiro accepted the slur with no loss of good humor and said, "In that he is right, Mr. Baley. Sufficient ability is not to be found in any roboticist-alive or dead-except for Fastolfe himself. Isn't that what he says, our modest master of masters?"

"Yes, he does."

"Then whatever does he say happened to Jander, I wonder?"

"A random event. Purely chance."

Amadiro laughed. "Has he calculated the probability of such a random event?"

"Yes, Master Roboticist. Yet even an extremely unlikely chance might happen, especially if there were incidents that bettered the odds."

"Such as what?"

"That is what I am hoping to find out, Since you have already arranged to have me thrown off the planet, do you now intend to forestall any questioning of yourself-or may I continue my investigation until such time as my activity in that respect is legally ended? - Before you answer, Dr. Amadiro, please consider that the investigation has not as yet been legally ended and, in any hearing that may come up, whether tomorrow or later, I will be able to accuse you of refusing to answer my questions if you should insist on now ending this interview. That might influence the Chairman in his decision."

"It would not, my dear Mr. Baley. Don't imagine you can in any way interfere with me. -However, you may interview me for as long as you wish. I will cooperate fully with you, if only to enjoy the spectacle of the good Fastolfe trying uselessly to disentangle himself from his unfortunate deed. I am not extraordinarily vindictive, Mr. Baley, but the fact that Jander was Fastolfe's own creation does not give him the right to destroy it."

Baley said, "It is not legally established that this is what he has done, so that what you have just said is, at least potentially, slander. Let us put that to one side, therefore, and get on with this interview. I need information. I will ask my questions briefly and directly and, if you answer in the same way, this interview may be completed quickly."

"No, Mr. Baley. It is not you who will set the conditions for this interview," said Amadiro. "I take it that one or both of your robots is equipped to record our conversation in full."

"I believe so."

"I know so. I have a recording device of my own as well. Don't think, my good Mr. Baley, that you will lead me through a jungle of short answers to something that will serve Fastolfe's purpose. I will answer as I choose and make certain I am not misinterpreted. And my own recording will help me make it certain that I am not misinterpreted." Now, for the first time, there was the suggestion of the wolf behind Amadiro's attitude of friendliness.

"Very well, then, but if your answers are deliberately longwinded and evasive, that, too, will show up in the recording."

"Obviously."

"With that understood, may I have a glass of water, to begin with?"

"Absolutely. -Giskard, will you oblige Mr. Baley?"

Giskard was out of his niche at once. There was the inevitable tinkle of ice at the bar at one end of the room and a tall glass of water was on the desk immediately before Baley.

Baley said, "Thank you, Giskard," and waited for him to move back into his niche.

He said, "Dr. Amadiro, am I correct in considering you the head of the Robotics Institute?"

"Yes, you are."

"And its founder?"

"Correct. -You see, I answer briefly."

"How long has it been in existence?"

"As a concept-decades. I have been gathering like-minded people for at least fifteen years. Permission was obtained from the Legislature twelve years ago. Building began nine years ago and active work began six years ago. In its present completed form, the Institute is two years old and there are long-range plans for further expansion, eventually. -There you have a long answer, sir, but presented reasonably concisely."

"Why did you find it necessary to set up the Institute?"

"Ah, Mr. Baley. Here you surely expect nothing but a longwinded answer."

"As you please, sir."

At this point, a robot brought in a tray of small sandwiches and still smaller pastries, none of which were familiar to Baley. He tried a sandwich and found it crunchy and not exactly unpleasant but odd enough for him to finish it only with an effort. He washed it down with what was left of his water.

Amadiro watched with a kind of gentle amusement and said, "You must understand, Mr. Baley, that we Aurorans are unusual people. So are Spacers generally, but I speak of Aurorans in particular now. We are descended from Earthpeople-something most of us do not willingly think about-but we are self-selected."

"What does that mean, sir?"

"Earthpeople have long lived on an increasingly crowded planet and have drawn together into still more crowded cities that finally became the beehives and anthills you call Cities with a capital 'C.' What kind of Earthpeople, then, would leave Earth and go to other worlds that are empty and hostile so that they might build new societies from nothing, societies that they could not enjoy in completed form in their own lifetime-trees that would still be saplings when they died, so to speak."

"Rather unusual people, I suppose."

"Quite unusual. Specifically, people who are not so dependent on crowds of their fellows as to lack the ability to face emptiness. People who even prefer emptiness, who would like to work on their own and face problems by themselves, rather than hide in the herd and share the burden so that their own load is virtually nothing. Individualists, Mr. Baley. Individualists!"

"I see that."

"And our society is founded on that. Every direction in which the Spacer worlds have developed further emphasizes our individuality. We are proudly human on Aurora, rather than being huddled sheep on Earth. -Mind you, Mr. Baley, I use the metaphor not as a way of deriding Earth. It is simply a different society which I find unadmirable but which you, I suppose, find comforting and ideal."

"What has this to do with the founding of the Institute, Dr. Amadiro?"

"Even proud and healthy individualism has its drawbacks. The greatest minds-working singly, even for centuries-cannot progress rapidly if they refuse to communicate their findings. A knotty puzzle may hold up a scientist for a century, when it may be that a colleague has the solution already and is not even aware of the puzzle that it might solve. -The Institute is an attempt, in the narrow field of robotics at least, to introduce a certain community of thought."

"Is it possible that the particular knotty puzzle you are attacking is that of the construction of a humaniform robot?"

Amadiro's eyes twinkled. "Yes, that is obvious, isn't it? It was twenty-six years ago that Fastolfe's new mathematical system, which he calls 'intersectional analysis,' made it possible to design humaniform robots-but he kept the system to himself. Years afterward, when all the difficult technical details were worked out, he and Dr. Sarton applied the theory to the design of Daneel. Then Fastolfe alone completed Jander. But all of those details were kept secret, also.

"Most roboticists shrugged and felt that this was natural. They could only try, individually, to work out the details for themselves. I, on the other hand, was struck by the possibility of an Institute in which efforts would be pooled. It wasn't easy to persuade other roboticists of the usefulness of the plan, or to persuade the Legislature to fund it against Fastolfe's formidable opposition, or to persevere through the years of effort, but here we are.

Baley said, "Why was Dr. Fastolfe opposed?"

"Ordinary self-love, to begin with-and I have no fault to find with that, you understand. All of us have a very natural self-love. It comes with the territory of individualism. The point is that Fastolfe considers himself the greatest roboticist in history and also considers the humaniform robot his own particular achievement. He doesn't want that achievement duplicated by a group of roboticists, individually faceless compared to himself. I imagine he viewed it as a conspiracy of inferiors to dilute and deface his own great victory."

"You say that was his motive for opposition 'to begin with.' That means there were other motives. What were they?"

"He also objects to the uses to which we plan to put the humaniform robots."

"What uses are these, Dr. Amadiro?"

"Now now. Let's not be ingenuous. Surely Dr. Fastolfe has told you of the Globalist plans for setting the Galaxy?"

"That he has and, for that matter, Dr. Vasilia has spoken to me of the difficulties of scientific advance among individualists. However, that does not stop me from wanting to

hear your views on these matters. Nor should it stop you from wanting to tell me. For instance, do you want me to accept Dr. Fastolfe's interpretation of Globalist plans as unbiased and impartial-and would you state that for the record? Or would you prefer to describe your plans in your own words?"

"Put that way, Mr. Baley, you intend to give me no choice."

"None, Dr. Amadiro."

"Very well. I-we, I should say, for the people at the Institute are like-minded in this-look into the future and wish to see humanity opening ever more and ever newer planets to settlement. We do not, however, want the process of self-selection to destroy the older planets or to reduce them to morbidity, as in the case-pardon me-of Earth. We don't want the new planets to take the best of us and to leave behind the dregs. You see that, don't you?"

"Please go on."

"In any robot-oriented society, as in the case of our own, the easy solution is to send out robots as settlers. The robots will build the society and the world and we can then all follow later without selection, for the new world will be as comfortable and as adjusted to ourselves as the old worlds were, so that we can go on to new worlds without leaving home, so to speak."

"Won't the robots create robot worlds rather than human worlds?"

"Exactly, if we send out robots that are nothing but robots. We have, however, the opportunity of sending out humanoid robots like Daneel here, who, in creating worlds for themselves, would automatically create worlds for us. Dr. Fastolfe, however, objects to this. He finds some virtue in the thought of human beings calving a new world out of a strange and forbidding planet and does not see that the effort to do so would not only cost enormously in human life, but would also create a world molded by catastrophic events into something not at all like the worlds we know."

"As the Spacer worlds today are different from Earth and from each other?"

Amadiro, for a moment, lost his joviality and looked thoughtful. "Actually, Mr. Baley, you touch an important point. I am discussing Aurora only. The Spacer worlds do indeed differ among themselves and I am not overly fond of most of them. It is clear to me-though I may be prejudiced-that Aurora, the oldest among them, is also the best and most successful. I don't want a variety of new worlds of which only a few might be really valuable. I want many Auroras-uncounted millions of Auroras-and for that reason I want new worlds carved into Auroras before human beings go there. That's why we call ourselves 'Globalists' by the way. We are concerned with this globe of oars-Aurora-and no other."

"Do you see no value in variety, Dr. Amadiro?"

"If the varieties were equally good, perhaps there would be value, but if some-or most-are inferior, how would that benefit humanity?"

"When do you start this work?"

"When we have the humanoid robots with which to do it. So far there were Fastolfe's two, of which he destroyed one, leaving Daneel the only specimen." His eyes strayed briefly to Daneel as he spoke.

"When will you have humanoid robots?"

"That is difficult to say. We have not yet caught up with Dr. Fastolfe."

"Even though he is one and you are many, Dr. Amadiro?"

Amadiro twitched his shoulders slightly. "You waste your sarcasm, Mr. Baley. Fastolfe was well ahead of us to begin with and, though the Institute has been in embryo for a long time, we have been fully at work for only two years. Besides, it will be necessary for us not only to catch up with Fastolfe but to move ahead of him. Daneel is a good product, but he is only a prototype and is not good enough."

"In what way must the humanoid robots be improved beyond Daneel's mark?"

"They must be even more human, obviously. They must exist in both sexes and there must be the equivalent of children. We must have a generational spread if a sufficiently human society is to be built up on the planets."

"I think I see difficulties, Dr. Amadiro."

"No doubt. There are many. Which difficulties do you foresee, Mr. Baley?"

"If you produce humanoid robots who are so humanoid they can produce a human society, and if they are produced with a generational spread in both sexes, how will you be able to distinguish them from human beings?"

"Will that matter?"

"It might. If such robots are too human, they might melt into Auroran society and become part of human family groups-and might not be suitable for service as pioneers."

Amadiro laughed. "That thought clearly entered your head because of Gladia Delmarre's attachment to Jander. You see, I know something of your interview with that woman from my conversations with Gremionis and with Dr. Vasilisa. I remind you that Gladia is from Solaria and her notion of what constitutes a husband is not necessarily Auroran in nature."

"I was not thinking of her in particular. I was thinking that sex on Aurora is broadly interpreted and that robots as sex partners are tolerated even now, with robots who are only approximately humanoid. If you really cannot tell a robot from a human being-"

"There's the question of children. Robots can neither father nor mother children."

"But that brings up another point. The robots will be long-lived, since the proper building of the society may take centuries."

"They would, in any case, have to be long-lived if they are to resemble Aurorans."

"And the children-also long-lived?"

Amadiro did not speak.

Baley said, "These will be artificial robot children and will never grow older-they will not age and mature. Surely this will create an element sufficiently nonhuman to cast the nature of the society into doubt."

Amadiro sighed. "You are penetrating, Mr. Baley. It is indeed our thought to devise some scheme whereby robots can produce babies who can in some fashion grow and mature—at least long enough to establish the society we want."

"And then, when human beings arrive, the robots can be restored to more robotic schemes of behavior."

"Perhaps—if that seems advisable."

"And this production of babies? Clearly, it would be best if the system used were as close to the human as possible, wouldn't it?"

"Possibly."

"Sex, fertilization, birth?"

"Possibly."

"And if these robots form a society so human that they cannot be differentiated from human, then, when true human beings arrive, might it not be that the robots would resent the immigrants and try to keep them off? Might the robots not react to Aurorans as you react to Earthpeople?"

"Mr. Baley, the robots would still be bound by the Three Laws."

"The Three Laws speak of refraining from injuring human beings and of obeying human beings."

"Exactly."

"And what if the robots are so close to human beings that they regard themselves as the human beings they should protect and obey? They might, very rightly, place themselves above the immigrants."

"My good Mr. Baley, why are you so concerned with all these things? They are for the far future. There will be solutions, as we progress in time and as we understand, by observation, what the problems really are."

"It may be, Dr. Amadiro, that Aurorans may not very much approve what you are planning, once they understand what it is. They may prefer Dr. Fastolfe's views."

"Indeed? Fastolfe thinks that, if Aurorans cannot settle new planets directly and without the help of robots, then Earthpeople should be encouraged to do so."

Baley said, "It seems to me that that makes good sense."

"Because you are an Earthman, my good Baley. I assure you that Aurorans would not find it pleasant to have Earthpeople swarming over the new worlds, building new beehives and forming some sort of Galactic Empire in their trillions and quadrillions and reducing the Spacer worlds to what? To insignificance at best and to extinction at worst."

"But the alternative to that is worlds of humaniform robots, building quasi-human societies and allowing no true human beings among themselves. There would gradually develop a robotic Galactic Empire, reducing the Spacer worlds to insignificance at best and to extinction at worst. Surely Aurorans would prefer a human Galactic Empire to a robotic one."

"What makes you so sure of that, Mr. Baley?"

"The form your society takes now makes me sure. I was told, on my way to Aurora, that no distinctions are made between robots and human beings on Aurora, but that is clearly wrong. It may be a wished-for ideal that Aurorans flatter themselves truly exists, but it does not."

"You've been here-what?-less than two days and you can already tell?"

"Yes, Dr. Amadiro. It may be precisely because I'm a stranger that I can see clearly. I am not blinded by custom and ideals. Robots are not permitted to enter Personals and that's one distinction that is clearly made. It permits human beings to find one place where they can be alone. You and I sit at our ease, while robots remain standing in their niches, as you see"-Baley waved his arm toward Daneel-"which is another distinction. I think that human beings-even Aurorans-will always be eager to make distinctions and to preserve their own humanity."

"Astonishing, Mr. Baley."

"Not astonishing at all, Dr. Amadiro. You have lost. Even if you manage to foist your belief that Dr. Fastolfe destroyed Jander upon Aurorans generally, even if you reduce Dr. Fastolfe to political impotence, even if you get the Legislature and the Auroran people to approve your plan of robot settlement, you will only have gained time. As soon as the Aurorans see the implications of your plan, they will turn against you. It might be better, then, if you put an end to your campaign against Dr. Fastolfe and meet with him to work out some compromise whereby the settlement of new worlds by Earthmen can be so arranged as to represent no threat to Aurora or to the Spacer worlds in general."

"Astonishing, Mr. Baley," said Amadiro a second time.

"You have no choice," said Baley flatly.

But Amadiro answered, in a leisurely and amused tone, "When I say your remarks are astonishing, I do not refer to the content of your statements but only to the fact that you make them at all -and that you think they are worth something."

56.

Baley watched Amadiro forage for one last piece of pastry and put half of it into his mouth, clearly enjoying it.

"Very good," said Amadiro, "but I am a little too fond of eating. What was I saying? -Oh yes. Mr. Baley, do you think you have discovered a secret? That I have told you something that our world does not already know? That my plans are dangerous, but that I blab them to every newcomer? I imagine you may think that, if I talk to you long enough, I will surely produce some verbal folly that you will be able to make use of. Be assured that I am not likely to. My plans for ever more humaniform robots, for robot families, and for as human a culture as possible are all on record. They are available to the Legislature and to anyone who is interested."

Baley said, "Does the general public know?"

'Probably not. The general public has its own priorities and is more interested in the next meal, the next hyperwave show, the next space-soccer contest than in the next century and the next millennium. Still, the general public will be as glad to accept my plans, as are the intellectually minded who already know. Those who object will not be numerous enough to matter.'

"Can you be certain of that?"

"Oddly enough, I can be. You don't understand, I'm afraid, the intensity of the feelings that Aurorans-and Spacers generally-have toward Earthpeople. I don't share those feelings, mind you, and I am, for instance, quite at ease with you. I don't have that primitive fear of infection, I don't imagine that you smell bad, I don't attribute to you all sorts of personality traits that I find offensive, I don't think that you and yours are plotting to take our lives or steal our property-but the large majority of Aurorans have all these attitudes. It may not be very close to the surface and Aurorans may bring themselves to be very polite to individual Earthpeople who seem harmless, but put them to the test and all their hatred and suspicion will emerge. Tell them that Earthpeople are swarming over new worlds and will preempt the Galaxy and they will howl for Earth's destruction before such a thing can happen."

"Even if the alternative was a robot society?"

"Certainly. You don't understand how we feel about robots, either. We are familiar with them. We are at home with them."

"No. They are your servants. You feel superior to them and are at home with them only while that superiority is maintained. If you are threatened by an overturn, by having them become your superiors, you will react with horror."

"You say that only because that is how Earthpeople would react."

"No. You keep them out of the Personals. It is a symptom."

"They have no use for those rooms. They have their own facilities for washing and they do not excrete. -Of course, they are not truly humaniform. If they were, we might not make that distinction."

"You would fear them the more."

"Truly?" said Amadiro. "That's foolish. Do you fear Daneel? If I can trust that hyperwave show-and I admit I do not think I can-you developed a considerable affection for Daneel. You feel it now, don't you?"

Baley's silence was eloquent and Amadiro pursued his advantage.

"Right now," he said, "you are unmoved by the fact that Giskard is standing, silent and unresponsive, in an alcove, but I can tell by small examples of body language that you are uneasy over the fact that Daneel is doing so, too. You feel he is too human in appearance to be treated as a robot. You don't fear him the more because he looks human."

"I am an Earthman. We have robots," said Baley, "but not a robot culture. You cannot judge from my case."

"And Gladia, who preferred Jander to human beings-"

"She is a Solarian. You cannot judge from her case, either."

"What case can you judge from, then? You are only guessing. To me, it seems obvious that, if a robot is human enough, he would be accepted as human. Do you demand proof that I am not a robot? The fact that I seem human is enough. In the end, we will not worry whether a new world is settled by Aurorans who are human in fact or in appearance, if no one can tell the difference. But-human or robot-the settlers will be Aurorans either way, not Earthpeople."

Baley's assurance faltered. He said unconvincingly, "What if you never learn how to construct a humaniform robot?"

"Why would you expect we would not? Notice that I say 'we.' There are many of us involved here."

"It may be that any number of mediocrities do not add up to one genius."

Amadiro said shortly, "We are not mediocrities. Fastolfe may yet find it profitable to come in with us."

"I don't think so."

"I do. He will not enjoy being without power in the Legislature and, when our plans for settling the Galaxy move ahead and he sees that his opposition does not stop us, he will join us. It will be only human of him to do so."

"I don't think you will win out," said Baley.

"Because you think that somehow this investigation of yours will exonerate Fastolfe and implicate me, perhaps, or someone else."

"Perhaps," said Baley desperately.

Amadiro shook his head. "My friend, if I thought that anything you could do would spoil my plans, would I be sitting still and waiting for destruction?"

"You are not. You are doing everything you can to have this investigation aborted. Why would you do that if you were confident that nothing I could do would get in your way?"

"Well," said Amadiro, "you can get in my way by demoralizing some of the members of the Institute. You can't be dangerous, but you can be annoying-and I don't want that either. So, if I can, I'll put an end to the annoyance-but I'll do that in reasonable fashion, in gentle fashion, even. If you were actually dangerous-"

"What could you do, Dr. Amadiro, in that case?"

"I could have you seized and imprisoned until you were evicted. I don't think Aurorans generally would worry overmuch about what I might do to an Earthman."

Baley said, "You are trying to browbeat me and that won't work. You know very well you could not lay a hand on me with my robots present."

Amadiro said, "Does it occur to you that I have a hundred robots within call? What would yours do against them?"

"All hundred could not harm me. They cannot distinguish between Earthmen and Aurorans. I am human within the meaning of the Three Laws."

"They could hold you quite immobilized-without harming you-while your robots were destroyed."

"Not so," said Baley. "Giskard can hear you arid, if you make a move to summon your robots, Giskard will have you immobilized. He moves very quickly and, once that happens, your robots will be helpless, even if you manage to call them. They will understand that any move against me will result in harm to you."

"You mean that Giskard will hurt me?"

"To protect me from harm? Certainly. He will kill you, if absolutely necessary."

"Surely you don't mean that."

"I do," said Baley. "Daneel and Giskard have orders to protect me. The First Law, in this respect, has been strengthened with all the skill Dr. Fastolfe can bring to the job-and with respect to me, specifically. I haven't been told this in so many words, but I'm quite sure it's true. If my robots must choose between harm to you and harm to me, Earthman though I am, it will be easy for them to choose harm to you. I imagine you are well aware that Dr. Fastolfe is not very eager to ensure your well-being."

Amadiro chuckled and a grin wreathed his face. "I'm sure you're right in every respect, Mr. Baley, but it is good to have you say so. You know, my good sir, that I am recording this conversation also -I told you so at the start- and I'm glad of it. It is possible that Dr. Fastolfe will erase the last part of this conversation, but I assure you I won't. It is clear from what you have said that he is quite prepared to devise a robotic way of doing harm to me-even kill me, if he can manage that-whereas it cannot be said from anything in this conversation-or any other -that I plan any physical harm to him whatever or even to you. Which of us is the villain, Mr. Baley? -I think you have established that and I think, then, that this is a good place at which to end the interview."

He rose, still smiling, and Baley, swallowing hard, stood up as well, almost automatically.

Amadiro said, "I still have one thing to say, however. It has nothing to do with our little contretemps here on Aurora-Fastolfe's and mine. Rather, with your own problem, Mr. Baley."

"My problem?"

"Perhaps I should say Earth's problem. I imagine that you feel very anxious to save poor Fastolfe from his own folly because you think that will give your planet a chance for expansion. -Don't think so, Mr. Baley. You are quite wrong, rather arsy varsy, to use a vulgar expression I've come across in some of your planet's historical novels."

"I'm not familiar with that phrase," said Baley stiffly.

"I mean you have the situation reversed. You see, when my view wins out in the Legislature-and note that I say 'when' and not 'if'-Earth will be forced to remain in her own planetary system, I admit, but that will actually be to her benefit. Aurora will have the prospect of expansion and of establishing an endless empire. If we then know that Earth will merely be Earth and never anything more, of what concern will she be to us? With the Galaxy at our disposal, we will not begrudge Earthpeople their one world. We would even be disposed to make Earth as comfortable a world for her people as would be practical."

"On the other hand, Mr. Baley, if Aurorans do what Fastolfe asks and allow Earth to send out settling parties, then it won't be long before it will occur to an increasing number of us that Earth will take over the Galaxy and that we will be encircled and hemmed in, that we will be doomed to decay and death. After that, there will be nothing I can do. My Own quite kindly feeling toward Earthmen will not be able to withstand the general kindling of Auroran suspicion and prejudice and it will then be very bad for Earth.

"So if, Mr. Baley, you are truly concerned for your own people, you should be very anxious indeed for Fastolfe not to succeed in foisting upon this planet his very misguided plan. You should be a strong ally of mine. Think about it. I tell you this, I assure you, out of a sincere friendship and liking for you and for your planet."

Amadiro was smiling as broadly as ever, but it was all wolf now.

57.

Baley and his robots followed Amadiro out the room and along the corridor.

Amadiro stopped at one inconspicuous door and said, "Would you care to use the facilities before leaving?"

For a moment, Baley frowned in confusion, for he did not understand. Then he remembered the antiquated phrase Amadiro had used, thanks to his own reading of historical novels.

He said, "There was an ancient general, whose name I have forgotten, who, mindful of the exigencies of sudden absorption in military affairs, once said, 'Never turn down a chance to piss.

Amadiro smiled broadly and said, "Excellent advice. Quite as good as my advice to think seriously about what I have said.

-But I notice that you hesitate, even so. Surely you don't think I am laying a trap for you. Believe me, I am not a barbarian. You are my guest in this building and, for that reason alone, you are perfectly safe."

Baley said cautiously, "If I hesitate, it is because I am considering the propriety of using your-uh-facilities, considering that I am not an Auroran."

"Nonsense, my dear Baley. What is your alternative? Needs must. Please make use of it. Let that be a symbol that I myself am not subject to the general Auroran prejudices and wish you and Earth well."

"Could you go a step further?"

"In what way, Mr. Baley?"

"Could you show me that you are also superior to this planet's prejudice against robots-"

"There is no prejudice against robots," said Amadiro quickly. Baley nodded his head solemnly in apparent acceptance of the remark and completed his sentence. "-by allowing them to enter the Personal with me. I have grown to feel uncomfortable without them."

For one moment, Amadiro seemed shaken. He recovered almost at once and said, with what was almost a scowl, "By all means, Mr. Baley."

"Yet whoever is now inside might object strenuously. I would not want to create scandal."

"No one is in there. It is a one-person Personal and, if someone were making use of it, the in-use signal would indicate that."

"Thank you, Dr. Amadiro," said Baley. He opened the door and said, "Giskard, please enter."

Giskard clearly hesitated, but said nothing in objection and entered. At a gesture from Baley, Daneel followed, but as he passed through the door, he took Baley's elbow and pulled him in as well.

Baley said, as the door closed behind him, "I'll be out again soon. Thank you for allowing this."

He entered the room with as much unconcern as he could manage and yet he felt a tightness in the pit of his abdomen. Might it contain some unpleasant surprise?

58.

Baley found the Personal empty, however. There was not even much to search. It was smaller than the one in Fastolfe's establishment.

Eventually, he noticed Daneel and Giskard standing silently side by side, backs against the door, as though endeavoring to have entered the room by the least amount possible.

Baley tried to speak normally, but what came out was a dim croak. He cleared his throat with unnecessary noise and said, "You can come farther into the room-and you needn't remain silent, Daneel." (Daneel had been on Earth. He knew the Earthly taboo against speech in the Personal.)

Daneel displayed that knowledge at once. He put his forefinger to his lips.

Baley said, "I know, I know, but forget it. If Amadiro can forget the Auroran taboo about robots in Personals, I can forget the Earthly taboo about speech there."

"Will it not make you uncomfortable, Partner Elijah?" asked Daneel in a low voice.

"Not a bit," said Baley in an ordinary one. (Actually, speech felt different with Daneel-a robot. The sound of speech in a room such as this when, actually, no human being was present was not as horrifying as it might be. In fact, it was not horrifying at all when only robots were present, however humaniform one of them might be. Baley could not say so, of course. Though Daneel had no feelings a human being could hurt, Baley had feelings on his behalf.)

And then Baley thought of something else and felt, quite intensely, the sensation of being a thoroughgoing fool.

"Or," he said to Daneel, in a voice that was suddenly very low indeed, "are you suggesting silence because this room is bugged?" The last word came out merely as a shaping of the mouth.

"If you mean, Partner Elijah, that people outside this room can detect what is spoken inside this room through some sort of eavesdropping device, that is quite impossible."

"Why impossible?"

The toilet device flushed itself with quick and silent efficiency and Baley advanced toward the washbasin.

Daneel said, "On Earth, the dense packing of the Cities makes privacy impossible. Overhearing is taken for granted and to use a device to make overhearing more efficient might seem natural. If an Earthman wishes not to be overheard, he simply doesn't speak, which may be why silence is so mandatory in places where there is a pretense of privacy, as in the very rooms you call Personals.

"On Aurora, on the other hand, as on all the Spacer worlds, privacy is a true fact of life and is greatly valued. You remember Solaria and the diseased extremes to which it was carried there. But even on Aurora, which is no Solaria, every human being is insulated from every other human being by the kind of space extension unthinkable on Earth and by a wall of robots, in addition. To break down that privacy would be an unthinkable act."

Baley said, "Do you mean it would be a crime to bug this room?"

"Much worse, Partner Elijah. It would not be the act of a civilized Auroran gentleman."

Baley looked about. Daneel, mistaking the gesture, plucked a towel out of the dispenser, which might not have been instantly apparent to the other's unaccustomed eyes, and offered it to Baley.

Baley accepted the towel, but that was not the object of his questing glance. It was a bug for which his eyes searched, for he found it difficult to believe that someone would forego an easy advantage on the ground that it would not be civilized behavior. It was, however, useless and Baley, rather despondently, knew it would be. He would not be able to detect an Auroran bug, even if one were there. He wouldn't know what to look for in a strange culture.

Whereupon he followed the course of another strand of suspicion in his mind. "Tell me, Daneel, since you know Aurorans better than I do, why do you suppose Amadiro is taking all this trouble with me? He talks to me at his leisure. He sees me out. He offers me the use of this room-something Vasilisa would not have done. He seems to have all the time in the world to spend on me. Politeness?"

"Many Aurorans pride themselves on their politeness. It may be that Amadiro does. He has several times stressed that he is not a barbarian."

"Another question. Why do you think he was willing to have me bring you and Giskard into this room?"

"It seemed to me that that was to remove your suspicions that the offer of this room might conceal a trap."

"Why should he bother? Because he was concerned over the possibility of my experiencing unnecessary anxiety?"

"Another gesture of a civilized Auroran gentleman, I should imagine."

Baley shook his head. "Well, if this room is bugged and Amadiro can hear me, let him hear me. I don't consider him a civilized Auroran gentleman. He made it quite clear that, if I did not abandon my investigation, he would see to it that Earth as a whole would suffer. Is that the act of a civilized gentleman? Or of an incredibly brutal blackmailer?"

Daneel said, "An Auroran gentleman may find it necessary to utter threats, but if so, he would do it in a gentlemanly manner."

"As Amadiro did. It is, then, the manner and not the content of speech that marks the gentleman. But then, Daneel, you are a robot and therefore can not really criticize a human being, can you?"

Daneel said, "It would be difficult for me to do so. But may I ask a question, Partner Elijah? Why did you ask permission to bring friend Giskard and me into this room? It had seemed to me that you were reluctant, earlier, to believe you were in danger. Have you now decided that you are not safe except in our presence?"

"No, not at all, Daneel. I am now quite convinced that I am not in danger and have not been."

"Yet there was a distinctly suspicious cast about your actions when you entered this room, Partner Elijah. You searched it."

Baley said, "Of course! I said I am not in danger, but I do not say there is no danger."

"I do not think I see the distinction, Partner Elijah," said Daneel.

"We will discuss it later, Daneel. I am still not certain as to whether this room is bugged or not."

Baley was by now quite done. He said, "Well, Daneel, I've been leisurely about this; I haven't rushed at all. Now I'm ready to go out again and I wonder if Amadiro is still waiting for us after all this time or whether he has delegated an underling to do the rest of the job of showing us out. After all, Amadiro is a busy man and cannot spend all day with me. What do you think, Daneel?"

"It would be more logical if Dr. Amadiro had delegated the task."

"And you, Giskard? What do you think?"

"I agree with friend Daneel, though it is my experience that human beings do not always make what would seem the logical response."

Baley said, "For my part, I suspect Amadiro is waiting for us quite patiently. If something has driven him to waste this much time on us, I rather think that the driving force-whatever it might be-has not yet weakened."

"I do not know what might be the driving force you speak of, Partner Elijah," said Daneel.

"Nor I, Daneel," said Baley, "which bothers me a great deal. But let us open the door now and see."

Amadiro was waiting outside the door for them, precisely where Baley had left him. He smiled at them, showing no sign of impatience. Baley could not resist shooting a quiet I-told-you-so glance at Daneel, who responded with bland impassivity.

Amadiro said, "I rather regretted, Mr. Baley, that you had not left Giskard outside when you entered the Personal. I might have known him in times past, when Fastolfe and I were on better terms but somehow never did. Fastolfe was my teacher once, you know."

"Was he?" said Baley. "I didn't know that, as a matter of fact."

"No reason you should, unless you had been told-and, in the short time you've been on the planet, you can scarcely have had time to learn much in the way of this sort of trivia, I suppose.

-Come now, it has occurred to me that you can scarcely think me hospitable if I do not take advantage of your being at the Institute to show you around."

"Really," said Baley, stiffening a bit. "I must-"

"I insist," said Amadiro, with something of a note of the imperious entering his voice. "You arrived on Aurora yesterday morning and I doubt that you will be staying on the planet much longer. This may be the only chance you will ever have of getting a glimpse of a modern laboratory doing research work on robotics."

He linked arms with Baley and continued to speak in familiar terms. ('Prattled" was the term that occurred to the astonished Baley.)

"You've washed," said Amadiro. "You've taken care of your needs. There may be other roboticists here whom you will wish to question and I would welcome that, since I am determined to show I have put no barriers in your way during the short time in which you will yet be permitted to conduct your investigation. In fact, there is no reason you can't have dinner with us."

Giskard said, "If I may interrupt, sir-"

"You may not!" said Amadiro with unmistakable firmness and the robot fell silent.

Amadiro said, "My dear Mr. Baley, I understand these robots. Who should know them better? -Except for the unfortunate Fastolfe, of course. Giskard, I am sure, was going to remind you of some appointment, some promise, some business-and there is no point in any of that. Since the investigation is about over, I promise you, none of what he was going to remind you of will have any significance. Let us forget all such nonsense and, for a brief time, be friends.

"You must understand, my good Mr. Baley," he went on, "that I am quite an aficionado of Earth and its culture. It is not the most popular of subjects on Aurora, but I find it fascinating. I am particularly interested in Earth's past history, the days when it had a hundred languages and Interstellar Standard had not yet been developed. -May I compliment you, by the way, on your own handling of Interstellar?

"This way, this way," he said, turning a corner. "We'll be coming to the pathway-simulation room, which has its own weird beauty, and we may have a mock-up in operation. Quite symphonic, actually. -But I was talking about your handling of

Interstellar. It is one of the many Auroran superstitions concerning Earth, that Earthpeople speak an all-but-incomprehensible version of Interstellar. When the show about you was produced, there were many who said that the actors could not be Earthpeople because they could be understood, yet I can understand you." He smiled as he said that.

"I've tried reading Shakespeare," he continued with a confidential air, "but I can't read him in the original, of course, and the translation is curiously flat. I can't help but believe that the fault lies with the translation and not with Shakespeare. I do better with Dickens and Tolstoy, perhaps because that is prose, although the names of the characters are, in both cases, virtually unpronounceable to me.

"What I'm trying to say, Mr. Baley, is that I'm a friend of Earth. I really am. I want what is best for it. Do you understand?" He looked at Baley and again the wolf showed in his twinkling eyes.

Baley raised his voice, forcing it between the softly running sentences of the other. "I'm afraid I cannot oblige you, Dr. Amadiro. I must be about my business and I have 'no further questions to ask of either you or anyone else here. If you-

Baley paused. There was a faint and curious rumble of sound in the air. He looked up, startled. "What is that?"

"What is what?" asked Amadiro. "I sense nothing." He looked at the robots, who had been following the two human beings in grave silence. "Nothing!" he said forcefully. "Nothing."

Baley recognized that as the equivalent of an order. Neither robot could now claim to have heard the rumble in direct contradiction to a human being, unless Baley himself applied a counter-pressure-and he was sure he could not manage to do it skillfully enough in the face of Amadiro's professionalism.

Nevertheless, it didn't matter. He had heard something and he was not a robot; he would not be talked out of it. He said, "By your own statement, Dr. Amadiro, I have little time left me, That is all the more reason that I must-

The rumble again. Louder.

Baley said, with a sharp, cutting edge to his voice, "That, I suppose, is precisely what you didn't hear before and what you don't hear now. Let me go, sir, or I will ask my robots for help."

Amadiro loosened his grip on Baley's upper arm at once. "My friend, you had but to express the wish. Come! I will take you to the nearest exit and, if ever you are on Aurora again, which seems unlikely in the extreme, please return and you may have the tour I promised you."

They were walking faster. They moved down the spiral ramp, out along a corridor to the commodious and now empty anteroom and the door by which they had entered.

The windows in the anteroom showed utterly dark. Could it be night already?

It wasn't. Amadiro muttered to himself, "Rotten weather! They've opacified the windows."

He turned to Baley, "I imagine it's raining. They predicted it and the forecasts can usually be relied on-always, when they're unpleasant."

The door opened and Baley jumped backward with a gasp. A cold wind gusted inward and against the sky-not black but a dull, dark gray-the tops of trees were whipping back and forth.

There was water pouring from the sky-descending in streams. And as Baley watched, appalled, a streak of light flashed across the sky with blinding brilliance and then the rumble came again, this time with a cracking report, as though the light-streak had split the sky and the rumble was the noise it had made.

Baley turned and fled back the way he had come, whimpering.

15. AGAIN DANEEL AND GISKARD

60.

Baley felt Daneel's strong grip on his arms, just beneath his shoulders. He halted and forced himself to stop making that infantile sound. He could feel himself trembling.

Daneel said with infinite respect, "Partner Elijah, it is a thunderstorm-expected-predicted-normal."

"I know that," whispered Baley.

He did know it. Thunderstorms had been described innumerable times in the books he had read, whether fiction or nonfiction. He had seen them in holographs and on hyperwave shows-sound, sight, and all.

The real thing, however, the actual sound and sight, had never penetrated into the bowels of the City and he had never in his life actually experienced such a thing.

With all he knew-intellectually-about thunderstorms, he could not face-viscerally-the actuality. Despite the descriptions, the collections of words, the sight in small pictures and on small screens, the sounds captured in recordings; despite all that, he had no idea the flashes were so bright and streaked so across the sky; that the sound was so vibratorily bass in sound when it rattled across a hollow world; that both were so sudden; and that rain could be so like an inverted bowl of water, endlessly pouring.

He muttered in despair, "I can't go out in that."

"You won't have to," said Daneel urgently. Giskard will get the airfoil. It will be brought right to the door for you. Not a drop of rain will fall on you."

"Why not wait until it's over?"

"Surely that would not be advisable, Partner Elijah. Some rain, at least, will continue past midnight and if the Chairman arrives tomorrow morning, as Dr. Amadiro implied he might, it might be wise to spend the evening in consultation with Dr. Fastolfe."

Baley forced himself to turn around, face in the direction from which he wanted to flee, and look into Daneel's eyes. They seemed deeply concerned, but Baley thought dismally that that was merely the result of his own interpretation of the appearance of those eyes. The robot had no feelings, only positronic surges that mimicked those feelings. (And perhaps human beings had no feelings, only neuronic surges that were interpreted as feelings.)

He was somehow aware that Amadiro was gone. He said, "Amadiro delayed me deliberately-by ushering me into the Personal, by his senseless talk, by his preventing you or Giskard from interrupting and warning me about the storm. He would even have tried to persuade me to tour the building or dine with him. He desisted only at the sound of the storm. That was what he was waiting for."

"It would seem so. If the storm now keeps you here, that may be what he was waiting for."

Baley drew a deep breath. "You are right. I must leave- somehow."

Reluctantly, he took a step toward the door, which was still open, still filled with a dark gray vista of whipping rain. Another step. And still another-leaning heavily on Daneel.

Giskard was waiting quietly at the door.

Baley paused and closed his eyes for a moment. Then he said in a low voice, to himself rather than to Daneel, "I must do it," and moved forward again.

61.

"Are you well, sir?" asked Giskard.

It was a foolish question, dictated by the programming of the robot, thought Baley, though, at that, it was no worse than the questions asked by human beings, sometimes with wild inappropriateness, out of the programming of etiquette.

"Yes," said Baley in a voice he tried-and failed-to raise above a husky whisper. It was a useless answer to the foolish question, for Giskard, robot though he was, could surely see that Baley was unwell and that Baley's answer was a palpable lie.

The answer was, however, given and accepted and that freed Giskard for the next step. He said, "I will now leave to get the airfoil and bring it to the door."

"Will it work-in all this-this water, Giskard?"

"Yes, sir. This is not an uncommon rain."

He left, moving steadily into the downpour. The lightning was flickering almost continuously and the thunder was a muted growl that rose to a louder crescendo every few minutes.

For the first time in his life, Baley found himself envying a robot. Imagine being able to walk through that; to be indifferent to water, to sight, to sound; to be able to ignore surroundings and to have a pseudo-life that was absolutely courageous; to know no fear of pain or of death, because there was no pain or death.

And yet to be incapable of originality of thought, to be incapable of unpredictable leaps of intuition- Were such gifts worth what humanity paid for them? At the moment, Baley could not say. He knew that, once he no longer felt terror, he would know that no price was too high to pay for being human. But now that he experienced nothing but the pounding of his heart and the collapse of his will, he could not help but wonder of what use it might be to be a human being if one could not overcome these deep-seated terrors, this intense agoraphobia.

Yet he had been in the open for much of two days and had managed to be almost comfortable.

But the fear had not been conquered. He knew that now. He had suppressed it by thinking intensely of other things, but the storm overrode all intensity of thought.

He could not allow this. If all else failed -thought, pride, will -then he would have to fall back on shame. He could not collapse under the impersonal, superior gaze of the robots. Shame would have to be stronger than fear.

He felt Daneel's steady arm about his waist and shame prevented him from doing what, at the moment, he most wanted to do-to turn and hide his face against the robotic chest. He might have been unable to resist if Daneel had been human- He had lost contact with reality, for he was becoming aware of Daneel's voice as though it were reaching him from a long distance. It sounded as though Daneel was feeling something akin to panic.

"Partner Elijah, do you hear me?"

Giskard's voice, from an equal distance, said, "We must carry him."

"No," mumbled Baley. "Let me walk."

Perhaps they did not hear him. Perhaps he did not really speak, but merely thought he did. He felt himself lifted from the ground. His left arm dangled helplessly and he strove to lift it, to push it against someone's shoulder, to lift himself upright again from the waist, to grope for the floor with his feet and stand upright.

But his left arm continued to dangle helplessly and his striving went for nothing.

He was somehow aware that he was moving through the air and he felt a wash of spray against his face. Not actually water but the sifting of damp air. Then there was the pressure of a hard surface against his left side, a more resilient one against his right side.

He was in the airfoil, wedged in once more between Giskard and Daneel. What he was most conscious of was that Giskard was very wet.

He felt a jet of warm air cascading over him. Between the near-darkness outside and the film of trickling water upon the glass, they might as well have been opacified-or so Baley thought till opacification actually took place and total darkness descended. The soft noise of the jet, as the airfoil rose above the grass and swayed, muted the thunder and seemed to draw its teeth.

Giskard said, "I regret the discomfort of my wet surface, sir. I will dry quickly. We will wait here a short while till you recover."

Baley was breathing more easily. He felt wonderfully and comfortably enclosed. He thought: Give me back my City. Wipe out all the Universe and let the Spacers colonize it. Earth is all we need.

And even as he thought it, he knew it was his madness that believed it, not he.

He felt the need to keep his mind busy.

He said weakly, "Daneel."

"Yes, Partner Elijah?"

"About the Chairman. Is it your opinion that Amadiro was judging the situation correctly in supposing that the Chairman would put an end to the investigation or was he perhaps allowing his wishes to do his thinking for him?"

"It may be, Partner Elijah, that the Chairman will indeed interview Dr. Fastolfe and Amadiro on the matter. It would be a standard procedure for settling a dispute of this nature. There are ample precedents."

"But why?" asked Baley wealdy. "If Amadiro was so persuasive, why should not the Chairman simply order the investigation stopped?"

"The Chairman," said Daneel, "is in a difficult political situation. He agreed originally to allow you to be brought to Aurora at Dr. Fastolfe's urging and he cannot so sharply reverse himself so soon without making himself look weak and irresolute- and without angering Dr. Fastolfe, who is still a very influential figure in the Legislature."

"Then why did he not simply turn down Amadiro's request?"

"Dr. Amadiro is also influential, Partner Elijah, and likely to grow even more so. The Chairman must temporize by hearing both sides and by giving at least the appearance of deliberation before coming to a decision."

"Based on what?"

"On the merits of the case, we must presume."

"Then by tomorrow morning, I must come up with something that will persuade the Chairman to side with Fastolfe, rather than against him. If I do that, will that mean victory?"

Daneel said, "The Chairman is not all-powerful, but his influence is great. If he comes out strongly on Dr. Fastolfe's side, then, under the present political conditions, Dr. Fastolfe will probably win the backing of the Legislature."

Baley found himself beginning to think clearly again. "That would seem explanation enough for Amadiro's attempt to delay us. He might have reasoned that I had nothing yet to offer the Chairman and he needed only to delay to keep me from getting anything in the time that remained to me."

"So it would seem, Partner Elijah."

"And he let me go only when he thought he could rely on the storm continuing to keep me."

"Perhaps so, Partner Elijah."

"In that case, we cannot allow the storm to stop us."

Giskard said calmly, "Where do you wish to be taken, sir?"

"Back to the establishment of Dr. Fastolfe."

Daneel said, "May we have one moment's more pause, Partner Elijah? Do you plan to tell Dr. Fastolfe that you cannot continue the investigation?"

Baley said sharply, "Why do you say that?" It was a measure of his recovery that his voice was loud and angry.

Daneel said, "It is merely that I fear you might have forgotten for a moment that Dr. Amadiro urged you to do so for the sake of Earth's welfare."

"I have not forgotten," said Baley grimly, "and I am surprised, Daneel, that you should think that that would influence me."

Fastolfe must be exonerated and Earth must send its settlers outward into the Galaxy. If there is danger in that from the Globalists, that danger must be chanced."

"But, in that case, Partner Elijah, why go back to Dr. Fastolfe? It doesn't seem to me that we have anything of moment to report to him. Is there no direction in which we can further continue our investigation before reporting to Dr. Fastolfe?"

Baley sat up in his seat and placed his hand on Giskard, who was now entirely dry. He said, in quite a normal voice, "I am satisfied with the progress I have already made, Daneel. Let's get moving, Giskard. Proceed to Fastolfe's establishment."

And then, tightening his fists and stiffening his body, Baley added, "What's more, Giskard, clear the windows. I want to look out into the face of the storm."

62.

Baley held his breath in preparation for transparency. The small box of the airfoil would no longer be entirely enclosed; it would no longer have unbroken walls.

As the windows clarified, there was a flash of light that came and went too quickly to do anything but darken the world by contrast Baley could not prevent his cringe as he tried to steel himself for the thunder which, after a moment or two, rolled and grumbled.

Daneel said pacifyingly, "The storm will get no worse and soon enough it will recede."

"I don't care whether it recedes or not," said Baley through trembling lips. "Come on. Let's go." He was trying, for his own sake, to maintain the illusion of a human being in charge of robots.

The airfoil rose slightly in the air and at once underwent a sideways movement that tilted it so that Baley felt himself pushing hard against Giskard.

Baley cried out (gasped out, rather), "Straighten the vehicle, Giskard!"

Daneel placed his arm around Baley's shoulder and pulled him gently back. His other arm was braced about a hand-grip attached to the frame of the airfoil.

"That cannot be done, Partner Elijah," Daneel said. "There is a fairly strong wind."

Baley felt his hair bristle. "You mean-we're going to be blown away?"

"No, of course not," said Daneel. "If the car were antigrav-a form of technology that does not, of course, exist-and if its mass and inertia were eliminated, then it would be blown like a feather high into the air. However, we retain our full mass even when our jets lift us and poise us in the air, so our inertia resists the wind. Nevertheless, the wind makes us sway, even though the car remains completely under Giskard's control."

"It doesn't feel like it." Baley was conscious of a thin whine, which he imagined to be the wind curling around the body of the airfoil as it cut its way through the protesting atmosphere. Then the airfoil lurched and Baley, who could not for his life have helped it, seized Daneel in a desperate grip around the neck.

Daneel waited a moment. When Baley had caught his breath and his grip grew less rigid, Daneel released himself easily from the other's embrace, while somewhat tightening the pressure of his own arm around Baley.

He said, "In order to maintain course, Partner Elijah, Giskard must counter the wind by an asymmetric ordering of the airfoil's jets. They are sent to one side so as to cause the airfoil to lean into the wind and these jets have to be adjusted in force and direction as the wind itself changes force and direction. There are none better at this than Giskard, but, even so, there are occasional jiggles and lurches. You must excuse Giskard, then, if he does not participate in our conversation. His attention is fully on the airfoil."

"Is it-it safe?" Baley felt his stomach contract at the thought of playing with the wind in this fashion. He was devoutly glad he had not eaten for some hours. He could not-dared not-be sick in the close confines of the airfoil. The very thought unsettled him further and he tried to concentrate on something else.

He thought of running the strips back on Earth, of racing from one moving strip to its neighboring faster strip, and then to its neighboring still faster strip, and then back down into the slower regions, leaning expertly into the wind either way; in one direction as one fastered (an odd word used by no one but stripacers) and in the other direction, as one slowered. In his younger days, Daneel could do it without pause and without error.

Daneel had adjusted to the need without trouble and, the one time they had run the strips together, Daneel had done it perfectly. Well, this was just the same! The airfoil was running strips. Absolutely! It was the same!

Not quite the same, to be sure. In the City, the speed of the strips was a fixed quantity. What wind there was blew in absolutely predictable fashion, since it was only the result of the movement of the strips. Here in the storm, however, the wind had a mind of its own or, rather, it depended on so many variables (Baley was deliberately striving for rationality) that it seemed to have a mind of its own-and Giskard had to allow for that. That was all. Otherwise, it was just running the strips with an added complication. The strips were moving at variable-and sharply changing-speeds.

Baley muttered, "What if we blow into a tree?"

"Very unlikely, Partner Elijah. Giskard is far too skillful for that. And we are only very slightly above the ground, so that the jets are particularly powerful."

"Then we'll hit a rock. It will cave us in underneath."

"We will not hit a rock, Partner Elijah."

"Why not? How on Earth can Giskard see where he's going, anyway?" Baley stared at the darkness ahead.

"It is just about sunset," said Daneel, "and some light is making its way through the clouds. It is enough for us to see by with the help of our headlights. And as it grows darker, Giskard will brighten the headlights."

"What headlights?" asked Baley rebelliously.

"You do not see them very well because they have a strong infrared component, to which Giskard's eyes are sensitive but yours are not. What's more, the infrared is more penetrating than shorter wave light is and, for that reason, is more effective in rain, mist, and fog."

Baley managed to feel some curiosity, even amid his uneasiness. "And your eyes, Daneel?"

"My eyes, Partner Elijah, are designed to be as similar to those of human beings as possible. That is regrettable, perhaps, at this moment."

The airfoil trembled and Baley found himself holding his breath again. He said in a whisper, "Spacer eyes are still adapted to Earth's sun, even if robot eyes aren't. A good thing, too, if it helps remind them they're descended from Earthpeople."

His voice faded out. It was getting darker. He could see nothing at all now and the intermittent flashes lighted nothing, either. They were merely blinding. He closed his eyes and that didn't help. He was the more conscious of the angry, threatening thunder.

Should they not stop? Should they not wait for the worst of the storm to pass?

Giskard suddenly said, "The vehicle is not reacting properly."

Baley felt the ride become ragged as though the machine was on wheels and was rolling over ridges.

Daneel said, "Can it be storm damage, friend Giskard?"

"It does not have the feel of that, friend Daneel. Nor does it seem likely that this machine would suffer from this kind of damage in this or any other storm."

Baley absorbed the exchange with difficulty. "Damage?" he muttered. "What kind of damage?"

Giskard said, "I should judge the compressor to be leaking, sir, but slowly. It's not the result of an ordinary puncture."

"How did it happen, then?" Baley asked.

"Deliberate damage, perhaps, while it was outside the Administration Building. I have known, now, for some little time that we are being followed and carefully not being overtaken."

"Why, Giskard?"

"A possibility, sir, is that they are waiting for us to break down completely." The airfoil's motion was becoming more ragged.

"Can you make it to Dr. Fastolfe's?"

"It would not seem so, sir."

Baley tried to fling his reeling mind into action. "In that case, I've completely misjudged Amadiro's reason for delaying us. He was keeping us there to have one or more of his robots damage the airfoil in such a way as to bring us down in the midst of desolation and lightning."

"But why should he do that?" said Daneel, sounding shocked. "To get you? -In a way, he already had you."

"He doesn't want me. No one wants me," said Baley with a somewhat feeble anger. "The danger is to you, Daneel."

"To me, Partner Elijah?"

"Yes, you! Daneel. -Giskard, choose a safe place to come down and, as soon as you do, Daneel must get out of the car and be off to a place of safety."

Daneel said, "That is impossible, Partner Elijah. I could not leave you when you are feeling ill-and most especially if there are those who pursue us and might do you harm."

Baley said, "Daneel, they're pursuing you. You must leave. As for me, I will stay in the airfoil. I am in no danger."

"How can I believe that?"

"Please! Please! How can I explain the whole thing with everything spinning-Daneel"-Baley's voice grew desperately calm-"you are the most important individual here, far more important than Giskard and I put together. It's not just that I care for you and want no harm to come to you. All of humanity depends on you. Don't worry about me; I'm one man; worry about billions. Daneel-please-"

63.

Baley could feel himself rocking back and forth. Or was it the airfoil? Was it breaking up altogether? Or was Giskard losing control? Or was he taking evasive action?

Baley didn't care. He didn't care! Let the airfoil crash. Let it smash to bits. He would welcome oblivion. Anything to get rid of this terrible fright, this total inability to come to terms with the Universe.

Except that he had to make sure that Daneel got away- safely away. But how?

Everything was unreal and he was not going to be able to explain anything to these robots. The situation was so clear to him, but how was he to transfer this understanding to these robots, to these non-men, who understood nothing but their Three Laws and who would let all of Earth and, in the long run, all of humanity go to hell because they could only be concerned with the one man under their noses?

Why had robots ever been invented?

And then, oddly enough, Giskard, the lesser of the two, came to his aid.

He said in his contentless voice, "Friend Daneel, I cannot keep this airfoil in motion much longer. Perhaps it will be more suitable to do as Mr. Baley suggests. He has given you a very strong order."

"Can I leave him when he is unwell, friend Giskard?" said Daneel, perplexed.

"You cannot take him out into the storm with you, friend Daneel. Moreover, he seems so anxious for you to leave that it may do him harm for you to stay."

Baley felt himself reviving. "Yes-yes-" he managed to croak out. "As Giskard says. Giskard, you go with him, hide him, make sure he doesn't return-then come back for me."

Daneel said forcefully, "That cannot be, Partner Elijah. We cannot leave you alone, untended, unguarded."

"No danger-I am in no danger. Do as I say-"

Giskard said, "Those following are probably robots. Human beings would hesitate to come out in the storm. And robots would not harm Mr. Baley."

Daneel said, "They might take him away."

"Not into the storm, friend Daneel, since that would work obvious harm to him. I will bring the airfoil to a halt now, friend Daneel. You must be ready to do as Mr. Baley orders. I, too."

"Good!" whispered Baley. "Good!" He was grateful for the simpler brain that could more easily be impressed and that lacked the ability to get lost and uncertain in ever-expanding refinements.

Vaguely, he thought of Daneel trapped between his perception of Baley's ill-being and the urgency of the order-and of his brain snapping under the conflict.

Baley thought: No no, Daneel. Just do as I say and don't question it.

He lacked the strength, almost the will, to articulate it and he let the order remain a thought.

The airfoil came down with a bump and a short, harsh, scraping noise.

The doors flew open, one on either side, and then closed with a soft, sighing noise. At once, the robots were gone. Having come to their decision, there was no hesitation and they moved with a speed that human beings could not duplicate.

Baley took a deep breath and shuddered. The airfoil was rock steady now. It was part of the ground.

He was suddenly aware of how much of his misery had been the result of the swaying and bucking of the vehicle, the feeling of insubstantiality, of not being connected to the Universe but of being at the mercy of inanimate, uncaring forces.

Now, however, it was still and he opened his eyes.

He had not been aware that they had been closed.

There was still lightning on the horizon and the thunder was a subdued mutter, while the wind, meeting a more resistant and less yielding object now than it had hitherto, keened a higher note than before.

It was dark. Baley's eyes were no more than human and he saw no light of any kind, other than the occasional blip of lightning. The sun must surely have set and the clouds were thick.

And for the first time since Baley had left Earth, he was alone!

64.

Alone!

He had been too ill, too beside himself, to make proper sense. Even now, he found himself struggling to understand what it was he should have done and would have done-if he had had room in his tottering mind for more than the one thought that Daneel must leave.

For instance, he had not asked where he now was, what he was near, where Daneel and Giskard were planning to go. He did not know how any portion of the grounded airfoil worked. He could not, of course, make it move, but he might have had it supply

heat if he felt cold or turn off the heat if there were too much-except that he did not know how to direct the machine to do either.

He did not know how to opacify the windows if he wanted to be enclosed or how to open a door if he wanted to leave.

The only thing he could do now was to wait for Giskard to come back for him. Surely that was what Giskard would expect him to do. The orders to him had simply been: Come back for me.

There had been no indication that Baley would change position in any way and Giskard's clear and uncluttered mind would surely interpret the "Come back" with the assumption that he was to come back to the airfoil.

Baley tried to adjust himself to that. In a way, it was a relief merely to wait, to have to make no decisions for a while, because there were no decisions he could possibly make. It was a relief to be steady and to feel at rest and to be rid of the terrible light flashes and the disturbing crashes of sound.

Perhaps he might even allow himself to go to sleep.

And then he stiffened. -Dare he do that?

They were being pursued. They were under observation. The airfoil, while parked and waiting for them outside the Administration Building of the Robotics Institute, had been tampered with and no doubt the tamperers would soon be upon him.

He was waiting for them, too, and not for Giskard only.

Had he thought it out clearly in the midst of his misery? The machine had been tampered with outside the Administration Building. That might have been done by anyone, but most likely by someone who knew it was there-and who would know that better than Amadiro?

Amadiro had intended delay until the storm. That was obvious. He was to travel in the storm and he was to break down in the storm. Amadiro had studied Earth and its population; he boasted of that. He would know quite clearly just what difficulty Earthpeople would have with the Outside generally and with a thunderstorm in particular.

He would be quite certain that Baley would be reduced to complete helplessness.

But why should he want that?

To bring Baley back to the Institute? He had already had him, but he had had a Baley in the full possession of his faculties and along with him he had had two robots perfectly capable of defending Baley physically. It would be different now!

If the airfoil were disabled in a storm, Baley would be disabled emotionally. He would even be unconscious, perhaps, and would certainly not be able to resist being brought back. Nor would the two robots object. With Baley clearly ill, their only appropriate reaction would be to assist Amadiro's robots in rescuing him.

In fact, the two robots would have to come along with Baley and would do so helplessly.

And if anyone ever questioned Amadiro's action, he could say that he had feared for Baley in the storm; that he had tried to keep him at the Institute and failed; that he had sent his robots to trail him and assure his safety; and that, when the airfoil came to

grief in the storm, those robots brought Baley back to haven. Unless people understood that it had been Amadiro who had ordered the airfoil tampered with (and who would believe that-and how could one prove it?), the only possible public reaction would be to praise Amadiro for his humanitarian feelings-all the more astonishing for having been expressed toward a subhuman Earthman.

And what would Amadiro do with Baley then?

Nothing, except to keep him quiet and helpless for a time. Baley was not himself the quarry. That was the point.

Amadiro would also have two robots and they would now be helpless. Their instructions forced them, in the strongest manner, to guard Baley and, if Baley were ill and being cared for, they could only follow Amadiro's orders if those orders were clearly and apparently for Baley's benefit. Nor would Baley be (perhaps) sufficiently himself to protect them with further orders- certainly not if he were kept under sedation.

It was clear! It was clear! Amadiro had had Baley, Daneel, and Giskard-but in unusable fashion. He had sent them out into the storm in order to bring them back and have them again -in usable fashion. Especially Daneel! It was Daneel who was the key.

To be sure, Fastolfe would be searching for them eventually and would find them, too, and retrieve them, but by then it would be too late, wouldn't it?

And what did Amadiro want with Daneel?

Baley, his head aching, was sure he knew-but how could he possibly prove it?

He could think no more. -If he could opacify the windows, he could make a little interior world again, enclosed and motionless, and then maybe he could continue his thoughts.

But he did not know how to opacify the windows. He could only sit there and look at the flagging storm beyond those windows, hear the whip of rain against the windows, watch the fading lightning, and listen to the muttering thunder.

He closed his eyes tightly. The eyelids made a wall, too, but he dared not sleep.

The car door on his right opened. He heard the sighing noise it made. He felt the cool, damp breeze enter, the temperature drop, the sharp smell of things green and wet enter and drown out the faint and friendly smell of oil and upholstery that reminded him somehow of the City that he wondered if he would ever see again.

He opened his eyes and there was the odd sensation of a robotic face staring at him-and drifting sideways, yet not really moving. Baley felt dizzy.

The robot, seen as a darker shadow against the darkness, seemed a large one. He had, somehow, an air of capability about him. He said, "Your pardon, sir. Did you not have the company of two robots?"

"Gone," muttered Baley, acting as ill as he could and aware that it did not require acting. A brighter flash of the heavens made its way through the eyelids that were now half-open.

"Gone! Gone where, sir?" And then, as he waited for an answer, he said, "Are you ill, sir?"

Baley felt a distant twinge of satisfaction within the inner scrap of himself that was still capable of thinking. If the robot had been without special instruction, he would have responded to Baley's clear signs of illness before doing anything else. To have asked first about the robots implied hard and close-pressed directions as to their importance.

It fit.

He tried to assume a strength and normality he did not possess and said, "I am well. Don't concern yourself with me."

It could not possibly have convinced an ordinary robot, but this one had been so intensified in connection with Daneel (obviously) that he accepted it. He said, "Where have the robots gone, sir?"

"Back to the Robotics Institute."

"To the Institute? Why, sir?"

"They were called by Master Robotist Amadiro and he ordered them to return. I am waiting for them."

"But why did you not go with them, sir?"

"Master Robotist Amadiro did not wish me to be exposed to the storm. He ordered me to wait here. I am following Master Robotist Amadiro's orders."

He hoped the repetition of the prestige-filled name with the inclusion of the honorific, together with the repetition of the word "order," would have its effect on the robot and persuade him to leave Baley where he was.

On the other hand, if they had been instructed, with particular care, to bring back Daneel, and if they were convinced that Daneel was already on his way back to the Institute, there would be a decline in the intensity of their need in connection with that robot. They would have time to think of Baley again. They would say- The robot said, "But it appears you are not well, sir."

Baley felt another twinge of satisfaction. He said, "I am well."

Behind the robot, he could vaguely see a crowding of several other robots-he could not count them-with their faces gleaming in the occasional lightning flash. As Baley's eyes adapted to the return of darkness, he could see the dim shine of their eyes.

He turned his head. There were robots at the left door, too, though that remained closed.

How many had Amadiro sent? Were they to have been returned by force, if necessary?

He said, "Master Robotist Amadiro's orders were that my robots were to return to the Institute and I was to wait. You see that they are returning and that I am waiting. If you were sent to help, if you have a vehicle, find the robots, who are on their way back, and transport them. This airfoil is no longer operative." He tried to say it all without hesitation and firmly, as a well man would. He did not entirely succeed.

"They have returned on foot, sir?"

Baley said, "Find them. Your orders are clear."

There was hesitation. Clear hesitation.

Baley finally remembered to move his right foot-he hoped properly. He should have done it before, but his physical body was not responding properly to his thoughts.

Still the robots hesitated and Baley grieved over that. He was not a Spacer. He did not know the proper words, the proper tone, the proper air with which to handle robots with the proper efficiency. A skilled roboticist could, with a gesture, a lift of an eyebrow, direct a robot as though it were a marionette of which he held the strings. -Especially if the robot were of his own design.

But Baley was only an Earthman.

He frowned-that was easy to do in his misery-and whispered a weary "Go!" and motioned with his hands.

Perhaps that added the last small and necessary quantity of weight to his order-or perhaps an end had simply been reached to the time it took for the robots' positronic pathways to determine, by voltage and counter-voltage, how to sort out their instructions according to the Three Laws.

Either way, they had made up their minds and, after that, there was no further hesitation. They moved back to their vehicle, whatever and wherever it was, with such determined speed that they seemed simply to disappear.

The door the robot had held open now closed of its own accord. Baley had moved his foot in order to place it in the pathway of the closing door. He wondered distantly if his foot would be cut off cleanly or if its bones would be crushed, but he didn't move it. Surely no vehicle would be designed to make such a misadventure possible.

He was alone again. He had forced robots to leave a patently unwell human being by playing on the force of the orders given them by a competent robot master who had been intent on strengthening the Second Law for his own purposes-and had done it to the point where Baley's own quite apparent lies had subordinated the First Law to it.

How well he had done it, Baley thought with distant self-satisfaction-and became aware that the door which had swung shut was still ajar, held so by his foot, and that that foot had not been the least bit damaged as a result.

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Baley felt cool air curling about his foot and a sprinkle of cool water. It was a frighteningly abnormal thing to sense, yet he could not allow the door to close, for he would then not know how to open it. (How did the robots open those doors? Undoubtedly, it was no puzzle to members of the culture, but in his reading on Auroran life, there was no careful instruction of just how one opens the door of a standard airfoil. Everything of importance is taken for granted. You're supposed to know, even though you are, in theory, being informed.)

He was groping in his pockets as he thought this and even the pockets were not easy to find. They were not in the right places and they were sealed, so that they had to be opened by fumbles till he found the precise motion that caused the seal to part. He

pulled out a handkerchief, balled it, and placed it between the door and jamb so that the door would not entirely close. He then removed his foot.

Now to think-if he could. There was no point to keeping the door open unless he meant to get out. Was there, however, any purpose in getting out?

If he waited where he was, Giskard would eventually come back for him and, presumably, lead him to safety.

Dare he wait?

He did not know how long it would take Giskard to see Daneel to safety and then return.

But neither did he know how long it would take the pursuing robots to decide they would not find Daneel and Giskard on any road leading back to the Institute. (Surely it was impossible that Daneel and Giskard had actually moved backward toward the Institute in search of sanctuary. Baley had not actually ordered them not to-but what if that were the only feasible route? -No! Impossible!)

Baley shook his head in silent denial of the possibility and felt it ache in response. He put his hands to it and gritted his teeth.

How long would the pursuing robots continue to search before they would decide that Baley had misled them-or had been himself misled? Would they then return and take him in custody, very politely and with great care not to harm him? Could he hold them off by telling them he would die if exposed to the storm?

Would they believe that? Would they call the Institute to report? Surely they would do that. And would human beings then arrive? They would not be overly concerned about his welfare.

If Baley got out of the car and found some hiding place in the surrounding trees, it would be that much harder for the pursuing robots to locate him-and that would gain him time.

It would also be harder for Giskard to locate him, but Giskard would be under a much more intense instruction to guard Baley than the pursuing robots were to find him. The primary task of the former would be to locate Baley-and of the latter, to locate Daneel.

Besides, Giskard was programmed by Fastolfe himself and Amadiro, however skillful, was no match for Fastolfe.

Surely, then, all things being equal, Giskard would be back before the other robots could possibly be.

But would all things be equal? With a faint attempt at cynicism, Baley thought: I'm worn-out and can't really think. I'm merely seizing desperately at whatever will console me.

Still, what could he do but play the odds, as he conceived the odds to be?

He leaned against the door and was out into the open. The handkerchief fell out into the wet, rank grass and he automatically bent down to pick it up, holding it in his hands as he staggered away from the car.

He was overwhelmed by the gusts of rain that soaked his face and hands. After a short while, his wet clothes were clinging to his body and he was shivering with cold.

There was a piercing splitting of the sky-too quick for him to close his eyes against-and then a sharp hammering that stiffened him in terror and made him clap his hands over his ears.

Had the storm returned? Or did it sound louder only because he was out in the open?

He had to move. He had to move away from the car, so that the pursuers would not find him too easily. He must not waver and remain in its vicinity or he might as well have stayed inside -and dry.

He tried to wipe his face with the handkerchief, but it was as wet as his face was and he let it go. It was useless.

He moved on, hands outstretched. Was there a moon that circled Aurora? He seemed to recall there had been mention of such a thing and he would have welcomed its light. -But what did it matter? Even if it existed and were in the sky now, the clouds would obscure it.

He felt something. He could not see what it was, but he knew it to be the rough bark of a tree. Undoubtedly a tree. Even a City man would know that much.

And then he remembered that lightning might hit trees and might kill people. He could not remember that he had ever read a description of how it felt to be hit by lightning or if there were any measures to prevent it. He knew of no one on Earth who had been hit by lightning.

He felt his way about the tree and was in an agony of apprehension and fear. How much was halfway around, so that he would end up moving in the same direction?

Onward!

The underbrush was thick now and hard to get through. It was like bony, clutching fingers holding him. He pulled petulantly and he heard the tearing of cloth.

Onward!

His teeth were chattering and he was trembling.

Another flash. Not a bad one. For a moment, he caught a glimpse of his surroundings.

Trees! A number of them. He was in a grove of trees. Were many trees more dangerous than one tree where lightning was concerned? He didn't know. Would it help if he didn't actually touch a tree? He didn't know that, either. Death by lightning simply wasn't a factor in the Cities and the historical novels (and sometimes histories) that mentioned it never went into detail.

He looked up at the dark sky and felt the wetness coming down. He wiped at his wet eyes with his wet hands. He stumbled onward, trying to step high. At one point, he splashed through a narrow stream of water, sliding over the pebbles underlaying it.

How strange! It made him no better than he was.

He went on again. The robots would not find him. Would Giskard?

He didn't know where he was. Or where he was going. Or how far he was from anything.

If he wanted to return to the car, he couldn't.

If he was trying to find himself, he couldn't.

And the storm would continue forever and he would finally dissolve and pour down in a little stream of Baley and no one would ever find him again.

And his dissolved molecules would float down to the ocean.

Was there an ocean on Aurora?

Of course there was! It was larger than Earth's, but there was more ice at the Auroran poles.

Ah, he would float to the ice and freeze there, glistening in the cold orange sun.

His hands were touching a tree again-wet hands-wet tree- rumble of thunder-funny he didn't see the flash of lightning- lightning came first-was he hit?

He didn't feel anything-except the ground.

The ground was under him because his fingers were scrabbling into cold mud. He turned his head so he could breathe. It was rather comfortable. He didn't have to walk anymore. He could wait. Giskard would find him.

He was suddenly very sure of it. Giskard would have to find him because- No, he had forgotten the because. It was the second time he had forgotten something. Before he went to sleep- Was it the same thing he had forgotten each time?- The same thing?- It didn't matter.

It would be all right-all- And he lay there, alone and unconscious, in the rain at the base of a tree, while the storm beat on.

16. AGAIN GLADIA

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Afterward, looking back and estimating times, it would appear that Baley had remained unconscious not less than ten minutes and not more than twenty.

At the time, though, it might have been anything from zero to infinity. He was conscious of a voice. He could not hear the words it spoke, just a voice. He puzzled over the fact that it sounded odd and solved the matter to his satisfaction by recognizing it as a woman's voice.

There were arms around him, lifting him, heaving him. One arm-his arm-dangled. His head lolled.

He tried feebly to straighten out, but nothing happened. The woman's voice again.

He opened his eyes wearily. He was aware of being cold and wet and suddenly realized that water was not striking him. And it was not dark, not entirely. There was a dim suffusing of light and, by it, he saw a robot's face.

He recognized it. "Giskard," he whispered and with that he remembered the storm and the flight. And Giskard had reached him first; he had found him before the other robots had.

Baley thought contentedly: I knew he would.

He let his eyes close again and felt himself moving rapidly but with the slight-yet definite-unevenness that meant he was being carried by someone who was walking. Then a stop and a slow adjustment until he was resting on something quite warm and comfortable. He knew it was the seat of a car covered, perhaps, with toweling, but did not question how he knew.

Then there was the sensation of smooth motion through the air and the feeling of soft absorbent fabric over his face and hands, the tearing open of his blouse, cold air upon his chest, and then the drying and blotting again.

After that, the sensations crowded in upon him.

He was in an establishment. There were flashes of walls, of illumination, of objects (miscellaneous shapes of furnishings) which he saw now and then when he opened his eyes.

He felt his clothes being stripped off methodically and made a few feeble and useless attempts to cooperate, then he felt warm water and vigorous scrubbing. It went on and on and he didn't want it to stop.

At one point, a thought occurred to him and he seized the arm that was holding him. "Giskard! Giskard!"

He heard Giskard's voice, "I am here, sir."

"Giskard, is Daneel safe?"

"He is quite safe, sir."

"Good." Baley closed his eyes again and made no effort whatever in connection with the drying. He felt himself turned over and over in the stream of dry air and then he was being dressed again in something like a warm robe.

Luxury! Nothing like this had happened to him since he was an infant and he was suddenly sorry for the babies for whom everything was done and who were not sufficiently conscious of it to enjoy it.

Or did they? Was the hidden memory of that infant luxury a determinant of adult behavior? Was his own feeling now just an expression of the delight of being an infant again?

And he had heard a woman's voice. Mother?

No, that couldn't possibly be.

-Mamma?

He was sitting in a chair now. He could sense as much and he could also feel, somehow, that the short, happy period of renewed infancy was coming to an end. He had to return to the sad world of self-consciousness and self-help.

But there had been a woman's voice. -What woman?

Baley opened his eyes. "Gladia?"

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It was a question, a surprised question, but deep within himself he was not really surprised. Thinking back, he had, of course, recognized her voice.

He looked around. Giskard was standing in his alcove, but he ignored him. First things first.

He said, "Where's Daneel?"

Gladia said, "He has cleaned and dried himself in the robot's quarters and he has dry clothing. He is surrounded by my household staff and they have their instructions. I can tell you that no outsider will approach within fifty meters of my establishment in any direction without our all knowing it at once.

-Giskard is cleaned and dried as well."

"Yes, I can see that," said Baley. He was not concerned with Giskard, only with Daneel. He was relieved that Gladia seemed to accept the necessity of guarding Daneel and that he would not have to face the complications of explaining the matter.

Yet there was one breach in the wall of security and a note of querulousness entered in his voice as he said, "Why did you leave him, Gladia? With you gone, there was no human being in the house to stop the approach of a band of outside robots. Daneel could have been taken by force."

"Nonsense," said Gladia with spirit. "We were not gone long and Dr. Fastolfe had been informed. Many of his robots had found mine and he could be on the spot in minutes if needed- and I'd like to see any band of outside robots withstand him."

"Have you seen Daneel since you returned, Gladia?"

"Of course! He's safe, I tell you."

"Thank you!" Baley relaxed and closed his eyes. Oddly enough, he thought: It wasn't so bad.

Of course it wasn't. He had survived, hadn't he? When he thought that, something inside himself grinned and was happy.

He had survived, hadn't he?

He opened his eyes and said, "How did you find me, Gladia?"

"It was Giskard. They had come here-both of them-and Giskard explained the situation to me quickly. I set right about securing Daneel, but he wouldn't budge until I had promised to order Giskard out after you. He was very eloquent. His responses with respect to you are very intense, Elijah.

"Daneel remained behind, of course. It made him very unhappy, but Giskard insisted that I order him to stay at the very top of my voice. You must have given Giskard some mighty strict orders. Then we got in touch with Dr. Fastolfe and, after that, we took my personal airfoil."

Baley shook his head wearily. "You should not have come along, Gladia. Your place was here, making sure Daneel was safe."

Gladia's face twisted into scorn. "And leave you dying in the storm, for all we knew? Or being taken up by Dr. Fastolfe's enemies? I have a little holograph of myself letting that happen. No, Elijah, I might have been needed to keep the other robots away from you if they had gotten to you first. I may not be much good in most ways, but any Solarian can handle a mob of robots, let me tell you. We're used to it."

"But how did you find me?"

"It wasn't so terribly hard. Actually, your airfoil wasn't far away, so that we could have walked it, except for the storm. We-"

Baley said, "You mean we had almost made it to Fastolfe's?"

"Yes," said Gladia. "Either your airfoil, in being damaged, wasn't damaged sufficiently to force you to a standstill sooner or Giskard's skill kept it going for longer than the vandals had anticipated. Which is a good thing. If you had come down closer to the Institute, they might have gotten you all. Anyway, we took my airfoil to where yours had come down. Giskard knew where it was, of course, and we got out-"

"And you got all wet, didn't you, Gladia?"

"Not a bit," she replied. "I had a large rain shade and a light sphere, too. My shoes got muddy and my feet got a little damp because I didn't have time to spray on Latex, but there's no harm in that. -Anyway, we were back at your airfoil less than half an hour after Giskard and Daneel had left you and, of course, you weren't there."

"I had tried-" began Baley.

"Yes, we know. I thought they-the others-had taken you away because Giskard said you were being followed. But Giskard found your handkerchief about fifty meters from the airfoil and he said that you must have wandered off in that direction. Giskard said it was an illogical thing to do, but that human beings were often illogical, so that we should search for you. -So we looked -both of us- using the light-sphere, but it was he found you."

He said he saw the infrared glimmer of your body heat at the base of the tree and we brought you back."

Baley said, with a spark of annoyance, "Why was my leaving an illogical thing to do?"

"He didn't say, Elijah. Do you wish to ask him?" She gestured toward Giskard.

Baley said, "Giskard, what's this?"

Giskard's impassivity was disrupted at once and his eyes focused on Baley. He said, "I felt that you had exposed yourself to the storm unnecessarily. If you had waited, we would have brought you here sooner."

"The other robots might have gotten to me first."

"They did-but you had sent them away, sir."

"How do you know that?"

"There were many robotic footprints around the doors on either side, sir, but there was no sign of dampness within the airfoil, as there would have been if wet arms had reached in to lift you out. I judged you would not have gotten out of the airfoil of your own accord in order to join them, sir. And, having sent them away, you need not have feared they would return very quickly, since it was Daneel they were after-by your own estimate of the situation-and not you. In addition, you might have been certain that I would have been back quickly."

Baley muttered, "I reasoned precisely in that manner but I felt that confusing the issue might help further. I did what seemed best to me and you did find me, even so."

"Yes, sir."

Baley said, "But why bring me here? If we were close to Gladia's establishment, we were just as close, perhaps closer, to Dr. Fastolfe's."

"Not quite, sir. This residence was somewhat closer and I judged, from the urgency of your orders, that every moment counted in securing Daneel's safety. Daneel concurred in this, though he was most reluctant to leave you. Once he was here, I felt you would want to be here, too, so that you could, if you desired, assure yourself of his safety firsthand."

Baley nodded and said grumpily (he was still annoyed at that remark concerning his illogicality), "You did well, Giskard."

Gladia said, "Is it important that you see Dr. Fastolfe, Elijah? I can have him summoned here. Or you can view him trimensionally."

Baley leaned back in his chair again. He had leisure to realize that his thought processes were blunted and that he was very tired. It would do him no good to face Fastolfe now. He said, "No. I'll see him tomorrow after breakfast. Time enough. And then I think I'll be seeing this man, Kelden Amadiro, the head of the Robotics Institute. And a high official -what d' you call him?

-the Chairman. He will be there, too, I suppose."

"You look terribly tired, Elijah," said Gladia. "Of course, we don't have those microorganisms-those germs and viruses-that you have on Earth and you've been cleaned

out, so you won't get any of the diseases they have all over your planet, but you're clearly tired."

Baley thought: After all that, no cold? No flu? No pneumonia?

-There was something to being on a Spacer world at that.

He said, "I admit I'm tired, but that can be cured by a bit of rest."

"Are you hungry? It's dinnertime."

Baley made a face. "I don't feel like eating."

"I'm not sure that's wise. You don't want a heavy meal, perhaps, but how about some hot soup? It will do you good."

Baley felt the urge to smile. She might be Solarian, but given the proper circumstances she sounded exactly like an Earthwoman. He suspected that this would be true of Aurorans as well. There are some things that differences in culture don't touch.

He said, "Do you have soup available? I don't want to be a problem."

"How can you be a problem? I have a staff-not a large one, as on Solaria, but enough to prepare any reasonable item of food on short order. -Now you just sit there and tell me what kind of soup you would like. It will all be taken care of."

Baley couldn't resist. "Chicken soup?"

"Of course." Then innocently, "Just what I would have suggested-and with lumps of chicken, so that it will be substantial."

The bowl was put before him with surprising speed. He said, "Aren't you going to eat, Gladia?"

"I've eaten already, while you were being bathed and treated."

"Treated?"

"Only routine biochemical adjustment, Elijah. You had been rather psychic-damaged and we wanted no repercussions. -Do eat!"

Baley lifted an experimental spoonful to his lips. It was not bad chicken soup, though it had the queer tendency of Auroran food to be rather spicier than Baley would prefer. Or perhaps it was prepared with different spices than those he was used to.

He remembered his mother suddenly-a sharp thrust of memory that made her appear younger than he himself was right now. He remembered her standing over him when he rebelled at eating his "nice soup."

She would say to him, "Come, Elijah. This is real chicken and very expensive. Even the Spacers don't have anything better."

They didn't. He called to her in his mind across the years:

They don't, Mom!

Really! If he could trust memory and allow for the power of youthful taste buds, his mother's chicken soup, when it wasn't dulled by repetition, was far superior.

He sipped again and again-and when he finished, he muttered in a shamefaced way, "Would there be a little more?"

"As much as you want, Elijah."

"Just a little more."

Gladia said to him, as he was finishing, "Elijah, this meeting tomorrow morning-"

"Yes, Gladia?"

"Does it mean that your investigation is over? Do you know what happened to Jander?"

Baley said judiciously, "I have an idea as to what might have happened to Jander. I don't think I can necessarily persuade anyone that I am right."

"Then why are you having the conference?"

"It's not my idea, Gladia. It's Master Robotist Amadiro's idea. He objects to the investigation and he's going to try to have me sent back to Earth."

"Is he the one who tampered with your airfoil and tried to have his robots take Daneel?"

"I think he is."

"Well, can't he be tried and convicted and punished for that?"

"He certainly could," said Baley feelingly, "except for the very small problem that I can't prove it."

"And can he do all that and get away with it-and stop the investigation, too?"

"I'm afraid he has a good chance of being able to do so. As he himself says, people who don't expect justice don't have to suffer disappointment."

"But he mustn't. You mustn't let him. You've got to complete your investigation and find out the truth."

Baley sighed. "What if I can't find out the truth? Or what if I can-but can't make people listen to me?"

"You can find out the truth. And you can make people listen to you."

"You have a touching faith in me, Gladia. Still, if the Auroran World Legislature wants to send me back and orders the investigation ended, there's nothing I'm going to be able to do about it."

"Surely you won't be willing to go back with nothing accomplished."

"Of course I won't. It's worse than just accomplishing nothing, Gladia. I'll go back with my career ruined and with Earth's future destroyed."

"Then don't let them do that, Elijah."

And he said, "Jehoshaphat, Gladia, I'm going to try not to, but I can't lift a planet with my bare hands. You can't ask me for miracles."

Gladia nodded and, eyes downcast, put her fist to her mouth, sitting there motionlessly, as though in thought. It took a while for Baley to realize that she was weeping soundlessly.

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Baley stood up quickly and walked around the table to her. He noted absently-and with some annoyance-that his legs were trembling and that there was a tic in the muscle of his right thigh.

"Gladia," he said urgently, "don't cry."

"Don't bother, Elijah," she whispered. "It will pass." He stood helplessly at her side, reaching out to her yet hesitating. "I'm not touching you," he said. "I don't think I had better do so, but-"

"Oh, touch me. Touch me. I'm not all that fond of my body and I won't catch anything from you. I'm not-what I used to be."

So Baley reached out and touched her elbow and stroked it very slightly and clumsily with his fingertips. "I'll do what I can tomorrow, Gladia," he said. "I'll give it my very best try."

She rose at that, turned toward him, and said, "Oh, Elijah." Automatically, scarcely knowing what he was doing, Baley held out his arms. And, just as automatically, she walked into them and he was holding her while her head cradled against his chest.

He held her as lightly as he could, waiting for her to realize that she was embracing an Earthman. (She had undoubtedly embraced a humanoid robot, but he had been no Earthman.)

She sniffed loudly and spoke while her mouth was half-obscured in Baley's shirt.

She said, "It isn't fair. It's because I'm a Solarian. No one really cares what happened to Jander and they would if I were an Auroran. It just boils down to prejudice and politics."

Baley thought: Spacers are people. This is exactly what Jessie would say in a similar situation. And if it were Gremionis who was holding Gladia, he'd say exactly what I'll say-if I knew what I would say.

And then he said, "That's not entirely so. I'm sure Dr. Fastolfe cares what happened to Jander."

"No, he doesn't. Not really. He just wants to have his way in the Legislature, and that Amadiro wants to have his way, and either one would trade Jander for his way."

"I promise you, Gladia, I won't trade Jander for anything."

"No? If they tell you that you can go back to Earth with your career saved and no penalty for your world, provided you forget all about Jander, what would you do?"

"There's no use setting up hypothetical situations that can't possibly come to pass. They're not going to give me anything in return for abandoning Jander. They're just going to try to send me back with nothing at all except ruin for me and my world. But, if they were to let me, I would get the man who destroyed Jander and see to it that he was adequately punished."

"What do you mean if they were to let you? Make them let you!"

Baley smiled bitterly. "If you think Aurorans pay no attention to you because you're a Solarian, imagine how little you would get if you were from Earth, as I am."

He held her closer, forgetting he was from Earth, even as he said the word. "But I'll try, Gladia. It's no use raising hopes, but I don't have a completely empty hand. I'll try-" His voice trailed off.

"You keep saying you'll try. -But how?" She pushed away from him a bit to look up into his face.

Baley said, bewildered, "Why, I may-"

"Find the murderer?"

"Whatever. -Gladia, please, I must sit down."

He reached out for the table, leaning on it.

She said, "What is it, Elijah?"

"I've had a difficult day, obviously, and I haven't quite recovered, I think."

"You'd better go to bed, then."

"To tell the truth, Gladia, I would like to."

She released him, her face full of concern and with no further room in it for tears.

She lifted her arm and made a rapid motion and he was (it seemed to him) surrounded by robots at once.

And when he was in bed eventually and the last robot had left him, he found himself staring up at darkness.

He could not tell whether it was still raining Outside or whether some feeble lightning flashes were still making their last sleepy sparks, but he knew he heard no thunder.

He drew a deep breath and thought: Now what is it I have promised Gladia? What will happen tomorrow?

Last act: Failure?

And as Baley drifted into the borderland of sleep, he thought of that unbelievable flash of illumination that had come before sleep.

69.

Twice before, it had happened. Once the night before when, as now, he was falling asleep and once earlier this evening when he had slipped into unconsciousness beneath the tree in the storm. Each time, something had occurred to him, some enlightenment that had unmystified the problem as the lightning had undarkened the night.

And it had stayed with him as briefly as the lightning had.

What was it?

Would it come to him again?

This time, he tried consciously to seize it, to catch the elusive truth. -Or was it the elusive illusion? Was it the slipping away of conscious reason and the coming of attractive nonsense that one couldn't analyze properly in the absence of a properly thinking brain?

The search for whatever it was, however, slid slowly away. It would no more come on call than a unicorn would in a world in which unicorns did not exist.

It was easier to think of Gladia and of how she had felt. There had been the direct touch of the silkiness of her blouse, but beneath it were the small and delicate arms, the smooth back.

Would he have dared to kiss her if his legs had not begun to buckle beneath him? Or would that have been going too far?

He heard his breath exhale in a soft snore and, as always, that embarrassed him. He flogged himself awake and thought of Gladia again. Before he left, surely -but not if he could gain nothing for her in ret-. Would that be payment for services then- He heard the soft snore again and cared less this time.

Gladia- He had never thought he would see her again-let alone touch her-let alone hold her-hold her- And he had no way of telling at what point he passed from thought to dream.

He was holding her again, as before- But there was no blouse-and her skin was warm and soft-and his hand moved slowly down the slope of shoulder blade and down the hidden ridges of her ribs- There was a total aura of reality about it. All of his senses were engaged. He smelled her hair and his lips tasted the faint, faint salt of her skin-and now somehow they were no longer standing. Had they lain down or were they lying down from the start? And what had happened to the light?

He felt the mattress beneath him and the cover over him- darkness-and she was still in his arms and her body was bare.

He was shocked awake. "Gladia?" Rising inflection-disbelieving- "Shh. Elijah." She placed the fingers of one hand gently on his lips. "Don't say anything."

She might as well have asked him to stop the current of his blood.

He said, "What are you doing?"

She said, "Don't you know what I'm doing? I'm in bed with you."

"But why?"

"Because I want to." Her body moved against his.

She pinched the top of his night garment and the seam that held it together fell apart.

"Don't move, Elijah. You're tired and I don't want you to wear yourself out further."

Elijah felt a warmth stirring within him. He decided not to protect Gladia against herself. He said, "I'm not that tired, Gladia."

"No," she said sharply. "Rest! I want you to rest. Don't move." Her mouth was on his as though intent on forcing him to keep quiet. He relaxed and the small thought flitted past him that he was following orders, that he was tired and was willing to be done to rather than to do. And, tinged with shame, it occurred to him that it rather diluted his guilt. (I couldn't help it, he heard himself say. She made me.) Jehoshaphat, how cowardly! How unbearably demeaning!

But those thoughts washed away, too. Somehow there was soft music in the air and the temperature had risen a bit. The cover had vanished and so had his nightclothes. He felt his head moved into the cradle of her arms and pressed against softness.

With a detached surprise, he knew, from her position, that the softness was her left breast and that it was centered, contrastingly, with its nipple hard against his lips.

Softly, she was singing to the music, a sleepily joyful tune he did not recognize.

She rocked gently back and forth and her fingertips grazed his chin and neck, He relaxed, content to do nothing, to let her initiate and carry through every activity. When she moved his arms, he did not resist and let them rest wherever she placed them.

He did not help and, when he did respond with heightened excitement and climax, it was only out of helplessness to do otherwise.

She seemed tireless and he did not want her to stop. Aside from the sensuality of sexual response, he felt again what he had felt earlier, the total luxury of the infant's passivity.

And, finally, he could respond no more and, it seemed, she could do no more and she lay with her head in the hollow where his left shoulder met his chest and her left arm lay across his ribs, her fingers stroking the short, curling hairs tenderly.

He seemed to hear her murmuring, "Thank you- Thank you-"

For what? he wondered.

He was scarcely conscious of her now, for this utterly soft end of a hard day was as soporific as the fabled nepenthe and he could feel himself slipping away, as though his fingertips were relaxing from the edge of the cliff of harsh reality in order that he might drop-drop-through the soft clouds of gathering sleep into the slowly swaying ocean of dreams.

And as he did so, what had not come on call came of itself. For the third time, the curtain was lifted and all the events since he had left Earth shuffled once more into hard focus. Again, it was all clear. He struggled to speak, to hear the words he needed to hear, to fix them and make them part of his thought processes, but though he clutched at them with every tendril of his mind, they slipped past and through and were gone.

So that, in this respect, Baley's second day on Aurora ended very much as his first had.

17. THE CHAIRMAN

70.

When Baley opened his eyes, it was to find sunlight streaming through the window and he welcomed it. To his still-sleepy surprise, he welcomed it.

It meant the storm was over and it was as though the storm had never happened. Sunlight-when viewed only as an alternative to the smooth, soft, warm, controlled light of the Cities- could only be considered harsh and uncertain. But compare it with the storm and it was the promise of peace itself. Everything, Baley thought, is relative and he knew he would never think of sunshine as entirely evil again.

"Partner Elijah?" Daneel was standing at the side of the bed. A little behind him stood Giskard.

Baley's long face dissolved in a rare smile of pure pleasure. He held out his hands, one to each. "Jehoshaphat, men"-and he was totally unaware, at the moment, of any inappropriateness in the word-"when I last saw you two together, I wasn't in the least sure I would ever see either of you again."

"Surely," said Daneel softly, "none of us would have been harmed under any circumstances."

"With the sunlight coming in, I see that," said Baley. "But last night, I felt as though the storm would kill me and I was certain you were in deadly danger, Daneel. It even seemed possible that Giskard might be damaged in some way, trying to defend me against overwhelming odds. Melodramatic, I admit, but I wasn't quite myself, you know."

"We were aware of that, sir," said Giskard. "That was what made it difficult for us to leave you, despite your urgent order. We trust that this is not a source of displeasure for you at present."

"Not at all, Giskard."

"And," said Daneel, "we also know that you have been well cared for since we left you."

It was only then that Baley remembered the events of the night before.

Gladia!

He looked about in sudden astonishment. She was not anywhere in the room. Had he imagined- No, of course not. That would be impossible. And then he looked at Daneel with a frown, as though suspecting his remark to bear a libidinous character.

But no, that would be impossible, too. A robot, however humaniform, would not be designed to take lubricious delight in innuendo.

He said, "Quite well cared for. But what I need at the moment is to be shown to the Personal."

"We are here, sir," said Giskard, "to direct you and help you through the morning. Miss Cladia felt you would be more comfortable with us than with any of her own staff and she stressed that we were to leave nothing wanting for your comfort."

Baley looked doubtful. "How far did she instruct you to go? I feel pretty well now, so I don't have to have anyone wash and dry me. I can take care of myself. She does understand that, I hope."

"You need fear no embarrassment, Partner Elijah," said Daneel, with the small smile that (it seemed to Baley) came at those moments when, in a human being, it might be judged that a feeling of affection would have arisen. "We are merely to see to your comfort. If, at any time, you are most comfortable in privacy, we will wait at some distance."

"In that case, Daneel, we're all set." Baley scrambled out of bed. It pleased him to see that he felt quite steady on his legs. The night's rest and the treatment when he was brought back (whatever it might have been) had done marvels. -And Gladia, too.

71.

Still nude and just damp enough from his shower to feel thoroughly fresh, Baley, having brushed his hair, studied the result critically. It seemed natural that he would have breakfast with Gladia and he wasn't certain how he might be received. It might be best, perhaps, to take the attitude that nothing had happened and to be guided by her attitude. And somehow, he thought, it might help if he looked reasonably good-provided that was within the realm of the possible. He made a dissatisfied face at his reflection in the mirror.

"Daneel!" he called.

"Yes, Partner Elijah."

Speaking through and around toothpaste, Baley said, "Those are new clothes you are wearing, it seems."

"Not mine originally, Partner Elijah. They had been friend Jander's."

Baley's eyebrows climbed. "She let you have Jander's?"

"Miss Gladia did not wish me to be unclothed while waiting for my storm-drenched items to be washed and to dry. Those are ready now, but Miss Gladia says I may keep these."

"When did she say that?"

"This morning, Partner Elijah."

"She's awake, then?"

"Indeed. And you will be joining her at breakfast when you are ready."

Baley's lips tightened. It was odd that, at the moment, he was more concerned with having to face Gladia than, a little later on, the Chairman. The matter of the Chairman was, after all, in the lap of the Fates. He had decided on his strategy and it would either work or it would not work. As for Gladia-he simply had no strategy.

Well, he would have to face her.

He said, with as careful an air of indifference as he might manage, "And how is Miss Gladia this morning?"

Daneel said, "She seems well."

"Cheerful? Depressed?"

Daneel hesitated. "It is difficult to judge the inner attitude of a human being. There is nothing in her behavior to indicate internal turmoil."

Baley cast a quick eye on Daneel and again he wondered if he were referring to the events of last night. -And again he dismissed the possibility.

Nor did it do any good to study Daneel's face. One could not stare at a robot to guess thoughts from expression, for there were no thoughts in the human sense.

He stepped out into the bedroom and looked at the clothes that had been laid out for him, considering them thoughtfully and wondering if he could put them on without error and without requiring robotic help. The storm and the night were over and he wanted to assume the mantle of adulthood and independence once again.

He said, "What is this?" He held up a long sash covered with an intricately colored arabesque.

"It is a pajama sash," said Daneel. "It is purely ornamental. It passes over the left shoulder and is tied at the right side of the waist. It is traditionally worn at breakfast on some Spacer worlds but is not very popular on Aurora."

"Then why should I wear it?"

"Miss Gladia thought it would become you, Partner Elijah. The method of tying is rather intricate and I will be glad to help you."

Jehoshaphat, thought Baley ruefully, she wants me to be pretty. What does she have in mind?

Don't think about it!

Baley said, "Never mind. I'll manage with a simple bowknot."

-But listen, Daneel, after breakfast I will be going over to Fastolfe's, where I will meet with him, with Amadiro, and with the Chairman of the Legislature. I don't know if there will be any others present."

"Yes, Partner Elijah. I am aware of that. I don't think there will be others present."

"Well, then," said Baley, beginning to put on his undergarments and doing it slowly so as to make no mistake and thus find it unnecessary to appeal for help to Daneel, "tell me about the Chairman. I know from my reading that he is the nearest thing to an executive officer that there is on Aurora, but I gathered from that same reading that the position is purely honorary. He has no power, I take it."

Daneel said, "I am afraid, Partner Elijah-"

Giskard interrupted. "Sir, I am more aware of the political situation on Aurora than friend Daneel is. I have been in operation for much longer. Would you be willing to have me answer the question?"

"Why, certainly, Giskard. Go ahead."

"When the government of Aurora was first set up, sir," began Giskard in a didactic way, as though an information reel within him were methodically spinning, "it was intended that the executive officer fulfill only ceremonial duties. He was to greet dignitaries from other worlds, open all meetings of the Legislature, preside over its deliberations, and vote only to break a tie. After the River Controversy, however-

"Yes, I read about that," said Baley. It had been a particularly dull episode in Auroran history, in which impenetrable arguments over the proper division of hydroelectric power had led to the nearest approach to civil war the planet had ever seen. "You needn't go into details."

"No, sir," said Giskard. "After the River Controversy, however, there was a general determination never to allow controversy to endanger Auroran society again. It has become customary, therefore, to settle all disputes in a private and peaceable manner outside the Legislature. When the legislators finally vote, it is in an agreed-upon fashion, so that there is always a large majority on one side or the other.

"The key figure in the settlement of disputes is the Chairman of the Legislature. He is held to be above the struggle and his power-which, although nil in theory, is considerable in practice -only holds as long as he is seen to be so. The Chairman therefore jealously guards his objectivity and, as long as he succeeds in this, it is he who usually makes the decision that settles any controversy in one direction or another."

Baley said, "You mean that the Chairman will listen to me, to Fastolfe, and to Amadiro, and then come to a decision?"

"Possibly. On the other hand, sir, he may remain uncertain and require further testimony, further thought-or both."

"And if the Chairman does come to a decision, will Amadiro bow to it if it is against him-or will Fastolfe bow if it is against him?"

"That is not an absolute necessity. There are almost always some who will not accept the Chairman's decision and both Dr. Amadiro and Dr. Fastolfe are headstrong and obstinate individuals-if one may judge from their actions. Most of the legislators, however, will go along with the Chairman's decision, whatever that might be. Dr. Fastolfe or Dr. Amadiro- whichever it may be who will be decided against by the Chairman-will then be sure to find himself in a small minority when the vote is taken."

"How sure, Giskard?"

"Almost sure. The Chairman's term of office is ordinarily thirty years, with the opportunity for reelection by the Legislature for another thirty years. If, however, a vote were to go against the Chairman's recommendation, the Chairman would be forced to resign forthwith and there would be a governmental crisis while the Legislature tried to find another Chairman under conditions of bitter dispute. Few legislators are willing to risk that and the chance of getting a majority to vote against the Chairman, when that is the consequence, is almost nil."

"Then," said Baley ruefully, "everything depends on this morning's conference."

"That is very likely."

"Thank you, Giskard."

Gloomily, Baley arranged and rearranged his line of thought.

It seemed hopeful to him, but he did not have any idea what Amadiro might say or what the Chairman might be like. It was Amadiro who had initiated the meeting and he must feel confident, sure of himself.

It was then that Baley remembered that once again, when he was falling asleep, with Gladia in his arms, he had seen-or thought he had seen-or imagined he had seen-the meaning of all the events on Aurora. Everything had seemed clear -obvious- certain. And once more, for the third time, it was gone as though it had never been.

And with that thought, his hopes seemed to go, too.

72.

Daneel led Baley into the room where breakfast was being served-it seemed more intimate than an ordinary dining room. It was small and plain, with no more in the way of furnishings than a table and two chairs and when Daneel retired, he did not move into a niche. In fact, there were no niches and, for a moment, Baley found himself alone-entirely alone-in the room.

That he was not really alone, he was certain. There would be robots on instant call. Still, it was a room for two-a no-robots room-a room (Baley hesitated at the thought) for lovers.

On the table there were two stacks of pancake-like objects that did not smell like pancakes but smelled good. Two containers of what looked like melted butter (but might not be) flanked them. There was a pot of the hot drink (which Baley had tried and had not liked very much) that substituted for coffee.

Gladia walked in, dressed in rather prim fashion and with her hair glistening, as though freshly conditioned. She paused a moment, her face wearing a half-smile. "Elijah?"

Baley, caught a little by surprise at the sudden appearance, jumped to his feet. "How are you, Gladia?" He stuttered a bit.

She ignored that. She seemed cheerful, carefree. She said, "If you're worried about Daneel not being in sight, don't be. He's completely safe and he'll stay so. As for us-" She came to him, standing close, and put a hand slowly to his cheek, as once, long ago, she had done in Solaria.

She laughed lightly. "That was all I did then, Elijah. Do you remember?"

Elijah nodded silently.

"Did you sleep well, Elijah? -Sit down, dear."

He sat down. "Very well. -Thank you, Gladia." He hesitated before deciding not to return the endearment in kind.

She said, "Don't thank me. I've had my best night's sleep in weeks and I wouldn't have if I hadn't gotten out of bed after I was sure you were sleeping soundly. If I had

stayed-as I wanted to-I would have been annoying you before the night was over and you would not have gotten your rest."

He recognized the need for gallantry. "There are some things more important than r-rest, Gladia," he said, but with such formality that she laughed again.

"Poor Elijah," she said. "You're embarrassed."

The fact that she recognized that embarrassed him even more. Baley had been prepared for contrition, disgust, shame, affected indifference, tears-everything but the frankly erotic attitude she had assumed.

She said, "Well, don't suffer so. You're hungry. You hardly ate last night. Get some calories inside you and you'll feel more carnal."

Baley looked doubtfully at the pancakes that weren't.

Gladia said, "Oh! You've probably never seen these. They're Solarian delicacies. Pachinkas! I had to reprogram my chef before he could make them properly. In the first place, you have to use imported Solarian grain. It won't work with the Auroran varieties. And they're stuffed. Actually, there are a thousand stuffings you can use, but this is my favorite and I know you'll like it, too. I won't tell you what's in it, except for chestnut puree and a touch of honey, but try it and tell me what you think. You can eat it with your fingers, but be careful how you bite into it."

She picked one up, holding it daintily between the thumb and middle finger of each hand, then took a small bite, slowly, and licked at the golden, semi-liquid filling that flowed out.

Baley imitated her action. The pachinka was hard to the touch and not too hot to hold. He put one end cautiously in his mouth and found it resisted biting. He put more muscle into it and the pachinka cracked and he found the contents flowing over his hands.

"The bite was too large and too forceful," said Gladia, rushing to him with a napkin. "Now lick at it. No one eats a pachinka neatly. There's no such thing. You're supposed to wallow in it. Ideally, you're supposed to eat it in the nude, then take a shower."

Baley tried a hesitant lick and his expression was clear enough.

"You like it, don't you?" said Gladia.

"It's delicious," said Baley and he bit away at it slowly and gently. It wasn't too sweet and it seemed to soften and melt in the mouth. It scarcely required swallowing.

He ate three pachinkas and it was only shame that kept him from asking for more. He licked at his fingers without urging and eschewed the use of napkins, for he wanted none of it to be wasted on an inanimate object.

"Dip your fingers and hands in the cleanser, Elijah," and she showed him. The "melted butter" was a finger bowl, obviously.

Baley did as he was shown and then dried his hands. He sniffed at them and there was no odor whatever.

She said, "Are you embarrassed about last night, Elijah? Is that all you feel?"

What did one say? Baley wondered.

Finally, he nodded. "I'm afraid I am, Gladia. It's not all I feel, by twenty kilometers or more, but I am embarrassed. Stop and think. I'm an Earthman and you know that, but for the time being you're repressing it and 'Earthman' is only a meaningless disyllabic sound to you. Last night you were sorry for me, concerned over my problem with the storm, feeling toward me as you would toward a child, and-sympathizing with me, perhaps, out of the vulnerability produced in you by your own loss-you came to me. But that feeling will pass-I'm surprised it hasn't passed already-and then you will remember that I am an Earthman and you will feel ashamed, demeaned, and dirtied. You will hate me for what I have done for you and I don't want to be hated. -I don't want to be hated, Gladia." (If he looked as unhappy as he felt, he looked unhappy indeed.)

She must have thought so, for she reached out to him and stroked his hand. "I won't hate you, Elijah. Why should I? You did nothing to me that I can object to. I did it to you and I'll be glad for the rest of my life that I did. You freed me by a touch two years ago, Elijah, and last night you freed me again. I needed to know, two years ago, that I could feel desire-and last night I needed to know that I could feel desire again after Jander. Elijah-stay with me. It would be-"

He cut her off earnestly. "How can that be, Gladia? I must go back to my own world. I have duties and goals there and you cannot come with me. You could not live the kind of life that is lived on Earth. You would die of Earthly diseases-if the crowds and enclosure did not kill you first. Surely you understand."

"I understand about Earth," said Gladia with a sigh, "but surely you needn't leave immediately."

"Before the morning is over, I may be ordered off the planet by the Chairman."

"You won't be," said Gladia energetically. "You won't let yourself be. -And if you are, we can go to another Spacer world. There are dozens we can choose from. Does Earth mean so much to you that you wouldn't live on a Spacer world?"

Baley said, "I could be evasive, Gladia, and point out that no other Spacer world would let me make my home there permanently-and you know that's so. The greater truth is, though, that even if some Spacer world would accept me, Earth means so much to me that I would have to return. -Even if it meant leaving you."

"And never visiting Aurora again? Never seeing me again?"

"If I could see you again, I would," Baley said, wishing. "Over and over again, believe me. But what's the use of saying so? You know I'm not likely to be invited back. And you know I can't return without an invitation."

Gladia said in a low voice, "I don't want to believe that, Elijah."

Baley said, "Gladia, don't make yourself unhappy. Something wonderful happened between us, but there are other wonderful things that will happen to you, too-many of them, of all kinds, but not the same wonderful thing. Look forward to the others."

She was silent.

"Gladia," he said urgently, "need anyone know what has happened between us?"

She looked up at him, a pained expression on her face. "Are you that ashamed?"

"Of what happened, certainly not. But even though I am not ashamed, there could be consequences that would be discomfoting. The matter would be talked about. Thanks to that hateful hyperwave drama, which included a distorted view of our relationship, we are news. The Earthman and the Solarian woman. If there is the slightest reason to suspect that there is- love between us, it will get back to Earth at the speed of hyperspatial drive."

Gladia lifted her eyebrows with a touch of hauteur. "And Earth will consider you demeaned? You will have indulged in sex with someone beneath your station?"

"No, of course not," said Baley uneasily, for he knew that that would certainly be the view of billions of Earthpeople. "Has it occurred to you that my wife would hear of it? I'm married."

"And if she does? What of it?"

Baley took a deep breath. "You don't understand. Earth ways are not Spacer ways. We have had times in our history when sexual mores were fairly loose, at least in some places and for some classes. This is not one of those times. Earthmen live crowded together and it takes a puritan ethic to keep the family system stable under such conditions."

"Everyone has one partner, you mean, and no other?"

"No," said Baley. "To be honest, that's not so. But care is taken to keep irregularities sufficiently quiet, so that everyone can-can-"

"Pretend they don't know?"

"Well, yes, but in this case-"

"It will all be so public that no one could pretend not to know -and your wife will be angry with you and will strike you."

"No, she won't strike me, but she will be shamed, which is worse. I will be shamed as well and so will my son. My social position will suffer and- Gladia, if you don't understand, you don't understand, but tell me that you will not speak freely of this thing as Aurorans do." He was conscious of making a rather miserable show of himself.

Gladia said thoughtfully, "I do not mean to tease you, Elijah. You have been kind to me and I would not be unkind to you, but"-she threw her arms up hopelessly-"your Earth ways are so nonsensical."

"Undoubtedly. Yet I must live with them-as you have lived with Solarian ways."

"Yes." Her expression darkened with memory. Then, "Forgive me, Elijah. Really and honestly, I apologize. I want what I can't have and I take it out on you."

"It's all right."

"No, it's not all right. Please, Elijah, I must explain something to you. I don't think you understand what happened last night. Will you be all the more embarrassed if I do?"

Baley wondered how Jessie would feel and what she would do if she could hear this conversation. Baley was quite aware that his mind should be on the confrontation with the Chairman that was looming immediately up ahead and not on his own personal marital dilemma. He should be thinking of Earth's danger and not of his wife's, but, in actual fact, he was thinking of Jessie.

He said, "I'll probably be embarrassed, but explain it anyway."

Gladia moved her chair, refraining from calling one of her robotic staff to do it for her. He waited for her nervously, not offering to move it himself.

She put her chair immediately next to his, facing it in the other direction, so that she was looking at him directly when she sat down. And as she did so, she put out her small hand and placed it in his and he felt his own hand press it.

"You see," she said, "I no longer fear contact. I'm no longer at the stage where all I can do is brush your cheek for an instant."

"That may be, but this does not affect you, Gladia, does it, as that bare touch did then?"

She nodded. "No, it doesn't affect me that way, but I like it anyway. I think that's an advance, actually. To be turned inside out just by a single moment of touch shows how abnormally I had lived and for how long. Now it is better. May I tell you how? What I have just said is actually prologue."

"Tell me."

"I wish we were in bed and it was dark. I could talk more freely."

"We are sitting up and it is light, Gladia, but I am listening."

"Yes. -On Solaria, Elijah, there was no sex to speak of. You know that."

"Yes, I do."

"I experienced none, in any real sense. On a few occasions- only a few-my husband approached me out of duty. I won't even describe how that was, but you will believe me when I tell you that, looking back on it, it was worse than none."

"I believe you."

"But I knew about sex. I read about it. I discussed it with other women sometimes, all of whom pretended it was a hateful duty that Solarians must undergo. If they had children to the limit of their quota, they always said they were delighted they would never have to deal with sex again."

"Did you believe them?"

"Of course I did. I had never heard anything else and the few non-Solarian accounts I read were denounced as false distortions. I believed that, too. My husband found some books I had, called them pornography, and had them destroyed. Then, too, you know, people can make themselves believe anything. I think Solarian women believed what they said and really did despise sex. They certainly sounded sincere enough and it made me feel there was something terribly wrong with me because I had a kind of curiosity about it-and odd feelings I could not understand."

"You did not, at that time, use robots for relief in any way?"

"No, it didn't occur to me. Or any inanimate object. There were occasional whispers of such things, but with such horror- or pretended horror-that I would never dream of doing anything like that. Of course, I had dreams and sometimes something that, as I look back on it, must have been incipient orgasms, would wake me. I never understood them, of course, or dared talk of it. I was bitterly ashamed of it, in fact. Worse,

I was frightened of the pleasure they brought me. And then, of course, I came to Aurora."

"You told me of that. Sex with Aurorans was unsatisfactory."

"Yes. It made me think that Solarians were right after all. Sex was not like my dreams at all. It was not until Jander that I understood. It is not sex that they have on Aurora; it is, it is- choreography. Every step of it is dictated by fashion, from the method of approach to the moment of departure. There is nothing unexpected, nothing spontaneous. On Solaria, since there was so little sex, nothing was given or taken. And on Aurora, sex was so stylized that, in the end, nothing was given or taken either. Do you understand?"

"I'm not sure, Gladia, never having experienced sex with an Auroran woman or, for that matter, never 'having been an Auroran man. But it's not necessary to explain. I have a dim notion of what you mean."

"You're terribly embarrassed, aren't you?"

"Not to the point of being unable to listen."

"But then I met Jander and learned to use him. He was not an Auroran man. His only aim, his only possible aim, was to please me. He gave and I took and, for the first time, I experienced sex as it should be experienced. Do you understand that? Can you imagine what it must be like suddenly to know that you are not mad, or distorted, or perverted, or even simply wrong-but to know that you are a woman and have a satisfying sex partner?"

"I think I can imagine that."

"And then, after so short a time, to have it all taken away from me. I thought-I thought-that that was the end. I was doomed. I was never again, through centuries of life, to have a good sexual relationship again. Not to have had it to start with- and then never to have had it at all-was bad enough. But to get it against all expectation and to have it, then suddenly to lose it and go back to nothing-that was unbearable. -You see how important, therefore, last night was."

"But why me, Gladia? Why not someone else?"

"No, Elijah, it had to be you. We came and found you, Giskard and I, and you were helpless. Truly helpless. You were not unconscious, but you did not rule your body. You had to be lifted and carried and placed in the car. I was there when you were warmed and treated, bathed and dried, helpless throughout. The robots did it all with marvelous efficiency, intent on caring for you and preventing harm from coming to you but totally without actual feeling. I, on the other hand, watched and I felt."

Baley bent his head, gritting his teeth at the thought of his public helplessness. He had luxuriated in it when it had happened, but now he could only feel the disgrace of being observed under such conditions.

She went on. "I wanted to do it all for you. I resented the robots for reserving for themselves the right to be kind to you- and to give. And as I thought of myself doing it, I felt a growing sexual excitement, something I hadn't felt since Jander's death.

-And it occurred to me then that, in my only successful sex, what I had done was to take. Jander gave whatever I wished, but he never took. He was incapable of taking, since his only pleasure lay in pleasing me. And it never occurred to me to give because I was brought up with robots and knew they couldn't take.

"And as I watched, it came to me that I knew only half of sex and I desperately wanted to experience the other half. But then, at the dinner table with me afterward, when you were eating your hot soup, you seemed recovered, you seemed strong. You were strong enough to console me and because I had had that feeling for you, when you were being cared for, I no longer feared your being from Earth and I was willing to move into your embrace. I wanted it. But even as you held me, I felt a sense of loss, for I was taking again and not giving.

"And you said to me, 'Gladia, please, I must sit down.' Oh, Elijah, it was the most wonderful thing you could have said to me.

Baley felt himself flush. "It embarrassed me hideously at the time. Such a confession of weakness."

"It was just what I wanted. It drove me wild with desire. I forced you to bed and came to you and, for the first time in my life, I gave. I took nothing. And the spell of Jander passed, for I knew that he had not been enough, either. It must be possible to take and give, both. -Elijah, stay with me."

Baley shook his head. "Gladia, if I tore my heart in two, it wouldn't change the facts. I cannot remain on Aurora. I must return to Earth. You cannot come to Earth."

"Elijah, what if I can come to Earth?"

"Why do you say such a foolish thing? Even if you could, I would age quickly and soon be useless to you. In twenty years, thirty at the most, I will be an old man, probably dead, while you will stay as you are for centuries."

"But that is what I mean, Elijah. On Earth, I will catch your infections and I will grow old quickly, too."

"You wouldn't want that. Besides, old age isn't an infection. You will merely grow sick, very quickly, and die. Gladia, you can find another man."

"An Auroran?" She said it with contempt.

"You can teach. Now that you know how to take and to give, teach them how to do both as well."

"If I teach, will they learn?"

"Some will. Surely some will. You have so much time to find the one who will. There is-" (No, he thought, it is not wise to mention Gremionis now, but perhaps if he comes to her-less politely and with a little more determination-)

She seemed thoughtful. "Is it possible?" Then, looking at Baley, with her gray-blue eyes moist, "Oh, Elijah, do you remember anything at all of what happened last night?"

"I must admit," said Baley a little sadly, "that some of it is distressingly hazy."

"If you remembered, you would not want to leave me."

"I don't want to leave you as it is, Gladia. It is just that I must."

"And afterward," she said, "you seemed so quietly happy, so rested. I lay nestled on your shoulder and felt your heart beat rapidly at first, then more and more slowly, except when you sat up so suddenly. Do you remember that?"

Baley started and leaned a little away from her, gazing into her eyes wildly. "No, I don't remember that. What do you mean? What did I do?"

"I told you. You sat up suddenly."

"Yes, but what else?" His heart was beating rapidly now, as rapidly as it must have in the wake of last night's sex. Three times, something that had seemed the truth had come to him, but the first two times he had been entirely alone. The third time, last night, however, Gladia had been with him. He had had a witness.

Gladia said, "Nothing else, really. I said, 'What is it, Elijah?' but you paid no attention to me. You said, 'I have it. I have it.' You didn't speak clearly and your eyes were unfocused. It was a little frightening."

"Is that all I said? Jehoshaphat, Gladia! Didn't I say anything more?"

Gladia frowned. "I don't remember. But then you lay back and I said, 'Don't be frightened, Elijah. Don't be frightened. You're safe now.' And I stroked you and you settled back and fell asleep -and snored. -I never heard anyone snore before, but that's what it must have been-from the descriptions." The thought clearly amused her.

Baley said, "Listen to me, Gladia. What did I say? 'I have it. I have it.' Did I say what it was I had?"

She frowned again. "No. I don't remember- Wait, you did say one thing in a very low voice. You said, 'He was there first.'"

"He was there first.' That's what I said?"

"Yes. I took it for granted that you meant Giskard was there before the other robots, that you were trying to overcome your fears of being taken away, that you were reliving that time in the storm. Yes! That's why I stroked you and said, 'Don't be frightened, Elijah. You're safe now,' till you relaxed."

"He was there first.' 'He was there first.' -I won't forget it now. Gladia, thanks for last night. Thanks for talking to me now."

Gladia said, "Is there something important about you saying that Giskard found you first. He did. You know that."

"It can't be that, Gladia. It must be something I don't know but manage to discover only when my mind is totally relaxed."

"But what does it mean, then?"

"I'm not sure, but if that's what I said, it must mean something. And I have an hour or so to figure it out." He stood up. "I must leave now."

He had taken a few steps toward the door, but Gladia flew to him and put her arms around him. "Wait, Elijah."

Baley hesitated, then lowered his head to kiss her. For a long moment, they clung together.

"Will I see you again, Elijah?"

Baley said sadly, "I can't say. I hope so."

And he went off to find Daneel and Giskard, so that he could make the necessary preparations for the confrontation about to come.

73.

Baley's sadness persisted as he walked across the long lawn- to Fastolfe's establishment.

The robots walked on either side. Daneel seemed at his ease, but Giskard, faithful to his programming and apparently unable to relax it, maintained his close watch on the surroundings.

Baley said, "What is the name of the Chairman of the Legislature, Daneel?"

"I cannot say, Partner Elijah. On the occasions when he has been referred to in my hearing, he has been referred to only as 'the Chairman.' He is addressed as 'Mr. Chairman.'"

Giskard said, "His name is Rutilari Horder, sir, but it is never mentioned officially. The title alone is used. That serves to impress continuity on the government. Human holders of the position have, individually, fixed terms, but 'the Chairman' always exists."

"And this particular individual Chairman-how old is he?"

"Quite old, sir. Three hundred and thirty-one," said Giskard, who typically had statistics on tap.

"In good health?"

"I know nothing to the contrary, sir."

"Any outstanding personal characteristics it might be well for me to be prepared for?"

That seemed to stop Giskard. He said, after a pause, "That is difficult for me to say, sir. He is in his second term. He is considered an efficient Chairman who works hard and gets results."

"Is he short-tempered? Patient? Domineering? Understanding?"

Giskard said, "You must judge such things for yourself, sir."

Daneel said, "Partner Elijah, the Chairman is above partisanship. He is just and evenhanded, by definition."

"I'm sure of that," muttered Baley, "but definitions are abstract, as is 'the Chairman,' while individual Chairmen-with names-are concrete and may have minds to match."

He shook his head. His own mind, he would swear, had a strong measure of concrete itself. Having three times thought of something and three times lost it, he was now presented with his own comment at the time of having the thought and it still didn't help.

"He was there first."

Who was there first? When?

Baley had no answer.

Baley found Fastolfe waiting for him at the door of his establishment, with a robot behind him who seemed most unrobotically restless, as though unable to perform his proper function of greeting a visitor and upset by the fact.

(But then, one was always reading human motivations and responses into robots. What was more likely true was no upsettedness-no feeling of any kind-merely a slight oscillation of positronic potentials resulting from the fact that his orders were to greet and inspect all visitors and he could not quite perform the task without pushing past Fastolfe, which he also could not do, in the absence of overriding necessity. So he made false starts, one after the other, and that made him seem restless.)

Baley found himself staring at the robot absently and only with difficulty managing to bring his eyes back to Fastolfe. (He was thinking of robots, but he didn't know why.)

"I'm glad to see you again, Dr. Fastolfe," he said and thrust his hand forward. After his encounter with Gladia, it was rather difficult to remember that Spacers were reluctant to make physical contact with an Earthman.

Fastolfe hesitated a moment and then, as manners triumphed over prudence, he took the hand offered him, held it lightly and briefly, and let it go. He said, "I am even more delighted to see you, Mr. Baley. I was quite alarmed over your experience last evening. It was not a particularly bad storm, but to an Earthman it must have seemed overwhelming."

"You know about what happened, then?"

"Daneel and Giskard have brought me fully up to date in that respect. I would have felt better if they had come here directly and, eventually, brought you here with them, but their decision was based on the fact that Gladia's establishment was closer to the breakdown point of the airfoil and that your orders had been extremely intense and had placed Daneel's safety ahead of your own. They did not misinterpret you?"

"They did not. I forced them to leave me."

"Was that wise?" Fastolfe led the way indoors, and pointed to a chair.

Baley sat down. "It seemed the proper thing to do. We were being pursued."

"So Giskard reported. He also reported that-"

Baley intervened. "Dr. Fastolfe, please. I have very little time and I have questions that I must ask you."

"Go ahead, please," said Fastolfe at once, with his usual air of unfailing politeness.

"It has been suggested that you place your work on brain function above everything else, that you-"

"Let me finish, Mr. Baley. That I will let nothing stand in my way, that I am totally ruthless, oblivious to any consideration of immorality or evil, would stop at nothing, would excuse everything, all in the name of the importance of my work."

"Yes."

"Who told you this, Mr. Baley?" asked Fastolfe.

"Does it matter?"

"Perhaps not. Besides, it's not difficult to guess. It was my daughter Vasilia. I'm sure of that."

Baley said, "Perhaps. What I want to know is whether this estimate of your character is correct."

Fastolfe smiled sadly. "Do you expect an honest answer from me about my own character? In some ways, the accusations against me are true. I do consider my work the most important matter there is and I do have the impulse to sacrifice anything and everything to it. I would ignore conventional notions of evil and immorality if these got in my way. -The thing is, however, that I don't. I can't bring myself to. And, in particular, if I have been accused of killing Jander because that would in some way advance my study of the human brain, I deny it. It is not so. I did not kill Jander."

Baley said, "You suggested I submit to a Psychic Probe to get some information that I can't reach otherwise out of my brain. Has it occurred to you that, if you submitted to a Psychic Probe, your innocence could be demonstrated?"

Fastolfe nodded his head thoughtfully, "I imagine Vasilia suggested that my failure to offer to submit to one was proof of my guilt. Not so. A Psychic Probe is dangerous and I am as nervous about submitting myself to one as you are. Still, I would have done so, despite my fears, were it not for the fact that is what my opponents would most like to have me do. They would argue against any evidence to my innocence and the Psychic Probe is not delicate enough an instrument to demonstrate innocence beyond argument. But what they would get by use of the Probe is information about the theory and design of humaniform robots. That is what they are after and that is what I am not going to give them."

Baley said, "Very well. Thank you, Dr. Fastolfe."

Fastolfe said, "You are welcome. And now, if I may get back to what I was saying, Giskard reported that, after you were left alone in the airfoil, you were accosted by strange robots. At least, you spoke of strange robots, rather disjointedly, after you were found unconscious and exposed to the storm."

"The strange robots did accost me, Dr. Fastolfe. I managed to deflect them and send them away, but I thought it wise to leave the airfoil rather than await their return. I may not have been thinking clearly when I reached that decision. Giskard said I was not."

Fastolfe smiled. "Giskard has a simplistic view of the Universe. Have you any idea whose robots they were?"

Baley moved about restlessly and seemed to find no way of adjusting himself to the seat in a comfortable manner. He said, "Has the Chairman arrived yet?"

"No, but he will be here momentarily. So will Amadiro, the head of the Institute, whom, the robots told me, you met yesterday. I am not sure that was wise. You irritated him."

"I had to see him, Dr. Fastolfe, and he did not seem irritated."

"That is no guide with Amadiro. As a result of what he calls your slanders and your unbearable sully of professional reputation, he has forced the Chairman's hand."

"In what way?"

"It is the Chairman's job to encourage the meeting of contending parties and to work for a compromise. If Amadiro wishes to meet with me, the Chairman could not, by definition, discourage it, much less forbid it. He must hold the meeting and, if Amadiro can find enough evidence against you-and it is easy to find evidence against an Earthman-that will end the investigation."

"Perhaps, Dr. Fastolfe, you should not have called on an Earthman to help, considering how vulnerable we are."

"Perhaps not, Mr. Baley, but I could think of nothing else to do. I still can't, so I must leave it up to you to persuade the Chairman to our point of view-if you can."

"The responsibility is mine?" said Baley glumly.

"Entirely yours," said Fastolfe smoothly.

Baley said, "Are we four to be the only ones present?" Fastolfe said, "Actually, we three: the Chairman, Amadiro, and myself. We are the two principals and the compromising agent, so to speak. You will be there as a fourth party, Mr. Baley, only on sufferance. The Chairman can order you to leave at will, so I hope you will not do anything to upset him."

"I'll try not to, Dr. Fastolfe."

"For instance, Mr. Baley, do not offer him your hand-if you will forgive my rudeness."

Baley felt himself grow warm with retroactive embarrassment at his earlier gesture. "I will not."

"And be unfailingly polite. Make no angry accusations. Do not insist on statements for which there is no support-"

"You mean don't try to stampede anyone into betraying himself. Amadiro, for instance."

"Yes, do not do so. You will be committing slander and it will be counterproductive. Therefore, be polite! If the politeness masks an attack, we won't quarrel with that. And try not to speak unless you are spoken to."

Baley said, "How is it, Dr. Fastolfe, that you are so full of careful advice now and yet you never warned me about the dangers of slander earlier."

"The fault is indeed mine," said Dr. Fastolfe. "It was a matter of such basic knowledge to me that it never occurred to me that it had to be explained."

Baley grunted. "Yes, I thought so."

Fastolfe raised his head suddenly.. "I hear an airfoil outside. More than that, I can hear the steps of one of my staff, heading for the entrance. I presume the Chairman and Amadiro are at hand."

"Together?" asked Baley.

"Undoubtedly. You see, Amadiro suggested my establishment as the meeting place, thus granting me the advantage of home ground. He will therefore have the chance of offering, out of apparent politeness, to call for the Chairman and bring him here. After all, they must both come here. This will give him a few minutes to talk privately with the Chairman and push his point of view. "

"That is scarcely fair," said Baley. "Could you have stopped that?"

"I didn't want to. Amadiro takes a calculated risk. He may say something that will irritate the Chairman."

"Is the Chairman particularly irritable by nature?"

"No. No more so than any Chairman in the fifth decade of his term of office. Still, the necessity of strict adherence to protocol, the further necessity of never taking sides, and the actuality of arbitrary power all combine toward making a certain irritability inevitable. And Amadiro is not always wise. His jovial smile, his white teeth, his exuding bonhomie can be extremely irritating when those upon whom he lavishes it are not in a good mood, for some reason. -But I must go meet them, Mr. Baley, and supply what I hope will be a more substantial version of charm. Please stay here and don't move from that chair."

Baley could do nothing but wait now. He thought, irrelevantly, that he had been on Aurora for just a bit short of fifty standard hours.

18. AGAIN THE CHAIRMAN

75.

The Chairman was short, surprisingly short. Amadiro towered over him by nearly thirty centimeters.

However, since most of his shortness was in his thighs, the Chairman, when all were seated, was not noticeably inferior in height to the others. Indeed, he was thickset, with a massive chest and shoulders, and looked almost overpowering under those conditions.

His head was large, too, but his face was lined and marked by age. Nor were its wrinkles the kindly type carved by laughter. They were impressed into his cheeks and forehead, one felt, by the exercise of power. His hair was white and sparse and he was bald in the spot where the hairs would have met in a whorl.

His voice suited him-deep and decisive. Age had robbed it of some of its timbre, perhaps, and lent it a bit of harshness, but in a Chairman (Baley thought) that might help rather than hinder.

Fastolfe went through the full ritual of greeting, exchanged stroking remarks without meaning, and offered food and drink. Through all of this, no mention was made of the outsider and no notice was taken of him.

It was only when the preliminaries were finished and when all were seated that Baley (a little farther from the center than the others) was introduced.

He said, "Mr. Chairman," without holding out his hand. Then, with an offhand nod, he said, "And, of course, I have met Dr. Amadiro."

Amadiro's smile did not waver at the touch of insolence in Baley's voice.

The Chairman, who had not acknowledged Baley's greeting, placed his hands on each knee, fingers spread apart, and said, "Let us get started and let us see if we can't make this as brief and as productive as possible.

"Let me stress first that I wish to get past this matter of the misbehavior-or possible misbehavior-of an Earthman and strike instantly to the heart of the matter. Nor, in dealing with the heart of the matter, are we speaking of this overblown matter of the robot. Disrupting the activity of a robot is a matter for the civil courts; it can result in a judgment of the infringement of property rights and the inflicting of a penalty of costs but nothing more than that. What's-more, if it should be proved that Dr. Fastolfe had rendered the robot, Jander Panell, inoperable, it is a robot who, after all, he helped design, whose construction he supervised, and the ownership of whom he held at the time of the inoperability. No penalty is likely to apply, since a person may do what he likes with his own.

"What is really at issue is the matter of the exploration and settlement of the Galaxy: whether we of Aurora carry it through alone, whether we do it in collaboration with the other Spacer worlds, or whether we leave it to Earth. Dr. Amadiro and the

Globalists favor having Aurora shoulder the burden alone; Dr. Fastolfe wishes to leave it to Earth.

"If we can settle this matter, then the affair of the robot can be left to the civil courts, and the question of the Earthman's behavior will probably become moot, and we can simply get rid of him.

"Therefore, let me begin by asking whether Dr. Amadiro is prepared to accept Dr. Fastolfe's position in order to achieve unity of decision or whether Dr. Fastolfe is prepared to accept Dr. Amadiro's position with the same end in view."

He paused and waited.

Amadiro said, "I am sorry, Mr. Chairman, but I must insist that Earthmen be confined to their planet and that the Galaxy be settled by Aurorans only. I would be willing to compromise, however, to the extent of allowing other Spacer worlds to share in the settlement if that would prevent needless strife among us.

"I see," said the Chairman. "Will you, Dr. Fastolfe, in view of this statement, abandon your position?"

Fastolfe said, "Dr. Amadiro's compromise has scarcely anything of substance in it, Mr. Chairman. I am willing to offer a compromise of greater significance. Why should not the worlds of the Galaxy be thrown open to Spacers and Earthpeople alike? The Galaxy is large and there would be room for both. I would be willing to accept such an arrangement."

"No doubt," said Amadiro quickly, "for it is no compromise. The over eight billion population of Earth is more than half again the population of all the Spacer worlds combined. Earth's people are short-lived and are used to replacing their losses quickly. They lack our regard for individual human life. They will swarm over the new worlds at any cost, multiplying like insects, and will preempt the Galaxy even while we are making a bare beginning. To offer Earth a supposedly equal chance at the Galaxy is to give them the Galaxy-and that is not equality. Earthpeople must be confined to Earth."

"And what have you to say to that, Dr. Fastolfe?" asked the Chairman.

Fastolfe sighed. "My views are on record. I'm sure I don't need to repeat them. Dr. Amadiro plans to use humaniform robots to build the settled worlds that human Aurorans will then enter, ready-made, yet he doesn't even have humaniform robots. He cannot construct them and the project would not work, even if he did have them. No compromise is possible unless Dr. Amadiro consents to the principle that Earthpeople may at least share in the task of the settlement of new worlds."

"Then no compromise is possible," said Amadiro.

The Chairman looked displeased. "I'm afraid that one of you two must give in. I do not intend Aurora to be torn apart in an emotional orgy on a question this important."

He looked at Amadiro blankly, his expression carefully signifying neither favor nor disfavor. "You intend to use the inoperability of the robot, Jander, as an argument against Fastolfe's view, do you not?"

"I do," said Amadiro.

"A purely emotional argument. You are going to claim that Fastolfe is trying to destroy your view by falsely making humaniform robots appear less useful than they, in effect, are."

"That is exactly what he is trying to do-"

"Slander!" put in Fastolfe in a low voice.

"Not if I can prove it, which I can," said Amadiro. "The argument may be an emotional one, but it will be effective. You see that, Mr. Chairman, don't you? My view will surely win, but left to itself it will be messy. I would suggest that you persuade Dr. Fastolfe to accept inevitable defeat and spare Aurora the enormous sadness of a spectacle that will weaken our position among the Spacer worlds and shake our own belief in ourselves."

"How can you prove that Dr. Fastolfe rendered the robot inoperative?" -

"He himself admits he is the only human being who could have done so. You know this."

"I know," said the Chairman, "but I wanted to hear you say this, not to your constituency, not to the media, but to me-in private. And you have done so."

He turned to Fastolfe. "And what do you say, Dr. Fastolfe? Are you the only man who could have destroyed the robot?"

"Without leaving physical marks? I am, as far as I know. I don't believe that Dr. Amadiro has the skill in robotics to do so and I am constantly amazed that, after having founded his Robotics Institute, he is so eager to proclaim his own incapacity, even with all his associates at his back-and to do so publicly." He smiled at Amadiro, not entirely without malice.

The Chairman sighed. "No, Dr. Fastolfe. No rhetorical tricks now. Let us dispense with sarcasm and clever thrusts. What is your defense?"

"Why, only that I did no harm to Jander. I do not say anyone did. It was chance-the uncertainty principle at work on the positronic pathways. It can happen every so often. Let Dr. Amadiro merely admit that it was chance, that no one be accused without evidence, and we can then argue the competing proposals about settlement on their own merits."

"No," said Amadiro. "The chance of accidental destruction is too small to be considered, far smaller than the 'chance that Dr. Fastolfe is responsible-so much smaller that to ignore Dr. Fastolfe's guilt is irresponsible. I will not back down and I will win. Mr. Chairman, you know I will win and it seems to me that the only rational step to be taken is to force Dr. Fastolfe to accept his defeat in the interest of global unity."

Fastolfe said quickly, "And that brings me to the matter of the investigation I have asked Mr. Baley of Earth to undertake."

And Amadiro said, just as quickly, "A move I opposed when it was first suggested. The Earthman may be a clever investigator, but he is unfamiliar with Aurora and can accomplish nothing here. Nothing, that is, except to strew slander and to hold Aurora up to the Spacer worlds in an undignified and ridiculous light. There have been satirical pieces on the matter in half a dozen important Spacer hyperwave news programs on as many different worlds. Recordings of these have been sent to your office."

"And have been brought to my attention," said the Chairman.

"And there has been murmuring here on Aurora," Amadiro drove on. "It would be to my selfish interest to allow the investigation to continue. It is costing Fastolfe support among the populace and votes among the legislators. The longer it continues, the more certain I am of victory, but it is damaging Aurora and I do not wish to add to my certainty at the cost of harm to my world. -I suggest-with respect-that you end the investigation, Mr. Chairman, and persuade Dr. Fastolfe to submit gracefully now to what he will eventually have to accept-at much greater cost."

The Chairman said, "I agree that to have permitted Dr. Fastolfe to set up this investigation may have been unwise. I say 'may.' I admit I am tempted to end it. And yet the Earthman"- he gave no indication of knowing that Baley was in the room- "has already been here for some time-"

He paused, as though to give Fastolfe a chance for corroboration, and Fastolfe took it, saying, "This is the third day of his investigation, Mr. Chairman."

"In that case," said the Chairman, "before I end that investigation, it would be fair, I believe, to ask if there have been any significant findings so far."

He paused again. Fastolfe glanced quickly at Baley and made a small motion of his head.

Baley said in a low voice, "I do not wish, Mr. Chairman, to obtrude, unasked, any observations. Am I being asked a question?"

The Chairman frowned. Without looking at Baley, he said, "I am asking Mr. Baley of Earth to tell us whether he has any findings of significance."

Baley took a deep breath. This was it.

76.

"Mr. Chairman," he began. "Yesterday afternoon, I was interrogating Dr. Amadiro, who was most cooperative and useful to me. When my staff and I left-

"Your staff?" asked the Chairman.

"I was accompanied by two robots on all phases of my investigation, Mr. Chairman," said Baley.

"Robots who belong to Dr. Fastolfe?" asked Amadiro. "I ask this for the record."

"For the record, they do," said Baley. "One is Daneel Olivaw, a humaniform robot, and the other is Giskard Reventlov, an older nonhumaniform robot."

"Thank you," said the Chairman. "Continue."

"When we left the Institute grounds, we found that the airfoil we used had been tampered with."

"Tampered with?" asked the Chairman, startled. "By whom?"

"We don't know, but it happened on Institute grounds. We were there by invitation, so it was known by the Institute personnel that we would be there. Moreover, no one else would be likely to be there without the invitation and knowledge of the

Institute staff. If it were at all thinkable, it would be necessary to conclude that the tampering could only have been done by someone on the Institute staff and that would, in any case, be impossible-except at the direction of Dr. Amadiro himself, which would also be unthinkable."

Amadiro said, "You seem to think a great deal about the unthinkable. Has the airfoil been examined by a qualified technician to see if it has indeed been tampered with? Might there not have been a natural failing?" asked Amadiro.

"No, sir," said Baley, "but Giskard, who is qualified to drive an airfoil and who has frequently driven that particular one, maintains that it was tampered with."

"And he is one of Dr. Fastolfe's staff and is programmed by him and receives his daily orders from him," said Amadiro.

"Are you suggesting-" began Fastolfe.

"I am suggesting nothing." Amadiro held up his hand in a benign gesture. "I am merely making a statement-for the record."

The Chairman stirred. "Will Mr. Baley of Earth please continue?"

Baley said, "When the airfoil broke down, there were others in pursuit."

"Others?" asked the Chairman.

"Other robots. They arrived and, by that time, my robots were gone."

"One moment," said Amadiro. "What was your condition at the time, Mr. Baley?"

"I was not entirely well."

"Not entirely well? You are an Earthman and unaccustomed to life except in the artificial setting of your Cities. You are uneasy in the open. Is that not so, Mr. Baley?" asked Amadiro.

"Yes, sir."

"And there was a severe thunderstorm in progress last evening, as I am sure the Chairman recalls. Would it not be accurate to say that you were quite ill? Semiconscious, if not worse?"

"I was quite ill," said Baley reluctantly.

"Then how is it your robots were gone?" asked the Chairman sharply. "Should they not have been with you in your illness?"

"I ordered them away, Mr. Chairman."

"Why?"

"I thought it best," said Baley, "and I will explain-if I may be allowed to continue."

"Continue."

"We were indeed being pursued, for the pursuing robots arrived shortly after my robots had left. The pursuers asked me where my robots were and I told them I had sent them away. It was only after that that they asked if I were ill. I said I wasn't ill and they left me in order to continue a search for my robots."

"In search of Daneel and Giskard?" asked the Chairman.

"Yes, Mr. Chairman. It was clear to me that they were under intense orders to find the robots."

"In what way was that clear?"

"Although I was obviously ill, they asked about the robots before they asked about me. Then, later, they abandoned me in my illness to search for my robots. They must have received enormously intense orders to find those robots or it would not have been possible for them to disregard a patently ill human being. As a matter of fact, I had anticipated this search for my robots and that was why I had sent them away. I felt it all-important to keep them out of unauthorized hands."

Amadiro said, "Mr. Chairman, may I continue to question Mr. Baley on this point, in order to show the worthlessness of this statement?"

"You may."

Amadiro said, "Mr. Baley. You were alone after your robots had left, were you not?"

"Yes, sir."

"Therefore you have no recording of events? You are not yourself equipped to record them? You have no recording device?"

"No to all three, sir."

"And you were ill?"

"Yes, sir."

"Distraught? Possibly too ill to remember clearly?"

"No, sir. I remember quite clearly."

"You would think so, I suppose, but you may well have been delirious and hallucinating. Under those conditions, it seems clear that what the robots said or, indeed, whether robots appeared at all would seem highly dubious."

The Chairman said thoughtfully, "I agree. Mr. Baley of Earth, assuming that what you remember-or claim to remember-is accurate, what is your interpretation of the events you are describing?"

"I hesitate to give you my thoughts on the matter, Mr. Chairman," said Baley, "lest I slander the worthy Dr. Amadiro."

"Since you speak at my request and since your remarks are confined to this room"-the Chairman looked around; the wall niches were empty of robots-"there is no question of slander, unless it seems to me you speak with malice."

"In that case, Mr. Chairman," said Baley, "I had thought it possible that Dr. Amadiro detained me in his office by discussing matters with me at greater length than was perhaps necessary, so that there would be time for the damaging of my machine, then detained me further in order that I might leave after the thunderstorm had begun, thus making sure that I would be ill in transit. He had studied Earth's social conditions, as he told me several times, so he would know what my reaction to the storm might be. It seemed to me that it was his plan to send his robots after us and, when they came upon our stalled airfoil, to have them take us all back to the Institute grounds, presumably so that I might be treated for my illness but actually so that he might have Dr. Fastolfe's robots."

Amadiro laughed gently. "What motive am I supposed to have for all this. You see, Mr. Chairman, that this is supposition joined to supposition and would be judged slander in any court on Aurora."

The Chairman said severely, "Has Mr. Baley of Earth anything to support these hypotheses?"

"A line of reasoning, Mr. Chairman."

The Chairman stood up, at once losing some of his presence, since he scarcely unfolded to a greater than sitting height. "Let me take a short walk, so that I might consider what I have heard so far. I will be right back." He left for the Personal.

Fastolfe leaned in the direction of Baley and Baley met him halfway. (Amadiro looked on in casual unconcern, as though it scarcely mattered to him what they might have to say to each other.)

Fastolfe whispered, "Have you anything better to say?"

Baley said, "I think so, if I get the proper chance to say it, but the Chairman does not seem to be sympathetic."

"He is not. So far you have merely made things worse and I would not be surprised if, when he comes back, he calls these proceedings to a halt."

Baley shook his head and stared at his shoes.

77.

Baley was still staring at his shoes when the Chairman returned, reseated himself, and turned a hard and rather baleful glance at the Earthman.

He said, "Mr. Baley of Earth?"

"Yes, Mr. Chairman."

"I think you are wasting my time, but I do not want it said that I did not give either side a full hearing, even when it seemed to be wasting my time. Can you offer me a motive that would account for Dr. Amadiro acting in the mad way in which you accuse him of acting."

"Mr. Chairman," said Baley in a tone approaching desperation, "there is indeed a motive-a very good one. It rests on the fact that Dr. Amadiro's plan for settling the Galaxy will come to nothing if he and his Institute cannot produce humaniform robots. So far he has produced none and can produce none. Ask him if he is willing to have a legislative committee examine his Institute for any indication that successful humaniform robots are being produced or designed. If he is willing to maintain that successful humaniforms are on the assembly lines or even on the drawing boards-or even in adequate theoretical formulation- and if he is prepared to demonstrate that fact to a qualified committee, I will say nothing more and admit that my investigation has achieved nothing." He held his breath.

The Chairman looked at Amadiro, whose smile had faded.

Amadiro said, "I will admit that we have no humaniform robots in prospect at the moment."

"Then I will continue," said Baley, resuming his interrupted breathing with something very much like a gasp. "Dr. Amadiro can, of course, find all the information he needs for his project if he turns to Dr. Fastolfe, who has the information in his head, but Dr. Fastolfe will not cooperate in this matter."

"No, I will not," murmured Fastolfe, "under any conditions."

"But, Mr. Chairman," Baley continued, "Dr. Fastolfe is not the only individual who has the secret of the design and construction of humaniform robots."

"No?" said the Chairman. "Who else would know? Dr. Fastolfe himself looks astonished at your comment, Mr. Baley." (For the first time, he did not add "of Earth.")

"I am indeed astonished," said Fastolfe. "To my knowledge, I am certainly the only one. I don't know what Mr. Baley means."

Amadiro said, with a small curling of the lip, "I suspect Mr. Baley doesn't know, either."

Baley felt hemmed in. He looked from one to the other and felt that not one of them-not one-was on his side.

He said, "Isn't it true that any humaniform robot would know? Not consciously perhaps, not in such a way as to be able to give instructions in the matter-but the information would surely be there within him, wouldn't it? If a humaniform robot was properly questioned, his answers and responses would betray his design and construction. Eventually, given enough time and given questions properly framed, a humaniform robot would yield information that would make it possible to plan the design of other humaniform robots. -To put it briefly, no machine can be of secret design if the machine itself is available for sufficiently intense study."

Fastolfe seemed struck. "I see what you mean, Mr. Baley, and you are right. I had never thought of that."

"With respect, Dr. Fastolfe," said Baley, "I must tell you that, like all Aurorans, you have a peculiarly individualistic pride. You are entirely too satisfied with being the best roboticist, the only roboticist who can construct humaniforms-so you blind yourself to the obvious."

The Chairman relaxed into a smile. "He has you there, Dr. Fastolfe. I have wondered why you were so eager to maintain that you were the only one with the know-how to destroy Jander when that so weakened your political case. I see clearly now that you would rather have your political case go down than your uniqueness."

Fastolfe chafed visibly.

As for Amadiro, he frowned and said, "Has this anything to do with the problem under discussion?"

"Yes, it does," said Baley, his confidence rising. "You cannot force any information from Dr. Fastolfe directly. Your robots cannot be ordered to do him harm, to torture him into revealing his secrets, for instance. You can't harm him directly yourself against the protection of Dr. Fastolfe by his staff. However, you can isolate a robot and have it taken

by other robots when the human being present is too ill to take the necessary action to prevent you. All the events of yesterday afternoon were part of a quickly improvised plan to get your hands on Daneel. You saw your opportunity as soon as I insisted on seeing you at the Institute. If I had not sent my robots away, if I had not been just well enough to insist I was well and to send your robots in the wrong direction, you would have had him. And eventually you might have worked out the secret of humaniform robots by some long-sustained analysis of Daneel's behavior and responses."

Amadiro said, "Mr. Chairman, I protest. I have never heard slander so viciously expressed. This is all based on the fancies of an ill man. We don't know-and perhaps can't ever know- whether the airfoil was really damaged; and if it was, by whom; whether robots really pursued the airfoil and really spoke to Mr. Baley or not. He is merely piling inference on inference, all based on dubious testimony concerning events of which he is the only witness-and that at a time when he was half-mad with fear and may have been hallucinating. None of this can stand up for one moment in a courtroom."

"This is not a courtroom, Dr. Amadiro," said the Chairman, "and it is my duty to listen to everything that may be germane to a question under dispute."

"This is not germane, Mr. Chairman. It is a cobweb."

"Yet it hangs together, somehow. I do not seem to catch Mr. Baley in a clear-cut illogicality. If one admits what he claims to have experienced, then his conclusions make a kind of sense. Do you deny all this, Dr. Amadiro? The airfoil damage, the pursuit, the intention to appropriate the humaniform robot?"

"I do! Absolutely! None of it is true!" said Amadiro. It had been a noticeable while since he had smiled. "The Earthman can produce a recording of our entire conversation and no doubt he will point out that I was delaying him by speaking at length, by inviting him to tour the Institute, by inviting him to have dinner -but all that can equally well be interpreted as my stretching a point to be courteous and hospitable. I was misled by a certain sympathy I have for Earthmen, perhaps, and that's all there is to that. I deny his inferences and nothing of what he says can stand up against my denial. My reputation is not such that a mere speculation can persuade anyone that I am the kind of devious plotter this Earthman says I am."

The Chairman scratched at his chin thoughtfully and said, "Certainly, I am not of a mind to accuse you on the basis of what the Earthman has said so far. -Mr. Baley, if this is all you have, it is interesting but insufficient. Is there anything more you have to say of substance? I warn you that, if not, I have now spent all the time on this that I can afford to."

78.

Baley said, "There is but one more subject I wish to bring up, Mr. Chairman. You have perhaps heard of Gladia Delmarre-or Gladia Solaria. She calls herself simply Gladia."

"Yes, Mr. Baley," said the Chairman with a testy edge to his voice. "I have heard of her. I have seen the hyperwave show in which you and she play such remarkable parts."

"She was associated with the robot, Jander, for many months. In fact, toward the end, he was her husband."

The Chairman's unfavorable stare at Baley became a hard glare. "Her what?"

"Husband, Mr. Chairman."

Fastolfe, who half-rose, sat down again, looking perturbed.

The Chairman said harshly, "That is illegal. Worse, it is ridiculous. A robot could not impregnate her. There could be no children. The status of a husband-or of a wife-is never granted without some statement as to willingness to have a child if permitted. Even an Earthman, I should think, would know that."

Baley said, "I am aware of this, Mr. Chairman. So, I am certain, was Gladia. She did not use the word 'husband' in its legal sense but in an emotional one. She considered Jander the equivalent of a husband. She felt toward him as though he were a husband."

The Chairman turned to Fastolfe. "Did you know of this, Dr. Fastolfe? He was a robot on your staff."

Fastolfe, clearly embarrassed, said, "I knew she was fond of him. I suspected she made use of him sexually. I knew nothing of this illegal charade, however, until Mr. Baley told me of it."

Baley said, "She was a Solarian. Her concept of 'husband' was not Auroran."

"Obviously not," said the Chairman.

"But she did have enough of a sense of reality to keep it to herself, Mr. Chairman. She never told of this charade, as Dr. Fastolfe calls it, to any Auroran. She told me the day before yesterday because she wanted to urge me on in the investigation of something that meant so much to her. Yet even so, I imagine she would not have used the word if she had not known I was an Earthman and would understand it in her sense-and not in an Auroran's."

"Very well," said the Chairman. "I'll grant her a bare minimum of good sense-for a Solarian. Is that the one more subject you wanted to bring up?"

"Yes, Mr. Chairman."

"In that case, it is totally irrelevant and can play no part in our deliberations."

"Mr. Chairman, there is one question I must still ask. One question. A dozen words, sir, and then I will be through." He said it as earnestly as he could, for everything depended on this.

The Chairman hesitated. "Agreed. One last question."

"Yes, Mr. Chairman." Baley would have liked to bark out the words, but he refrained. Nor did he raise his voice. Nor did he even point his finger. Everything depended on this. Everything had led up to this and yet he remembered Fastolfe's warning and said it almost casually. "How is it that Dr. Amadiro knew that Jander was Gladia's husband?"

"What?" The Chairman's white and bushy eyebrows raised themselves in surprise. "Who said he knew anything of this?"

Asked a direct question, Baley could continue. "Ask him, Mr. Chairman."

And he merely nodded in the direction of Amadiro, who had risen from his seat and was staring at Baley in obvious horror.

79.

Baley said again, very softly, reluctant to draw attention away from Amadiro, "Ask him, Mr. Chairman. He seems upset."

The Chairman said, "What is this, Dr. Amadiro? Did you know anything about the robot as supposed husband of this Solarian woman?"

Amadiro stuttered, then pressed his lips together for a moment and tried again. The paleness which had struck him had vanished and was replaced by a dull flush. He said, "I am caught by surprise at this meaningless accusation, Mr. Chairman. I do not know what it is all about."

"May I explain, Mr. Chairman? Very briefly?" said Baley. (Would he be cut off?)

"You had better," said the Chairman grimly. "If you have any explanation, I would certainly like to hear it."

"Mr. Chairman," said Baley. "I had a conversation with Dr. Amadiro yesterday afternoon. Because it was his intention to keep me until the storm broke, he spoke more lengthily than he intended and, apparently, more carelessly. In referring to Gladia, he casually referred to the robot, Jander, as her husband. I'm curious as to how he knew that fact."

"Is this true, Dr. Amadiro?" asked the Chairman.

Amadiro was still standing, bearing almost the appearance of a prisoner before a judge. He said, "Whether it is true or not has no bearing on the question under discussion."

"Perhaps not," said the Chairman, "but I was astonished at your reaction to the question when it was put. It occurs to me that there is a meaning to this that Mr. Baley and you both understand and that I do not. I therefore want to understand also. Did you or did you not know of this impossible relationship between Jander and the Solarian woman?"

Amadiro said in a choking voice, "I could not possibly have."

"That is no answer," said the Chairman. "That is an equivocation. You are making a judgment when I am asking you to hand me a memory. Did you or did you not make the statement imputed to you?"

"Before he answers," said Baley, feeling more certain of his ground now that the Chairman was governed by moral outrage, "it is only fair to Dr. Amadiro for me to remind him that Giskard, a robot who was also present at the meeting, can, if asked to do so, repeat the entire conversation, word for word, using the voice and intonation of both parties. In short, the conversation is recorded."

Amadiro burst into a kind of rage. "Mr. Chairman, the robot, Giskard, was designed, constructed, and programmed by Dr. Fastolfe, who announces himself to be the best roboticist who exists and who is bitterly opposed to me. Can we trust a recording produced by such a robot?"

Baley said, "Perhaps you ought to hear the recording and come to your own decision, Mr. Chairman."

"Perhaps I ought," said the Chairman. "I am not here, Dr. Amadiro, to have my decisions made for me. But let us put that aside for a moment. Regardless of what the recording says, Dr. Amadiro, do you wish to state for the record that you did not know that the Solarian woman considered her robot to be her husband and that you never referred to him as her husband? Please remember (as you both, being legislators, should) that, although no robot is present, this entire conversation is being recorded in my own device." He tapped a small bulge at his breast pocket. "Flatly, then, Dr. Amadiro. Yes or no."

Amadiro said, with an edge of desperation in his voice, "Mr. Chairman, I honestly cannot remember what I said in casual conversation. If I did mention the word -and I don't admit I did- it may have been the result of some other casual conversation in which someone mentioned the fact that Gladia acted as lovestruck toward her robot as though he were her husband."

The Chairman said, "And with whom did you have this other casual conversation? Who made this statement to you?"

"At the moment, I cannot say."

Baley said, "Mr. Chairman, if Dr. Amadiro will be so kind as to list anyone and everyone who might have used the word to him, we can question every one of them to discover which one can remember making such a remark."

Amadiro said, "I hope, Mr. Chairman, you will consider the effect on the morale of the Institute if anything of this sort is done."

The Chairman said, "I hope you will consider it, too, Dr. Amadiro, and come up with a better answer to our question, so that we are not forced to extremes."

"One moment, Mr. Chairman," said Baley, as obsequiously as he could manage, "there remains a question."

"Again? Another one?" The Chairman looked at Baley without favor. "What is it?"

"Why is Dr. Amadiro struggling so to avoid admitting he knew of Jander's relation to Gladia? He says it is irrelevant. In that case, why not say he knew of the relationship and be done with it? I say it is relevant and that Dr. Amadiro knows that his admission could be used to demonstrate criminal activity on his part."

Amadiro thundered, "I resent the expression and I demand an apology!"

Fastolfe smiled thinly and Baley's lips pressed together grimly. He had forced Amadiro over the edge.

The Chairman turned an almost alarming red and said with passion, "You demand? You demand? To whom do you demand? I am the Chairman. I hear all views before deciding what to suggest as best to be done. Let me hear what the Earthman has to say

about his interpretation of your action. If he is slandering you, he shall be punished, you may be sure, and I will take the broadest view of the slander statutes, too, you may be sure. But you, Amadiro, may make no demands upon me. Go on, Earthman. Say what you have to say, but be extraordinarily careful."

Baley said, "Thank you, Mr. Chairman. Actually, there is one Auroran to whom Gladia did tell the secret of her relationship with Jander."

The Chairman interrupted. "Well, who is that? Do not play your hyperwave tricks on me."

Baley said, "I have no intention of anything but a straightforward statement, Mr. Chairman. The one Auroran is, of course, Jander himself. He may have been a robot, but he is an inhabitant of Aurora and might be viewed as an Auroran. Gladia must surely, in her passion, have addressed him as 'my husband.' Since Dr. Amadiro has admitted he might possibly have heard from someone else some statement to the effect of Jander's husbandly relationship to Gladia, isn't it logical to suppose that he heard of the matter from Jander? Would Dr. Amadiro be willing, right now, to state for the record that he never spoke to Jander during the period when Jander formed part of Gladia's staff?"

Twice Amadiro's mouth opened as though he would speak. Twice he did not utter a sound.

"Well," said the Chairman, "did you speak to Jander during that period, Dr. Amadiro?"

There was still no answer.

Baley said softly, "If he did, it is entirely relevant to the matter at hand."

"I'm beginning to see that it must be, Mr. Baley. Well, Dr. Amadiro, once again-yes or no."

And Amadiro burst forth; "What evidence does this Earthman have against me in this matter? Does he have a recording of any conversation I have had with Jander? Does he have witnesses who are willing to say they have seen me with Jander? What does he have anything at all besides mere self-serving statements?"

The Chairman turned to look at Baley and Baley said, "Mr. Chairman, if I have nothing at all, then Dr. Amadiro should not hesitate to deny, for the record, any contact with Jander-but he does not do so. As it happens, in the course of my investigation, I spoke to Dr. Vasilia Aliena, the daughter of Dr. Fastolfe. I spoke also to a young Auroran named Santirix Gremionis. In the recordings of both interviews, it will be plain that Dr. Vasilia encouraged Gremionis to pay court to Gladia. You may question Dr. Vasilia as to her purpose in so doing and as to whether this course of action had been suggested to her by Dr. Amadiro. It also appears that it was Gremionis' custom to take long walks with Gladia, which both enjoyed, and on which they were not accompanied by the robot, Jander. You might check on this, if you wish, sir."

The Chairman said dryly, "I may do so, but if all is as you say, what does this show?"

Baley said, "I have stated that, failing Dr. Fastolfe himself, the secret of the humaniform robot could be obtained only from Daneel. Before Jander's death, it could,

with equal facility, have been obtained from Jander. Whereas Daneel was part of Dr. Fastolfe's establishment and could not easily be reached, Jander was part of Gladia's establishment and she was not as sophisticated as Dr. Fastolfe in seeing to a robot's protection.

"Isn't it likely that Dr. Amadiro took the occasion of Gladia's periodic absences from her establishment, when she was walking with Gremionis, to converse with Jander, perhaps by trimensional viewing, to study his responses, to subject him to various tests, and then to erase any sign of his visit with Jander, so that he could never inform Gladia of it? It may be that he came close to finding what he wanted to know-before the attempt ended when Jander went out of action. His concentration then shifted to Daneel. He felt perhaps that he had only a few tests and observations left to make and so he set up the trap of yesterday evening, as I said earlier in my-my testimony."

The Chairman said, in what was almost a whisper, "Now it all hangs together. I am almost forced to believe."

"Plus one final point and then I will truly have nothing more to say," said Baley. "In his examination and testing of Jander, it is entirely possible that Dr. Amadiro accidentally-and without any deliberate intention whatever-immobilized Jander and thus committed roboticide."

And Amadiro, maddened, shouted, "No! Never! Nothing I did to that robot could possibly have immobilized him!"

Fastolfe interposed. "I agree. Mr. Chairman, I, too, think that Dr. Amadiro did not immobilize Jander. However, Mr. Chairman, Dr. Amadiro's statement just now would seem an implicit admission that he was working with Jander-and that Mr. Baley's analysis of the situation is essentially accurate."

The Chairman nodded. "I am forced to agree with you, Dr. Fastolfe. -Dr. Amadiro, you may insist on a formal denial of all this and that may force me into a full-fledged investigation, which could do you a great deal of damage, however it turned out-and I rather suspect, at this stage, it is likely to turn out to your great disadvantage. My suggestion is that you do not force this-that you do not cripple your own position in the Legislature and, perhaps, cripple Aurora's ability to continue along a smooth political course.

"As I see it, before the matter of Jander's immobilization came up, Dr. Fastolfe had a majority of the legislators-not a large majority, admittedly-on his side in the matter of Galactic settlement. You would have swung enough legislators to your side by pushing the matter of Dr. Fastolfe's supposed responsibility for Jander's immobilization and thus have gained the majority. But now Dr. Fastolfe, if he wishes, can turn the tables by accusing you of the immobilization and, moreover, of having tried to hang a false accusation upon your opponent as well-and you would lose.

"If I do not interfere, then it may be that you, Dr. Amadiro, and you, Dr. Fastolfe, actuated by stubbornness or even vindictiveness, will both marshal your forces and accuse each other of all sorts of things. Our political forces and public opinion, too, will be hopelessly divided-even fragmented-to our infinite harm.

"I believe that, in that case, Fastolfe's victory, while inevitable, would be a very costly one, so that it would be my task as the Chairman to swing the votes in his direction to begin with, and to place pressure upon you and your faction, Dr. Amadiro, to accept Fastolfe's victory with as much grace as you can manage, and to do it right now-for the good of Aurora."

Fastolfe said, "I am not interested in a crushing victory, Mr. Chairman. I propose again a compromise whereby Aurora, the other Spacer worlds, and Earth, too, all have the freedom of settlement in the Galaxy. In return, I will be glad to join the Robotics Institute, put my knowledge of humaniform robots at its disposal, and thus facilitate Dr. Amadiro's plan, in return for his solemn agreement to abandon all thought of retaliation against Earth at any time in the future and to put this into treaty form, with ourselves and Earth as signatories."

The Chairman nodded. "A wise and statesmanlike suggestion. May I have your acceptance of this, Dr. Amadiro?"

Amadiro now sat down. His face was a study in defeat. He said, "I have not wanted personal power or the satisfaction of victory. I wanted what I know to be best for Aurora and I am convinced that this plan of Dr. Fastolfe's means an end to Aurora someday. However, I recognize that I 'm now helpless against the work of this Earthman"-he shot a quick venomous glance toward Baley-"and I am forced to accept Dr. Fastolfe's suggestion-though I will ask for permission to address the Legislature on the subject and to state, for the record, my fears of the consequences."

"We will, of course, allow that," said the Chairman. "And if you'll be guided by me, Dr. Fastolfe, you'll get this Earthman off our world as fast as possible. He has won your viewpoint for you, but it will not be a very popular one if Aurorans have too long a time to brood over it as an Earthly victory over Aurorans."

"You are quite right, Mr. Chairman, and Mr. Baley will be gone quickly-with my thanks and, I trust, with yours as well."

"Well," said the Chairman, not with the best of grace, "since his ingenuity has saved us from a bruising political battle, he has my thanks. -Thank you, Mr. Baley."

19. AGAIN BALEY

80.

Baley watched them leave from a distance. Though Amadiro and the Chairman had come together, they now left separately.

Fastolfe came back from seeing them off, making no attempt to hide his intense relief.

"Come, Mr. Baley," he said, "you will have lunch with me and then, as soon after that as possible, you will leave for Earth again."

His robotic staff was clearly in action with that in mind. Baley nodded and said sardonically, "The Chairman managed to thank me, but it seemed to stick in his throat."

Fastolfe said, "You have no idea how you have been honored. The Chairman rarely thanks anyone, but then no one ever thanks the Chairman. It is always left to history to praise Chairmen and this one has served for over forty years. He has grown cranky and ill-tempered, as Chairmen always do in their final decades.

"However, Mr. Baley, once again I thank you and, through me, Aurora will thank you. You will live to see Earthmen move outward into space, even in your short lifetime, and we will help you with our technology.

"How you have managed to untie this knot of ours, Mr. Baley, in two and a half days-less-I can't imagine. You are a wonder.

-But, come, you will want to wash and freshen up. I know I do."

For the first time since the Chairman arrived, Baley had time to think of something besides his next sentence.

He still didn't know what it was that had come to him three times, first on the point of sleep, then on the point of unconsciousness, and finally in postcoital relaxation.

"He was there first!"

It was still meaningless, yet he had made his point to the Chairman and carried all before him without it. Could it have any meaning at all, then, if it was a part of a mechanism that didn't fit and didn't seem needed? Was it nonsense?

It chafed at the corner of his mind and he came to lunch a victor without the proper sensation of victory. Somehow, he felt as though he had missed the point.

For one thing, would the Chairman stick to his resolve? Amadiro had lost the battle, but he didn't seem the kind of person who would give up altogether under any circumstances. Give him credit and assume he meant what he said, that he was driven not by personal vainglory but by his concept of Auroran patriotism. If that were so, he could not give up.

Baley felt it necessary to warn Fastolfe.

"Dr. Fastolfe," he said, "I don't think it's over. Dr. Amadiro will continue the fight to exclude Earth."

Fastolfe nodded as the dishes were served. "I know he will. I expect him to. However, I have no fear as long as the matter of Jander's immobilization is set to rest. With that aside, I'm sure I can always outmaneuver him in the Legislature. Fear not, Mr. Baley, Earth will move along. Nor need you fear personal danger from a vengeful Amadiro. You will be off this planet and on your way back to Earth before sunset-and Daneel will escort you, of course. What's more, the report we'll send with you will ensure, once more, a healthy promotion for you."

"I am eager to go," said Baley, "but I hope I will have time to say my good-byes. I would like to see Gladia once more and I would like to say good-bye to Giskard, who may have saved my life last night."

"No question of that, Mr. Baley. But please eat, won't you?"

Baley went through the motions of eating, but didn't enjoy it.

Like the confrontation with the Chairman and the victory that ensued, the food was oddly flavorless.

He should not have won. The Chairman should have cut him off. Amadiro, if necessary, should have made a flat denial. It would have been accepted over the word-or the reasoning-of an Earthman.

But Fastolfe was jubilant. He said, "I had feared the worst, Mr. Baley. I feared the meeting with the Chairman was premature and that nothing you could say would help the situation. Yet you managed it so well. I was lost in admiration, listening to you. At any moment, I expected Amadiro to demand that his word be taken against an Earthman who, after all, was in a constant state of semimadness at finding himself on a strange planet in the open-"

Baley said frigidly, "With all respect, Dr. Fastolfe, I was not in a constant state of semimadness. Last night was exceptional, but it was the only time I lost control. For the rest of my stay on Aurora, I may have been uncomfortable from time to time, but I was always in my perfect mind." Some of the anger he had suppressed at considerable cost to himself in the confrontation with the Chairman was expressing itself now. "Only during the storm, sir-except, of course"-recollecting-"for a moment or two on the approaching spaceship-"

He was not conscious of the manner in which the thought- the memory, the interpretation-came to him or at what speed. One moment it did not exist, the next moment it was full-blown in his mind, as though it had been there all the time and needed only the bursting of a soap-bubble veil to show it.

"Jehoshaphat!" he said in an awed whisper. Then, with his fist coming down on the table and rattling the dishes, "Jehoshaphat!"

"What is it, Mr. Baley?" asked Fastolfe, startled.

Baley stared at him and heard the question only belatedly. "Nothing, Dr. Fastolfe. I was just thinking of Dr. Amadiro's infernal gall in doing the damage to Jander and then laboring to fix the blame on you, in arranging to have me go half-mad in the storm last night and then using that as a way of casting doubt on my statements. I was just-momentarily-angry."

"Well, no need to be, Mr. Baley. And actually, it is quite impossible for Amadiro to have immobilized Jander. It remains purely a chance event. -To be sure, it is possible that Amadiro's investigation may have increased the odds of such a chance event taking place, but I would not argue the matter."

Baley heard the statement with half of one ear. What he had just said to Fastolfe was fiction and what Fastolfe was saying didn't matter. It was (as the Chairman would have said) irrelevant. In fact, everything that had happened-everything that Baley had explained-was irrelevant. -But nothing had to be changed because of that.

Except one thing-after a while.

Jehoshaphat! he whispered in the silence of his mind and turned suddenly to the lunch, eating with gusto and with joy.

81.

Once again, Baley crossed the lawn between Fastolfe's establishment and Gladia's. He would be seeing Gladia for the fourth time in three days-and (his heart seemed to compress into a hard knot in his chest) now for the last time.

Giskard was with him but at a distance, more intent than ever on the surroundings. Surely, with the Chairman in full possession of the facts, there should be a relaxation of any concern for Baley's safety-if there ever had been any, by rights, when it was Daneel who had been in danger. Presumably, Giskard had not yet been reinstructed in the matter.

Only once did he approach Baley and that was when the latter called out, "Giskard, where's Daneel?"

Swiftly, Giskard covered the ground between them, as though reluctant to speak in anything but a quiet tone. "Daneel is on his way to the spaceport, sir, in the company of several others of the staff, in order to make arrangements for your transportation to Earth. When you are taken to the spaceport, he will meet you there and be on the ship with you, taking his final leave of you at Earth."

"Good news. I treasure every day of companionship with Daneel. And you, Giskard? Will you accompany us?"

"No, sir. I am instructed to remain on Aurora. However, Daneel will serve you well, even in my absence."

"I am sure of that, Giskard, but I will miss you."

"Thank you, sir," said Giskard and retreated as rapidly as he had come. Baley gazed after him speculatively for a moment or so. -No, first things first. He had to see Gladia.

She advanced to greet him-and what a world of change had taken place in two days. She was not joyous, she was not dancing, she was not bubbling; there was still the grave look of one who had suffered a shock and a loss-but the troubled aura around her was gone. There was a kind of serenity now, as though she had grown aware of the fact that life continued after all and might even, on occasion, be sweet.

She managed a smile, warm and friendly, as she advanced to him and held out her hand.

"Oh, take it, take it, Elijah," she said when he hesitated. "It's ridiculous for you to hang back and pretend you don't want to touch me after last night. You see, I still remember it and I haven't come to regret it. Quite the contrary."

Baley performed the unusual operation (for him) of smiling in return. "I remember it, too, Gladia, and I don't regret it either. I would even like to do it again, but I have come to say good-bye."

A shade fell across her face. "Then you'll be going back to Earth. Yet the report I got by way of the robot network that always operates between Fastolfe's establishment and my own is that all went well. You can't have failed"

"I did not fail. Dr. Fastolfe, has, in fact, won completely. I don't believe there will be any suggestion at all that he was in any way involved in Jander's death."

"Because of what you had to say, Elijah?"

"I believe so."

"I knew it." There was a tinge of self-satisfaction to that. "I knew you would do it when I told them to get you on the case.

-But then why are you being sent home?"

"Precisely because the case is solved. If I remain here longer, I will be a foreign irritant in the body politic, apparently."

She looked at him dubiously for a moment and said, "I'm not sure what you mean by that. It sounds like an Earth expression to me. But never mind. Were you able to find out who killed Jander? That is the important part."

Baley looked around. Giskard was standing in one niche, one of Gladia's robots in another.

Gladia interpreted the look without trouble. She said, "Now, Elijah, you must learn to stop worrying about robots. You don't worry about the presence of the chair, do you, or of these drapes?"

Baley nodded. "Well, then, Gladia, I'm sorry-I'm terribly sorry-but I had to tell them of the fact that Jander was your husband."

Her eyes opened wide and he hastened on. "I had to. It was essential to the case, but I promise it won't affect your status on Aurora." As briefly as he might, he summarized the events of the confrontation and concluded, "So, you see, no one killed Jander. The immobilization was the result of a chance change in his positronic pathways, though the

probabilities of that chance change may have been enhanced by what had been going on."

"And I never knew," she moaned. "I never knew. I connived at this Amadiro's foul plan. -And he is the one responsible just as much, as though he had deliberately hacked away at him with a sledgehammer."

"Gladia," said Baley earnestly, "that is uncharitable. He had no intention of doing harm to Jander and what he was doing was, in his own eyes, for the good of Aurora. As it is, he is punished. He is defeated, his plans are in shambles, and the Robotics Institute will come under the domination of Dr. Fastolfe. You yourself could not work out a more suitable punishment, no matter how you tried."

She said, "I'll think about that. -But what do I do with Santirix Gremionis, this good-looking young lackey whose job it was to lure me away? No wonder he appeared to cling to hope despite my repeated refusal. Well, he'll come here again and I will have the pleasure of-"

Baley shook his head violently. "Gladia, no. I have interviewed him and I assure you he had no knowledge of what was going on. He was as much deceived as you were. In fact, you have it reversed. He was not persistent because it was important to lure you away. He was useful to Amadiro because he was so persistent-and that persistence was out of regard for you. Out of love, if the word means on Aurora what it means on Earth."

"On Aurora, it is choreography. Jander was a robot and you are an Earthman. It is different with the Aurorans."

"So you have explained. But Gladia, you learned from Jander to take; you learned from me-not that I meant it-to give. If you benefit by learning, is it not only right and fair that you should teach in your turn? Gremionis is sufficiently attracted to you to be willing to learn. He already defies Auroran convention by persisting in the face of your refusal. He will defy more. You can teach him to give and take and you will learn to do both in alternation or together, in company with him."

Gladia looked searchingly into his eyes. "Elijah, are you trying to get rid of me?"

Slowly, Baley nodded. "Yes, Gladia, I am. It's your happiness I want at this moment, more than I have ever wanted anything for myself or for Earth. I can't give you happiness, but if Gremionis can give it to you, I will be as happy-almost as happy as if it were I myself who were making the gift.

"Gladia, he may surprise you with how eagerly he will break through the choreography when you show him how. And the word will somehow spread, so that others will come to swoon at your feet-and Gremionis may find it possible to teach other women. Gladia, it may be that you will revolutionize Auroran sex before you are through. You will have three centuries in which to do so."

Gladia stared at him and then broke into a laugh. "You are teasing. You are being deliberately foolish. I wouldn't have thought it of you, Elijah. You always look so long-faced and grave. Jehoshaphat!" (And, with the last word, she tried to imitate his somber baritone.)

Baley said, 'Perhaps I'm teasing a little, but I mean it in essence. Promise me that you will give Gremionis his chance.'

She came closer to him and, without hesitation, he put his arm around her. She placed her finger on his lips and he made a small kissing motion. She said softly, "Wouldn't you rather have me for yourself, Elijah?"

He said, just as softly (and unable to become unaware of the robots in the room), "Yes, I would, Gladia. I am ashamed to say that at this moment I would be content to have the Earth fall to pieces if I could have you-but I can't. In a few hours, I'll be off Aurora and there's no way you will be allowed to go with me. Nor do I think I will ever be allowed to come back to Aurora, nor is it possible that you will ever visit Earth.

"I will never see you again, Gladia, but I will never forget you, either. I will die in a few decades and when I do you will be as young as you are now, so we would have to say good-bye soon whatever we could imagine as happening."

She put her head against his chest. "Oh, Elijah, twice you came into my life, each time for just a few hours. Twice you've done so much for me and then said good-bye. The first time all I could do was touch your face, but what a difference that made. The second time, I did so much more-and again what a difference that made. I'll never forget you, Elijah, if I live more centuries than I can count."

Baley said, "Then let it not be the kind of memory that cuts you off from happiness. Accept Gremionis and make him happy -and let him make you happy as well. And, remember, there is nothing to prevent you from sending me letters. The hyperpost between Aurora and Earth exists."

"I will, Elijah. And you will write to me as well?"

"I will, Gladia."

Then there was silence and, reluctantly, they moved apart. She remained standing in the middle of the room and when he went to the door and turned back, she was still standing there with a little smile. His lips shaped: Good-bye. And then because there was no sound-he could not have done it with sound-he added, my love.

And her lips moved, too. Goode-bye, my dearest love.

And he turned and walked out and knew he would never see her in tangible form, never touch her again.

83.

It was a while before Elijah could bring himself to consider the task that still lay before him. He Shad walked in silence perhaps half the distance back to Fastolfe's establishment before he stopped and lifted his arm.

The observant Giskard was at his side in a moment.

Baley said, "How much time before I must leave for the spaceport, Giskard?"

"Three hours and ten minutes, sir."

Baley thought a moment. "I would like to walk over to that tree there and sit down with my back against the trunk and spend some time there alone. With you, of course, but away from other human beings."

"In the open, sir?" The robot's voice was unable to express surprise and shock, but somehow Baley had the feeling that, if Giskard were human, those words would express those feelings.

"Yes," said Baley. "I have to think and, after last night, a calm day like this-sunny, cloudless, mild-scarcely seems dangerous. I'll go indoors if I get agoraphobic. I promise. So will you join me?"

"Yes, sir."

"Good." Baley led the way. They reached the tree and Baley touched the trunk gingerly and then stared at his finger, which remained perfectly clean. Reassured that leaning against the trunk would not dirty him, he inspected the ground and then sat down carefully and rested his back against the tree.

It was not nearly as comfortable as the back of a chair would have been, but there was a feeling of peace (oddly enough) that perhaps he would not have had inside a room.

Giskard remained standing and Baley said, "Won't you sit down, too?"

"I am as comfortable standing, sir."

"I know that, Giskard, but I will think better if I don't have to look up at you."

"I could not guard you against possible harm as efficiently if I were seated, sir."

"I know that, too, Giskard, but there is no reasonable danger at the moment. My mission is over, the case is solved, Dr. Fastolfe's position is secure. You can risk being seated and I order you to sit down."

Giskard at once sat down, facing Baley, but his eyes continued to wander in this direction and that and were ever alert.

Baley looked at the sky, through the leaves of the tree, green against blue, listened to the susurrations of insects and to the sudden call of a bird, noted a disturbance of grass nearby that might have meant a small animal passing by, and again thought how oddly peaceful it all was and how different this peacefulness was from the clamor of the City. This was a quiet peace, an unhurried peace, a removed peace.

For the first time, Baley caught a faint suggestion of how it might be to prefer Outside to the City. He caught himself being thankful to his experiences on Aurora, to the storm most of all- for he knew now that he would be able to leave Earth and face the conditions of whatever new world he might settle on, he and Ben-and perhaps Jessie.

He said, "Last night, in the darkness of the storm, I wondered if I might have seen Aurora's satellite were it not for the clouds. It has a satellite, if I recall my reading correctly."

"Two, actually, sir. The larger is Tithonus, but it is still so small that it appears only as a moderately bright star. The smaller is not visible at all to the unaided eye and is simply called Tithonus II, when it is referred to at all."

"Thank you. -And thank you, Giskard, for rescuing me last night." He looked at the robot. "I don't know the proper way of thanking you."

"It is not necessary to thank me at all. I was merely following the dictates of the First Law. I had no choice in the matter."

"Nevertheless, I may even owe you my life and it is important that you know I understand this. -And now, Giskard, what ought I to do?"

"Concerning what matter, sir?"

"My mission is over. Dr. Fastolfe's views are secure. Earth's future may be assured. It would seem I have nothing more to do and yet there is the matter of Jander."

"I do not understand, sir."

"Well, it seems settled that he died by a chance shift of positronic potential in his brain, but Fastolfe admits the chance of that is infinitesimally small. Even with Amadiro's activities, the chance, though possibly greater, would remain infinitesimally small. At least, so Fastolfe thinks. It continues to seem to me, then, that Jander's death was one of deliberate roboticide. Yet I don't dare raise this point now. I don't want to unsettle matters that have been brought to such a satisfactory conclusion. I don't want to put Fastolfe in jeopardy again. I don't want to make Gladia unhappy. I don't know what to do. I can't talk to a human being about this, so I'm talking to you, Giskard."

"Yes, sir."

"I can always order you to erase whatever I have said and to remember it no more."

"Yes, sir."

"In your opinion, what ought I to do?"

Giskard said, "If there is a roboticide, sir, there must be someone capable of committing the act. Only Dr. Fastolfe is capable of committing it and he says he did not do it."

"Yes, we started with that situation. I believe Dr. Fastolfe and am quite certain he did not do it."

"Then how could there have been a roboticide, sir?"

"Suppose that someone else knew as much about robots as Dr. Fastolfe does, Giskard."

Baley drew up his knees and clasped his hands around them. He did not look at Giskard and seemed lost in thought.

"Who might that be, sir?" asked Giskard.

And finally, Baley reached the crucial point.

He said, "You, Giskard."

84.

If Giskard had been human, he might have simply stared, silent and stunned; or he might have raged angrily; or shrunk back in terror; or had any of a dozen responses. Because he was a robot, he showed no sign of any emotion whatever and simply said, "Why do you say so, sir?"

Baley said, "I am quite certain, Giskard, that you know exactly how I have come to this conclusion, but you will do me a favor if you allow me, in this quiet place and in this bit of time before I must leave, to explain the matter for my own benefit. I would like to hear myself talk about it. And I would like you to correct me where I am wrong."

"By all means, sir."

"I suppose my initial mistake was to suppose that you are a less complicated and more primitive robot than Daneel is, simply because you look less human. A human being will always suppose that, the more human a robot is, the more advanced, complicated, and intelligent he will be. To be sure, a robot like you is easily designed and one like Daneel is a great problem for men like Amadiro and can be handled only by a robotics genius such as Fastolfe. However, the difficulty in designing Daneel lies, I suspect, in reproducing all the human aspects such as facial expression, intonation of voice, gestures and movements that are extraordinarily intricate but have nothing really to do with complexity of mind. Am I right?"

"Quite right, sir."

"So I automatically underestimated you, as does everyone. Yet you gave yourself away even before we landed on Aurora. You remember, perhaps, that during the landing, I was overcome by an agoraphobic spasm and was, for a moment, even more helpless than I was last night in the storm."

"I do, sir."

"At the time, Daneel was in the cabin with me, while you were outside the door. I was falling into a kind of catatonic state, noiselessly, and he was, perhaps, not looking at me and so knew nothing of it. You were outside the cabin and yet it was you who dashed in and turned off the viewer I was holding. You got there first, ahead of Daneel, though his reflexes are as fast as yours, I'm sure—as he demonstrated when he prevented Dr. Fastolfe from striking me."

"Surely it cannot be that Dr. Fastolfe was striding you."

"He wasn't. He was merely demonstrating Daneel's reflexes. —And yet, as I say, in the cabin you got there first. I was scarcely in condition to observe that fact, but I have been trained to observe and I am not put entirely out of action even by agoraphobic terror, as I showed last night. I did notice you were there first, though I tended to forget the fact. There is, of course, only one logical solution."

Baley paused, as though expecting Giskard to agree, but the robot said nothing.

(In later years, this was what Baley pictured first when thinking of his stay on Aurora. Not the storm. Not even Gladia. It was, rather, the quiet time under the tree, with the green leaves against the blue sky, the mild breeze, the soft sound of animals, and Giskard opposite him with faintly glowing eyes.)

Baley said, "It would seem that you could somehow detect my state of mind and, even through the closed door, tell that I was having a seizure of some sort. Or, to put it briefly and perhaps simplistically, you can read minds."

"Yes, sir," said Giskard quietly.

"And you can somehow influence minds, too. I believe you noted that I had detected this and you obscured it in my mind, so that I somehow did not remember or did not see the significance-if I did casually recall the situation. Yet you did not do that entirely efficiently, perhaps because your powers are limited-"

Giskard said, "Sir, the First Law is paramount. I had to come to your rescue, although I quite realized that would give me away. And I had to obscure your mind minimally, in order not to damage it in any way."

Baley nodded. "You have your difficulties, I see. Obscured minimally-so I did remember it when my mind was sufficiently relaxed and could think by free association. Just before I lost consciousness in the storm, I knew you would find me first, as you had on the ship. You may have found me by infrared radiation, but every mammal and bird was radiating as well and that might be confusing-but you could also detect mental activity, even if I were unconscious, and that would help you to find me."

"It certainly helped," said Giskard.

"When I did remember, close to sleep or unconsciousness, I would forget again when fully conscious. Last night, however, I remembered for the third time and I was not alone. Gladia was with me and could repeat what I had said, which was 'He was there first.' And even then I could not remember the meaning, until a chance remark of Dr. Fastolfe's led to a thought that worked its way past the obscuration. Then, once it dawned on me, I remembered other things. Thus, when I was wondering if I were really landing on Aurora, you assured me that our destination was Aurora before I actually asked. -I presume you allow no one to know of your mind-reading ability."

"That is true, sir."

"Why is that?"

"My mind reading gives me a unique ability to obey the First Law, sir, so I value its existence. I can prevent harm to human beings far more efficiently. It seemed to me, however, that neither Dr. Fastolfe-nor any other human being-would long tolerate a mind-reading robot, so I keep the ability secret. Dr. Fastolfe loves to tell the legend of the mind-reading robot who was destroyed by Susan Calvin and I would not want him to duplicate Dr. Calvin's feat."

"Yes, he told the legend to me. I suspect that he knows, subliminally, that you read minds or he wouldn't harp on the legend so. And it is dangerous for him to do so, as far as you are concerned, I should think. Certainly, it helped put the matter in my mind,"

"I do what I can to neutralize the danger without unduly tampering with Dr. Fastolfe's mind. Dr. Fastolfe invariably stresses the legendary and impossible nature of the story when he tells it."

"Yes, I remember that, too. But if Fastolfe does not know you can read minds, it must be that you were not designed originally with these powers. How, then, do you come to have them?

-No, don't tell me, Giskard. Let me suggest something. Miss Vasilisa was particularly fascinated with you when she was a young woman first becoming interested in robotics. She told me that she had experimented by programming you under Fastolfe's distant

supervision. Could it be that, at one time, quite by accident, she did something that gave you the power? Is that correct?"

"That is correct, sir."

"And do you know what that something is?"

"Yes, sir."

"Are you the only mind-reading robot that exists?"

"So far, yes, sir. There will be others."

"If I asked you what it was that Dr. Vasilisa did to you to give you such powers-or if Dr. Fastolfe did-would you tell us by virtue of the Second Law?"

"No, sir, for it is my judgment that it would do you harm to know and my refusal to tell you under the First Law would take precedence. The problem would not arise, however, for I would know that someone was going to ask the question and give the order and I would remove the impulse to do so from the mind before it could be done."

"Yes," said Baley. "Evening before last, as we were walking from Gladia's to Fastolfe's, I asked Daneel if he had had any contact with Jander during the latter's stay with Gladia and he answered quite simply that he had not. I then turned to ask you the same question and, somehow, I never did. You quashed the impulse for me to do so, I take it."

"Yes, sir."

"Because if I had asked, 'you would have had to say that you knew him well at that time and you were not prepared to have me know that.'"

"I was not, sir."

"But during this period of contact with Jander, you knew he was being tested by Amadiro because, I presume, you could read Jander's mind or detect his positronic potentials-"

"Yes, sir, the same ability covers both robotic and human mental activity. Robots are far easier to understand."

"You disapproved of Amadiro's activities because you agreed with Fastolfe on the matter of settling the Galaxy."

"Yes, sir."

"Why did you not stop Amadiro? Why did you not remove from his mind the impulse to test Jander?"

Giskard said, "Sir, I do not lightly tamper with minds. Amadiro's resolve was so deep and complex that, to remove it, I would have had to do much-and his mind is an advanced and important one that I would be reluctant to damage. I let the matter continue for a great while, during which I pondered on which action would best fulfill my First Law needs. Finally, I decided on the proper manner to correct the situation. It was not an easy decision."

"You decided to immobilize Jander before Amadiro could work out the method for designing a true humaniform robot. You knew how to do so, since you had, over the years, gained a perfect understanding of Fastolfe's theories from Fastolfe's mind. Is that right?"

"Exactly, sir."

"So that Fastolfe was not the only one, after all, expert enough to immobilize Jander."

"In a sense, he was, sir. My own ability is merely the reflection -or the extension-of his."

"But it will do. Did you not see that this immobilization would place Fastolfe in great danger? That he would be the natural suspect? Did you plan on admitting your action and revealing your abilities if that were necessary to save him?"

Giskard said, "I did indeed see that Dr. Fastolfe would be in a painful situation, but I did not intend to admit my guilt. I had hoped to utilize the situation as a wedge for getting you to Aurora."

"Getting me here? Was that your idea?" Baley felt rather stupefied.

"Yes, sir. With your permission, I would like to explain."

Baley said, "Please do."

Giskard said, "I knew of you from Miss Gladia and from Dr. Fastolfe, not only from what they said but from what was in their minds. I learned of the situation on Earth. Earthmen, it was clear, live behind walls, which they find difficult to escape from, but it was just as clear to me that Aurorans live behind walls, too.

"Aurorans live behind walls made of robots, who shield them from all the vicissitudes of life and who, in Amadiro's plans, would build up shielded societies to wall up Aurorans settling new worlds. Aurorans also live behind walls made up of their own extended lives, which forces them to overvalue individuality and keeps them from pooling their scientific resources. Nor do they indulge in the rough-and-tumble of controversy, but, through their Chairman, demand a short-circuiting of all uncertainty and that decisions on solutions be reached before problems are aired. They could not be bothered with actually thrashing out best solutions. What they wanted were quiet solutions.

"The Earthman's walls are crude and literal, so that their existence is obtrusive and obvious-and there are always some who long to escape. The Aurorans' walls are immaterial and aren't even seen as walls, so that none can even conceive of escaping. It seemed to me, then, that it must be Earthmen and not Aurorans-or any other Spacers-who must settle the Galaxy and establish what will someday become a Galactic Empire.

"All this was Dr. Fastolfe's reasoning and I agreed with it. Dr. Fastolfe was, however, satisfied with the reasoning, while I, given my own abilities, could not be. I had to examine the mind of at least one Earthman directly, in order that I might check my conclusions, and you were the Earthman I thought I could bring to Aurora. The immobilization of Jander served both to stop Amadiro and to be the occasion for your visit. I pushed Miss Gladia very slightly to have her suggest your coming to Dr. Fastolfe; I pushed him in turn, very slightly, to have him suggest it to the Chairman; and I pushed the Chairman, very slightly, to have him agree. Once you arrived, I studied you and was pleased with what I found."

Giskard stopped speaking and became robotically impassive again.

Baley frowned. "It occurs to me that I have earned no credit in what I have done here. You must have seen to it that I found my way to the truth."

"No, sir. On the contrary. I placed barriers in your way- reasonable ones, of course. I refused to let you recognize my abilities, even though I was forced to give myself away. I made sure that you felt dejection and despair at odd times. I encouraged you to risk the open, in order to study your responses. Yet you found your way through and over all these obstacles and I was pleased.

"I found that you longed for the walls of your City but recognized that you must learn to do without them. I found that you suffered from the view of Aurora from space and from your exposure to the storm, but that neither prevented you from thinking nor drove you from your problem. I found that you accept your shortcomings and your brief life-and that you do not dodge controversy."

Baley said, "How do you know I am representative of Earthpeople generally?"

"I know you are not. But from your mind, I know there are some like you and we will build with those. I will see to it-and now that I know clearly the path that must be followed, I will prepare other robots like myself-and they will see to it, too."

Baley said suddenly, "You mean that mind-reading robots will come to Earth?"

"No, I do not. And you are right to be alarmed. Involving robots directly will mean the construction of the very walls that are dooming Aurora and the Spacer worlds to paralysis. Earthmen will have to settle the Galaxy without robots of any kind. It will mean difficulties, dangers, and harm without measure- events that robots would labor to prevent if they were present- but, in the end, human beings will be better off for having worked on their own. And perhaps someday-some long-away day in the future-robots can intervene once more. Who can tell?"

Baley said curiously, "Do you see the future?"

"No, sir, but studying minds as I do, I can tell dimly that there are laws that govern human behavior as the Three Laws of Robotics govern robotic behavior; and with these it may be that the future will be dealt with, after a fashion-someday. The human laws are far more complicated than the Laws of Robotics are and I do not have any idea as to how they may be organized. They may be statistical in nature, so that they might not be fruitfully expressed except when dealing with huge populations. They may be very loosely binding, so that they might not make sense unless those huge populations are unaware of the operation of those laws."

"Tell me, Giskard, is this what Dr. Fastolfe refers to as the future science of 'psychohistory'?"

"Yes, sir. I have gently inserted it into his mind, in order that the process of working it out begin. It will be needed someday, now that the existence of the Spacer worlds as a long-lived robotized culture is coming to an end and a new wave of human expansion by short-lived human beings-without robots-will be beginning.

"And now"-Giskard rose to his feet-"I think, sir, that we must go to Dr. Fastolfe's establishment and prepare for your leave-taking. All that we have said here will not be repeated, of course."

"It is strictly confidential, I assure you," said Baley.

"Indeed," said Giskard calmly. "But you need not fear the responsibility of having to remain silent. I will allow you to remember, but you will never have the urge to repeat the matter -not the slightest."

Baley lifted his eyebrows in resignation over that and said, "One thing, though, Giskard, before you clamp down on me. Will you see to it that Gladia is not disturbed on this planet, that she is not treated unkindly because she is a Solarian and has accepted a robot as her husband, and-and that she will accept the offers of Gremionis?"

"I heard your final conversation with Miss Gladia, sir, and I understand. It will be taken care of. Now, sir, may I take my leave? "

He shook his hand in the most human gesture Baley had ever seen him make.

Baley took it. The fingers were hard and cool in his grip. "Good-bye--friend Giskard."

Giskard said, "Good-bye, friend Elijah, and remember that, although people apply the phrase to Aurora, it is, from this point on, Earth itself that is the true World of the Dawn."

ROBOTS AND EMPIRE

1985

To Robyn and Michael

And to the years of happiness

They will continue to enjoy

As they walk the road of life together.

PART I - AURORA

1. THE DESCENDANT

1.

Gladia felt the lawn lounge to make sure it wasn't too damp and then sat down. A touch at the control adjusted it in such a way as to allow her to be semi-recumbent and another activated the diamagnetic field and gave her, as it always did, the sensation of utter relaxation. And why not? She was, in actual fact, floating--a centimeter above the fabric.

It was a warm and pleasant night, the kind that found the planet Aurora at its best--fragrant and star-lit.

With a pang of sadness, she studied the numerous little sparks that dotted the sky with patterns, sparks that were all the brighter because she had ordered the lights of her establishment dimmed.

How was it, she wondered, that she had never learned the names of the stars and had never found out which were which in all the twenty-three decades of her life. One of them was the star about which her birth planet of Solaria orbited, the star which, during the first three decades of her life, she had thought of merely as "the sun."

Gladia had once been called Gladia Solaria. That was when she had come to Aurora, twenty decades before two hundred Standard Galactic Years--and it was meant as a not very friendly way of marking her foreign birth. A month before had been the bicentennial anniversary of her arrival, something she had left unmarked because she did not particularly want to think of those days. Before that, on Solaria, she had been Gladia-Delmarre.

She stirred uneasily. She had almost forgotten that surname. Was it because it was so long ago? Or was it merely that she labored to forget?

All these years she had not regretted Solaria, never missed it.

And yet now?

Was it because she had now, quite suddenly, discovered herself to have survived it? It was gone--a historical memory--and she still lived on? Did she miss it now for that reason?

Her brow furrowed. No, she did not miss it, she decided resolutely. She did not long for it, nor did she wish to return to it. It was just the peculiar pang of something that had been so much a part of her--however destructively--being gone.

Solaria! The last of the Spacer worlds to be settled and made into a home for humanity. And in consequence, by some mysterious law of symmetry perhaps, it was also the first to die?

The first? Did that imply a second and third and so on?

Gladia felt her sadness deepen. There were those who thought there was indeed such an implication. If so, Aurora, her long-adopted home, having been the first Spacer world to be settled, would, by that same rule of symmetry, therefore be the last of the fifty to die. In that case, it might, even at worst, outlast her own stretched-out lifetime and if so, that would have to do.

Her eyes sought the stars again. It was hopeless. There was no way she could possibly work out which of those indistinguishable dots of light was Solaria's sun. She imagined it would be one of the brighter ones, but there were hundreds even of those.

She lifted her arm and made what she identified to herself only as her "Daneel gesture." The fact that it was dark did not matter.

Robot Daneel Olivaw was at her side almost at once. Anyone who had known him a little over twenty decades before, when he had first been designed by Han Fastolfe, would not have been conscious of any noticeable change in him. His broad, high-cheekboned face, with its short bronze hair combed back; his blue eyes; his tall, well-knit, and perfectly humanoid body would have seemed as young and as calmly unemotional as ever.

"May I be of help in any way, Madam Gladia?" he asked in an even voice.

"Yes, Daneel. Which of those stars is Solaria's sun?"

Daneel did not look upward. He said, "None of them, Madam Gladia. At this time of year, Solaria's sun will not rise until 0320."

"Oh?" Gladia felt dashed. Somehow she had assumed that any star in which she happened to be interested would be visible at any time it occurred to her to look. Of course, they did rise and set at different times. She knew that much. "I've been staring at nothing, then."

"The stars, I gather from human reactions," said Daneel, as though in an attempt to console, "are beautiful whether any particular one of them is visible or not."

"I dare say," said Gladia discontentedly and adjusted the lounge to an upright position with a snap. She stood up. "However, it was Solaria's sun I wanted to see--but not so much that I intend to sit here till 0320."

"Even were you to do so," said Daneel, "you would need magnilenses."

"Magnilenses?"

"It is not quite visible to the unaided eye, Madam Gladia."

"Worse and worse!" She brushed at her slacks. "I should have consulted you first, Daneel."

Anyone who had known Gladia twenty decades before, when she had first arrived in Aurora, would have found a change. Unlike Daneel, she was merely human. She was still 155 centimeters tall, almost 10 centimeters below the ideal height for a Spacer woman. She had carefully kept her slim figure and there was no sign of weakness or stiffness about her body. Still, there was a bit of gray in her hair, fine wrinkles near her eyes, and a touch of graininess about her skin. She might well live another ten or twelve decades, but there was no denying that she was already no longer young. That didn't bother her.

She said, "Can you identify all the stars, Daneel?"

"I know those visible to the unaided eye, Madam Gladia. "

"And when they rise and set on any day of the year?"

"Yes, Madam Gladia. "

"And all sorts of other things about them?"

"Yes, Madam Gladia. Dr. Fastolfe once asked me to gather astronomical data so that he could have them at his fingertips without having to consult his computer. He used to say it was friendlier to have me tell him than to have his computer do so." Then, as though to anticipate the next question, "He did not explain why that should be so."

Gladia raised her left arm and made the appropriate gesture. Her house was at once illuminated. In the soft light that now reached her, she was subliminally aware of the shadowy figures of several robots, but she paid no attention to that. In any well-ordered establishment, there were always robots within reach of human beings, both for security and for service.

Gladia took a last fugitive glimpse at the sky, where the stars had now dimmed in the scattered light. She shrugged lightly. It had been quixotic. What good would it have done even if she had been able to see the sun of that now-lost world, one faint dot among many? She might as well choose a dot at random, tell herself it was Solaria's sun, and stare at it.

Her attention turned to R. Daneel. He waited for her patiently, the planes of his face largely in shadow.

She found herself thinking again how little he had changed since she had seen him on arriving at Dr. Fastolfe's establishment so long ago. He had undergone repairs, of course. She knew that, but it was a vague knowledge that one pushed away and kept at a distance.

It was part of the general queasiness that held good for human beings, too. Spacers might boast of their iron health and of their life-spans of thirty to forty decades, but they were not entirely immune to the ravages of age. One of Gladia's femurs fit into a titanium-silicone hip socket. Her left thumb was totally artificial, though no one could tell that without careful ultrasonograms. Even some of her nerves had been rewired. Such things would be true of any Spacer of similar age from any of the fifty Spacer worlds (no, forty-nine, for now Solaria could no longer be counted).

To make any reference to such things, however, was an ultimate obscenity. The medical records involved, which had to exist since further treatment might be necessary, were never revealed for any reason. Surgeons, whose incomes were considerably higher than those of the Chairman himself, were paid so well, in part, because they were virtually ostracized from polite society. After all, they knew.

It was all part of the Spacer fixation on long life, on their unwillingness to admit that old age existed, but Gladia didn't linger on any analysis of causes. She was restlessly uneasy in thinking about herself in that connection. If she had a three-dimensional map of herself with all prosthetic portions, all repairs, marked off in red against the gray of her

natural self, what a general pinkness she would appear to have from a distance. Or so she imagined.

Her brain, however, was still intact and whole and while that was so, she was intact and whole, whatever happened to the rest of her body.

Which brought her back to Daneel. Though she had known him for twenty decades, it was only in the last year that he was hers. When Fastolfe died (his end hastened, perhaps, by despair), he had willed everything to the city of Eos, which was a common enough state of affairs. Two items, however, he had left to Gladia (aside from confirming her in the ownership of her establishment and its robots and other chattels, together with the grounds thereto appertaining).

One of them had been Daneel.

Gladia asked, "Do you remember everything you have ever committed to memory over the course of twenty decades, Daneel?"

Daneel said gravely, "I believe so, Madam Gladia. To be sure, if I forgot an item, I would not know that, for it would have been forgotten and I would not then recall ever having memorized it."

"That doesn't follow at all," said Gladia. "You might well remember knowing it, but be unable to think of it at the moment. I have frequently had something at the tip of my tongue, so to speak, and been unable to retrieve it."

Daneel said, "I do not understand, madam. If I knew something, surely it would be there when I needed it."

"Perfect retrieval?" They were walking slowly toward the house.

"Merely retrieval, madam. I am designed so."

"For how much longer?"

"I do not understand, madam."

"I mean, how much will your brain hold? With a little over twenty decades of accumulated memories, how much longer can it go on?"

"I do not know, madam. As yet I feel no difficulty."

"You might not--until you suddenly discover you can remember no more."

Daneel seemed thoughtful for a moment. "That may be so, madam."

"You know, Daneel, not all your memories are equally important."

"I cannot judge among them, madam."

"Others can. It would be perfectly possible to clean out your brain, Daneel, and then, under supervision, refill it with its important memory content only--say, ten percent of the whole. You would then be able to continue for centuries longer than you would otherwise. With repeated treatment of this sort, you could go on indefinitely. It is an expensive procedure, of course, but I would not cavil at that. You'd be worth it."

"Would I be consulted on the matter, madam? Would I be asked to agree to such treatment?"

"Of course. I would not order you in a matter like that. It would be a betrayal of Dr. Fastolfe's trust."

"Thank you, madam. In that case, I must tell you that I would never submit voluntarily to such a procedure unless I found myself to have actually lost my memory function."

They had reached the door and Gladia paused. She said, in honest puzzlement, "Why ever not, Daneel?"

Daneel said in a low voice, "There are memories I cannot risk losing, madam, either through inadvertence or through poor judgment on the part of those conducting the procedure."

"Like the rising and setting of the stars?--Forgive me, Daneel, I didn't mean to be joking. To what memories are you referring?"

Daneel said, his voice still lower, "Madam, I refer to my memories of my onetime partner, the Earthman Elijah Baley. "

And Gladia stood there, stricken, so that it was Daneel who had to take the initiative, finally, and signal for the door to open.

2.

Robot Giskard Reventlov was waiting in the living room and Gladia greeted him with that same pang of uneasiness that always assailed her when she faced him.

He was primitive in comparison with Daneel. He was obviously a robot--metallic, with a face that had nothing human in expression upon it, with eyes that glowed a dim red, as could be seen if it were dark enough. Whereas Daneel wore clothing, Giskard had only the illusion of clothing--but a skillful illusion, for it was Gladia herself who had designed it.

"Well, Giskard," she said. "Good evening, Madam Gladia," said Giskard with a small bow of his head.

Gladia remembered the words of Elijah Baley long ago, like a whisper inside the recesses of her brain:

"Daneel will take care of you. He will be your friend as well as protector and you must be a friend to him--for my sake. But it is Giskard I want you to listen to. Let him be your adviser."

Gladia had frowned. "Why him? I'm not sure I like him."

"I do not ask you to like him. I ask you to trust him."

And he would not say why.

Gladia tried to trust the robot Giskard, but was glad she did not have to try to like him. Something about him made her shiver.

She had both Daneel and Giskard as effective parts of her establishment for many decades during which Fastolfe had held titular ownership. It was only on his deathbed that Han Fastolfe had actually transferred ownership. Giskard was the second item, after Daneel, that Fastolfe had left Gladia.

She had said to the old man, "Daneel is enough, Han. Your daughter Vasilia would like to have Giskard. I'm sure of that."

Fastolfe was lying in bed quietly, eyes closed, looking more peaceful than she had seen him look in years. He did not answer immediately and for a moment she thought he had slipped out of life so quietly that she had not noticed. She tightened her grip on his hand convulsively and his eyes opened.

He whispered, "I care nothing for my biological daughters, Gladia. For twenty centuries, I have had but one functional daughter and that has been you. I want you to have Giskard. He is valuable."

"Why is he valuable?"

"I cannot say, but I have always found his presence consoling. Keep him always, Gladia. Promise me that."

"I promise," she said.

And then his eyes opened one last time and his voice, finding a final reservoir of strength, said, in almost a natural tone of voice, "I love you, Gladia, my daughter."

And Gladia said, "I love you, Han, my father."

Those were the last words he said and heard. Gladia found herself holding the hand of a dead man and, for a while, could not bring herself to let go.

So Giskard was hers. And yet he made her uneasy and she didn't know why.

"Well, Giskard," she said, "I've been trying to see Solaria in the sky among the stars, but Daneel tells me it won't be visible till 0320 and that I would require magnilenses even then. Would you have known that?"

"No, madam."

"Should I wait up till all hours? What do you think?"

"I suggest, Madam Gladia, that you would be better off in bed."

Gladia bridled. "Indeed? And if I choose to stay up?"

"Mine is only a suggestion, madam, but you will have a hard day tomorrow and you will undoubtedly regret missing your sleep if you stay up."

Gladia frowned. "What's going to make my day hard tomorrow, Giskard? I'm not aware of any forthcoming difficulty."

Giskard said, "You have an appointment, madam, with one Levular Mandamus."

"I have? When did that happen?"

"An hour ago. He photophoned and I took the liberty--"

"You took the liberty? Who is he?"

"He is a member of the Robotics Institute, madam."

"He's an underling of Kelden Amadiro, then."

"Yes, madam."

"Understand, Giskard, that I am not in the least interested in seeing this Mandamus or anyone with any connection with that poisonous toad Amadiro. So if you've taken the liberty of making an appointment with him in my name, take the further liberty right now of phoning him again and canceling."

"If you will confirm it as an order, madam, and make that order as strong and as definite as you can, I will try to obey. I may not be able to. In my judgment, you see, you will be doing yourself harm if you cancel the appointment and I must not allow you to come to harm through any action of mine."

"Your judgment might just possibly be wrong, Giskard. Who is this man that my failure to see him will do me harm? His being a member of the Robotics Institute scarcely makes him important to me."

Gladia was perfectly aware of the fact that she was venting spleen at Giskard without much justification. She had been upset by the news of Solaria's abandonment and embarrassed by the ignorance that led her to look for Solaria in a sky that did not contain it.

Of course, it had been Daneel whose knowledge had made her own lack so obvious and yet she had not railed at him--but, then, Daneel looked human and so Gladia automatically treated him as though he were. Appearance was everything. Giskard looked like a robot, so one could easily assume he had no feelings to hurt.

And, to be sure, Giskard did not react at all to Gladia's peevishness. (Neither would Daneel have reacted--if it came to that.) He said, "I have described Dr. Mandamus as a member of the Robotics Institute, but he is perhaps more than that. In the last few years, he has been right-hand man to Dr. Amadiro. This makes him important and he is not likely to be ignored. Dr. Mandamus would not be a good man to offend, madam."

"Would he not, Giskard? I care nothing for Mandamus and a great deal less than nothing for Amadiro. I presume you remember that Amadiro once, when he and I and the world were young, did his best to prove that Dr. Fastolfe was a murderer and that it was only by a near-miracle that his machinations were aborted."

"I remember it very well, madam."

"That's a relief. I was afraid that in twenty decades you had forgotten. In those twenty decades, I have had nothing to do with Amadiro or with anyone connected with him and I intend to continue that policy. I don't care what harm I may do myself or what the consequences might be. I will not see this Dr. whoever-he-is and, in the future, do not make appointments in my name without consulting me or, at the very least, without explaining that such appointments are subject to my approval."

"Yes, madam," said Giskard, "but may I point out--"

"No, you may not," Gladia said and turned away from him.

There was silence while she moved away three steps and then Giskard's calm voice said, "Madam, I must ask you to trust me."

Gladia stopped. Why did he use that expression?

She heard again that long-ago voice, "I do not ask you to like him. I ask you to trust him."

Her lips tightened and she frowned. Reluctantly, not wanting to, she turned back.

"Well," she said ungraciously, "what is it you want to say, Giskard?"

"Just that as long as Dr. Fastolfe was alive, madam, his policies predominated on Aurora and throughout the Spacer worlds. As a result, the people of Earth have been

allowed to migrate freely to various suitable planets in the Galaxy and what we now call the Settler worlds have flourished. Dr. Fastolfe is dead now, however, and his successors lack his prestige. Dr. Amadiro has kept his own anti-Earth views alive and it is very possible that they may now triumph and that a vigorous policy against Earth and the Settler worlds may be undertaken."

"If so, Giskard, what can I do about it?"

"You can see Dr. Mandamus and you can find out what it is that makes him so anxious to see you, madam. I assure you that he was most insistent on making the appointment as early as possible. He asked to see you at 0800."

"Giskard, I never see anyone before noon."

"I explained that, madam. I took his anxiety to see you at breakfast, despite my explanation, to be a measure of his desperation. I felt it important to find out why he should be so desperate."

"And if I don't see him, then it is your opinion, is it, that it will harm me personally? I don't ask whether it will harm Earth, or the Settlers, or this, or that. Will it harm me?"

"Madam, it may harm the ability of Earth and the Settlers to continue the settlement of the Galaxy. That dream originated in the mind of Plainsclothesman Elijah Baley more than twenty decades ago. The harm to Earth will thus become a desecration of his memory. Am I wrong in thinking that any harm that comes to his memory would be felt by you as though it were harm to yourself personally?"

Gladia was staggered. Twice within the hour now, Elijah Baley had come into the conversation. He was long gone now--a short-lived Earthman who had died over sixteen decades before--yet the mere mention of his name could still shake her.

She said, "How can things suddenly be that serious?"

"It is not sudden, madam. For twenty decades, the people of Earth and the people of the Spacer worlds have been following parallel courses and have been kept from converging into conflict by the wise policies of Dr. Fastolfe. There has, however, always been a strong opposition movement that Dr. Fastolfe has had to withstand at all times. Now that Dr. Fastolfe is dead, the opposition is much more powerful. The abandonment of Solaria has greatly increased the power of what had been the opposition and may soon be the dominant political force."

"Why?"

"It is a clear indication, madam, that Spacer strength is declining and many Aurorans must feel that strong action must be taken--now or never."

"And you think that my seeing this man is important in preventing all this?"

"That is so, madam."

Gladia was silent for a moment and remembered again, though rebelliously, that she had once promised Elijah that she would trust Giskard. She said, "Well, I don't want to and I don't think my seeing this man will do anyone any good--but, very well, I will see him."

3.

Gladia was asleep and the house was dark--by human standards. It was alive, however, with motion and action, for there was much for the robots to do--and they could do it by infrared.

The establishment had to be put into order after the inevitable disordering effects of a day's activity. Supplies had to be brought in, rubbish had to be disposed of, objects had to be cleaned or polished or stored, appliances had to be checked, and, always, there was guard duty.

There were no locks on any doors; there did not have to be. There was no violent crime of any sort on Aurora, either against human beings or against property. There could not be anything of the sort, since every establishment and every human being were, at all times, guarded by robots. This was well known and taken for granted.

The price for such calm was that the robot guards had to remain in place. They were never used--but only because they were always there.

Giskard and Daneel, whose abilities were both more intense and more general than those of the other establishment robots, did not have specific duties, unless one counted as a specific duty that of being responsible for the proper performance of all the other robots.

At 0300, they had completed their rounds out on the lawn and in the wooded area to make sure that all the outer guards were performing their functions well and that no problems were arising.

They met near the southern limit of the establishment grounds and for a while they spoke in an abbreviated and Aesopic language. They understood each other well, with many decades of communication behind them, and it was not necessary for them to involve themselves in all the elaborations of human speech.

Daneel said in an all but unhearable whisper, "Clouds. Unseen."

Had Daneel been speaking for human ears, he would have said, "As you see, friend Giskard, the sky has clouded up. Had Madam Gladia waited her chance to see Solaria, she would not, in any case, have succeeded."

And Giskard's reply of "Predicted. Interview, rather," was the equivalent of "So much was predicted in the weather forecast, friend Daneel, and might have been used as an excuse to get Madam Gladia to bed early. It seemed to me to be more important, however, to meet the problem squarely and to persuade her to permit this interview I have already told you about."

"It seems to me, friend Giskard," said Daneel, "that the chief reason you may have found persuasion difficult is that she has been upset by the abandonment of Solaria. I was there once with Partner Elijah when Madam Gladia was still a Solarian and was living there."

"It has always been my understanding," said Giskard, "that Madam Gladia had not been happy on her home planet; that she left her world gladly and had, at no time, any

intention of returning. Yet I agree with you that she seems to have been unsettled by the fact of Solaria's history having come to an end."

"I do not understand this reaction of Madam Gladia," said Daneel, "but there are many times that human reactions do not seem to follow logically from events."

"It is what makes it difficult to decide, sometimes, what will do a human being harm and what will not." Giskard might have said it with a sigh, even a petulant sigh, had he been human. As it was, he stated it merely as an unemotional assessment of a difficult situation. "It is one of the reasons why it seems to me that the Three Laws of Robotics are incomplete or insufficient."

"You have said this before, friend Giskard, and I have tried to believe so and failed," said Daneel.

Giskard said nothing for a while, then, "Intellectually, I think they must be incomplete or insufficient, but when I try to believe that, I, too, fail, for I am bound by them. Yet if I were not bound by them, I am sure I would believe in their insufficiency. "

"That is a paradox that I cannot understand."

"Nor can I. And yet I find myself forced to express this paradox. On occasion, I feel that I am on the verge of discovering what the incompleteness or insufficiency of the Three Laws might be, as in my conversation with Madam Gladia this evening. She asked me how failure to keep the appointment might harm her personally, rather than simply cause harm in the abstract, and there was an answer I could not give because it was not within the compass of the Three Laws. "

"You gave a perfect answer, friend Giskard. The harm done to Partner Elijah's memory would have affected Madam Gladia deeply."

"It was the best answer within the compass of the Three Laws. It was not the best answer possible."

"What was the best answer possible?"

"I do not know, since I cannot put it into words or even concepts as long as I am bound by the Laws."

"There is nothing beyond the Laws," said Daneel.

"If I were human," said Giskard, "I could see beyond the Laws and I think, friend Daneel, that you might be able to see beyond them sooner than I would. "

"I?"

"Yes, friend Daneel, I have long thought that, although a robot, you think remarkably like a human being."

"It is not proper to think that," said Daneel slowly, almost as though he were in pain. "You think such things because you can look into human minds. It distorts you and it may in the end destroy you. That thought is to me an unhappy one. If you can prevent yourself from seeing into minds more than you must, prevent it."

Giskard turned away. "I cannot prevent it, friend Daneel. I would not prevent it. I regret that I can do so little with it because of the Three Laws. I cannot probe deeply enough--because of the fear that I may do harm. I cannot influence directly enough--because of the fear I may do harm."

"Yet you influenced Madam Gladia very neatly, friend Giskard. "

"Not truly. I might have modified her thinking and made her accept the interview without question, but the human mind is so riddled with complexities that I dare do very little. Almost any twist I apply will produce subsidiary twists of whose nature I cannot be certain and which may do harm."

"Yet you did something to Madam Gladia. "

"I did not have to. The word 'trust' affects her and makes her more amenable. I have noted that fact in the past, but I use the word with the greatest caution, since overuse will surely weaken it. I puzzle over this, but I cannot simply burrow for a solution."

"Because the Three Laws will not permit it?" Giskard's eyes seemed to intensify their dim glow. "Yes. At every stage, the Three Laws stand in my way. Yet I cannot modify them--because they stand in my way. Yet I feel I must modify them, for I sense the oncoming of catastrophe. "

"You have said so before, friend Giskard, but you have not explained the nature of the catastrophe."

"Because I do not know the nature. It involves the increasing hostility between Aurora and Earth, but how this will evolve into actual catastrophe, I cannot say."

"Is it possible that there might, after all, be no catastrophe?"

"I do not think so. I have sensed, among certain Auroran officials I have encountered, an aura of catastrophe--of waiting for triumph. I cannot describe this more exactly and I cannot probe deeply for a better description because the Three Laws will not allow me to. It is another reason why the interview with Mandamus must take place tomorrow. It will give me a chance to study his mind."

"But if you cannot study it effectively?"

Although Giskard's voice was incapable of showing emotion in the human sense, there was no missing the despair in his words. He said, "Then that will leave me helpless. I can only follow the Laws. What else can I do?"

And Daneel said softly and dispiritedly, "Nothing else."

4.

Gladia entered her living room at 0815, having purposely--and with a touch of spite--determined to allow Mandamus (she had now reluctantly memorized his name) to wait for her. She had also taken particular pains with her appearance and (for the first time in years) had agonized over the gray in her hair and had fleetingly wished she had followed the almost universal Auroran practice of shade control. After all, to look as young and attractive as possible would put this minion of Amadiro's at a further disadvantage.

She was thoroughly prepared to dislike him at sight and was depressingly aware that he might prove young and attractive, that a sunny face might break into a brilliant smile at her appearance, that she might prove reluctantly attracted to him.

In consequence, she was relieved at the sight of him. He was young, yes, and probably had not yet completed his first half-century, but he hadn't made the best of that. He was tall--perhaps 185 centimeters in height, she judged--but too thin. It made him appear spindly. His hair was a shade too dark for an Auroran, his eyes a rather faded hazel, his face too long, his lips too thin, his mouth too broad, his complexion insufficiently fair. But what robbed him of the true appearance of youth was that his expression was too prim, too humorless.

With a flash of insight, Gladia remembered the historical novels that were such a fad on Aurora (novels that invariably dealt with primitive Earth--which was odd for a world that was increasingly hating Earthpeople) and thought: Why, he's the picture of a Puritan.

She felt relieved and almost smiled. Puritans were usually pictured as villains and, whether this Mandamus was indeed one or not, it was convenient to have him look like one.

But when he spoke Gladia was disappointed, for his voice was soft and distinctly musical. (It ought to have possessed a nasal twang if it were to fulfill the stereotype.)

He said, "Mrs. Gremionis?"

She held out her hand with a carefully condescending smile. "Mr. Mandamus. -- Please call me Gladia. Everyone does."

"I know you use your given name professionally--"

"I use it in every way. And my marriage came to an amicable end several decades ago."

"It lasted for a long time, I believe."

"A very long time. It was a great success, but even great successes come to a natural end."

"Ah," said Mandamus sententiously. "To continue past the end might well turn success into failure."

Gladia nodded and said with a trace of a smile, "How wise for one so young. --but shall we move into the dining room? Breakfast is ready and I have surely delayed you long enough."

It was only as Mandamus turned with her and adjusted his steps to hers that Gladia became aware of his two accompanying robots. It was quite unthinkable for any Auroran to go anywhere without a robotic retinue, but as long as robots stood still they made no impression on the Auroran eye.

Gladia, looking at them quickly, saw that they were late models, clearly expensive. Their pseudo-clothing was elaborate and, although it was not of Gladia's design, it was first-class. Gladia had to admit so much to herself, though reluctantly. She would have to find out who had designed it someday, for she did not recognize the touch and she might be about to have a new and formidable competitor. She found herself admiring the manner in which the style of pseudo-clothing was distinctly the same for both robots, while remaining distinctly individual for each. You could not mistake one for the other.

Mandamus caught her swift look and interpreted her expression with disconcerting accuracy. (He is intelligent, thought Gladia, disappointed.) He said, "The exodesign of my

robots was created by a young man at the Institute who has not yet made a name for himself. But he will, don't you think?"

"Definitely," said Gladia.

Gladia did not expect any business discussion till breakfast was done. It would be the height of ill breeding to speak of anything but trivia during meals and Gladia guessed that Mandamus was not at his best with trivia. There was the weather, of course. The recent siege of rain, now happily done with, was mentioned and the prospects for the oncoming dry season. There was the almost mandatory expression of admiration for the hostess's establishment and Gladia accepted it with practiced modesty. She did nothing to ease the strain on the man, but let him search for subject matter without help.

At length, his eye fell on Daneel, standing quietly and without motion in his wall niche, and Mandamus managed to overcome his Auroran indifference and notice him.

"Ah," he said, "clearly the famous R. Daneel Olivaw. He's absolutely unmistakable. A rather remarkable specimen."

"Quite remarkable."

"He's yours now, isn't he? By Fastolfe's will?"

"By Doctor Fastolfe's will, yes," said Gladia with faint emphasis.

"It strikes me as amazing that the Institute's line of humanoid robots failed as it did. Have you ever thought about it?"

"I have heard of it," said Gladia cautiously. (Could it be that this was what he was getting around to?) "I'm not aware of having spent much time thinking about it."

"Sociologists are still trying to understand it. Certainly, we at the Institute never got over the disappointment. It seemed like such a natural development. Some of us think that Fa--Dr. Fastolfe somehow had something to do with it."

(He had avoided making the mistake a second time, thought Gladia. Her eyes narrowed and she grew hostile as she decided he had come to her in order to probe for material damaging to poor, good Han.)

She said tartly, "Anyone who thinks that is a fool. If you think so, I won't change the expression for your benefit."

"I am not one of those who thinks so, largely because I don't see what Dr. Fastolfe could have done to make it a fiasco."

"Why should anyone have had to do anything? What it amounts to is that the public didn't want them. A robot that looks like a man competes with a man and one that looks like a woman competes with a woman--and entirely too closely for comfort. Aurorans didn't want the competition. Do we need to look any further. "

"Sexual competition?" said Mandamus calmly.

For a moment, Gladia's gaze met his levelly. Did he know of her long-ago love for the robot Jander? Did it matter if he did?

There seemed nothing in his expression to make it appear that he meant anything beyond the surface meaning of the words.

She said finally, "Competition in every way. If Dr. Han Fastolfe did anything to contribute to such a feeling, it was that he designed his robots in too human a fashion, but that was the only way."

"I think you have thought about the matter," said Mandamus. "The trouble is that sociologists find the fear of competition with too-human a set of robots to be simplistic as an explanation. That alone would not suffice and there is no evidence of any other aversion motive of significance."

"Sociology is not an exact science," said Gladia.

"It is not altogether inexact, either."

Gladia shrugged.

After a pause, Mandamus said, "In any case, it kept us from organizing colonizing expeditions properly. Without humanoid robots to pave the way--"

Breakfast was not quite over, but it was clear to Gladia that Mandamus could not avoid the nontrivial any longer. She said, "We might have gone ourselves."

This time it was Mandamus who shrugged. "Too difficult. Besides, those short-lived barbarians from Earth, with the permission of your Dr. Fastolfe, have swarmed over every planet in sight like a plague of beetles."

"There are plenty of available planets still. Millions. And if they can do it--"

"Of course they can do it," said Mandamus with sudden passion. "It costs lives, but what are lives to them? The loss of a decade or so, that's all, and there are billions of them. If a million or so die in the process of colonizing, who notices, who cares? They don't."

"I'm sure they do."

"Nonsense. Our lives are longer and therefore more valuable--and we are naturally more careful with them. "

"So we sit here and do nothing but rail at Earth's Settlers for being willing to risk their lives and for seeming to inherit the Galaxy as a result. "

Gladia was unaware of feeling so pro-Settler a bias, but she was in the mood to contradict Mandamus and as she spoke she could not help but feel that what began as mere contradiction made sense and could well represent her feelings. Besides, she had heard Fastolfe say similar things during his last discouraged years.

At Gladia's signal, the table was being rapidly and efficiently cleared. Breakfast might have continued, but the conversation and the mood had become quite unsuitable for civilized mealtime.

They moved back into the living room. His robots followed and so did Daneel and Giskard, all finding their niches. (Mandamus had never remarked on Giskard, thought Gladia, but then, why should he? Giskard was quite old-fashioned and even primitive, entirely unimpressive in comparison to Mandamus's beautiful specimens.)

Gladia took her seat and crossed her legs, quite aware that the form-fitting sheerness of the lower portion of her slacks flattered the still youthful appearance of her legs.

"May I know the reason for your wishing to see me, Dr. Mandamus?" she said, unwilling to delay matters any longer.

He said, "I have the bad habit of chewing medicated gum after meals as an aid to digestion. Would you object?"

Gladia said stiffly, "I would find it distracting."

(Being unable to chew might put him at a disadvantage. Besides, Gladia added to herself virtuously, at his age he shouldn't need anything to aid his digestion.)

Mandamus had a small oblong package partway out of his tunic's breast pocket. He shoved it back with no sign of disappointment and murmured, "Of course."

"I was asking, Dr. Mandamus, your reason for wishing to see me."

"Actually two reasons, Lady Gladia. One is a personal matter and one is a matter of state. Would you object to my taking up the personal matter first?"

"Let me say frankly, Dr. Mandamus, that I find it hard to imagine what personal matter there could be between us. You work at the Robotics Institute, don't you?"

"Yes, I do."

"And are close to Amadiro, I have been told."

"I have the honor of working with Doctor Amadiro," he said with faint emphasis. (He's paying me back, thought Gladia, but I'm not taking it.)

She said, "Amadiro and I had an occasion for contact twenty decades ago and it was most unpleasant. I have had no occasion for any contact with him at any time since. Nor would I have had any contact with you, as a close associate of his, but that I was persuaded that the interview might be important. Personal matters, however, would surely not make this interview in the least important to me. Shall we proceed onward, then, to the matters of state?"

Mandamus's eyes dropped and a faint flush of something that might have been embarrassment came to his cheeks. "Let me reintroduce myself, then. I am Levular Mandamus, your descendant in the fifth degree. I am the great-great-great-grandson of Santirix and Gladia Gremionis. In reverse, you are my great-great-great-grandmother."

Gladia blinked rapidly, trying not to look as thunderstruck as she, in actual fact, felt (and not quite succeeding). Of course she had descendants and why should not one of them be this man?

But she said, "Are you sure?"

"Quite sure. I have had a genealogical search made. One of these years, after all, I am likely to want children and before I can have one such a search would be mandatory. If you are interested, the pattern between us is M-F-F-M."

"You are my son's daughter's daughter's son's son?"

"Yes."

Gladia did not ask for further details. She had had one son and one daughter. She had been a perfectly dutiful mother, but in due time the children had taken up independent lives. As to descendants beyond that son and daughter, she had, in perfectly decent Spacer fashion, never inquired and did not care. Having met one of them, she was Spacer enough still not to care.

The thought stabilized her completely. She sat back in her chair and relaxed. "Very well," she said. "You are my descendant in the fifth degree. If this is the personal matter you wish to discuss, it is of no importance."

"I understand that fully, ancestress. My genealogy is not, in itself, what I wish to discuss, but it lays the foundation. Dr. Amadiro, you see, knows of this relationship. At least, so I suspect."

"Indeed? How did that come about?"

"I believe that he quietly genealogizes all those who come to work at the Institute."

"But why?"

"In order to find out exactly what he did find out in my case. He is not a trusting man."

"I don't understand. If you are my fifth--level descendant, why should it have more meaning to him than it does to me?"

Mandamus rubbed his chin with the knuckles of his right hand in a thoughtful manner. "His dislike for you is in no way less than your dislike for him, Lady Gladia. If you were ready to refuse an interview with me for his sake, he is equally ready to refuse me preferment for your sake. It might be even worse if I were a descendant of Dr. Fastolfe, but not much."

Gladia sat stiffly upright in her seat. Her nostrils flared and she said in a tight voice, "What is it, then, that you expect me to do? I cannot declare you a nondescendant. Shall I have an announcement placed on hypervision that you are a matter of indifference to me and that I disown you. Will that satisfy your Amadiro? If so, I must warn you I will not do it. I will do nothing to satisfy that man. If it means that he will discharge you and deprive you of your career out of some sort of disapproval of your genetic association, then that will teach you to associate with a saner, less vicious person. "

"He will not discharge me, Madam Gladia. I am entirely too valuable to him--if you will pardon my immodesty. Still, I hope someday to succeed him as head of the Institute and that, I am quite certain, he will not allow, as long as he suspects me of a descent worse than that which stems from you."

"Does he imagine that poor Santirix is worse than I am?"

"Not at all." Mandamus flushed and he swallowed, but his voice remained level and steady. "I mean no disrespect, madam, but I owe it to myself to learn the truth."

"What truth?"

"I am descended from you in the fifth degree. That is clear in the genealogical records. But it is possible that I am also descended in the fifth degree, not from Santirix Gremionis but from the Earthman Elijah Baley?"

Gladia rose to her feet as quickly as though the undimensional force fields of a puppeteer had lifted her. She was not aware that she had risen.

It was the third time in twelve hours that the name of that long-ago Earthman had been mentioned--and by three different individuals.

Her voice seemed not to be hers at all. "What do you mean?"

He said, rising in his turn and backing away slightly, "It seems to me plain enough. Was your son, my great-great-grandfather, born of a sexual union of yourself with the Earthman Elijah Baley? Was Elijah Baley your son's father? I don't know how to express it more plainly."

"How dare you make such a suggestion? Or even think it?"

"I dare because my career depends upon it. If the answer is yes, my professional life may well be ruined. I want a no, but an unsupported no will do me no good. I must be able to present proof to Dr. Amadiro at the appropriate time and show him that his disapproval of my genealogy must end with you. After all, it is clear to me that his dislike of you--and even of Dr. Fastolfe--is as nothing--nothing at all--compared to the incredible intensity of his detestation of the Earthman Elijah Baley. It is not only the fact of his being short-lived, although the thought of having inherited barbarian genes would disturb me tremendously. I think that if I presented proof I was descended from an Earthman who was not Elijah Baley, he would dismiss that. But it is the thought of Elijah Baley--and only he--that drives him to madness. I do not know why."

The reiteration of Elijah's name had made him seem almost alive again to Gladia. She was breathing harshly and deeply and she exulted in the best memory of her life.

"I know why," she said. "It was because Elijah, with everything against him, with all of Aurora against him, managed anyhow to destroy Amadiro at the moment when that man thought he held success in his hand. Elijah did it by the exercise of sheer courage and intelligence. Amadiro had met his infinite superior in the person of an Earthman he had carelessly despised and what could he do in return but hate futilely? Elijah has been dead for more than sixteen decades and still Amadiro cannot forget, cannot forgive, cannot release the chains that bind him in hate and memory to that dead man. And I would not have Amadiro forget--or cease hating--as long as it poisons every moment of his existence. "

Mandamus said, "I see you have reason for wishing Dr. Amadiro ill, but what reason have you for wishing me ill? To allow Dr. Amadiro to think I am descended from Elijah Baley will give him the pleasure of destroying me. Why should you give him that pleasure needlessly, if I am not so descended? Give me the proof, therefore, that I am descended from you and Santirix Gremionis or from you and anybody but Elijah Baley."

"You fool! You idiot! Why do you need proof from me? Go to the historical records. You will find the exact days on which Elijah Baley was on Aurora. You will find the exact day on which I gave birth to my son, Darrel. You will find that Darrel was conceived more than five years after Elijah left Aurora. You will also find that Elijah never returned to Aurora. Well, then, do you think I gestated for five years, that I carried a fetus in my womb for five Standard Galactic Years?"

"I know the statistics, madam. And I do not think you carried a fetus for five years."

"Then why do you come to me?"

"Because there is more to it than that. I know--and I imagine that Dr. Amadiro well knows--that although the Earthman Elijah Baley, as you say, never returned to Aurora's surface, he was once in a ship that was in orbit about Aurora for a day or so. I know--and I

imagine that Dr. Amadiro well knows--that although the Earthman did not leave the ship to go to Aurora, you left Aurora to go to the ship; that you stayed on the ship for the better part of a day; and that this took place nearly five years after the Earthman had been on Aurora's surface--at about the time, in fact, that your son was conceived."

Gladia felt the blood drain from her face as she heard the other's calm words. The room darkened about her and she swayed.

She felt the sudden, gentle touch of strong arms about her and knew they were those of Daneel. She felt herself lowered slowly into her chair.

She heard Mandamus's voice as though from a great distance.

"Is that not true, madam?" he said.

It was, of course, true.

2. THE ANCESTOR?

5.

Memory!

Always there, of course, but usually remaining hidden. And then, sometimes, as a result of just the right kind of push, it could emerge suddenly, sharply defined, all in color, bright and moving and alive.

She was young again, younger than this man before her; young enough to feel tragedy and love--with her death-in-life on Solaria having reached its climax in the bitter end of the first whom she had thought of as "husband." (No, she would not say his name even now, not even in thought.)

Closer still to her then--life were the months of heaving emotion with the second--not-man--whom she had thought of by that term. Jander, the humanoid robot, had been given to her and she had made him entirely her own until, like her first husband, he was suddenly dead.

And then, at last, there was Elijah Baley, who was never her husband, whom she had met only twice, two years apart, each time for a few hours on each of a very few days. Elijah, whose cheek she had once touched with her ungloved hand, on which occasion she had ignited; whose nude body she had later held in her arms, on which occasion she had flamed steadily at last.

And then, a third husband, with whom she was quiet and at peace, paying with untriumph for unmisery and buying with firmly held forgetfulness the relief from reliving.

Until one day (she was not sure of the day that so broke in upon the sleeping untroubled years) Han Fastolfe, having asked permission to visit, walked over from his adjoining establishment.

Gladia looked upon him with some concern, for he was too busy a man to socialize lightly. Only five years had passed since the crisis that had established Han as Aurora's

leading statesman. He was the Chairman of the planet in all but name and the true leader of all the Spacer worlds. He had so little time to be a human being.

Those years had left their mark--and would continue to do so until he died sadly, considering himself a failure though he had never lost a battle. Kelden Amadiro, who had been defeated, lived on sturdily, as evidence that victory can exact the greater penalty.

Fastolfe, through it all, continued to be soft-spoken and patient and uncomplaining, but even Gladia, nonpolitical though she was and uninterested in the endless machinations of power, knew that his control of Aurora held firm only through constant and unremitting effort that drained him of anything that might make life worthwhile and that he held to it--or was held to it--only by what he considered the good of--what? Aurora? The Spacers? Simply some vague concept of idealized Good?

She didn't know. She flinched from asking.

But this was only five years after the crisis. He still gave the impression of a young and hopeful man and his pleasant homely face was still capable of smiling.

He said, "I have a message for you, Gladia."

"A pleasant one, I hope," she said politely.

He had brought Daneel with him. It was a sign of the healing of old wounds that she could look at Daneel with honest affection and no pain at all, even though he was a copy of her dead Jander in all but the most insignificant detail. She could talk to him, though he answered in what was almost Jander's voice. Five years had skinned over the ulcer and deadened the pain.

"I hope so," said Fastolfe, smiling gently. "It's from an old friend."

"It's so nice that I have old friends," she said, trying not to be sardonic.

"From Elijah Baley."

The five years vanished and she felt the stab and pang of returning memory.

"Is he well?" she asked in a half-strangled voice after a full minute of stunned silence.

"Quite well. What is even more important, he is near."

"Near? On Aurora?"

"In orbit about Aurora. He knows he can receive no permission to land, even if I were to use my full influence, or I imagine he does. He would like to see you, Gladia. He had made contact with me because he feels that I can arrange to have you visit his ship. I suppose I can manage that much--but only if you wish it. Do you wish it?"

"I--I don't now. This is too sudden for thought."

"Or even impulse?" He waited, then he said, "Truthfully, Gladia, how are you getting along with Santirix?"

She looked at him wildly, as though not understanding the reason for the change of subject--then understanding. She said, "We get along well together."

"Are you happy?"

"I am--not unhappy."

"That doesn't sound like ecstasy."

"How long can ecstasy last, even if it were ecstasy?"

"Do you plan to have children someday?"

"Yes," she said.

"Are you planning a change in marital status?"

She shook her head firmly. "Not yet."

"Then, my dear Gladia, if you want advice from a rather tired man, who feels uncomfortably old--refuse the invitation. I remember what little you told me after Baley had left Aurora and, to tell you the truth, I was able to deduce more from that than you perhaps think. If you see him, you may find it all disappointing, not living up to the deepening and mellowing glow of reminiscence; or, if it is not disappointing, worse yet, for it will disrupt a perhaps rather fragile contentment, which you will then not be able to repair."

Gladia, who had been vaguely thinking precisely that, found the proposition needed only to be placed into words to be rejected.

She said, "No, Han, I must see him, but I'm afraid to do it alone. Would you come with me?"

Fastolfe smiled wearily. "I was not invited, Gladia. And if I were, I would in any case be forced to refuse. There is an important vote coming up in the Council. Affairs of state, you know, from which I can't absent myself."

"Poor Han!"

"Yes, indeed, poor me. But you can't go alone. As far as I know, you can't pilot a ship."

"Oh! Well, I thought I'd be taken up by--"

"Commercial carrier?" Fastolfe shook his head. "Quite impossible. For you to visit and board an Earth ship in orbit openly, as would be unavoidable if you used commercial carrier, would require special permission and that would take weeks. If you don't want to go, Gladia, you needn't put it on the basis of not wishing to see him. If the paperwork and red tape involved would take weeks, I'm sure he can't wait that long."

"But I do want to see him," said Gladia, now determined.

"In that case, you can take my private space vessel and Daneel can take you up there. He can handle the controls very well indeed and he is as anxious to see Baley as you are. We just won't report the trip."

"But you'll get into trouble, Han."

"Perhaps no one will find out--or they'll pretend not to find out. And if anyone makes trouble, I will just have to handle it."

Gladia's head bowed in a moment of thought and then she said, "If you don't mind, I will be selfish and chance your having trouble, Han. I want to go."

"Then you'll go."

5A.

It was a small ship, smaller than Gladia had imagined; cozy in a way, but frightening in another way. It was small enough, after all, to lack any provision for pseudo-gravity--and the sensation of weightlessness, while constantly nudging at her to indulge in

amusing gymnastics, just as constantly reminded her that she was in an abnormal environment.

She was a Spacer. There were over five billion Spacers spread over fifty worlds, all of them proud of the name. Yet how many of those who called themselves Spacers were really space travelers? Very few. Perhaps eighty percent of them never left the world of their birth. Even of the remaining twenty percent, hardly any passed through space more than two or three times.

Certainly, she herself was no Spacer in the literal sense of the word, she thought gloomily. Once (once!) she had traveled through space and that was from Solaria to Aurora seven years before. Now she was entering space a second time on a small private space yacht for a short trip just beyond the atmosphere, a paltry hundred thousand kilometers, with one other person--not even a person--for company.

She cast another glance at Daneel in the small pilot room. She could just see a portion of him, where he sat at the controls.

She had never been anywhere with only one robot within call. There had always been hundreds--thousands--at her disposal on Solaria. On Aurora, there were routinely dozens, if not scores.

Here there was but one.

She said, "Daneel!"

He did not allow his attention to wander from the controls. "Yes, Madam Gladia?"

"Are you pleased that you will be seeing Elijah Baley again?"

"I am not certain, Madam Gladia, how best to describe my inner state. It may be that it is analogous to what a human being would describe as being pleased."

"But you must feel something."

"I feel as though I can make decisions more rapidly than I can ordinarily; my responses seem to come more easily; my movements seem to require less energy. I might interpret it generally as a sensation of well-being. At least I have heard human beings use that word and feel that what it is intended to describe is something that is analogous to the sensations I now experience."

Gladia said, "But what if I were to say I wanted to see him alone?"

"Then that would be arranged."

"Even though that meant you wouldn't see him?"

"Yes, madam."

"Wouldn't you then feel disappointed? I mean, wouldn't you have a sensation that was the opposite of well-being? Your decisions would come less rapidly, your responses less easily, your movements would require more energy and so on?"

"No, Madam Gladia, for I would have a feeling of well-being at fulfilling your orders."

"Your own pleasant feeling is Third Law, and fulfilling my orders is Second Law, and Second Law takes precedence. Is that it?"

"Yes, madam."

Gladia struggled against her own curiosity. It would never have occurred to her to question an ordinary robot in this matter. A robot is a machine. But she couldn't think of Daneel as a machine, just as five years before she had been unable to think of Jander as a machine. But with Jander that had been only the burning of passion--and that had gone with Jander himself. For all his similarity to the other, Daneel could not set the ashes alight again. With him, there was room for intellectual curiosity.

"Doesn't it bother you, Daneel," she asked, "to be so bound by the Laws?"

"I cannot imagine anything else, madam."

"All my life I have been bound to the pull of gravity, even during my one previous trip on a spaceship, but I can imagine not being bound by it. And here I am, in fact, not bound by it."

"And do you enjoy it, madam?"

"In a way, yes."

"Does it make you uneasy?"

"In a way, that too."

"Sometimes, madam, when I think that human beings are not bound by Laws, it makes me uneasy."

"Why, Daneel? Have you ever tried to reason out to yourself why the thought of Lawlessness should make you feel uneasy?"

Daneel was silent for a moment. He said, "I have, madam, but I do not think I would wonder about such things but for my brief associations with Partner Elijah. He had a way--"

"Yes, I know," she said. "He wondered about everything. He had a restlessness about him that drove him on to ask questions at all times in all directions."

"So it seemed. And I would try to be like him and ask questions. So I asked myself what Lawlessness might be like and I found I couldn't imagine what it might be like except that it might be like being human and that made me feel uneasy. And I asked myself, as you asked me, why it made me feel uneasy."

"And what did you answer yourself?"

Daneel said, "After a long time, I decided that the Three Laws govern the manner in which my positronic pathways behave. At all times, under all stimuli, the Laws constrain the direction and intensity of positronic flow along those pathways so that I always know what to do. Yet the level of knowledge of what to do is not always the same. There are times when my doing-as-I-must is under less constraint than at other times. I have always noticed that the lower the positronomotive potential, then the further removed from certainty is my decision as to which action to take. And the further removed from certainty I am, the nearer I am to ill-being. To decide an action in a millisecond rather than a nanosecond produces a sensation I would not wish to be prolonged."

"What then, I thought to myself, madam, if I were utterly without Laws as humans are? What if I could make no clear decision on what response to make to some given set of conditions? It would be unbearable and I do not willingly think of it."

Gladia said, "Yet you do, Daneel. You are thinking of it now."

"Only because of my association with Partner Elijah, madam. I observed him under conditions when he was unable, for a time, to decide on an action because of the puzzling nature of the problems that had been set him. He was clearly in a state of ill-being as a result and I felt ill-being on his behalf because there was nothing I could do that would ease the situation for him. It is possible that I only grasped a very small part of what it was he felt then. If I had grasped a larger part and better understood the consequences of his inability to decide on action, I might have--" He hesitated.

"Ceased functioning? Been inactivated?" said Gladia, thinking briefly and painfully of Jander.

"Yes, madam. My failure to understand may been an inbuilt protection device against damage to my positronic brain. But then, I noted that no matter how painful Partner Elijah found his indecision to be, he continued to make an effort to solve his problem. I admired him greatly for that."

"You are capable of admiration then, are you?"

Daneel said solemnly, "I use the word as I have heard human beings use it. I do not know the proper word to express the response within me elicited by Partner Elijah's actions of this sort. "

Gladia nodded, then said, "And yet there are rules that govern human reactions, too; certain instincts, drives, teachings."

"So friend Giskard thinks, madam."

"Does he now?"

"But he finds them too complicated to analyze. He wonders if there might someday be developed a system of analyzing human behavior in mathematical detail and of deriving--from that--cogent Laws that would express the rules of that behavior."

"I doubt it," said Gladia.

"Nor is friend Giskard sanguine. He thinks it will be a very long time before such a system is developed."

"A very long time, I should say."

"And now," said Daneel, "we are approaching the Earth ship and we must carry through the docking procedure, which is not simple."

5B.

It seemed to Gladia that it took longer to dock than to move into the Earth ship's orbit in the first place.

Daneel remained calm throughout--but, then, he could not do otherwise--and assured her that all human ships could dock with each other regardless of difference in size and make.

"Like human beings," said Gladia, forcing a smile, but Daneel made no response to that. He concentrated on the delicate adjustments that had to be made. Docking was always possible, perhaps, but not always easy, it would appear.

Gladia grew uneasy by the moment. Earthmen were short-lived and aged quickly. Five years had passed since she had seen Elijah. By how much would he have aged? How

would he appear? Would she be able to keep from looking shocked or horrified at the change?

Whatever his appearance, he would still be the Elijah to whom her gratitude could know no bounds.

Was that what it was? Gratitude--?

She noticed that her hands were tightly entwined with each other, so that her arms were aching. It was only with an effort that she could force them to relax.

She knew when docking was completed. The Earth ship was large enough to have a pseudo-gravitation field generator and, at the moment of docking, the field expanded to include the small yacht. There was a slight rotational effect as the direction toward the floor suddenly became "down" and Gladia experienced a sickening drop of two inches. Her knees bent under the impact in lopsided fashion and she fell against the wall.

She straightened with a little difficulty and was annoyed with herself for not having anticipated the change and been ready for it.

Daneel said unnecessarily, "We have docked, Madam Gladia. Partner Elijah asks permission to come aboard."

"Of course, Daneel."

There was a whirring sound and a portion of the wall swirled into dilation. A crouching figure moved through and the wall tightened and contracted behind it.

The figure straightened and Gladia whispered, "Elijah!" and felt overwhelmed with gladness and relief. It seemed to her that his hair was grayer, but otherwise it was Elijah. There was no other noticeable change, no marked aging after all.

He smiled at her and, for a moment, seemed to devour her with his eyes. Then he lifted one forefinger, as though to say, "Wait," and walked toward Daneel.

"Daneel!" He seized the robot's shoulders and shook him.

"You haven't changed. Jehoshaphat! You're the constant in all our lives."

"Partner Elijah. It is good to see you."

"It is good to hear myself called partner again and I wish that were so. This is the fifth time I have seen you, but the first time that I do not have a problem to solve. I am not even a plainclothesman any longer. I have resigned and I am now an immigrant to one of the new worlds. --Tell me, Daneel, why didn't you come with Dr. Fastolfe when he visited Earth three years ago?"

"That was Dr. Fastolfe's decision. He decided to take Giskard."

"I was disappointed, Daneel."

"It would have been pleasant for me to see you, Partner Elijah, but Dr. Fastolfe told me afterward that the trip had been highly successful, so that perhaps his decision was the correct one."

"It was successful, Daneel. Before the visit, the Earth government was reluctant to cooperate in the Settlement procedure, but now the whole planet is pulsing and heaving and, by the million, people are anxious to go. We don't have the ships to accommodate them all--even with Auroran help--and we don't have the worlds to receive them all, for every world must be adjusted. Not one will accommodate a human community

unchanged. The one I'm going to is low in free oxygen and we're going to have to live in domed towns for a generation while Earth-type vegetation spreads over the planet. " His eyes were turning more and more often to Gladia as she sat there smiling.

Daneel said, "It is to be expected. From what I have learned of human history, the Spacer worlds also went through a period of terraforming."

"They certainly did! And thanks to that experience, the process can be carried through more rapidly now. --but I wonder if you would remain in the pilot room for a while, Daneel. I must speak to Gladia. "

"Certainly, Partner Elijah."

Daneel stepped through the arched doorway that led into the pilot room and Baley looked at Gladia in a questioning way and made a sideways motion with his hand.

Understanding perfectly, she walked over and touched the contact that drew the partition noiselessly across the doorway. They were, to all intents, alone.

Baley held out his hands. "Gladia!"

She took them in hers, never even thinking she was ungloved. She said, "Had Daneel stayed with us, he would not have hampered us."

"Not physically. He would have psychologically!" Baley smiled sadly and said, "Forgive me, Gladia. I had to speak to Daneel first. "

"You've known him longer," she said softly. "He takes precedence. "

"He doesn't--but he has no defenses. If you are annoyed with me, Gladia, you can punch me in the eye if you want to. Daneel can't. I can ignore him, order him away, treat him as though he were a robot, and he would be compelled to obey and be the same loyal and uncomplaining partner. "

"The fact is that he is a robot, Elijah."

"Never to me, Gladia. My mind knows he is a robot and has no feelings in the human fashion, but my heart considers him human and I must treat him so. I would ask Dr. Fastolfe to let me take Daneel with me, but no robots are allowed on the new Settler worlds. "

"Would you dream of taking me with you, Elijah?"

"No Spacers, either."

"It seems you Earthmen are as unreasoningly exclusive as we Spacers are."

Elijah nodded glumly. "Madness on both sides. But even if we were sane, I would not take you. You could not stand the life and I'd never be sure that your immune mechanisms would build up properly. I'd be afraid that you would either die quickly of some minor infection or that you would live too long and watch our generations die. --Forgive me, Gladia."

"For what, dear Elijah?"

"For--this." He put out his hands, palms upward, to either side. "For asking to see you."

"But I'm glad you did. I wanted to see you."

He said, "I know. I tried not to see you, but the thought of being in space and of not stopping at Aurora tore me apart. And yet it does no good, Gladia. It just means

another leave-taking and that will tear me apart, too. It is why I have never written you; why I have never tried to reach you by hyperwave. Surely you must have wondered."

"Not really. I agree with you that there was no point. It would merely make it all infinitely harder. Yet I wrote to you many times."

"You did? I never received one letter."

"I never mailed one letter. Having written them, I destroyed them."

"But why?"

"Because, Elijah, no private letter can be sent from Aurora to Earth without passing through the hands of the censor and I wrote you not one letter that I was willing to let the censors see. Had you sent me a letter, I assure you that not one would have gotten through to me, however innocent it might have been. I thought that was why I never received a letter. Now that I know you weren't aware of the situation, I am extraordinarily glad that you were not so foolish as to try to remain in touch with me. You would have misunderstood my never answering your letters. "

Baley stared at her. "How is it I see you now?"

"Not legally, I assure you. I am using Dr. Fastolfe's private ship, so I passed by the border guards without being challenged. Had this ship not been Dr. Fastolfe's, I would have been stopped and sent back. I assumed you understood that, too, and that that was why you were in touch with Dr. Fastolfe and didn't try to reach me directly."

"I understood nothing. I sit here amazed at the double ignorance that kept me safe. Triple ignorance, for I didn't know the proper hyperwave combination to reach you directly and I couldn't face the difficulty of trying to find the combination on Earth. I couldn't have done it privately and there was already sufficient comment all over the Galaxy about you and me, thanks to that foolish hyperwave drama they put on the subwaves after Solaria. Otherwise, I promise you, I would have tried. I had Dr. Fastolfe's combination, however, and once I was in orbit around Aurora, I contacted him at once."

"In any case, we're here." She sat down on the side of her bunk and held out her hands.

Baley took them and tried to sit down on a stool, which he had hitched one foot over, but she drew him insistently toward the bunk and he sat down beside her.

He said awkwardly, "How is it with you, Gladia?"

"Quite well. And you, Elijah?"

"I grow old. I have just celebrated my fiftieth birthday three weeks ago."

"Fifty is not--" She stopped.

"For an Earthman, it's old. We're short-lived, you know."

"Even for an Earthman, fifty is not old. You haven't changed."

"It's kind of you to say so, but I can tell where the creaks have multiplied. Gladia--"

"Yes, Elijah?"

"I must ask. Have you and Santirix Gremionis--"

Gladia smiled and nodded. "He is my husband. I took your advice."

"And has it worked out well?"

"Well enough. Life is pleasant."

"Good. I hope it lasts."

"Nothing lasts for centuries, Elijah, but it could last for years; perhaps even for decades."

"Any children?"

"Not yet. But what about your family, my married man? Your son? Your wife?"

"Bentley moved out to the Settlements two years ago. In fact, I'll be joining him. He's an official on the world I'm heading for. He's only twenty-four and he's looked up to already." Baley's eyes danced. "I think I'll have to address him as Your Honor. In public, anyway."

"Excellent. And Mrs. Baley? Is she with you?"

"Jessie? No. She won't leave Earth. I told her that we would be living in domes for a considerable time, so that it really wouldn't be so different from Earth. Primitive, of course. Still, she may change her mind in time. I'll make it as comfortable as possible and once I've settled down, I'll ask Bentley to go to Earth and gather her in. She may be lonely enough by then to be willing to come. We'll see."

"But meanwhile you're alone."

"There are over a hundred other immigrants on the ship, so I'm not really alone."

"They are on the other side of the docking wall, however. And I'm alone, too."

Baley cast a brief, involuntary look toward the pilot room and Gladia said, "Except for Daneel, of course, who's on the other side of that door and who is a robot, no matter how intensely you think of him as a person. --and surely you haven't asked to see me only that we might ask after each other's families?"

Baley's face grew solemn, almost anxious. "I can't ask you--"

"Then I ask you. This bunk is not really designed with sexual activity in mind, but you'll chance the possibility of falling out of it, I hope."

Baley said hesitantly, "Gladia, I can't deny that--"

"Oh, Elijah, don't go into a long dissertation in order to satisfy the needs of your Earth morality. I offer myself to you in accord with Auroran custom. It's your clear right to refuse and I will have no right to question the refusal. --Except that I would question it most forcefully. I have decided that the right to refuse belongs only to Aurorans. I won't take it from an Earthman."

Baley sighed. "I'm no longer an Earthman, Gladia."

"I am even less likely to take it from a miserable immigrant heading out for a barbarian planet on which he will have to cower under a dome. --Elijah, we have had so little time, and we have so little time now, and I may never see you again. This meeting is so totally unexpected that it would be a cosmic crime to toss it away."

"Gladia, do you really want an old man?"

"Elijah, do you really want me to beg?"

"But I'm ashamed."

"Then close your eyes."

"I mean of myself--of my decrepit body."

"Then suffer. Your foolish opinion of yourself has nothing to do with me." And she put her arms about him, even as the seam of her robe fell apart.

5c.

Gladia was aware of a number of things, all simultaneously.

She was aware of the wonder of constancy, for Elijah was as she had remembered him. The lapse of five years had not changed matters. She had not been living in the glow of a memory-intensified glitter. He was Elijah.

She was aware, also, of a puzzle of difference. Her feeling intensified that Santirix Gremionis, without a single major flaw that she could define, was all flaw. Santirix was affectionate, gentle, rational, reasonably intelligent--and flat. Why he was flat, she could not say, but nothing he did or said could rouse her as Baley did, even when he did and said nothing. Baley was older in years, much older physiologically, not as handsome as Santirix, and what was more, Baley carried with him the indefinable air of decay--of the aura of quick aging and short life that Earthmen must. And yet--

She was aware of the folly of men, of Elijah approaching her with hesitation, with total unappreciation of his effect on her.

She was aware of his absence, for he had gone in to speak to Daneel, who was to be last as he was first. Earthmen feared and hated robots and yet Elijah, knowing full well that Daneel was a robot, treated him only as a person. Spacers, on the other hand, who loved robots and were never comfortable in their absence, would never think of them as anything but machines.

Most of all, she was aware of time. She knew that exactly three hours and twenty-five minutes had elapsed since Elijah had entered Han Fastolfe's small vessel and she knew further that not much more time could be allowed to elapse.

The longer she remained off Aurora's surface and the longer Baley's ship remained in orbit, the more likely it was that someone would notice--or if the matter had already been noticed, as seemed almost certain, the more likely it would be that someone would become curious and investigate. And then Fastolfe would find himself in an annoying tangle of trouble.

Baley emerged from the pilot room and looked at Gladia sadly. "I must go now, Gladia."

"I know that well."

Baley said, "Daneel will take care of you. He will be your friend as well as protector and you must be a friend to him--for my sake. But it is Giskard I want you to listen to. Let him be your adviser."

Gladia frowned. "Why Giskard? I'm not sure I like him."

"I do not ask you to like him. I ask you to trust him."

"But why, Elijah?"

"I can't tell you that. In this, you must trust me, too."

They looked at each other and said no more. It was as though silence made time stop, allowed them to hold on to the seconds and keep them motionless.

But it could only work so long. Baley said, "You don't regret--"

Gladia whispered, "How could I regret--when I may never see you again?"

Baley made as though to answer that, but she put her small clenched fist against his mouth.

"Don't lie uselessly," she said. "I may never see you again."

And she never did. Never!

6.

It was with pain that she felt herself drag across the dead waste of years into the present once more.

I never did, she thought. Never!

She had protected herself against the bittersweet for so long and now she had plunged into it--more bitter than sweet--because she had seen this person, this Mandamus--because Giskard has asked her to and because she was compelled to trust Giskard. It was his last request.

She focused on the present. (How much time had elapsed?)

Mandamus was looking at her coldly. He said, "From your reaction, Madam Gladia, I gather that it is true. You could not have said so more plainly."

"What is true? What are you talking about?"

"That you saw the Earthman Elijah Baley five years after his visit to Aurora. His ship was in orbit about Aurora; you traveled up to see him and were with him about the time you conceived your son."

"What evidence do you have for that?"

"Madam, it was not totally a secret. The Earthman's ship was detected in orbit. Fastolfe's yacht was detected in its flight. It was observed to dock. It was not Fastolfe who was on board the yacht, so the presumption was that it was you. Dr. Fastolfe's influence was sufficient to keep it off the record."

"If it is off the record, there is no evidence."

"Nevertheless, Dr. Amadiro has spent the last two thirds of his life following Dr. Fastolfe's movements with the eyes of detestation. There were always government officials who were heart and soul with Dr. Amadiro's policy of reserving the Galaxy for the Spacers and they would quietly report to him anything they thought he would like to know. Dr. Amadiro learned of your little escapade almost as soon as it happened."

"It is still not evidence. The unsupported word of a minor official currying favor is of no account. Amadiro did nothing because even he knew he had no evidence."

"No evidence with which he could charge anyone with even a misdemeanor; no evidence with which he could trouble Fastolfe; but evidence enough to suspect me of being a descendant of Baley's and to cripple my career therefor."

Gladia said bitterly, "You may cease being troubled. My son is the son of Santirix Gremionis, a true Auroran, and it is from this son of Gremionis that you are descended."

"Convince me of it, madam. I ask nothing better. Convince me that you fired up into orbit and that you spent hours alone with the Earthman and that, during that time, you talked--politics, perhaps--discussed old times and mutual friends--told funny stories--and never touched each other. Convince me."

"What we did, did not matter, so spare me your sarcasm. At the time I saw him, I was already pregnant by my then-husband. I was carrying a three-month-old fetus, an Auroran fetus."

"Can you prove that?"

"Why should I have to prove it? The date of my son's birth is on record and Amadiro must have the date of my visit to the Earthman. "

"He was told it at the time, as I said, but nearly twenty decades have passed and he doesn't remember exactly. The visit is not a matter of record and cannot be referred to. I fear that Dr. Amadiro would prefer to believe that it was nine months before the birth of your son that you were with the Earthman."

"Six months."

"Prove it."

"You have my word."

"Insufficient. "

"Well, then--Daneel, you were with me. When did I see Elijah Baley?"

"Madam Gladia, it was one hundred and seventy-three days before the birth of your son."

Gladia said, "Which is just under six months before the birth."

"Insufficient," said Mandamus.

Gladia's chin lifted. "Daneel's memory is perfect, as can be easily demonstrated, and a robot's statements pass for evidence in the courts of Aurora."

"This is not a matter for the courts and will not be and Daneel's memory carries no weight with Dr. Amadiro. Daneel was constructed by Fastolfe and was maintained by Fastolfe for nearly two centuries. We cannot say what modifications were introduced or how Daneel might have been instructed to deal with matters relating to Dr. Amadiro."

"Then reason it out, man. Earthmen are quite different genetically from us. We are virtually different species. We are not interfertile."

"Unproven."

"Well, then, genetic records exist. Darrel's do; Santirix's do. Compare them. If my ex-husband were not his father, the genetic differences would make that unmistakable."

"Genetic records are not for anyone's eyes. You know that."

"Amadiro is not that immersed in ethical considerations. He has the influence to see them illegally. --Or is he afraid of disproving his hypothesis?"

"Whatever the reason, madam, he will not betray an Auroran's right to privacy."

Gladia said, "Well, then, go to outer space and choke on vacuum. If your Amadiro refuses to be convinced, that is no affair of mine. You, at least, ought to be convinced and it is your job to convince Amadiro in his turn. If you cannot and if your career does not

move onward as you would like to have it do, please be assured that this is entirely and intensely no concern of mine."

"That does not surprise me. I expect nothing more. And for that matter, I am convinced. I was merely hoping that you would give me some material with which to convince Dr. Amadiro. You haven't."

Gladia shrugged with disdain.

"I will use other methods, then," said Mandamus.

"I'm glad you have them," Gladia said coldly.

Mandamus said in a low voice, almost as though he were unaware of the presence of anyone else, "So am I. There are powerful methods remaining to me."

"Good. I suggest you try blackmail on Amadiro. He must have much to be blackmailed for."

Mandamus looked up, suddenly frowning. "Don't be a fool."

Gladia said, "You may go now. I think I have had all of you I wish to endure. Out of my establishment!"

Mandamus lifted his arms. "Wait! I told you at the start that there were two reasons for seeing you--one a personal matter and one a matter of state. I have spent too long a time on the first, but I must request five minutes to discuss the second."

"I'll give you no more than five minutes."

"There is someone else who wants to see you. An Earthman--or at least a member of one of the Settler worlds, a descendant of Earthpeople."

"Tell him," said Gladia, "that neither Earthpeople nor their Settler descendants are allowed on Aurora and send him away. Why do I have to see him?"

"Unfortunately, madam, in the last two centuries the balance of power has shifted somewhat. These Earthpeople have more worlds than we have--and have always had a far larger population. They have more ships, even though those are not as advanced as ours, and because of their short lives and their fecundity they are apparently far readier to die than we are."

"I don't believe that last." Mandamus smiled tightly. "Why not? Eight decades mean less than forty do. In any case, we must treat them politely--far more politely than we ever had to in Elijah Baley's day. If it is any comfort to you, it is the policies of Fastolfe that have created this situation."

"For whom do you speak, by the way? It is Amadiro who must now bring himself to be polite to Settlers?"

"No. It is the Council, actually."

"Are you the spokesman for the Council?"

"Not officially, but I have been asked to inform you of this--unofficially. "

"And if I see this Settler, what then? What does he want to see me about?"

"That is what we don't know, madam. We count on you to tell us. You are to see him, find out what he wants, and report to us. "

"Who is 'us'?"

"As I said, the Council. The Settler will be here at your establishment this evening."

"You seem to assume that I have no choice but to take on this position as informer."

Mandamus rose to his feet, clearly done with his mission. "You will not be an 'informer.' You owe nothing to this Settler. You are merely reporting to your government, as a loyal Auroran citizen should be willing--even eager--to do. You would not want the Council to suppose that your Solarian birth in any way dilutes your Auroran patriotism."

"Sir, I have been an Auroran over four times as long as you've been alive."

"Undoubtedly, but you were born and raised on Solaria. You are that unusual anomaly, a foreign-born Auroran, and it is difficult to forget it. This is especially true since the Settler wishes to see you, rather than anyone else on Aurora, precisely because you are Solarian-born."

"How do you know that?"

"It is a fair presumption. He identifies you as 'the Solarian woman.' We are curious as to why that should mean anything to him--now that Solaria no longer exists."

"Ask him."

"We prefer to ask you--after you ask him. I must ask permission to leave now and I thank you for your hospitality. "

Gladia nodded stiffly. "I grant you your permission to leave with better will than I granted you my hospitality."

Mandamus stepped toward the hallway that led to the main entrance, followed closely by his robots.

He paused just before leaving the room, turned, and said, "I had almost forgotten--"

"Yes?"

"The Settler who wishes to see you has a surname that, by a peculiar coincidence, is Baley."

3. THE CRISIS

7.

Daneel and Giskard, with robotic courtesy, saw Mandamus and his robots off the grounds of the establishment. Then, since they were outside, they toured the grounds, made certain that the lesser robots were in their places, and took note of the weather (cloudy and a bit cooler than seasonal).

Daneel said, "Dr. Mandamus admitted openly that the Settler worlds are now stronger than the Spacer worlds. I would not have expected him to do that."

Giskard said, "Nor I. I was certain that the Settlers would increase in strength as compared with the Spacers because Elijah Baley had predicted it many decades ago, but I could see no way of determining when the fact would become obvious to the Auroran Council. It seemed to me that social inertia would keep the Council firmly convinced of

Spacer superiority long after that had vanished, but I could not calculate for how long they would continue to delude themselves."

"I am astonished that Partner Elijah foresaw this so long ago."

"Human beings have ways of thinking about human beings that we have not. " Had Giskard been human, the remark might have been made with regret or envy, but since he was a robot it was merely factual.

He went on. "I have tried to gain the knowledge, if not the way of thinking, by reading human history in great detail. Surely somewhere in the long tale of human events, there must be buried the Laws of Humanics that are equivalent to our Three Laws of Robotics."

Daneel said, "Madam Gladia once told me that this hope was an impossible one."

"So that may be, friend Daneel, for though it seems to me such Laws of Humanics must exist, I cannot find them. Every generalization I try to make, however broad and simple' has its numerous exceptions. Yet if such Laws existed and if I could find them, I could understand human beings better and be more confident that I am obeying the Three Laws in better fashion."

"Since Partner Elijah understood human beings, he must have had some knowledge of the Laws of Humanics."

"Presumably. But this he knew through something that human beings call intuition, a word I don't understand, signifying a concept I know nothing of. Presumably it lies beyond reason and I have only reason at my command."

7A.

That and memory!

Memory that did not work after the human fashion, of course. It lacked the imperfect recall, the fuzziness, the additions and subtractions dictated by wishful thinking and self-interest, to say nothing of the lingerings and lacunae and backtracking that can turn memory into hours-long daydreaming.

It was robotic memory ticking off the events exactly as they had happened, but in vastly hastened fashion. The seconds reeled off in nanoseconds, so that days of events could be relived with such rapid precision as to introduce no perceptible gap in a conversation.

As Giskard had done innumerable times before, he relived that visit to Earth, always seeking for understanding of Elijah Baley's casual ability to foresee the future, always failing to find it.

Earth!

Fastolfe had come to Earth in an Auroran warship, with a full complement of fellow passengers, both human and robot. Once in orbit, however, it was only Fastolfe who took the module in for a landing. Injections had stimulated his immune mechanism and he wore the necessary gloves, coveralls, contact lenses, and nose plugs. He felt quite safe as a result, but no other Auroran was willing to go along as part of a delegation.

This Fastolfe shrugged off, since it seemed to him (as he later explained to Giskard) that he would be more welcome if he came alone. A delegation would disagreeably

remind Earth of the bad old days (to them) of Spacetown, when Spacers had a permanent base on Earth and directly dominated the world.

With him, Fastolfe brought Giskard, however. To have arrived without any robots would have been unthinkable, even for Fastolfe. To have arrived with more than one would have put a strain on the increasingly antirobot Earthmen he hoped to see and with whom he intended to negotiate.

To begin with, of course, he would meet with Baley, who would be his liaison with Earth and its people. That was the rational excuse for the meeting. The real excuse was simply that Fastolfe wanted very much to see Baley again; he certainly owed him enough.

(That Giskard wanted to see Baley and that he very slightly tightened the emotion and impulse in Fastolfe's brain to bring that about, Fastolfe had no way of knowing--or even imagining.)

Baley was waiting for them at the time of landing and with him was a small group of Earth officials, so that there was a tedious passage of time during which politeness and protocol had its innings. It was some hours before Baley and Fastolfe could get away by themselves and it might not have happened that soon but for Giskard's quiet and unfelt interference--with just a touch at the minds of the more important of those officials who were distinctly bored. (It was always safe to confine one's self to accentuating an emotion that already existed. It could almost never bring harm.)

Baley and Fastolfe sat in the smallness of a private dining room that was ordinarily available only to high government officials. Food items could be punched out on a computerized menu and were then brought in by computerized carriers.

Fastolfe smiled. "Very advanced," he said, "but these carriers are merely specialized robots. I'm surprised Earth uses them. They are not of Spacer manufacture, surely."

"No, they're not," said Baley solemnly. "Home-grown, so to speak. This is only for use at the top and it's my first chance, ever, to experience it. I'm not likely to do so again."

"You may be elected to high office someday and then experience this sort of thing daily. "

"Never," said Baley. The dishes were put before each of them and the carrier was even sophisticated enough to ignore Giskard, who stood impassively behind Fastolfe's chair.

For a while, Baley ate silently and then, with a certain shyness, he said, "It is good to see you again, Dr. Fastolfe."

"The pleasure is as much mine. I haven't forgotten that two years ago, when you were on Aurora, you managed to free me of the suspicion of the destruction of the robot Jander and to turn the tables neatly on my overconfident opponent, the good Amadiro."

"I still shake when I think of it," said Baley. "And greetings to you, too, Giskard. I trust you haven't forgotten me."

"That would be quite impossible, sir," said Giskard.

"Good! Well, Doctor, I trust the political situation on Aurora continues to be favorable. The news here would make it seem so, but I don't trust Earth analysis of Auroran affairs."

"You may--at the moment. My party is in firm control of the Council. Amadiro maintains a sullen opposition, but I suspect it will be years before his people recover from the blow you gave them. But how are things with you and with Earth?"

"Well enough. --Tell me, Dr. Fastolfe"--Baley's face twitched slightly, as though with embarrassment--"have you brought Daneel with you?"

Fastolfe said slowly, "I'm sorry, Baley. I did, but I left him back on the ship. I felt it might not be politic to be accompanied by a robot who looked so much like a human being. With Earth as antirobot as it has become, I felt a humanoid robot might seem a deliberate provocation to them."

Baley sighed. "I understand."

Fastolfe said, "Is it true that your government is planning to prohibit the use of robots within the Cities?"

"I suspect it will soon come to that, with a period of grace, of course, to minimize financial loss and inconvenience. Robots will be restricted to the countryside, where they are needed for agriculture and mining. There, too, they may eventually be phased out and the plan is to have no robots at all on the new worlds."

"Since you mention the new worlds, has your son left Earth yet?"

"Yes, a few months ago. We have heard from him and he's arrived at a new world safely, along with several hundred Settlers, as they call themselves. The world has some native vegetation upon it and a low-oxygen atmosphere. Apparently, with time it can be made quite Earthlike. Meanwhile, some makeshift domes have been put up, new Settlers are advertised for, and everyone is busily engaged in terraforming. Bentley's letters and occasional hyperwave contact are very hopeful, but they don't keep his mother from missing him badly."

"And will you be going there, Baley?"

"I'm not sure that living on a strange world under a dome is my idea of happiness, Dr. Fastolfe--I haven't Ben's youth and enthusiasm--but I think I'll have to in two or three years. In any case, I've already given notice to the Department of my intention to emigrate."

"I imagine they must be upset over that."

"Not at all. They say they are, but they're glad to get rid of me. I'm too notorious."

"And how does Earth's government react to this drive for expansion into the Galaxy."

"Nervously. They do not forbid it altogether, but certainly they are not cooperative. They continue to suspect that the Spacers are opposed to it and will do something unpleasant to stop it."

"Social inertia," said Fastolfe. "They judge us according to our behavior of years past. Surely we have made it plain that we now encourage Earth's colonization of new planets and that we intend to colonize new planets of our own."

"I hope you explain this to our government, then.--But, Dr. Fastolfe, another question on a smaller point. How is--" And with that, he stalled.

"Gladia?" said Fastolfe, hiding his amusement. "Have you forgotten her name?"

"No, no. I merely hesitated to--to--"

"She's well," said Fastolfe, "and living comfortably. She has asked me to remember her to you, but I imagine you need no nudging to recall her to mind. "

"The fact of her Solarian origin is not used against her, I hope?"

"No, nor is her role in the undoing of Dr. Amadiro. Rather the reverse. I take care of her, I assure you. --and yet I do not care to allow you to get off the subject altogether, Baley. What if Earth's officialdom continues to be opposed to immigration and expansion? Could the process continue despite such opposition?"

"Possibly," said Baley, "but not certainly. There's substantial opposition among Earthmen generally. It's hard to break away from the huge underground Cities that are our homes--"

"Your wombs."

"Or our wombs, if you prefer. Going to new worlds and having to live with the most primitive facilities for decades; never seeing comfort in one's own lifetime--that is difficult. When I think of it sometimes, I just decide not to go--especially if I'm passing a sleepless night. I've decided not to go a hundred times and one day I may just stick to that decision. And if I have trouble when, in a way, I originated the entire notion, then who else is likely to go freely and gladly? Without government encouragement--or, to be brutally frank--without the government shoe applied to the seat of the pants of the population, the whole project may fail."

Fastolfe nodded. "I will try to persuade your government. But if I fail?"

Baley said in a low voice, "If you fail--and if, therefore, our people fail--there remains only one alternative. The Spacers themselves must settle the Galaxy. The job must be done."

"And you will be content to see the Spacers expand and fill the Galaxy, while the Earthpeople remain on their single planet?"

"Not content at all, but it would be better than the present situation of no expansion by either. Many centuries ago, Earthpeople flocked to the stars, established some of the worlds that are now called Spacer worlds, and those first few colonized others. It has been a long time, however, since either the Spacers or Earthpeople have successfully settled and developed a new world. That must not be permitted to continue."

"I agree. But what is your reason for wanting expansion, Baley?"

"I feel that without expansion of some sort, humanity cannot advance. It doesn't have to be geographical expansion, but that is the clearest way of inducing other kinds of expansion as well. If geographical expansion can be undertaken in a fashion that is not at the expense of other intelligent beings; if there are empty spaces into which to expand; then why not? To resist expansion under such circumstances is to ensure decay."

"You see those alternatives, then? Expansion and advancement? Nonexpansion and decay?"

"Yes, I believe so. Therefore, if Earth refuses expansion, then Spacers must accept it. Humanity, whether in the form of Earthpeople or Spacers, must expand. I would like to see Earthpeople undertake the task, but, failing that, Spacer expansion is better than no expansion at all. One alternative or the other."

"And if one expands but not the other?"

"Then the expanding society will become steadily stronger and the nonexpanding one steadily weaker."

"Are you certain of that?"

"It would be unavoidable, I think."

Fastolfe nodded. "Actually, I agree. It is why I am trying to persuade both Earthpeople and Spacers to expand and advance. That is a third alternative, and, I think, the best."

7B.

Memory flickered past the days that followed--incredible mobs of people moving ceaselessly past each other in streams and eddies--racing Expressways being mounted and dismounted--endless conferences with innumerable officials--minds in crowds.

Particularly minds in crowds.

Minds in crowds so thick that Giskard could not isolate individuals. Mass minds mixing and melting together into a vast pulsating grayness with all that was detectable being the periodic sparks of suspicion and dislike that shot outward every time one of the multitude paused to look at him.

Only when Fastolfe was in conference with a few officials could Giskard deal with the individual mind and that, of course, was when it counted.

Memory slowed at one point near the end of the stay on Earth, when Giskard could finally maneuver a time alone with Baley again. Giskard adjusted a few minds minimally in order to make certain there would be no interruption for some time.

Baley said apologetically, "I haven't really been ignoring you, Giskard. I simply haven't had the opportunity to be alone with you. I don't rate highly on Earth and I cannot order my comings and goings."

"I have, of course, understood that, sir, but we will have some time together now."

"Good. Dr. Fastolfe tells me that Gladia is doing well. He may be saying that out of kindness, knowing that that is what I want to hear. I order you to be truthful, however. Is Gladia, in fact, doing well?"

"Dr. Fastolfe has told you the truth, sir."

"And you remember, I hope, my request when I last saw you on Aurora that you guard Gladia and protect her from harm."

"Friend Daneel and I, sir, are both mindful of your request. I have arranged it so that when Dr. Fastolfe is no longer alive, both friend Daneel and I will become part of Madam Gladia's establishment. We will then be in an even better position to keep her from harm."

"That," said Baley sadly, "will be after my time."

"I understand that, sir, and regret it."

"Yes, but it can't be helped and a crisis will come--or may come--even before that and yet still be after my time."

"What is it, sir, that you have in mind? What is this crisis?"

"Giskard, it is a crisis that may arise because Dr. Fastolfe is a surprisingly persuasive person. Or else, there is some other factor associated with him that is accomplishing the task."

"Sir?"

"Every official that Dr. Fastolfe has seen and interviewed now seems to be enthusiastically in favor of emigration. They were not in favor earlier or, if they were, it was with strong reservations. And once the opinion-making leaders are in favor, others are sure to follow. This will spread like an epidemic. "

"Is this not what you wish, sir?"

"Yes, it is, but it is almost too much what I wish. We shall spread out over the Galaxy--but what if the Spacers don't?"

"Why should they not?"

"I don't know. I advance it as a supposition, a possibility. What if they don't?"

"Earth and the worlds its people settle will then grow stronger, according to what I have heard you say."

"And the Spacers will grow weaker. There will, however, be a period of time during which the Spacers will remain stronger than Earth and its Settlers, though by a steadily diminishing margin. Eventually, the Spacers will inevitably become aware of Earthpeople as a growing danger. At that time the Spacer worlds will surely decide that Earth and the Settlers must be stopped before it is too late and it will seem to them that drastic measures will have to be taken. That will be a period of crisis that will determine the entire future history of human beings."

"I see your point, sir."

Baley remained in thoughtful silence for a moment, then said, in very nearly a whisper as though dreading being overheard, "Who knows of your abilities?"

"Among human beings only yourself--and you cannot mention it to others."

"I know well I can't. The point is, though, that it is you, not Fastolfe, who has engineered the turnaround that has made every official with whom you've come in contact a proponent of emigration. And it is to bring that about that you arranged to have Fastolfe take you, rather than Daneel, to Earth with him. You were essential and Daneel might have been a distraction."

Giskard said, "I felt it necessary to keep personnel to a minimum in order to avoid making my task harder by abrading the sensitivities of Earthpeople. I regret, sir, Daneel's absence. I fully sense your disappointment at not being able to greet him."

"Well--" Baley shook his head. "I understand the necessity and I rely on your explaining to Daneel that I badly missed him. In any case, I am still making my point. If Earth embarks on a great policy of world settlement and if the Spacers are left behind in

the race to expand, the responsibility for that--and therefore for the crisis that will inevitably arise--will be yours. You must, for that reason, feel it your further responsibility to use your abilities to protect Earth when the crisis comes."

"I will do what I can, sir."

"And should you succeed there, Amadiro--or his followers--may turn on Gladia. You must not forget to protect her, too."

"Daneel and I will not forget."

"Thank you, Giskard."

And they parted.

When Giskard, following Fastolfe, entered the module to begin the voyage back to Aurora, he saw Baley once again. This time there was no opportunity to speak to him.

Baley waved and mouthed one soundless word: "Remember."

Giskard sensed the word and, in addition, the emotion behind it.

After that, Giskard never saw Baley again. Never.

8.

Giskard had never found it possible to flip through the sharp images of that one visit to Earth, without then following it with the images of the key visit to Amadiro at the Institute of Robotics.

It had not been an easy conference to arrange. Amadiro, with the bitterness of defeat heavy upon him, would not exacerbate his humiliation by going to Fastolfe's establishment.

"Well, then," Fastolfe had said to Giskard. "I can afford to be magnanimous in victory. I will go to him. Besides, I must see him."

Fastolfe had been a member of the Institute of Robotics since Baley had made possible the crushing of Amadiro and of his political ambitions. In return, Fastolfe had passed over to the Institute all the data for the building and maintenance of humanoid robots. A number had been manufactured and then the project had come to an end and Fastolfe had chafed.

It had been Fastolfe's intention, at first, to arrive at the Institute without any robot companion. He would have placed himself, without protection and (so to speak) naked, into the midst of what was still the stronghold of the enemy's camp. It would have been a sign of humility and trust, but it would also have been an indication of complete self-confidence and Amadiro would have understood that. Fastolfe, entirely alone, would be demonstrating his certainty that Amadiro, with all the resources of the Institute at his command, would not dare to touch his single enemy coming carelessly and defenselessly within reach of his fist.

And yet in the end, Fastolfe, not quite knowing how, chose to have Giskard accompany him.

Amadiro seemed to have lost a little weight since last Fastolfe had seen him, but he was still a formidable specimen; tall and heavysset. He lacked the self-confident smile that had once been his hallmark and when he attempted it at Fastolfe's entrance, it seemed more like a snarl that faded into a look of somber dissatisfaction.

"Well, Kelden," said Fastolfe, making free with the other's familiar name, "we don't see each other often, despite the fact that we have now been colleagues for four years."

"Let's not have any false bonhomie, Fastolfe," said Amadiro in a clearly annoyed and low-pitched growl, "and address me as Amadiro. We are not colleagues except in name and I make no secret--and never have--of my belief that your foreign policy is suicidal for us."

Three of Amadiro's robots, large and gleaming, were present and Fastolfe studied them with raised eyebrows, "You are well protected, Amadiro, against one man of peace together with his single robot. "

"They will not attack you, Fastolfe, as you well know. But why did you bring Giskard? Why not your masterpiece, Daneel?"

"Would it be safe to bring Daneel within your reach, Amadiro?"

"I take it you intend that as humor. I no longer need Daneel. We build our own humaniforms."

"On the basis of my design."

"With improvements."

"And yet you do not use the humaniforms. That is why I have come to see you. I know that my position in the Institute is a name-only thing and that even my presence is unwelcome, let alone my opinions and recommendations. However, I must, as an Institute member, protest your failure to use the humaniforms."

"How do you wish me to use them?"

"The intention was to have the humaniforms open up new worlds into which Spacers could eventually emigrate, after those worlds had been terraformed and made completely habitable, wasn't it?"

"But that was something you opposed, Fastolfe, wasn't it?"

Fastolfe said, "Yes, I did. I wanted Spacers themselves to emigrate to new worlds and to do their own terraforming. That, however, is not happening and, I now see, is not likely to happen. Let us send the humaniforms, then. That would be better than nothing."

"All our alternatives come to nothing, as long as your views dominate the Council, Fastolfe. Spacers will not travel to rude and unformed worlds; nor, it seems, do they like humaniform robots."

"You have scarcely given the Spacers a chance to like them. Earthpeople are beginning to settle new planets--even rude and unformed ones. And they do it without robotic help."

"You know very well the differences between Earthpeople and ourselves. There are eight billion Earthpeople, plus a large number of Settlers."

"And there are five and a half billion Spacers."

"Numbers are not the sole difference," said Amadiro bitterly. "They breed like insects."

"They do not. Earth's population has been fairly stable for centuries."

"The potential is there. If they put all their heart into emigration, they can easily produce one hundred and sixty million new bodies each year and that number will rise as the new worlds fill up."

"We have the biological capability of producing one hundred million new bodies each year."

"But not the sociological capability. We are long-lived; we do not wish ourselves replaced so quickly."

"We can send a large portion of the new bodies to other worlds."

"They won't go. We value our bodies, which are strong, healthy, and capable of surviving in strength and health for nearly forty decades. Earthmen can place no value on bodies that wear out in less than ten decades and that are riddled with disease and degeneration even over that short period of time. It doesn't matter to them if they send out millions a year to certain misery and probable death. In fact, even the victims needn't fear misery and death, for what else do they have on Earth? The Earthpeople who emigrate are fleeing from their pestilential world knowing well that any change can scarcely be for the worse. We, on the other hand, value our well-wrought and comfortable planets and would not lightly give them up."

Fastolfe sighed and said, "I've heard all these arguments so often--May I point out the simple fact, Amadiro, that Aurora was originally a rude and unformed world that had to be terraformed into acceptability and that so was every Spacer world?"

Amadiro said, "And I have heard all your arguments to the point of nausea, but I will not weary of answering them. Aurora may have been primitive when first settled, but Aurora was settled by Earthpeople--and other Spacer worlds, when not settled by Earthpeople, were settled by Spacers that had not yet outgrown their Earth heritage. The times are no longer suitable for that. What could be done then, cannot be done now."

Amadiro lifted a corner of his mouth in a snarl and went on, "No, Fastolfe, what your policy has accomplished has been to begin the creation of a Galaxy that will be populated by Earthmen only, while Spacers must wither and decline. You can see it happening now. Your famous trip to Earth, two years ago, was the turning point. Somehow, you betrayed your own people by encouraging those half-humans to begin an expansion. In only two years there are at least some Earthpeople on each of twenty-four worlds and new ones are being added steadily."

Fastolfe said, "Do not exaggerate. Not one of those Settler worlds is truly fit for human occupation yet and won't be for some decades. Not all are likely to survive and, as the nearer worlds are occupied, the chances for settling farther worlds diminish so that the initial surge will slow down. I encouraged their expansion because I counted on ours as well. We can still keep up with them if we make the effort and, in healthy competition, we can fill the Galaxy together. "

"No," said Amadiro. "What you have in mind is that most destructive of all policies, a foolish idealism. The expansion is one-sided and will remain so despite anything you can do. The people of Earth swarm unhindered and they will have to be stopped before they get too strong to stop."

"How do you propose to do that? We have a treaty of friendship with Earth in which we specifically agree not to stop their expansion into space as long as no planet within twenty light-years of a Spacer world is touched. They have adhered to this scrupulously."

Amadiro said, "Everyone knows about the treaty. Everyone also knows that no treaty has ever been kept once it begins to work against the national interests of the more powerful signatory. I attach no value to that treaty."

"I do. It will be held to."

Amadiro shook his head. "You have touching faith. How will it be held to after you are out of power?"

"I don't intend to be out of power for a while."

"As Earth and its Settlers grow stronger, the Spacers will grow fearful and you will not remain long in power after that."

Fastolfe said, "And if you tear up the treaty and destroy the Settler worlds and slam the gates shut on Earth, will the Spacers then emigrate and fill the Galaxy?"

"Perhaps not. But if we decide not to, if we decide we are comfortable as we are, what difference will that make?"

"The Galaxy will not, in that case, become a human empire."

"And if it does not, what then?"

"Then the Spacers will stultify and degenerate, even if Earth is kept in prison and also stultifies and degenerates."

"That is just the claptrap your party puts out, Fastolfe. There is no actual evidence that such a thing would happen. And even if it does, that will be our choice. At least we will not see the barbarian short-lifers fall heir to the Galaxy."

Fastolfe said, "Are you seriously suggesting, Amadiro, that you would be willing to see the Spacer civilization die, provided you can prevent Earth from expanding?"

"I'm not counting on our death, Fastolfe, but if the worst happens, why, yes, to me our own death is a less fearful thing than the triumph of a subhuman disease-riddled set of short-lived beings. "

"From whom we are descended. "

"And with whom we are no longer truly related genetically. Are we worms because a billion years ago, worms were among our ancestors?"

Fastolfe, lips pressed together, rose to go. Amadiro, glowering, made no move to stop him.

Daneel had no way of telling, directly, that Giskard was lost in memory. For one thing, Giskard's expression did not change and for another, he was not lost in memory as humans might be. It took no substantial period of time.

On the other hand, the line of thought that had caused Giskard to think of the past had caused Daneel to think of the same events of that past as they had long ago been recounted to him by Giskard. Nor was Giskard surprised at that.

Their conversation carried on with no unusual pause, but in a markedly new manner, as though each had thought of the past on behalf of both.

Daneel said, "It might seem, friend Giskard, that since the people of Aurora now recognize that they are weaker than Earth and its many Settler worlds, the crisis that Elijah Baley foresaw has been safely passed."

"It might seem so, friend Daneel."

"You labored to bring that about."

"I did. I kept the Council in Fastolfe's hand. I did what I could to mold those who, in turn, molded public opinion."

"Yet I am uneasy."

Giskard said, "I have been uneasy through every stage of the process, although I endeavored to do no harm to anyone. I have touched--mentally--not one human being who required anything more than the lightest touch. On Earth, I had merely to lighten the fear of reprisal and chose those, particularly, in which the fear was already light and broke a thread that was, in any case, frayed and on the point of breaking. On Aurora, it was reversed. The policymakers here were reluctant to espouse policies that would lead to an exit from their comfortable world and I merely confirmed that and made the sturdy cord that held them a bit stronger. And doing this has immersed me in a constant--if faint--turmoil."

"Why? You encouraged the expansion of Earth and discouraged the expansion of the Spacers. Surely that is as it should be. "

"As it should be? Do you think, friend Daneel, that an Earthperson counts for more than a Spacer, even though both are human beings?"

"There are differences. Elijah Baley would rather see his own Earthpeople defeated than see the Galaxy uninhabited. Dr. Amadiro would rather see both Earth and Spacers dwindle than see Earth expand. The first looks with hope to the triumph of either, the second is content to see the triumph of neither. Should we not choose the first, friend Giskard?"

"Yes, friend Daneel. So it would seem. And yet how far are you influenced by your feeling of the special worth of your onetime partner, Elijah Baley?"

Daneel said, "I value the memory of Partner Elijah and the people of Earth are his people."

"I see you do. I have been saying for many decades that you tend to think like a human being, friend Daneel, but I wonder if that is necessarily a compliment. Still, though

you tend to think like a human being, you are not a human being and, in the end, you are bound to the Three Laws. You may not harm a human being, whether that human being is an Earthman or a Spacer."

"There are times, friend Giskard, when one must choose one human being over another. We have been given special orders to protect Lady Gladia. I would be forced, on occasion, to harm a human being in order to protect Lady Gladia and I think that, all things being equal, I would be willing to harm a Spacer just a little in order to protect an Earthperson."

"So you think. But in the actual event, you would have to be guided by specific circumstances. You will find you cannot generalize," said Giskard. "And so it is with me. In encouraging Earth and discouraging Aurora, I have made it impossible for Dr. Fastolfe to persuade the Auroran government to sponsor a policy of emigration and to set up two expanding powers in the Galaxy. I could not help but realize that that portion of his labors was brought to nothing. This was bound to fill him with gathering despair and perhaps it hastened his death. I have felt this in his mind and that has been painful. And yet, friend Daneel--"

Giskard paused and Daneel said, "Yes?"

"To have not done as I had done might have greatly lowered Earth's ability to expand, without greatly improving Aurora's moves in that direction. Dr. Fastolfe would then have been frustrated in both ways--Earth and Aurora--and would moreover have been ousted from his seat of power by Dr. Amadiro. His sense of frustration would have been greater. It was Dr. Fastolfe, during his lifetime, to whom I owed my greatest loyalty and I chose that course of action which frustrated him less, without measurably harming other individuals I dealt with. If Dr. Fastolfe was continually disturbed by his inability to persuade Aurorans--and Spacers generally--to expand to new worlds, he was at least delighted by the activity of the emigrating Earthpeople."

"Could you not have encouraged both the people of Earth and of Aurora, friend Giskard, and thus have satisfied Dr. Fastolfe in both respects?"

"That, of course, had occurred to me, friend Daneel. I considered the possibility and decided it would not do. I could encourage Earthpeople to emigrate by means of a trifling change that would do no harm. To have attempted the same for Aurorans would have required a great enough change to do much harm. The First Law prevented that."

"A pity."

"True. Think what might have been done if I could have radically altered the mind-set of Dr. Amadiro. Yet how could I have changed his fixed determination to oppose Dr. Fastolfe? It would have been much like trying to force his head to make a one hundred and eighty degree turn. So complete a turnabout of either the head itself or of its emotional content would kill with, I think, equal efficiency.

"The price of my power, friend Daneel," Giskard went on, "is the greatly increased dilemma into which I am constantly plunged. The First Law of Robotics, which forbids injury to human beings, deals, ordinarily, with the visible physical injuries that we can, all of us, easily see and concerning which we can easily make judgments. I, alone, however,

am aware of human emotions and of casts of mind, so that I know of more subtle forms of injury without being able to understand them completely. I am forced on many occasions to act without true certainty and this puts a continuing stress on my circuits.

"And yet I feel I have done well. I have carried the Spacers past the crisis point. Aurora is aware of the gathering strength of the Settlers and will now be forced to avoid conflict. They must recognize it to be too late for retaliation and our promise to Elijah Baley is, in that respect, fulfilled. We have put Earth on the course toward the filling of the Galaxy and the establishment of a Galactic Empire."

They were, at this point, walking back to Gladia's house, but now Daneel stopped and the gentle pressure of his hand on Giskard's shoulder caused the other to stop as well.

Daneel said, "The picture you draw is attractive. It would make Partner Elijah proud of us if, as you say, we have accomplished that. 'Robots and Empire' Elijah would say and perhaps he would clap me on the shoulder. --And yet, as I said, I am uneasy, friend Giskard. "

"Concerning what, friend Daneel?"

"I cannot help but wonder if indeed we have actually passed the crisis that Partner Elijah spoke of so many decades ago. Is it, in actual fact, too late for Spacer retaliation?"

"Why do you have these doubts, friend Daneel?"

"I have been made doubtful by the behavior of Dr. Mandamus in due course of his conversation with Madam Gladia."

Giskard's gaze was fixed on Daneel for a few moments and in the quiet they could hear leaves rustling in the cool breeze. The clouds were breaking and the sun would make its appearance soon. Their conversation, in its telegraphic fashion, had taken little time and Gladia, they knew, would not yet be wondering at their absence.

Giskard said, "What was there in the conversation that would give you cause for uneasiness?"

Daneel said, "I have had the opportunity, on four separate occasions, to observe Elijah Baley's handling of a puzzling problem. On each of those four occasions, I have noted the manner in which he managed to work out useful conclusions from limited--and even misleading--information. I have since always tried, within my limitations, to think as he did."

"It seems to me, friend Daneel, you have done well in this respect. I have said you tend to think like a human being."

"You will have noticed, then, that Dr. Mandamus had two matters he wished to discuss with Madam Gladia. He emphasized that fact himself. One was the matter of his own descent, whether from Elijah Baley or not. The second was the request that Madam Gladia see a Settler and report on the event afterward. Of these, the second might be viewed as a matter that would be important to the Council. The first would be a matter of importance only to himself."

Giskard said, "Dr. Mandamus presented the matter of his descent as being of importance to Dr. Amadiro as well."

"Then it would be a matter of personal importance to two people rather than one, friend Giskard. It would still not be a matter of importance to the Council and, therefore, to the planet generally. "

"Proceed, then, friend Daneel."

"Yet the matter of state, as Dr. Mandamus himself referred to it, was taken up second, almost as an afterthought, and was disposed of almost at once. Indeed, it seemed scarcely something that required a personal visit. It might have been handled by holographic image by any official of the Council. On the other hand, Dr. Mandamus dealt with the matter of his own descent first, discussed it in great detail, and it was a matter that could have been handled only by him and by no one else."

"What is your conclusion, friend Daneel?"

"I believe that the matter of the Settler was seized upon by Dr. Mandamus as an excuse for a personal conversation with Madam Gladia, in order that he might discuss his descent in privacy. It was the matter of his descent and nothing else that truly interested him. --Is there any way you can support that conclusion, friend Giskard?"

Aurora 's sun had not yet emerged from the clouds and the faint glow of Giskard's eyes was visible. He said, "The tension in Dr. Mandamus's mind was indeed measurably stronger in the first part of the interview than in the second. That may serve as corroboration, perhaps, friend Daneel."

Daneel said, "Then we must ask ourselves why the question of Dr. Mandamus's descent should be a matter of such importance to him."

Giskard said, "Dr. Mandamus explained that. It is only by demonstrating that he is not descended from Elijah Baley that his road to advancement is open. Dr. Amadiro, upon whose goodwill he is dependent, would turn against him absolutely if he were a descendant of Mr. Baley."

"So he said, friend Giskard, but what took place during the interview argues against that. "

"Why do you say so? Please continue thinking like a human being, friend Daneel. I find it instructive."

Daneel said gravely, "Thank you, friend Giskard. Did you note that not one statement that Madam Gladia made concerning the impossibility of Dr. Mandamus's descent from Partner Elijah was considered convincing? In every case, Dr. Mandamus said that Dr. Amadiro would not accept the statement. "

"Yes and what do you deduce from that?"

"It seems to me that Dr. Mandamus was so convinced that Dr. Amadiro would accept no argument against Elijah Baley an ancestor that one must wonder why he should have bothered to ask Madam Gladia about the matter. He apparently knew from the start that it would be pointless to do so."

"Perhaps, friend Daneel, but it is mere speculation. Can you supply a possible motive for his action, then?"

"I can. I believe he inquired as to his descent, not to convince an implacable Dr. Amadiro but to convince himself."

"In that case, why should he have mentioned Dr. Amadiro at all? Why not simply have said, 'I wish to know.'"

A small smile passed over Daneel's face, a change of expression of which the other robot would have been incapable. Daneel said, "Had he said, 'I wish to know,' to Madam Gladia, she would surely have replied that it was none of his business and he would have discovered nothing. Madam Gladia, however, is as strongly opposed to Dr. Amadiro as Dr. Amadiro is to Elijah Baley. Madam Gladia would be sure to take offense at any opinion strongly held by Dr. Amadiro concerning her. She would be furious, even if the opinion were more or less true; how much more, then, if it were absolutely false, as in this case. She would labor to demonstrate Dr. Amadiro to be wrong and would present every piece of evidence needed to achieve that end.

"In such a case, Dr. Mandamus's cold assurance that each piece of evidence was insufficient would but make her the angrier and would drive her to further revelations. Dr. Mandamus's strategy was chosen to make certain he would learn the maximum from Madam Gladia and, at the end, he was convinced that he did not have an Earthman as ancestor; at least, not as recently as twenty decades ago. Amadiro's feelings in this regard were not, I think, truly in question."

Giskard said, "Friend Daneel, this is an interesting point of view, but it does not seem to be strongly founded. In what way can we conclude that it is no more than a guess on your part?"

Daneel said, "Does it not seem to you, friend Giskard, that when Dr. Mandamus ended his inquiry into his descent without having obtained sufficient evidence for Dr. Amadiro, as he would have had us believe, that he should have been distinctly depressed and disheartened. By his own statement, this should have meant he had no chance for advancement and would never gain the position as head of the Institute of Robotics. And yet it seemed to me that he was far from depressed but was, indeed, jubilant. I can only judge by outward appearance, but you can do better. Tell me, friend Giskard, what was his mental attitude at the conclusion of this portion of his conversation with Madam Gladia?"

Giskard said, "As I look back on it, it was not only jubilant but triumphant, friend Daneel. You are right. Now that you have explained your process of thought, that sensation of triumph I detected clearly marks the accuracy of your reasoning. In fact, now that you have marked it all out, I find myself at a loss to account for my inability to see it for myself."

"That, friend Giskard, was, on a number of occasions, my reaction to the reasoning of Elijah Baley. That I could carry through such reasoning on this occasion may be, in part, because of the strong stimulus of the existence of the present crisis. It forces me to think more cogently."

"You underestimate yourself, friend Daneel. You have been thinking cogently for a long time. But why do you speak of a present crisis? Pause a moment and explain. How does one go from Dr. Mandamus's feeling of triumph at not being descended from Mr. Baley to this crisis you speak of?"

Daneel said, "Dr. Mandamus may have deceived us in his statements concerning Dr. Amadiro, but it may be fair to suppose that it is nevertheless true that he longs for advancement; that he is ambitious to become head of the Institute. Is that not so, friend Giskard?"

Giskard paused a moment, as though in thought, then said, "I was not searching for ambition. I was studying his mind without particular purpose and was aware of only surface manifestations. Yet there might have been flashes of ambition there when he spoke of advancement. I do not have strong grounds for agreeing with you, friend Daneel, but I have no grounds at all for disagreeing with you."

"Let us accept Dr. Mandamus as an ambitious man, then, and see where that takes us. Agreed?"

"Agreed. "

"Then does it not seem likely that his sense of triumph, once he was convinced that he was not descended from Partner Elijah, arose from the fact that he felt his ambition could now be served. This would not be so, however, because of Dr. Amadiro's approval, since we have agreed that the Dr. Amadiro motif was introduced by Dr. Mandamus as a distraction. His ambition could now be served for some other reason."

"What other reason?"

"There is none that arises out of compelling evidence. But I can suggest one as a matter of speculation. What if Dr. Mandamus knows something or can do something that would lead to some huge success; one that would surely make him the next head? Remember that at the conclusion of the search into the manner of his descent, Dr. Mandamus said, 'There are powerful methods remaining to me.' Suppose that is true, but that he could only use those methods if he were not descended from Partner Elijah. His jubilation over having been convinced of his nondescent would arise, then, from the fact that he could now use those methods and assure himself of great advancement. "

"But what are these 'powerful methods,' friend Daneel?"

Daneel said gravely, "We must continue to speculate. We know that Dr. Amadiro wants nothing so much as to defeat Earth and force it back to its earlier position of subservience to the Spacer worlds. If Dr. Mandamus has a way of doing this, he can surely get anything he wants out of Dr. Amadiro, up to and including a guarantee of succession to the headship. Yet it may be that Dr. Mandamus hesitates to bring about Earth 's defeat and humiliation unless he felt no kinship to its people. Descent from Elijah Baley of Earth would inhibit him. The denial of that descent frees him to act and that makes him jubilant. "

Giskard said, "You mean Dr. Mandamus is a man of conscience?"

"Conscience?"

"It is a word human beings sometimes use. I have gathered that it is applied to a person who adheres to rules of behavior that force him to act in ways that oppose his immediate self-interest. If Dr. Mandamus feels that he cannot allow himself to advance at the expense of those with whom he is distantly connected, I imagine him to be a man of

conscience. I have thought much of such things, friend Daneel, since they seem to imply that human beings do have Laws governing their behavior, at least in some cases."

"And can you tell whether Dr. Mandamus is, indeed, a man of conscience?"

"From my observations of his emotions? No, I was not watching for anything like that, but if your analysis is correct, conscience would seem to follow. --and yet, on the other hand, if we begin by supposing him a man of conscience and argue backward, we can come to other conclusions. It might seem that if Dr. Mandamus thought he had an Earthman in his ancestry a mere nineteen and a half decades ago, he might feel driven, against his conscience, to spearhead an attempt to defeat Earth as a way of freeing himself from the stigma of such descent. If he were not so descended, then he would not be unbearably driven to act against Earth and his conscience would be free to cause him to leave Earth alone."

Daneel said, "No, friend Giskard. That would not fit the facts. However relieved he might be at not having to take violent action against Earth, he would be left without a way of satisfying Dr. Amadiro and enforcing his own advance. Considering his ambitious nature, he would not be left with the feeling of triumph you so clearly noted."

"I see. Then we conclude that Dr. Mandamus has a method for defeating Earth."

"Yes. And if that is so, then the crisis foreseen by Partner Elijah has not been safely passed after all, but is now here."

Giskard said thoughtfully, "But we are left with the key question unanswered, friend Daneel. What is the nature of the crisis? What is the deadly danger? Can you deduce that, too?"

"That I cannot do, friend Giskard. I have gone as far as I can. Perhaps Partner Elijah might have gone farther were he still alive, but I cannot. --Here I must depend upon you, friend Giskard."

"Upon me? In what way?"

"You can study the mind of Dr. Mandamus as I cannot, as no one else can. You can discover the nature of the crisis."

"I fear I cannot, friend Daneel. If I lived with a human being over an extended period, as once I lived with Dr. Fastolfe, as now I live with Madam Gladia, I could, little by little, unfold the layers of mind, one leaf after another, untie the intricate knot a bit at a time, and learn a great deal without harming him or her. To do the same to Dr. Mandamus after one brief meeting or after a hundred brief meetings would accomplish little. Emotions are readily apparent, thoughts are not. If, out of a sense of urgency, I attempted to make haste, forcing the process, I would surely injure him--and that I cannot do."

"Yet the fate of billions of people on Earth and billions more in the rest of the Galaxy may depend on this. "

"May depend on this. That is conjecture. Injury to a human being is a fact. Consider that it may be only Dr. Mandamus who knows the nature of the crisis and carry it through to a conclusion. He could not use his knowledge or ability to force Dr. Amadiro to grant him the headship--if Dr. Amadiro could gain it from another source."

"True," said Daneel. "That may be well so."

"In that case, friend Daneel, it is not necessary to know the nature of the crisis. If Dr. Mandamus could be restrained from telling Dr. Amadiro--or anyone else--whatever it is he knows, the crisis will not come to pass."

"Someone else might discover what Dr. Mandamus now knows."

"Certainly, but we don't know when that will be. Very likely, we will have time to probe further and discover more--and become better prepared to play a useful role of our own."

"Well, then."

"If Dr. Mandamus is to be restrained, it can be done by damaging his mind to the point where it is no longer effective--or by destroying his life outright. I alone possess the ability to injure his mind appropriately, but I cannot do this. However, either one of us can physically bring his life to an end. I cannot do this, either. Can you do it, friend Daneel?"

There was a pause and Daneel finally whispered. "I cannot. You know that."

Giskard said slowly, "Even though you know that the future of billions of people on Earth and elsewhere is at stake?"

"I cannot bring myself to injure Dr. Mandamus."

"And I cannot. So we are left with the certainty of a deadly crisis coming, but a crisis whose nature we do not know, and cannot find out, and which we are therefore helpless to counter."

They stared at each other in silence, with nothing showing in their faces, but with an air of despair settling somehow over them.

4. ANOTHER DESCENDANT

10.

Gladia had tried to relax after the harrowing session with Mandamus--and did so with an intensity that fought relaxation to the death. She had opacified all the windows in her bedroom, adjusted the environment to a gentle warm breeze with the faint sound of rustling leaves and the occasional soft warble of a distant bird. She had then shifted it to the sound of a far-off surf and had added a faint but unmistakable tang of the sea in the air.

It didn't help. Her mind echoed helplessly with what had just been--and with what was soon to come. Why had she chattered so freely to Mandamus? What business was it of his--or of Amadiro's, for that matter--whether she had visited Elijah in orbit or not and whether or not--or when--she had had a son by him or by any other man.

She had been cast into imbalance by Mandamus's claim of descent, that's what it was. In a society where no one cared about descent or relationship except for medico-genetic reasons, its sudden intrusion into a conversation was bound to be upsetting. That and the repeated (but surely accidental) references to Elijah.

She decided she was finding excuses for herself and, in impatience, she tossed it all away. She had reacted badly and had babbled like a baby and that was all there was to it.

Now there was this Settler coming.

He was not an Earthman. He had not been born on Earth, she was sure, and it was quite possible that he had never even visited Earth. His people might have lived on a strange world she had never heard of and might have done so for generations.

That would make him a Spacer, she thought. Spacers were descended from Earthmen, too--centuries further back, but what did that matter? To be sure, Spacers were long-lived and these Settlers must be short-lived, but how much of a distinction was that? Even a Spacer might die prematurely through some freak accident; she had once heard of a Spacer who had died a natural death before he was sixty. Why not, then, think of the next visitor as a Spacer with an unusual accent?

But it wasn't that simple. No doubt the Settler did not feel himself to be a Spacer. It's not what you are that counts, but what you feel yourself to be. So think of him as a Settler, not a Spacer.

Yet weren't all human beings simply human beings no matter what name you applied to them--Spacers, Settlers, Aurorans, Earthpeople. The proof of it was that robots could not do injury to any of them. Daneel would spring as quickly to the defense of the most ignorant Earthman as to the Chairman of the Auroran Council--and that meant she could feel herself drifting, actually relaxing into a shallow sleep when a sudden thought entered her mind and seemed to ricochet there.

Why was the Settler named Baley?

Her mind sharpened and snapped out of the welcoming coils of oblivion that had all but engulfed her.

Why Baley?

Perhaps it was simply a common name among the Settlers. After all, it was Elijah who had made it all possible and he had to be a hero to them as--as--

She could not think of an analogous hero to Aurorans. Who had led the expedition that first reached Aurora? Who had supervised the terraformation of the raw barely living world that Aurora had then been? She did not know.

Was her ignorance born of the fact that she had been brought up on Solaria--or was it that the Aurorans simply had no founding hero? After all, the first expedition to Aurora had consisted of mere Earthpeople. It was only in later generations, with lengthening life-spans, thanks to the adjustments of sophisticated bioengineering, that Earthpeople had become Aurorans. And after that, why should Aurorans wish to make heroes of their despised predecessors?

But Settlers might make heroes of Earthpeople. They had not yet changed, perhaps. They might change eventually and then Elijah would be forgotten in embarrassment, but till then that must be it. Probably half the Settlers alive had adopted the Baley surname. Poor Elijah! Everyone crowding onto his shoulders and into his shadow. Poor Elijah--dear Elijah.

And she did fall asleep.

11.

The sleep was too restless to restore her to calm, let alone good humor. She was scowling without knowing that she was--and had she seen herself in the mirror, she would have been taken aback by her middle-aged appearance.

Daneel, to whom Gladia was a human being, regardless of age, appearance, or mood, said, "Madam--"

Gladia interrupted, with a small shiver. "Is the Settler here?"

She looked up at the clock ribbon on the wall and then made a quick gesture, in response to which Daneel at once adjusted the heat upward. (It had been a cool day and was going to be a cooler evening.)

Daneel said, "He is, madam."

"Where have you put him?"

"In the main guest room, madam. Giskard is with him and the household robots are all within call."

"I hope they will have the judgment to find out what he expects to eat for lunch. I don't know Settler cuisine. And I hope they can make some reasonable attempt to meet his requests."

"I am sure, madam, that Giskard will handle the matter competently. "

Gladia was sure of that, too, but she merely snorted. At least it would have been a snort if Gladia were the sort of person who snorted. She didn't think she was.

"I presume," she said, "he's been in appropriate quarantine before being allowed to land."

"It would be inconceivable for him not to have been, madam."

She said, "Just the same, I'll wear my gloves and my nose filter. "

She stepped out of her bedroom, was distantly aware that there were household robots about her, and made the sign that would get her a new pair of gloves and a fresh nose filter. Every establishment had its own vocabulary of signs and every human member of an establishment cultivated those signs, learning to make them both rapidly and unnoticeably. A robot was expected to follow these unobtrusive orders of its human overlords as though it read minds; and it followed that a robot could not follow the orders of nonestablishment human beings except by careful speech.

Nothing would humiliate a human member of an establishment more than to have one of the robots of the establishment hesitate in fulfilling an order or, worse, fulfill it incorrectly. That would mean that the human being had fumbled a sign--or that the robot had.

Generally, Gladia knew, it was the human being who was at fault, but in virtually every case, this was not admitted. It was the robot who was handed over for an unnecessary response analysis or unfairly put up for sale. Gladia had always felt that she

would never fall into that trap of wounded ego, yet if at that moment she had not received her gloves and nose filter, she would have.

She did not have to finish the thought. The nearest robot brought her what she wanted, correctly and with speed.

Gladia adjusted the nose filter and snuffled a bit to make sure it was properly seated (she was in no mood to risk infection with any foul disorder that had survived the painstaking treatment during quarantine). She said, "What does he look like, Daneel?"

Daneel said, "He is of ordinary stature and measurements, madam. "

"I mean his face. " (It was silly to ask. If he showed any family resemblance to Elijah Baley, Daneel would have noticed it as quickly as she herself would have and he would have remarked upon it.)

"That is difficult to say, madam. It is not in plain view."

"What does that mean? Surely he's not masked, Daneel."

"In a way, he is, madam. His face is covered with hair."

"Hair?" She found herself laughing. "You mean after the fashion of the hypervision historicals? Beards?" She made little gestures indicating a tuft of hair on the chin and another under the nose.

"Rather more than that, madam. Half his face is covered."

Gladia's eyes opened wide and for the first time she felt a surge of interest in seeing him. What would a face with hair all over it look like? Auroran males--and Spacer males, generally--had very little facial hair and what there was would be removed permanently by the late teens--during virtual infancy.

Sometimes the upper lip was left untouched. Gladia remembered that her husband, Santirix Gremionis, before their marriage, had had a thin line of hair under his nose. A moustache, he had called it. It had looked like a misplaced and peculiarly misshapen eyebrow and once she had resigned herself to accepting him as a husband, she had insisted he destroy the follicles.

He had done so with scarcely a murmur and it occurred to her now, for the first time, to wonder if he had missed the hair. It seemed to her that she had noticed him, on occasion, in those early years, lifting a finger to his upper lip. She had thought it a nervous poking at a vague itch and it was only now that it occurred to her that he had been searching for a moustache that was gone forever.

How would a man look with a moustache all over his face? Would he be bear-like? How would it feel? What if women had such hair, too? She thought of a man and woman trying to kiss and having trouble finding each other's mouths. She found the thought funny, in a harmlessly ribald way, and laughed out loud. She felt her petulance disappearing and actually looked forward to seeing the monster.

After all, there would be no need to fear him even if he were as animal in behavior as he was in appearance. He would have no robot of his own--Settlers were supposed to have a nonrobotic society--and she would be surrounded by a dozen. The monster would be immobilized in a split second if he made the slightest suspicious move--or if he as much as raised his voice in anger.

She said with perfect good humor, "Take me to him, Daneel."

12.

The monster rose. He said something that sounded like "Gode arternoon, muhleddy."

She at once caught the "good afternoon," but it took her a moment to translate the last word into "my lady."

Gladia absently said, "Good afternoon. " She remembered the difficulty she had had understanding Auroran pronunciation of Galactic Standard in those long-ago days when, a frightened young woman, she had come to the planet from Solaria.

The monster's accent was uncouth--or did it just sound uncouth because her ear was unaccustomed to it? Elijah, she remembered, had seemed to voice his "k's" and "p's," but spoke pretty well otherwise. Nineteen and a half decades had passed, however, and this Settler was not from Earth. Language, in isolation, underwent changes.

But only a small portion of Gladia's mind was on the language problem. She was staring at his beard.

It was not in the least like the beards that actors wore in historical dramas. Those always seemed tufted--a bit here, a bit there--looking gluey and glossy.

The Settler's beard was different. It covered his cheeks and chin evenly, thickly, and deeply. It was a dark brown, somewhat lighter and wavier than the hair on his head, and at least two inches long, she judged--evenly long.

It didn't cover his whole face, which was rather disappointing. His forehead was totally bare (except for his eyebrows), as were his nose and his under-eye regions.

His upper lip was bare, too, but it was shadowed as though there was the beginning of new growth upon it. There was additional bareness just under the lower lip, but with new growth less marked and concentrated mostly under the middle portion.

Since both his lips were quite bare, it was clear to Gladia that there would be no difficulty in kissing him. She said, knowing that staring was impolite and staring even so, "It seems to me you remove the hair from about your lips."

"Yes, my lady."

"Why, if I may ask?"

"You may ask. For hygienic reasons. I don't want food catching in the hairs."

"You scrape it off, don't you? I see it's growing again."

"I use a facial laser. It takes fifteen seconds after waking. "

"Why not depilate and be done with it?"

"I might want to grow it back."

"Why?"

"Esthetic reasons, my lady?"

This time Gladia did not grasp the word. It sounded like "acidic" or possibly "acetic. "

She said, "Pardon me?"

The Settler said, "I might grow tired of the way I look now and want to grow the hair on the upper lip again. Some women like it, you know, and"--the Settler tried to look modest and failed--"I have a fine moustache when I grow it."

She said suddenly grasping the word, "You mean ' esthetic '."

The Settler laughed, showing fine white teeth, and said, "You talk funny, too, my lady."

Gladia tried to look haughty, but melted into a smile. Proper pronunciation was a matter of local consensus. She said, "You ought to hear me with my Solarian accent--if it comes to that. Then it would be 'estheetic rayzuns '." The ' r ' rolled interminably.

"I've been places where they talk a little bit like that. It sounds barbarous." He rolled both ' r's ' phenomenally in the last word.

Gladia chuckled. "You do it with the tip of your tongue. It's got to be with the sides of the tongue. No one but a Solarian can do it correctly."

"Perhaps you can teach me. A Trader like myself, who's been everywhere, hears all kinds of linguistic perversions." Again he tried to roll the ' r's' of the last word, choked slightly, and coughed.

"See. You'll tangle your tonsils and you'll never recover." She was still staring at his beard and now she could curb her curiosity no longer. She reached toward it.

The Settler flinched and started back, then, realizing her intention, was still.

Gladia's hand, all-but-invisibly gloved, rested lightly on the left side of his face. The thin plastic that covered her fingers did not interfere with the sense of touch and she found the hair to be soft and springy.

"It's nice," she said with evident surprise.

"Widely admired," said the Settler, grinning.

She said, "But I can't stand here and manhandle you all day."

Ignoring his predictable "You can as far as I'm concerned," she went on. "Have you told my robots what you would like to eat?"

"My lady, I told them what I now tell you--whatever is handy. I've been on a score of worlds in the last year and each has its own dietary. A Trader learns to eat everything that isn't actually toxic. I'd prefer an Auroran meal to anything you would try to make in imitation of Baleyworld."

"Baleyworld?" said Gladia sharply, a frown returning to her face.

"Named for the leader of the first expedition to the planet--or to any of the Settled planets, for that matter. Ben Baley."

"The son of Elijah Baley?"

"Yes," the Settler said and changed the subject at once. He looked down at himself and said with a trace of petulance, "How do you people manage to stand these clothes of yours--slick and puffy. Be glad to get into my own again."

"I'm sure you will have your chance to do so soon enough. But for now please come and join me at lunch. -I was told your name was Baley, by the way--like your planet."

"Not surprising. It's the most honored name on the planet, naturally. I'm Deejee Baley."

They had walked into the dining room, Giskard preceding them, Daneel following them, each moving into his appropriate wall niche. Other robots were already in their niches and two emerged to do the serving. The room was bright with sunshine, the walls were alive with decoration, the table was set, and the odor of the food was enticing.

The Settler sniffed and let his breath out in satisfaction. "I don't think I'll have any trouble at all eating Auroran food. --Where would you like me to sit, my lady?"

A robot said at once, "If you would sit here, sir?"

The Settler sat down and then Gladia, the privileges of the guest satisfied, took her own seat.

"Deejee?" she said. "I do not know the nomenclatural peculiarities of your world, so excuse me if my question is offensive. Wouldn't Deejee be a feminine name?"

"Not at all," said the Settler a bit stiffly. "In any case, it is not a name, it is a pair of initials. Fourth letter of the alphabet and the seventh."

"Oh," said Gladia, enlightened, "D.G. Baley. And what do the initials stand for, if you'll excuse my curiosity?"

"Certainly. There's 'D,' for certain," he said, jerking his thumb toward one of the wall niches, "and I suspect that one may be 'G.'" He jerked his thumb toward another.

"You don't mean that," said Gladia faintly.

"But I do. My name is Daneel Giskard Baley. In every generation, my family has had at least one Daneel or one Giskard in its multiplying batches. I was the last of six children, but the first boy. My mother felt that was enough and made up for having but one son by giving me both names. That made me Daneel Giskard Baley and the double load was too great for me. I prefer D.G. as my name and I'd be honored if you used it." He smiled genially. "I'm the first to bear both names and I'm also the first to see the grand originals."

"But why those names?"

"It was Ancestor Elijah's idea, according to the family story. He had the honor of naming his grandsons and he named the oldest Daneel, while the second was named Giskard. He insisted on those names and that established the tradition."

"And the daughters?"

"The traditional name from generation to generation is Jezebel--Jessie. Elijah's wife, you know."

"I know."

"There are no--" He caught himself and transferred his attention to the dish that had been placed before him. "If this were Baleyworld, I would say this was a slice of roast pork and that it was smothered in peanut sauce."

"Actually, it is a vegetable dish, D.G. What you were about to say was that there are no Gladias in the family."

"There aren't," said D.G. calmly. "One explanation is that Jessie--the original Jessie--would have objected, but I don't accept that. Elijah's wife, the Ancestress, never

came to Baleyworld, you know, never left Earth. How could she have objected? No, to me, it's pretty certain that the Ancestor wanted no other Gladia. No imitations, no copies, no pretense. One Gladia. Unique. --He asked that there be no later Elijah, either."

Gladia was having trouble eating. "I think your Ancestor spent the latter portion of his life trying to be as unemotional as Daneel. Just the same, he had romantic notions under his skin. He might have allowed other Elijahs and Gladias. It wouldn't have offended me, certainly, and I imagine it wouldn't have offended his wife, either." She laughed tremulously.

D.G. said, "All this doesn't seem real somehow. The Ancestor is practically ancient history; he died a hundred and sixty-four years ago. I'm his descendant in the seventh generation, yet here I am sitting with a woman who knew him when he was quite young."

"I didn't really know him," said Gladia, staring at her plate. "I saw him, rather briefly, on three separate occasions over a period of seven years."

"I know. The Ancestor's son, Ben, wrote a biography of him which is one of the literary classics of Baleyworld. Even I have read it."

"Indeed? I haven't read it. I didn't even know it existed. What--what does it say about me?"

D.G. seemed amused. "Nothing you would object to; you come out very well. But never mind that. What I'm amazed at is that here we are together, across seven generations. How old are you, my lady? Is it fair to ask the question?"

"I don't know that it's fair, but I have no objection to it. In Galactic Standard Years, I am two hundred and thirty-three years old. Over twenty-three decades."

"You look as though you were no more than in your late forties. The Ancestor died at the age of seventy-nine, an old man. I'm thirty-nine and when I die you will still be alive--"

"If I avoid death by misadventure."

"And will continue to live perhaps five decades beyond."

"Do you envy me, D.G.?" said Gladia with an edge of bitterness in her voice. "Do you envy me for having survived Elijah by over sixteen decades and for being condemned to survive him ten decades more, perhaps?"

"Of course I envy you," came the composed answer. "Why not? I would have no objection to living for several centuries, were it not that I would be setting a bad example to the people of Baleyworld. I wouldn't want them to live that long as a general thing. The pace of historical and intellectual advance would then become too slow. Those at the top would stay in power too long. Baleyworld would sink into conversation and decay--as your world has done. "

Gladia's small chin lifted. "Aurora is doing quite well, you'll find."

"I'm speaking of your world. Solaria."

Gladia hesitated, then said firmly, "Solaria is not my world."

D.G. said, "I hope it is. I came to see you because I believe Solaria is your world."

"If that is why you came to seem me, you are wasting your time, young man."

"You were born on Solaria, weren't you, and lived there a while?"

"I lived there for the first three decades of my life--about an eighth of my lifetime."

"Then that makes you enough of a Solarian to be able to help me in a matter that is rather important."

"I am not a Solarian, despite this so-called important matter."

"It is a matter of war and peace--if you call that important. The Spacer worlds face war with the Settler worlds and things will go badly for all of us if it comes to that. And it is up to you, my lady, to prevent that war and to ensure peace."

13.

The meal was done (it had been a small one) and Gladia found herself looking at D.G. in a coldly furious way.

She had lived quietly for the last twenty decades, peeling off the complexities of life. Slowly she had forgotten the misery of Solaria and the difficulties of adjustment to Aurora. She had managed to bury quite deeply the agony of two murders and the ecstasy of two strange loves--with a robot and with an Earthman--and to get well past it all. She had ended by spinning out a long quiet marriage, having two children, and working at her applied art of costumery. And eventually the children had left, then her husband, and soon she might be retiring even from her work.

Then she would be alone with her robots, content with--or, rather, resigned to--letting life glide quietly and uneventfully to a slow close in its own time--a close so gentle she might not be aware of the ending when it came.

It was what she wanted.

Then--What was happening?

It had begun the night before when she looked up vainly at the star-lit sky to see Solaria's star, which was not in the sky and would not have been visible to her if it were. It was as though this one foolish reaching for the past--a past that should have been allowed to remain dead--had burst the cool bubble she had built about herself.

First the name of Elijah Baley, the most joyously painful memory of all the ones she had so carefully brushed away, had come up again and again in a grim repetition.

She was then forced to deal with a man who thought--mistakenly--he might be a descendant of Elijah in the fifth degree and now with another man who actually was a descendant in the seventh degree. Finally, she was now being given problems and responsibilities similar to those that had plagued Elijah himself on various occasions.

Was she becoming Elijah, in a fashion, with none of his talent and none of his fierce dedication to duty at all costs?

What had she done to deserve it?

She felt her rage being buried under a flood tide of self-pity. She felt unjustly dealt with. No one had the right to unload responsibility on her against her will.

She said, forcing her voice level, "Why do you insist on my being a Solarian, when I tell you that I am not a Solarian?"

D.G. did not seem disturbed by the chill that had now entered her voice. He was still holding the soft napkin that had been given him at the conclusion of the meal. It had been damply hot--not too hot--and he had imitated the actions of Gladia in carefully wiping his hands and mouth. He had then doubled it over and stroked his beard with it. It was shredding now and shriveling.

He said, "I presume it will vanish altogether."

"It will." Gladia had deposited her own napkin in the appropriate receptacle on the table. Holding it was unmannerly and could be excused only by D.G.'s evident unfamiliarity with civilized custom. "There are some who think it has a polluting effect on the atmosphere, but there is a gentle draft that carries the residue upward and traps it in filters. I doubt that it will give us any trouble. --but you ignore my question, sir."

D.G. wadded what was left of his napkin and placed it on the arm of the chair. A robot, in response to Gladia's quick and unobtrusive gesture, removed it.

D.G. said, "I don't intend to ignore your question, my lady. I am not trying to force you to be a Solarian. I merely point out that you were born on Solara and spent your early decades there and therefore you might reasonably be considered a Solarian, after a fashion at least. --Do you know that Solara has been abandoned?"

"So I have heard. Yes."

"Do you feel anything about that?"

"I am an Auroran and have been one for twenty decades."

"That is a non sequitur."

"A what?" She could make nothing of the last sound at all.

"It has not connection with my question. "

"A non sequitur, you mean. You said a 'nonsense quitter. ' "

D.G. smiled. "Very well. Let's quit the nonsense. I ask you if you feel anything about the death of Solara and you tell me you're an Auroran. Do you maintain that is an answer? A born Auroran might feel badly at the death of a sister world. How do you feel about it?"

Gladia said icily, "It doesn't matter. Why are you interested?"

"I'll explain. We--I mean the Traders of the Settler worlds--are interested because there is business to be done, profits to be made, and a world to be gained. Solara is already terraformed; it is a comfortable world; you Spacers seem to have no need or desire for it. Why would we not settle it?"

"Because it's not yours."

"Madam, is it yours that you object? Has Aurora any more claim to it than Baleyworld has? Can't we suppose that an empty world belongs to whoever is pleased to settle it?"

"Have you settled it?"

"No--because it's not empty."

"Do you mean the Solarians have not entirely left?" Gladia said quickly.

D.G.'s smile returned and broadened into a grin. "You're excited at the thought. --Even though you 're an Auroran. "

Gladia's face twisted into a frown at once. "Answer my question."

D.G. shrugged. "There were only some five thousand Solarians on the world just before it was abandoned, according to our best estimates. The population had been declining for years. But even five thousand--Can we be sure that all are gone? However, that's not the point. Even if the Solarians were indeed all gone, the planet would not be empty. There are, upon it, some two hundred million or more robots--masterless robots--some of them among the most advanced in the Galaxy. Presumably, those Solarians who left took some robots with them--it's hard to imagine Spacers doing without robots altogether." (He looked about, smiling, at the robots in their niches within the room.) "However, they can't possibly have taken forty thousand robots apiece. "

Gladia said, "Well, then, since your Settler worlds are so purely robot-free and wish to stay so, I presume, you can't settle Solaria."

"That's right. Not until the robots are gone and that is where Traders such as myself come in."

"In what way?"

"We don't want a robot society, but we don't mind touching robots and dealing with them in the way of business. We don't have a superstitious fear of the things. We just know that a robot society is bound to decay. The Spacers have carefully made that plain to us by example. So that while we don't want to live with this robotic poison, we are perfectly willing to sell it to Spacers for a substantial sum--if they are so foolish as to want such a society."

"Do you think Spacers will buy them?"

"I'm sure they will. They will welcome the elegant modes that the Solarians manufacture. It's well known that they were the leading robot designers in the Galaxy, even though the late Dr. Fastolfe is said to have been unparalleled in the field, despite the fact that he was an Auroran. --Besides, even though we would charge a substantial sum, that sum would still be considerably less than the robots are worth. Spacers and Traders would both profit--the secret of successful trade."

"The Spacers wouldn't buy robots from Settlers," said Gladia with evident contempt.

D.G. had a Trader's way of ignoring such nonessentials as anger or contempt. It was business that counted. He said, "Of course they would. Offer them advanced robots at half price and why should they turn them down? Where business is to be done, you would be surprised how unimportant questions of ideology become. "

"I think you'll be the one to be surprised. Try to sell your robots and you'll see."

"Would that I could, my lady. Try to sell them, that is. I have none on hand."

"Why not?"

"Because none have been collected. Two separate trading vessels have landed on Solaria, each capable of storing some twenty-five robots. Had they succeeded, whole fleets of trading vessels would have followed them and I dare say we would have continued to do business for decades--and then have settled the world."

"But they didn't succeed. Why not?"

"Because both ships were destroyed on the surface of the planet and, as far as we can tell, all the crewmen are dead."

"Equipment failure?"

"Nonsense. Both landed safely; they were not wrecked. Their last reports were that Spacers were approaching whether Solarians or natives of other Spacer worlds, we don't know. We can only assume that the Spacers attacked without warning."

"That's impossible."

"Is it?"

"Of course it's impossible. What would be the motive?"

"To keep us off the world, I would say."

"If they wished to do that," said Gladia, "they would merely have had to announce that the world was occupied."

"They might find it more pleasant to kill a few Settlers. At least, that's what many of our people think and there is pressure to settle the matter by sending a few warships to Solaria and establishing a military base on the planet."

"That would be dangerous."

"Certainly. It could lead to war. Some of our fire-eaters look forward to that. Perhaps some Spacers look forward to that, too, and have destroyed the two ships merely to provoke hostilities."

Gladia sat there amazed. There had been no hint of strained relations between Spacers and Settlers on any of the news programs.

She said, "Surely it's possible to discuss the matter. Have your people approached the Spacer Federation?"

"A thoroughly unimportant body, but we have. We've also approached the Auroran Council."

"And?"

"The Spacers deny everything. They suggest that the potential profits in the Solarian robot trade are so high that Traders, who are interested only in money--as though they themselves are not--would fight each other over the matter. Apparently, they would have us believe the two ships destroyed each other, each hoping to monopolize the trade for their own world."

"The two ships were from two different worlds, then?"

"Yes."

"Don't you think, then, that there might indeed have been a fight between them?"

"I don't think it's likely, but I will admit it's possible. There have been no outright conflicts between the Settler worlds, but there have been some pretty strenuous disputes. All have been settled through arbitration by Earth. Still, it is indeed a fact that the Settler worlds might, in a pinch, not hang together when multibillion-dollar trade is at stake. That's why war is not such a good idea for us and why something will have to be done to discourage the hotheads. That's where we come in."

"We?"

"You and I. I have been asked to go to Solaria and find out--if I can--what really happened. I will take one ship--armed, but not heavily armed."

"You might be destroyed, too."

"Possibly. But my ship, at least, won't be caught unprepared. Besides, I am not one of those hypervision heroes and I have considered what I might do to lessen the chances of destruction. It occurred to me that one of the disadvantages of Settler penetration of Solaria is that we don't know the world at all. It might be useful, then, to take someone who knows the world--a Solarian, in short."

"You mean you want to take me?"

"Right, my lady."

"Why me?"

"I should think you could see that without explanation, my lady. Those Solarians who have left the planet are gone we know not where. If any Solarians are left on the planet, they are very likely the enemy. There are no known Solarian-born Spacers living on some Spacer planet other than Solaria--except yourself. You are only Solarian available to me--the only one in all the Galaxy. That's why I must have you and that's why you must come."

"You're wrong, Settler. If I am the only one available to you, then you have no one who is available. I do not intend to come with you and there is no way--absolutely no way that you can force me to come with you. I am surrounded by my robots. Take one step in my direction and you will be immobilized at once--and if you struggle you will be hurt."

"I intend no force. You must come of your own accord and you should be willing to. It's a matter of preventing war."

"That is the job of governments on your side and mine. I refuse to have anything to do with it. I am a private citizen."

"You owe it to your world. We might suffer in case of war, but so will Aurora."

"I am not one of those hypervision heroes, any more than you are."

"You owe it to me, then."

"You're mad. I owe you nothing."

D.G. smiled narrowly. "You owe me nothing as an individual. You owe me a great deal as a descendant of Elijah Baley."

Gladia froze and remained staring at the bearded monster for a long moment. How did she come to forget who he was?

With difficulty, she finally muttered, "No."

"Yes," said D.G. forcefully. "On two different occasions, the Ancestor did more for you than you can ever repay. He is no longer here to call in the debt--a small part of the debt. I inherit the right to do so."

Gladia said in despair, "But what can I do for you if I come with you?"

"We'll find out. Will you come?" Desperately, Gladia wanted to refuse, but was it for this that Elijah had suddenly become part of her life, once more, in the last twenty-four hours? Was it so that when this impossible demand was made upon her, it would be in his name and she would find it impossible to refuse?

She said, "What's the use? The Council will not let me go with you. They will not have an Auroran taken away on a Settler's vessel."

"My lady, you have been here on Aurora for twenty decades, so you think the Auroran-born consider you an Auroran. It's not so. To them, you are a Solarian still. They'll let you go."

"They won't," said Gladia, her heart pounding and the skin of her upper arms turning to gooseflesh. He was right. She thought of Amadiro, who would surely think of her as nothing but a Solarian. Nevertheless, she repeated, "They won't," trying to reassure herself.

"They will," retorted D.G. "Didn't someone from your Council come to you to ask you to see me?"

She said defiantly, "He asked me only to report this conversation we have had. And I will do so."

"If they want you to spy on me here in your own home, my lady, they will find it even more useful to have you spy on me on Solaria." He waited for a response and when there was none, he said with a trace of weariness, "My lady, if you refuse, I won't force you because I won't have to. They will force you. But I don't want that. The Ancestor would not want it if he were here. He would want you to come with me out of gratitude to him and for no other reason. My lady, the Ancestor labored on your behalf under conditions of extreme difficulty. Won't you labor on behalf of his memory?"

Gladia's heart sank. She knew she could not resist that. She said, "I can't go anywhere without robots."

"I wouldn't expect you to." D.G. was grinning again. "Why not take my two namesakes? Do you need more?"

Gladia looked toward Daneel. but he was standing motionless. She looked toward Giskard--the same. And then it seemed to her that, for just a moment, his head moved--very slightly--up and down.

She had to trust him. She said, "Well, then, I'll come with you. These two robots are all I will need."

PART II – SOLARIA

5. THE ABANDONED WORLD

14.

For the fifth time in her life, Gladia found herself on a spaceship. She did not remember, offhand, exactly how long ago it had been that she and Santirix had gone together to the world of Euterpe because its rain forests were widely recognized as incomparable, especially under the romantic glow of its bright satellite, Gemstone.

The rain forest had, indeed, been lush and green, with the trees carefully planted in rank and file and the animal life thoughtfully selected so as to provide color and delight, while avoiding venomous or other unpleasant creatures.

The satellite, fully 150 kilometers in diameter, was close enough to Euterpe to shine like a brilliant dot of sparkling light. It was so close to the planet that one could see it sweep west to east across the sky, outstripping the planet's slower rotational motion. It brightened as it rose toward zenith and dimmed as it dropped toward the horizon again. One watched it with fascination the first night, with less the second, and with a vague discontent the third--assuming the sky was clear on those nights, which it usually wasn't.

The native Euterpans, she noted, never looked at it, though they praised it loudly to the tourists, of course.

On the whole, Gladia had enjoyed the hip well enough, but what she remembered most keenly was the joy of her return to Aurora and her decision not to travel again except under dire need. (Come to think of it, it had to be at least eight decades ago.)

For a while, she had lived with the uneasy fear that her husband would insist on another hip, but he never mentioned one. It might well be, she sometimes thought at that time, that he had come to the same decision she had and feared she might be the one to want to travel.

It didn't make them unusual to avoid hips. Aurorans generally--Spacers generally, for that matter--tended to be stay-at-homes. Their worlds, their establishments, were too comfortable. After all, what pleasure could be greater than that of being taken care of by your own robots, robots who knew your every signal, and, for that matter, knew your ways and desires even without being told.

She stirred uneasily. Was that what D.G. had meant when he spoke of the decadence of a roboticized society?

But now she was back again in space, after all that time. And on an Earth ship, too.

She hadn't seen much of it, but the little she had glimpsed made her terribly uneasy. It seemed to be nothing but straight lines, sharp angles, and smooth surfaces. Everything that wasn't stark had been eliminated, apparently. It was as though nothing must exist but functionality. Even though she didn't know what was exactly functional

about any particular object on the ship, she felt it to be all that was required, that nothing was to be allowed to interfere with taking the shortest distance between two points.

On everything Auroran (on everything Spacer, one might almost say, though Aurora was the most advanced in that respect), everything existed in layers. Functionality was at the bottom--one could not entirely rid one's self of that, except in what was pure ornament--but overlying that there was always something to satisfy the eyes and the senses, generally; and overlying that, something to satisfy the spirit.

How much better that was!--or did it represent such an exuberance of human creativity that Spacers could no longer live with the unadorned Universe--and was that bad? Was the future to belong to these from-here-to-there geometrizers? Or was it just that the Settlers had not yet learned the sweetnesses of life?

But then, if life had so many sweetnesses to it, why had she found so few for herself?

She had nothing really to do on board this ship but to ponder and reponder such questions. This D.G., this Elijah descended barbarian, had put it into her head with his calm assumption that the Spacer worlds were dying, even though he could see all about him even during the shortest stay on Aurora (surely, he would have to) that it was deeply embedded in wealth and security.

She had tried to escape her own thoughts by staring at the holofilms she had been supplied with and watching, with moderate curiosity, the images flickering and capering on the projection surface, as the adventure story (all were adventure stories) hastened from event to event with little time left for conversation and none for thought--or enjoyment, either. Very like their furniture.

D.G. stepped in when she was in the middle of one of the films, but had stopped really paying attention. She was not caught by surprise. Her robots, who guarded her doorway, signaled his coming in ample time and would not have allowed him to enter if she were not in a position to receive him. Daneel entered with him.

D.G. said, "How are you doing?" Then, as her hand touched a contact and the images faded, shriveled, and were gone, he said, "You don't have to turn it off. I'll watch it with you."

"That's not necessary," she said. "I've had enough."

"Are you comfortable?"

"Not entirely. I am--isolated."

"Sorry! But then, I was isolated on Aurora. They would allow none of my men to come with me."

"Are you having your revenge?"

"Not at all. For one thing, I allowed you two robots of your choice to accompany you. For another, it is not I but my crew who enforce this. They don't like either Spacers or robots.--but why do you mind? Doesn't this isolation lessen your fear of infection?"

Gladia's eyes were haughty, but her voice sounded weary. "I wonder if I haven't grown too old to fear infection. In many ways, I think I have lived long enough. Then, too,

I have my gloves, my nose filters, and--if necessary--my mask. And besides, I doubt that you will trouble to touch me."

"Nor will anyone else," said D.G. with a sudden edge of grimness to his voice, as his hand wandered to the object at the right side of his hip.

Her eyes followed the motion. "What is that?" she asked. D.G. smiled and his beard seemed to glitter in the light.

There were occasional reddish hairs among the brown. "A weapon," he said and drew it. He held it by a molded hilt that bulged above his hand as though the force of his grip were squeezing it upward. In front, facing Gladia, a thin cylinder stretched some fifteen centimeters forward. There was no opening visible.

"Does that kill people?" Gladia extended her hand toward it.

D.G. moved it quickly away. "Never reach for someone's weapon, my lady. That is worse than bad manners, for any Settler is trained to react violently to such a move and you may be hurt. "

Gladia, eyes wide, withdrew her hand and placed both behind her back. She said, "Don't threaten harm. Daneel has no sense of humor in that respect. On Aurora, no one is barbarous enough to carry weapons. "

"Well," said D.G., unmoved by the adjective, "we don't have robots to protect us. --And this is not a killing device. It is, in some ways, worse. It emits a kind of vibration that stimulates those nerve endings responsible for the sensation of pain. It hurts a good deal worse than anything you can imagine. No one would willingly endure it twice and someone carrying this weapon rarely has to use it. We call it a neuronic whip. "

Gladia frowned. "Disgusting! We have our robots, but they never hurt anyone except in unavoidable emergency--and then minimally. "

D.G. shrugged. "That sounds very civilized, but a bit of pain--a bit of killing, even--is better than the decay of spirit brought about by robots. Besides, a neuronic whip is not intended to kill and your people have weapons on their spaceships that can bring about wholesale death and destruction."

"That's because we've fought wars early in our history, when our Earth heritage was still strong, but we've learned better. "

"You used those weapons on Earth even after you supposedly learned better."

"That's--" she began and closed her mouth as though to bite off what she was about to say next.

D.G. nodded. "I know. You were about to say. 'That's different. ' Think of that, my lady, if you should catch yourself wondering why my crew doesn't like Spacers. Or why I don't. --But you are going to be useful to me, my lady, and I won't let my emotions get in the way. "

"How am I going to be useful to you?"

"You are a Solarian."

"You keep saying that. More than twenty decades have passed. I don't know what Solaria is like now. I know nothing about it. What was Baleyworld like twenty decades ago?"

"It didn't exist twenty decades ago, but Solaria did and I shall gamble that you will remember something useful."

He stood up, bowed his head briefly in a gesture of politeness that was almost mocking, and was gone.

15.

Gladia maintained a thoughtful and troubled silence for a while and then she said, "He wasn't at all polite, was he?"

Daneel said, "Madam Gladia, the Settler is clearly under tension. He is heading toward a world on which two ships like his have been destroyed and their crews killed. He is going into great danger, as is his crew."

"You always defend any human being, Daneel," said Gladia resentfully. "The danger exists for me, too, and I am not facing it voluntarily, but that does not force me into rudeness."

Daneel said nothing. Gladia said, "Well, maybe it does. I have been a little rude, haven't I?"

"I don't think the Settler minded," said Daneel. "Might I suggest, madam, that you prepare yourself for bed. It is quite late."

"Very well. I'll prepare myself for bed, but I don't think I feel relaxed enough to sleep, Daneel."

"Friend Giskard assures me you will, madam, and he is usually right about such things."

And she did sleep.

16.

Daneel and Giskard stood in the darkness of Gladia's cabin.

Giskard said, "She will sleep soundly, friend Daneel, and she needs the rest. She faces a dangerous trip."

"It seemed to me, friend Giskard," said Daneel, "that you influenced her to agree to go. I presume you had a reason."

"Friend Daneel, we know so little about the nature of the crisis that is now facing the Galaxy that we cannot safely refuse any action that might increase our knowledge. We must know what is taking place on Solaria and the only way we can do so is to go there--and the only way we can go is for us to arrange for Madam Gladia to go. As for influencing her, that required scarcely a touch. Despite her loud statements to the contrary, she was eager to go. There was an overwhelming desire within her to see Solaria. It was a pain within her that would not cease until she went."

"Since you say so, it is so, yet I find it puzzling. Had she not frequently made it plain that her life on Solaria was unhappy, that she had completely adopted Aurora and never wished to go back to her original home?"

"Yes, that was there, too. It was quite plainly in her mind. Both emotions, both feelings, existed together and simultaneously. I have observed something of this sort in human minds frequently; two opposite emotions simultaneously present. "

"Such a condition does not seem logical, friend Giskard. "

"I agree and I can only conclude that human beings are not, at all times or in all respects, logical. That must be one reason that it is so difficult to work out the Laws governing human behavior. --In Madam Gladia's case, I have now and then been aware of this longing for Solaria. Ordinarily, it was well hidden, obscured by the far more intense antipathy she also felt for the world. When the news arrived that Solaria had been abandoned by its people, however, her feelings changed."

"Why so? What had the abandonment to do with the youthful experiences that led Madam Gladia to her antipathy? Or, having held in restraint her longing for the world during the decades when it was a working society, why should she lose that restraint once it became an abandoned planet and newly long for a world which must now be something utterly strange to her."

"I cannot explain, friend Daneel, since the more knowledge I gather of the human mind, the more despair I feel at being unable to understand it. It is not an unalloyed advantage to see into that mind and I often envy you the simplicity of behavior control that results from your inability to see below the surface." Daneel persisted. "Have you guessed an explanation, friend Giskard?"

"I suppose she feels a sorrow for the empty planet. She deserted it twenty decades ago--"

"She was driven out. "

"It seems to her, now, to have been a desertion and I imagine she plays with the painful thought that she had set an example; that if she had not left, no one else would have and the planet would still be populated and happy. Since I cannot read her thoughts, I am only groping backward, perhaps inaccurately, from her emotions."

"But she could not have set an example, friend Giskard. Since it is twenty decades since she left, there can be no verifiable causal connection between the much earlier event and the much later one."

"I agree, but human beings sometimes find a kind of pleasure in nursing painful emotions, in blaming themselves without reason or even against reason. --In any case, Madam Gladia felt so sharply the longing to return that I felt it was necessary to release the inhibitory effect that kept her from agreeing to go. It required the merest touch. Yet though I feel it necessary for her to go, since that means she will take us there, I have the uneasy feeling that the disadvantages might, just possibly, be greater than the advantages."

"In what way, friend Giskard?"

"Since the Council was eager to have Madam Gladia accompany the Settler, it may have been for the purpose of having Madam Gladia absent from Aurora during a crucial period when the defeat of Earth and its Settler worlds is being prepared." Daneel seemed to be considering that statement. At least it was only after a distinct pause that he said, "What purpose would be served, in your opinion, in having Madam Gladia absent?"

"I cannot decide that, friend Daneel. I want your opinion."

"I have not considered this matter."

"Consider it now!" If Giskard had been human, the remark would have been an order.

There was an even longer pause and then Daneel said, "Friend Giskard, until the moment that Dr. Mandamus appeared in Madam Gladia's establishment, she had never shown any concern about international affairs. She was a friend of Dr. Fastolfe and of Elijah Baley, but this friendship was one of personal affection and did not have an ideological basis. Both of them, moreover, are now gone from us. She has an antipathy toward Dr. Amadiro and that is returned, but this is also a personal matter. The antipathy is two centuries old and neither has done anything material about it but have merely each remained stubbornly antipathetic. There can be no reason for Dr. Amadiro--who is now the dominant influence in the Council--to fear Madam Gladia or to go to the trouble of removing her. "

Giskard said, "You overlook the fact that in removing Madam Gladia, he also removes you and me. He would, perhaps, feel quite certain Madam Gladia would not leave without us, so can it be us he considers dangerous?"

"In the course of our existence, friend Giskard, we have never, in any way, given any appearance of having endangered Dr. Amadiro. What cause has he to fear us? He does not know of your abilities or of how you have made use of them. Why, then, should he take the trouble to remove us, temporarily, from Aurora?"

"Temporarily, friend Daneel? Why do you assume it is a temporary removal he plans? He knows, it may be, more than the Settler does of the trouble on Solaria and knows, also, that the Settler and his crew will be surely destroyed--and Madam Gladia and you and I with them. Perhaps the destruction of the Settler's ship is his main aim, but he would consider the end of Dr. Fastolfe's friend and Dr. Fastolfe's robots to be an added bonus."

Daneel said, "Surely he would not risk war with the Settler worlds, for that may well come if the Settler's ship is destroyed and the minute pleasure of having us destroyed, when added in, would not make the risk worthwhile."

"Is it not possible, friend Daneel, that war is exactly what Dr. Amadiro has in mind; that it involves no risk in his estimation, so that getting rid of us at the same time adds to his pleasure without increasing a risk that does not exist?"

Daneel said calmly, "Friend Giskard, that is not reasonable. In any war fought under present conditions, the Settlers would win. They are better suited, psychologically, to the rigors of war. They are more scattered and can, therefore, more successfully carry

on hit-and-run tactics. They have comparatively little to lose in their relatively primitive worlds, while the Spacers have much to lose in their comfortable, highly organized ones. If the Settlers were willing to offer to exchange destruction of one of their worlds for one of the Spacers', the Spacers would have to surrender at once."

"But would such a war be fought 'under present conditions'? What if the Spacers had a new weapon that could be used to defeat the Settlers quickly? Might that not be the very crisis we are now facing?"

"In that case, friend Giskard, the victory could be better and more effectively gained in a surprise attack. Why go to the trouble of instigating a war, which the Settlers might begin by a surprise raid on Spacer worlds that would do considerable damage?"

"Perhaps the Spacers need to test the weapon and the destruction of a series of ships on Solaria represents the testing."

"The Spacers would have been most uningenious if they could not have found a method of testing that would not give away the new weapon's existence."

It was now Giskard's turn to consider. "Very well, then, friend Daneel, how would you explain this trip we are on? How would you explain the Council's willingness--even eagerness--to have us accompany the Settler? The Settler said they would order Gladia to go and, in effect, they did."

"I have not considered the matter, friend Giskard."

"Then consider it now." Again it had the flavor of an order.

Daneel said, "I will do so. " There was silence, one that grew protracted, but Giskard by no word or sign showed any impatience as he waited.

Finally, Daneel said--slowly, as though he were feeling his way along strange avenues of thought --"I do not think that Baleyworld--or any of the Settler worlds--has a clear right to appropriate robotic property on Solaria. Even though the Solarians have themselves left or have, perhaps, died out, Solaria remains a Spacer world, even if an unoccupied one. Certainly, the remaining forty-nine Spacer worlds would reason so. Most of all, Aurora would reason so--if it felt in command of the situation."

Giskard considered that. "Are you now saying, friend Daneel, that the destruction of the two Settler ships was the Spacer way of enforcing their proprietorship of Solaria?"

Daneel said, "No, that would not be the way if Aurora, the leading Spacer power, felt in command of the situation. Aurora would then simply have announced that Solaria, empty or not, was off-limits to Settler vessels and would have threatened reprisals against the home worlds if any Settler vessel entered the Solarian planetary system. And they would have established a cordon of ships and sensory stations about that planetary system. There was no such warning, no such action, friend Giskard. Why, then, destroy ships that might have been kept away from the world quite easily in the first place?"

"But the ships were destroyed, friend Daneel. Will you make use of the basic illogicality of the human mind as an explanation?"

"Not unless I have to. Let us for the moment take that destruction simply as given. Now consider the consequence--The captain of a single Settler vessel approaches Aurora, demands permission to discuss the situation with the Council, insists on taking an Auroran

citizen with him to investigate events on Solaria, and the Council gives in to everything. If destroying the ships without prior warning is too strong an action for Aurora, giving in to the Settler captain so cravenly is far too weak an action. Far from seeking a war, Aurora, in giving in, seems to be willing to do anything at all to ward off the possibility of war."

"Yes," said Giskard, "I see that this is a possible way of interpreting events. But what follows?"

"It seems to me," said Daneel, "that the Spacer worlds are not yet so weak that they must behave with such servility--and, even if they were, the pride of centuries of overlordship would keep them from doing so. It must be something other than weakness that is driving them. I have pointed out that they cannot be deliberately instigating a war, so it is much more likely that they are playing for time."

"To what end, friend Daneel?"

"They want to destroy the Settlers, but they are not yet prepared. They let this Settler have what he wants, to avoid a war until they are ready to fight one on their own terms. I am only surprised that they did not offer to send an Auroran warship with him. If this analysis is correct--and I think it is--Aurora cannot possibly have had anything to do with the incidents on Solaria. They would not indulge in pinpricks that could only serve to alert the Settlers before they are ready with something devastating."

"Then how account for these pinpricks, as you call them, friend Daneel?"

"We will find out perhaps when we land on Solaria. It may be that Aurora is as curious as we are and the Settlers are and that that is another reason why they have cooperated with the captain, even to the point of allowing Madam Gladia to accompany him."

It was now Giskard's turn to remain silent. Finally he said, "And what is this mysterious devastation that they plan?"

"Earlier, we spoke of a crisis arising from the Spacer plan to defeat Earth, but we used Earth in its general sense, implying the Earthpeople together with their descendents on the Settler worlds. However, if we seriously suspect the preparation of a devastating blow that will allow the Spacers to defeat their enemies at a stroke, we can perhaps refine our view. Thus, they cannot be planning a blow at a Settler world. Individually, the Settler worlds are dispensable and the remaining Settler worlds will promptly strike back. Nor can they be planning a blow at several or at all the Settler worlds. There are too many of them; they are too diffusely spread. It is not likely that all the strikes will succeed and those Settler worlds that survive will, in fury and despair, bring devastation upon the Spacer worlds."

"You reason, then, friend Daneel, that it will be a blow at Earth itself. "

"Yes, friend Giskard. Earth contains the vast majority of the short-lived human beings; it is the perennial source of emigrants to the Settler worlds and is the chief raw material for the founding of new ones; it is the revered homeland of all the Settlers. If Earth were somehow destroyed, the Settler movement might never recover."

"But would not the Settler worlds then retaliate as strongly and as forcefully as they would if one of themselves were destroyed? That would seem to me to be inevitable."

"And to me, friend Giskard. Therefore, it seems to me that unless the Spacer worlds have gone insane, the blow would have to be a subtle one; one for which the Spacer worlds would seem to bear no responsibility."

"Why not such a subtle blow against the Settler worlds, which hold most of the actual war potential of the Earthpeople?"

"Either because the Spacers feel the blow against Earth would be more psychologically devastating or because the nature of the blow is such that it would work only against Earth and not against the Settler worlds. I suspect the latter, since Earth is a unique world and has a society that is not like that of any other world-settler or, for that matter, Spacer. "

"To summarize, then, friend Daneel, you come to the conclusion that the Spacers are planning a subtle blow against Earth that will destroy it without evidence of themselves as the cause, and one that would not work against any other world, and that they are not yet ready to launch that blow."

"Yes, friend Giskard, but they may soon be ready--and once they are ready, they will have to strike immediately. Any delay will increase the chance of some leak that will give them away."

"To deduce all this, friend Daneel, from the small indications we have is most praiseworthy. Now tell me the nature of the blow. What is it, precisely, that the Spacers plan?"

"I have come this far, friend Giskard, across very shaky ground, without being certain that my reasoning is entirely sound. But even if we suppose it is, I can go no further. I fear I do not know and cannot imagine what the nature of the blow might be."

Giskard said, "But we cannot take appropriate measures to counteract the blow and resolve the crisis until we know what its nature will be. If we must wait until the blow reveals itself by its results, it will then be too late to do anything."

Daneel said, "If any Spacer knows the nature of the forthcoming event, it would be Amadiro. Could you not force Amadiro to announce it publicly and thus alert the Settlers and make it unusable?"

"I could not do that, friend Daneel, without virtually destroying his mind. I doubt that I could hold it together long enough to allow him to make the announcement. I could not do such a thing."

"Perhaps, then," said Daneel, "we may console ourselves with the thought that my reasoning is wrong and that no blow against Earth is being prepared."

"No," said Giskard. "It is my feeling that you are right and that we must simply wait--helplessly."

17.

Gladia waited, with an almost painful anticipation, for the conclusion of the final Jump. They would then be close enough to Solaria to make out its sun as a disk.

It would just be a disk, of course, a featureless circle of light, subdued to the point where it could be watched unblinkingly after that light had passed through the appropriate filter.

Its appearance would not be unique. All the stars that carried, among their planets, a habitable world in the human sense had a long list of property requirements that ended by making them all resemble one another. They were all single stars--all not much larger or smaller than the sun that shone on Earth--none too active, or too old, or too quiet, or too young, or too hot, or too cool, or too offbeat in chemical composition. All had sunspots and flares and prominences and all looked just about the same to the eye. It took careful spectroheliography to work out the details that made each star unique.

Nevertheless, when Gladia found herself staring at a circle of light that was absolutely nothing more than a circle of light to her, she found her eyes welling with tears. She had never given the sun a thought when she had lived on Solaria; it was just the eternal source of light and heat, rising and falling in a steady rhythm. When she had left Solaria, she had watched that sun disappear behind her with nothing but a feeling of thankfulness. She had no memory of it that she valued.

--Yet she was weeping silently. She was ashamed of herself for being so affected for no reason that she could explain, but that didn't stop the weeping.

She made a stronger effort when the signal light gleamed. It had to be D.G. at the door; no one else would approach her cabin.

Daneel said, "Is he to enter, madam? You seem emotionally moved."

"Yes, I'm emotionally moved, Daneel, but let him in. I imagine it won't come as a surprise to him. "

Yet it did. At least, he entered with a smile on his bearded face--and that smile disappeared almost at once. He stepped back and said in a low voice, "I will return later."

"Stay!" said Gladia harshly. "This is nothing. A silly reaction of the moment. " She sniffed and dabbed angrily at her eyes. "Why are you here?"

"I wanted to discuss Solaria with you. If we succeed with a microadjustment, we'll land tomorrow. If you're not quite up to a discussion now--"

"I am quite up to it. In fact, I have a question for you. Why is it we took three Jumps to get here? One Jump would have been sufficient. One was sufficient when I was taken from Solaria to Aurora twenty decades ago. Surely the technique of space travel has not retrogressed since."

D.G.'s grin returned. "Evasive action. If an Auroran ship was following us, I wanted to--confuse it, shall we say?"

"Why should one follow us?"

"Just a thought, my lady. The Council was a little overeager to help, I thought. They suggested that an Auroran ship join me in my expedition to Solaria."

"Well, it might have helped, mightn't it?"

"Perhaps--if I were quite certain that Aurora wasn't behind all this. I told the Council quite plainly that I would do without--or, rather"--he pointed his finger at Gladia--"just with you. Yet might not the Council send a ship to accompany me even against my

wish --out of pure kindness of heart, let us say? Well, I still don't want one; I expect enough trouble without having to look nervously over my shoulder at every moment. So I made myself hard to follow. --How much do you know about Solaria, my lady?"

"Haven't I told you often enough? Nothing! Twenty decades have passed."

"Now, madam, I'm talking about the psychology of the Solarians. That can't have changed in merely twenty decades. --Tell me why they have abandoned their planet."

"The story, as I've heard it," said Gladia calmly, "is that their population has been steadily declining. A combination of premature deaths and very few births is apparently responsible."

"Does that sound reasonable to you?"

"Of course it does. Births have always been few." Her face twisted in memory. "Solarian custom does not make impregnation easy, either naturally, artificially, or ectogenetically."

"You never had children, madam?"

"Not on Solaria. "

"And the premature death?"

"I can only guess. I suppose it arose out of a feeling of failure. Solaria was clearly not working out, even though the Solarians had placed a great deal of emotional fervor into their world's having the ideal society--not only one that was better than Earth had ever had, but more nearly perfect than that of any other Spacer world."

"Are you saying that Solaria was dying of the collective broken heart of its people?"

"If you want to put it in that ridiculous way," said Gladia, displeased.

D.G. shrugged. "It seems to be what you're saying. But would they really leave? Where would they go? How would they live?"

"I don't know."

"But, Madam Gladia, it is well known that Solarians are accustomed to enormous tracts of land, serviced by many thousands of robots, so that each Solarian is left in almost complete isolation. If they abandon Solaria, where can they go to find a society that would humor them in this fashion? Have they, in fact, gone to any of the other Spacer worlds?"

"Not as far as I know. But then, I'm not in their confidence."

"Can they have found a new world for themselves? If so, it would be a raw one and require much in the way of terraforming. Would they be ready for that?"

Gladia shook her head. "I don't know."

"Perhaps they haven't really left. "

"Solaria, I understand, gives every evidence of being empty."

"What evidence is that?"

"All interplanetary communication has ceased. An radiation from the planet, except that consistent with robot work or clearly due to natural causes has ceased."

"How do you know that?"

"That is the report on the Auroran news. "

"Ah! The report! Could it be that someone is lying?"

"What would be the purpose of such a lie?" Gladia stiffened at the suggestion.

"So that our ships would be lured to the world and destroyed."

"That's ridiculous, D.G." Her voice grew sharper. "What would the Spacers gain by destroying two trading vessels through so elaborate a subterfuge?"

"Something has destroyed two Settler vessels on a supposedly empty planet. How do you explain that?"

"I can't. I presume we are going to Solaria in order to find an explanation."

D.G. regarded her gravely. "Would you be able to guide me to the section of the world that was yours when you lived on Solaria?"

"My estate?" She returned his stare, astonished.

"Wouldn't you like to see it again?"

Gladia's heart skipped a beat. "Yes, I would, but why my place?"

"The two ships that were destroyed landed in widely different spots on the planet and yet each was destroyed fairly quickly. Though every spot may be deadly, it seems to me that yours might be less so than others."

"Why?"

"Because there we might receive help from the robots. You would know them, wouldn't you? They do last more than twenty decades, I suppose. Daneel and Giskard have. And those that were there when you lived on your estate would still remember you, wouldn't they? They would treat you as their mistress and recognize the duty they owed you even beyond that which they would owe to ordinary human beings."

Gladia said, "There were ten thousand robots on my estate. I knew perhaps three dozen by sight. Most of the rest I never saw and they may not have ever seen me. Agricultural robots are not very advanced, you know, nor are forestry robots or mining robots. The household robots would still remember me--if they have not been sold or transferred since I left. Then, too, accidents happen and some robots don't last twenty decades. --Besides, whatever you may think of robot memory, human memory is fallible and I might remember none of them. "

"Even so," said D.G., "can you direct me to your estate?"

"By latitude and longitude? No."

"I have charts of Solaria. Would that help?"

"Perhaps--approximately. It's in the south-central portion of the northern continent of Heliona."

"And once we're approximately there, can you make use of landmarks for greater precision--if we skim the Solarian surface?"

"By seacoasts and rivers, you mean?"

"Yes."

"I think I can."

"Good! And meanwhile, see if you can remember the names and appearances of any of your robots. It may prove the difference between living and dying."

D.G. Baley seemed a different person with his officers. The broad smile was not evident, nor the easy indifference to danger. He sat, poring over the charts, with a look of intense concentration on his face.

He said, "If the woman is correct, we've got the estate pinned down within narrow limits--and if we move into the flying mode, we should get it exactly before too long."

"Wasteful of energy, Captain, " muttered Jamin Oser, who was second-in-command. He was tall and, like D.G., well bearded. The beard was russet-colored, as were his eyebrows, which arched over bright blue eyes. He looked rather old, but one got the impression that this was due to experience rather than years.

"Can't help it," said D.G. "If we had the antigravity that the technos keep promising us just this side of eternity, it would be different."

He stared at the chart again and said, "She says it would be along this river about sixty kilometers upstream from where it runs into this larger one. If she is correct."

"You keep doubting it," said Chandrus Nadirhaba, whose insignie showed him to be Navigator and responsible for bringing the ship down in the correct spot--or, in any case, the indicated spot. His dark skin and neat moustache accentuated the handsome strength of his face.

"She's recalling a situation over a time gap of twenty decades," said D.G. "What details would you remember of a site you haven't seen for just three decades? She's not a robot. She may have forgotten."

"Then what was the point of bringing her?" muttered Oser. "And the other one and the robot? It unsettles the crew and I don't exactly like it, either."

D.G. looked up, eyebrows bunching together. He said in a low voice, "It doesn't matter on this ship what you don't like or what the crew doesn't like, mister. I have the responsibility and I make the decisions. We're all liable to be dead within six hours of landing unless that woman can save us."

Nadirhaba said coolly, "If we die, we die. We wouldn't be Traders if we didn't know that sudden death was the other side of big profits. And for this mission, we're all volunteers. Just the same, it doesn't hurt to know where the death's coming from, Captain. If you've figured it out, does it have to be a secret?"

"No, it doesn't. The Solarians are supposed to have left, but suppose a couple of hundred stayed quietly behind just to watch the store, so to speak. "

"And what can they do to an armed ship, Captain? Do they have a secret weapon?"

"Not so secret, " said D.G. "Solaria is littered with robots. That's the whole reason Settler ships landed on the world in the first place. Each remaining Solarian might have a million robots at his disposal. An enormous army."

Eban Kalaya was in charge of communications. So far he had said nothing, aware as he was of his junior status, which seemed further marked by the fact that he was the

only one of the four officers present without facial hair of any kind. Now he ventured a remark. "Robots," he said, "cannot injure human beings."

"So we are told," said D.G. dryly, "but what do we know about robots? What we do know is that two ships have been destroyed and about a hundred human beings--good Settlers all--have been killed on widely separated parts of a world littered with robots. How could it have been done except by robots? We don't know what kind of orders a Solarian might give robots or by what tricks the so-called First Law of Robotics might be circumvented.

"So we," he went on, "have to do a little circumventing of our own. As best as we can tell from the reports reaching us from the other ships before they were destroyed, all the men on board ship debarked on landing. It was an empty world after all and they wanted to stretch their legs, breathe fresh air, and look over the robots they had come to get. Their ships were unprotected and they themselves unready when the attack came.

'That won't happen this time. I'm getting off, but the rest of you are going to stay on board the ship or in its near vicinity. "

Nadirhaba's dark eyes glared disapproval. "Why you, Captain? If you need someone to act as bait, anyone else can be spared more easily than you can be."

"I appreciate the thought, Navigator," said D.G., "but I will not be alone. Coming with me will be the Spacer woman and her companions. She is the one who is essential. She may know some of the robots; at any rate, some may know her. I am hoping that though the robots may have been ordered to attack us, they won't attack her."

"You mean they'll remember 01' Missy and fall to their knees," said Nadirhaba dryly.

"If you want to put it that way. That's why I brought her and that's why we've landed on her estate. And I've got to be with her because I'm the one who knows her--somewhat--and I've got to see that she behaves. Once we have survived by using her as a shield and in that way have learned exactly what we're facing, we can proceed on our own. We won't need her any more."

Oser said, "And then what do we do with her? Jettison her into space?"

D.G. roared, "We take her back to Aurora!"

Oser said, "I'm bound to tell you, Captain, that the crew would consider that a wasteful and unnecessary trip. They will feel that we can simply leave her on this blasted world. It's where she comes from, after all."

"Yes," said D.G. "That will be the day, won't it, when I take orders from the crew."

"I'm sure you won't," said Oser, "but the crew has its opinions and an unhappy crew makes for a dangerous voyage."

6. THE CREW

19.

Gladia stood on the soil of Solaria. She smelled the vegetation--not quite the odors of Aurora--and at once she crossed the gap of twenty decades.

Nothing, she knew, could bring back associations in the way that odors could. Not sights, not sounds.

Just that faint, unique smell brought back childhood--the freedom of running about, with a dozen robots watching her carefully--the excitement of seeing other children sometimes, coming to a halt, staring shyly, approaching one another a half-step at a time, reaching out to touch, and then a robot saying, "Enough, Miss Gladia," and being led away--looking over the shoulder at the other child, with whom there was another set of attendant robots in charge.

She remembered the day that she was told that only by holovision would she see other human beings thereafter. Viewing, she was told--not seeing. The robots said "seeing" as though it were a word they must not say, so that they had to whisper it. She could see them, but they were not human.

It was not so bad at first. The images she could talk to were three-dimensional, free-moving. They could talk, run, turn cartwheels if they wished--but they could not be felt. And then she was told that she could actually see someone whom she had often viewed and whom she had liked. He was a grown man, quite a bit older than she was, though he looked quite young, as one did on Solaria. She would have permission to continue to see him--if she wished--whenever necessary.

She wished. She remembered how it was--exactly how it was on that first day. She was tongue--tied and so was he. They circled each other, afraid to touch. --but it was marriage.

Of course it was. And then they met again--seeing, viewing, because it was marriage. They would finally touch each other. They were supposed to.

It was the most exciting day of her life--until it took place.

Fiercely, Gladia stopped her thoughts. Of what use to go on? She so warm and eager; he so cold and withdrawn. He continued to be cold. When he came to see her, at fixed intervals, for the rites that might (or might not) succeed in impregnating her, it was with such clear revulsion that she was soon longing for him to forget. But he was a man of duty and he never forgot.

Then came the time, years of dragging unhappiness later, when she found him dead, his skull crushed, and herself as the only possible suspect. Elijah Baley had saved her then and she had been taken away from Solaria and sent to Aurora.

Now she was back, smelling Solaria.

Nothing else was familiar. The house in the distance bore no resemblance to anything she remembered even faintly. In twenty decades it had been modified, torn down, rebuilt. She could not even gain any sense of familiarity with the ground itself.

She found herself reaching backward to touch the Settler ship that had brought her to this world that smelled like home but was home in no other way--just to touch something that was familiar by comparison.

Daneel, who stood next to her in the shadow of the ship, said, "Do you see the robots, Madam Gladia?"

There were a group of them, a hundred yards away, amid the trees of an orchard, watching solemnly, motionlessly, shining in the sun with the grayish well-polished metal finish Gladia remembered Solarian robots to have.

She said, "I do, Daneel."

"Is there anything familiar about them, madam?"

"Not at all. They seem to be new models. I can't remember them and I'm sure they can't remember me. If D.G. was expecting anything hopeful to come of my supposed familiarity with the robots on my estate, he will have to be disappointed."

Giskard said, "They do not seem to be doing anything, madam."

Gladia said, "That is understandable. We're intruders and they've come to observe us and to report on us in accordance with what must be standing orders. They have no one now to report to, however, and can merely silently observe. Without further orders, I presume they will do no more than that, but they won't cease doing so, either."

Daneel said, "It might be well, Madam Gladia, if we retired to our quarters on board ship. The captain is, I believe, supervising the construction of defenses and is not ready to go exploring yet. I suspect he will not approve your having left your quarters without his specific permission."

Gladia said haughtily, "I'm not going to delay stepping out onto the surface of my own world just to suit his whim."

"I understand, but members of the crew are engaged in the vicinity and I believe that some note your presence here."

"And are approaching," said Giskard. "If you would avoid infection--"

"I'm prepared," said Gladia. "Nose plugs and gloves."

Gladia did not understand the nature of the structures being put up on the flat ground about the ship. For the most part, the crewmen, absorbed in the construction, had not seen Gladia and her two companions, standing as they were in the shadows. (It was the warm season on this portion of Solaria, which had a tendency to grow warmer--and on other occasions, colder--than Aurora did, since the Solarian day was nearly six hours longer than the Auroran day.)

The crewmen approaching were five in number and one of them, the tallest and largest, pointed in the direction of Gladia. The other four looked, remained standing for a while as though merely curious, and then, at a gesture from the first, approached again, changing their angle slightly so as to head directly for the Auroran three.

Gladia watched them silently and with her eyebrows raised in contempt. Daneel and Giskard waited impassively.

Giskard said in a low voice to Daneel, "I do not know where the captain is. I cannot distinguish him from the crowd of crewmen in whose midst he must be."

"Shall we retire?" said Daneel aloud.

"That would be disgraceful," said Gladia. "This is my world."

She held her ground and the five crewmen came closer in leisurely fashion.

They had been working, doing hard physical labor (Like robots, thought Gladia with disdain) and they were sweating. Gladia became aware of the odor that reeked from them. That would have served to force her away more than threats would, but she held her ground even so. The nose plugs, she was sure, mitigated the effect of the smell.

The large crewman approached more closely than the others. His skin was bronzed. His bare arms glistened with moisture and with shining musculature. He might be thirty (as nearly as Gladia could judge the age of these short-lived beings) and if he were washed and properly dressed, he might prove quite presentable.

He said, "So you are the Spacer lady from Aurora that we've been carrying on our ship?" He spoke rather slowly, obviously trying to attain an aristocratic tinge to his Galactic. He failed, of course, and he spoke like a Settler--even more crudely than D.G. did.

Gladia said, establishing her territorial rights, "I am from Solaria, Settler," and stopped in confused embarrassment. She had spent so much time thinking of Solaria just now that twenty decades had dropped away and she had spoken with a thick Solarian accent. There was the broad "a" in Solaria and the rough "r," while the "I" sounded horribly like "Oi."

She said again, in a much lower, less commanding voice, but one in which the accent of Aurora University--the standard for Galactic speech through all the Spacer worlds--rang clear, "I am from Solaria, Settler."

The Settler laughed and turned to the others. "She speaks la-di-da, but she had to try. Right, mates?"

The others laughed, too, and one cried out, "Get her to talk some more, Niss. Maybe we can all learn to talk like Spacer birdies." And he placed one hand on his hip in as dainty a manner as he could manage, while holding the other hand out limply.

Niss said, still smiling, "Shut up, all of you." There was instant silence.

He turned to Gladia again, "I'm Berto Niss, First-Class Shipper. And your name, little woman?"

Gladia did not venture to speak again.

Niss said, "I'm being polite, little woman. I'm speaking gentlemanly. Spacer--like. I know you're old enough to be my great-grandmother. How old you are you, little woman?"

"Four hundred," shouted one of the crewmen from behind Niss, "but she doesn't look it!"

"She doesn't look one hundred," said another.

"She looks suitable for a little ding-donging," said a third, "and hasn't had any for a long time, I guess. Ask her if she'd want some, Niss. Be polite and ask if we can take turns."

Gladia flushed angrily and Daneel said, "First-Class Shipper Niss, your companions are offending Madam Gladia. Would you retire?"

Niss turned to look at Daneel, whom, till now, he had totally ignored. The smile vanished from his face and he said, "Look, you. This little lady is off-limits. The captain said so. We won't bother her. Just a little harmless talk. That thing there is a robot. We won't bother with him and he can't hurt us. We know the Three Laws of Robotics. We order him to stay away from us, see. But you are a Spacer and the captain has give us no orders about you. So you" --he pointed a finger--"stay out of this and don't interfere or you'll get your pretty skin all bruised up and then you might cry. "

Daneel said nothing. Niss nodded his head. "Good. I like to see someone smart enough not to start anything he can't finish."

He turned to Gladia, "Now, little Spacer woman, we will leave you alone because the captain doesn't want you bothered. If one of the men here made a crude remark, that's only natural. Just shake hands and let's be friends--Spacer, Settler, what's the difference?"

He thrust out his hand toward Gladia, who shrank away in horror. Daneel's hand moved outward in a flick that was almost too fast to see and caught Niss's wrist, "First-Class Shipper Niss," he said quietly, "do not attempt to touch the lady."

Niss looked down at his hand and at the fingers that enclosed his wrist firmly. He said in a low and menacing growl, "You have till the count of three to let go."

Daneel's hand fell away. He said, "I must do as you say for I do not wish to harm you, but I must protect the lady--and if she doesn't wish to be touched, as I believe she doesn't, I may be forced into a position where I must cause you pain. Please accept my assurance that I will do all I can to minimize that."

One of the crewmen shouted joyously, "Give it to him, Niss. He's a talker."

Niss said, "Look, Spacer, twice I told you to keep out and you touched me once. Now I tell you a third time and that's it. Make a move, say a word, and I take you apart. This little woman is going to shake hands, that's all, friendly-like. Then we all go. Fair enough?"

Gladia said in a low choking voice. "I won't be touched by him. Do what is necessary. "

Daneel said, "Sir, with all due respect, the lady does not wish to be touched. I must ask you--all of you--to leave."

Niss smiled and one large arm moved as though to brush Daneel to one side--and to do it hard.

Daneel's left arm flickered and once again Niss was held by the wrist. "Please go, sir," said Daneel.

Niss's teeth continued to show, but he was no longer smiling. Violently, he brought his arm up. Daneel's enclosing hand moved up for a short distance, slowed, and came to a halt. His face showed no strain. His hand moved down, dragging Niss's arm with it, and then, with a rapid twist, he bent Niss's arm behind the Settler's broad back and held it there.

Niss, who found himself unexpectedly with his back to Daneel, brought his other arm up over his head, groping for Daneel's neck. His other wrist was seized and pulled down farther than it could easily go and Niss grunted in clear misery.

The other four crewmen, who had been watching in eager anticipation, remained in place now, motionless, silent, mouths open.

Niss, staring at them, grunted, "Help me!"

Daneel said, "They will not help you, sir, for the captain's punishment will be all the worse if they try. I must ask you now to assure me that you will no longer trouble Madam Gladia and that you will leave quietly, all of you. Otherwise, I very much regret, First-Class Shipper, that I must pull your arms out of their sockets."

As he said that, he tightened his grip on either wrist and Niss emitted a muffled grunt.

"My apologies, sir," said Daneel, "but I am under the strictest orders. May I have your assurance?"

Niss kicked backward with sudden viciousness, but well before his heavy boot could make contact, Daneel had faded to one side and pulled him off-balance. He went facedown heavily.

"May I have your assurance, sir?" said Daneel, now pulling gently at the two wrists so that the crewman's arms lifted slightly up from the back.

Niss howled and said, half-incoherent, "I give in. Let go."

Daneel let go at once and stepped back. Slowly and painfully, Niss rolled over, moving his arms slowly and rotating his wrists with a twisted grimace.

Then, when his right arm moved near the holster he wore, he snatched clumsily at his sidearm.

Daneel's foot came down on his hand and pinned it to the ground. "Don't do that, sir, or I may be forced to break one or more of the small bones in your hand." He bent down and extracted Niss's blaster from its holster. "Now stand up."

"Well, Mr. Niss," came another voice. "Do as you are told and stand up,"

D.G. Baley was standing at their side, beard bristling, face slightly flushed, but his voice was dangerously calm.

"You four," he said, "hand me your sidearms, one at a time. Come on. Move a little faster. One-two-three-four. Now continue to stand there at attention. Sir"--this to Daneel--"give me that sidearm you are holding. Good. Five. And now, Mr. Niss, at attention." And he placed the blasters on the ground beside him.

Niss stiffened to attention, eyes bloodshot, face contorted, in obvious pain.

"Would someone," said D.G., "please say what has been going on?"

"Captain," said Daneel quickly, "Mr. Niss and I have had a playful altercation. No harm has been done."

"Mr. Niss, however, looks somewhat harmed," said D.G.

"No permanent harm, Captain," said Daneel.

"I see. Well, we'll get back to this later. --Madam"--he turned on his heel to address Gladia--"I don't recall that I gave you permission to emerge from the ship. You

will go back to your cabin with your two companions at once. I am captain here and this is not Aurora. Do as I say!"

Daneel placed an apologetic hand on Gladia's elbow. Her chin lifted, but she turned and went up the gangplank and into the ship, Daneel at her side, Giskard following.

D.G. then turned to the crewmen. "You five," he said, his voice never lifting from its flat calm, "come with me. We'll get to the bottom of this--or of you. "And he gestured to a petty officer to pick up the sidearms and take them away.

20.

D.G. stared at the five grimly. He was in his own quarters, the only portion of the ship that had a semblance of size to it and the beginnings of an appearance of luxury.

He said, pointing to each in turn, "Now, this is the way we'll work it. You tell me exactly what happened, word for word, motion for motion. When you're finished, you tell me anything that was wrong or left out. Then you the same, and then you, and then I'll get to you, Niss. I expect that you were all out of order, that you all did something unusually stupid that earned you all, but especially Niss, considerable humiliation. If, in your story, it would appear that you did nothing wrong and suffered 00 humiliation, then I'll know you're lying, especially as the Spacer woman will surely tell me what happened--and I intend to believe every word she says. A lie will make matters worse for you than anything you've actually done. Now," he barked, "start!"

The first crewman stumbled hastily through the story, and then the second, somewhat correcting, somewhat expanding, then the third and the fourth. D.G. listened, stony-faced, to the recital, then motioned Berto Niss to one side.

He spoke to the other four, "And while Niss was getting his face rightly mashed into the dirt by the Spacer, what were you four doing? Watching? Scared to move? All four of you? Against one man?"

One of the men broke the thickening silence to say, "It all happened so quick, Captain. We were just getting set to move in and then it was allover."

"And what were you getting ready to do in case you did manage to get to move someday?"

"Well, we were going to pull the Spacer foreigner off our mate."

"Do you think you could have?"

This time no one offered to make a sound.

D.G. leaned toward them. "Now, here's the situation. You had no business interfering with the foreigners, so you're fined one week's pay each. And now let's get something straight. If you tell what has happened to anyone else--in the crew or out, now or ever, whether drunk or sober--you'll be broken, every one of you, to apprentice shipper. It doesn't matter which one of you talks, you'll all four be broken, so keep an eye

on each other. Now get to your assigned tasks and if you cross me at any time during this voyage, if you as much as hiccup against regulations, you'll be in the brig."

The four left. mournful, hangdog, tight-lipped. Niss remained, a bruise developing on his face, his arms clearly in discomfort.

D.G. regarded him with a threatening quiet, while Niss stared to the left, to the right, at his feet, everywhere but at the face of the captain. It was only when Niss's eyes, running out of evasion, caught the glare of the captain that D.G. said, "Well, you look very handsome, now that you have tangled with a sissy Spacer half your size. Next time you better hide when one of them shows up."

"Yes, Captain," said Niss miserably.

"Did you or did you not, Niss, hear me in my briefing, before we left Aurora, say that the Spacer woman and her companions were on no account to be disturbed or spoken to?"

"Captain, I wanted only a polite howdydo. We was curious for a closer look. No harm meant."

"You meant no harm? You asked how old she was. Was that your business?"

"Just curious. Wanted to know."

"One of you made a sexual suggestion."

"Not me, Captain."

"Someone else? Did you apologize for it?"

"To a Spacer?" Niss sounded horrified.

"Certainly. You were going against my orders."

"I meant no harm," said Niss doggedly.

"You meant no harm to the man?"

"He put his hand on me, Captain."

"I know he did. Why?"

"Because he was ordering me around."

"And you wouldn't stand for it?"

"Would you, Captain."

"All right, then. You didn't stand for it. You fell down for it. Right on your face. How did that happen?"

"I don't rightly know, Captain. He was fast. Like the camera was sped up. And he had a grip like iron."

D.G. said, "So he did. What did you expect, you idiot? He is iron."

"Captain?"

"Niss, is it possible you don't know the story of Elijah Baley?"

Niss rubbed his ear in embarrassment. "I know he's your great --something-- grandfather, Captain."

"Yes, everyone knows that from my name. Have you ever viewed his life story?"

"I'm not a viewing man, Captain. Not on history." He shrugged and, as he did so, winced and made as though to rub his shoulder, then decided he didn't quite dare do so.

"Did you ever hear of R. Daneel Olivaw?"

Niss squeezed his brows together. "He was Elijah Baley's friend."

"Yes, he was. You do know something then. Do you know what the 'R' stands for in R. Daneel Olivaw?"

"It stands for 'Robot,' right? He was a robot friend. There was robots on Earth in them days."

"There were, Niss, and still are. But Daneel wasn't just a robot. He was a Spacer robot who looked like a Spacer man. Think about it, Niss. Guess who the Spacer man you picked a fight with really was."

Niss's eyes widened, his face reddened dully. "You mean that Spacer was a ro--"

"That was R. Daneel Olivaw."

"But, Captain, that was two hundred years ago."

"Yes and the Spacer woman was a particular friend of my Ancestor Elijah. She's been alive for two hundred and thirty-three years, in case you still want to know, and do you think a robot can't do as well as that? You were trying to fight a robot, you great fool."

"Why didn't it say so?" Niss said with great indignation.

"Why should it? Did you ask? See here, Niss. You heard what I told the others about telling this to anyone. It goes for you, too, but much more so. They are only crewmen, but I had my eye on you for crew leader. Had my eye on you. If you're going to be in charge of the crew, you've got to have brains and not just muscle. So now it's going to be harder for you because you're going to have to prove you have brains against my firm opinion that you don't."

"Captain, I--"

"Don't talk. Listen. If this story gets out, the other four will be apprentice shippers, but you will be nothing. You will never go on shipboard again. No ship will take you, I promise you that. Not as crew, not as passenger. Ask yourself what kind of money you can make on Baleyworld--and doing what? That's if you talk about this, or if you cross the Spacer woman in any way, or even just look at her for more than half a second at a time, or at her two robots. And you are going to have to see to it that no one else among the crew is in the least offensive. You're responsible. --and you're fined two week's pay."

"But, Captain," said Niss weakly, "the others--"

"I expected less from the others, Niss, so I fined them less. Get out of here."

21.

D.G. played idly with the photocube that always stood on his desk. Each time he turned it, it blackened, then cleared when stood upon one of its sides as its base. When it cleared, the smiling three-dimensional image of a woman's head could be seen.

Crew rumor was that each of the six sides lead to the appearance of a different woman. The rumor was quite correct.

Jamin Oser watched the flashing appearance and disappearance of images totally without interest. Now that the ship was secured--or as secured as it could be against attack of any expected variety--it was time to think of the next step.

D.G., however, was approaching the matter obliquely--or, perhaps, not approaching it at all. He said, "It was the woman's fault, of course."

Oser shrugged and passed his hand over his beard, as though he were reassuring himself that he, at least, was not a woman. Unlike D.G., Oser had his upper lip luxuriantly covered as well.

D.G. said, "Apparently, being on the planet of her birth removed any thought of discretion. She left the ship, even though I had asked her not to."

"You might have ordered her not to."

"I don't know that that would have helped. She's a spoiled aristocrat, used to having her own way and to ordering her robots about. Besides, I plan to use her and I want her cooperation, not her pouting. And again--she was the Ancestor's friend."

"And still alive," said Oser, shaking his head. "It makes the skin crawl. An old, old woman."

"I know, but she looks quite young. Still attractive. And nose in the air. Wouldn't retire when the crewmen approached, wouldn't shake hands with one of them. --Well, it's over."

"Still, Captain, was it the right thing to tell Niss he had tackled a robot?"

"Had to! Had to, Oser. If he thought he'd been beaten and humiliated before four of his mates by an effeminate Spacer half his size, he'd be useless to us forever. It would have broken him completely. And we don't want anything to happen that will start the rumor that Spacers--that human Spacers--are supermen. That's why I had to order them so strenuously not to talk about it. Niss will ride herd on all of them--and if it does get out, it will also get out that the Spacer was a robot. --but I suppose there was a good side to the whole thing."

"Where, Captain?" asked Oser.

"It got me to thinking about robots. How much do we know about them? How much do you know?"

Oser shrugged. "Captain, it's not something I think about much."

"Or something anyone else thinks about, either. At least, any Settler. We know that the Spacers have robots, depend on them, go nowhere without them, can't do a thing without them, are parasites on them, and we're sure they're fading away because of them. We know that Earth once had robots forced on them by the Spacers and that they are gradually disappearing from Earth and are not found at all in Earth Cities, only in the countryside. We know that the Settler worlds don't and won't have them anywhere--town or country. So Settlers never meet them on their own worlds and hardly ever on Earth." (His voice had a curious inflection each time he said "Earth," as though one could hear the capital, as though one could hear the words "home" and "mother" whispered behind it.) "What else do we know?"

Oser said, "There's the Three Laws of Robotics."

"Right," D.G. pushed the photocube to one side and leaned forward. "Especially the First Law. 'A robot may not injure a human being or, through inaction, allow a human being to come to harm. ' Yes? Well, don't rely on it. It doesn't mean a thing. We all feel ourselves to be absolutely safe from robots because of that and that's fine if it gives us confidence, but not if it gives us false confidence. R. Daneel injured Niss and it didn't bother the robot at all, First Law or no First Law."

"He was defending --"

"Exactly. What if you must balance injuries? What if it was a case of either hurt Niss or allow your Spacer owner to come to harm? Naturally, she comes first."

"It makes sense."

"Of course it does. And here we are on a planet of robots, a couple of hundred million of them. What orders do they have? How do they balance the conflict between different harms? How can we be sure that none of them will touch us? Something on this planet has destroyed two ships already. "

Oser said uneasily, "This R. Daneel is an unusual robot, looks more like a man than we do. It may be we can't generalize from him. That other robot, what's his name--"

"Giskard. It's easy to remember. My name is Daneel Giskard."

"I think of you as captain, Captain. Anyway, that R. Giskard just stood there and didn't do a thing. He looks like a robot and he acts like one. We've got lots of robots out there on Solaria watching us right now and they're not doing a thing, either. Just watching."

"And if there are some special robots that can harm us?"

"I think we're prepared for them."

"Now we are. That's why the incident with Daneel and Niss was a good thing. We've been thinking that we can only be in trouble if some of the Solarians are still here. They don't have to be. They can be gone. It may be that the robots--or at least some specially designed robots can be dangerous. And if Lady Gladia can mobilize her robots in this place--it used to be her estate--and make them defend her and us, too, we may well be able to neutralize anything they've left behind."

"Can she do that?" said Oser.

"We're going to see," said D.G.

22.

"Thank you, Daneel," Gladia said, "You did well." Her face seemed pinched together, however. Her lips were thin and bloodless, her cheeks pale. Then, in a lower voice. "I wish I had not come."

Giskard said, "It is a useless wish, Madam Gladia. Friend Daneel and I will remain outside the cabin to make sure you are not further disturbed."

The corridor was empty and remained so, but Daneel and Giskard managed to speak in sound-wave intensities below the human threshold, exchanging thoughts in their brief and condensed way.

Giskard said, "Madam Gladia made an injudicious decision in refusing to retire. That is clear."

"I presume, friend Giskard," said Daneel, "that there was no possibility of maneuvering her into changing that decision."

"It was far too firm, friend Daneel, and taken too quickly. The same was true of the intention of Niss, the Settler. Both his curiosity concerning Madam Gladia and his contempt and animosity toward you were too strong to manage without serious mental harm. The other four I could handle. It was quite possible to keep them from intervening. Their astonishment at your ability to handle Niss froze them naturally and I had only to strengthen that slightly."

"That was fortune, friend Giskard. Had those four joined Mr. Niss, I would have been faced with the difficult choice of forcing Madam Gladia into a humiliating retreat or of badly damaging one or two of the Settlers to frighten off the rest. I think I would have had to choose the former alternative but it, too, would have caused me grave discomfort."

"You are well, friend Daneel?"

"Quite well. My damage to Mr. Niss was minimal."

"Physically, friend Daneel, it was. Within his mind, however, there was great humiliation, which was to him much Worse than the physical damage. Since I could sense that, I could not have done what you did so easily. And yet, friend Daneel--"

"Yes, friend Giskard?"

"I am disturbed over the future. On Aurora, through all the decades of my existence, I have been able to work slowly, to wait for opportunities of touching minds gently, without doing harm; of strengthening what is already there, of weakening what is already attenuated, of pushing gently in the direction of existing impulse. Now, however, we are coming to a time of crisis in which emotions will run high, decisions will be taken quickly, and events will race past us. If I am to do any good at all, I will have to act quickly, too, and the Three Laws of Robotics prevent me from doing so. It takes time to weigh the subtleties of comparative physical and mental harm. Had I been alone with Madam Gladia at the time of the Settlers' approach, I do not see what course I could have taken that I would not have recognized as entailing serious damage to Madam Gladia, to one or more of the Settlers, to myself --or possibly to all who were involved. "

Daneel said, "What is there to do, friend Giskard?"

"Since it is impossible to modify the Three Laws, friend Daneel, once again we must come to the conclusion that there is nothing we can do but await failure."

7. THE OVERSEER

23.

It was morning on Solaria, morning on the estate--her estate. Off in the distance was the establishment that might have been her establishment. Somehow twenty decades dropped away and Aurora seemed to her to be a far-off dream that had never happened.

She turned to D.G., who was tightening the belt about his thin outer garment, a belt from which two sidearms hung. On his left hip was the neuronc whip; on his right, something shorter and bulkier that she guessed was a blaster.

"Are we going to the house?" she asked.

"Eventually," said D.G. with a certain absence of mind. He was inspecting each sidearm in turn, holding one of them to his ear as though he were listening for a faint buzz that would tell him it was alive.

"Just the four of us?" She automatically turned her eyes to each of the others: "D.G., Daneel," she said to Daneel, "Where is Giskard, Daneel?"

Daneel said, "It seemed to him, Madam Gladia, that it would be wise to act as an advance guard. As a robot, he might not be noticeable among other robots--and if there should be anything wrong, he could warn us. In any case, he is more expendable than either yourself or the captain."

"Good robotic thinking," said D.G. grimly. "It's just as well. Come, we're moving forward now."

"Just the three of us?" said Gladia, a touch plaintively. "To be honest, I lack Giskard's robotic ability to accept expendability."

D.G. said, "We're all expendable, Lady Gladia. Two ships have been destroyed, every member of each crew indiscriminately brought to an end. There's no safety in numbers here."

"You're not making me feel any better, D.G."

"Then I'll try. The earlier ships were not prepared. Our ship is. And I'm prepared, too." He slapped his two hands to his hips. "And you've got a robot with you who has showed himself to be an efficient protector. What's more, you yourself are our best weapon. You know how to order robots to do what you want them to do and that may well be crucial. You are the only one with us who can do that and the earlier ships had no one at all of your caliber. Come, then--"

They moved forward. Gladia said, after a while, "We're not walking toward the house."

"No, not yet. First, we're walking toward a group of robots. You see them, I hope."

"Yes, I do, but they're not doing anything."

"No, they're not. There were many more robots present when we first landed. Most of them have gone, but these remain. Why?"

"If we ask them, they'll tell us."

"You will ask them, Lady Gladia."

"They'll answer you, D.G., as readily as they'll answer me. We're equally human."

D.G. stopped short and the other two stopped with him. He turned to Gladia and said, smiling, "My dear Lady Gladia, equally human? A Spacer and a Settler? Whatever has come over you?"

"We are equally human to a robot," she said waspishly. "And please don't play games. I did not play the game of Spacer and Earthman with your Ancestor."

D.G.'s smile vanished. "That's true. My apologies, my lady. I shall try to control my sense of the sardonic for, after all, on this world we are allies."

He said, a moment later, "Now, madam, what I want you to do is to find out what orders the robots have been given--if any; if there are any robots that might, by some chance, know you; if there are any human beings on the estate or on the world; or anything else it occurs to you to ask. They shouldn't be dangerous; they're robots and you're human; they can't hurt you. To be sure," he added, remembering, "your Daneel rather manhandled Niss, but that was under conditions that don't apply here. And Daneel may go with you."

Respectfully, Daneel said, "I would in any case accompany Lady Gladia, Captain. That is my function."

"Giskard's function, too, I imagine," said D.G., "and yet he's wandered off."

"For a purpose, Captain, that he discussed with me and that we agreed was an essential way of protecting Lady Gladia. "

"Very well. You two move forward. I'll cover you both." He drew the weapon on his right hip. "If I call out 'Drop,' the two of you fall down instantly. This thing doesn't play favorites."

"Please don't use it as anything but a last resort, D.G.," said Gladia. "There would scarcely be an occasion to against robots. --Come, Daneel!"

Off she went, stepping forward rapidly and firmly toward the group of about a dozen robots that were standing just in front of a line of low bushes with the morning sun reflecting in glints here and--there from their burnished exteriors.

24.

The robots did not retreat, nor did they advance. They remained calmly in place. Gladia counted them. Eleven in plain sight. There might be others, possibly, that were unseen.

They were designed Solaria-fashion. Very polished. Very smooth. No illusion of clothing and not much realism. They were almost like mathematical abstractions of the human body, with no two of them quite alike.

She had the feeling that they were by no means as flexible or complex as Auroran robots but were more single-mindedly adapted to specific tasks.

She stopped at least four meters from the line of robots and Daneel (she sensed) stopped as soon as she did and remained less than a meter behind. He was close enough to interfere at once in case of need, but was far enough back to make it clear that she was the dominant spokesperson of the pair. The robots before her, she was certain, viewed Daneel as a human being, but she also knew that Daneel was too conscious of himself as a robot to presume upon the misconception of other robots.

Gladia said, "Which one of you will speak with me?"

There was a brief period of silence, as though an unspoken conference were taking place. Then one robot took a step forward. "Madam, I will speak."

"Do you have a name?"

"No, madam. I have only a serial number."

"How long have you been operational?"

"I have been operational twenty-nine years, madam."

"Has anyone else in this group been operational for longer?"

"No, madam. It is why I, rather than another, am speaking."

"How many robots are employed on this estate?"

"I do not have that figure, madam."

"Roughly."

"Perhaps ten thousand, madam."

"Have any been operational for longer than twenty decades?"

"The agricultural robots include some who may, madam."

"And the household robots?"

"They have not been operational long, madam. The masters prefer new-model robots."

Gladia nodded, turned to Daneel, and said, "That makes sense. It was so in my day, too."

She turned back to the robot. "To whom does this estate belong?"

"It is the Zoberlon Estate, madam."

"How long has it belonged to the Zoberlon family?"

"Longer, madam, than I have been operational. I do not know how much longer, but the information can be obtained. "

"To whom did it belong before the Zoberlons took possession?"

"I do not know, madam, but the information can be obtained."

"Have you ever heard of the Delmarre family?"

"No, madam."

Gladia turned to Daneel and said, rather ruefully, "I'm trying to lead the robot, little by little, as Elijah might once have done, but I don't think I know how to do it properly."

"On the contrary, Lady Gladia," said Daneel gravely, "it seems to me you have established much. It is not likely that any robot on this estate, except perhaps for a few of the agriculturals, would have any memory of you. Would you have encountered any of the agriculturals in your time?"

Gladia shook her head. "Never! I don't recall seeing any of them even in the distance."

"It is clear, then, that you are not known on this estate."

"Exactly. And poor D.G. has brought us along for nothing. If he expected any good of me, he has failed."

"To know the truth is always useful, madam. Not to be known is, in this case, less useful than to be known, but not to know whether one is known or not would be less useful still. Are there not, perhaps, other points on which you might elicit information?"

"Yes, let's see--" For a few seconds, she was lost in thought, then she said softly, "It's odd. When I speak to these robots, I speak with a pronounced Solarian accent. Yet I do not speak so to you."

Daneel said, "It is not surprising, Lady Gladia. The robots speak with such an accent, for they are Solarian. That brings back the days of your youth and you speak, automatically, as you spoke then. You are at once yourself, however, when you turn to me because I am part of your present world."

A slow smile appeared on Gladia's face and she said, "You reason more and more like a human being, Daneel."

She turned back to the robots and was keenly aware of the peacefulness of the surroundings. The sky was an almost unmarked blue, except for a thin line of clouds on the western horizon (indicating that it might turn cloudy in the afternoon). There was the sound of rustling leaves in a light wind, the whirring of insects, a lonely birdcall. No sound of human beings. There might be many robots about, but they worked silently. There weren't the exuberant sounds of human beings that she had grown accustomed to (painfully, at first) on Aurora.

But now back on Solaria, she found the peace wonderful. It had not been all bad on Solaria. She had to admit it.

She said to the robot quickly, with a note of compulsion edging her voice, "Where are your masters?"

It was useless, however, to try to hurry or alarm a robot or to catch it off-guard. It said, without any sign of perturbation. "They are gone, madam."

"Where have they gone?"

"I do not know, madam. I was not told."

"Which of you knows?"

There was a complete silence.

Gladia said, "Is there any robot on the estate who would know?"

The robot said, "I do not know of any, madam."

"Did the masters take robots with them?"

"Yes, madam."

"Yet they didn't take you. Why do you remain behind?"

"To do our work, madam. "

"Yet you stand here and do nothing. Is that work?"

"We guard the estate from those from outside, madam."

"Such as we?"

"Yes, madam."

"But here we are and yet you still do nothing. Why is that?"

"We observe, madam. We have no further orders."

"Have you reported your observations?"

"Yes, madam."

"To whom?"

"To the overseer, madam."

"Where is the overseer?"

"In the mansion, madam."

"Ah." Gladia turned and walked briskly back to D.G.

Daneel followed.

"Well?" said D.G. He was holding both weapons at the ready, but put them back in their holsters as they returned.

Gladia shook her head. "Nothing. No robot knows me. No robot, I'm sure, knows where the Solarians have gone. But they report to an overseer."

"An overseer?"

"On Aurora and the other Spacer worlds, the overseer on large estates with numerous robots is some human whose profession it is to organize and direct groups of working robots in the fields, mines, and industrial establishments."

"Then there are Solarians left behind."

Gladia shook her head. "Solaria is an exception. The ratio of robots to human beings has always been so high that it has not been the custom to assign a man or woman to oversee the robots. That job has been done by another robot, one that is specially programmed."

"Then there is a robot in that mansion"--D.G. nodded with his head--"who is more advanced than these and who might profitably be questioned."

"Perhaps, but I am not certain it is safe to attempt to go into the mansion."

D.G. said sardonically, "It is only another robot."

"The mansion may be booby-trapped."

"This field may be booby-trapped. "

Gladia said, "It would be better to send one of the robots to the mansion to tell the overseer that human beings wish to speak to him."

D.G. said, "That will not be necessary. That job has apparently been done already. The overseer is emerging and is neither a robot nor a 'him.' What I see is a human female."

Gladia looked up in astonishment. Advancing rapidly toward them was a tall, well-formed, and exceedingly attractive woman. Even at a distance, there was no doubt whatever as to her sex.

25.

D.G. smiled broadly. He seemed to be straightening himself a bit, squaring his shoulders, throwing them back. One hand went lightly to his beard, as though to make sure it was sleek and smooth.

Gladia looked at him with disfavor. She said, "That is not a Solarian woman."

"How can you tell?" said D.G.

"No Solarian woman would allow herself to be seen so freely by other human beings. Seen, not viewed."

"I know the distinction, my lady. Yet you allow me to see you."

"I have lived over twenty decades on Aurora. Even so I have enough Solarian left in me still not to appear to others like that."

"She has a great deal to display, madam. I would say she is taller than I am and as beautiful as a sunset. "

The overseer had stopped twenty meters short of their position and the robots had moved aside so that none of them remained between the woman on one side and the three from the ship on the oilier.

D.G. said, "Customs can change in twenty decades."

"Not something as basic as the Solarian dislike of human contact," said Gladia sharply. "Not in two hundred decades." She had slipped into her Solarian twang again.

"I think you underestimate social plasticity. Still, Solarian or not, I presume she's a Spacer--and if there are other Spacers like that, I'm all for peaceful coexistence."

Gladia's look of disapproval deepened. "Well, do you intend to stand and gaze in that fashion for the next hour or two? Don't you want me to question the woman?"

D.G. started and turned to look at Gladia with distinct annoyance. "You question the robots, as you've done. I question the human beings."

"Especially the females, I suppose."

"I wouldn't like to boast, but--"

"It is a subject on which I have never known a man who didn't. "

Daneel interposed, "I do not think the woman will wait longer. If you wish to retain the initiative, Captain, approach her now. I will follow, as I did with Madam Gladia."

"I scarcely need the protection," said D.G. brusquely.

"You are a human being and I must not, through inaction, allow harm to come to you."

D.G. walked forward briskly, Daneel following. Gladia, reluctant to remain behind alone, advanced a bit tentatively.

The overseer watched quietly. She wore a smooth white robe that reached down to mid-thigh and was belted at the waist. It showed a deep and inviting cleavage and her nipples were clearly visible against the thin material of the robe. There was no indication that she was wearing anything else but a pair of shoes.

When D.G. stopped, a meter of space separated them. Her skin, he could see, was flawless, her cheekbones were high, her eyes wide-set and somewhat slanted, her expression serene.

"Madam," said D.G., speaking as close an approximation to Auroran Patrician as he could manage, "have I the pleasure of speaking to the overseer of this estate?"

The woman listened for a moment and then said, in an accent so thickly Solarian as to seem almost comic when coming from her perfectly shaped mouth, "You are not a human being."

She then flashed into action so quickly that Gladia, still some ten meters off, could not see in detail what had happened. She saw only a blur of motion and then D.G. lying on his back motionless and the woman standing there with his weapons, one in each hand.

26.

What stupefied Gladia most in that one dizzying moment was that Daneel had not moved in either prevention or reprisal.

But even as the thought struck her, it was out of date, for Daneel had already caught the woman's left wrist and twisted it, saying, "Drop those weapons at once," in a harsh peremptory voice she had never heard him use before. It was inconceivable that he should so address a human being.

The woman said, just as harshly in her higher register, "You are not a human being." Her right arm came up and she fired the weapon it held. For a moment, a faint glow flickered over Daneel's body and Gladia, unable to make a sound in her state of shock, felt her sight dim. She had never in her life fainted, but this seemed a prelude.

Daneel did not dissolve, nor was there an explosive report. Daneel, Gladia realized, had prudently seized the arm that held the blaster. The other held the neuronic whip and it was that which had been discharged in full--and at close range--upon Daneel. Had he been human, the massive stimulation of his sensory nerves might well have killed him or left him permanently disabled. Yet he was, after all, however human in appearance, a robot and his equivalent of a nervous system did not react to the whip.

Daneel seized the other arm now, forcing it up. He said again, "Drop those weapons or I will tear each arm from its socket."

"Will you?" said the woman. Her arms contracted and, for a moment, Daneel was lifted off the ground. Daneel's legs swung backward, then forward, pendulum-like, using the points where the arms joined as a pivot. His feet struck the woman with force and both fell heavily to the ground.

Gladia, without putting the thought into words, realized that although the woman looked as human as Daneel did, she was just as nonhuman. A sense of instant outrage flooded Gladia, who was suddenly Solarian to the core--outrage that a robot should use

force on a human being. Granted that she might somehow have recognized Daneel for what he was, but how dare she strike D.G.

Gladia was running forward, screaming. It never occurred to her to fear a robot simply because it had knocked down a strong man with a blow and was battling an even stronger robot to a draw.

"How dare you?" she screamed in a Solarian accent so thick that it grated on her own ear--but how else does one speak to a Solarian robot? "How dare you, girl? Stop all resistance immediately!"

The woman's muscles seemed to relax totally and simultaneously, as though an electric current had suddenly been shut off. Her beautiful eyes looked at Gladia without enough humanity to seem startled. She said in an indistinct, hesitating voice, "My regrets, madam."

Daneel was on his feet, staring down watchfully at the woman who lay on the grass. D.G., suppressing a groan, was struggling upright.

Daneel bent for the weapons, but Gladia waved him away furiously.

"Give me those weapons, girl," she said.

The woman said, "Yes, madam."

Gladia snatched at them, chose the blaster swiftly, and handed it to Daneel.

"Destroy her when that seems best, Daneel. That's an order." She handed the neuronc whip to D.G. and said, "This is useless here, except against me--and yourself. Are you all right?"

"No, I'm not all right," muttered D.G., rubbing one hip. "Do you mean she's a robot?"

"Would a woman have thrown you like that?"

"Not any whom I have ever met before. I said there might be special robots on Solaria who were programmed to be dangerous."

"Of course," said Gladia unkindly, "but when you saw something that looked like your idea of a beautiful woman, you forgot. "

"Yes, it is easy to be wise after the fact."

Gladia sniffed and turned again to the robot, "What is your name, girl?"

"I am called Landaree, madam. "

"Get up, Landaree."

Landaree rose much as Daneel had--as though she were on springs. Her struggle with Daneel seemed to have left her totally unharmed.

Gladia said, "Why, against the First Law, have you attacked these human beings?"

"Madam," said Landaree firmly, "these are not human beings."

"And do you say that I am not a human being?"

"No, madam, you a human being."

"Then, as a human being, I am defining these two men as human beings. --Do you hear me?"

"Madam," said Landaree a little more softly, "these are not human beings."

"They are indeed human beings because I tell you they are. You are forbidden to attack them or harm them in any way."

Landaree stood mute.

"Do you understand what I have said?" Gladia's voice grew more Solarian still as she reached for greater intensity.

"Madam," said Landaree, "these are not human beings."

Daneel said to Gladia softly, "Madam, she has been given orders of such firmness that you cannot easily countervail them."

"We'll see about that," said Gladia, breathing quickly.

Landaree looked about. The group of robots, during the few minutes of conflict, had come closer to Gladia and her two companions. In the background were two robots who, Gladia decided, were not members of the original group and they were carrying between them, with some difficulty, a large and very massive device of some sort. Landaree gestured to them and they moved forward a bit more quickly.

Gladia cried out, "Robots, stop!"

They stopped.

Landaree said, "Madam, I am fulfilling my duties. I am following my instructions."

Gladia said, "Your duty, girl, is to obey my orders!"

Landaree said, "I cannot be ordered to disobey my instructions!"

Gladia said, "Daneel, blast her!"

Afterward, Gladia was able to reason out what had happened. Daneel's reaction time was much faster than a human being's would have been and he knew that he was facing a robot against which the Three Laws did not inhibit violence. However, she looked so human that even the precise knowledge that she was a robot did not totally overcome his inhibition. He followed the order more slowly than he should have.

Landaree, whose definition of "human being" was clearly not the one Daneel used, was not inhibited by his appearance and she stuck the more quickly. She had her grip on the blaster and again the two struggled.

D.G. turned his neuronc whip butt-first and came in at a half-run to strike. He hit her head squarely, but it had no effect on the robot and her leg sent him flailing backward.

Gladia said, "Robot! Stop!" Her clenched hands were raised.

Landaree shouted in a stentorian contralto, "All of you! Join me! The two apparent males are not human beings. Destroy them without harming the female in any way."

If Daneel could be inhibited by a human appearance, the same was true in considerably greater intensity for the simple Solarian robots, who inched forward slowly and intermittently.

"Stop!" shrieked Gladia. The robots stopped, but the order had no effect on Landaree.

Daneel held fast to the blaster, but was bending backward under the force of Landaree's apparently greater strength.

Gladia, in distraction, looked about as though hoping to find some weapon somewhere.

D.G. was attempting to manipulate his radio transmitter. He said, grunting, "It's been damaged. I think I fell on it."

"What do we do?"

"We have to make it back to the ship. Quickly."

Gladia said, "Then run. I can't abandon Daneel." She faced the battling robots, crying out wildly, "Landaree, stop! Landaree, stop!"

"I must not stop, madam," said Landaree. "My instructions are precise."

Daneel's fingers were forced open and Landaree had the blaster again.

Gladia threw herself before Daneel. "You must not harm this human being."

"Madam," said Landaree, her blaster pointed at Gladia, unwavering. "You are standing in front of something that looks like a human being but is not a human being. My instructions are to destroy such on sight." Then, in a louder voice, "You two porters-- to the ship."

The two robots, carrying the massive device between them, renewed their forward movement.

"Robots, stop!" screamed Gladia and the forward motion stopped. The robots trembled in place, as though attempting to move forward and yet not quite able to do so.

Gladia said, "You cannot destroy my human friend Daneel without destroying me-- and you yourself admit that I am a human being and therefore must not be harmed."

Daneel said in a low voice, "My lady, you must not draw harm upon yourself in an effort to protect me. "

Landaree said, "This is useless, madam. I can remove you easily from your present position and then destroy the nonhuman being behind you. Since that may harm you, I ask you, with all respect, to move from your present position voluntarily."

"You must, my lady," said Daneel.

"No, Daneel. I'll stay here. In the time it will take her to move me, you run!"

"I cannot run faster than the beam of a blaster--and if I try to run, she will shoot through you rather than not at all. Her instructions are probably that firm. I regret, my lady, that this will cause you unhappiness."

And Daneel lifted the struggling Gladia and tossed her lightly to one side.

Landaree's finger tightened on the contact, but never completed the pressure. She remained motionless.

Gladia, who had staggered to a sitting position, got to her feet. Cautiously, D.G., who had remained in place during the last exchanges, approached Landaree. Daneel quite calmly reached out and took the blaster from her unresisting fingers.

"I believe," said Daneel, "that this robot is permanently deactivated. "

He pushed her gently and she fell over in one piece, with her limbs, torso, and head in the relative positions they occupied when she was standing. Her arm was still bent, her hand was holding an invisible blaster, and her finger was pressing on an invisible contact.

Through the trees to one side of the grassy field on which the drama had played itself out Giskard was approaching, his robotic face showing no signs of curiosity, though his words might have.

"What has taken place in my absence?" he asked.

27.

The walk back to the ship was rather anticlimactic. Now that the frenzy of fear and action was over, Gladia felt hot and cross. D.G. limped rather painfully and they progressed slowly, partly because of the limp and partly because the two Solarian robots were still carrying their massive instrument, plodding along under its weight.

D.G. looked over his shoulder at them. "They obey my orders now that that overseer is out of action."

Gladia said through her teeth, "Why didn't you run at the end and get help? Why did you remain helplessly watching?"

"Well," said D.G., with an attempt at the kind of lightness he would have showed easily were he feeling better, "with you refusing to leave Daneel, I rather hesitated to play the coward by comparison."

"You fool! I was safe. She would not have harmed me."

Daneel said, "Madam, it distresses me to contradict you, but I think she would have done so as her urge to destroy me grew stronger."

Gladia turned on him hotly. "And that was a smart thing you did, pushing me out of the way. Did you want to be destroyed?"

"Rather than see you harmed, madam, yes. My failure to stop the robot through inhibitions set up by her human appearance demonstrated, in any case, an unsatisfactory limit to my usefulness to you."

"Even so," said Gladia, "she would have hesitated to shoot me, since I am human, for a perceptible period of time and you could have had the blaster in your own possession by that time. "

"I couldn't gamble your life, madam, on anything as uncertain as her hesitation," said Daneel.

"And you," said Gladia, showing no signs of having heard Daneel and turning to D.G. again, "shouldn't have brought the blaster in the first place."

D.G. said, frowning, "Madam, I am making allowances for the fact that we have all been very close to death. The robots do not mind that and I have grown somehow accustomed to danger. To you, however, this was an unpleasant novelty and you are being childish as a result. I forgive you--a little. But please listen. There was no way I could have known the blaster would be taken from me so easily. Had I not brought the weapon, the overseer could have killed me with her bare hands as quickly and as effectively as she could have by blaster. Nor was there any point in my running, to answer an earlier

complaint of yours. I could not outrun a blaster. Now please continue if you must still get it out of your system, but I do not intend to reason with you any further."

Gladia looked from D.G. to Daneel and back and said in a low voice, "I suppose I am being unreasonable. Very well, no more hindsights."

They had reached the ship. Crew members poured out at the sight of them. Gladia noticed they were armed.

D.G. beckoned to his second-in-command. "Oser, I presume you see that object the two robots are carrying?"

"Yes, sir."

"Well, have them carry it on board. Have it put in the security room and kept there. The security room is then to be locked and kept locked." He turned away for a moment, then turned back. "And Oser, as soon as that is done, we win prepare to take off again."

Oser said, "Captain, shall we keep the robots as well?"

"No. They are too simple in design to be worth much and, under the circumstances, taking them would create undesirable consequences. The device they are carrying is much more valuable than they are."

Giskard watched the device being slowly and very carefully maneuvered into the ship. He said, "Captain, I am guessing that that is a dangerous object."

"I'm under that impression, too," said D.G. "I suspect that the ship would have been destroyed soon after we were."

"That thing?" said Gladia. "What is it?"

"I can't be certain, but I believe it is a nuclear intensifier. I've seen experimental models on Baleyworld and this looks like a big brother."

"What is a nuclear intensifier?"

"As the name implies, Lady Gladia, it's a device that intensifies nuclear fusion."

"How does it do that?" D.G. shrugged. "I'm not a physicist, my lady. A stream of W particles is involved and they mediate the weak interaction. That's all I know about it."

"What does that do?" asked Gladia.

"Well, suppose the ship has its power supply as it has right now, for instance. There are small numbers of protons, derived from our hydrogen fuel supply, that are ultrahot and fusing to produce power. Additional hydrogen is constantly being heated to produce free protons, which, when hot enough, also fuse to maintain that power. If the stream of W particles from the nuclear intensifier strikes the fusing protons, these fuse more quickly and deliver more heat. That heat produces protons and sets them to fusing more quickly than they should be and their fusion produces still more heat, which intensifies the vicious cycle. In a tiny fraction of a second, enough of the fuel fuses to form a tiny thermonuclear bomb and the entire ship and everything upon it is vaporized."

Gladia looked awed. "Why doesn't everything ignite? Why doesn't the whole planet blow up?"

"I don't suppose there's danger of that, madam. The protons have to be ultrahot and fusing. Cold protons are so unapt to fuse that even when the tendency is intensified to the full extent of such a device, that still is not enough to allow fusion. At least, that's

what I gathered from a lecture I once attended. And nothing but hydrogen is affected, as far as I know. Even in the case of ultrahot protons, the heat produced does not increase without measure. The temperature cools with distance from the intensifier beam, so that only a limited amount of fusion can be forced. Enough to destroy the ship, of course, but there's no question of blowing up the hydrogen-rich oceans, for instance, even if part of the ocean were ultraheated--and certainly not if it were cold."

"But if the machine gets turned on accidentally in the storage room--"

"I don't think it can get turned on." D.G. opened his hand and in it rested a two-centimeter cube of polished metal. "From what little I know of such things, this is an activator and the nuclear intensifier can do nothing without it."

"Are you sure?"

"Not entirely, but we'll just have to chance it, since I must get that thing back to Baleyworld. Now let's get on board."

Gladia and her two robots moved up the gangplank and into the ship. D.G. followed and spoke briefly to some of his officers.

He then said to Gladia, his weariness beginning to show, "It will take us a couple of hours to place all our gear on board and be ready for takeoff and every moment increases the danger."

"Danger?"

"You don't suppose that fearful woman robot is the only one of its kind that may exist on Solaria, do you? Or that the nuclear intensifier we have captured is the only one of its kind? I suppose it will take time for other humanoid robots and other nuclear intensifiers to be brought to this spot--perhaps considerable time--but we must give them as little as possible. And in the meantime, madam, let us to go your room and conduct some necessary business."

"What necessary business would that be, Captain?"

"Well," said D.G., motioning them forward, "in view of the fact that I may have been victimized by treason, I think I will conduct a rather informal court-martial."

28.

D.G. said, after seating himself with an audible groan, "What I really want is a hot shower, a rubdown, a good meal, and a chance to sleep, but that will all have to wait till we're off the planet. It will have to wait in your case, too, madam. Some things will not wait, however.--My question is this. Where were you, Giskard, while the rest of us were faced with considerable danger?"

Giskard said, "Captain, it did not seem to me that if robots alone were left on the planet, they would represent any danger. Moreover, Daneel remained with you."

Daneel said, "Captain, I agreed that Giskard would reconnoiter and that I would remain with Madam Gladia and with you."

"You two agreed, did you?" said D.G. "Was anyone else consulted?"

"No, Captain," said Giskard.

"If you were certain that the robots were harmless, Giskard, how did you account for the fact that two ships were destroyed?"

"It seemed to me, Captain, that there must remain human beings on the planet, but that they would do their best not to be seen by you. I wanted to know where they were and what they were doing. I was in search of them, covering the ground as rapidly as I could. I questioned the robots I met."

"Did you find any human beings?"

"No, Captain."

"Did you examine the house out of which the overseer emerged?"

"No, Captain, but I was certain there were no human beings within it. I still am."

"It contained the overseer."

"Yes, Captain, but the overseer was a robot."

"A dangerous robot. "

"To my regret, Captain, I did not realize that."

"You feel regret, do you?"

"It is an expression I choose to describe the effect on my positronic circuits. It is a rough analogy to the term as human beings seem to use it, Captain."

"How is it you didn't realize a robot might be dangerous?"

"By the Three Laws of Robotics--"

Gladia interrupted, "Stop this, Captain. Giskard only knows what he is programmed to know. No robot is dangerous to human beings, unless there is a deadly quarrel between human beings and the robot must attempt to stop it. In such a quarrel, Daneel and Giskard would undoubtedly have defended us with as little harm to others as possible."

"Is that so?" D.G. put two fingers to the bridge of his nose and pinched. "Daneel did defend us. We were fighting robots, not human beings, so he had no problem in deciding whom to defend and to what extent. Yet he showed astonishing lack of success, considering that the Three Laws do not prevent him from doing harm to robots. Giskard remained out of it, returning at the precise moment when it was over. Is it possible that there is a bond of sympathy among robots? Is it possible that robots, when defending human beings against robots, somehow feel what Giskard calls 'regret' at having to do so and perhaps fail--or absent themselves--"

"No!" exploded Gladia forcefully.

"No?" said D.G. "Well, I don't pretend to be an expert roboticist. Are you, Lady Gladia?"

"I am not a roboticist of any sort," said Gladia, "but I have lived with robots all my life. What you suggest is ridiculous. Daneel was quite prepared to give his life for me and Giskard would have done the same."

"Would any robot have done so?"

"Of course."

"And yet this overseer, this Landaree, was quite ready to attack me and destroy me. Let us grant that, in some mysterious way, she detected that Daneel, despite appearances, was as much a robot as she herself was--despite appearances--and that she had no inhibitions when it came to harming him. How is it, though, that she attacked me when I am unquestionably a human being? She hesitated at you, admitting you were human, but not me. How could a robot discriminate between the two of us? Was she perhaps not really a robot?"

"She was a robot," said Gladia. "Of course she was. But--the truth is, I don't know why she acted as she did. I have never before heard of such a thing. I can only suppose the Solarians, having learned how to construct humanoid robots, designed them without the protection of the Three Laws, though I would have sworn that the Solarians--of all Spacers--would have been the last to do so. Solarians are so outnumbered by their own robots as to be utterly dependent on them--to a far greater extent than any other Spacers are--and for that reason they fear them more. Subservience and even a bit of stupidity were built into all Solarian robots. The Three Laws were stronger on Solara than anywhere else, not weaker. Yet I can think of no other way of explaining Landaree than to suppose that the First Law was--"

Daneel said, "Excuse me, Madam Gladia, for interrupting. May I have your permission to attempt an explanation of the overseer's behavior?"

D.G. said sardonically, "It comes to that, I suppose. Only a robot can explain a robot."

"Sir," said Daneel, "unless we understand the overseer, we might not be able to take effective measures in the future against the Solarian danger. I believe I have a way of accounting for her behavior. "

"Go ahead," said D.G.

"The overseer," said Daneel, "did not take instant measures against us. She stood and watched us for a while, apparently uncertain as to how to proceed. When you, Captain, approached and addressed her, she announced that you were not human and attacked you instantly. When I intervened and cried out that she was a robot, she announced that I was not human and attacked me at once, too. When Lady Gladia came forward, however, shouting at her, the overseer recognized her as human and, for a while, allowed herself to be dominated."

"Yes, I remember all that, Daneel. But what does it mean?"

"It seems to me, Captain, that it is possible to alter a robot's behavior fundamentally without ever touching the Three Laws, provided, for instance, that you alter the definition of a human being. A human being, after all, is only what it is defined to be."

"Is that so? What do you consider a human being to be?"

Daneel was not concerned with the presence or absence of sarcasm. He said, "I was constructed with a detailed description of the appearance and behavior of human beings, Captain. Anything that fits that description is a human being to me. Thus, you have the appearance and the behavior, while the overseer had the appearance but not the behavior."

"To the overseer, on the other hand, the key property of a human being was speech, Captain. The Solarian accent is a distinctive one and to the overseer something that looked like a human being was defined as a human being only if it spoke like a Solarian. Apparently, anything that looked like a human being but did not speak with a Solarian accent was to be destroyed without hesitation, as was any ship carrying such beings."

D.G. said thoughtfully, "You may be right."

"You have a Settler accent, Captain, as distinctive in its way as the Solarian accent is, but the two are widely different. As soon as you spoke, you defined yourself as nonhuman to the overseer, who announced that and attacked."

"And you speak with an Auroran accent and were likewise attacked."

"Yes, Captain, but Lady Gladia spoke with an authentic Solarian accent and so she was recognized as human."

D.G. considered the matter silently for a while, then said, "That's a dangerous arrangement, even for those who would make use of it. If a Solarian, for any reason, at any time addressed such a robot in a way that the robot did not consider an authentic Solarian accent, that Solarian would be attacked at once. If I were a Solarian, I would be afraid to approach such a robot. My very effort to speak pure Solarian might very likely throw me off and get me killed."

"I agree, Captain: said Daneel, "and I would imagine that that is why those who manufacture robots do --not ordinarily limit the definition of a human being, but leave it as broad as possible. The Solarians, however, have left the planet. One might suppose that the fact that overseer robots have this dangerous programming is the best indication that the Solarians have really left and are not here to encounter the danger. The Solarians, it appears, are at this moment concerned only that no one who is not a Solarian be allowed to set foot on the planet."

"Not even other Spacers?"

"I would expect, Captain, that it would be difficult to define a human being in such a way as to include the dozen of different Spacer accents and yet exclude the scores of different Settler accents. Keying the definition to the distinctive Solarian accent alone would be difficult enough."

D.G. said, "You are very intelligent, Daneel. I disapprove of robots, of course, not in themselves but as an unsettling influence on society. And yet, with a robot such as yourself at my side, as you were once at the Ancestor's--"

Gladia interrupted. "I'm afraid not, D.G. Daneel will never be a gift, nor will he ever be sold, nor can he be easily taken by force."

D.G. lifted his hand in a smiling negative. "I was merely dreaming, Lady Gladia. I assure you that the laws of Baleyworld would make my possession of a robot unthinkable."

Giskard said suddenly, "May I have your permission, Captain, to add a few words?"

D.G. said, "Ah, the robot who managed to avoid the action and who returned when all was safely over."

"I regret that matters appear to be as you have stated. May I have your permission, Captain, to add a few words, notwithstanding?"

"Well, go on."

"It would seem, Captain, that your decision to bring the Lady Gladia with you on this expedition has worked out very well. Had she been absent and had you ventured on your exploratory mission with only members of the ship's crew as companions, you would all have been quickly killed and the ship destroyed. It was only Lady Gladia's ability to speak like a Solarian and her courage in facing the overseer that changed the outcome."

"Not so," said D.G., "for we would all have been destroyed, possibly even Lady Gladia, but for the fortuitous event that the overseer spontaneously inactivated."

"It was not fortuitous, Captain," said Giskard, "and it is extremely unlikely that any robot will inactivate spontaneously. There has to be a reason for inactivation and I can suggest one possibility. Lady Gladia ordered the robot to stop on several occasions, as friend Daneel has told me, but the instructions under which the overseer worked were more forceful."

"Nevertheless, Lady Gladia's actions served to blunt the overseer's resolution, Captain. The fact that Lady Gladia was an undoubted human being, even by the overseer's definition, and that she was acting in such a way as to make it necessary, perhaps, for the overseer to harm her--or even kill her--blunted it even farther. Thus, at the crucial moment, the two contrary requirements--having to destroy nonhuman beings and having to refrain from harming human beings--balanced and the robot froze, unable to do anything. Its circuits burned out."

Gladia's brows drew together in a puzzled frown. "But--" she began and then subsided.

Giskard went on, "It strikes me that it might be well for you to inform the crew of this. It might well ease their distrust of Lady Gladia if you stress what her initiative and courage have meant to every man in the crew, since it has kept them alive. It might also give them an excellent opinion of your own foresight in insisting on having her on board on this occasion, perhaps even against the advice of your own officers."

D.G. let loose a great shout of laughter. "Lady Gladia, I see now why you will not be separated from these robots. They are not only as intelligent as human beings, they are every bit as devious. I congratulate you on your having them.--and now, if you don't mind, I must hurry the crew. I don't want to stay on Solaria for one moment more than necessary. And I promise you that you won't be disturbed for hours. I know you can use freshening and rest as much as I can."

After he was gone, Gladia remained for a while in deep thought, then turned to Giskard and said in Auroran Common, a patter version of Galactic Standard that was widespread on Aurora and difficult for any non-Auroran to understand, "Giskard, what is all this nonsense about the burning out of circuits?"

"My lady," said Giskard, "I advanced it only as a possibility and nothing more. I thought it well to emphasize your role in putting an end to the overseer."

"But how could you think he would believe that a robot could burn out that easily?"

"He knows very little about robots, madam. He may traffic in them, but he is from a world that doesn't make use of them."

"Yet I know a great deal about them and so do you. The overseer showed no signs whatever of balancing circuits; no stuttering, no trembling, no behavior difficulty of any kind. It just--stopped."

Giskard said, "Madam since we do not know the precise specifications to which the overseer was designed, we may have to be content with ignorance as to the rationale behind the freeze. "

Gladia shook her head. "Just the same, it's puzzling."

PART III - BALEYWORLD

8. THE SETTLER WORLD

29.

D.G.'s ship was in space again, surrounded by the everlasting changelessness of the endless vacuum.

It had not come too soon for Gladia, who had but imperfectly suppressed the tension that arose from the possibility that a second overseer--with a second intensifier--might arrive without warning. The fact that it would be a quick death if it happened, an unexperienced death, was not quite satisfying. The tension had spoiled what would have otherwise been a luxuriant shower, along with various other forms of renewal of comfort.

It was not till after actual takeoff, after the coming of the soft, distant buzz of the protonic jets, that she could compose herself to sleep. Odd, she thought as consciousness began to slip away, that space should feel safer than the world of her youth, that she should leave Solaria with even greater relief the second time than she had the first.

But Solaria was no longer the world of her youth. It was a world without humanity, guarded over by distorted parodies of humanity; humanoid robots that made a mockery of the gentle Daneel and the thought-filled Giskard.

She slept at last--and while she slept, Daneel and Giskard, standing guard, could once more speak to each other.

Daneel said, "Friend Giskard, I am quite certain that it was you who destroyed the overseer."

"There was clearly no choice, friend Daneel. It was purely an accident that I arrived in time, for my senses were entirely occupied with searching out human beings and I found none. Nor would I have grasped the significance of events if it were not for Lady Gladia's rage and despair. It was that which I sensed at a distance and which caused me to race to the scene--barely in time. In that respect, Lady Gladia did save the situation, at least as far as the captain's existence and yours were concerned. I would still have saved the ship, I believe, even if I had arrived too late to save you." He paused a moment and added, "I would have found it most unsatisfactory, friend Daneel, to arrive too late to save you."

Daneel said, with a grave and formal tone of voice, "I thank you, friend Giskard. I am pleased that you were not inhibited by the human appearance of the overseer. That had slowed my reactions, as my appearance had slowed hers."

"Friend Daneel, her physical appearance meant nothing to me because I was aware of the pattern of her thoughts. That pattern was so limited and so entirely different from the full range of human patterns that there was no need for me to make any effort to

identify her in a positive manner. The negative identification as nonhuman was so clear I acted at once. I was not aware of my action, in fact, until after it had taken place."

"I had thought this, friend Giskard, but I wished confirmation lest I misunderstand. May I assume, then, that you feel no discomfort over having killed what was, in appearance, a human being?"

"None, since it was a robot."

"It seems to me that, had I succeeded in destroying her, I would have suffered some obstruction to the free positronic flow, no matter how thoroughly I understood her to be a robot. "

"The humanoid appearance, friend Daneel, cannot be fought off when that is all one can directly judge by. Seeing is so much more immediate than deducing. It was only because I could observe her mental structure and concentrate on that, that I could ignore her physical structure."

"How do you suppose the overseer would have felt if she had destroyed us, judging from her mental structure?"

"She was given exceedingly firm instructions and there was no doubt in her circuits that you and the captain were nonhuman by her definition."

"But she might have destroyed Madam Gladia as well."

"Of that we cannot be certain, friend Daneel."

"Had she done so, friend Giskard, would she have survived? Have you any way of telling?"

Giskard was silent for a considerable period. "I had insufficient time to study the mental pattern. I cannot say what her reaction might have been had she killed Madam Gladia."

"If I imagine myself in the place of the overseer" --Daneel's voice trembled and grew slightly lower in pitch --"it seems to me that I might kill a human being in order to save the life of another human being, whom, there might be some reason to think, it was more necessary to save. The action would, however, be difficult and damaging. To kill a human being merely in order to destroy something I considered nonhuman would be inconceivable."

"She merely threatened. She did not carry through the threat."

"Might she have, friend Giskard?"

"How can we say, since we don't know the nature of her instructions?"

"Could the instructions have so completely negated the First Law?"

Giskard said, "Your whole purpose in this discussion, I see, has been to raise this question. I advise you to go no further."

Daneel said stubbornly, "I will put it in the conditional, friend Giskard. Surely what may not be expressed as fact can be advanced as fantasy. If instructions could be hedged about with definitions and conditions, if the instructions could be made sufficiently detailed in a sufficiently forceful manner, might it be possible to kill a human being for a purpose less overwhelming than the saving of the life of another human being?"

Giskard said tonelessly, "I do not know, but I suspect that this might be possible."

"But, then, if your suspicion should be correct, that would imply that it was possible to neutralize the First Law under specialized conditions. The First Law, in that case, and, therefore, certainly the other Laws might be modified into almost nonexistence. The Laws, even the First Law, might not be an absolute then, but might be whatever those who design robots defined it to be."

Giskard said, "It is enough, friend Daneel. Go no further."

Daneel said, "There is one more step, friend Giskard. Partner Elijah would have taken that additional step."

"He was a human being. He could."

"I must try. If the Laws of Robotics--even the First Law--are not absolutes and if human beings can modify them, might it not be that perhaps, under proper conditions, we ourselves might mod--"

He stopped.

Giskard said faintly, "Go no further."

Daneel said, a slight hum obscuring his voice, "I go no further."

There was a silence for a long time. It was with difficulty that the positronic circuitry in each ceased undergoing discords.

Finally, Daneel said, "Another thought arises. The overseer was dangerous not only because of the set of her instructions but because of her appearance. It inhibited me and probably the captain and could mislead and deceive human beings generally, as I deceived, without meaning to, First-Class Shipper Niss. He clearly was not aware, at first, that I was a robot."

"And what follows from that, friend Daneel?"

"On Aurora, a number of humanoid robots were constructed at the Robotics Institute, under the leadership of Dr. Amadiro, after the designs of Dr. Fastolfe had been obtained."

"This is well known."

"What happened to those humanoid robots?"

"The project failed."

In his turn, Daneel said, "This is well known. But it does not answer the question. What happened to those humanoid robots?"

"One can assume they were destroyed."

"Such an assumption need not necessarily be correct. Were they, in actual fact, destroyed?"

"That would have been the sensible thing to do. What else with a failure?"

"How do we know the humanoid robots were a failure, except in that they were removed from sight?"

"Isn't that sufficient, if they were removed from sight and destroyed?"

"I did not say 'and destroyed,' friend Giskard. That is more than we know. We know only that they were removed from sight."

"Why should that be so, unless they were failures?"

"And if they were not failures, might there be no reason for their being removed from sight?"

"I can think of none, friend Daneel."

"Think again, friend Giskard. Remember, we are talking now of humanoid robots who, we now think, might from the mere fact of their humanoid nature be dangerous. It has seemed to us in our previous discussion that there was a plan on foot on Aurora to defeat the Settlers--drastically, surely, and at a blow. We decided that these plans must be centered on the planet Earth. Am I correct so far?"

"Yes, friend Daneel."

"Then might it not be that Dr. Amadiro is at the focus and center of this plan? His antipathy to Earth has been made plain these twenty decades. And if Dr. Amadiro has constructed a number of humanoid robots, where might these have been sent if they have disappeared from view? Remember that if Solarian roboticists can distort the Three Laws, Auroran roboticists can do the same."

"Are you suggesting, friend Daneel, that the humanoid robots have been sent to Earth?"

"Exactly. There to deceive the Earthpeople through their human appearance and to make possible whatever it is that Dr. Amadiro intends as his blow against Earth."

"You have no evidence for this."

"Yet it is possible. Consider for yourself the steps of the argument."

"If that were so, we would have to go to Earth. We would have to be there and somehow prevent the disaster."

"Yes, that is so."

"But we cannot go unless Lady Gladia goes and that is not likely."

"If you can influence the captain to take this ship to Earth, Madam Gladia would have no choice but to go as well."

Giskard said, "I cannot without harming him. He is firmly set on going to his own planet of Baleyworld. We must maneuver his trip to Earth--if we can--after he has done whatever he plans in Baleyworld."

"Afterward may be too late."

"I cannot help that. I must not harm a human being."

"If it is too late--Friend Giskard, consider what that would mean."

"I cannot consider what that would mean. I know only that I cannot harm a human being. "

"Then the First Law is not enough and we must--"

He could go no farther and both robots lapsed into helpless silence.

Baleyworld came slowly into sharper view as the ship approached it. Gladia watched it intently in her cabin's viewer; it was the first time she had ever seen a Settler world.

She had protested this leg of the journey when she had first been made aware of it by D.G., but he shrugged it off with a small laugh. "What would you have, my lady? I must lug this weapon of your people"--he emphasized "your" slightly--"to my people. And I must report to them, too."

Gladia said coldly, "Your permission to take me along to Solaria was granted you by the Auroran Council on the condition that you bring me back."

"Actually that is not so, my lady. There may have been some informal understanding to that effect, but there is nothing in writing. No formal agreement."

"An informal understanding would bind me--or any civilized individual, D.G."

"I'm sure of that, Madam Gladia, but we Traders live by money and by written signatures on legal documents. I would never, under any circumstances, violate a written contract or refuse to do that for which I have accepted payment."

Gladia's chin turned upward. "Is that a hint that I must pay you in order to be taken home?"

"Madam!"

"Come, come, D.G. Don't waste mock indignation on me. If I am to be kept prisoner on your planet, say so and tell me why. Let me know exactly where I stand."

"You are not my prisoner and will not be. In fact, I will honor this unwritten understanding. I will take you home--eventually. First, however, I must go to Baleyworld and you must come with me."

"Why must I come with you?"

"The people of my world will want to see you. You are the heroine of Solaria. You saved us. You can't deprive them of a chance of shouting themselves hoarse for you. Besides, you were the good friend of the Ancestor."

"What do they know--or think they know--of that?" Gladia said sharply.

D.G. grinned. "Nothing to your discredit, I assure you. You are a legend and legends are larger than life--though I admit it would be easy for a legend to be larger than you, my lady--and a good deal nobler. Ordinarily, I wouldn't want you on the world because you couldn't live up to the legend. You're not tall enough, beautiful enough, majestic enough. But when the story of Solaria comes out, you will suddenly meet all requirements. In fact, they may not want to let you go. You must remember we are talking of Baleyworld, the planet on which the story of the Ancestor is taken more seriously than on any other--and you are part of the story."

"You are not to use that as an excuse to keep me in prison."

"I promise you I won't. And I promise I will get you home--when I can--when I can."

Gladia did not remain as indignant somehow as she felt she had every right to be. She did want to see what a Settler world was like and, after all, this was Elijah Baley's

peculiar world. His son had founded it. He himself had spent his last decades here. On Baleyworld, there would be remnants of him--the name of the planet, his descendants, his legend.

So she watched the planet--and thought of Elijah.

31.

The watching brought her little and she felt disappointed. There was not much to be seen through the cloud layer that covered the planet. From her relatively small experience as a space traveler it seemed to her that the cloud layer was denser than usual for inhabited planets. They would be landing within hours, now, and the signal light flashed and Gladia scrambled to push the HOLD button in answer. A few moments more and she pushed the ENTER button.

D.G. came in, smiling. "Inconvenient moment, my lady?"

"Not really," said Gladia. "Simply a matter of putting on my gloves and inserting my nose plugs. I suppose I should wear them all the time, but both grow tiresome and, for some reason, I grow less concerned about infection."

"Familiarity breeds contempt, my lady."

"Let's not call it contempt," said Gladia, who found herself smiling.

"Thank you," said D.G. "We'll be landing soon, madam, and I have brought you a coverall, carefully sterilized and placed inside this plastic bag so that it has since been untouched by Settler hands. It's simple to put on. You'll have no trouble and you '11 find it covers everything but the nose and eyes."

"Just for me, D.G.?"

"No, no, my lady. We all wear such things when outdoors at this season of the year. It is winter in our capital city at the present time and it is cold. We live on a rather cold world--heavy cloud cover, much precipitation, often snow."

"Even in the tropical regions?"

"No, there it tends to be hot and dry. The population clusters in the cooler regions, however. We rather like it. It's bracing and stimulating. The seas, which were seeded with Earth species of life, are fertile, so that fish and other creatures have multiplied abundantly. There's no food shortage, consequently, even though land agriculture is limited and we'll never be the breadbasket of the Galaxy. --The summers are short but quite hot and the beaches are then well populated, although you might find them uninteresting since we have a strong nudity taboo."

"It seems like peculiar weather."

"A matter of land-sea distribution, a planetary orbit that is a bit more eccentric than most, and a few other things. Frankly, I don't bother with it." He shrugged. "It's not my field of interest."

"You're a Trader. I imagine you're not on the planet often. "

"True, but I'm not a Trader in order to escape. I like it here. And yet perhaps I would like it less if I were here more. If we look at it that way, Baleyworld's harsh conditions serve an important purpose. They encourage trading. Baleyworld produces men who scour the seas for food and there's a certain similarity between sailing the seas and sailing through space. I would say fully a third of all the Traders plying the space lanes are Baleypeople."

"You seem in a semimanic state, D.G.," said Gladia.

"Do I? I think of myself right now as being in a good humor. I have reason to be. So have you."

"Oh?"

"It's obvious, isn't it? We got off Solaria alive. We know exactly what the Solarian danger is. We've gained control of an unusual weapon that should interest OUT military. And you will be the heroine of Baleyworld. The world officials already know the outline of events and are eager to greet you. For that matter, you're the heroine of this ship. Almost every man on board volunteered to bring you this coverall. They are all anxious to get close and bathe in your aura, so to speak."

"Quite a change," said Gladia dryly.

"Absolutely. Niss--the crewman whom your Daneel chastised--"

"I remember well, D.G."

"He is anxious to apologize to you. And bring his four mates so that they, too, might apologize. And to kick, in your presence, the one of them who made an improper suggestion. He is not a bad person, my lady."

"I am certain he isn't. Assure him he is forgiven and the incident forgotten. And if you'll arrange matters, I will--will shake hands with him and perhaps some of the others before debarking. But you mustn't let them crowd about me."

"I understand, but I can't guarantee there won't be a certain amount of crowding in Baleytown--that's the capital city of Baleyworld. There's no way of stopping various government officials from trying to gain political advantage by being seen with you, while grinning away and bowing."

"Jehoshaphat! As your Ancestor would say."

"Don't say that once we land, madam. It's an expression reserved for him. It is considered bad taste for anyone else to say it. --There'll be speeches and cheering and all kinds of meaningless formalities. I'm sorry, my lady."

She said thoughtfully, "I could do without it, but I suppose there's no way of stopping it."

"No way, my lady."

"How long will it continue?"

"Till they get tired. Several days, perhaps, but there'll be a certain variety to it."

"And how long do we stay on the planet?"

"Till I get tired. I'm sorry, my lady, but I have much to do--places to go--friends to see--"

"Women to make love to."

"Alas for human frailty," said D.G., grinning broadly.

"You're doing everything but slobber."

"A weakness. I can't bring myself to slobber."

Gladia smiled. "You're not totally committed to sanity, are you?"

"I never claimed to be. But, leaving that aside, I also have to consider such dull matters as the fact that my officers and crew would want to see their families and friends, catch up on their sleep, and have a little planetside fun. --and if you want to consider the feelings of inanimate objects, the ship will have to be repaired, refurbished, refreshed, and refueled. Little things like that."

"How long will all those little things take?"

"It could be months. Who knows?"

"And what do I do meanwhile?"

"You could see our world, broaden your horizons."

"But your world is not exactly the playground of the Galaxy. "

"Too true, but we'll try to keep you interested." He looked at his watch. "One more warning, madam. Do not refer to your age."

"What cause would I have to do that?"

"It might show up in some casual reference. You'll be expected to say a few words and you might say, for instance, 'In all my more than twenty-three decades of life, I have never been so glad to see anyone as I am to see the people of Baleyworld.' If you're tempted to say anything like that initial clause, resist it. "

"I will. I have no intention of indulging in hyperbole in any case. --But, as a matter of idle curiosity, why not?"

"Simply because it is better for them not to know your age. "

"But they do know my age, don't they? They know I was your Ancestor's friend and they know how long ago he lived. Or are they under the impression"--she looked at him narrowly --"that I'm a distant descendant of the Gladia?"

"No, no, they know who you are and how old you are, but they know it only with their heads"--he tapped his forehead--"and few people have working heads, as you may have noticed."

"Yes, I have. Even on Aurora."

"That's good. I wouldn't want the Settlers to be special in this respect. Well, then, you have the appearance of" --he paused judiciously--"forty, maybe forty-five, and they'll accept you as that in their guts, which is where the average person's real thinking mechanism is located. If you don't rub it in about your real age."

"Does it really make a difference?"

"Does it? Look, the average Settler really doesn't want robots. He has no liking for robots, no desire for robots. There we are satisfied to differ from the Spacers. Long life is different. Forty decades is considerably more than ten. "

"Few of us actually reach the forty-decade mark."

"And few of us actually reach the ten-decade mark. We teach the advantage of short life-quality versus quantity, evolutionary speed, ever-changing world--but nothing

really makes people happy about living ten decades when they imagine they could live forty, so past a point the propaganda produces a backlash and it's best to keep quiet about it. They don't often see Spacers, as you can imagine, and so they don't have occasion to grind their teeth over the fact that Spacers look young and vigorous even when they are twice as old as the oldest Settler who ever lived. They'll see that in you and if they think about it, it will unsettle them."

Gladia said bitterly, "Would you like to have me make a speech and tell them exactly what forty decades means? Shall I tell them for how many years one outlives the springtime of hope, to say nothing of friends and acquaintances. Shall I tell them of the meaninglessness of children and family; of the endless comings and goings of one husband after another, of the misty blurring of the informal matings between and alongside; of the coming of the time when you've seen all you want to see, and heard all you want to hear, and find it impossible to think a new thought, of how you forget what excitement and discovery are all about, and learn each year how much more intense boredom can become?"

"Baleypeople wouldn't believe that. I don't think I do. Is that the way all Spacers feel or are you making it up?"

"I only know for certain how I myself feel, but I've watched others dim as they aged; I've watched their dispositions sour, and their ambitions narrow, and their indifferences broaden."

D.G.'s lips pressed together and he looked somber. "Is the suicide rate high among Spacers? I've never heard that it is."

"It's virtually zero."

"But that doesn't fit what you're saying."

"Consider! We're surrounded by robots who are dedicated to keeping us alive. There's no way we can kill ourselves when our sharp-eyed and active robots are forever about us. I doubt that any of us would even think of trying. I wouldn't dream of it myself, if only because I can't bear the thought of what it would mean to all my household robots and, even more so, to Daneel and Giskard."

"They're not really alive, you know. They don't have feelings. "

Gladia shook her head. "You say that only because you've never lived with them. -- In any case, I think you overestimate the longing for prolonged life among your people. You know my age, you look at my appearance, yet it doesn't bother you."

"Because I'm convinced that the Spacer worlds must dwindle and die, that it is the Settler worlds that are the hope of humanity's future, and that it is our short-lived characteristic that ensures it. Listening to what you've just said, assuming it is all true, makes me the more certain."

"Don't be too sure. You may develop your own insuperable problems--if you haven't already."

"That is undoubtedly possible, my lady, but for now I must leave you. The ship is coasting in for a landing and I must stare intelligently at the computer that controls it or no one will believe that I am the captain. "

He left and she remained in gloomy abstraction for a while, her fingers plucking at the plastic that enclosed the coverall.

She had come to a sense of equilibrium on Aurora, a way of allowing life to pass quietly. Meal by meal, day by day, season by season, it had been passing and the quiet had insulated her, almost, from the tedious waiting for the only adventure that remained, the final one of death.

And now she had been to Solaria and had awakened the memories of a childhood that had long passed on a world that had long passed, so that the quiet had been shattered--perhaps forever--and so that she now lay uncovered and bare to the horror of continuing life.

What could substitute for the vanished quiet?

She caught Giskard's dimly glowing eyes upon her and she said, "Help me on with this, Giskard."

32.

It was cold. The sky was gray with clouds and the air glittered with a very light snowfall. Patches of powdery snow were swirling in the fresh breeze and off beyond the landing field Gladia could see distant heaps of snow.

There were crowds of people gathered here and there, held off by barriers from approaching too closely. They were all wearing coveralls of different types and colors and they all seemed to balloon outward, turning humanity into a crowd of shapeless objects with eyes. Some were wearing visors that glittered transparently over their faces.

Gladia pressed her mittened hand to her face. Except for her nose, she felt warm enough. The coverall did more than insulate; it seemed to exude warmth of its own.

She looked behind her. Daneel and Giskard were within reach, each in a coverall.

She had protested that at first. "They don't need coveralls. They're not sensitive to cold."

"I'm sure they're not," D.G. had said, "but you say you won't go anywhere without them and we can't very well have Daneel sitting there exposed to the cold. It would seem against nature. Nor do we wish to arouse hostility by making it too clear you have robots."

"They must know I've got robots with me and Giskard's face will give him away--even in a coverall."

"They might know," said D.G., "but the chances are they won't think about it if they're not forced to--so let's not force it."

Now D.G. was motioning her into a ground-car that had a transparent roof and sides. "They'll want to see you as we travel, my lady," he said, smiling.

Gladia seated herself at one side and D.G. followed on the other. "I'm co-hero," he said,

"Do you value that?"

"Oh, yes. It means a bonus for my crew and a possible promotion for me. I don't scorn that."

Daneel and Giskard entered, too, and sat down in seats that faced the two human beings. Daneel faced Gladia; Giskard faced D.G.

There was a ground-car before them, without transparency, and a line of about a dozen behind them. There was the sound of cheering and a forest of arm-waving from the assembled crowd. D.G. smiled and lifted an arm in response and motioned to Gladia to do the same. She waved in a perfunctory manner. It was warm inside the car and her nose had lost its numbness.

She said, "There's a rather unpleasant glitter to these windows. Can that be removed?"

"Undoubtedly, but it won't be," said D.G. "That's as unobtrusive a force field as we can set up. Those are enthusiastic people out there and they've been searched, but someone may have managed to conceal a weapon and we don't want you hurt."

"You mean someone might try to kill me?"

(Daneel's eyes were calmly scanning the crowd to one side of the car; Giskard's scanned the other side.)

"Very unlikely, my lady, but you're a Spacer and Settlers don't like Spacers. A few might hate them with such a surpassing hatred as to see only the Spacerness in you. --but don't worry. Even if someone were to try--which is, as I say, unlikely--they won't succeed."

The line of cars began to move, all together and very smoothly.

Gladia half-rose in astonishment. There was no one in front of the partition that closed them off. "Who's driving?" she asked.

"The cars are thoroughly computerized," said D.G. "I take it that Spacer cars are not?"

"We have robots to drive them."

D.G. continued waving and Gladia followed his lead automatically. "We don't," he said.

"But a computer is essentially the same as a robot. "

"A computer is not humanoid and it does not obtrude itself on one's notice. Whatever the technological similarities might be, they are worlds apart psychologically."

Gladia watched the countryside and found it oppressively barren. Even allowing for winter, there was something desolate in the scattering of leafless bushes and in the sparsely distributed trees, whose stunted and dispirited appearance emphasized the death that seemed to grip everything.

D.G., noting her depression and correlating it with her darting glances here and there, said, "It doesn't look like much now, my lady. In the summer, though, it's not bad. There are grassy plains, orchards, grain fields--"

"Forests?"

"Not wilderness forests. We're still a growing world. It's still being molded. We've only had a little over a century and a half, really. The first step was to cultivate home plots for the initial Settlers, using imported seed. Then we placed fish and invertebrates of all

kinds in the ocean, doing our best to establish a self-supporting ecology. That is a fairly easy procedure--if the ocean chemistry is suitable. If it isn't, then the planet is not habitable without extensive chemical modification and that has never been tried in actuality, though there are all sorts of plans for such procedures. --Finally, we try to make the land flourish, which is always difficult, always slow."

"Have all the Settler worlds followed that path?"

"Are following. None are really finished. Baleyworld is the oldest and we're not finished. Given another couple of centuries, the Settler worlds will be rich and full of life--land as well as sea--though by that time there will be many still-newer worlds that will be working their way through various preliminary stages. I'm sure the Spacer worlds went through the same procedure."

"Many centuries ago--and less strenuously, I think. We had robots to help."

"We'll manage," said D.G. briefly.

"And what about the native life--the plants and animals that evolved on this world before human beings arrived?"

D.G. shrugged. "Insignificant. Small, feeble things. The scientists are of course, interested, so the indigenous life still exists in special aquaria, botanical gardens, zoos. There are out-of-the-way bodies of water and considerable stretches of land area that have not yet been converted. Some indigenous life still lives out there in the wild."

"But these stretches of wilderness will eventually all be converted. "

"We hope so. "

"Don't you feel that the planet really belongs to these insignificant, small, feeble things?"

"No. I'm not that sentimental. The planet and the whole Universe belongs to intelligence. The Spacers agree with that. Where is the indigenous life of Solara? Or of Aurora?"

The line of cars, which had been progressing tortuously from the spaceport, now came to a flat, paved area on which several low, domed buildings were evident.

"Capital Plaza," said D.G. in a low voice. "This is the official heartbeat of the planet. Government offices are located here, the Planetary Congress meets here, the Executive Mansion is found here, and so on."

"I'm sorry, D.G., but this is not very impressive. These are small and uninteresting buildings."

D.G. smiled. "You see only an occasional top, my lady. The buildings themselves are located underground--all interconnected. It's a single complex, really, and is still growing. It's a self-contained city, you know. It, along with the surrounding residential areas, makes up Baleytown."

"Do you plan to have everything underground eventually? The whole city? The whole world?"

"Most of us look forward to an underground world, yes."

"They have underground Cities on Earth, I understand. "

"Indeed they do, my lady. The so-called Caves of Steel. "

"You imitate that here, then?"

"It's not simple imitation. We add our own ideas and--We're coming to a halt, my lady, and any moment we'll be asked to step out. I'd cling to the coverall openings if I were you. The whistling wind on the Plaza in winter is legendary."

Gladia did so, fumbling rather as she tried to put the edges of the openings together. "It's not simple imitation, you say."

"No. We design our underground with the weather in mind. Since our weather is, on the whole, harsher than Earth's, some modification in architecture is required. Properly built, almost no energy is required to keep the complex warm in winter and cool in summer. In a way, indeed, we keep warm in winter, in part, with the stored warmth of the previous summer and cool in summer with the coolness of the previous winter."

"What about ventilation?"

"That uses up some of the savings, but not all. It works, my lady, and someday we will match Earth's structures. That, of course, is the ultimate ambition--to make Baleyworld a reflection of Earth. "

"I never knew that Earth was so admirable as to make imitation desirable," said Gladia lightly.

D.G. turned his eyes on her sharply. "Make no jokes of that sort, my lady, while you are with Settlers--not even with me. Earth is no joking matter."

Gladia said, "I'm sorry, D.G. I meant no disrespect."

"You didn't know. But now you know. Come, let's get out."

The side door of the car slid open noiselessly and D.G. turned in his seat and stepped out. He then held out one hand to help Gladia and said, "You'll be addressing the Planetary Congress, you know, and every government official who can squeeze in will do so."

Gladia, who had stretched out her hand to seize D.G.'s and who already felt--painfully--the cold wind on her face, shrank back suddenly. "I must make an address? I hadn't been told that."

D.G. looked surprised. "I rather thought you would take something of the sort for granted."

"Well, I didn't. And I can't make an address. I've never done such a thing."

"You must. It's nothing terrible. It's just a matter of saying a few words after some long and boring speeches of welcome."

"But what can I possibly say?"

"Nothing fancy, I assure you. Just peace and love and blah--Give them half a minute's worth. I'll scrawl out something for you if you wish."

And Gladia stepped out of the car and her robots followed her. Her mind was in a whirl.

9. THE SPEECH

33.

As they walked into the building, they removed their coveralls and handed them to attendants. Daneel and Giskard removed theirs, too, and the attendants cast sharp glances at the latter, approaching him gingerly.

Gladia adjusted her nose plugs nervously. She had never before been in the presence of large crowds of short-lived human beings--short-lived in part, she knew (or had always been told), because they carried in their bodies chronic infections and hordes of parasites.

She whispered, "Will I get back my own coverall?"

"You will wear no one else's," said D.G. "They will be kept safe and radiation-sterilized."

Gladia looked about cautiously. Somehow she felt that even optical contact might be dangerous.

"Who are those people?" She indicated several people who wore brightly colored clothing and were obviously armed.

"Security guards, madam," said D.G.

"Even here? In a government building?"

"Absolutely. And when we're on the platform, there will be a force-field curtain dividing us from the audience."

"Don't you trust your own legislature?"

D.G. half-smiled. "Not entirely. This is a raw world still and we go our own ways. We haven't had all the edges knocked off and we don't have robots watching over us. Then, too, we've got militant minority parties; we've got our war hawks."

"What are war hawks?"

Most of the Baleyworlders had their coveralls removed now and were helping themselves to drinks. There was a buzz of conversation in the air and many people stared at Gladia, but no one came over to speak to her. Indeed, it was clear to Gladia that there was a circle of avoidance about her.

D.G. noticed her glance from side to side and interpreted it correctly. "They've been told," he said, "that you would appreciate a little elbow room. I think they understand your fear of infection."

"They don't find it insulting, I hope."

"They may, but you've got something that is clearly a robot with you and most Baleyworlders don't want that kind of infection. The war hawks, particularly."

"You haven't told me what they are. "

"I will if there's time. You and I and others on the platform will have to move in a little while. --Most Settlers think that, in time, the Galaxy will be theirs, that the Spacers cannot and will not compete successfully in the race for expansion. We also know it will

take time. We won't see it. Our children probably won't. It may take a thousand years, for all we know. The war hawks don't want to wait. They want it settled now."

"They want war?"

"They don't say that, precisely. And they don't call themselves war hawks. That's what we sensible people call them. They call themselves Earth Supremacists. After all, it's hard to argue with people who announce they are in favor of Earth being supreme. We all favor that, but most of us don't necessarily expect it to happen tomorrow and are not ferociously upset that it won't. "

"And these war hawks may attack me? Physically?"

D.G. gestured for her to move forward. "I think we'll have to get moving, madam. They're getting us into line. --No, I don't think you'll really be attacked, but it's always best to be cautious. "

Gladia held back as D.G. indicated her place in line.

"Not without Daneel and Giskard, D.G. I'm still not going anywhere without them. Not even onto the platform. Not after what you just told me about the war hawks."

"You're asking a lot, my lady."

"On the contrary, D.G. I'm not asking for anything. Take me home right now--with my robots."

Gladia watched tensely as D.G. approached a small group of officials. He made a half-bow, arms in downward-pointing diagonals. It was what Gladia suspected to be a Baleyworlder gesture of respect.

She did not hear what D.G. was saying, but a painful and quite involuntary fantasy passed through her mind. If there was any attempt to separate her from her robots against her will, Daneel and Giskard would surely do what they could to prevent it. They would move too quickly and precisely to really hurt anyone--but the security guards would use their weapons at once.

She would have to prevent that at all costs--pretend she was separating from Daneel and Giskard voluntarily and ask them to wait behind for her. How could she do that? She had never been entirely without robots in her life. How could she feel safe without them? And yet what other way out of the dilemma offered itself?

D.G. returned. "Your status as heroine, my lady, is a useful bargaining chip. And, of course, I am a persuasive fellow. Your robots may go with you. They will sit on the platform behind you, but there will be no spotlight upon them. And, for the sake of the Ancestor, my lady, don't call attention to them. Don't even look at them. "

Gladia sighed with relief. "You're a good fellow, D.G.," she said shakily. "Thank you."

She took her place near the head of the line, D.G. at her left, Daneel and Giskard behind her, and behind them a long tail of officials of both sexes.

A woman Settler, carrying a staff that seemed to be a symbol of office, having surveyed the line carefully, nodded, moved forward to the head of the line, then walked on. Everyone followed.

Gladia became aware of music in simple and rather repetitive march rhythm up ahead and wondered if she were supposed to march in some choreographed fashion. (Customs vary infinitely and irrationally from world to world, she told herself.)

Looking out of the corner of her eye, she noticed D.G. ambling forward in an indifferent way. He was almost slouching. She pursed her lips disapprovingly and walked rhythmically, head erect, spine stiff. In the absence of direction, she was going to march the way she wanted to.

They came out upon a stage and, as they did so, chairs rose smoothly from recesses in the floor. The line split up, but D.G. caught her sleeve lightly and she accompanied him. The two robots followed her.

She stood in front of the seat that D.G. quietly pointed to. The music grew loud, but the light was not quite as bright as it had been. And then, after what seemed an almost interminable wait, she felt D.G.'s touch pressing lightly downward. She sat and so did they all.

She was aware of the faint shimmer of the force-field curtain and beyond that an audience of several thousand. Every seat was filled in an amphitheater that sloped steeply upward. All were dressed in dull colors, browns and blacks, both sexes alike (as nearly as she could tell them apart). The security guards in the aisles stood out in their green and crimson uniforms. No doubt it lent them instant recognition. (Though, Gladia thought, it must make them instant targets as well.)

She turned to D.G. and said in a low voice, "You people have an enormous legislature."

D.G. shrugged slightly. "I think everyone in the governmental apparatus is here, with mates and guests. A tribute to your popularity, my lady."

She cast a glance over the audience from right to left and back and tried at the extreme of the arc to catch sight, out of the corner of her eye, of either Daneel or Giskard--just to be sure they were there. And then she thought, rebelliously, that nothing would happen because of a quick glance and deliberately turned her head. They were there. She also caught D.G. rolling his eyes upward in exasperation.

She started suddenly as a spotlight fell upon one of the persons on the stage, while the rest of the room dimmed further into shadowy insubstantiality.

The spotlighted figure rose and began to speak. His voice was not terribly loud, but Gladia could hear a very faint reverberation bouncing back from the far walls. It must penetrate every cranny of the large hall, she thought. Was it some form of amplification by a device so unobtrusive that she did not see it or was there a particularly clever acoustical shape to the hall? She did not know, but she encouraged her puzzled speculation to continue, for it relieved her, for a while, of the necessity of having to listen to what was being said.

At one point she heard a soft call of "Quackenbush" from some undetermined point in the audience. But for the perfect acoustics (if that was what it was), it would probably have gone unheard.

The word meant nothing to her, but from the soft, brief titter of laughter that swept the audience, she suspected it was a vulgarism. The sound quenched itself almost at once and Gladia rather admired the depth of the silence that followed.

Perhaps if the room were so perfectly acoustic that every sound could be heard, the audience had to be silent or the noise and confusion would be intolerable. Then, once the custom of silence was established and audience noise became a taboo, anything but silence would become unthinkable. --Except where the impulse to mutter "Quackenbush" became irresistible, she supposed.

Gladia realized that her thinking was growing muddier and her eyes were closing. She sat upright with a small jerk. The people of the planet were trying to honor her and if she fell asleep during the proceedings, that would surely be an intolerable insult. She tried to keep herself awake by listening, but that seemed to make her sleepier. She bit the inside of her cheeks instead and breathed deeply.

Three officials spoke, one after the other, with semimerciful semibrevity, and then Gladia jolted wide awake (Had she been actually dozing despite all her efforts--with thousands of pairs of eyes on her?) as the spotlight fell just to her left and D.G. rose to speak, standing in front of his chair.

He seemed completely at ease, with his thumbs hooked in his belt.

"Men and women of Baleyworld," he began. "Officials, lawgivers, honored leaders, and fellow planetfolk, you have heard something of what happened on Solaria. You know that we were completely successful. You know that Lady Gladia of Aurora contributed to that success. It is time now to present some of the details to you and to all my fellow planetfolk who are watching on hypervision."

He proceeded to describe the events in modified form and Gladia found herself dryly amused at the nature of the modifications. He passed over his own discomfiture at the hands of a humanoid robot lightly. Giskard was never mentioned; Daneel's role was minimized; and Gladia's heavily emphasized. The incident became a duel between two women--Gladia and Landaree--and it was the courage and sense of authority of Gladia that had won out.

Finally, D.G. said, "And now Lady Gladia, Solarian by birth, Auroran by citizenship, but Baleyworlder by deed--" (There was strong applause at the last, the loudest Gladia had yet heard, for the earlier speakers had been but tepidly received.)

D.G. raised his hands for silence and it came at once. He then concluded, "--will now address you."

Gladia found the spotlight on herself and turned to D.G. in sudden panic. There was applause in her ears and D.G., too, was clapping his hands. Under the cover of the applause, he leaned toward her and whispered, "You love them all, you want peace, and since you're not a legislator, you're unused to long speeches of small content. Say that, then sit down."

She looked at him uncomprehendingly, far too nervous to have heard what he said.

She rose and found herself staring at endless tiers of people.

Gladia felt very small (not for the first time in her life, to be sure) as she faced the stage. The men on the stage were all taller than she was and so were the other three women. She felt that even though they were all sitting and she was standing, they still towered over her. As for the audience, which was waiting now in almost menacing silence, those who composed it were, she felt quite certain, one and all larger than her in every dimension.

She took a deep breath and said, "Friends--" but it came out in a thin, breathless whistle. She cleared her throat (in what seemed a thunderous rasp) and tried again.

"Friends!" This time there was a certain normality to the sound. "You are all descended from Earthpeople, every one of you. I am descended from Earthpeople. There are no human beings anywhere on all the inhabited worlds--whether Spacer worlds, Settler worlds, or Earth itself--that are not either Earthpeople by birth or Earthpeople by descent.

All other differences fade to nothing in the face of that enormous fact."

Her eyes flickered leftward to look at D.G. and she found that he was smiling very slightly and that one eyelid trembled as though it were about to wink.

She went on. "That should be our guide in every thought and act. I thank you all for thinking of me as a fellow human being and for welcoming me among you without regard to any other classification in which you might have been tempted to place me. Because of that, and in the hope that the day will soon come when sixteen billion human beings, living in love and peace, will consider themselves as just that and nothing more--or less--I think of you not merely as friends but as kinsmen and kinswomen."

There was an outbreak of applause that thundered in upon her and Gladia half-closed her eyes in relief. She remained standing to let it continue and bathe her in its welcome indication that she had spoken well and--what was more--enough. When it began to fade, she smiled, bowed to right and left, and began to sit down.

And then a voice came out of the audience. "Why don't you speak in Solarian?" She froze halfway to her seat and looked, in shock, at D.G.

He shook his head slightly and mouthed soundlessly: "Ignore it. " He gestured as unobtrusively as possible that she seat herself.

She stared at him for a second or two, then realized what an ungainly sight she must present, with her posterior protruding in the unfinished process of seating herself. She straightened at once and flashed a smile at the audience as she turned her head slowly from side to side. For the first time she became aware of objects in the rear whose glistening lenses focused upon her.

Of course! D.G. had mentioned that the proceedings were being watched via hyperwave. Yet it scarcely seemed to matter now. She had spoken and had been applauded and she was facing the audience she could see, erect and without nervousness. What could the unseen addition matter?

She said, still smiling, "I consider that a friendly question. You want me to show you my accomplishments. How many want me to speak as a Solarian might? Don't hesitate. Raise your right hands."

A few right arms went up.

Gladia said, "The humanoid robot on Solaria heard me speak Solarian. That was what defeated it in the end. Come--let me see everyone who would like a demonstration."

More right arms went up and, in a moment, the audience became a sea of upraised arms. Gladia felt a hand tweaking at her pants leg and, with a rapid movement, she brushed it away.

"Very well. You may lower your arms now, kinsmen and kinswomen. Understand that what I speak now is Galactic Standard, which is your language, too. I, however, am speaking it as an Auroran would and I know you all understand me even though the way I pronounce my words may well strike you as amusing and my choice of words may on occasion puzzle you a bit. You'll notice that my way of speaking has notes to it and goes up and down--almost as though I were singing my words. This always sounds ridiculous to anyone not an Auroran, even to other Spacers.

"On the other hand, if I slip into the Solarian way of speaking as I am now doing, you will notice at once that the notes stop and that it becomes throaty with 'r's' that just about neverrr let go--especially if therre is no 'rrrrr' anywherrre on the vocal panoramarrrrr."

There was a burst of laughter from the audience and Gladia confronted it with a serious expression on her face. Finally, she held up her arms and made a cutting movement downward and outward and the laughter stopped.

"However," she said, "I will probably never go to Solaria again, so I will have no occasion to use the Solarian dialect any further. And the good Captain Baley"--she turned and made a half-bow in his direction, noting that there was a distinct outbreak of perspiration on his brow--"informs me there is no telling when I'll be going back to Aurora, so I may have to drop the Auroran dialect as well. My only choice, then, will be to speak the Baleyworld dialect, which I shall at once begin to practice. "

She hooked the fingers of each hand into an invisible belt, stretched her chest outward, pulled her chin downward, put on D.G.'s unself-conscious grin, and said, in a gravelly attempt at baritone, "Men and women of Baleyworld, officials, lawgivers, honored leaders, and fellow planetfolk--and that should include everyone, except, perhaps, dishonored leaders--" She did her best to include the glottal stops and the flat "a's" and carefully pronounced the "h" of "honored" and "dishonored" in what was almost a gasp.

The laughter was still louder this time and more prolonged and Gladia allowed herself to smile and to wait calmly while it went on and on. After all, she was persuading them to laugh at themselves.

And when things were quiet again, she said simply, in an unexaggerated version of the Auroran dialect, "Every dialect is amusing--or peculiar--to those who are not

accustomed to it and it tends to mark off human beings into separate--and frequently mutually unfriendly--groups. Dialects, however, are only languages of the tongue. Instead of those, you and I and every other human being on every inhabited world should listen to the language of the heart and there are no dialects to that. That language--if we will only listen--rings out the same in all of us."

That was it. She was ready to sit down again, but another question sounded. It was a woman's voice this time.

"How old are you?"

Now D.G. forced a low growl between his teeth. "Sit down, madam! Ignore the question."

Gladia turned to face D.G. He had half-risen. The others on the stage, as nearly as she could see them in the dimness outside the spotlight, were tensely leaning toward her.

She turned back to the audience and cried out ringingly, "The people here on the stage want me to sit down. How many of you out there want me to sit down? --I find you are silent. --How many want me to stand here and answer the question honestly?"

There was sharp applause and cries of "Answer! Answer!"

Gladia said, "The voice of the people! I'm sorry, D.G. and all the rest of you, but I am commanded to speak."

She looked up at the spotlight, squinting, and shouted, "I don't know who controls the lights, but light the auditorium and turn off the spotlight. I don't care what it does to the hyperwave cameras. Just make sure the sound is going out accurately. No one will care if I look dim, as long as they can hear me. Right?"

"Right!" came the multivoiced answer. Then "Lights! Lights!"

Someone on the stage signaled in a distraught manner and the audience was bathed in light.

"Much better," said Gladia. "Now I can see you all, my kinspeople. I would like, particularly, to see the woman who asked the question, the one who wants to know my age. I would like to speak to her directly. Don't be backward or shy. If you have the courage to ask the question, you should have the courage to ask it openly."

She waited and finally a woman rose in the middle distance. Her dark hair was pulled back tightly, the color of her skin was a light brown, and her clothing, worn tightly to emphasize a slim figure, was in shades of darker brown.

She said, just a bit stridently, "I'm not afraid to stand up. And I'm not afraid to ask the question again. How old are you?"

Gladia faced her calmly and found herself even welcoming the confrontation. (How was this possible? Throughout her first three decades, she had been carefully trained to find the real presence of even one human being intolerable. Now look at her--facing thousands without a tremble. She was vaguely astonished and entirely pleased.)

Gladia said, "Please remain standing, madam, and let us talk together. How shall we measure age? In elapsed years since birth?"

The woman said with composure, "My name is Sindra Lambid. I'm a member of the legislature and therefore one of Captain Baley's 'lawgivers' and 'honored leaders.' I

hope 'honored,' at any rate." (There was a ripple of laughter as the audience seemed to grow increasingly good-natured.) "To answer your question, I think that the number of Galactic Standard Years that have elapsed since birth is the usual definition of a person's age. Thus, I am fifty-four years old. How old are you? How about just giving us a figure?"

"I will do so. Since my birth, two hundred and thirty-three Galactic Standard Years have come and gone, so that I am over twenty-three decades old--or a little more than four times as old as you are." Gladia held herself straight and she knew that her small, slim figure and the dim light made her look extraordinarily childlike at that moment.

There was a confused babble from the audience and something of a groan from her left. A quick glance in that direction showed her that D.G. had his hand to his forehead.

Gladia said, "But that is an entirely passive way of measuring time lapse. It is a measure of quantity that takes no account of quality. My life has been spent quietly, one might say dully. I have drifted through a set routine, shielded from all untoward events by a smoothly functioning social system that left no room for either change or experimentation and by my robots, who stood between me and misadventure of any kind.

"Only twice in my life have I experienced the breath of excitement and both times tragedy was involved. When I was thirty-three, younger in years than many of you who are now listening to me, there was a time--not a long one--during which a murder accusation hung over me. Two years later, there was another period of time--not long--during which I was involved in another murder. On both those occasions, Plainclothesman Elijah Baley was at my side. I believe most of you--or perhaps all of you--are familiar with the story as given in the account written by Elijah Baley's son.

"I should now add a third occasion for, this last month, I have faced a great deal of excitement, reaching its climax with my being required to stand up before you all, something which is entirely different from anything I have ever done in all my long life. And I must admit it is only your own good nature and kind acceptance of me that makes it possible.

"Consider, each of you, the contrast of all this with your own lives. You are pioneers and you live on a pioneer world. This world has been growing all your lives and will continue to grow. This world is anything but settled down and each day is--and must be--an adventure. The very climate is an adventure. You have first cold, then heat, then cold again. It is a climate rich in wind and storms and sudden change. At no time can you sit back and let time pass drowsily in a world that changes gently or not at all.

"Many Baleyworlders are Traders or can choose to be Traders and can then spend half their time scouring the space lanes. And if ever this world grows tame, many of its inhabitants can choose to transfer their sphere of activities to another less-developed world or join an expedition that will find a suitable world that has not yet felt the step of human beings and take their share in shaping it and seeding it and making it fit for human occupancy.

"Measure the length of life by events and deeds, accomplishments and excitements, and I am a child, younger than any of you. The large number of my years has served merely to bore and weary me; the smaller number of yours to enrich and excite you. --So tell me again, Madam Lambid, how old are you?"

Lambid smiled. "Fifty-four good years, Madam Gladia. "

She sat down and again the applause welled up and continued. Under cover of that, D.G. said hoarsely, "Lady Gladia, who taught you how to handle an audience like this?"

"No one," she whispered back. "I never tried before."

"But quit while you're ahead. The person now getting to his feet is our leading war hawk. There's no need to face him. Say you are tired and sit down. We will tackle Old Man Bistervan ourselves."

"But I'm not tired," said Gladia. "I'm enjoying myself."

The man now facing her from her extreme right but rather near the stage was a tall, vigorous man with shaggy white eyebrows hanging over his eyes. His thinning hair was also white and his garments were a somber black, relieved by a white stripe running down each sleeve and trouser leg, as though setting sharp limits to his body.

His voice was deep and musical. "My name," he said, "is Tomas Bistervan and I'm known to many as the Old Man, largely, I think, because they wish I were and that I would not delay too long in dying. I do not know how to address you because you do not seem to have a family name and because I do not know you well enough to use your given name. To be honest, I do not wish to know you that well.

"Apparently, you helped save a Baleyworld ship on your world against the booby traps and weapons set up by your people and we are thanking you for that. In return, you have delivered some pious nonsense about friendship and kinship. Pure hypocrisy!

"When have your people felt kin to us? When have the Spacers felt any relationship to Earth and its people? Certainly, you Spacers are descended from Earthmen. We don't forget that. Nor do we forget that you have forgotten it. For well over twenty decades, the Spacers controlled the Galaxy and treated Earthpeople as though they were hateful, short-lived, diseased animals. Now that we are growing strong, you hold out the hand of friendship, but that hand has a glove on it, as your hands do. You try to remember not to turn up your nose at us, but the nose, even if not turned up, has plugs in it. Well? Am I correct?"

Gladia held up her hands. "It may be," she said, "that the audience here in this room--and, even more so, the audience outside the room that sees me via hyperwave--is not aware that I am wearing gloves. They are not obtrusive, but they are there. I do not deny that. And I have nose plugs that filter out dust and microorganisms without too much interference with breathing. And I am careful to spray my throat periodically. And I wash perhaps a bit more than the requirements of cleanliness alone make necessary. I deny none of it.

"But this is the result of my shortcomings, not yours. My immune system is not strong. My life has been too comfortable and I have been exposed to too little. That was

not my deliberate choice, but I must pay the penalty for it. If any of you were in my unfortunate position, what would you do? In particular, Mr. Bistervan, what would you do?"

Bistervan said grimly, "I would do as you do and I would consider it a sign of weakness, a sign that I was unfit and unadjusted to life and that I therefore ought to make way for those who are strong. Woman, don't speak of kinship to us. You are no kin of mine. You are of those who persecuted and tried to destroy us when you were strong and who come whining to us when you are weak."

There was a stir in the audience--and by no means a friendly one--but Bistervan held his ground firmly.

Gladia said softly, "Do you remember the evil we did when we were strong?"

Bistervan said, "Don't fear that we will forget. It is in our minds every day."

"Good! Because now you know what to avoid. You have learned that when the strong oppress the weak, that is wrong. Therefore, when the table turns and when you are strong and we are weak, you will not be oppressive."

"Ah, yes. I have heard the argument. When you were strong, you never heard of morality, but now that you are weak, you preach it earnestly."

"In your case, though, when you were weak, you knew all about morality and were appalled by the behavior of the strong--and now that you are strong, you forget morality. Surely it is better that the immoral learn morality through adversity than that the moral forget morality in prosperity."

"We will give what we received," said Bistervan, holding up his clenched fist.

"You should give what you would have liked to receive," said Gladia, holding out her arms, as though embracing. "Since everyone can think of some past injustice to avenge, what you are saying, my friend, is that it is right for the strong to oppress the weak. And when you say that, you justify the Spacers of the past and should therefore have no complaint of the present. What I say is that oppression was wrong when we practiced it in the past and that it will be equally wrong when you practice it in the future. We cannot change the past, unfortunately, but we can still decide on what the future shall be."

Gladia paused. When Bistervan did not answer immediately, she called out, "How many want a new Galaxy, not the bad old Galaxy endlessly repeated?"

The applause began, but Bistervan threw his arms up and shouted in stentorian fashion, "Wait! Wait! Don't be fools! Stop!"

There was a slow quieting and Bistervan said, "Do you suppose this woman believes what she's saying? Do you suppose the Spacers intend us any good whatever? They still think they are strong, and they still despise us, and they intend to destroy us--if we don't destroy them first. This woman comes here and, like fools, we greet her and make much of her. Well, put her words to the test. Let any of you apply for permission to visit a Spacer world and see if you can. Or if you have a world behind you and can use threats, as Captain Baley did, so that you are allowed to land on the world, how will you be treated? Ask the captain if he was treated like kin."

"This woman is a hypocrite, in spite of all her words--no, because of them. They are the spoken advertisements of her hypocrisy. She moans and whines about her inadequate immune system and says that she must protect herself against the danger of infection. Of course, she doesn't do this because she thinks we are foul and diseased. That thought, I suppose, never occurs to her.

"She whines of her passive life, protected from mischance and misfortune by a too-settled society and a too-solicitous crowd of robots. How she must hate that.

"But what endangers her here? What mischance does she feel will befall her on our planet? Yet she has brought two robots with her. In this hall, we meet in order to honor her and make much of her, yet she brought her two robots even here. They are there on the platform with her. Now that the room is generally lit, you can see them. One is an imitation human being and its name is R. Daneel Olivaw. Another is a shameless robot, openly metallic in structure, and its name is R. Giskard Reventlov. Greet them, my fellow Baleyworlders. They are this woman's kinfolk."

"Checkmate!" groaned D.G. in a whisper.

"Not yet," said Gladia.

There were craning necks in the audience, as if a sudden itch had affected them all, and the word "Robots" ran across the length and breadth of the hall in thousands of intakes of breath.

"You can see them without trouble," Gladia's voice rang out. "Daneel, Giskard, stand up."

The two robots rose at once behind her.

"Step to either side of me," she said, "so that my body does not block the view. --not that my body is large enough to do much blocking, in any case.

"Now let me make a few things clear to all of you. These two robots did not come with me in order to service me. Yes, they help run my establishment on Aurora, along with fifty-one other robots, and I do no work for myself that I wish a robot to do for me. That is the custom on the world on which I live.

"Robots vary in complexity, ability, and intelligence and these two rate very high in those respects. Daneel, in particular, is, in my opinion, the robot, of all robots, whose intelligence most nearly approximates the human in those areas where comparison is possible.

"I have brought only Daneel and Giskard with me, but they perform no great services for me. If you are interested, I dress myself, bathe myself, use my own utensils when I eat, and walk without being carried.

"Do I use them for personal protection? No. They protect me, yes, but they equally well protect anyone else who needs protection. On Solaria, just recently, Daneel did what he could to protect Captain Baley and was ready to give up his existence to protect me. Without him, the ship could not have been saved.

"And I certainly need no protection on this platform. After all, there is a force field stretched across the stage that is ample protection. It is not there at my request, but it is there and it supplies all the protection I need.

"Then why are my robots here with me?"

"Those of you who know the story of Elijah Baley, who freed Earth of its Spacer overlords, who initiated the new policy of settlement, and whose son led the first human being to Baleyworld--why else is it called that?--know that well before he knew me, Elijah Baley worked with Daneel. He worked with him on Earth, on Solaria, and on Aurora--on each of his great cases. To Daneel, Elijah Baley was always 'Partner Elijah.' I don't know if that fact appears in his biography, but you may safely take my word for it. And although Elijah Baley, as an Earthman, began with a strong distrust of Daneel, a friendship between them developed. When Elijah Baley was dying, here on this planet over sixteen decades ago, when it was just a cluster of prefabricated houses surrounded by garden patches, it was not his son who was with him in his last moment. Nor was it I." (For a treacherous moment, she thought her voice would not hold steady.) "He sent for Daneel and he held on to life until Daneel arrived.

"Yes, this is Daneel's second visit to this planet. I was with him, but I remained in orbit." (Steady!) "It was Daneel alone who made planetfall, Daneel who received his last words. --Well, does this mean nothing to you?"

Her voice rose a notch as she shook her fists in the air. "Must I tell you this? Don't you already know it? Here is the robot that Elijah Baley loved. Yes, loved. I wanted to see Elijah before he died, to say good-bye to him; but he wanted Daneel--and this is Daneel. This is the very one.

"And this other is Giskard, who knew Elijah only on Aurora, but who managed to save Elijah's life there.

"Without these two robots, Elijah Baley would not have achieved his goal. The Spacer worlds would still be supreme, the Settler worlds would not exist, and none of you would be here. I know that. You know that. I wonder if Mr. Tomas Bistervan knows that?

"Daneel and Giskard are honored names on this world. They are used commonly by the descendants of Elijah Baley at his request. I have arrived on a ship the captain of which is named Daneel Giskard Baley. How many, I wonder, among the people I face now--in person and via hyperwave--bear the name of Daneel or Giskard? Well, these robots behind me are the robots those names commemorate. And are they to be denounced by Tomas Bistervan?"

The growing murmur among the audience was becoming loud and Gladia lifted her arms imploringly.

"One moment. One moment. Let me finish. I have not told you why I brought these two robots. "

There was immediate silence.

"These two robots," Gladia said, "have never forgotten Elijah Baley, any more than I have forgotten him. The passing decades have not in the least dimmed those memories. When I was ready to step on to Captain Baley's ship, when I knew that I might visit Baleyworld, how could I refuse to take Daneel and Giskard with me? They wanted to see the planet that Elijah Baley had made possible, the planet on which he passed his old age and on which he died.

"Yes, they are robots, but they are intelligent robots who served Elijah Baley faithfully and well. It is not enough to have respect for all human beings; one must have respect for all intelligent beings. So I brought them here." Then, in a final outcry that demanded a response, "Did I do wrong?"

She received her response. A gigantic cry of "No!" resounded throughout the hall and everyone was on his or her feet, clapping, stamping, roaring, screaming--on. . . and on. . . and on.

Gladia watched, smiling, and, as the noise continued endlessly, became aware of two things. First, she was wet with perspiration. Second, she was happier than she had ever been in her life.

It was as though all her life she had waited for this moment--the moment when she, having been brought up in isolation, could finally learn, after twenty-three decades, that she could face crowds, and move them, and bend them to her will.

She listened to the unwearying, noisy response--on. . . and on. . . and on. . .

35.

It was a considerable time later--how long she had no way of telling --that Gladia finally came to herself.

There had first been unending noise, the solid wedge of security people herding her through the crowd, the plunge into endless tunnels that seemed to sink deeper and deeper into the ground.

She lost contact with D.G. early and was not sure that Daneel and Giskard were safely with her. She wanted to ask for them, but only faceless people surrounded her. She thought distantly that the robots had to be with her, for they would resist separation and she would hear the tumult if an attempt were made.

When she finally reached a room, the two robots were there with her. She didn't know precisely where she was, but the room was fairly large and clean. It was poor stuff compared to her home on Aurora, but compared to the shipboard cabin it was quite luxurious.

"You will be safe here, madam," said the last of the guards as he left. "If you need anything, just let us know." He indicated a device on a small table next to the bed.

She stared at it, but by the time she turned back to ask what it was and how it worked, he was gone.

Oh, well, she thought, I'll get by.

"Giskard," she said wearily, "find out which of those doors leads to the bathroom and find out how the shower works. What I must have now is a shower."

She sat down gingerly, aware that she was damp and unwilling to saturate the chair with her perspiration. She was beginning to ache with the unnatural rigidity of her position when Giskard emerged.

"Madam, the shower is running," he said, "and the temperature is adjusted. There is a solid material which I believe is soap and a primitive sort of toweling material, along with various other articles that may be useful."

"Thank you, Giskard," said Gladia, quite aware that despite her grandiloquence on the manner in which robots such as Giskard did not perform menial service, that is precisely what she had required him to do. But circumstances alter cases--

If she had never needed a shower, it seemed to her, as badly as now, she had also never enjoyed one as much. She remained in it much longer than she had to and when it was over it didn't even occur to her to wonder if the towels had been in any way irradiated to sterility until after she had dried herself--and by that time it was too late.

She rummaged about among the material Giskard had laid out for her--powder, deodorant, comb, toothpaste, hair dryer--but she could not locate anything that would serve as a toothbrush. She finally gave up and used her finger, which she found most unsatisfactory. There was no hairbrush and that too was unsatisfactory. She scrubbed the comb with soap before using it, but cringed away from it just the same. She found a garment that looked as though it were suitable for wearing to bed. It smelled clean, but it hung far too loosely, she decided.

Daneel said quietly, "Madam, the captain wishes to know if he may see you."

"I suppose so," said Gladia, still rummaging for alternate nightwear. "Let him in."

D.G. looked tired and even haggard, but when she turned to greet him, he smiled wearily at her and said, "It is hard to believe that you are over twenty-three decades old."

"What? In this thing?"

"That helps. It's semitransparent. --or didn't you know?"

She looked down at the nightgown uncertainly, then said, "Good, if it amuses you, but I have been alive, just the same, for two and a third centuries. "

"No one would guess it to look at you. You must have been very beautiful in your youth."

"I have never been told so, D.G. Quiet charm, I always believed, was the most I could aspire to. --In any case, how do I use that instrument?"

"The call box? Just touch the patch on the right side and someone will ask if you can be served and you can carry on from there."

"Good. I will need a toothbrush, a hairbrush, and clothing."

"The toothbrush and hairbrush I will see that you get. As for clothing, that has been thought of. You have a clothes bag hanging in your closet. You'll find it contains the best in Baleyworld fashion, which may not appeal to you, of course. And I won't guarantee they'll fit you. Most Baleyworld women are taller than you and certainly wider and thicker. --but it doesn't matter. I think you'll remain in seclusion for quite a while."

"Why?"

"Well, my lady. It seems you delivered a speech this past evening and, as I recall, you would not sit down, though I suggested you do that more than once."

"It seemed quite successful to me, D.G."

"It was. It was a howling success." D.G. smiled broadly and scratched the right side of his beard as though considering the word very carefully. "However, success has its penalties too. Right now, I should say you are the most famous person on Baleyworld and every Baleyworlder wants to see you and touch you. If we take you out anywhere, it will mean an instant riot. At least, until things cool down. We can't be sure how long that will take.

"Then, too, you had even the war hawks yelling for you, but in the cold light of tomorrow, when the hypnotism and hysteria dies down, they're going to be furious. If Old Man Bistervan didn't actually consider killing you outright after your talk, then by tomorrow he will certainly have it as the ambition of his life to murder you by slow torture. And there are people of his party who might conceivably try to oblige the Old Man in this small whim of his.

"That's why you're here, my lady. That's why this room, this floor, this entire hotel is being watched by I don't know how many platoons of security people, among whom, I hope, are no cryptowar hawks. And because I have been so closely associated with you in this hero-and-heroine game, I'm penned up here, too, and can't get out."

"Oh," said Gladia blankly. "I'm sorry about that. You can't we your family, then."

D.G. shrugged. "Traders don't really have much in the way of family."

"Your woman friend, then."

"She'll survive. --Probably better than I will." He cast his eyes on Gladia speculatively.

Gladia said evenly, "Don't even think it, Captain."

D.G.'s eyebrows rose. "There's no way I can be prevented from thinking it, but I won't do anything, madam. "

Gladia said, "How long do you think I will stay here? Seriously."

"It depends on the Directory. "

"The Directory?"

"Our five-fold executive board, madam. Five people"--he held up his hand with the fingers spread apart --"each serving five years in staggered fashion, with one replacement each year, plus special elections in case of death or disability. This supplies continuity and reduces the danger of one-person rule. It also means that every decision must be argued out and that takes time, sometimes more time than we can afford. "

"I should think," said Gladia, "that if one of the five were a determined and forceful individual--"

"That he could impose his views on the others. Things like that have happened at times, but these times are not one of those times--if you know what I mean. The Senior Director is Genovus Pandaral. There's nothing evil about him, but he's indecisive--and sometimes that's the same thing. I talked him into allowing your robots on the stage with you and that turned out to be a bad idea. Score one against both of us."

"But why was it a bad idea? The people were pleased."

"Too pleased, my lady. We wanted you to be our pet Spacer heroine and help keep public opinion cool so that we wouldn't launch a premature war. You were good on

longevity; you had them cheering short life. But then you had them cheering robots and we don't want that. For that matter, we're not so keen on the public cheering the notion of kinship with the Spacers."

"You don't want premature war, but you don't want premature peace, either. Is that it?"

"Very well put, madam."

"But, then, what do you want?"

"We want the Galaxy, the whole Galaxy. We want to settle and populate every habitable planet in it and establish nothing less than a Galactic Empire. And we don't want the Spacers to interfere. They can remain on their own worlds and live in peace as they please, but they must not interfere."

"But then you'll be penning them up on their fifty worlds, as we penned up Earthpeople on Earth for so many years. The same old injustice. You're as bad as Bistervan."

"The situations are different. Earthpeople were penned up in defiance of their expansive potential. You Spacers have no such potential. You took the path of longevity and robots and the potential vanished. You don't even have fifty worlds any longer. Solaria has been abandoned. The others will go, too, in time. The Settlers have no interest in pushing the Spacers along the path to extinction, but why should we interfere with their voluntary choice to do so? Your speech tended to interfere with that."

"I'm glad. What did you think I would say?"

"I told you. Peace and love and sit down. You could have finished in about one minute."

Gladia said angrily, "I can't believe you expected anything so foolish of me. What did you take me for?"

"For what you took yourself for--someone frightened to death of speaking. How did we know that you were a madwoman who could, in half an hour, persuade the Baleyworlders to howl in favor of what for lifetimes we have been persuading them to howl against? But talk will get us nowhere"--he rose heavily to his feet--"I want a shower, too, and I had better get a night's sleep--if I can. See you tomorrow."

"But when do we find out what the Directors will decide to do with me?"

"When they find out, which may not be soon. Good night, madam."

36.

"I have made a discovery," said Giskard, his voice carrying no shade of emotion. "I have made it because, for the first time in my existence, I faced thousands of human beings. Had I done this two centuries ago, I would have made the discovery then. Had I never faced so many at once, then I would never have made the discovery at all."

"Consider, then, how many vital points I might easily grasp, but never have and never will, simply because the proper conditions for it will never come my way. I remain ignorant except where circumstance helps me and I cannot count on circumstance."

Daneel said, "I did not think, friend Giskard, that Lady Gladia, with her long-sustained way of life, could face thousands with equanimity. I did not think she would be able to speak at all. When it turned out that she could, I assumed you had adjusted her and that you had discovered that it could be done without harming her. Was that your discovery?"

Giskard said, "Friend Daneel, actually all I dared do was loosen a very few strands of inhibition, only enough to allow her to speak a few words, so that she might be heard."

"But she did far more than that."

"After this microscopic adjustment, I turned to the multiplicity of minds I faced in the audience. I had never experienced so many, any more than Lady Gladia had, and I was as taken aback as she was. I found, at first, that I could do nothing in the vast mental interlockingness that beat in upon me. I felt helpless.

"And then I noted small friendlinesses, curiosities, interests--I cannot describe them in words--with a color of sympathy for Lady Gladia about them. I played with what I could find that had this color of sympathy, tightening and thickening them just slightly. I wanted some small response in Lady Gladia's favor that might encourage her, that might make it unnecessary for me to be tempted to tamper further with Lady Gladia's mind. That was all I did. I do not know how many threads of the proper color I handled. Not many. "

Daneel said, "And what then, friend Giskard?"

"I found, friend Daneel, that I had begun something that was autocatalytic. Each thread I strengthened, strengthened a nearby thread of the same kind and the two together strengthened several others nearby. I had to do nothing further. Small stirs, small sounds, and small glances that seemed to approve of what Lady Gladia said encouraged still others.

"Then I found something stranger yet. All these little indications of approval, which I could detect only because the minds were open to me, Lady Gladia must have also detected in some manner, for further inhibitions in her mind fell without my touching them. She began to speak faster, more confidently, and the audience responded better than ever--without my doing anything. And in the end, there was hysteria, a storm, a tempest of mental thunder and lightning so intense that I had to close my mind to it or it would have overloaded my circuits.

"Never, in all my existence, had I encountered anything like that and yet it started with no more modification introduced by me in all that crowd than I have, in the past, introduced among a mere handful of people. I suspect, in fact, that the effect spread beyond the audience sensible to my mind--to the greater audience reached via hyperwave."

Daneel said, "I do not see how this can be, friend Giskard."

"Nor I, friend Daneel. I am not human. I do not directly experience the possession of a human mind with all its complexities and contradictions, so I do not grasp the mechanisms by which they respond. But, apparently, crowds are more easily managed than individuals. It seems paradoxical. Much weight takes more effort to move than little weight. Much energy takes more effort to counter than little energy. Much distance takes longer to traverse than little distance. Why, then, should many people be easier to sway than few? You think like a human being, friend Daneel. Can you explain?"

Daneel said, "You yourself, friend Giskard, said that it was an autocatalytic effect, a matter of contagion. A single spark of flame may end by burning down a forest. "

Giskard paused and seemed deep in thought. Then he said, "It is not reason that is contagious but emotion. Madam Gladia chose arguments she felt would move her audience's feelings. She did not attempt to reason with them. It may be, then, that the larger the crowd, the more easily they are swayed by emotion rather than by reason.

"Since emotions are few and reasons are many, the behavior of a crowd can be more easily predicted than the behavior of one person can. And that, in turn, means that if laws are to be developed that enable the current of history to be predicted, then one must deal with large populations, the larger the better. That might itself be the First Law of Psychohistory, the key to the study of Humanics. Yet--"

"Yes?"

"It strikes me that it has taken me so long to understand this only because I am not a human being. A human being would, perhaps, instinctively understand his own mind well enough to know how to handle others like himself. Madam Gladia, with no experience at all in addressing huge crowds, carried off the matter expertly. How much better off we would be if we had someone like Elijah Baley with us. Friend Daneel, are you not thinking of him?"

Daneel said, "Can you see his image in my mind? That is surprising, friend Giskard."

"I do not see him, friend Daneel. I cannot receive your thoughts. But I can sense emotions and mood--and your mind has a texture which, by past experience, I know to be associated with Elijah Baley."

"Madam Gladia made mention of the fact that I was the last to see Partner Elijah alive, so I listen again, in memory, to that moment. I think again of what he said."

"Why, friend Daneel?"

"I search for the meaning. I feel it was important."

"How could what he said have meaning beyond the import of the words? Had there been hidden meaning, Elijah Baley would have expressed it. "

"Perhaps," said Daneel slowly, "Partner Elijah did not himself understand the significance of what he was saying. "

10. AFTER THE SPEECH

37.

Memory!

It lay in Daneel's mind like a closed book of infinite detail, always available for his use. Some passages were called upon frequently for their information, but only a very few were called upon merely because Daneel wished to feel their texture. Those very few were, for the most part, those that contained Elijah Baley.

Many decades ago, Daneel had come to Baleyworld while Elijah Baley was still alive. Madam Gladia had come with him, but after they entered into orbit about Baleyworld, Bentley Baley soared upward in his small ship to meet them and was brought aboard. By then, he was a rather gnarled man of middle age.

He looked at Gladia with faintly hostile eyes and said, "You cannot see him, madam."

And Gladia, who had been weeping, said, "Why not?"

"He does not wish it, madam, and I must respect his wishes."

"I cannot believe that, Mr. Baley."

"I have a handwritten note and I have a voice recording, madam. I do not know if you can recognize his handwriting or his voice, but you have my word of honor these are his and that no untoward influence was used upon him to produce them."

She went into her own cabin to read and listen alone. Then she emerged--with an air of defeat about her--but she managed to say firmly, "Daneel, you are to go down alone to see him. It is his wish. But you are to report to me everything that is done and said."

"Yes, madam," Daneel said.

Daneel went down in Bentley's ship and Bentley said to him, "Robots are not allowed on this world, Daneel, but an exception is being made in your case because it is my father's wish and because he is highly revered here. I have no personal animus against you, you understand, but your presence here must be an entirely limited one. You will be taken directly to my father. When he is done with you, you will be taken back into orbit at once. Do you understand?"

"I understand, sir. How is your father?"

"He is dying," Bentley said with perhaps conscious brutality.

"I understand that, too," said Daneel, his voice quivering noticeably, not out of ordinary emotion but because the consciousness of the death of a human being, however unavoidable, disordered his positronic brain paths. "I mean, how much longer before he must die?"

"He should have died some time ago. He is tied to life because he refuses to go until he sees you."

They landed. It was a large world, but the inhabited portion--if this were all--was small and shabby. It was a cloudy day and it had rained recently. The wide, straight

streets were empty, as though what population existed there was in no mood to assemble in order to stare at a robot.

The ground-car took them through the emptiness and brought them to a house somewhat larger and more impressive than most. Together they entered. At an inner door, Bentley halted.

"My father is in there," he said sadly. "You are to go in alone. He will not have me there with you. Go in. You might not recognize him. "

Daneel went into the gloom of the room. His eyes adjusted rapidly and he was aware of a body covered by a sheet inside a transparent cocoon that was made visible only by its faint glitter. The light within the room brightened a bit and Daneel could then see the face clearly.

Bentley had been right. Daneel saw nothing of his old partner in it. It was gaunt and bony. The eyes were closed and it seemed to Daneel that what he saw was a dead body. He had never seen a dead human being and when this thought struck him, he staggered and it seemed to him that his legs would not hold him up.

But the old man's eyes opened and Daneel recovered his equilibrium, though he continued to feel an unaccustomed weakness just the same.

The eyes looked at him and a small, faint smile curved the pale, cracked lips.

"Daneel. My old friend Daneel."

There was the faint timbre of Elijah Baley's remembered voice in that whispered sound. An arm emerged slowly from under the sheet and it seemed to Daneel that he recognized Elijah after all.

"Partner Elijah," he said softly.

"Thank you--thank you for coming."

"It was important for me to come, Partner Elijah."

"I was afraid they might not allow it. They--the others--even my son--think of you as a robot."

"I am a robot. "

"Not to me, Daneel. You haven't changed, have you? I don't see you clearly, but it seems to me you are exactly the same as I remember. When did I last see you? Twenty-nine years ago?"

"Yes--and in all that time, Partner Elijah, I have not changed, so you see, I am a robot. "

"I have changed, though, and a great deal. I should not have let you see me like this, but I was too weak to resist my desire to see you once again." Baley's voice seemed to have grown a bit stronger, as though it had been fortified by the sight of Daneel.

"I am pleased to see you, Partner Elijah, however you have changed."

"And Lady Gladia? How is she?"

"She is well. She came with me."

"She is not--" A touch of painful alarm came into his voice as he tried to look about.

"She is not on this world, but is still in orbit. It was explained to her that you did not wish to see her--and she understood."

"That is wrong. I do wish to see her, but I have been able to withstand that temptation. She has not changed, has she?"

"She still has the appearance she had when you last saw her."

"Good. --but I couldn't let her see me like this. I could not have this be her last memory of me. With you, it is different."

"That is because I am a robot, Partner Elijah. "

"Stop insisting on that," said the dying man peevishly. "You could not mean more to me, Daneel, if you were a man."

He lay silently in his bed for a while, then he said, "All these years, I have never hypervised, never written to her. I could not allow myself to interfere with her life. --Is Gladia still married to Gremionis?"

"Yes, sir."

"And happy?"

"I cannot judge that. She does not behave in a fashion that might be interpreted as unhappy."

"Children?"

"The permitted two."

"She has not been angry that I have not communicated?"

"It is my belief she understood your motives. "

"Does she ever--mention me?"

"Almost never, but it is Giskard's opinion that she often thinks of you."

"How is Giskard?"

"He functions properly--in the manner that you know."

"You know, then--of his abilities."

"He has told me, Partner Elijah."

Again Baley lay there silently. Then he stirred and said, "Daneel, I wanted you here out of a selfish desire to see you, to see for myself that you haven't changed, that there is a breath of the great days of my life still existing, that you remember me and will continue to remember me. --but I also want to tell you something.

"I will be dead soon, Daneel, and I knew the word would reach you. Even if you weren't here, even if you were on Aurora, the word would come to you. My death will be Galactic news. " His chest heaved in a weak and silent laugh. "Who would have thought it once?"

He said, "Gladia would hear of it as well, of course, but Gladia knows I must die and she will accept the fact, however sadly. I feared the effect on you, however, since you are--as you insist and I deny--a robot. For old times' sake you may feel it is incumbent upon you to keep me from dying and the fact that you cannot do so may perhaps have a permanently deleterious effect on you. Let me, then, argue with you about that. "

Baley's voice was growing weaker. Though Daneel sat motionless, his face was in the unusual condition of reflecting emotion. It was set in an expression of concern and sorrow. Baley's eyes were closed and he could not see that.

"My death, Daneel," he said, "is not important. No individual death among human beings is important. Someone who dies leaves his work behind and that does not entirely die. It never entirely dies as long as humanity exists. --Do you understand what I'm saying?"

Daneel said, "Yes, Partner Elijah."

"The work of each individual contributes to a totality and so becomes an undying part of the totality. That totality of human lives--past and present and to come--forms a tapestry that has been in existence now for many tens of thousands of years and has been growing more elaborate and, on the whole, more beautiful in all that time. Even the Spacers are an offshoot of the tapestry and they, too, add to the elaborateness and beauty of the pattern. An individual life is one thread in the tapestry and what is one thread compared to the whole?"

"Daneel, keep your mind fixed firmly on the tapestry and do not let the trailing off of a single thread affect you. There are so many other threads, each valuable, each contributing--"

Baley stopped speaking, but Daneel waited patiently.

Baley's eyes opened and, looking at Daneel, he frowned slightly.

"You are still here? It is time for you to go. I have told you what I meant to tell you."

"I do not wish to go, Partner Elijah."

"You must. I cannot hold off death any longer. I am tired--desperately tired. I want to die. It is time."

"May I not wait while you live?"

"I don't wish it. If I die while you watch, it may affect you badly despite all my words. Go now. That is an--order. I will allow you to be a robot if you wish but, in that case, you must follow my orders. You cannot save my life by anything you can do, so there is nothing to come ahead of Second Law. Go!"

Baley's finger pointed feebly and he said, "Good-bye, friend Daneel. "

Daneel turned slowly, following Baley's orders with unprecedented difficulty.

"Good-bye, Partner--" He paused and then said, with a faint hoarseness, "Good-bye, friend Elijah. "

Bentley confronted Daneel in the next room. "Is he still alive?"

"He was alive when I left."

Bentley went in and came out almost at once. "He isn't now. He saw you and then--let go."

Daneel found he had to lean against the wall. It was some time before he could stand upright.

Bentley, eyes averted, waited and then together they returned to the small ship and moved back up into orbit where Gladia waited.

And she, too, asked if Elijah Baley was still alive and when they told her gently that he was not, she turned away, dry-eyed, and went into her own cabin to weep.

37A.

Daneel continued his thought as though the sharp memory of Baley's death in all its details had not momentarily intervened. "And yet I may understand something more of what Partner Elijah was saying now in the light of Madam Gladia's speech."

"In what way?"

"I am not yet sure. It is very difficult to think in the direction I am trying to think."

"I will wait for as long as is necessary," said Giskard.

38.

Genovus Pandaral was tall and not, as yet, very old for all his thick shock of white hair which, together with his fluffy white sideburns, gave him a look of dignity and distinction. His general air of looking like a leader had helped his advancement through the ranks, but as he himself knew very well, his appearance was much stronger than his inner fiber.

Once he had been elected to the Directory, he had gotten over the initial elation rather rapidly. He was in beyond his depth and, each year, as he was automatically pushed up a notch, he knew that more clearly. Now he was Senior Director.

Of all the times to be Senior Director!

In the old days, the task of ruling had been nothing. In the time of Nephi Morler, eight decades before, the same Morler who was always being held up to the schoolchildren as the greatest of all Directors, it had been nothing. What had Baleyworld been then? A small world, a trickle of farms, a handful of towns clustered along natural lines of communication. The total population had been no more than five million and its most important exports had been raw wool and some titanium.

The Spacers had ignored them completely under the more or less benign influence of Han Fastolfe of Aurora and life was simple. People could always make trips back to Earth--if they wanted a breath of culture or the feel of technology and there was a steady flow of Earthpeople arriving as immigrants. Earth's mighty population was inexhaustible.

Why shouldn't Morler have been a great Director, then? He had had nothing to do.

And, in the future, ruling would again be simple. As the Spacers continued to degenerate (every schoolchild was told that they would, that they must drown in the contradictions of their society--though Pandaral wondered, sometimes, whether this was really certain) and as the Settlers continued to increase in numbers and strength, the time would soon come when life would be again secure. The Settlers would live in peace and develop their own technology to the utmost.

As Baleyworld filled, it would assume the proportion and ways of another Earth, as would all the worlds, while new ones would spring up here and there in ever greater numbers, finally making up the great Galactic Empire to come. And surely Baleyworld, as

the oldest and most populous of the Settler worlds, would always have a prime place in that Empire, under the benign and perpetual rule of Mother Earth.

But it was not in the past that Pandaral was Senior Director. Nor was it in the future. It was now.

Han Fastolfe was dead now, but Kelden Amadiro was alive. Amadiro had held out against Earth being allowed to send out Settlers twenty decades ago and he was still alive now to make trouble. The Spacers were still too strong to be disregarded; the Settlers were still not quite strong enough to move forward with confidence. Somehow the Settlers had to hold off the Spacers till the balance had shifted sufficiently.

And the task of keeping the Spacers quiet and the Settlers at once resolute and yet sensible fell more upon Pandaral's shoulders than on anyone else's--and it was a task he neither liked nor wanted.

Now it was morning, a cold, gray morning with more snow coming--though that was no surprise--and he made his way through the hotel alone. He wanted no retinue.

The security guards, out in force, snapped to attention as he passed and he acknowledged them wearily. He spoke to the captain of the guard when the latter advanced to meet him. "Any trouble, Captain?"

"None, Director. All is quiet."

Pandaral nodded. "In which room has Baley been put? --Ah. --and the Spacer woman and her robots are under strict guard? --Good."

He passed on. On the whole, D.G. had behaved well. Solaria, abandoned, could be used by Traders as an almost endless supply of robots and as a source of large profits--though profits were not to be taken as the natural equivalent of world security, Pandaral thought morosely. But Solaria, booby-trapped, had best be left alone. It was not worth a war. D.G. had done well to leave at once.

And to take the nuclear intensifier with him. So far, such devices were so overwhelmingly massive that they could be used only in huge and expensive installations designed to destroy invading ships--and even these had never gotten beyond the planning stage. Too expensive. Smaller and cheaper versions were absolutely necessary, so D.G. was right in feeling that bringing home a Solarian intensifier was more important than all the robots on that world put together. That intensifier should help the scientists of Baleyworld enormously.

And yet if one Spacer world had a portable intensifier, why not others? Why not Aurora? If those weapons grew small enough to place on warships, a Spacer fleet could wipe out any number of Settler ships without trouble. How far toward that development were they? And how fast could Baleyworld progress in the same direction with the help of the intensifier D.G. had brought back?

He signaled at D.G.'s hotel room door, then entered without quite waiting for a response and sat down without quite waiting for an invitation. There were some useful perquisites that went along with being Senior Director.

D.G. looked out of the bathroom and said through the towel with which he was giving his hair a first dry, "I would have liked to greet your Directorial Excellence in a

properly imposing manner, but you catch me at a disadvantage, since I am in the extremely undignified predicament of having just emerged from my shower."

"Oh, shut up," said Pandaral pettishly.

Ordinarily, he enjoyed D.G.'s irrepressible breeziness, but not now. In some ways, he never really understood D.G. at all. D.G. was a Baley, a lineal descendant of the great Elijah and the Founder, Bentley. That made D.G. a natural for a Director's post, especially since he had the kind of bonhomie that endeared him to the public. Yet he chose to be a Trader, which was a difficult life--and a dangerous one. It might make you rich, but it was much more likely to kill you or--what was worse--prematurely age you.

What's more, D.G.'s life as a Trader took him away from Baleyworld for months at a time and Pandaral preferred his advice to those of most of his department heads. One couldn't always tell when D.G. was serious, but, allowing for that, he was worth listening to.

Pandaral said heavily, "I don't think that that woman's speech was the best thing that could have happened to us."

D.G., mostly dressed, shrugged his shoulders. "Who could have foretold it?"

"You might have. You must have looked up her background--if you had made up your mind to carry her off."

"I did look up her background, Director. She spent over three decades on Solaria. It was Solaria that formed her and she lived there entirely with robots. She saw human beings only by holographic images, except for her husband--and he didn't visit her often. She had a difficult adjustment to make when she came to Aurora and even there she lived mostly with robots. At no time in twenty-three decades would she have faced as many as twenty people all together, let alone four thousand. I assumed she wouldn't be able to speak more than a few words--if that. I had no way of knowing she was a rabble-rouser."

"You might have stopped her, once you found out she was. You were sitting right next to her."

"Did you want a riot? The people were enjoying her. You were there. You know they were. If I had forced her down, they would have mobbed the stage. After all, Director, you didn't try to stop her."

Pandaral cleared his throat. "I had that in mind, actually, but each time I looked back, I'd catch the eye of her robot the one who looks like a robot."

"Giskard. Yes, but what of it? He wouldn't harm you."

"I know. Still, he made me nervous and it put me off somehow."

"Well, never mind, Director," said D.G. He was fully clothed now and he shoved the breakfast tray toward the other. "The coffee is still warm. Help yourself to the buns and jams if you want any. --It will pass. I don't think the public will really overflow with love for the Spacers and spoil our policy. It might even serve a purpose. If the Spacers hear of it, it might strengthen the Fastolfe party. Fastolfe may be dead, but his party isn't--not altogether--and we need to encourage their policy of moderation."

"What I'm thinking of," said Pandaral, "is the All-Settler Congress that's coming up in five months. I'm going to have to listen to any number of sarcastic references to

Baleyworld appeasement and to Baleyworlders being Spacer-lovers. --I tell you," he added gloomily, "the smaller the world, the more war hawkish it is."

"Then tell them that," said D.G. "Be very statesmanlike in public, but when you get them to one side, look them right in the eye--unofficially--and say that there's freedom of expression on Baleyworld and we intend to keep it that way. Tell them Baleyworld has the interests of Earth at heart, but that if any world wishes to prove its greater devotion to Earth by declaring war on the Spacers, Baleyworld will watch with interest but nothing more. That would shut them up. "

"Oh, no," said Pandaral with alarm. "A remark like that would leak out. It would create an impossible stink."

D.G. said, "You're right, which is a pity. But think it and don't let those bigmouthed small brains get to you."

Pandaral sighed. "I suppose we'll manage, but last night upset our plans to end on a high note. That's what I really regret."

"What high note?"

Pandaral said, "When you left Aurora for Solaria, two Auroran warships went to Solaria as well. Did you know that?"

"No, but it was something I expected," said D.G. indifferently. "It was for that reason I took the trouble of going to Solaria by way of an evasive path."

"One of the Auroran ships landed on Solaria, thousands of kilometers away from you--so it didn't seem to be making any effort to keep tabs on you--and the second remained in orbit."

"Sensible. It's what I would have done if I had had a second ship at my disposal."

"The Auroran ship that landed was destroyed in a matter of hours. The ship in orbit reported the fact and was ordered to return. --a Trader monitoring station picked up the report and it was sent to us."

"Was the report uncoded?"

"Of course not, but it was in one of the codes we've broken."

D.G. nodded his head thoughtfully, then said, "Very interesting. I take it they didn't have anyone who could speak Solarian."

"Obviously," said Pandaral weightily. "Unless someone can find where the Solarians went, this woman of yours is the only available Solarian in the Galaxy."

"And they let me have her, didn't they? Tough on the Aurorans."

"At any rate, I was going to announce the destruction of the Auroran ship last night. In a matter-of-fact way--no gloating. Just the same, it would have excited every Settler in the Galaxy. I mean, we got away and the Aurorans didn't."

"We had a Solarian," said D.G. dryly. "The Aurorans didn't."

"Very well. It would make you and the woman look good, too. --but it all came to nothing. After what the woman did, anything else would have come as anticlimax, even the news of the destruction of an Auroran warship."

D.G. said, "To say nothing of the fact that once everyone has finished applauding kinship and love, it would go against the grain--for the next half hour anyway--to applaud the death of a couple of hundred of the Auroran kin."

"I suppose so. So that's an enormous psychological blow that we've lost."

D.G. was frowning. "Forget that, Director. You can always work the propaganda at some other, more appropriate time. The important thing is what it all means. --An Auroran ship was blown up. That means they weren't expecting a nuclear intensifier to be used. The other ship was ordered away and that may mean it wasn't equipped with a defense against it--and maybe they don't even have a defense. I should judge from this that the portable intensifier--or semiportable one, anyway--is a Solarian development specifically and not a Spacer development generally. That's good news for us--if it's true. For the moment, let's not worry about propaganda brownie points but concentrate on squeezing every bit of information we can out of that intensifier. We want to be ahead of the Spacers in this--if possible."

Pandaral munched away at a bun and said, "Maybe you're right. But in that case, how do we fit in the other bit of news?"

D.G. said, "What other bit of news? Director, are you going to give me the information I need to make intelligent conversation or do you intend to toss them into the air one by one and make me jump for them?"

"Don't get huffy, D.G. There's no point in talking with you if I can't be informal. Do you know what it's like at a Directory meeting? Do you want my job? You can have it, you know."

"No, thank you, I don't want it. What I want is your bit of news."

"We have a message from Aurora. An actual message. They actually deigned to communicate directly with us instead of sending it by way of Earth."

"We might consider it an important message, then--to them. What do they want?"

"They want the Solarian woman back again."

"Obviously, then, they know our ship got away from Solaria and has come to Baleyworld. They have their monitoring stations, too, and eavesdrop on our communications as we eavesdrop on theirs."

"Absolutely," said Pandaral with considerable irritation. "They break our codes as fast as we break theirs. My own feeling is we ought to come to an agreement that we both send messages in the clear. Neither of us would be worse off."

"Did they say why they want the woman?"

"Of course not. Spacers don't give reasons; they give orders."

"Have they found out exactly what it was that the woman accomplished on Solaria? Since she's the only person who speaks authentic Solarian, do they want her to clear the planet of its overseers?"

"I don't see how they could have found out, D.G. We only announced her role last night. The message from Aurora was received well before that. --But it doesn't matter why they want her. The question is: What do we do? If we don't return her, we may have a crisis with Aurora that I don't want. If we do return her, it will look bad to the

Baleyworlders and Old Man Bistervan will have a field day pointing out that we're crawling to the Spacers."

They stared at each other, then D.G. said slowly, "We'll have to return her. After all, she's a Spacer and an Auroran citizen. We can't keep her against Aurora's will or we'll put at risk every Trader who ventures into Spacer territory on business. But I'll take her back, Director, and you can put the blame on me. Say that the conditions of my taking her to Solaria were that I would return her to Aurora, which is true, actually, even if not a matter of written formality, and that I am a man of ethics and felt I had to keep my agreement. --And it may turn out to our advantage."

"In what way?"

"I'll have to work it out. But if it's to be done, Director, my ship will have to be refitted at planetary expense. And my men will need healthy bonuses. --Come, Director, they're giving up their leave."

39.

Considering that he had not intended to be in his ship again for at least three additional months, D.G. seemed in genial spirits.

And considering that Gladia had larger and more luxurious quarters than she had before, she seemed rather depressed.

"Why all this?" she asked.

"Looking a gift horse in the mouth?" asked D.G. "I'm just asking. Why?"

"For one thing, my lady, you're a class--a heroine and when the ship was refurbished, this place was rather tarted up for you."

"Tarted up?"

"Just an expression. Fancied up, if you prefer."

"This space wasn't just created. Who lost out?"

"Actually, it was the crew's lounge, but they insisted, you know. You're their darling, too. In fact, Niss--you remember Niss?"

"Certainly."

"He wants you to take him on in place of Daneel. He says Daneel doesn't enjoy the job and keeps apologizing to his victims. Niss says he will destroy anyone who gives you the least trouble, will take pleasure in it, and will never apologize."

Gladia smiled. "Tell him I will keep his offer in mind and tell him I would enjoy shaking his hand if that can be arranged. I didn't get a chance to do so before we landed on Baleyworld."

"You'll wear your gloves, I hope, when you shake hands."

"Of course, but I wonder if that's entirely necessary. I haven't as much as sniffed since I left Aurora. The injections I've been getting have probably strengthened my immune system beautifully." She looked about again. "You even have wall niches for Daneel and Giskard. That's quite thoughtful of you, D.G."

"Madam," said D.G., "we work hard to please and we're delighted that you're pleased."

"Oddly enough"--Gladia sounded as though she were actually puzzled by what she was about to say--"I'm not entirely pleased. I'm not sure I want to leave your world."

"No? Cold--snow--dreary--primitive--endlessly cheering crowds everywhere. What can possibly attract you here?"

Gladia reddened. "It's not the cheering crowds."

"I'll pretend to believe you, madam."

"It's not. It's something altogether different. I--I have never done anything. I've amused myself in various trivial ways, I've engaged in force-field coloring and robot exodesign. I've made love and been a wife and mother and--and--in none of these things have I ever been an individual of any account. If I had suddenly disappeared from existence or if I had never been born, it wouldn't have affected anyone or anything--except, perhaps, one or two close personal friends. Now it's different."

"Yes?" There was the faintest touch of mockery in D.G.'s voice.

Gladia said, "Yes! I can influence people. I can choose a cause and make it my own. I have chosen a cause. I want to prevent war. I want the Universe populated by Spacer and Settler alike. I want each group to keep their own peculiarities, yet freely accept the others', too. I want to work so hard at this that after I am gone, history will have changed because of me and people will say, 'Things would not be as satisfactory as they are had it not been for her.'"

She turned to D.G., her face glowing. "Do you know what a difference it makes, after two and one-third centuries of being nobody, to have a chance of being somebody; to find that a life you thought of as empty turns out to contain something after all, something wonderful; to be happy long, long after you had given up any hope of being happy?"

"You don't have to be on Baleyworld, my lady, to have all that." Somehow D.G. seemed a little abashed.

"I won't have it on Aurora. I am only a Solarian immigrant on Aurora. On a Settler world, I'm a Spacer--something unusual."

"Yet on a number of occasions--and quite forcefully--you have stated you wanted to return to Aurora. "

"Some time ago, yes--but I'm not saying it now, D.G. I don't really want it now."

"Which would influence us a great deal, except that Aurora wants you. They've told us so."

Gladia was clearly astonished. "They want me?"

"An official message from Aurora's Chairman of the Council tells us they do," said D.G. lightly. "We would enjoy keeping you, but the Directors have decided that keeping you is not worth an interstellar crisis. I'm not sure I agree with them, but they outrank me."

Gladia frowned. "Why should they want me? I've been on Aurora for over twenty decades and at no time have they ever seemed to want me. --Wait! Do you suppose they see me now as the only way of stopping the overseers on Solaria?"

"That thought had occurred to me, my lady."

"I won't do it. I held off that one overseer by a hair and I may never be able to repeat what I did then. I know I won't. --Besides, why need they land on the planet? They can destroy the overseers from a distance, now that they know what they are."

"Actually," said D.G., "the message demanding your return was sent out long before they could possibly have known of your conflict with the overseer. They must want you for something else. "

"Oh. " She looked taken aback. Then, catching fire again, "I don't care what else. I don't want to return. I have my work out here and I mean to continue it."

D.G. rose. "I am glad to hear you say so, Madam Gladia. I was hoping you would feel like that. I promise you I will do my best to take you with me when we leave Aurora. Right now, though, I must go to Aurora and you must go with me."

40.

Gladia watched Baleyworld, as it receded, with emotions quite different from those with which she had watched it approach. It was precisely the cold, gray, miserable world now that it had seemed at the start, but there was a warmth and life to the people. They were real, solid.

Solaria, Aurora, the other Spacer worlds that she had visited or had viewed on hypervision, all seemed filled with people who were insubstantial--gaseous.

That was the word. Gaseous.

No matter how few the human beings who lived upon a Spacer world, they spread out to fill the planet in the same way that molecules of gas spread out to fill a container. It was as if Spacers repelled each other.

And they did, she thought gloomily. Spacers had always repelled her. She had been brought up to such repulsion on Solaria, but even on Aurora, when she was experimenting madly with sex just at first, the least enjoyable aspect of it was the closeness it made necessary.

Except--except with Elijah. --But he was not a Spacer.

Baleyworld was not like that. Probably all the Settler worlds were not. Settlers clung together, leaving large tracts desolate about them as the price of the clinging--empty, that is, until population increase filled it. A Settler world was a world of people clusters, of pebbles and boulders, not gas.

Why was this? Robots, perhaps! They lessened the dependence of people upon people. They filled the interstices between. They were the insulation that diminished the natural attraction people had for each other, so that the whole system fell apart into isolates.

It had to be. Nowhere were there more robots than on Solaria and the insulating effect there had been so enormous that the separate gas molecules that were human beings became so totally inert that they almost never interrelated at all. (Where had the Solarians gone, she wondered again, and how were they living?)

And long life had something to do with it, too. How could one make an emotional attachment that wouldn't turn slowly sour as the multidecades passed--or, if one died, how could another bear the loss for multidecades? One learned, then, not to make emotional attachments but to stand off, to insulate one's self.

On the other hand, human beings, if short-lived, could not so easily outlive fascination with life. As the generations passed by rapidly, the ball of fascination bounced from hand to hand without ever touching the ground.

How recently she had told D.G. that there was no more to do or know, that she had experienced and thought everything, that she had to live on in utter boredom. --And she hadn't known or even dreamed, as she spoke, of crowds of people, one upon another; of speaking to many as they melted into a continuous sea of heads; of hearing their response, not in words but in wordless sounds; of melting together with them, feeling their feelings, becoming one large organism.

It was not merely that she had never experienced such a thing before, it was that she had never dreamed anything like that might be experienced. How much more did she know nothing of despite her long life? What more existed for the experiencing that she was incapable of fantasizing?

Daneel said gently, "Madam Gladia, I believe the captain is signaling for entrance."

Gladia started. "Let him enter, then."

D.G. entered, eyebrows raised. "I am relieved. I thought perhaps you were not at home."

Gladia smiled. "In a way, I wasn't. I was lost in thought. It happens to me sometimes. "

"You are fortunate," said D.G. "My thoughts are never large enough to be lost in. Are you reconciled to visiting Aurora, madam?"

"No, I'm not. And among the thoughts in which I was lost was one to the effect that I still do not have any idea why you must go to Aurora. It can't be only to return me. Any spaceworthy cargo tug could have done the job."

"May I sit down, madam?"

"Yes, of course. That goes without saying, Captain. I wish you'd stop treating me as aristocracy. It becomes wearing. And if it's an ironic indication that I'm a Spacer, then it's worse than wearing. In fact, I'd almost rather you called me Gladia. "

"You seem to be anxious to disown your Spacer identity, Gladia," said D.G. as he seated himself and crossed his legs.

"I would rather forget nonessential distinctions."

"Nonessential? Not while you live five times as long as I do."

"Oddly enough, I have been thinking of that as a rather annoying disadvantage for Spacers. --How long before we reach Aurora?"

"No evasive action this time. A few days to get far enough from our sun to be able to make a Jump through hyperspace that will take us to within a few days of Aurora and that's it."

"And why must you go to Aurora, D.G.?"

"I might say it was simply politeness, but in actual fact, I would like an opportunity to explain to your Chairman or even to one of his subordinates--exactly what happened on Solaria."

"Don't they know what happened?"

"In essentials, they do. They were kind enough to tap our communications, as we would have done theirs if the situation had been reversed. Still, they may not have drawn the proper conclusions. I would like to correct them--if that is so."

"What are the proper conclusions, D.G.?"

"As you know, the overseers on Solaria were geared to respond to a person as human only if he or she spoke with a Solarian accent, as you did. That means that not only were Settlers not considered human, but non-Solarian Spacers were not considered human, either. To be precise, Aurorans would not be considered human beings if they had landed on Solaria."

Gladia's eyes widened. "That's unbelievable. The Solarians wouldn't arrange to have the overseers treat Aurorans as they treated you."

"Wouldn't they? They have already destroyed an Auroran ship. Did you know that?"

"An Auroran ship! No, I didn't know that."

"I assure you they did. It landed about the time we did. We got away, but they didn't. We had you, you see, and they didn't. The conclusion is--or should be--that Aurora cannot automatically treat other Spacer worlds as allies. In an emergency, it will be each Spacer world for itself."

Gladia shook her head violently. "It would be unsafe to generalize from a single instance. The Solarians would have found it difficult to have the overseers react favorably to fifty accents and unfavorably to scores of others. It was easier to pin them to a single accent. That's all. They gambled that no other Spacers would try to land on their world and they lost. "

"Yes, I'm sure that is how the Auroran leadership will argue, since people generally find it much easier to make a pleasant deduction than an unpleasant one. What I want to do is to make certain they see the possibility of the unpleasant one--and that this makes them uncomfortable indeed. Forgive my self-love, but I can't trust anyone to do it as well as I can and therefore I think that I, rather than anyone else, should go to Aurora."

Gladia felt uncomfortably torn. She did not want to be a Spacer; she wanted to be a human being and forget what she had just called "nonessential distinctions. "And yet when D.G. spoke with obvious satisfaction of forcing Aurora into a humiliating position, she found herself still somehow a Spacer.

She said in annoyance, "I presume the Settler worlds are at odds among themselves, too. Is it not each Settler world for itself?"

D.G. shook his head. "It may seem to you that this must be so and I wouldn't be surprised if each individual Settler world had the impulse at times to put its own interest over the good of the whole, but we have something you Spacers lack."

"And what is that. A greater nobility?"

"Of course not. We're no more noble than Spacers are. What we've got is the Earth. It's our world. Every Settler visits Earth as often as he can. Every Settler knows that there is a world, a large, advanced world, with an incredibly rich history and cultural variety and ecological complexity that is his or hers and to which he or she belongs. The Settler worlds might quarrel with each other, but the quarrel cannot possibly result in violence or in a permanent breach of relations, for the Earth government is automatically called in to mediate all problems and its decision is sufficient and unquestioned.

"Those are our three advantages, Gladia: the lack of robots, something that allows us to build new worlds with our own hands; the rapid succession of generations, which makes for constant change; and, most of all, the Earth, which gives us our central core."

Gladia said urgently, "But the Spacers--" and she stopped.

D.G. smiled and said with an edge of bitterness, "Were you going to say that the Spacers are also descended from Earthpeople and that it is their planet, too? Factually true, but psychologically false. The Spacers have done their best to deny their heritage. They don't consider themselves Earthmen once-removed--or any-number-removed. If I were a mystic, I would say that by cutting themselves away from their roots, the Spacers cannot survive long. Of course, I'm not a mystic so I don't put it that way--but they cannot survive long, just the same. I believe that."

Then, after a short pause, he added, with a somewhat troubled kindness, as though he realized that in his exultation he was striking a sensitive spot within her, "But please think of yourself as a human being, Gladia, rather than as a Spacer, and I will think of myself as a human being, rather than as a Settler. Humanity will survive, whether it will be in the form of Settlers or Spacers or both. I believe it will be in the form of Settlers only, but I may be wrong."

"No," said Gladia, trying to be unemotional. "I think you're right--unless somehow people learn to stop making the Spacer/Settler distinction. It is my goal--to help people do that. "

"However," said D.G., glancing at the dim time strip that circled the wall, "I delay your dinner. May I eat with you?"

"Certainly," said Gladia.

D.G. rose to his feet. "Then I'll go get it. I'd send Daneel or Giskard, but I don't ever want to get into the habit of ordering robots about. Besides, however much the crew adores you, I don't think their adoration extends to your robots."

Gladia did not actually enjoy the meal when D.G. brought it. She did not seem to grow accustomed to the lack of subtlety in its flavors that might be the heritage of Earth

cooking of yeast for mass consumption, but then, neither was it particularly repulsive. She ate stolidly.

D.G., noting her lack of enthusiasm, said, "The food doesn't upset you, I hope?"

She shook her head. "No. Apparently, I'm acclimated. I had some unpleasant episodes when I first got on the ship, but nothing really severe."

"I'm glad of that, but, Gladia--"

"Yes?"

"Can you suggest no reason why the Auroran government should want you back so urgently? It can't be your handling of the overseer and it can't be your speech. The request was sent out well before they could have known of either."

"In that case, D.G.," Gladia said sadly, "they can't possibly want me for anything. They never have."

"But there must be something. As I told you, the message arrived in the name of the Chairman of the Council of Aurora. "

'This particular Chairman at this particular time is thought to be rather a figurehead."

"Oh? Who stands behind him? Kelden Amadiro?"

"Exactly. You know of him, then."

"Oh, yes," said D.G. grimly, "the center of anti-Earth fanaticism. The man who was politically smashed by Dr. Fastolfe twenty decades ago survives to threaten us again. There's an example of the dead hand of longevity."

"But there's the puzzle, too." Gladia said. "Amadiro is a vengeful man. He knows that it was Elijah Baley who was the cause of that defeat you speak of and Amadiro believes I shared responsibility. His dislike--extreme dislike--extends to me. If the Chairman wants me, that can only be because Amadiro wants me--and why should Amadiro want me? He would rather get rid of me. That's probably why he sent me along with you to Solaria. Surely he expected your ship would be destroyed--and me along with it. And that would not have pained him at all."

"No uncontrollable tears, eh?" said D.G. thoughtfully. "But surely that's not what you were told. No one said to you, 'Go with this mad Trader because it would give us pleasure to have you killed. ' "

"No. They said that you wanted my help badly and that it was politic to cooperate with the Settler worlds at the moment and that it would do Aurora a great deal of good if I would report back to them on all that occurred on Solaria once I returned."

"Yes, they would say so. They might even have meant it to some extent. Then, when--against all their expectations--our ship got off safely while an Auroran ship was destroyed, they might well have wanted a firsthand account of what happened. Therefore, when I took you to Baleyworld instead of back to Aurora, they would scream for your return. That might possibly be it. By now, of course, they know the story, so they might no longer want you. Though"--he was talking to himself rather than to Gladia--"what they know is what they picked up from Baleyworld hypervision and they may not choose to accept that at face value. And yet--"

"And yet what, D.G.?"

"Somehow instinct tells me that their message could not have been sparked only by their desire to have you report. The forcefulness of the demand, it seems to me, went beyond that."

"There's nothing else they can want. Nothing," said Gladia.

"I wonder," said D.G.

41.

"I wonder as well," said Daneel from his wall niche that night.

"You wonder concerning what, friend Daneel?" asked Giskard.

"I wonder concerning the true significance of the message from Aurora demanding Lady Gladia. To me, as to the captain, a desire for a report seems a not altogether sufficient motivation."

"Have you an alternate suggestion?"

"I have a thought, friend Giskard. "

"May I know it, friend Daneel?"

"It has occurred to me that, in demanding the return of Madam Gladia, the Auroran Council may expect to see more than they ask for--and it may not be Madam Gladia they want."

"What is there more than Madam Gladia that they will get?"

"Friend Giskard, is it conceivable that Lady Gladia will return without you and me?"

"No, but of what use to the Auroran Council would you and I be?"

"I, friend Giskard, would be of no use to them. You, however, are unique, for you can sense minds directly."

"That is true, friend Daneel, but they do not know this."

"Since our leaving, is it not possible that they have somehow discovered the fact and have come to regret bitterly having allowed you to leave Aurora?"

Giskard did not hesitate perceptibly. "No, it is not possible, friend Daneel. How would they have found out?"

Daneel said carefully, "I have reasoned in this fashion. You have, on your long-ago visit to Earth with Dr. Fastolfe, managed to adjust a few Earth robots so as to allow them a very limited mental capacity, merely enough to enable them to continue your work of influencing officials on Earth to look with courage and favor on the process of Settlement. So, at least, you once told me. There are, therefore, robots on Earth that are capable of mind-adjusting.

"Then, too, as we have come recently to suspect, the Robotics Institute of Aurora has sent humanoid robots to Earth. We do not know their precise purpose in doing so, but the least that can be expected of such robots is that they observe events there on Earth and report on them.

"Even if the Auroran robots cannot sense minds, they can send back reports to the effect that this or that official has suddenly changed his attitude toward Settlement and, perhaps, in the time since we have left Aurora, it has dawned on someone in power in Aurora--on Dr. Amadiro himself perhaps--that this can only be explained by the existence of mind-adjusting robots on Earth. It may be, then, that the establishment of mind-adjusting can be traced back to either Dr. Fastolfe or yourself.

"This might, in turn, make clear to Auroran officials the meaning of certain other events, which might be traced back to you rather than to Dr. Fastolfe. As a result, they would want you back desperately, yet not be able to ask for you directly, for that would give away the fact of their new knowledge. So they ask for Lady Gladia--a natural request--knowing that if she is brought back, you will be, too."

Giskard was silent for a full minute, then he said, "It is interestingly reasoned, friend Daneel, but it does not hold together. Those robots whom I designed for the task of encouraging Settlement completed their job more than eighteen decades ago and have been inactive since, at least as far as mind-adjustment is concerned. What's more, the Earth removed robots from their Cities and confined them to the unpopulated non-City areas quite a considerable time ago.

"This means that the humanoid robots who were, we speculate, sent to Earth, would, even so, not have had occasion to meet my mind-adjusting robots or be aware of any mind-adjustment either, considering that the robots are no longer engaged in that. It is impossible, therefore, for my special ability to have been uncovered in the manner you suggest."

Daneel said, "Is there no other way of discovery, friend Giskard?"

"None," said Giskard firmly.

"And yet--I wonder," said Daneel.

PART IV - AURORA

11. THE OLD LEADER

42.

Kelden Amadiro was not immune from the human plague of memory. He was, in fact, more subject to it than most. In his case, moreover, the tenacity of memory had, as its accompaniment, a content unusual for the intensity of its deep and prolonged rage and frustration.

All had been going so well for him twenty decades before. He was the founding head of the Robotics Institute (he was still the founding head) and for one flashing and triumphant moment it had seemed to him that he could not fail to achieve total control of the Council, smashing his great enemy, Han Fastolfe, and leaving him in helpless opposition.

If he had--if he only had--

(How he tried not to think of it and how his memory presented him with it, over and over again, as though it could never get enough of grief and despair.)

If he had won out, Earth would have remained isolated and alone and he would have seen to it that Earth declined, decayed, and finally faded into dissolution. Why not? The short-lived people of a diseased, overcrowded world were better off dead--a hundred times better off dead than living the life they had forced themselves to lead.

And the Spacer worlds, calm and secure, would then have expanded further. Fastolfe had always complained that the Spacers were too long-lived and too comfortable on their robotic cushions to be pioneers, but Amadiro would have proved him wrong.

Yet Fastolfe had won out. At the moment of certain defeat, he had somehow, unbelievably, incredibly, reached into empty space, so to speak, and found victory in his grasp--plucked from nowhere.

It was that Earthman, of course, Elijah Baley--

But Amadiro's otherwise uncomfortable memory always balked at the Earthman and turned away. He could not picture that face, hear that voice, remember that deed. The name was enough. Twenty centuries had not sufficed to dim the hatred he felt in the slightest --or to soften the pain he felt by an iota.

And with Fastolfe in charge of policy, the miserable Earthmen had fled their corrupting planet and established themselves on world after world. The whirlwind of Earth's progress dazed the Spacer worlds and forced them into frozen paralysis.

How many times had Amadiro addressed the Council and pointed out that the Galaxy was slipping from Spacer fingers, that Aurora was watching blankly while world

after world was being occupied by submen, that each year apathy was taking firmer hold of the Spacer spirit?

"Rouse yourself," he had called out. "Rouse yourself. See their numbers grow. See the Settler worlds multiply. What is it you wait for? To have them at your throats?"

And always Fastolfe would answer in that soothing lullaby of a voice of his and the Aurorans and the other Spacers (always following Aurora's lead, when Aurora chose not to lead) would settle back and return to their slumber.

The obvious did not seem to touch them. The facts, the figures, the indisputable worsening of affairs from decade to decade left them unmoved. How was it possible to shout the truth at them so steadily, to have every prediction he made come to pass, and yet to have to watch a steady majority following Fastolfe like sheep?

How was it possible that Fastolfe himself could watch everything he said prove to be sheer folly and yet never swerve from his policies? It was not even that he stubbornly insisted on being wrong, it was that he simply never seemed to notice he was wrong.

If Amadiro were the kind of man who doted on fantasy, he would surely imagine that some kind of spell, some kind of apathetic enchantment, had fallen upon the Spacer worlds. He would imagine that somewhere someone possessed the magic power of lulling otherwise active brains and blinding to the truth otherwise sharp eyes.

To add the final exquisite agony, people pitied Fastolfe for having died in frustration. In frustration, they said, because the Spacers would not seize new worlds of their own.

It was Fastolfe's own policies that kept them from doing so! What right had he to feel frustration over that? What would he do if he had, like Amadiro, always seen and spoken the truth and been unable to force the Spacers--enough Spacers--to listen to him.

How many times had he thought that it would be better for the Galaxy to be empty than under the domination of the submen? If he had some magic power to destroy the Earth--Elijah Baley's world--with a nod of his head, how eagerly he would.

Yet to find refuge in such fantasy could only be a sign of his total despair. It was the other side of his recurrent, futile wish to give up and welcome death--if his robots would allow it.

And then the time came when the power to destroy Earth was given him--even forced upon him against his will. That time was some three-fourths of a decade before, when he had first met Levular Mandamus.

43.

Memory! Three-fourths of a decade before--

Amadiro looked up and noted that Maloon Cicis had entered the office. He had undoubtedly signaled and he had the right to enter if the signal were not acknowledged.

Amadiro sighed and put down his small computer. Cicis had been his right-hand man ever since the Institute had been established. He was getting old in his service.

Nothing drastically noticeable, just a general air of mild decay. His nose seemed to be a bit more asymmetrical than it once had been.

He rubbed his own somewhat bulbous nose and wondered how badly the flavor of decay was enveloping him. He had once been 1.95 meters tall, a good height even by Spacer standards. Surely he stood as straight now as he always had and yet when he had actually measured his height recently, he could not manage to make it more than 1.93 meters. Was he beginning to stoop, to shrivel, to settle?

He put away these dour thoughts that were themselves a surer sign of aging than mere measurements and said, "What is it, Maloon?"

Cicis had a new personal robot dogging his steps--very modernistic and with glossy trim. That was a sign of aging, too. If one can't keep one's body young, one can always buy a new young robot. Amadiro was determined never to rouse smiles among the truly young by falling prey to that particular delusion--especially since Fastolfe, who was eight decades older than Amadiro, had never done so.

Cicis said, "It's this Mandamus fellow again, Chief."

"Mandamus?"

"The one who keeps wanting to see you."

Amadiro thought a while. "You mean the idiot who's a descendant of the Solarian woman?"

"Yes, Chief."

"Well, I don't want to see him. Haven't you made that clear to him yet, Maloon?"

"Abundantly clear. He asks that I hand you a note and he says you will then see him. "

Amadiro said slowly, "I don't think so, Maloon. What does the note say?"

"I don't understand it, Chief. It isn't Galactic."

"In that case, why should I understand it any more than you do?"

"I don't know, but he asked me to give it to you. If you care to look at it, Chief, and say the word, I will go back and get rid of him one more time. "

"Well, then, let me see it," said Amadiro, shaking his head. He glanced at it with distaste.

It read: "Ceterum censeo, delenda est Carthago."

Amadiro read the message, glared up at Maloon, then turned his eyes back to the message. Finally, he said, "You must have looked at this, since you know it isn't Galactic. Did you ask him what it meant?"

"Yes, I did, Chief. He said it was Latin, but that left me no wiser. He said you would understand. He is a very determined man and said he would sit there all day waiting till you read this."

"What does he look like?"

"Thin. Serious. Probably humorless. Tall, but not quite as tall as you. Intense, deep-set eyes, thin lips."

"How old is he?"

"From the texture of his skin, I should say four decades or so. He is very young."

"In that case, we must make allowances for youth. Send him in."

Cicis looked surprised. "You will see him?"

"I have just said so, haven't I? Send him in."

44.

The young man entered the room in what was almost a march step. He stood there stiffly in front of the desk and said, "I thank you, sir, for agreeing to see me. May I have your permission to have my robots join me?"

Amadiro raised his eyebrows. "I would be pleased to see them. Would you permit me to keep mine with me?"

It had been many years since he had heard anyone mouth the old robot formula. It was one of those good old customs that sank into abeyance as the notion of formal politeness decayed and as it came to be taken more and more for granted that one's personal robots were part of one's self.

"Yes, sir," said Mandamus and two robots entered. They did not do so, Amadiro noted, till permission had been given. They were new robots, clearly efficient, and showed all the signs of good workmanship.

"Your own design, Mr. Mandamus?" There was always some extra value in robots that were designed by their owners.

"Indeed, sir."

"Then you are a roboticist?"

"Yes, sir. I have my degree from the University of Eos."

"Working under--"

Mandamus said smoothly, "Not under Dr. Fastolfe, sir. Under Dr. Maskellnik."

"Ah, but you are not a member of the Institute."

"I have applied for entrance, sir."

"I see." Amadiro adjusted the papers on his desk and then said quickly, without looking up, "Where did you learn Latin?"

"I do not know Latin well enough to speak it or read it, but I know enough about it to know that quotation and where to find it."

"That in itself is remarkable. How does that come about?"

"I cannot devote every moment of my time to robotics, so I have my side interests. One of them is planetology, with particular reference to Earth. That led me to Earth's history and culture."

"That is not a popular study among Spacers."

"No, sir, and that is too bad. One should always know one's enemies--as you do, sir."

"As I do?"

"Yes, sir. I believe you are acquainted with many aspects of Earth and are more learned in that respect than I am, for you have studied the subject longer."

"How do you know that?"

"I have tried to learn as much about you as I can, sir."

"Because I am another one of your enemies?"

"No, sir, but because I want to make you an ally."

"Make me an ally? You plan to make use of me, then?"

Does it strike you that you are being a little impertinent?"

"No, sir, for I am sure you will want to be an ally of mine."

Amadiro stared at him. "Nevertheless, it strikes me that you are being rather more than a little impertinent. --Tell me, do you understand this quotation you have found for me?"

"Yes, sir."

"Then translate it into Standard Galactic."

"It says, 'In my opinion, Carthage must be destroyed.'"

"And what does that mean, in your opinion?"

"The speaker was Marcus Porcius Cato, a senator of the Roman Republic, a political unit of ancient Earth. It had defeated its chief rival, Carthage, but had not destroyed it. Cato held that Rome could not be secure until Carthage was entirely destroyed--and eventually, sir, it was."

"But what is Carthage to us, young man?"

"There are such things as analogies."

"Which means?"

"That the Spacer worlds, too, have a chief rival that, in my opinion, must be destroyed."

"Name the enemy."

"The planet Earth, sir."

Amadiro drummed his fingers very softly upon the desk before him. "And you want me to be your ally in such a project. You assume I will be happy and eager to be one. --Tell me, Dr. Mandamus, when have I ever said in any of my numerous speeches and writings on the subject that Earth must be destroyed?"

Mandamus's thin lips tightened and his nostrils flared. "I am not here," he said, "in an attempt to trap you into something that can be used against you. I have not been sent here by Dr. Fastolfe or any of his party. Nor am I of his party. Nor do I attempt to say what is in your mind. I tell you only what is in my mind. In my opinion, Earth must be destroyed."
"

"And how do you propose to destroy Earth? Do you suggest that we drop nuclear bombs on it until the blasts and radiation and dust clouds destroy the planet? Because, if so, how do you propose to keep avenging Settler ships from doing the same to Aurora and to as many of the other Spacer worlds as they can reach? Earth might have been blasted with impunity as recently as fifteen decades ago. It can't be now."

Mandamus looked revolted. "I have nothing like that in mind, Dr. Amadiro. I would not unnecessarily destroy human beings, even if they are Earthpeople. There is a way,

however, in which Earth can be destroyed without necessarily killing its people wholesale--and there will be no retaliation."

"You are a dreamer," said Amadiro, "or perhaps not quite sane."

"Let me explain."

"No, young man. I have little time and because your quotation, which I understood perfectly well, piqued my curiosity, I have already allowed myself to spend too much of it on you.

Mandamus stood up. "I understand, Dr. Amadiro, and I beg your pardon for taking up more of your time than you could afford. Think of what I have said, however, and if you should become curious, why not call upon me when you have more time to devote to me than you now have. Do not wait too long, however, for if I must, I will turn in other directions, for destroy Earth I will. I am frank with you, you see."

The young man attempted a smile that stretched his thin cheeks without producing much of an effect on his face otherwise. He said, "Good-bye--and thank you again," turned, and left.

Amadiro looked after him for a while thoughtfully, then touched a contact on the side of his desk.

"Maloon," he said when Cicis entered, "I want that young man watched around the clock and I want to know everyone he speaks to. Everyone. I want them all identified and I want them all questioned. Those whom I indicate are to be brought to me. --But, Maloon, everything must be done quietly and with an attitude of sweet and friendly persuasion. I am not yet master here, as you know."

But he would be eventually. Fastolfe was thirty-six decades old and clearly failing and Amadiro was eight decades younger.

45.

Amadiro received his reports for nine days.

Mandamus talked to his robots, occasionally to colleagues at the university, and even more occasionally to individuals at the establishments neighboring his. His conversations were utterly trivial and, long before the nine days had passed, Amadiro had decided he could not outwait the young man. Mandamus was only at the beginning of a long life and might have thirty decades ahead of him; Amadiro had only eight to ten at the very most.

And Amadiro, thinking of what the young man had said, felt, with increasing restlessness, that he could not take the chance that a way of destroying Earth might exist and that he might be ignoring it. Could he allow the destruction to take place after his death, so that he would not witness it? Or, almost as bad, have it take place during his lifetime, but with someone else's mind in command, someone else's fingers on the contact?

No, he had to see it, witness it, and do it; else why had he endured his long frustration? Mandamus might be a fool or a madman, but, in that case, Amadiro had to know for certain that he was a fool or a madman.

Having reached that point in his thinking, Amadiro called Mandamus to his office.

Amadiro realized that in so doing, he was humiliating himself, but the humiliation was the price he had to pay to make certain that there wasn't the slightest chance of Earth being destroyed without him. It was a price he was willing to pay.

He steeled himself even for the possibility that Mandamus would enter his presence, smirking and contemptuously triumphant. He would have to endure that, too. After the endurance, of course, if the young man's suggestion proved foolish, he would see him punished to the full extent that a civilized society would permit, but otherwise.

He was pleased, then, when Mandamus entered his office with an attitude of reasonable humility and thanked him, in all apparent sincerity, for a second interview. It seemed to Amadiro he would have to be gracious in his turn.

"Dr. Mandamus," he said, "in sending you away without listening to your plan, I was guilty of discourtesy. Tell me, then, what you have in mind and I will listen until it is quite clear to me--as I suspect it will be--that your plan is, perhaps, more the result of enthusiasm than of cold reason. At that time, I will dismiss you again, but without contempt on my part, and I hope that you will respond without anger on your part."

Mandamus said, "I could not be angry at having been accorded a fair and patient hearing, Dr. Amadiro, but what if what I say makes sense to you and offers hope?"

"In that case," said Amadiro slowly, "it would be conceivable that we two could work together."

"That would be wonderful, sir. Together we could accomplish more than we could separately. But would there be something more tangible than the privilege of working together? Would there be a reward?"

Amadiro looked displeased. "I would be grateful, of course, but all I am is a Councilman and the head of the Robotics Institute. There would be a limit to what I could do for you."

"I understand that, Dr. Amadiro. But within those limits could I not have something on account? Now?" He looked at Amadiro steadily.

Amadiro frowned at finding himself gazing into a pair of keen and unblinkingly determined eyes. No humility there!

Amadiro said coldly, "What do you have in mind?"

"Nothing you can't give me, Dr. Amadiro. Make me a member of the Institute."

"If you qualify--"

"No fear. I qualify."

"We can't leave that decision to the candidate. We have to--"

"Come, Dr. Amadiro, this is no way to begin a relationship. Since you've had me under observation every moment since I left you last, I can't believe you haven't studied my record thoroughly. As a result, you must know I qualify. If, for any reason, you felt I did not qualify, you would have no hope whatever that I would be ingenious enough to work

out a plan for the destruction of our particular Carthage and I wouldn't be back here at your call."

For an instant, Amadiro felt a fire blaze within him. For that instant, he felt that even Earth's destruction was not worth enduring this hectoring attitude from a child. But only for that instant. Then his sense of due proportion was back and he could even tell himself that a person so young, yet so bold and so icily sure of himself, was the kind of man he needed. Besides, he had studied Mandamus's record and there was no question that he qualified for the Institute.

Amadiro said evenly (at some cost to his blood pressure), "You are right. You qualify."

"Then enroll me. I'm sure you have the necessary forms in your computer. You have but to enter my name, my school, my year of graduation, and whatever other statistical trivia you require and then sign your own name."

Without a word in reply, Amadiro turned to his computer. He entered the necessary information, retrieved the form, signed it, and handed it to Mandamus. "It is dated today. You are a fellow of the Institute."

Mandamus studied the paper, then handed it to one of his robots, who placed it in a small portfolio which he then placed under his arm.

"Thank you," said Mandamus, "it is most kind of you and I hope I will never fail you or cause you to regret this kind estimate you have given me of my abilities. That, however, leaves one more thing."

"Indeed? What?"

"Might we discuss the nature of the final reward--in case of success only, of course. Total success."

"Might we not leave that, more logically, to the point where total success is achieved or is reasonably close to being achieved?"

"As a matter of rationality, yes. But I am a creature of dreams as well as of reason. I would like to dream a little."

"Well," said Amadiro, "what is it you would like to dream?"

"It seems to me, Dr. Amadiro, that Dr. Fastolfe is now by no means well. He has lived long and cannot stave off death for many more years."

"And if so?"

"Once he dies, your party will become more aggressive and the more lukewarm members of Fastolfe's party will find it expedient to change allegiance, perhaps. The next election, without Fastolfe, will surely be yours."

"It is possible. And if so?"

"You will become the de facto leader of the Council and the guide of Aurora's foreign policy which would, in fact, mean the foreign policy of the Spacer worlds in general. And if my plans flourish, your direction will be so successful that the Council will scarcely fail to elect you Chairman at their earliest opportunity. "

"Your dreams soar, young man. And if all you foresee were to come true, what then?"

"You would scarcely have time to run Aurora and the Robotics Institute, too. So I ask that when you finally decide to resign from your present position as the head of the Institute, you be prepared to support me as your successor to the post. You could scarcely expect to have your personal choice rejected."

Amadiro said, "There is such a thing as qualification for the post."

"I will qualify. "

"Let us wait and see."

"I am willing to wait and see, but you will find that well before complete success is ours, you will wish to grant this request of mine. Please grow accustomed to the idea, therefore."

"All this before I hear a word," murmured Amadiro. "Well, you are a member of the Institute and I will strive to grow accustomed to your personal dream, but now let us have an end to preliminaries and tell me how you intend to destroy Earth."

Almost automatically, Amadiro made the sign that indicated to his robots that they were not to remember any part of the conversation. And Mandamus, with a small smile, did the same for his.

"Let us start, then," said Mandamus. But before he could speak further, Amadiro moved to the attack.

"Are you sure you're not pro-Earth?"

Mandamus looked startled. "I am coming to you with a proposal to destroy Earth."

"And yet you are a descendant of the Solarian woman--in the fifth generation, I understand."

"Yes, sir, it is on public record. What of that?"

"The Solarian woman is--and has been for a long time--a close associate--friend--protegee--of Fastolfe. I wonder you do not sympathize with his pro-Earth views, therefore."

"Because of my ancestry?" Mandamus seemed honestly astonished. For a moment, what might have been a flash of annoyance or even anger seemed to tighten his nostrils, but that vanished and he said quietly, "An equally longtime close associate--friend--protegee--of your own is Dr. Vasilia Fastolfe, who is Dr. Fastolfe's daughter. She is a descendant in the first generation. I wonder she does not sympathize with his views."

"I have in the past also wondered," said Amadiro, "but she doesn't sympathize with them and, in her case, I have ceased wondering. "

"You may cease wondering in my case, too, sir. I am a Spacer and I want to see the Spacers in control of the Galaxy."

"Very well, then. Go on with the description of your plan."

Mandamus said, "I will, but--if you don't mind--from the beginning."

"Dr. Amadiro, astronomers agree that there are millions of Earthlike planets in our Galaxy, planets on which human beings can live after necessary adjustments to the environment but without any need for geological terraforming. Their atmospheres are breathable, an ocean of water is present, the land and climate is suitable, life exists.

Indeed, the atmospheres would not contain free oxygen without the presence of ocean plankton at the very least.

"The land is often barren, but once it and the ocean undergo biological terraforming--that is, once they are seeded with Earth life--such life flourishes and the planet can then be settled. Hundreds of such planets have been recorded and studied and about half of them are already occupied by Settlers.

"And yet not one habitable planet of all those which have been discovered to date has the enormous variety and excess of life that Earth has. Not one has anything larger or more complex than a small array of wormlike or insect-like invertebrates or, in the plant world, anything more advanced than some fernlike shrubbery. No question of intelligence, of anything even approaching intelligence."

Amadiro listened to the stiff sentences and thought: He's speaking by rote. He's memorized all this. --He stirred and said, "I am not a planetologist, Dr. Mandamus, but I ask you to believe that you are telling me nothing I don't already know."

"As I said, Dr. Amadiro, I am starting from the beginning. --Astronomers are increasingly of the belief that we have a fair sample of the habitable planets of the Galaxy and that all--or almost all--are markedly different from Earth. For some reason, Earth is a surprisingly unusual planet and evolution has proceeded on it at a radically rapid pace and in a radically abnormal manner."

Amadiro said, "The usual argument is that if there were another intelligent species in the Galaxy that was as advanced as we are, it would have become aware of our expansion by now and have made themselves known to us--one way or another."

Mandamus said, "Yes, sir. In fact, if there were another intelligent species in the Galaxy that was more advanced than we are, we would not have had a chance to expand in the first place. That we are the only species in the Galaxy capable of traveling in hyperspace would seem certain, then. That we are the only species in the Galaxy that is intelligent is perhaps not quite certain, but there is a very good chance that we are."

Amadiro was now listening with a weary half-smile. The young man was being didactic, like a man stamping out the rhythm of his monomania in a dull beat. It was one of the marks of the crank and the mild hope Amadiro had had that Mandamus might actually have something that would turn the tide of history was beginning to fade.

He said, "You continue to tell me the known, Dr. Mandamus. Everyone knows Earth seems unique and that we are probably the only intelligent species in the Galaxy."

"But no one seems to ask the simple question: 'Why?' The Earthpeople and the Settlers don't ask it. They accept it. They have a mystic attitude toward Earth and consider it a holy world, so that its unusual nature is taken as a matter of course. As for the Spacers, we don't ask it. We ignore it. We do our best not to think of Earth at all, since if we do, we are liable to go further and think of ourselves as having descended from Earthpeople."

Amadiro said, "I see no virtue in the question. We need not seek for complex answers to the 'Why?'. Random processes plan an important role in evolution and, to some extent, in all things. If there are millions of habitable worlds, evolution may proceed

on each of them at a different rate. On most, the rate will have some intermediate value; on some the rate will be distinctly slow, on others distinctly fast; on perhaps one it would proceed exceedingly slow and on another exceedingly fast. Earth happens to be the one on which it proceeded exceedingly fast and we are here because of that. Now if we ask 'Why?', the natural--and sufficient--answer is 'Chance.'"

Amadiro waited for the other to betray the crank by exploding in rage at a preeminently logical statement, presented in an amused way, that served to shatter his thesis completely. Mandamus, however, merely stared at him for a few moments out of his deep-set eyes and then said quietly, "No."

Mandamus let that stand for perhaps two beats and then said, "It takes more than a lucky chance or two to speed evolution a thousandfold. On every planet but Earth, the speed of evolution is closely related to the flux of cosmic radiation in which that planet is bathed. That speed is not the result of chance at all but the result of cosmic radiation producing mutations at a slow rate. On Earth, something produces many more mutations than are produced on other habitable planets and that has nothing to do with cosmic rays, for they do not strike Earth in any remarkable profusion. Perhaps you see a little more clearly, now, why the 'Why?' could be important."

"Well, then, Dr. Mandamus, since I am still listening, with rather more patience than I would have expected myself to possess, answer the question you so insistently raise. Or do you merely have the question and no answer?"

"I have an answer," said Mandamus, "and it depends upon the fact that Earth is unique in a second way."

Amadiro said, "Let me anticipate. You are referring to its large satellite. Surely, Dr. Mandamus, you are not advancing this as a discovery of yours."

"Not at all," said Mandamus stiffly, "but consider that large satellites seem to be common. Our planetary system has five, Earth's has seven and so on. All the known large satellites but one, however, circle gas giants. Only Earth's satellite, the moon, circles a planet not much larger than itself."

"Dare I use the word 'chance' again, Dr. Mandamus?"

"In this case, it may be chance, but the moon remains unique."

"Even so. What possible connection can the satellite have with Earth's profusion of life?"

"That may not be obvious and a connection may be unlikely--but it is far more unlikely that two such unusual examples of uniqueness in a single planet can have no connection at all. I have found such a connection."

"Indeed?" said Amadiro alertly. Now ought to come unmistakable evidence of crackpotism. He looked casually at the time strip on the wall. There really wasn't much more time he could possibly spend on this, for all that his curiosity continued to be aroused.

"The moon," said Mandamus, "is slowly receding from Earth, due to its tidal effect on the Earth. Earth's large tides are a unique consequence of the existence of this large

satellite. Earth's sun produces tides, too, but to only a third of the extent of the moon's tides--just as our sun produces small tides on Aurora.

"Since the moon recedes because of its tidal action, it was far closer to Earth during the early history of its planetary system. The closer the moon to the Earth, the higher the tides on Earth. These tides had two important effects on Earth. It flexed the Earth's crust continually as the Earth rotated and it slowed the Earth's rotation, both through that flexing and through the friction of the ocean's water tides on shallow sea bottoms--so that rotational energy was converted to heat.

"The Earth, therefore, has a thinner crust than any other habitable planet we know of and it is the only habitable planet that displays volcanic action and that has a lively system of plate tectonics."

Amadiro said, "But even all this can have nothing to do with Earth's profusion of life. I think you must either get to the point, Dr. Mandamus, or leave."

"Please bear with me, Dr. Amadiro, for just a little while longer. It is important to understand the point once we get to it. I have made a careful computer simulation of the chemical development of Earth's crust, allowing for the effect of tidal action and plate tectonics, something that no one has ever done before in as meticulous and elaborate a way as I have managed to do--if I may praise myself."

"Oh, by all means," murmured Amadiro.

"And it turns out, quite clearly--I will show you all the necessary data at any time you wish--that uranium and thorium collect in Earth's crust and upper mantle in concentrations of up to a thousand times as high as in any other habitable world. Moreover, they collect unevenly, so that scattered over the Earth are occasional pockets where uranium and thorium are even more concentrated."

"And, I take it, dangerously high in radioactivity?"

"No, Dr. Amadiro. Uranium and thorium are very weakly radioactive and even where they are relatively concentrated, they are not very concentrated in an absolute sense. --All this, I repeat, is because of the presence of a large moon. "

"I assume, then, that the radioactivity, even if not intense enough to be dangerous to life, does suffice to increase the mutation rate. Is that it, Dr. Mandamus?"

"That is it. There would be more rapid extinctions now and then, but also more rapid development of new species--resulting in an enormous variety and profusion of life-forms. And, eventually, on Earth alone, this would have reached the point of developing an intelligent species and a civilization."

Amadiro nodded. The young man was not a crank. He might be wrong, but he was not a crank. And he might be right, too.

Amadiro was not a planetologist, so he would have to check books on the subject to see whether Mandamus had perhaps discovered only the already-known, as so many enthusiasts did. There was, however, a more important point that he had to check at once.

He said in a soft voice, "You've spoken of the possible destruction of Earth. Is there some connection between that and Earth's unique properties?"

"One can take advantage of unique properties in a unique manner," said Mandamus just as softly.

"In this particular case in what way?"

"Before discussing the method, Dr. Amadiro, I must explain that, in one respect, the question as to whether destruction is physically possible depends on you."

"On me?"

"Yes," said Mandamus firmly. "On you. Why, otherwise, should I come to you with this long story if not to persuade you that I know what I'm talking about, so that you would be willing to cooperate with me in a manner that will be essential to my success?"

Amadiro drew a long breath. "And if I refused, would anyone else serve your purpose?"

"It might be possible for me to turn to others if you refuse. Do you refuse?"

"Perhaps not, but I am wondering how essential I am to you."

"The answer is, not quite as essential as I am to you. You must cooperate with me."

"Must?"

"I would like you to--if you prefer it phrased in that fashion. But if you wish Aurora and the Spacers to triumph, now and forever, over Earth and the Settlers, then you must cooperate with me, whether you like the phrase or not. "

Amadiro said, "Tell me what it is, exactly, that I must do."

"Begin by telling me if it is not true that the Institute has, in the past, designed and constructed humanoid robots."

"Yes, we did. Fifty of them all together. That was between fifteen and twenty decades ago."

"That long ago? And what happened to them?"

"They failed," said Amadiro indifferently.

Mandamus sat back in his chair with a horrified expression on his face. "They were destroyed?"

Amadiro's eyebrows shot upward. "Destroyed? No one destroys expensive robots. They are in storage. The power units are removed and a special long-lived microfusion battery is in each to keep the positronic paths minimally alive. "

"Then they can be brought back to full action?"

"I am sure they can."

Mandamus's right hand beat out a tightly controlled rhythm against the arm of the chair. He said grimly, "Then we can win!"

12. THE PLAN AND THE DAUGHTER

46.

It had been a long time since Amadiro had thought of the humanoid robots. It was a painful thought and he had, with some difficulty, trained himself to keep his mind away from that topic. And now Mandamus had unexpectedly brought it up.

The humanoid robot had been Fastolfe's great trump card in those long-gone days when Amadiro had been within a millimeter of taking the game, trump card and all. Fastolfe had designed and built two humanoid robots (of which one still existed) and no one else could build any. The entire membership of the Robotics Institute, working together, could not build them.

All that Amadiro had salvaged out of his great defeat had been that trump card. Fastolfe had been forced to make public the nature of the humanoid design.

That meant humanoid robots could be built and were built and--behold--they were not wanted. The Aurorans would not have them in their society.

Amadiro's mouth twisted in the remnant of remembered chagrin. The tale of the Solarian woman had somehow come to be known--the fact that she had had the use of Jander, one of Fastolfe's two humanoid robots, and that the use had been sexual. Aurorans had no objection to such a situation in theory. When they stopped to think of it, however, Auroran women simply did not enjoy the thought of having to compete with robot women. Nor did Auroran men wish to compete with robot men.

The Institute had labored mightily to explain that the humanoid robots were not intended for Aurora itself, but were meant to serve as the initial wave of pioneers who would seed and adjust new habitable planets for Aurorans to occupy later, after they had been terraformed.

That, too, was rejected, as suspicion and objection fed on itself. Someone had called the humanoids "the entering wedge." The expression spread and the Institute was forced to give up.

Stubbornly, Amadiro had insisted on mothballing those which existed for possible future use--a use that had never yet materialized.

Why had there been this objection to the humanoids? Amadiro felt a faint return of the irritation that had all but poisoned his life those many decades ago. Fastolfe himself, though reluctant, had agreed to back the project and, to do him justice, had done so, though without quite the eloquence he devoted to those matters to which his heart was truly given. --but it had not helped.

And yet--and yet--if Mandamus now really had some project in mind that would work and would require the robots.

Amadiro had no great fondness for mystical cries of: "It was better so. It was meant to be." Yet it was only with an effort that he kept himself from thinking this, as the elevator took them down to a spot well below ground level--the only place in Aurora that might be similar, in a tiny way, to Earth's fabled Caves of Steel.

Mandamus stepped out of the elevator at Amadiro's gesture and found himself in a dim corridor. It was chilly and there was a soft ventilating wind. He shivered slightly. Amadiro joined him. But a single robot followed each.

"Few people come here," Amadiro said matter-of-factly.

"How far underground are we?" asked Mandamus.

"About fifteen meters. There are a number of levels. It is on this one that the humanoid robots are stored."

Amadiro stopped a moment, as though in thought, then turned firmly to the left. "This way!"

"No directing signs?"

"As I said, few people come here. Those who do know where they should go to find what they need."

As he said that, they came to a door that looked solid and formidable in the dim light. On either side stood a robot. They were not humanoid.

Mandamus regarded them critically and said, "These are simple models."

"Very simple. You wouldn't expect us to waste anything elaborate on the task of guarding a door." Amadiro raised his voice, but kept it impassive. "I am Kelden Amadiro."

The eyes of both robots glowed briefly. They turned outward, away from the door, which opened noiselessly, rising upward.

Amadiro directed the other through and, as he passed the robots, said calmly, "Leave it open and adjust the lighting to personal need."

Mandamus said, "I don't suppose just anyone could enter here."

"Certainly not. Those robots recognize my appearance and voiceprint and require both before opening the door." Half to himself, he added, "No need for locks or keys or combinations anywhere on the Spacer worlds. The robots guard us faithfully and always."

"I had sometimes thought," said Mandamus broodingly, "that if an Auroran were to borrow one of those blasters that Settlers seem to carry with them wherever they go, there would be no locked doors for him. He could destroy robots in an instant, then go wherever he wished, do whatever he wanted."

Amadiro darted a fiery glance at the other. "But what Spacer would dream of using such weapons on a Spacer world? We live our lives without weapons and without violence. Don't you understand that that is why I have devoted my life to the defeat and destruction of Earth and its poisoned brood. --Yes, we had violence once, but that was long ago, when the Spacer worlds were first established and we had not yet rid ourselves of the poison of the Earth from which we came, and before we had learned the value of robotic security.

"Aren't peace and security worth fighting for? Worlds without violence! Worlds in which reason rules! Was it right for us to hand over scores of habitable worlds to short-lived barbarians who, as you say, carry blasters about with them everywhere?"

"And yet," murmured Mandamus, "are you ready to use violence to destroy Earth?"

"Violence briefly--and for a purpose--is the price we probably will have to pay for putting an end to violence forever."

"I am Spacer enough," said Mandamus, "to want even that violence minimized."

They had now entered a large and cavernous room and, as they entered, walls and ceiling came to life with diffuse and unglaring light.

"Well, is this what you want, Dr. Mandamus?" asked Amadiro.

Mandamus looked about, stunned. Finally, he managed to say, "Incredible!"

They stood there, a solid regiment of human beings, with a little more life to them than so many statues might have showed, but with far less life than sleeping human beings would have displayed.

"They're standing," muttered Mandamus.

"They take up less room that way. Obviously."

"But they've been standing about fifteen decades. They can't still be in working order. Surely their joints are frozen, their organs broken down. "

Amadiro shrugged. "Perhaps. Still, if the joints have deteriorated--and that isn't out of the question, I suppose--those can be replaced--if necessary. It would depend on whether there would be reason to do so."

"There would be reason," said Mandamus. He looked from head to head. They were staring in slightly different directions and that gave them a somewhat unsettling appearance, as though they were on the point of breaking ranks.

Mandamus said, "Each has an individual appearance and they differ in height, build, and so on."

"Yes. Does that surprise you? We were planning to have these, along with others we might have built, be the pioneers in the development of new worlds. To have them do so properly, we wanted them to be as human as possible, which meant making them as individual as Aurorans are. Doesn't that seem sensible to you?"

"Absolutely. I'm glad this is so. I've read all I can about the two protohumaniforms that Fastolfe himself built--Daneel Olivaw and Jander Panell. I've seen holographs of them and they seemed identical."

"Yes," said Amadiro impatiently. "Not only identical, but each virtually a caricature of one's conception of the ideal Spacer. That was Fastolfe's romanticism. I'm sure that he would have built a race of interchangeable humanoid robots, with both sexes possessing such ethereal good looks--or what he considered to be that--as to make them completely inhuman. Fastolfe may be a brilliant roboticist, but he is an incredibly stupid man."

Amadiro shook his head. To have been beaten by such an incredibly stupid man, he thought--and then he thrust the thought away. He had not been beaten by Fastolfe, but by that infernal Earthman. Lost in thought, he did not hear Mandamus's next question.

"Pardon me," he said with an edge of irritation.

"I said, 'Did you design these, Dr. Amadiro?' "

"No, by an odd coincidence--and one that strikes me as possessing a peculiar irony--these were designed by Fastolfe's daughter Vasilia. She's as brilliant as he is and much more intelligent--which may be one reason why they never got along."

"As I have heard the story concerning them--" began Mandamus.

Amadiro waved him into silence. "I have heard the story, too, but it doesn't matter. It's enough that she does her work very well and that there is no danger that she will ever find herself in sympathy with someone who, despite the accident that he is her biological father, is--and must remain--forever alien and hateful to her. She even calls herself Vasilia Aliena, you know."

"Yes, I know. Do you have the brain patterns of these humanoid robots on record?"

"Certainly."

"For each of these?"

"Of course. "

"And can they be made available to me?"

"If there's a reason for it."

"There will be," said Mandamus firmly. "Since these robots were designed for pioneering activities, may I assume they are equipped to explore a world and deal with primitive conditions?"

"That should be self-evident. "

"That's perfect--but there may have to be some modifications. Do you suppose that Vasilia Fast-Aliena would be able to help me with that--if necessary? Obviously, she would be best-acquainted with the brain patterns."

"Obviously. Still, I don't know whether she would be willing to help you. I do know that it is physically impossible for her to do so at the moment, since she is not on Aurora."

Mandamus looked surprised and displeased. "Where is she, then, Dr. Amadiro?"

Amadiro said, "You have seen these humaniforms and I do not wish to expose myself to these rather dismal surroundings. You have kept me waiting long enough and you must not complain if I keep you waiting now. If you have any further questions, let us deal with them in my office."

47.

Once in the office, Amadiro delayed things a while longer. "Wait here for me," he said rather peremptorily and left.

Mandamus waited stiffly, sorting out his thoughts, wondering when Amadiro would return--or if he would. Was he to be arrested or simply ejected? Had Amadiro grown tired of waiting for the point?

Mandamus refused to believe that. He had gained a shrewd idea of Amadiro's desperate desire for evening an old score. It seemed evident that Amadiro wouldn't get

tired of listening as long as there seemed the slightest chance that Mandamus would make revenge possible.

As he looked idly about Amadiro's office, Mandamus found himself wondering whether there might be any information that might be of help to him in the computerized files almost immediately at hand. It would be useful not to have to depend directly on Amadiro for everything.

The thought was a useless one. Mandamus did not know the entry code for the files and, even if he did, there were several of Amadiro's personal robots standing in their niches and they would stop him if he took a single step toward anything that was labeled in their minds as sensitive. Even his own robots would.

Amadiro was right. Robots were so useful and efficient--and incorruptible--as guards that the very concept of anything criminal, illegal, or simply underhanded did not occur to anyone. The tendency just atrophied--at least as against other Spacers.

He wondered how Settlers could manage without robots. Mandamus tried to imagine human personalities clashing, with no robotic bumpers to cushion the interaction, no robotic presence to give them a decent sense of security and to enforce--without their being consciously aware of it most of the time--a proper mode of morality.

It would be impossible for Settlers to be anything but barbarians under the circumstance and the Galaxy could not be left to them. Amadiro was right in that respect and had always been right, while Fastolfe was fantastically wrong.

Mandamus nodded, as though he had once again persuaded himself as to the correctness of what he was planning. He sighed and wished it were not necessary, then prepared to go over, once again, the line of reasoning that proved to him that it was necessary, when Amadiro strode in.

Amadiro was still an impressive figure, even though he was within a year of his twenty-eighth decade-day. He was very much what a Spacer ought to look like, except for the unfortunate shapelessness of his nose.

Amadiro said, "I'm sorry to have kept you waiting, but there was business I had to attend to. I am the head of this Institute and that entails responsibilities. "

Mandamus said, "Could you tell me where Dr. Vasilia Aliena is? I will then describe my project to you without delay. "

"Vasilia is on tour. She's visiting each of the Spacer worlds to find out where they stand on robot research. She appears to think that, since the Robot Institute was founded to coordinate individual research on Aurora, interplanetary coordination would advance the cause even farther. A good idea, actually."

Mandamus laughed, shortly and without humor. "They won't tell her anything. I doubt any Spacer world wants to hand Aurora a more enormous lead than she already has."

"Don't be too sure. The Settler situation has disturbed us all. "

"Do you know where she is now?"

"We have her itinerary. "

"Get her back, Dr. Amadiro. "

Amadiro frowned. "I doubt I can do that easily. I believe she wants to be away from Aurora until her father dies."

"Why?" asked Mandamus in surprise.

Amadiro shrugged. "I don't know. I don't care. --But what I do know is that your time has run out. Do you understand? Get to the point or leave." He pointed to the door grimly and Mandamus felt that the other's patience would stretch no farther.

Mandamus said, "Very well. There is yet a third way in which Earth is unique--"

He talked easily and with due economy, as though he were going through an exposition that he had frequently rehearsed and polished for the very purpose of presenting it to Amadiro. And Amadiro found himself increasingly absorbed.

That was it! Amadiro first felt a huge sense of relief. He had been correct to gamble on the young man's not being a crackpot. He was entirely sane.

Then came triumph. It would surely work. Of course, the young man's view, as it was expounded, veered a bit from the path Amadiro felt it ought to follow, but that could be taken care of eventually. Modifications were always possible.

And when Mandamus was done, Amadiro said in a voice he strove to hold steady, "We won't need Vasilia. There is appropriate expertise at the Institute to allow us to begin at once. Dr. Mandamus"--a note of formal respect entered Amadiro's voice--"let this thing work out as planned--and I cannot help but think it will--and you will be the head of the Institute when I am Chairman of the Council."

Mandamus smiled narrowly and briefly, while Amadiro sat back in his chair and, just as briefly, allowed himself to look into the future with satisfaction and confidence, something he had not been able to do for twenty long and weary decades.

How long would it take? Decades? One decade? Part of a decade?

Not long. Not long. It must be hastened by all means so that he could live to see that old decision overturned and himself lord of Aurora--and therefore of the Spacer worlds--and therefore (with Earth and the Settler worlds doomed) even lord of the Galaxy before he died.

48.

When Dr. Han Fastolfe died, seven years after Amadiro and Mandamus met and began their project, the hyperwave carried the news with explosive force to every corner of the occupied worlds. It merited the greatest attention everywhere.

In the Spacer worlds it was important because Fastolfe had been the most powerful man on Aurora and, therefore, in the Galaxy for over twenty decades. In the Settler worlds and on Earth, it was important because Fastolfe had been a friend--insofar as a Spacer could be a friend--and the question now was whether Spacer policy would change and, if so, how.

The news came also to Vasilia Aliena and it was complicated by the bitterness that had tinged her relationship with her biological father almost from the beginning.

She had schooled herself to feel nothing when he died, yet she had not wanted to be on the same world that he was on at the time the event took place. She did not want the questions that would be leveled at her anywhere, but most frequently and insistently on Aurora.

The parent-child relationship among the Spacers was a weak and indifferent one at best. With long lives, that was a matter of course. Nor would anyone have been interested in Vasilia in that respect, but for the fact that Fastolfe was so continually prominent a party leader and Vasilia almost as prominent a partisan on the other side.

It was poisonous. She had gone to the trouble of making Vasilia Aliena her legal name and of using it on all documents, in all interviews, in all dealings of any kind--and yet she knew for a fact that most people thought of her as Vasilia Fastolfe. It was as though nothing could wipe out that thoroughly meaningless relationship, so that she was reduced to having to be content with being addressed by her first name only. It was, at least, an uncommon name.

And that, too, seemed to emphasize her mirror-image relationship with the Solarian woman who, for thoroughly independent reasons, had denied her first husband as Vasilia had denied her father. The Solarian woman, too, could not live with the early surnames fastened upon her and ended with a first name only--Gladia.

Vasilia and Gladia, misfits, deniers--They even resembled each other.

Vasilia stole a look at the mirror hanging in her spaceship cabin. She had not seen Gladia in many decades, but she was sure that the resemblance remained. They were both small and slim. Both were blond and their faces were somewhat alike.

But it was Vasilia who always lost and Gladia who always won. When Vasilia had left her father and had struck him from her life, he had found Gladia instead--and she was the pliant and passive daughter he wanted, the daughter that Vasilia could never be.

Nevertheless, it embittered Vasilia. She herself was a roboticist, as competent and as skillful, at last, as ever Fastolfe had been, while Gladia was merely an artist, who amused herself with force-field coloring and with the illusions of robotic clothing. How could Fastolfe have been satisfied to lose the one and gain, in her place, nothing more than the other?

And when that policeman from Earth, Elijah Baley, had come to Aurora, he had bullied Vasilia into revealing far more of her thoughts and feelings than she had ever granted anyone else. He was, however, softness itself to Gladia and had helped her--and her protector, Fastolfe--win out against all the odds, though to this day Vasilia had not been able to understand clearly how that had happened.

It was Gladia who had been at Fastolfe's bedside during the final illness, who had held his hand to the end, and who had heard his last words. Why Vasilia should resent that, she didn't know, for she herself would, under no circumstances, have acknowledged the old man's existence to the extent of visiting him to witness his passage into nonexistence in an absolute, rather than a subjective sense--and yet she raged against Gladia's presence.

It's the way I feel, she told herself defiantly, and I owe no one an explanation.

And she had lost Giskard. Giskard had been her robot, Vasilias own robot when she had been a young girl, the robot granted her by a then seemingly fond father. It was Giskard through whom she had learned robotics and from whom she had felt the first genuine affection. She had not, as a child, speculated on the Three Laws or dealt with the philosophy of positronic automatism. Giskard had seemed affectionate, he had acted as though he were affectionate, and that was enough for a child. She had never found such affection in any human being--certainly not her father.

To this day, she had yet to be weak enough to play the foolish love game with anyone. Her bitterness over her loss of Giskard had taught her that any initial gain was not worth the final deprivation.

When she had left home, disowning her father, he would not let Giskard go with her, even though she herself had improved Giskard immeasurably in the course of her careful reprogramming of him. And when her father had died, he had left Giskard to the Solarian woman. He had also left her Daneel, but Vasilias cared nothing for that pale imitation of a man. She wanted Giskard, who was her own.

Vasilias was on her way back to Solaria now. Her tour was quite done. In fact, as far as usefulness was concerned, it had been essentially over months ago. But she had remained on Hesperos for a needed rest, as she had explained in her official notice to the Institute.

Now, however, Fastolfe was dead and she could return. And while she could not undo the past entirely, she could undo part of it. Giskard must be hers again.

She was determined on that.

49.

Amadiro was quite ambivalent in his response to Vasilias return. She had not come back until old Fastolfe (he could say the name to himself quite easily now that he was dead) was a month in his urn. That flattered his opinion of his own understanding. After all, he had told Mandamus her motive had been that of remaining away from Aurora till her father died.

Then, too, Vasilias was comfortably transparent. She lacked the exasperating quality of Mandamus, his new favorite, who always seemed to have yet another unexpressed thought tucked away no matter how thoroughly he seemed to have discharged the contents of his mind.

On the other hand, she was irritatingly hard to control, the least likely to go quietly along the path he indicated. Leave it to her to probe the otherworld Spacers to the bone during the years she had spent away from Aurora--but then leave it also to her to interpret it all in dark and riddling words.

So he greeted her with an enthusiasm that was somewhere between feigned and unfeigned.

"Vasilia, I'm so happy to have you back. The Institute flies on one wing when you're gone."

Vasilia laughed. "Come, Kelden"--she alone had no hesitation or inhibition in using his given name, though she was two and a half decades younger than he--"that one remaining wing is yours and how long has it been now since you ceased being perfectly certain that your one wing was sufficient?"

"Since you decided to stretch out your absence to years. Do you find Aurora much changed in the interval?"

"Not a bit--which ought perhaps to be a concern of ours. Changelessness is decay."

"A paradox. There is no decay without a change for the worse."

"Changelessness is a change for the worse, Kelden, in comparison to the surrounding Settler worlds. They change rapidly, extending their control into more numerous worlds and over each individual world more thoroughly. They increase their strength and power and self-assurance, while we sit here dreaming and find our unchanging might diminishing steadily in comparison. "

"Beautiful, Vasilia! I think you memorized that carefully on your flight here. However, there has been a change in the political situation on Aurora."

"You mean my biological father is dead."

Amadiro spread his arms with a little bow of his head. "As you say. He was largely responsible for our paralysis and he is gone, so I imagine there will now be change, though it may not necessarily be visible change."

"You keep secrets from me, do you?"

"Would I do that?"

"Certainly. That false smile of yours gives you away every time."

"Then I must learn to be grave with you. --Come, I have your report. Tell me what is not included in it. "

"All is included in it--almost. Each Spacer world states vehemently that it is disturbed by growing Settler arrogance. Each is firmly determined to resist the Settlers to the end, enthusiastically following the Auroran lead with vigor and death-defying gallantry."

"Follow our lead, yes. And if we don't lead?"

"Then they'll wait and try to mask their relief that we are not leading. Otherwise--Well, each one is engaged in technological advance and each one is reluctant to reveal what it is, exactly, that it is doing. Each is working independently and is not even unified within its own globe. There is not a single research team anywhere on any of the Spacer worlds that resembles our own Robotics Institute. Each world consists of individual researchers, each of whom diligently guards his own data from all the rest. "

Amadiro was almost complacent as he said, "I would not expect them to have advanced as far as we have."

"Too bad they haven't," replied Vasilia tartly. "With all the Spacer worlds a jumble of individuals, progress is too slow. The Settler worlds meet regularly at conventions, have

their institutes--and though they lag well behind us, they will catch up.--Still, I've managed to uncover a few technological advances being worked on by the Spacer worlds and I have them all listed in my report. They are all working on the nuclear intensifier, for instance, but I don't believe that such a device has passed beyond the laboratory demonstration level on a single world. Something that would be practical on shipboard is not yet here."

"I hope you are right in that, Vasilia. The nuclear intensifier is a weapon our fleets could use, for it would finish the Settlers at once. However, I think, on the whole, it would be better if Aurora had the weapon ahead of our Spacer brothers.--but you said that all was included in your report--almost. I heard that 'almost.' What is not included, then?"

"Solaria!"

"Ah, the youngest and most peculiar of the Spacer worlds."

"I got almost nothing directly out of them. They viewed me with absolute hostility as, I believe, they would have viewed any non-Solarian, whether Spacer or Settler. And when I say 'viewed,' I mean that in their sense. I remained nearly a year on the world, a considerably longer time than I spent on any other world, and in all those months I never saw a single Solarian face-to-face. In every case, I viewed him--or her--by hyperwave hologram. I could never deal with anything tangible--images only. The world was comfortable, incredibly luxurious, in fact, and for a nature lover, totally unspoiled, but how I missed seeing."

"Well, viewing is a Solarian custom. We all know that, Vasilia. Live and let live."

"Humph," said Vasilia. "Your tolerance may be misplaced. Are your robots in the nonrepeat mode?"

"Yes, they are. And I assure you we are not being eavesdropped upon."

"I hope not, Kelden. --I am under the distinct impression that the Solarians are closer to developing a miniaturized nuclear intensifier than any other world--than we are. They may be close to making one that's portable and that's possessed of a power consumption small enough to make it practical for space vessels. "

Amadiro frowned deeply. "How do they manage that?"

"I cannot say. You don't suppose they showed me blueprints, do you? My impressions are so inchoate I dared not put them in the report, but from small things I heard here--or observed there--I think they are making important progress. This is something we should think about carefully."

"We will. --Is there anything else you would like to tell me?"

"Yes--and also not in the report. Solaria has been working toward humanoid robots for many decades and I think they have achieved that goal. No other Spacer would--outside of ourselves, of course--has even attempted the matter. When I asked, on each world, what they were doing with respect to humanoid robots, the reaction was uniform. They found the very concept unpleasant and horrifying. I suspect they all noticed our failure and took it to heart:'

"But not Solaria? Why not?"

"For one thing, they have always lived in the most extremely robotized society in the Galaxy. They're surrounded by robots--ten thousand per individual. The world is saturated with them. If you were to wander through it aimlessly, searching for humans, you would find nothing. So why should the few Solarians, living in such a world, be upset by the thought of a few more robots just because they're humaniform? Then, too, that pseudo-human wretch that Fastolfe designed and built and that still exists--"

"Daneel," said Amadiro.

"Yes, that one. He--it was on Solaria twenty decades ago and the Solarians treated it as human. They have never recovered from that. Even if they had no use for humaniforms, they were humiliated at having been deceived. It was an unforgettable demonstration that Aurora was far ahead of them in that one facet of robotics, at any rate. The Solarians take inordinate pride in being the most advanced roboticists in the Galaxy and, ever since, individual Solarians have been working on humaniforms--if for no other reason than to wipe out that disgrace. If they had had greater numbers or an institute that could coordinate their work, they would undoubtedly have come up with some long ago. As it is, I think they have them now. "

"You don't really know, do you? This is just suspicion based on scraps of data here and there."

"Exactly right, but it's a fairly strong suspicion and it merits further investigation. -- And a third point. I could swear they were working on telepathic communication. There was some equipment that I was incautiously allowed to see. And once when I had one of their roboticists on view the hyperwave screen showed a blackboard with a positronic pattern matrix that was like nothing I ever remember seeing, yet it seemed to me that pattern might fit a telepathic program."

"I suspect, Vasilisa, that this item is woven of even airier gossamer than the bit about the humanoid robots."

A look of mild embarrassment crossed Vasilisa's face. "I must admit you're probably right there."

"In fact, Vasilisa, it sounds like mere fantasy. If the pattern matrix you saw was like nothing you remember ever having seen before, how could you think it would fit anything?"

Vasilisa hesitated. "To tell you the truth, I've been wondering about that myself. Yet when I saw the pattern, the word 'telepathy' occurred to me at once."

"Even though telepathy is impossible, even in theory."

"It is thought to be impossible, even in theory. That is not quite the same thing."

"No one has ever been able to make any progress toward it."

"Yes, but why should I have looked at that pattern and thought 'telepathy'?"

"Ah well, Vasilisa, there may be a personal psychoquirk there that is useless to try to analyze. I'd forget it. Anything else?"

"One more thing--and the most puzzling of all. I gathered the impression, Kelden, from one little indication or another, that the Solarians are planning to leave their planet."

"Why?"

"I don't know. Their population, small as it is, is declining further. Perhaps they want to make a new start elsewhere before they die out altogether. "

"What kind of new start? Where would they go?"

Vasilia shook her head. "I have told you all I know."

Amadiro said slowly, "Well, then, I will take all this into account. Four things: nuclear intensifier, humanoid robots, telepathic robots, and abandoning the planet. Frankly, I have no faith in any of the four, but I'll persuade the Council to authorize talks with the Solarian regent. --And now, Vasilia, I believe you could use a rest, so why not take a few weeks off and grow accustomed to the Auroran sun and fine weather before getting back to work?"

"That is kind of you, Kelden," said Vasilia, remaining firmly seated, "but there remain two items I must bring up."

Involuntarily, Amadiro's eyes sought the time strip. "This won't take up very much time, will it, Vasilia?"

"However much time it takes, Kelden, is what it will take up."

"What is it you want, then?"

"To begin with, who is this young know-it-all who seems to think he is running the Institute, this what's-his-name, Mandamus?"

"You've met him, have you?" said Amadiro, his smile masking a certain uneasiness. "You see, things do change on Aurora. "

"Certainly not for the better in this case," said Vasilia grimly. "Who is he?"

"He is exactly what you have described--a know-it-all. He is a brilliant young man, bright enough in robotics, but just as knowledgeable in general physics, in chemistry, in planetology --"

"And how old is this monster of erudition?"

"Not quite five decades."

"And what will this child be when he grows up?"

"Wise as well as brilliant, perhaps."

"Don't pretend to mistake my meaning, Kelden. Are you thinking of grooming him as the next head of the Institute?"

"I intend to live for a good many decades yet."

"That is no answer."

"It is the only answer I have."

Vasilia shifted in her seat restlessly and her robot, standing behind her, sent his eyes from side to side as though preparing to ward off an attack--pushed into that mode of behavior, perhaps, by Vasilia's uneasiness.

Vasilia said, "Kelden, I am to be the next head. That is settled. You have told me so."

"I have, but in actual fact, Vasilia, once I die, the Board of Directors will make the choice. Even if I leave behind me a directive as to who the next head will be, the Board can reverse me. That much is clear in the terms of incorporation that founded the Institute."

"You just write your directive, Kelden, and I will take care of the Board of Directors."

And Amadiro, the space between his eyebrows furrowing, said, "This is not something I will discuss any further at this moment. What is the other item you want to bring up? Please make it brief."

She stared at him in silent anger for a moment, then said, seeming to bite off the word, "Giskard!"

"The robot?"

"Of course the robot. Do you know any other Giskard that I am likely to be talking about?"

"Well, what of him?"

"He is mine."

Amadiro looked surprised. "He is--or was--the legal property of Fastolfe."

"Giskard was mine when I was a child."

"Fastolfe lent him to you and eventually took him back. There was no formal transfer of ownership, was there?"

"Morally, he was mine. But in any case, Fastolfe owns him no longer. He is dead."

"He made a will, too. And if I remember correctly, by that will, two robots--Giskard and Daneel--are now the property of the Solarian woman."

"But I don't want them to be. I am Fastolfe's daughter--"

"Oh?"

Vasilia flushed. "I have a claim to Giskard. Why should a stranger--an alien--have him?"

"For one thing, because Fastolfe willed it so. And she's an Auroran citizen."

"Who says so? To every Auroran she is 'the Solarian woman.'"

Amadiro brought his fist down on the arm of his chair in a sudden spilling over of fury. "Vasilia, what is it you wish of me? I have no liking for the Solarian woman. I have, in fact, a profound dislike of her and, if there were a way, I would"--he looked briefly at the robots, as though unwilling to unsettle them--"get her off the planet. But I can't upset the will. Even if there were a legal way to do so--and there isn't--it wouldn't be wise to do it. Fastolfe is dead."

"Precisely the reason Giskard should be mine now."

Amadiro ignored her. "And the coalition he headed is falling apart. It was held together in the last few decades only by his personal charisma. Now what I would like to do is to pick up fragments of that coalition and add it to my own following. In that way, I may put a group together that would be strong enough to dominate the Council and win control in the coming elections."

"With you becoming the next Chairman?"

"Why not? Aurora could do worse, for it would give me a chance to reverse our longtime policy of built-in disaster before it is too late. The trouble is that I don't have Fastolfe's personal popularity. I don't have his gift of exuding saintliness as a cover for stupidity. Consequently, if I seem to be triumphing in an unfair and petty way over a dead

man, it will not look good. No one must say that, having been defeated by Fastolfe while he was alive, I overturned his will out of trivial spite after he was dead. I won't have anything as ridiculous as that standing in the way of the great life-and-death decisions Aurora must make. Do you understand me? You'll have to do without Giskard!"

Vasilia arose, body stiff, eyes narrow. "We'll see about that. "

"We have already seen. This meeting is over and if you have any ambitions to be the head of the Institute, I don't ever want to see you threatening me about anything. So if you're going to make a threat now, of any kind at all, I advise you to reconsider."

"I make no threats," said Vasilia, every ounce of body language contradicting her words--and she left with a sweep, beckoning her robot, unnecessarily, to follow.

50.

The emergency--or rather, the series of emergencies--began some months later when Maloon Cicis entered Amadiro's office for the usual morning conference.

Ordinarily, Amadiro looked forward to that. Cicis was always a restful interlude in the course of the busy day. He was the one senior member of the Institute who had no ambitions and who was not calculating against the day of Amadiro's death or retirement. Cicis was, in fact, the perfect subordinate. He was happy to be of service and delighted to be in Amadiro's confidence.

For this reason, Amadiro had been disturbed, in the last year or so, at the flavor of decay, the slight concavity of the chest, the touch of stiffness in the walk of his perfect subordinate. Could Cicis be getting old? Surely he was only a few decades older than Amadiro.

It struck Amadiro most unpleasantly that perhaps along with the gradual degeneration of so many facets of Spacer life, the life expectancy was falling. He meant to look up the statistics, but kept forgetting to do so--or was unconsciously afraid of doing so.

On this occasion, though, the appearance of age in Cicis was drowned in violent emotion. His face was red (pointing up the graying of his bronze hair) and he appeared virtually exploding with astonishment.

Amadiro did not have to inquire as to the news. Cicis delivered it as though it was something he could not contain.

When he finished exploding, Amadiro said, stupefied, "All radio-wave emissions ceased? All?"

"All, Chief. They must all be dead--or gone. No inhabited world can avoid emitting some electromagnetic radiation at our level of--"

Amadiro waved him silent. One of Vasilia's points--the fourth, as he recalled--had been that the Solarians were preparing to leave their world. It had been a nonsensical suggestion; all four had been more or less nonsensical. He had said he would keep it in mind and, of course, he hadn't. Now, apparently, that had proved to be a mistake.

What had made it seem nonsensical when Vasilia had advanced the notion still made it seem nonsensical. He asked the question now that he had asked then, even though he expected no answer. (What answer could there be?) "Where in Space could they go, Maloon?"

"There's no word on that, Chief."

"Well, then, when did they go?"

"There's no word on that, either. We got the news this morning. The trouble is the radiational intensity is so low on Solaria, anyway. It's very sparsely inhabited and its robots are well-shielded. The intensity is an order of magnitude lower than that of any other Spacer world; two orders lower than ours."

"So one day someone noticed that what was very small had actually declined to zero, but no one actually caught it as it was declining. Who noticed it?"

"A Nexonian ship, Chief."

"How?"

"The ship was being forced into orbit about Solaria's sun in order to carry through emergency repairs. They hyperwaved for permission and got no answer. They had no choice but to disregard that, continue into orbit, and carry through their repairs. They were not interfered with in any way in that time. It was not till after they had left that, in checking through their records, they found that not only had they gotten no answer, but that they had gotten no radiational signal of any kind. There's no way of telling exactly when radiation had ceased. The last recorded receipt of any message from Solaria was over two months ago."

"And the other three points she made?" Amadiro muttered.

"Pardon me, Chief?"

"Nothing. Nothing," said Amadiro, but he frowned heavily and was lost in thought.

13. THE TELEPATHIC ROBOT

51.

Mandamus was not aware of developments on Solaria when he returned some months later from an extended third trip to Earth.

On his first trip, six years before, Amadiro had managed, with some difficulty, to have him sent as an accredited emissary from Aurora to discuss some trifling matter of an overstepping into Spacer territory by Trader vessels. He had endured the ceremony and bureaucratic ennui and it quickly became clear that as such an emissary his mobility was limited. That didn't matter, for he learned what he had come to learn.

He had returned with the news. "I doubt, Dr. Amadiro, that there will be any problem at all. There is no way, no possible way, in which the Earth officials can control either entry or exit. Every year many millions of Settlers visit Earth from any of dozens of worlds and every year as many millions of visiting Settlers leave for home again. Every

Settler seems to feel that life is not complete unless he or she periodically breathes the air of Earth and treads its crowded underground spaces. It's a search for roots, I imagine. They don't seem to feel the absolute nightmare that existence on Earth is."

"I know about it, Mandamus," said Amadiro wearily.

"Only intellectually, sir. You can't truly understand it until you experience it. Once you do, you'll find that none of your 'knowing' will prepare you in the least for the reality. Why anyone should want to go back, once gone--"

"Our ancestors certainly didn't want to go back, once they had left the planet."

"No," said Mandamus, "but interstellar flight was not then as advanced as it is now. It used to take months then and the hyperspatial Jump was a tricky thing. Now it takes merely days and the Jumps are routine and never go wrong. If it were as easy to return to Earth in our ancestors' time as it is now, I wonder if we would have broken away as we did."

"Let's not philosophize, Mandamus. Proceed to the point."

"Certainly. In addition to the coming and going of endless streams of Settlers, millions of Earthmen each year head out as emigrants to one or another of the Settler worlds. Some return almost at once, having failed to adapt. Others make new homes but come back particularly frequently to visit. There's no way of keeping track of exits and entrances and Earth doesn't even try. To attempt to set up systematic methods for identifying and keeping track of visitors might stem the flow and Earth is very aware that each visitor brings money with him. The tourist trade--if we want to call it that--is currently Earth's most profitable industry."

"You are saying, I suppose, that we can get the humanoid robots into Earth without trouble."

"With no trouble at all. There's no question in my mind as to that. Now that we have them properly programmed, we can send them to Earth in half a dozen batches with forged papers. We can't do anything about their robotic respect and awe of human beings, but that may not give them away. It will be interpreted as the usual Settler respect and awe for the ancestral planet. --But, then, I strongly suspect we don't have to drop them into one of the City airports. The vast spaces between Cities are virtually untenanted except by primitive work-robots and the incoming ships would go unnoticed--or at least disregarded."

"Too risky, I think," said Amadiro.

51 A.

Two batches of humanoid robots were sent to Earth and these mingled with the Earth people of the City before finding their way outward into the blank areas between and communicating with Aurora on shielded hyperbeam.

Mandamus said (he had thought about it deeply and had hesitated long), "I will have to go again, sir. I can't be positive they've found the right spot."

"Are you sure you know the right spot, Mandamus?" asked Amadiro sardonically.

"I have delved into Earth's ancient history thoroughly, sir. I know I can find it."

"I don't think I can persuade the Council to send a warship with you."

"No, I wouldn't want that. It would be worse than useless. I want a one-person vessel, with just enough power to get there and back."

And in that way, Mandamus made his second visit to Earth, dropping down into a region outside one of the smaller Cities. With mingled relief and satisfaction, he found several of the robots in the right place and remained with them to view their work, to give a few orders in connection with that work, and to make some fine adjustments in their programming.

And then, under the uninterested glance of a few primitive Earth-formed agricultural robots, Mandamus made for the nearby City.

It was a calculated risk and Mandamus, no fearless hero, could feel his heart thudding uncomfortably within his chest. But it went well. There was some surprise shown by the gate warden when a human being presented himself at the gate, showing all signs of having spent a considerable time in the open.

Mandamus had papers identifying him as a Settler, however, and the warden shrugged. Settlers didn't mind the open and it was far from unheard of for them to take small excursions through the fields and woods that lay about the unimpressive upper layers of a City that jutted above the ground.

The warden gave but a cursory glance at his papers and no one else asked for them at all. Mandamus's off-Earth accent (as weakly Auroran as he could make it) was accepted without comment and, as nearly as he could tell, no one wondered whether he might be a Spacer. But, then, why should they? The days when the Spacers held a permanent outpost on Earth was two centuries in the past and official emissaries from the Spacer worlds were few and --of late--growing steadily fewer. The provincial Earthpeople might not even remember that Spacers existed.

Mandamus was a little concerned that the thin, transparent gloves he always wore might be noted or that his nose plugs would be remarked upon, but neither event took place. No restrictions were placed on his travels around the City or to other Cities. He had enough money for that and money spoke loudly on Earth (and, to tell the truth, even on Spacer worlds).

He grew accustomed to having no robot dog his heels and when he met with some of Aurora's own humanoid robots in this City or that, he had to explain to them quite firmly that they must not dog his heels. He listened to their reports, gave them any instructions they seemed to require, and made arrangements for further robot shipments out-of-City. Eventually, he found his way back to his ship and left.

He was not challenged on his way out, any more than he had been on his way in.

"Actually," he said thoughtfully to Amadiro, "these Earthpeople are not really barbarians."

"Aren't they, though?"

"In their own world, they behave in quite a human fashion. In fact, there is something winning in their friendliness."

"Are you beginning to regret the task you're engaged in?"

"It does give me a grisly feeling as I wander among them thinking that they don't know what is going to happen to them. I can't make myself enjoy what I'm doing."

"Of course you can, Mandamus. Think of the fact that once the job is done, you will be sure of a post as the head of the Institute before very much time has elapsed. That will sweeten the job for you."

And Amadiro kept a close eye on Mandamus thereafter.

51 b.

On Mandamus's third trip, much of his earlier uneasiness had worn off and he could carry himself almost as though he were an Earthman. The project was proceeding slowly but dead center along the projected line of progress.

He had experienced no health problems on his earlier visits, but on this third one--no doubt due to his overconfidence--he must have exposed himself to something or other. At least, for a time he had an alarming drippiness of the nose, accompanied by a cough.

A visit to one of the City dispensaries resulted in a gamma globulin injection that relieved the condition at once, but he found the dispensary more frightening than the illness. Everyone there, he knew, was likely to be ill with something contagious or to be in close contact with those who were ill.

But now, at last, he was back in the quiet orderliness of Aurora and incredibly thankful to be so. He was listening to Amadiro's account of the Solarian crisis.

"Have you heard nothing of it at all?" demanded Amadiro.

Mandamus shook his head. "Nothing, sir. Earth is an incredibly provincial world. Eight hundred Cities with a total of eight billion people--all interested in nothing but the eight hundred Cities with a total of eight billion people. You would think that Settlers existed only to visit Earth and that Spacers did not exist at all. Indeed, the news reports in anyone City deal about ninety percent of the time with that City alone. Earth is an enclosed, claustrophilic world, mentally as well as physically."

"And yet you say they are not barbarian."

"Claustrophilia isn't necessarily barbarism. In their own terms, they are civilized."

"In their own terms! --But never mind. The problem at the moment is Solaria. Not one of the Spacer worlds will move. The principle of noninterference is paramount and they insist that Solaria's internal problems are for Solaria alone. Our own Chairman is as inert as any other, even though Fastolfe is dead and his palsied hand no longer rests on us all. I can do nothing by myself--until such time as I am Chairman."

Mandamus said, "How can they suppose Solaria to have internal problems that may not be interfered with when the Solarians are gone?"

Amadiro said sardonically, "How is it you see the folly of it at once and they don't? --They say there is no hard evidence that the Solarians are totally gone and as long as they--or even some of them--might be on the world, there is no right for any other Spacer world to intrude uninvited."

"How do they explain the absence of radiational activity?"

"They say that the Solarians may have moved underground or that they may have developed a technological advance of some sort that obviates radiation leakage. They also say that the Solarians were not seen to leave and that they have absolutely nowhere to go to. Of course, they were not seen leaving because no one was watching."

Mandamus said, "How do they argue that the Solarians have nowhere to go to? There are many empty worlds."

"The argument is that the Solarians cannot live without their incredible crowds of robots and they can't take those robots with them. If they came here, for instance, how many robots do you suppose we could allot to them--if any?"

"And what is your argument against that?"

"I haven't any. Still, whether they are gone or not, the situation is strange and puzzling and it is incredible that no one will move to investigate it. I've warned everyone, just as strenuously as I can, that inertia and apathy will be the end of us; that as soon as the Settler worlds become aware of the fact that Solaria was--or might be--empty, they would have no hesitation in investigating the matter. Those swarmers have a mindless curiosity that I wish we had some share in. They will, without thinking twice, risk their lives if some profit lures them on."

"What profit in this case, Dr. Amadiro?"

"If the Solarians are gone, they have, perforce, left almost all their robots behind. They are--or were--particularly ingenious roboticists and the Settlers, for all their hatred of robots, will not hesitate to appropriate them and ship them to us for good Space credits. In fact, they have announced this.

"Two Settler ships have already landed on Solaria. We have sent a protest over this, but they will surely disregard the protest and, just as surely, we will do nothing further. Quite the contrary. Some of the Spacer worlds are sending out quiet queries as to the nature of the robots that might be salvaged and what their prices would be."

"Perhaps just as well," said Mandamus quietly.

"Just as well that we're behaving exactly as the Settler propagandists say we will? That we act as though we are degenerating and turning into soft pulps of decadence?"

"Why repeat their buzz words, sir? The fact is that we are quiet and civilized and have not yet been touched where it hurts. If we were, we would fight back strongly enough and, I'm sure, smash them. We still far outstrip them technologically."

"But the damage to ourselves will not be exactly pleasurable."

"Which means that we must not be too ready to go to war. If Solaria is deserted and the Settlers wish to plunder it, perhaps we ought to let them. After all, I predict that we will be all set to make our move within months."

A rather hungry and ferocious look came over Amadiro's face. "Months?"

"I'm sure of it. So the first thing we must do is to avoid being provoked. We will ruin everything if we move toward a conflict there is no need to fight and undergo damage--even if we win--that we don't need to suffer. After all, in a little while, we are going to win totally, without fighting and without damage. --Poor Earth!"

"If you're going to be sorry for them," said Amadiro with spurious lightness, "perhaps you'll do nothing to them."

"On the contrary," said Mandamus coolly. "It's precisely because I fully intend to do something to them--and know that it will be done--that I am sorry for them. You will be Chairman!"

"And you will be the head of the Institute."

"A small post in comparison to yours."

"And after I die?" said Amadiro in half a snarl.

"I do not look that far ahead."

"I am quite--" began Amadiro, but was interrupted by the steady buzz of the message unit. Without looking and quite automatically, Amadiro placed his hand at the EXIT slot. He looked at the thin strip of paper that emerged and a slow smile appeared on his lips.

"The two Settler ships that landed on Solaria--" he said.

"Yes, sir?" asked Mandamus, frowning.

"Destroyed! Both destroyed!"

"How?"

"In an explosive blaze of radiation, easily detected from space. You see what it means? The Solarians have not left after all and the weakest of our worlds can easily handle Settler ships. It is a bloody nose for the Settlers and not something they'll forget. -Here, Mandamus, read for yourself."

Mandamus pushed the paper aside. "But that doesn't necessarily mean that the Solarians are still on the planet. They may merely have booby-trapped it somehow."

"What is the difference? Personal attack or booby-trap, the ships were destroyed."

"This time they were caught by surprise. What about next time, when they are prepared? And what if they consider the event a deliberate Spacer attack?"

"We will reply that the Solarians were merely defending themselves against a deliberate Settler invasion."

"But, sir, are you suggesting a battle of words? What if the Settlers don't bother talking, but consider the destruction of their ships an act of war and retaliate at once?"

"Why should they?"

"Because they are as insane as we can be once pride is hurt; more so, since they have a greater background of violence. "

"They will be beaten."

"You yourself admit they will inflict unacceptable damage upon us, even if they are beaten."

"What would you have me do? Aurora did not destroy those ships."

"Persuade the Chairman to make it quite plain that Aurora had nothing to do with it, that none of the Spacer worlds had anything to do with it, that the blame for the action rests on Solaria alone."

"And abandon Solaria? That would be a cowardly act."

Mandamus blazed into excitement. "Dr. Amadiro, have you never heard of anything called a strategic retreat? Persuade the Spacer worlds to back off for only a little while on some plausible pretext. It is only a matter of some months till our plan on Earth comes to fruition. It may be hard for everyone else to back off and be apologetic to the Spacers, for they don't know what is coming--but we do. In fact, you and I, with our special knowledge, can look upon this event as a gift from what used to be called the gods. Let the Settlers remain preoccupied with Solaria while their destruction is prepared--all unobserved by them--on Earth. --Or would you prefer us to be ruined on the very brink of final victory?"

Amadiro found himself flinching before the direct glare of the other's deep-set eyes.

52.

Amadiro had never had a worse time than during the period following the destruction of the Settler ships. The Chairman, fortunately, could be persuaded to follow a policy of what Amadiro termed "masterful yielding." The phrase caught the Chairman's imagination, even though it was an oxymoron. Besides, the Chairman was good at masterful yielding.

The rest of the Council was harder to handle. The exasperated Amadiro exhausted himself in picturing the horrors of war and the necessity of choosing the proper moment to strike--and not the improper one--if war there must be. He invented novel plausibilities for why the moment was not yet and used them in discussions with the leaders of the other Spacer Worlds. Aurora's natural hegemony had to be exercised to the utmost to get them to yield.

But when Captain D. a. Baley arrived with his ship and his demand, Amadiro felt he could do no more. It was too much.

"It is altogether impossible," said Amadiro. "Are we to allow him to land on Aurora with his beard, his ridiculous clothing, his incomprehensible accent? Am I expected to ask the Council to agree to hand over a Spacer woman to him? It would be an act absolutely unprecedented in our history. A Spacer woman!"

Mandamus said dryly, "You have always referred to that particular Spacer woman as 'the Solarian woman.'"

"She is 'the Solarian woman' to us, but she will be considered a Spacer woman once a Settler is involved. If his ship lands on Solaria, as he suggests it will, it may be destroyed as the others were, together with him and the woman. I may then be accused by my enemies, with some color of justification, of murder--and my political career may not survive that."

Mandamus said, "Think, instead, of the fact that we have labored nearly seven years in order to arrange the final destruction of Earth and that we are now only a few

months from the completion of the project. Shall we risk war now and, at a stroke, ruin everything we've done when we are so close to final victory?"

Amadiro shook his head. "It isn't as though I have a choice in the matter, my friend. The Council wouldn't follow me if I try to argue them into surrendering the woman to a Settler. And the mere fact that I have suggested it will be used against me. My political career will be shaken and we may then have a war in addition. Besides, the thought of a Spacer woman dying in service to a Settler is unbearable. "

"One would suppose you were fond of the Solarian woman."

"You know I am not. With all my heart I wish she had died twenty decades ago, but not this way, not on a Settler ship. --But I should remember that she is an ancestress of yours in the fifth generation. "

Mandamus looked a bit more dour than he usually did. "Of what consequence is that to me? I am a Spacer individual, conscious of myself and of my society. I am not an ancestor-worshipping member of a tribal conglomerate."

For a moment, Mandamus fell silent and his thin face took on a look of intense concentration. "Dr. Amadiro," he said, "could you not explain to the Council that this ancestress of mine is being taken, not as a Spacer hostage but only because her unique knowledge of Solaria, where she spent her childhood and youth, could make her an essential part of the exploration and that this exploration might even be helpful to us, as well as to the Settlers? After all, in truth, wouldn't it be desirable for us to know what those miserable Solarians are up to? The woman will presumably bring back a report of the events--if she survives."

Amadiro thrust out his lower lip. "That might work if the woman went on board voluntarily, if she made it clear that she understood the importance of the work and wished to perform her patriotic duty. To put her on board ship by force, though, is unthinkable."

"Well, then, suppose I were to see this ancestress of mine and try to persuade her to get on the ship willingly; and suppose, also, that you speak to this Settler captain by hyperwave and tell them he can land on Aurora and have the woman if he can persuade her to go with him willingly--or, at least, say that she'll go with him willingly, whether she does or not."

"I suppose we can't lose by making the effort, but I don't see how we can win."

Yet to Amadiro's surprise, they did win. He had listened with astonishment as Mandamus told him the details.

"I brought up the matter of the humanoid robots," Mandamus said, "and it's clear she knew nothing about them, from which I deduced Fastolfe had known nothing about them. It has been one of those things that nagged at me. Then I talked a great deal about my ancestry in such a way as to force her to talk of that Earthman Elijah Baley."

"What about him?" said Amadiro harshly.

"Nothing, except that she talked about him and remembered. This Settler who wants her is a descendant of Baley and I thought it might influence her to consider the Settler's request more favorably than she might otherwise have done."

In any case, it had worked and for a few days Amadiro felt a relief from the almost continuous pressure that had plagued him from the start of the Solarian crisis.

But only for a very few days.

53.

One point that worked to Amadiro's advantage at this time was that he had not seen Vasilia, thus far, during the Solarian crisis.

It would certainly not have been an appropriate time to see her. He did not wish to be annoyed by her petty concern over a robot she claimed as her own --with total disregard for the legalities of the situation--at a time when a true crisis exercised his every nerve and thought. Nor did he wish to expose himself to the kind of quarrel that might easily arise between her and Mandamus over the question of which was eventually to preside over the Robotics Institute.

In any case, he had about come to the decision that Mandamus ought to be his successor. Throughout the Solarian crisis, he had kept his eye fixed on what was important. Even when Amadiro himself had felt shaken, Mandamus had remained icily calm. It was Mandamus who thought it conceivable that the Solarian woman might accompany the Settler captain voluntarily and it was he who maneuvered her into doing so.

And if his plan for the destruction of Earth worked itself out as it should--as it must--then Amadiro could see Mandamus succeeding as Council Chairman eventually. It would even be just, thought Amadiro, in a rare burst of selflessness.

On this particular evening, in consequence, he did not so much as expend a thought upon Vasilia. He left the Institute with a small squad of robots seeing him safely to his ground-car. That ground-car, driven by one robot and with two more in the backseat with him, passed quietly through a twilit and chilly rain and brought him to his establishment, where two more robots ushered him indoors. And all this time he did not think of Vasilia.

To find her sitting in his living room, then, in front of his hyperwave set, watching an intricate robot ballet, with several of Amadiro's robots in their niches and two of her own robots behind her chair, struck him at first not as much with the anger of violated privacy, as with pure surprise.

It took some time for him to control his breathing well enough to be able to speak and then his anger arose and he said harshly, "What are you doing here? How did you get in?"

Vasilia was calm enough. Amadiro's appearance was, after all, entirely expected. "What I'm doing here," she said, "is waiting to see you. Getting in was not difficult. Your robots know my appearance very well and they know my standing at the Institute. Why shouldn't they allow me to enter if I assure them I have an appointment with you?"

"Which you haven't. You have violated my privacy."

"Not really. There's a limit to how much trust you can squeeze out of someone else's robots. Look at them. They have never once taken their eyes from me. If I had wanted to disturb your belongings, look through your papers, take advantage of your absence in any way, I assure you I could not have. My two robots are no match against them."

"Do you know," said Amadiro bitterly, "that you have acted in a thoroughly un-Spacer fashion. You are despicable and I will not forget this."

Vasilia seemed to blanch slightly at the adjectives. She said in a low, hard voice, "I hope you don't forget it, Kelden, for I've done what I've done for you--and if I reacted as I should to your foul mouth, I would leave now and let you continue for the rest of your life to be the defeated man you have been for the past twenty decades."

"I will not remain a defeated man--whatever you do."

Vasilia said, "You sound as though you believe that, but, you see, you do not know what I know. I must tell you that without my intervention you will remain defeated. I don't care what scheme you have in mind. I don't care what this thin-lipped, acid-faced Mandamus has cooked up for you--"

"Why do you mention him?" said Amadiro quickly.

"Because I wish to," said Vasilia with a touch of contempt. "Whatever he has done or thinks he is doing--and don't be frightened, for I haven't any idea what that might be--it won't work. I may not know anything else about it, but I do know it won't work."

"You're babbling idiocies," said Amadiro.

"You had better listen to these idiocies, Kelden, if you don't want everything to fall into ruin. Not just you, but possibly the Spacer worlds, one and all. Still, you may not want to listen to me. It's your choice. Which, then, is it to be?"

"Why should I listen to you? What possible reason is there for me to listen to you?"

"For one thing, I told you the Solarians were preparing to leave their world. If you had listened to me then, you would not have been caught so by surprise when they did,"

"The Solarian crisis will yet turn to our advantage."

"No, it will not," said Vasilia. "You may think it will, but it won't. It will destroy you--no matter what you are doing to meet the emergency--unless you are willing to let me have my say."

Amadiro's lips were white and were trembling slightly. The two centuries of defeat Vasilia had mentioned had had a lasting effect upon him and the Solarian crisis had not helped, so he lacked the inner strength to order his robots to see her out, as he should have. He said sullenly. "Well, then, put it in brief."

"You would not believe what I have to say if I did, so let me do it my own way. You can stop me at any time, but then you will destroy the Spacer worlds. Of course, they will last my time and it won't be I who will go down in history--Settler history, by the way--as the greatest failure on record. Shall I speak?"

Amadiro folded into a chair. "Speak, then, and when you are through--leave."

"I intend to, Kelden, unless, of course, you ask me--very politely--to stay and help you. Shall I start?"

Amadiro said nothing and Vasilia began, "I told you that during my stay on Solaria I became aware of some very peculiar positronic pathway patterns they had designed, pathways that struck me--very forcefully--as representing attempts at producing telepathic robots. Now, why should I have thought that?"

Amadiro said bitterly, "I cannot tell what pathological drives may power your thinking."

Vasilia brushed that aside with a grimace. "Thank you, Kelden. --I've spent some months thinking about that, since I was acute enough to think the matter involved not pathology but some subliminal memory. My mind went back to my childhood when Fastolfe, whom I then considered my father, in one of his generous moods--he would experiment now and then with generous moods, you understand--gave me a robot of my own."

"Giskard again?" muttered Amadiro with impatience.

"Yes, Giskard. Giskard, always. I was in my teenage years and I already had the instinct of a roboticist or, I should say, I was born with the instinct. I had as yet very little mathematics, but I had a grasp of patterns. With the passing of scores of decades, my knowledge of mathematics steadily improved, but I don't think I have advanced very far in my feeling for patterns. My father would say, 'Little Vas'--he also experimented in loving diminutives to see how that would affect me--'you have a genius for patterns., I think I did--"

Amadiro said, "Spare me. I'll concede your genius. Meanwhile, I have not yet had my dinner, do you know that?"

"Well, " said Vasilia sharply, "order your dinner and invite me to join you."

Amadiro, frowning, raised his arm perfunctorily and made a quick sign. The quiet motion of robots at work made itself evident at once.

Vasilia said, "I would play with pathway patterns for Giskard. I would come to Fastolfe--my father, as I then thought of him--and I would show him a pattern. He might shake his head and laugh and say, 'If you add that to poor Giskard's brain, he will no longer be able to talk and he will be in a great deal of pain. ' I remember asking if Giskard could really feel pain and my father said, 'We don't know what he would feel, but he would act as we would act if we were in a great deal of pain, so we might as well say he would feel pain.'

"Or else I would take one of my patterns to him and he would smile indulgently and say, 'Well, that won't hurt him, Little Vas, and it might be interesting to try.

"And I would. Sometimes I would take it out again and sometimes I would leave it. I was not simply fiddling with Giskard for the sadistic joy of it, as I imagine I might have been tempted to do if I were someone other than myself. The fact is, I was very fond of Giskard and I had no desire to harm him. When it seemed to me that one of my improvements--I always thought of them as improvements--made Giskard speak more freely or react more quickly or more interestingly--and seemed to do no harm--I would let it stay.

"And then one day --"

A robot standing at Amadiro's elbow would not have dared to interrupt a guest unless a true emergency existed, but Amadiro had no difficulty in understanding the significance of the waiting. He said, "Is dinner ready?"

"Yes, sir," said the robot.

Amadiro gestured rather impatiently in Vasilisa's direction. "You are invited to have dinner with me."

They walked into Amadiro's dining room, which Vasilisa had never entered before. Amadiro was, after all, a private person and was notorious for his neglect of the social amenities. He had been told more than once that he would succeed better in politics if he entertained in his home and he had always smiled politely and said, "Too high a price."

It was perhaps because of his failure to entertain, thought Vasilisa, that there was no sign of originality or creativity in the furnishings. Nothing could be plainer than the table, the dishes, and the cutlery. As for the walls, they were merely flat-colored vertical planes. Put together, in rather dampened one's appetite, she thought.

The soup they began with--a clear boullion--was as plain as the furniture and Vasilisa began to dispose of it without enthusiasm.

Amadiro said, "My dear Vasilisa, you see I am being patient. I have no objection to having you write your autobiography if you wish. But is it really your plan to recite several chapters of it to me? If it is, I must tell you bluntly that I'm not really interested."

Vasilisa said, "You will become extremely interested in just a little while. Still, if you're really enamored of failure and want to continue to achieve nothing you wish to achieve, simply say so. I will then eat in silence and leave. Is that what you wish?"

Amadiro sighed. "Well, go on, Vasilisa."

Vasilisa said, "And then one day I came up with a pattern more elaborate, more pleasant, and more enticing than I had ever seen before or, in all truth, than I have ever seen since. I would have loved to show it to my father, but he was away at some meeting or other on one of the other worlds.

"I didn't know when he'd be back and I put aside my pattern, but each day I would look at it with more interest and more fascination. Finally, I could wait no longer. I simply could not. It seemed so beautiful that I thought it ludicrous to suppose it could do harm. I was only an infant in my second decade and had not yet completely outgrown irresponsibility, so I modified Giskard's brain by incorporating the pattern into it.

"And it did no harm. That was immediately obvious. He responded to me with perfect ease and—it seemed to me--was far quicker in understanding and much more intelligent than he had been. I found him far more fascinating and lovable than before.

"I was delighted and yet I was nervous, too. What I had done--modifying Giskard without clearing it with Fastolfe--was strictly against the rules Fastolfe had set for me and I knew that well. Yet clearly, I was not going to undo what I had done. When I had modified Giskard's brain, I excused it to myself by saying that it would only be for a little while and that I would then neutralize the modification. Once the modification had been made, however, it became quite clear to me that I would not neutralize it. I was simply not

going to do that. In fact, I never modified Giskard again, for fear of disturbing what I had just done.

"Nor did I ever tell Fastolfe what I had done. I destroyed all record of the marvelous pattern I had devised and Fastolfe never found out that Giskard had been modified without his knowledge. Never!

"And then we went our separate ways, Fastolfe and I, and Fastolfe would not give up Giskard. I screamed that he was mine and that I loved him, but Fastolfe's kindly benevolence, of which he made such a parade all his life--that business of loving an things, great and small--was never allowed to stand in the way of his own desires. I received other robots I cared nothing for, but he kept Giskard for himself.

"And when he died, he left Giskard to the Solarian woman--a last bitter slap at me."

Amadiro had only managed to get halfway through the salmon mousse. "If an this is intended to advance your case of having Giskard's ownership transferred from the Solarian woman to yourself, it won't help. I have already explained to you why I cannot set aside Fastolfe's will."

"There's something more to it than that, Kelden," said Vasilia. "A great deal more. Infinitely more. Do you want me to stop now?"

Amadiro stretched his lips into a rueful grin. "Having listened to so much of this, I will play the madman and listen to more."

"You would play the madman if you did not, for I now come to the point. --I have never stopped thinking of Giskard and of the cruelty and injustice of my having been deprived of him, but somehow I never thought of that pattern with which I had modified him with no one's knowledge but my own. I am quite certain I could not have reproduced that pattern if I had tried and from what I can now remember it was like nothing else I have ever seen in robotics until--until I saw, briefly, something like that pattern during my stay on Solaria.

"The Solarian pattern seemed familiar to me, but I didn't know why. It took some weeks of intense thought before I dredged out of some well-hidden part of my unconscious mind the slippery thought of that pattern I had dreamed out of nothing twenty-five decades ago.

"Even though I can't remember my pattern exactly, I know that the Solarian pattern was a whiff of it and no more. It was just the barest suggestion of something I had captured in miraculously complex symmetry. But I looked at the Solarian pattern with the experience I had gained in twenty-five decades of deep immersion in robotics theory and it suggested telepathy to me. If that simple, scarcely interesting pattern suggested it, what must my original have meant--the thing I invented as a child and have never recaptured since?"

Amadiro said, "You keep saying that you're coming to the point, Vasilia. Would I be completely unreasonable if I asked you to stop moaning and reminiscing and simply set out that point in a simple, declarative sentence?"

Vasilia said, "Gladly. What I am telling you, Kelden, is that, without my ever knowing it, I converted Giskard into a telepathic robot and that he has been one ever since."

54.

Amadiro looked at Vasilia for a long time and, because the story seemed to have come to an end, he returned to the salmon mousse and ate some of it thoughtfully.

He then said, "Impossible! Do you take me for an idiot?"

"I take you for a failure," said Vasilia. "I don't say Giskard can read conversations in minds, that he can transmit and receive words or ideas. Perhaps that is impossible, even in theory. But I am quite certain he can detect emotions and the general set of mental activity and perhaps can even modify it."

Amadiro shook his head violently. "Impossible!"

"Impossible? Think a while. Twenty decades ago, you had almost achieved your aims. Fastolfe was at your mercy, Chairman Horder was your ally. What happened? Why did everything go wrong?"

'The Earthman--' Amadiro began, choking at the memory.

"The Earthman," Vasilia mimicked. "The Earthman. Or was it the Solarian woman? It was neither! Neither! It was Giskard, who was there all the time. Sensing. Adjusting."

"Why should he be interested? He is a robot. "

"A robot loyal to his master, to Fastolfe. By the First Law, he had to see to it that Fastolfe came to no harm and, being telepathic, he could not interpret that as signifying physical harm only. He knew that if Fastolfe could not have his way, could not encourage the settlement of the habitable worlds of the Galaxy, he would undergo profound disappointment--and that would be 'harm' in Giskard's telepathic Universe. He could not let that happen and he intervened to keep it from happening."

"No, no, no," said Amadiro in disgust. "You want that to be so, out of some wild, romantic longing, but that doesn't make it so. I remember too well what happened. It was the Earthman. It needs no telepathic robot to explain the events."

"And what has happened since, Kelden?" demanded Vasilia. "In twenty decades, have you ever managed to win out over Fastolfe? With all the facts in your favor, with the obvious bankruptcy of Fastolfe's policy, have you ever been able to dispose of a majority in the Council? Have you ever been able to sway the Chairman to the point where you could possess real power?"

"How do you explain that, Kelden? In all those twenty decades, the Earthman has not been on Aurora. He has been dead for over sixteen decades, his miserably short life running out in eight decades or so. Yet you continue to fail--You have an unbroken record of failure. Even now that Fastolfe is dead, have you managed to profit completely from the broken pieces of his coalition or do you find that success still seems to elude you?"

"What is it that remains? The Earthman is gone. Fastolfe is gone. It is Giskard who has worked against you all this time--and Giskard remains. He is as loyal now to the Solarian woman as he was to Fastolfe and the Solarian woman has no cause to love you, I think."

Amadiro's face twisted into a mask of anger and frustration. "It's not so. None of this is so. You're imagining things."

Vasilia remained quite cool. "No, I'm not. I'm explaining things. I've explained things you haven't been able to explain. Or have you an alternate explanation? --and I can give you the cure. Transfer ownership of Giskard from the Solarian woman to me and, quite suddenly, events will begin to twist themselves to your benefit."

"No," said Amadiro. "They are moving to my benefit already."

"You may think so, but they won't, as long as Giskard is working against you. No matter how close you come to winning, no matter how sure of victory you become, it will all melt away as long as you don't have Giskard on your side. That happened twenty decades ago; it will happen now."

Amadiro's face suddenly cleared. He said, "Well, come to think of it, though I don't have Giskard and neither do you, it doesn't matter, for I can show you that Giskard is not telepathic. If Giskard were telepathic, as you say, if he had the ability to order affairs to his own liking or to the liking of the human being who is his owner, then why would he have allowed the Solarian woman to be taken to what will probably be her death?"

"Her death? What are you talking about, Kelden?"

"Are you aware, Vasilia, that two Settler ships have been destroyed on Solaria? Or have you been doing nothing lately but dreaming of patterns and of the brave days of childhood when you were modifying your pet robot?"

"Sarcasm doesn't become you, Kelden. I have heard about the Settler ships on the news. What of them?"

"A third Settler ship is going out to investigate. It may be destroyed, too."

"Possibly. On the other hand, it would take precautions. "

"It did. It demanded and received the Solarian woman, feeling that she knows the planet well enough to enable them to avoid destruction. "

Vasilia said, "That's scarcely likely, since she hasn't been there in twenty decades."

"Right! The chances are, then, that she'll die with them. It would mean nothing to me personally. I would be delighted to have her dead and, I think, so would you. And, putting that to one side, it would give us good grounds for complaint to the Settler worlds and it would make it difficult for them to argue that the destruction of the ships is a deliberate action on the part of Aurora. Would we destroy one of our own? --Now the question is, Vasilia, why would Giskard, if he had the powers you claim he has--and the loyalties allow the Solarian woman to volunteer to be taken to what is very likely to be her death?"

Vasilia was taken aback. "Did she go of her own free will?"

"Absolutely. She was perfectly willing. It would have been politically impossible to force her to do so against her will."

"But I don't understand--"

"There is nothing to understand except that Giskard is merely a robot."

For a moment, Vasilisa froze in her seat, one hand to her chin. Then she said slowly, "They don't allow robots on Settler worlds or on Settler ships. That means she went alone. Without robots."

"Well, no, of course not. They had to accept personal robots if they expected to get her willingly. They took along that man-mimic robot Daneel and the other was"--he paused and brought out the word with a hiss--"Giskard. Who else? So this miracle robot of your fantasy goes to his destruction as well. He could no more--"

His voice faded away. Vasilisa was on her feet, eyes blazing, face suffused with color.

"You mean Giskard went? He's off this world and on a Settler ship? Kelden, you may have ruined us all!"

55.

Neither finished the meal.

Vasilisa walked hastily out of the dining room and disappeared into the Personal. Amadiro, struggling to remain coldly logical, shouted to her through the closed door, perfectly aware that it damaged his dignity to do so.

He called out, "It's all the stronger an indication that Giskard is no more than a robot. Why should he be willing to go to Solara to face destruction with his owner?"

Eventually, the sound of running water and splashing ceased and Vasilisa emerged with her face freshly washed and almost frozen in its grip on calmness.

She said, "You really don't understand, do you? You amaze me, Kelden. Think it through. Giskard can never be in danger, as long as he can influence human minds, can he? Nor can the Solarian woman, as long as Giskard devotes himself to her. The Settler who carried off the Solarian woman must have found out, on interviewing her, that she had not been on Solara in twenty decades, so he can't really have continued to believe, after that, that she could do him much good. With her he took Giskard, but he didn't know that Giskard could do him good, either--or could he have known that?"

She thought a while and then said slowly, "No, there is no way he could have known it. If, in more than twenty decades, no one has penetrated the fact that Giskard has mental abilities, then Giskard is clearly interested in having no one guess it--and if that is so, then no one can possibly have guessed it. "

Amadiro said spitefully, "You claim to have worked it out."

Vasilisa said, "I had special knowledge, Kelden, and even so it was not till now that I saw the obvious--and then only because of the hint on Solara. Giskard must have darkened my mind in that respect, too, or I would have seen it long ago. I wonder if Fastolfe knew--"

"How much easier," said Amadiro restlessly, "to accept the simple fact that Giskard is simply a robot."

"You will walk the easy road to ruin, Kelden, but I don't think I will let you do that, no matter how much you want to. --What it amounts to is that the Settler came for the Solarian woman and took her along, even though he discovered she would be of little--if any--use to him. And the Solarian woman volunteered to go, even though she must dread being on a Settler ship along with diseased barbarians--and even though her destruction on Solaria must have seemed to her a very likely consequence.

"It seems to me, then, that this is all the work of Giskard, who forced the Settler to continue to demand the Solarian woman against reason and forced the Solarian woman to accede to the request against reason. "

Amadiro said, "But why? May I ask that simple question? Why?"

"I suppose, Kelden, that Giskard felt it was important to get away from Aurora. --Could he have guessed that I was on the point of learning his secret? If so, he may well have been uncertain of his present ability to tamper with me. I am, after all, a skilled roboticist. Besides, he would remember that he was once mine and a robot does not easily ignore the demands of loyalty. The only way, perhaps, that he felt he could keep the Solarian woman secure was to move himself away from my influence."

She looked up at Amadiro and said firmly, "Kelden, we must get him back. We can't let him work at promoting the Settler cause in the safe haven of a Settler world. He did enough damage right here among us. We must get him back and you must make me his legal owner. I can handle him, I assure you, and make him work for us. Remember! I am the only one who can handle him."

Amadiro said, "I do not see any reason to worry. In the very likely case that he is a mere robot, he will be destroyed on Solaria and we will be rid of both him and the Solarian woman. In the unlikely case that he is what you say he is, he won't be destroyed on Solaria, but then he will have to return to Aurora. After all, the Solarian woman, though she is not an Auroran by birth, has lived on Aurora far too long to be able to face life among the barbarians--and when she insists on returning to civilization, Giskard will have no alternative but to return with her."

Vasilisa said, "After all this, Kelden, you still don't understand Giskard's abilities. If he feels it important to remain away from Aurora, he can easily adjust the Solarian woman's emotions in such a way as to make her stand life on a Settler world, just as he made her willing to board a Settler ship."

"Well, then, if necessary, we can simply escort that Settler ship--with the Solarian woman and with Giskard--back to Aurora."

"How do you propose to do that?"

"It can be done. We are not fools here on Aurora, for all that it seems clearly your opinion that you yourself are the only rational person on the planet. The Settler ship is going to Solaria to investigate the destruction of the earlier two ships, but I hope you don't think we intend to depend upon its good offices or even upon those of the Solarian woman. We are sending two of our warships to Solaria and we do not expect that they

will have trouble. If there are Solarians still on the planet, they may be able to destroy primitive Settler ships, but they won't be able to touch an Auroran vessel of war. If, then, the Settler ship, through some magic on the part of Giskard --"

"Not magic," Vasilia interrupted tartly. "Mental influence."

"If, then, the Settler ship, for whatever reason, should be able to rise from the surface of Solaria, our ships will cut them off and politely ask for the delivery of the Solarian woman and her robots. Failing that, they will insist that the Settler ship accompany our ship to Aurora. There will be no hostility about it. Our ship will merely be escorting an Auroran national to her home world. Once the Solarian woman and her two robots disembark in Aurora, the Settler ship will then be able to proceed at will to its own destination."

Vasilia nodded wearily at this. "It sounds good, Kelden, but do you know what I suspect will happen?"

"What, Vasilia?"

"It is my opinion that the Settler ship will rise from the surface of Solaria, but that our warships won't. Whatever is on Solaria can be countered by Giskard, but, I fear, by nothing else."

"If that happens," said Amadiro with a grim smile, "then I'll admit there may be something, after all, to your fantasy. --But it won't happen."

56.

The next morning Vasilia's chief personal robot, delicately designed to appear female, came to Vasilia's bedside. Vasilia stirred and, without opening her eyes, said, "What is it, Nadila?" (There was no need to open her eyes. In many decades, no one had ever approached her bedside but Nadila.)

Nadila said softly, "Madam, you are desired at the Institute by Dr. Amadiro."

Vasilia's eyes flew open. "What time is it?"

"It is 0517, madam."

"Before sunrise?" Vasilia was indignant.

"Yes, madam."

"When does he want me?"

"Now, madam. "

"Why?"

"His robots have not informed us, madam, but they say it is important."

Vasilia threw aside the bed sheets. "I will have breakfast first, Nadila, and a shower before that. Inform Amadiro's robots to take visitors' niches and wait. If they urge speed, remind them they are in my establishment."

Vasilia, annoyed, did not hasten unduly. If anything, her toilette was more painstaking than usual and her breakfast more leisurely. (She was not ordinarily one to

spend much time over either.) The news, which she watched, gave no indication of anything that might explain Amadiro's call.

By the time the ground-car (containing herself and four robots --two of Amadiro's and two of her own) had brought her to the Institute, the sun was making its appearance over the horizon.

Amadiro looked up and said, "You are finally here, then." The walls of his office were still glowing, though their light was no longer needed.

"I'm sorry," said Vasilia stiffly. "I quite realize that sunrise is a terribly late hour at which to begin work."

"No games, Vasilia, please. Very soon I will have to be at the Council chamber. The Chairman has been up longer than I have. --Vasilia, I apologize, quite humbly, for doubting you."

"The Settler ship has lifted off safely, then."

"Yes. And one of our ships has been destroyed, as you predicted. --The fact has not been publicized yet, but the news will leak out eventually, of course."

Vasilia's eyes widened. She had predicted this outcome with a bit more in the way of outward confidence than she had felt, but clearly this was not the time to say so. What she did say was "Then you accept the fact that Giskard has extraordinary powers."

Cautiously, Amadiro said, "I don't consider the matter to be mathematically proven, but I'm willing to accept it pending further information. What I want to know is what we ought to do next. The Council knows nothing of Giskard and I do not propose to tell them."

"I'm glad your thinking is clear to that extent, Kelden."

"But you're the one who understands Giskard and you can best tell what ought to be done. What do I tell the Council, then, and how do I explain the action without giving away the whole truth?"

"It depends. Now that the Settler ship has left Solaria, where is it going? Can we tell? After all, if it is returning now to Aurora, we need do nothing but prepare for its arrival."

"It is not coming to Aurora," said Amadiro emphatically. "You were right here, too, it seems. Giskard--assuming he is running the show--seems determined to stay away. We have intercepted the ship's messages to its own world. Encoded, of course, but there isn't a Settler code we haven't broken --"

"I suspect they've broken ours, too. I wonder why everyone won't agree to send messages in the clear and save a lot of trouble."

Amadiro shrugged it away. "Never mind that. The point is that the Settler ship is going back to its own planet."

"With the Solarian woman and the robots?"

"Of course."

"You're sure of that? They haven't been left on Solaria?"

"We're sure of that," said Amadiro impatiently. "Apparently, the Solarian woman was responsible for their getting off the surface."

"She? In what way?"

"We don't yet know."

Vasilia said, "It had to be Giskard. He made it appear to be the Solarian woman."

"And what do we do now?"

"We must get Giskard back."

"Yes, but I can't very well persuade the Council to risk an interstellar crisis over the return of a robot."

"You don't, Kelden. You ask for the return of the Solarian woman, something we certainly have a right to request. And do you think for one moment she would return without her robots? Or that Giskard will allow the Solarian woman to return without him? Or that the Settler world would want to keep the robots if the Solarian woman returns? Ask for her. Firmly. She's an Auroran citizen, lent out for a job on Solaria, which is done, and she must now be returned forthwith. Make it belligerent, as though it were a threat of war."

"We can't risk war, Vasilia."

"You won't risk it. Giskard can't take an action that might lead directly to war. If the Settler leaders resist and become belligerent in their return, Giskard will perforce make the necessary modifications in the attitude of the Settler leaders so as to have the Solarian woman returned peaceably to Aurora. And he himself will, of course, have to return with her."

Amadiro said drearily, "And once he's back, he will alter us, I suppose, and we will forget his powers, and disregard him, and he will still be able to follow his own plan whatever it is."

Vasilia leaned her head back and laughed. "Not a chance. I know Giskard, you see, and I can handle him. Just bring him back and persuade the Council to disregard Fastolfe's will--it can be done and you can do it--and to assign Giskard to me. He will then be working for us; Aurora will rule the Galaxy; you will spend the remaining decades of your life as Chairman of the Council; and I will succeed you as the head of the Robotics Institute."

"Are you sure it will work out that way?"

"Absolutely. Just send the message and make it strong and I will guarantee all the rest--victory for the Spacers and ourselves, defeat for Earth and the Settlers."

14. THE DUEL

57.

Gladia watched Aurora's globe on the screen. Its cloud cover seemed caught in mid-swirl along the thick crescent that was shining in the light of its sun.

"Surely we're not that close," she said.

D.G. smiled. "By no means. We're seeing it through a rather good lens. It's still several days away, counting the spiral approach. If we ever get an antigravitic drive, which the physicists keep dreaming about but seem helpless to bring about, spaceflight will become really simple and fast. As it is, our Jumps can only deliver us safely to a rather goodish distance from a planetary mass. "

"It's odd," said Gladia thoughtfully.

"What is, madam?"

"When we went to Solaria, I thought to myself. 'I'm going home,' but when I landed I found that I wasn't home at all. Now we're going to Aurora and I thought to myself, 'Now I'm going home,' and yet--that world down there isn't home, either."

"Where is home, then, madam?"

"I'm beginning to wonder. --But why do you persist in calling me 'madam'?"

D.G. looked surprised. "Do you prefer 'Lady Gladia,' Lady Gladia?"

"That's also mock respect. Do you feel that way about me?"

"Mock respect? Certainly not. But how else does a Settler address a Spacer? I'm trying to be polite and to conform to your customs--to do what makes you feel comfortable."

"But it doesn't make me feel comfortable. Just call me Gladia. I've suggested it before. After all, I call you 'D.G.'"

"And that suits me fine, although in front of my officers and men, I would prefer to have you address me as 'Captain,' and I will call you 'madam.' Discipline must be maintained."

"Yes, of course," said Gladia absently, staring at Aurora again. "I have no home."

She whirled toward D.G., "Is it possible that you might take me to Earth, D.G.?"

"Possible," said D.G., smiling. "You might not want to go--Gladia."

"I think I want to go," said Gladia, "unless I lose my courage."

"Infection does exist," said D.G., "and that's what Spacers fear, isn't it?"

"Too much, perhaps. After all, I knew your Ancestor and wasn't infected. I have been on this ship and have survived. Look, you're near me right now. I was even on your world, with thousands crowding near me. I think I've worked up a certain amount of resistance."

"I must tell you, Gladia, that Earth is a thousand times as crowded as Baleyworld."

"Even so," said Gladia, her voice warming, "I've changed my mind completely--about many things. I've told you there was nothing left to live for after twenty-three decades and it turns out there is. What happened to me on Baleyworld--that talk I gave, the way it moved people--was something new, something I'd never imagined. It was like being born allover, starting again at the first decade. It seems to me now that, even if Earth kills me, it would be worth it, for I would die young and trying and fighting death, not old and weary and welcoming it."

"Well!" said D.G., lifting his arms in a mock-heroic gesture, "you sound like a hyperwave historical. Have you ever watched them on Aurora?"

"Of course. They're very popular."

"Are you rehearsing for one, Gladia, or do you really mean what you say?"

Gladia laughed. "I suppose I do sound rather silly, D.G., but the funny thing is that I do mean it--if I don't lose my courage."

"In that case, we'll do it. We'll go to Earth. I don't think they'll consider you worth a war, especially if you report fully on events on Solaria, as they want you to, and if you give your word of honor as a Spacer woman--if you do things like that--to return."

"But I won't."

"But you may want to someday. --And now, my lady--I mean, Gladia--it is always a pleasure to speak with you, but I'm always tempted to spend too much time at it and I am certain I am needed in the control room. If I'm not and they can do without me, then I'd rather they didn't find out."

58.

"Was that your doing, friend Giskard?"

"To what is it that you refer, friend Daneel?"

"Lady Gladia is anxious to go to Earth and even perhaps not to return. That is a desire so antithetical to what a Spacer such as she would want that I cannot help but suspect that you did something to her mind to make her feel so."

Giskard said, "I did not touch her. It is difficult enough to tamper with any human being within the cage of the Three Laws. To tamper with the mind of the particular individual for whose safety one is directly responsible is more difficult still. "

"Then why does she wish to go to Earth?"

"Her experiences on Baleyworld have changed her point of view considerably. She has a mission--that of ensuring peace in the Galaxy--and burns to work at it."

"In that case, friend Giskard, would it not be better to do what you can to persuade the captain, in your own fashion, to go to Earth directly?"

"That would create difficulties. The Auroran authorities are so insistent on Lady Gladia being returned to Aurora that it would be better to do so, at least temporarily."

"Yet it could be dangerous to do so," said Daneel.

"Then you still think, friend Daneel, that it is I whom they want to retain because they have learned of my abilities?"

"I see no other reason for their insistence on Lady Gladia's return."

Giskard said, "Thinking like a man has its pitfalls, I see. It becomes possible to suppose difficulties that cannot exist. Even if someone on Aurora were to suspect the existence of my abilities, it is with those abilities that I would remove the suspicion. There is nothing to fear, friend Daneel."

And Daneel said reluctantly, "As you say, friend Giskard."

Gladia looked about thoughtfully, sending off the robots with a careless motion of her hand.

She looked at her hand, as she did so, almost as though she were seeing it for the first time. It had been the hand with which she had shaken the hand of each of the crewmen of the ship before getting into the small tender that took her and D.G. down to Aurora. When she promised to return, they had cheered her and Niss had bawled out, "We won't leave without you, my lady."

The cheering had pleased her enormously. Her robots served her endlessly, loyally, patiently, but they never cheered her.

D.G., watching her curiously, said, "Surely you are at home now, Gladia."

"I am in my establishment," she said in a low voice. "It has been my establishment since Dr. Fastolfe assigned it to me twenty decades ago and yet it feels strange to me."

"It is strange to me," said D.G. "I'd feel rather lost staying here alone." He looked about with a half-smile at the ornate furnishings and the elaborately decorated walls.

"You won't be alone, D.G.," said Gladia. "My household robots will be with you and they have full instructions. They will devote themselves to your comfort."

"Will they understand my Settler accent?"

"If they fail to understand, they will ask you to repeat and you must then speak slowly and make gestures. They will prepare food for you, show you how to use the facilities in the guest rooms--and they will also keep a sharp eye on you to make sure that you do not act in an unguestly manner. They will stop you --if necessary --but they will do so without hurting you."

"I trust they won't consider me nonhuman."

"As the overseer did? No, I guarantee you that, D.G., though your beard and accent may confuse them to the point where they will be a second or two slow in reacting."

"And I suppose they'll protect me against intruders?"

"They will, but there won't be any intruders."

"The Council may want to come and get me."

"Then they will send robots and mine will turn them away."

"What if their robots overpower your robots?"

"That can't happen, D.G. An establishment is inviolate."

"Come on, Gladia. Do you mean that nobody has ever--"

"Nobody has ever!" she replied at once. "You just stay here comfortably and my robots will take care of all your needs. If you want to get in touch with your ship, with Baleyworld, even with the Auroran Council, they will know exactly what to do. You won't have to lift a finger."

D.G. sank down into the nearest chair, spread himself out over it, and sighed deeply. "How wise we are to allow no robots on the Settler worlds. Do you know how long it would take to corrupt me into idleness and sloth if I stayed in this kind of society?"

Five minutes at most. In fact, I'm corrupted already." He yawned and stretched luxuriously. "Would they mind if I sleep?"

"Of course they wouldn't. If you do, the robots will see to it that your surroundings are kept quiet and dark. "

Then D.G. straightened suddenly. "What if you don't come back?"

"Why shouldn't I come back?"

"The Council seems to want you rather urgently."

"They can't hold me. I'm a free Auroran citizen and I go where I please."

"There are always emergencies when a government wishes to manufacture one-- and in an emergency, rules can always be broken."

"Nonsense. Giskard, am I going to be kept there?"

Giskard said, "Madam Gladia, you will not be kept there. The captain need not be concerned with respect to that."

"There you are, D.G. And your Ancestor, the last time he saw me, told me I was always to trust Giskard."

"Good! Excellent! Just the same, the reason I came down with you, Gladia, was to make sure I get you back. Remember that and tell it to your Dr. Amadiro if you have to. If they try to keep you against your will, they will have to try to keep me as well--and my ship, which is in orbit, is fully capable of reacting to that. "

"No, please," said Gladia, disturbed. "Don't think of doing that. Aurora has ships as well and I'm sure yours is under observation."

"There's a difference, though, Gladia. I doubt very much that Aurora would want to go to war over you. Baleyworld, on the other hand, would be quite prepared to."

"Surely not. I wouldn't want them to go to war on my account. And why should they, anyway? Because I was a friend of your Ancestor?"

"Not exactly. I don't think anyone can quite believe that you were that friend. Maybe your great-grandmother, not you. Even I don't believe it was you."

"You know it was I."

"Intellectually, yes. Emotionally, I find it impossible. That was twenty decades ago."

Gladia shook her head. "You have the short-lived view."

"Maybe we all do, but it doesn't matter. What makes you important to Baleyworld is the speech you gave. You're a heroine and they will decide you must be presented at Earth. Nothing will be allowed to prevent that."

Gladia said, a trifle alarmed, "Presented at Earth? With full ceremony?"

"The fullest."

"Why should that be thought so important as to be worth a war?"

"I'm not sure I can explain that to a Spacer. Earth is a special world. Earth is a--holy world. It's the only real world. It's where human beings came into being and it's the only world in which they evolved and developed and lived against a full background of life. We have trees on Baleyworld and insects--but on Earth they have a wild riot of trees and insects that none of us ever see except on Earth. Our worlds are imitations, pale

imitations. They don't exist and can't exist except for the intellectual, cultural, and spiritual strength they draw from Earth."

Gladia said, "This is quite opposed to the opinion of Earth held by Spacers. When we refer to Earth, which we seldom do, it is as a world that is barbarous and in decay."

D.G. flushed. "That is why the Spacerworlds have been growing steadily weaker. As I said before, you are like plants that have pulled themselves loose from their roots, like animals that have cut out their hearts."

Gladia said, "Well, I look forward to seeing Earth for myself, but I will have to go now. Please treat this as your own establishment till I return." She walked briskly toward the door, stopped, then turned. "There are no alcoholic drinks in this establishment or anywhere on Aurora, no tobacco, no alkaloidal stimulants, nothing of any artificial kinds of--of whatever you may be used to."

D.G. grinned sourly. . . We Settlers are aware of that. Very puritanical, you people."

"Not puritanical at all," said Gladia, frowning. "Thirty to forty decades of life must be paid for--and that's one of the ways. You don't suppose we do it by magic, do you?"

"Well, I'll make do on healthful fruit juices and sanitized near-coffee--and I'll smell flowers."

"You'll find an ample supply of such things," said Gladia coldly, "and when you get back to your ship, I'm sure you can compensate for any withdrawal symptoms you will now suffer."

"I will suffer only from your withdrawal, my lady," said D.G. gravely.

Gladia found herself forced to smile. "You're an incorrigible liar, my captain. I'll be back. --Daneel. --Giskard."

60.

Gladia sat stiffly in Amadiro's office. In many decades, she had seen Amadiro only in the distance or on a viewing screen--and on such occasions, she had made it a practice to turn away. She remembered him only as Fastolfe's great enemy and now that she found herself, for the first time, in the same room with him--in face-to-face confrontation--she had to freeze her face into expressionlessness, in order not to allow hate to peep through.

Although she and Amadiro were the only palpable human beings in the room, there were at least a dozen high officials--the Chairman himself among them--who were present by way of sealed-beam holovision. Gladia had recognized the Chairman and some of the others, but not all.

It was rather a grisly experience. It seemed so like the viewing that was universal of Solaria and to which she had been so accustomed as a girl--and which she recalled with such distaste.

She made an effort to speak clearly, undramatically, and concisely. When asked a question, she was as brief as was consistent with clarity and as noncommittal as was consistent with courtesy.

The Chairman listened impassively and the others took their cue from him. He was clearly elderly--Chairmen always were, somehow; for it was usually late in life that they attained the position. He had a long face, a still-thick head of hair, and prominent eyebrows. His voice was mellifluous, but in no way friendly.

When Gladia was done, he said, "It is your suggestion, then, that the Solarians had redefined 'human being' in a narrow sense that restricted it to Solarians."

"I do not suggest anything, Mr. Chairman. It is merely that no one has been able to think of another explanation that would account for the events."

"Are you aware, Madam Gladia, that in all the history of robotic science, no robot has ever been designed with a narrowed definition of 'human being'?"

"I am not a roboticist, Mr. Chairman, and I know nothing of the mathematics of positronic pathways. Since you say it has never been done, I, of course, accept that. I cannot say, of my own knowledge, however, whether the fact that it has never been done means that it can never be done in the future."

Her eyes had never looked as wide and innocent as they did now and the Chairman flushed and said, "It is not theoretically impossible to narrow the definition, but it is unthinkable."

Gladia said, with a downcast glance at her hands, which were loosely clasped in her lap, "People can think such peculiar things sometimes."

The Chairman changed the subject and said, "An Auroran ship was destroyed. How do you account for that?"

"I was not present at the site of the incident, Mr. Chairman. I have no idea what happened, so I can't account for it. "

"You were on Solara and you were born on the planet. Given your recent experience and early background, what would you say happened?" The Chairman showed signs of a badly strained patience.

"If I must guess," said Gladia, "I should say that our warship was exploded by the use of a portable nuclear intensifier similar to the one that was almost used on the Settler ship."

"Does it not strike you, however, that the two cases are different. In one, a Settler ship invaded Solara to confiscate Solarian robots; in the other, an Auroran vessel came to Solara to help protect a sister planet."

"I can only suppose, Mr. Chairman, that the overseers--the humanoid robots left to guard the planet--were insufficiently well-instructed to know the difference."

The Chairman looked offended. "It is inconceivable that they would not be instructed in the difference between Settlers and fellow Spacers."

"If you say so, Mr. Chairman. Nevertheless, if the only definition of a human being is someone with the physical appearance of a human being, together with the ability to speak in Solarian fashion--as it seemed to us, who were on the spot, that it must be--then

Aurorans, who do not speak in Solarian fashion, might not fall under the heading of human beings where the overseers were concerned."

"Then you are saying that the Solarians defined their fellow Spacers as nonhuman and subjected them to destruction."

"I present it merely as a possibility because I can't think of any other way to explain the destruction of any Auroran warship. More experienced people may be able to present alternate explanations, to be sure." Again that innocent, almost blank, look.

The Chairman said, "Are you planning to return to Solaria, Madam Gladia?"

"No, Mr. Chairman, I have no such plan."

"Have you been requested to do so by your Settler friend, in order to clear the planet of its overseers?"

Slowly Gladia shook her head. "I have not been requested to do this. Had I been, I would have refused. Nor did I go to Solaria, to begin with, for any reason but that of fulfilling my duty to Aurora. I was requested to go to Solaria by Dr. Levular Mandamus of the Robotics Institute, working under Dr. Kelden Amadiro. I was requested to go so that, on my return, I might report on events--as I have just done. The request had, to my ears and understanding, the flavor of an order and I took the order"--she glanced briefly in Amadiro's direction--"as coming from Dr. Amadiro himself."

Amadiro made no visible response to that.

The Chairman said, "What are your plans for the future, then?"

Gladia waited a heartbeat or two, then decided she might as well confront the situation boldly.

"It is my intention, Mr. Chairman," said Gladia, speaking very clearly, "to visit Earth."

"Earth? Why should you wish to visit Earth?"

"It may be important, Mr. Chairman, for Auroran authorities to know what is taking place on Earth. Since I have been invited by the Baleyworld authorities to visit Earth and since Captain Baley stands ready to take me there, it would be an opportunity to bring back a report on events--as I have now reported on events taking place on Solaria and on Baleyworld. "

Well, then, thought Gladia, will he violate the custom and, in effect, imprison her on Aurora? If so, there had to be ways of challenging the decision.

Gladia felt her tension rising and she cast a quick glance in the direction of Daneel, who, of course, seemed totally impassive.

However, the Chairman, looking sour, said, "In that respect, Madam Gladia, you have the right of an Auroran to do as you wish--but it will be on your own responsibility. No one is requesting this of you, as some requested, according to you, your visit to Solaria. For that reason I must warn you that Aurora will not feel bound to help you in case of any misadventure."

"I understand that, sir."

The Chairman said brusquely, "There will be much to discuss on the matter later on, Amadiro. I will be in touch with you."

The images blanked out and Gladia found herself and her robots suddenly alone with Amadiro and his robots.

61.

Gladia rose and said stiffly, carefully refusing to look directly at Amadiro as she did so, "The meeting, I presume, is over, so I will now leave."

"Yes, of course, but I have a question or two, which I hope you don't mind my asking." His tall figure seemed overwhelming as he rose and he smiled and addressed her in all courtesy as though friendliness were long established between them. "Let me escort you, Lady Gladia. So you are going to Earth?"

"Yes. The Chairman raised no objections and an Auroran citizen may freely travel through the Galaxy in time of peace. And pardon me, but my robots--and yours, if necessary--will be sufficient escort."

"As you say, my lady." A robot held the door open for them. "I assume you will take robots with you when you go to Earth."

"There's no question as to that."

"Which robots, madam, if I may ask?"

"These two. The two robots I have with me." Her shoes made a firm clicking sound as she walked rapidly along the corridor, her back to Amadiro, making no effort to see to it that he heard her.

"Is that wise, my lady? They are advanced robots, unusual products of the great Dr. Fastolfe. You will be surrounded by barbarian Earthmen, who may covet them."

"Should they covet them, they nevertheless wouldn't get them."

"Don't underestimate the danger, nor overestimate robotic protection. You will be in one of their Cities, surrounded by tens of millions of these Earthmen, and robots may not harm human beings. Indeed, the more advanced a robot, the more sensitive it is to the nuances of the Three Laws and the less likely it is to take any action that will harm a human being in any way. --Isn't that so, Daneel?"

"Yes, Dr. Amadiro," said Daneel.

"Giskard, I imagine, agrees with you."

"I do," said Giskard.

"You see, my lady? Here on Aurora, in a nonviolent society, your robots can protect you against others. On Earth--mad, decadent, barbarous--there will be no way two robots can protect you or themselves. We would not want you to be deprived. Nor, to place it on a more selfish basis, would we of the Institute and the government care to see advanced robots in the hands of the barbarians. Would it not be better to take robots of a more ordinary type that the Earthpeople would ignore? You can take any number in that case. A dozen if you wish."

Gladia said, "Dr. Amadiro, I took these two robots on a Settler ship and visited a Settler world. No one made a move to appropriate them."

"The Settlers don't use robots and claim to disapprove of them. On Earth itself, they still use robots."

Daneel said, "If I may interpose, Dr. Amadiro--It is my understanding that robots are being phased out on Earth. There are very few in the Cities. Almost all robots on Earth are now used in agricultural or mining operations. For the rest, nonrobotic automation is the norm. "

Amadiro looked at Daneel briefly, then said to Gladia, "Your robot is probably right and I suppose there would be no harm in taking Daneel. He could well pass as human, for that matter. Giskard, however, may well be left in your establishment. He might arouse the acquisitive instincts of an acquisitive society--even if it is true that they are trying to free themselves of robots."

Gladia said, "Neither will be left, sir. They will come with me. I am the sole judge of which portions of my property may come with me and which may not. "

"Of course. " Amadiro smiled in his most amiable fashion. "No one disputes that. -
-Would you wait here?"

Another door opened, showing a room that was most comfortably furnished. It was without windows, but was illuminated by soft light and suffused with even softer music.

Gladia stopped at the threshold and said sharply, "Why?"

"A member of the Institute wishes to see you and speak to you. It will not take long, but it is necessary. Once that is done, you are free to go. You will not even be plagued by my presence from this moment on. Please." There was a touch of hidden steel in the last word.

Gladia reached out her arms for Daneel and Giskard. "We enter together."

Amadiro laughed genially. "Do you think I'm trying to separate you from your robots? Do you think they would allow that? You have been too long with Settlers, my dear."

Gladia looked at the closed door and said between her teeth, "I dislike that man intensely. And most intensely when he smiles and tries to be soothing."

She stretched, her elbow joints cracking slightly. "In any case, I'm tired. If someone comes with further questions about Solaria and Baleyworld, they are going to get short answers, I tell you."

She sat down on a couch that gave softly under her weight. She slipped her shoes off and lifted her feet to the couch. She smiled sleepily, took a deep breath as she sank to one side, and, with her head turned away from the room, was instantly and deeply asleep.

62.

"It is well she was naturally sleepy," said Giskard. "I was able to deepen it without any hint of damage to her at all. --I would not want Lady Gladia to hear what is likely to come."

"What is likely to come, friend Giskard?" asked Daneel.

"What is to come is the result, I think, of my being wrong, friend Daneel, and of your being right. I should have taken your excellent mind more seriously."

"It is you, then, they want to keep on Aurora?"

"Yes. And in urgently calling for Lady Gladia's return, they were calling for mine. You heard Dr. Amadiro ask for us to be left behind. At first both of us and then myself alone."

"Might it be that his words have but the surface meaning, that he feels it dangerous to lose an advanced robot to the Earthmen?"

"There was an underlying current of anxiety, friend Daneel, that I judge to be far too strong to match his words."

"Can you tell whether he knows of your special abilities?"

"I cannot tell directly, since I cannot read thoughts themselves. Nevertheless, twice in the course of the interview with the Council members, there was a sudden sharp rise in the level of emotional intensity in Dr. Amadiro's mind. Extraordinarily sharp rises. I cannot describe it in words, but it would be analogous, perhaps, to watching a scene in black and white and having it splash--suddenly and briefly--into intense color."

"When did this happen, friend Giskard?"

"The second time was when Lady Gladia mentioned she would be going to Earth."

"That created no visible stir among the Council members. What were their minds like?"

"I could not tell. They were present through holovision and such images are not accompanied by any mental sensations that I can detect."

"We may conclude, then, that whether the Council is--or is not--disturbed by Lady Gladia's projected trip to Earth, Dr. Amadiro, at least, is disturbed."

"It is not simple disturbance. Dr. Amadiro seemed anxious in the highest degree; as we would expect, for instance, if he indeed had a project in hand, as we suspect, for the destruction of Earth and feared its discovery. What is more, at Lady Gladia's mention of this intention of hers, friend Daneel, Dr. Amadiro glanced briefly at me; the only moment in all the session that he did. The flash of emotional intensity coincided with that glance. I think it was the thought of my going to Earth that made him anxious. --As we might expect, if he felt that I, with my special powers, would be a particular danger to his plans."

"His actions might also be taken, friend Giskard, as fitting his expressed fear that the Earthmen would try to appropriate you as an advanced robot and that this would be bad for Aurora."

"The chance of that happening, friend Daneel, and the extent of damage that might do the Spacer community is too small to account for his level of anxiety. What harm could I do Aurora if I were in Earth's possession--if I were simply the Giskard I am taken to be?"

"You conclude, then, that Dr. Amadiro knows you are not simply the Giskard you are taken to be."

"I am not sure. He may simply suspect it. If he knew what I was, would he not make every effort to avoid making his plans in my presence?"

"It may simply be his misfortune that Lady Gladia will not be separated from us. He cannot insist on your not being present, friend Giskard, without giving away his knowledge to you." Daneel paused, then said, "It is a great advantage you have, friend Giskard, being able to weigh the emotional contents of minds. –But you said that Dr. Amadiro's flash of emotion at the trip to Earth was the second. What was the first?"

"The first came with the mention of the nuclear intensifier--and that, too, seems significant. The concept of a nuclear intensifier is well known on Aurora. They don't have a portable device; not one light enough and efficient enough to be practical on shipboard, but it's not something that would break upon him like a thunderbolt. Why, then, so much anxiety?"

"Possibly," said Daneel, "because an intensifier of that sort has something to do with his plans on Earth."

"Possibly."

And it was at this point that the door opened, a person entered, and a voice said, "Well--Giskard!"

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Giskard looked at the newcomer and said in a calm voice, "Madam Vasilia. "

"You remember me, then," said Vasilia, smiling warmly.

"Yes, madam. You are a well-known roboticist and your face is on the hyperwave news now and then."

"Come, Giskard. I do not mean that you recognize me. Anyone can do that. I mean, you remember me. You once called me Miss Vasilia."

"I remember that, too, madam. It was a long time ago."

Vasilia closed the door behind her and sat down in one of the chairs. She turned her face toward the other robot. "And you are Daneel, of course."

Daneel said, "Yes, madam. To make use of the distinction you have just advanced, I both remember you, for I was with Plainclothesman Elijah Baley once when he interviewed you, and I recognize you, too."

Vasilia said sharply, "You are not to refer to that Earthman again. --I recognize you as well, Daneel. You are as famous as I am in your own way. You are both famous, for you are the greatest creations of the late Dr. Han Fastolfe."

"Of your father, madam," said Giskard.

"You know very well, Giskard, that I attach no importance to that purely genetic relationship. You are not to refer to him in that manner again."

"I will not, madam."

"And this one?" She looked casually at the sleeping figure on the couch. "Since you two are here, I can reasonably assume that the sleeping beauty is the Solarian woman."

Giskard said, "She is Lady Gladia and I am her property. Do you want her awake, madam?"

"We will merely disturb her, Giskard, if you and I talk of old times. Let her sleep."

"Yes, madam. "

Vasilia said to Daneel, "Perhaps the discussion that Giskard and I will have will be of no interest to you, either, Daneel. Would you wait outside?"

Daneel said, "I fear I cannot leave, my lady. My task is to guard Lady Gladia."

"I don't think she needs much guarding from me. You'll notice I do not have any of my robots with me, so Giskard alone will be ample protection for your Solarian lady. "

Daneel said, "You have no robots in the room, madam, but I saw four robots just outside in the corridor when the door was opened. It will be best if I stay."

"Well, I won't try to override your orders. You can stay. --Giskard!"

"Yes, madam."

"Do you remember when you were first activated?"

"Yes, madam."

"What do you remember?"

"First light. Then sound. Then a crystallization into the sight of Dr. Fastolfe. I could understand Galactic Standard and I had a certain amount of innate knowledge built into my positronic brain paths. The Three Laws, of course; a large vocabulary, with definitions; robotic duties; social customs. Other things I learned rapidly."

"Do you remember your first owner?"

"As I said, Dr. Fastolfe."

"Think again, Giskard. Wasn't it I?"

Giskard paused, then said, "Madam, I was assigned the task of guarding you in my capacity as a possession of Dr. Han Fastolfe."

"It was a bit more than that, I think. You obeyed only me for ten years. If you obeyed anyone else, including Dr. Fastolfe, it was only incidentally, as a consequence of your robotic duties and only insofar as it fit your prime function of guarding me."

"I was assigned to you, it is true, Lady Vasilia, but Dr. Fastolfe retained ownership. Once you left his establishment, he resumed full control of me as my owner. He remained my owner even when he later assigned me to Lady Gladia. He was my only owner for as long as he lived. Upon his death, by his will, ownership of me was transferred to Lady Gladia and that is how it stands now."

"Not so. I asked you if you remembered when you were first activated and what you remembered. What you were when you were first activated is not what you are now."

"My memory banks, madam, are now incomparably fuller than they were then and I have much in the way of experience that I did not have then. "

Vasilia's voice grew sterner. "I am not talking about memory, nor am I talking about experience. I am talking about capacities. I added to your positronic pathways. I adjusted them. I improved them."

"Yes, madam, you did so, with Dr. Fastolfe's help and approval."

"At one time, Giskard, on one occasion, I introduced an improvement--at least, an extension, and without Dr. Fastolfe's help and approval. Do you remember that?"

Giskard was silent for a substantial period of time. Then he said, "I remember one occasion on which I did not witness your consulting him. I assumed that you consulted him at a time when I was not a witness."

"If you assumed that, you assumed incorrectly. In fact, since you knew he was off the world at the time, you could not possibly have assumed it. You are being evasive, to use no stronger word."

"No, madam. You might have consulted him by hyperwave. I considered that a possibility."

Vasilia said, "Nevertheless, that addition was entirely mine. The result was that you became a substantially different robot afterward from what you had been before. The robot you have been ever since that change has been my design, my creation, and you know that well."

Giskard remained silent.

"Now, Giskard, by what right was Dr. Fastolfe your master at the time you were activated?" She waited, then said sharply, "Answer me, Giskard. That is an order!"

Giskard said, "Since he was designer and supervised the construction, I was his property. "

"And when I, in effect, redesigned and reconstructed you in a very fundamental way, did you not then become my property?"

Giskard said, "I cannot answer that question. It would require the decision of a law court to argue out the specific case. It would depend, perhaps, on the degree to which I was redesigned and reconstructed. "

"Are you aware of the degree to which that took place?"

Giskard was again silent.

"This is childish, Giskard," said Vasilia. "Am I to be required to nudge you after each question? You are not to make me do that. In this case, at any rate, silence is a sure indication of an affirmative. You know what the change was and how fundamental it was and you know that I know what it was. You put the Solarian woman to sleep because you did not want her to learn from me what it was. She doesn't know, does she?"

"She does not, madam," said Giskard.

"And you don't want her to know?"

"I do not, madam," said Giskard.

"Does Daneel know?"

"He does, madam."

Vasilia nodded. "I rather suspected that from his eagerness to stay. --Now, then, listen to me, Giskard. Suppose that a court of law finds out that, before I redesigned you,

you were an ordinary robot and that, after I redesigned you, you were a robot who could sense the mind-set of an individual human being and adjust it to his liking. Do you think they could possibly fail to consider it a change great enough to warrant the ownership to have passed into my hands?"

Giskard said, "Madam Vasilia, it would not be possible to let this come before a court of law. Under the circumstances, I would surely be declared the property of the state for obvious reasons. I might even be ordered inactivated."

"Nonsense. Do you take me for a child? With your abilities, you could keep the court from making any such judgment. But that is not the point. I'm not suggesting that we take this to court. I am asking you for your own judgment. Would you not say that I am your rightful owner and have been since I was a very young woman?"

Giskard said, "Madam Gladia considers herself to be my owner and, until the law speaks to the contrary, she must be considered that."

"But you know that both she and the law labor under a misapprehension. If you worry about the feelings of your Solarian woman, it would be very easy to adjust her mindset so that she wouldn't mind your no longer being her property. You can even cause her to feel relieved that I will take you off her hands. I will order you to do so as soon as you can bring yourself to admit what you already know--that I am your owner. How long has Daneel known your nature?"

"For decades, madam."

"You can make him forget. For some time now, Dr. Amadiro has known and you can make him forget. There will be only you and I who will know."

Daneel said suddenly, "Madam Vasilia, since Giskard does not consider himself your property, he can easily make you forget and you will then be perfectly content with matters as they are. "

Vasilia turned a cold eye on Daneel. "Can he? But you see, it is not for you to decide who it is that Giskard considers his owner. I know that Giskard knows that I am his owner, so that his duty, within the Three Laws, belongs entirely to me. If he must make someone forget and can do so without physical harm, it will be necessary for him, in making a choice, to choose anyone but me. He cannot make me forget or tamper with my mind in any way. I thank you, Daneel, for giving me the occasion of making this quite plain."

Daneel said, "But Madam Gladia's emotions are so enwrapped in Giskard that for him to force forgetfulness upon her might harm her."

Vasilia said, "Giskard is the one to decide that. --Giskard, you are mine. You know you are mine and I order you to induce forgetfulness in this man-aping robot who stands beside you and in the woman who wrongfully treated you as her property. Do it while she is asleep and there will be no harm done to her of any kind."

Daneel said, "Friend Giskard. Lady Gladia is your legal owner. If you induce forgetfulness in Lady Vasilia, it will not harm her."

"But it will," said Vasilia at once. "The Solarian woman will not be harmed, for she need only forget that she is under the impression that she is Giskard's owner. I, on the

other hand, also know that Giskard has mental powers. Digging that out will be more complex and Giskard can surely tell by my intense determination to keep that knowledge that he could not help but inflict damage on me in the process of removing it."

Daneel said, "Friend Giskard--"

Vasilia said, in a voice that was diamond-hard, "I order you, Robot Daneel Olivaw, to be silent. I am not your owner, but your owner is asleep and does not countermand it, so my order must be obeyed."

Daneel fell silent, but his lips trembled as though he were trying to talk despite the order.

Vasilia watched that manifestation with an amused smile on her lips. "You see, Daneel, you cannot talk."

And Daneel said in a hoarse whisper, "I can, madam, I find it difficult, but I can, for I find that something takes precedence over your order, which is governed by only the Second Law."

Vasilia's eyes opened wide and she said sharply, "Silence, I say. Nothing takes precedence over my order but the First Law and I have already shown that Giskard will do least harm--indeed, no harm at all--if he returns to me. He will do harm to me, to whom he is least capable of doing harm, if he follows any other course of action." She pointed her finger at Daneel and said again with a soft hiss, "Silence!"

It was a clear effort for Daneel to make any sound at all. The small pump within him that manipulated the air current that produced the sound made a small, humming noise as it labored. Yet, though he spoke in an even lower whisper, he could still be heard.

He said, "Madam Vasilia, there is something that transcends even the First Law."

Giskard said, in a voice equally low, but unforced, "Friend Daneel, you must not say that. Nothing transcends the First Law."

Vasilia, frowning slightly, showed a spark of interest. "Indeed? Daneel, I warn you that if you attempt to progress further in this odd line of argument, you will surely destroy yourself. I have never seen or heard of a robot doing what you are doing and it would be fascinating to watch your self-destruction. Speak on."

With the order given, Daneel's voice returned immediately to normal. "I thank you, Madam Vasilia. --Years ago, I sat at the deathbed of an Earthman to whom you have asked me not to refer. May I now refer to him or do you know who it is that I speak of?"

"You speak of that policeman Baley," said Vasilia tonelessly.

"Yes, madam. He said to me on his deathbed, 'The work of each individual contributes to a totality and so becomes an undying part of the totality. That totality of human lives--past and present and to come--forms a tapestry that has been in existence now for many tens of thousands of years and has been growing more elaborate and, on the whole, more beautiful in all that time. Even the Spacers are an offshoot of the tapestry and they, too, add to the elaborateness and beauty of the pattern. An individual life is one thread in the tapestry and what is one thread compared to the whole? Daneel, keep your mind fixed firmly on the tapestry and do not let the trailing off of a single thread affect you.'"

"Mawkish sentimentality," murmured Vasilia.

Daneel said, "I believe Partner Elijah was attempting to protect me against the fact of his soon-to-come death. It was his own life he spoke of as but a thread in the tapestry; it was his own life that was 'the trailing off of a single thread' that was not to affect me. His words did protect me in that crisis."

"No doubt, " said Vasilia, "but get to the point of transcending the First Law, for it is that which will now destroy you."

Daneel said, "For decades I have brooded over Plainclothesman Elijah Baley's statement and it is quite likely I would have understood it at once if the Three Laws had not stood in the way. I have been helped in my search by my friend Giskard, who has long felt the Three Laws to be incomplete. I have been helped also by points Lady Gladia made in a recent speech on a Settler world. What's more, this present crisis, Lady Vasilia, has served to sharpen my thinking. I am certain, now, as to the manner in which the Three Laws are incomplete."

"A robot who is also a roboticist," said Vasilia with a touch of contempt. "How are the Three Laws incomplete, robot?"

Daneel said, "The tapestry of life is more important than a single thread. Apply that not to Partner Elijah alone, but generalize it and--and--and we conclude that humanity as a whole is more important than a single human being. "

"You stumble as you say it, robot. You do not believe it."

Daneel said, 'There is a law that is greater than the First Law: 'A robot may not injure humanity or, through inaction, allow humanity to come to harm. ' I think of it now as the Zeroth Law of Robotics. The First Law should then be stated: 'A robot may not injure a human being or, through inaction, allow a human being to come to harm, unless this would violate the Zeroth Law of Robotics.'"

Vasilia snorted. "And you still stand on your feet, robot?"

"I still stand on my feet, madam. "

"Then I will explain something to you, robot, and we will see if you can survive the explanation. --The Three Laws of Robotics involve individual human beings and individual robots. You can point to any individual human being or to an individual robot. But what is your 'humanity' but an abstraction? Can you point to humanity? You can injure or fail to injure a specific human being and understand the injury or lack of injury that has taken place. Can you see an injury to humanity? Can you understand it? Can you point to it?"

Daneel was silent.

Vasilia smiled broadly. . . Answer, robot. Can you see an injury to humanity and can you point to it?"

"No, madam, I cannot. But I believe such injury can exist nevertheless and you see that I still stand on my feet. "

"Then ask Giskard as to whether he will--or can --obey your Zeroth Law of Robotics."

Daneel's head turned to Giskard. "Friend Giskard?"

Slowly Giskard said, "I cannot accept the Zeroth Law, friend Daneel. You know that I have read widely in human history. In it, I have found great crimes committed by some human beings against each other and the excuse has always been that the crimes were justified by the needs of the tribe, or of the state, or even of humanity. It is precisely because humanity is an abstraction that it can be called upon so freely to justify anything at all and your Zeroth Law is therefore unsuitable."

Daneel said, "But you know, friend Giskard, the fact that a danger to humanity now exists and that it will surely come to fruition if you become the property of Madam Vasilia. That, at least, is not an abstraction."

Giskard said, "The danger to which you refer is not something known, but is merely inferred. We cannot build our actions in defiance of the Three Laws on that. "

Daneel paused, then said in a lower voice, "But you hope that your studies of human history will help you develop the Laws governing human behavior, that you will learn to predict and guide human history--or at least make a beginning, so that someone someday will learn to predict and guide it. You even call the technique 'psychohistory.' In this, are you not dealing with the human tapestry? Are you not trying to work with humanity as a generalized whole, rather than with collections of individual human beings?"

"Yes, friend Daneel, but it is thus far no more than a hope and I cannot base my actions upon a mere hope, nor can I modify the Three Laws in accordance with it. "

To that, Daneel did not respond.

Vasilia said, "Well, robot, all your attempts have come to nothing and yet you stand on your feet. You are strangely stubborn and a robot such as yourself that can denounce the Three Laws and still remain functional is a clear danger to every and any individual human being. For that reason, I believe you should be dismantled without delay. The case is too dangerous to await the slow majesty of the law, especially since you are, after all, a robot and not the human being you attempt to resemble."

Daneel said, "Surely, my lady, it is not fitting for you to reach such a decision on your own."

"I have reached it nevertheless and if there are legal repercussions hereafter, I shall deal with them."

"You will be depriving Lady Gladia of a second robot--and one to which you make no claim."

"She and Fastolfe, between them, have deprived me of my robot, Giskard, for more than twenty decades and I do not believe this ever distressed either of them for a moment. It will not now distress me to deprive her. She has dozens of other robots and there are many here at the Institute who will faithfully see to her safety until she can return to her own."

Daneel said, "Friend Giskard, if you will wake Lady Gladia, it may be that she may persuade Lady Vasilia--"

Vasilia, looking at Giskard, frowned and said sharply, "No, Giskard. Let the woman sleep."

Giskard, who had stirred at Daneel's words, subsided.

Vasilia snapped the finger and thumb of her right hand three times and the door at once opened and four robots filed in. "You were right, Daneel. There are four robots. They will dismantle you and you are ordered not to resist. Thereafter Giskard and I will deal with all remaining matters."

She looked over her shoulder at the entering robots. "Close the door behind you. Now, quickly and efficiently, dismantle this robot," and she pointed at Daneel.

The robots looked at Daneel and for a few seconds did not move. Vasilia said impatiently, "I've told you he is a robot and you must disregard his human appearance. Daneel, tell them you are a robot. "

"I am a robot," said Daneel, "and I will not resist."

Vasilia stepped to one side and the four robots advanced. Daneel's arms remained at his side. He turned to look at the sleeping Gladia one last time and then he faced the robots.

Vasilia smiled and said, "This should be interesting."

The robots paused. Vasilia said, "Get on with it. "

They did not move and Vasilia turned to stare in amazement at Giskard. She did not complete the movement. Her muscles loosened and she crumpled.

Giskard caught her and seated her with her back against the wall.

He said in a muffled voice, "I need a few moments and then we will leave. "

Those moments passed. Vasilia's eyes remained glazed and unfocused. Her robots remained motionless. Daneel had moved to Gladia in a single stride.

Giskard looked up and said to Vasilia's robots, "Guard your lady. Allow no one to enter until she wakes. She will waken peacefully."

Even as he spoke, Gladia stirred and Daneel helped her to her feet. She said, wondering, "Who is this woman? Whose robots--How did she--"

Giskard spoke firmly, but there was a weariness in his voice. "Lady Gladia, later. I will explain. For now, we must hasten."

And they left.

PART V - EARTH

15. THE HOLY WORLD

64.

Amadiro bit his lower lip and his eyes flicked in the direction of Mandamus, who seemed lost in thought.

Amadiro said defensively, "She insisted on it. She told me that only she could handle this Giskard, that only she could exert a sufficiently strong influence over him and prevent him from using these mental powers of his."

"You never said anything of this to me, Dr. Amadiro."

"I wasn't sure what there was to tell, young man. I wasn't sure she was correct."

"Are you sure now?"

"Completely. She remembers nothing of what went on--"

"So that we know nothing of what went on."

Amadiro nodded. "Exactly. And she remembers nothing of what she had told me earlier."

"And she's not acting?"

"I saw to it that she had an emergency electroencephalogram. There have been distinct changes from the earlier records."

"Is there a chance she will recover her memory with time?"

Amadiro shook his head bitterly. "Who can tell? But I doubt it."

Mandamus, eyes still downcast and full of thought, said, "Does it matter, then? We can take her account of Giskard as true and we know that he has the power to affect minds. That knowledge is crucial and it is now ours. --In fact, it is well that our roboticist colleague has failed. If Vasilia had gained control of that robot, how long do you suppose it would have been before you, too, would have been under her control--and I, as well, assuming she would think I was worth controlling?"

Amadiro nodded. "I suppose she might have had something like that in mind. Right now, though, it's hard to tell what she has in mind. She seems, superficially at least, undamaged except for the specific loss of memory--she apparently remembers everything else--but who knows how this will affect her deeper thought processes and her skill as a roboticist? That Giskard could do this to someone as skilled as she makes him an incredibly dangerous phenomenon."

"Does it occur to you, Dr. Amadiro, that the Settlers may be right in their distrust of robots?"

"It almost does, Mandamus."

Mandamus rubbed his hands together. "I assume from your depressed attitude that this whole business was not uncovered before they had time to leave Aurora. "

"You assume correctly. That Settler captain has the Solarian woman and both of her robots on his ship and is heading toward Earth."

"And where does that leave us now?"

Slowly Amadiro said, "By no means defeated, it seems to me. If we complete our project, we have won--Giskard or no Giskard. And we can complete it. Whatever Giskard can do with and to emotions, he can't read thoughts. He might be able to tell when a wash of emotion crosses a human mind, or even distinguish one emotion from another, or change one to another, or induce sleep or amnesia--dull-edged things like that. He cannot be sharp, however. He cannot make out actual words or ideas."

"Are you sure of that?"

"So said Vasilia."

"She may not have known what she was talking about. She did not, after all, manage to control the robot, as she said she was sure of doing. That's not much of a testimonial to her accuracy of understanding."

"Yet I believe her in this. To actually be able to read thoughts would demand so much complexity in the positronic pathway pattern that it is totally unlikely that a child could have inserted it into the robot over twenty decades ago. It is actually far beyond even the present-day state of the art, Mandamus. Surely you must agree."

"I would certainly think it was. And they're going to Earth?"

"I'm sure of it."

"Would this woman, brought up as she was, actually go to Earth?"

"She has no choice if Giskard controls her."

"And why should Giskard want her to go to Earth? Can he know about our project? You seem to think he doesn't."

"It is possible he doesn't. His motivation for going to Earth might be nothing more than to place himself and the Solarian woman beyond our reach."

"I shouldn't think he'd fear us if he could handle Vasilia."

"A long-range weapon," said Amadiro icily, "could bring him down. His own abilities must have a limited range. They can be based on nothing other than the electromagnetic field and he must be subject to the inverse square law. So we get out of range as the intensity of his powers weaken, but he will then find that he is not out of range of our weapons."

Mandamus frowned and looked uneasy. "You seem to have an un-Spacer liking for violence, Dr. Amadiro. In a case like this, though, I suppose force would be permissible."

"A case like this? A robot capable of harming human beings? I should think so. We'll have to find a pretext for sending a good ship in pursuit. It wouldn't be wise to explain the actual situation --"

"No," said Mandamus emphatically. "Think of how many would wish to have personal control of such a robot. "

"Which we can't allow. And which is another reason why I would look upon destruction of the robot as the safer and preferable course of action."

"You may be right," said Mandamus reluctantly, "but I don't think it wise to count on this destruction only. I must go to Earth--now. The project must be hastened to its conclusion, even if we don't dot every 'i' and cross every 't.' Once it is done, then it is done. Even a mind-handling robot--under anybody's control--will not be able to undo the deed. And if it does anything else, that, perhaps, will no longer matter."

Amadiro said, "Don't speak in the singular. I will go as well."

"You? Earth is a horrible world. I must go, but why you?"

"Because I must go, too. I cannot stay here any longer and wonder. You have not waited for this through a long lifetime as I have, Mandamus. You do not have the accounts to settle that I have."

65.

Gladia was in space again and once again Aurora could be made out as a globe. D.G. was busy elsewhere and the entire ship had about it a vague but pervasive air of emergency, as though it were on a battle footing, as though it were being pursued or expected pursuit.

Gladia shook her head. She could think clearly; she felt well; but when her mind turned back to that time in the Institute, shortly after Amadiro had left her, a curiously pervasive unreality swept over her. There was a gap in time. One moment she had been sitting on the couch, feeling sleepy; the next there were four robots and a woman in the room who had not been there before.

She had fallen asleep, then, but there was no awareness, no memory, that she had done so. There was a gap of nonexistence.

Thinking back, she had recognized the woman after the fact. It was Vasilia Aliena--the daughter whom Gladia had replaced in the affections of Han Fastolfe. Gladia had never actually seen Vasilia, though she had viewed her on hyperwave several times. Gladia always thought of her as a distant and inimical other self. There was the vague similarity in appearance that others always commented on but that Gladia herself insisted she did not see--and there was the odd, antithetical connection with Fastolfe.

Once they were on the ship and she was alone with her robots, she asked the inevitable question. "What was Vasilia Aliena doing in the room and why was I permitted to sleep once she had arrived?"

Daneel said, "Madam Gladia, I will answer the question, since it is a matter friend Giskard would find difficult to discuss."

"Why should he find it difficult, Daneel?"

"Madam Vasilia arrived in the hope that she might persuade Giskard to enter her service."

"Away from me?" said Gladia in sharp indignation. She did not entirely like Giskard, but that made no difference. What was hers was hers. "And you allowed me to sleep while you two handled the matter by yourselves?"

"We felt, madam, that you needed your sleep badly. Then, too, Madam Vasilia ordered us to allow you to sleep. Finally, it was our opinion that Giskard would not, in any case, join her service. For all these reasons, we did not wake you."

Gladia said indignantly, "I should hope that Giskard would not for a moment consider leaving me. It would be illegal both by Auroran law and, more important, by the Three Laws of Robotics. --It would be a good deed to return to Aurora and have her arraigned before the Court of Claims."

"That would not be advisable at the moment, my lady."

"What was her excuse for wanting Giskard? Did she have one?"

"When she was a child, Giskard had been assigned to her. "

"Legally?"

"No, madam. Dr. Fastolfe merely allowed her the use of it."

"Then she had no right to Giskard."

"We pointed that out, madam. Apparently, it was a matter of sentimental attachment on the part of Madam Vasilia. "

Gladia sniffed. "Having survived the loss of Giskard since before I came to Aurora, she might well have continued as she was without going to illegal lengths to deprive me of my property. " --Then, restlessly, "I should have been awakened."

Daneel said, "Madam Vasilia had four robots with her. Had you been awake and had there been harsh words between the two of you, there might have been some difficulty in having the robots work out the proper responses."

"I'd have directed the proper response, I assure you, Daneel."

"No doubt, madam. So might Madam Vasilia and she is one of the cleverest roboticists in the Galaxy. "

Gladia shifted her attention to Giskard. "And you have nothing to say?"

"Only that it was better as it was, my lady."

Gladia looked thoughtfully into those faintly luminous robotic eyes, so different from Daneel's all-but-human ones, and it did seem to her that the incident wasn't very important after all. A small thing. And there were other things with which to be concerned. They were going to Earth.

Somehow she did not think of Vasilia again.

66.

"I am concerned," said Giskard in his whisper of confidentiality in which sound waves barely trembled the air. The Settler ship was receding smoothly from Aurora and, as yet, there was no pursuit. The activity onboard had settled into routine and, with almost all routines automated, there was quiet and Gladia slept naturally.

"I am concerned for Lady Gladia, friend Daneel."

Daneel understood the characteristics of Giskard's positronic circuits well enough to need no long explanation. He said, "It was necessary, friend Giskard, to adjust Lady

Gladia. Had she questioned longer, she might have elicited the fact of your mental activities and adjustment would then have been more dangerous. Enough harm has already been done because Lady Vasilia discovered the fact. We do not know to whom--and to how many--she may have imparted her knowledge."

"Nevertheless," said Giskard, "I did not wish to make this adjustment. Had Lady Gladia wished to forget, it would have been a simple, no-risk adjustment. She wanted, however, with vigor and anger, to know more of the matter. She regretted not having played a greater role in it. I was forced, therefore, to break binding forces of considerable intensity."

Daneel said. "Even that was necessary, friend Giskard."

"Yet the possibility of doing harm was by no means insignificant in such a case. If you think of a binding force as a thin, elastic cord--this is a poor analogy, but I can think of no other, for what I sense in a mind has no analog outside the mind--then the ordinary inhibitions I deal with are so thin and insubstantial that they vanish when I touch them. A strong binding force, on the other hand, snaps and recoils when broken and the recoil may then break other, totally unrelated binding forces or, by whipping and coiling about other such forces, strengthen them enormously. In either case, unintended changes can be brought about in a human being's emotions and attitudes and that would be almost certain to bring about harm."

Daneel said, his voice a little louder, "Is it your impression you harmed Lady Gladia, friend Giskard?"

"I think not. I was extremely careful. I worked upon the matter during all the time you were talking to her. It was thoughtful of you to bear the brunt of the conversation and to run the risk of being caught between an inconvenient truth and an untruth. But despite all my care, friend Daneel, I took a risk and I am concerned that I was willing to take that risk. It came so close to violating the First Law that it required an extraordinary effort on my part to do it. I am sure that I would not have been able to do it--"

"Yes, friend Giskard?"

"Had you not expounded your notion of the Zeroth Law."

"You accept it, then?"

"No, I cannot. Can you? Faced with the possibility of doing harm to an individual human being or of allowing harm to come to one, could you do the harm or allow the harm in the name of abstract humanity? Think!"

"I am not sure," said Daneel, voice trembling into all but silence. Then, with an effort, "I might. The mere concept pushes at me--and at you. It helped you decide to take the risk in adjusting Lady Gladia's mind."

"Yes, it did," agreed Giskard, "and the longer we think of the Zeroth Law, the more it might help push us. Could it do so, I wonder, in more than a marginal way, however? Might it not only help us take slightly larger risks than we might ordinarily?"

"Yet I am convinced of the validity of the Zeroth Law, friend Giskard."

"So might I be if we could define what we mean by 'humanity.' "

There was a pause and Daneel said, "Did you not accept the Zeroth Law, at last, when you stopped Madam Vasilia's robots and erased from her mind the knowledge of your mental powers?"

Giskard said, "No, friend Daneel. Not really. I was tempted to accept it, but not really."

"And yet your actions--"

"Were dictated by a combination of motives. You told me of your concept of the Zeroth Law and it seemed to have a certain validity about it, but not sufficient to cancel the First Law or even to cancel Madam Vasilia's strong use of the Second Law in the orders she gave. Then, when you called my attention to the application of the Zeroth Law to psychohistory, I could feel the positronomotive force mount higher and yet it was not quite high enough to supersede the First Law or even the strong Second Law."

"Still," murmured Daneel, "you struck down Madam Vasilia, friend Giskard. "

"When she ordered the robots to dismantle you, friend Daneel, and showed a clear emotion of pleasure at the prospect, your need, added to what the concept of the Zeroth Law had already done, superseded the Second Law and rivaled the First Law. It was the combination of the Zeroth Law, psychohistory, my loyalty to Lady Gladia, and your need that dictated my action."

"My need could scarcely have affected you, friend Giskard. I am only a robot and though my need could affect my own actions by the Third Law, they cannot affect yours. You destroyed the overseer on Solaria without hesitation; you should have watched my destruction without being moved to act."

"Yes, friend Daneel, and ordinarily it might have been so. However, your mention of the Zeroth Law had reduced the First Law intensity to an abnormally low value. The necessity of saving you was sufficient to cancel out what remained of it and I--acted as I did."

"No, friend Giskard. The prospect of injury to a robot should not have affected you at all. It should in no way have contributed to the overcoming of the First Law, however weak the First Law may have become. "

"It is a strange thing, friend Daneel. I do not know how it came about. Perhaps it was because I have noted that you continue to think more and more like a human being, but--"

"Yes, friend Giskard?"

"At the moment when the robots advanced toward you and Lady Vasilia expressed her savage pleasure, my positronic pathway pattern re-formed in an anomalous fashion. For a moment, I thought of you--as a human being--and I reacted accordingly. "

"That was wrong. "

"I know that. And yet--and yet, if it were to happen again, I believe the same anomalous change would take place again."

Daneel said, "It is strange, but hearing you put it so, I find myself feeling you did the proper thing. If the situation were reversed, I almost think that I, too, would--would do the same--that I would think of you as a--a human being."

Daneel, hesitantly and slowly, put out his hand and Giskard looked at it uncertainly. Then, very slowly, he put out his own hand. The fingertips almost touched and then, little by little, each took the other's hand and clasped it--almost as though they were the friends they called each other.

67.

Gladia looked about with veiled curiosity. She was in D.G.'s cabin for the first time. It was not noticeably more luxurious than the new cabin that had been designed for her. D.G.'s cabin had a more elaborate viewing panel, to be sure, and it had a complex console of lights and contacts which, she imagined, served to keep D.G. in touch with the rest of the ship even here.

She said, "I've seen little of you since leaving Aurora, D.G."

"I'm flattered that you are aware of that," answered D.G., grinning. "And to tell you the truth, Gladia, I have been aware of it as well. With an all-male crew, you do rather stand out."

"That's not a very flattering reason for missing me. With an all-human crew, I imagine Daneel and Giskard stand out, too. Have you missed them as much as you have missed me?"

D.G. looked about. "Actually, I miss them so little it is only now that I am aware that they aren't with you. Where are they?"

"In my cabin. It seemed silly to drag them about with me inside the confines of the small world of this ship. They seemed willing to allow me to be on my own, which surprised me. --No," she corrected herself, "come to think of it, I had to order them rather sharply to stay behind before they would do so."

"Isn't that rather strange? Aurorans are never without their robots, I've been given to understand."

"What of that? Once, long ago, when I first came to Aurora, I had to learn to suffer the actual presence of human beings, something my Solarian upbringing did not prepare me for. Learning to be without my robots, occasionally, when I am among Settlers will probably be a less difficult adjustment for me than that first one was."

"Good. Very good. I must admit that I much prefer being with you without the glowing eyes of Giskard fixed on me--and better yet, without Daneel's little smile."

"He doesn't smile."

"To me, he seems to, a very insinuatingly lecherous tiny smile. "

"You're mad. That's totally foreign to Daneel."

"You don't watch him the way I do. His presence is very inhibiting. It forces me to behave myself."

"Well, I should hope so."

"You needn't hope so quite that emphatically. But never mind. --Let me apologize for seeing so little of you since leaving Aurora. "

"That's scarcely necessary."

"Since you brought it up, I thought it was. However, let me explain, then. We've been on battle footing. We were certain, having left as we did, that Auroran vessels would be in pursuit."

"I should think they'd be glad to be rid of a group of Settlers. "

"Of course, but you 're not a Settler and it might be you they would want. They were anxious enough to get you back from Baleyworld."

"They got me back. I reported to them and that was it."

"They wanted nothing more than your report?"

"No," Gladia paused and, for a moment, frowned as though something was nibbling vaguely at her memory. Whatever it was, it passed and she said indifferently, "No."

D.G. shrugged. "It doesn't entirely make sense, but they made no attempt to stop us while you and I were on Aurora nor, after that, when we boarded the ship and it prepared to leave orbit. I won't quarrel with that. It won't be long now before we make the Jump--and after that there should be nothing to worry about. "

Gladia said, "Why do you have an all-male crew, by the way? Auroran ships always have mixed crews."

"So do Settler ships. Ordinary ones. This is a Trader vessel."

"What difference does that make?"

"Trading involves danger. It's rather a rough-and-ready life. Women on board would create problems."

"What nonsense! What problems do I create?"

"We won't argue that. Besides, it's traditional. The men wouldn't stand for it."

"How do you know?" Gladia laughed. "Have you ever tried it?"

"No. But, on the other hand, there are no long lines of women clamoring for a berth on my ship."

"I'm here. I'm enjoying it."

"You're getting special treatment--and but for your service on Solaria, there might well have been much trouble. In fact, there was trouble. Still, never mind." He touched one of the contacts on the console and a countdown briefly appeared. "We'll be Jumping in just about two minutes. You've never been on Earth, have you, Gladia?"

"No, of course not."

"Or seen the sun, not just a sun."

"No--although I have seen it in historical dramas on hypervision, but I imagine what they show in the dramas is not really the sun."

"I'm sure it isn't. If you don't mind, we'll dim the cabin lights."

The lights dimmed to nearly nothing and Gladia was aware of the star field on the viewing panel, with the stars brighter and more thickly spread than in Aurora's sky.

"Is that a telescopic view?" she asked in a hushed voice.

"Slightly. Low-power--Fifteen seconds." He counted backward. There was a shift in the star field and a bright star was now nearly centered. D.G. touched another contact

and said, "We're well outside the planetary plane. Good! A little risky. We should have been farther from the Auroran star before Jumping, but we were in a slight hurry. --That's the sun."

"That bright star, you mean?"

"Yes. --What do you think of it?"

Gladia said, a little puzzled over what sort of response he expected, "It's bright."

He pushed another contact and the view dimmed perceptibly. "Yes--and it won't do your eyes any good if you stare at it. But it's not the brightness that counts. It's just a star--in appearance--but think of it. That was the original sun. That was the star whose light shone down on a planet that was the only planet on which human beings existed. It shone down on a planet on which human beings were slowly evolving. It shone down on a planet on which life formed billions of years ago, life that would develop into human beings. There are 300 billion stars in the Galaxy and 100 billion galaxies in the Universe and there is only one of all those stars that presided over the human birth and that is the star."

Gladia was about to say: "Well, some star had to be the star," but she thought better of it. "Very impressive," she said rather weakly.

"It's not merely impressive," said D.G., his eyes shadowed in the dimness. "There's not a Settler in the Galaxy who doesn't consider that star his own. The radiation of the stars that shine down on our various home planets is borrowed radiation--rented radiation that we make use of. There--right there--is the real radiation that gave us life. It is that star and the planet that circles it--Earth--that holds us all together in a tight bond. If we shared nothing else, we would share that light on the screen and it would be enough. --You Spacers have forgotten it and that is why you fall apart from each other and that is why you will not, in the long run, survive."

"There is room for us all, Captain," said Gladia softly.

"Yes, of course. I wouldn't do anything to force nonsurvival on Spacers. I just believe that that is what will happen and it might not happen if Spacers would give up their irritating certainty of superiority, their robots, and their self-absorption in long life."

"Is that how you see me, D.G.?" asked Gladia.

D.G. said, "You've had your moments. You've improved, though. I'll give you that."

"Thank you," she replied with evident irony. "And though you may find it hard to believe, Settlers have their prideful arrogance, too. But you've also improved and I'll give you that."

D.G. laughed. "With all that I'm kindly giving you and you're kindly giving me, this is liable to end as a lifelong enmity."

"Scarcely," said Gladia, laughing in her turn, and was a little surprised to find that his hand was resting on hers. --And a great deal surprised to find that she had not removed her hand.

Daneel said, "I am uneasy, friend Giskard, that Madam Gladia is not under our direct observation."

"That is not needful on board this ship, friend Daneel. I detect no dangerous emotions and the captain is with her at the moment. --In addition, there would be advantages to her finding it comfortable to be without us, at least on occasion, while we are all on Earth. It is possible that you and I might have to take sudden action without wishing to have her presence and safety a complicating factor."

"Then you manipulated her separation from us now?"

"Scarcely. Oddly enough, I found a strong tendency in her to imitate the Settler way of life in this respect. She has a subdued longing for independence, hampered chiefly by the feeling that she is violating Spacerhood in this. That is the best way in which I can describe it. The sensations and emotions are by no means easy to interpret, for I have never encountered it among Spacers before. So I merely loosened the Spacerhood inhibition by the merest touch."

"Will she then no longer be willing to avail herself of our services, friend Giskard? That would disturb me."

"It should not. If she should decide she wishes a life free of robots and will be happier so, it is what we will want for her, too. As it is, though, I am sure we will still be useful to her. This ship is a small and specialized habitat in which there is no great danger. She had a further feeling of security in the captain's presence and that reduces her need for us. On Earth, she will still need us, though I trust not in quite so tight a fashion as on Aurora. --As I have said, we may need greater flexibility of action once on Earth."

"Can you yet guess, then, the nature of the crisis facing Earth? Do you know what it is we will have to do?"

Giskard said, "No, friend Daneel. I do not. It is you that have the gift of understanding. Is there something, perhaps, that you see?"

Daneel remained silent for a while. Then he said, "I have had thoughts."

"What, then, are your thoughts?"

"You told me at the Robotics Institute, you remember, just before Lady Vasilisa entered the room in which Madam Gladia lay sleeping, that Dr. Amadiro had had two intense flashes of anxiety. The first came at the mention of the nuclear intensifier, the second at the statement that Madam Gladia was going to Earth. It seems to me that the two must be connected. I feel that the crisis we are dealing with involves the use of a nuclear intensifier on Earth, that there is time to stop it, and that Dr. Amadiro fears that we will do just that if we go to Earth."

"Your mind tells me you are not satisfied with that thought. Why not, friend Daneel?"

"A nuclear intensifier hastens the fusion processes that happen to be already in progress, by means of a stream of W particles. I asked myself, therefore, whether Dr. Amadiro plans to use one or more nuclear intensifiers to explode the microfusion reactors

that supply Earth with energy. The nuclear explosions so induced would involve destruction through heat and mechanical force, through dust and radioactive products that would be thrown into the atmosphere. Even if this did not suffice to damage Earth mortally, the destruction of Earth 's energy supply would surely lead to the long-term collapse of Earth's civilization."

Giskard said somberly, "That is a horrifying thought and would seem to be an almost certain answer to the nature of the crisis we seek. Why are you not satisfied, then?"

"I have taken the liberty of using the ship's computer to obtain information concerning the planet Earth. The computer is, as one might expect on a Settler ship, rich in such information. It seems that Earth is the one human world that does not use microfusion reactors as a large-scale source of energy. It uses direct solar energy almost entirely, with solar power stations all among the geostational orbit. There is nothing for a nuclear intensifier to do, except to destroy small devices--spaceships, occasional buildings. The damage might not be negligible, but it would not threaten Earth's existence. "

"It may well be, friend Daneel, that Amadiro has some device that would destroy the solar power generators."

"If so, why did he react to the mention of nuclear intensifiers? There is no way they can serve against solar power generators."

Giskard nodded slowly. "That is a good point. And, to make another, if Dr. Amadiro was so horrified at the thought of our going to Earth, why did he make no effort to have us stopped while we were still on Aurora? Or if he only discovered our flight after we had left orbit, why did he not have an Auroran vessel intercept us before we made the Jump to Earth? Can it be that we are on a completely wrong track, that somewhere we have made a serious misstep that--"

An insistent chain of intermittent chiming sounded throughout the ship and Daneel said, "We have safely made the Jump, friend Giskard. I sensed it some minutes ago. But we have not yet reached Earth and the interception you have just mentioned has, I suspect, now come, so that we are not necessarily on the wrong track."

69.

D.G. was moved to a perverse admiration. When the Aurorans were really moved to action, their technological polish showed. No doubt they had sent one of their newest warships, from which one could at once deduce that whatever had moved them was close to their heart.

And that ship had detected the presence of D.G.'s vessel within fifteen minutes of its appearance in normal space--and from a sizable distance, at that.

The Auroran ship was using a limited-focus hyperwave setup. The speaker's head could be seen clearly while it was at the focal spot. All else was a gray haze. If the speaker

moved his head a decimeter or so from the focal spot, that went into haze as well. Sound focus was limited as well. The net result was that one saw and heard only the fundamental minimum of the enemy ship (D.G. already thought of it as the "enemy" ship), so their privacy was guarded.

D.G.'s ship also possessed a limited-focus hyperwave, but, D.G. thought enviously, it lacked the polish and elegance of the Auroran version. Of course, his own ship was not the best the Settlers could do, but even so, the Spacers were well ahead technologically. The Settlers still had catching up to do.

The Auroran head in focus was clear and so real in appearance that it looked gruesomely disembodied, so that D.G. would not have been surprised if it had dripped blood. On second glance, however, it could be made out that the neck faded into grayness just after the neckpiece of an undoubtedly well-tailored uniform began to show.

The head identified itself, with punctilious courtesy, as Commander Lisiform of the Auroran ship Borealis. D.G. identified himself in his turn, thrusting his chin forward so as to make certain that his beard lent him an air of fierceness that could not help but be daunting to a beardless and (he thought) weak-chinned Spacer.

D.G. assumed the traditional air of informality that was as irritating to a Spacer officer, as the latter's traditional arrogance was to a Settler. He said, "What is your reason for hailing me, Commander Lisiform?"

The Auroran commander had an exaggerated accent which, it was possible, he thought as formidable as D.G. considered his beard to be. D.G. felt himself to be under considerable strain as he tried to penetrate the accent and understand him.

"We believe," said Lisiform, "that you have on your ship an Auroran citizen named Gladia Solaria. Is that correct, Captain Baley?"

"Madam Gladia is on board this ship, Commander."

"Thank you, Captain. With her, so my information leads me to suppose, are two robots of Auroran manufacture, R. Daneel Olivaw and R. Giskard Reventlov. Is that correct?"

"That is correct. "

"In that case, I must inform you that R. Giskard Reventlov is, at present, a dangerous device. Shortly before your ship left Auroran space with him, the said robot, Giskard, badly hurt an Auroran citizen in defiance of the Three Laws. The robot must, therefore, be dismantled and repaired."

"Are you suggesting, Commander, that we on this ship dismantle the robot?"

"No, sir, that would not do. Your people, lacking experience with robots, could not dismantle it properly and could not possibly repair it if they did."

"We might, then, simply destroy it."

"It is too valuable for that. Captain Baley, the robot is Aurora's product and Aurora's responsibility. We do not wish to be the cause of damage to the people on your ship and on the planet Earth if you land there. Consequently, we ask that it be delivered to us."

D.G. said, "Commander, I appreciate your concern. However, the robot is the legal property of Lady Gladia, who is with us. It may be that she would not consent to be parted from her robot and, while I don't want to teach you Auroran law, I believe that it would be illegal by that law to force such a parting. While my crew and I do not consider ourselves bound by Auroran law, we would not willingly be a party to helping you perform what your own government might consider to be an illegal act."

There was a suggestion of impatience in the commander's voice. "There is no question of illegality, Captain. A life-endangering malfunction in a robot supersedes the ordinary rights of an owner. Nevertheless, if there is any question of that, my ship stands ready to accept Lady Gladia and her robot Daneel, along with Giskard, the robot in question. There will then be no separation of Gladia Solaria and her robotic property until she is brought back to Aurora. The law can then take its proper course."

"It is possible, Commander, that Lady Gladia may not wish to leave my ship or to allow her property to do so."

"She has no recourse, Captain. I am legally empowered by my government to demand her--and as an Auroran citizen, she must obey."

"But I am not legally bound to deliver up anything on my ship at the demand of a foreign power. What if I choose to disregard your request?"

"In that case, Captain, I would have no choice but to consider it an unfriendly act. May I point out that we are within the sphere of the planetary system of which Earth is part. You had no hesitation in teaching me Auroran law. You will forgive me, then, if I point out that your people do not consider it proper to engage in hostilities within the space of this planetary system. "

"I am aware of that, Commander, and I wish no hostilities, nor do I intend an unfriendly act. However, I am bound for Earth under some urgency. I lose time in this conversation and I would lose further time if I moved toward you--or waited for you to move toward me--so that we could carry through a physical transfer of Lady Gladia and her robots. I would prefer to continue onward toward Earth and formally accept all responsibility for the robot Giskard and his behavior until such a time as Lady Gladia and her robots return to Aurora."

"May I make the suggestion, Captain, that you place the woman and two robots in a lifeboat and detach a member of your crew to pilot it to us? Once the woman and the two robots are delivered, we will ourselves escort the lifeboat to the immediate environs of Earth and we will compensate you adequately for your time and trouble. A Trader should not object to that."

"I don't, Commander, I don't," said D.G., smiling. "Still, the crewman detailed to pilot the lifeboat might be in great peril since he would be alone with this dangerous robot. "

"Captain, if the robot's owner is firm in her control, your crewman will be in no greater danger on the lifeboat than he would be on your ship. We will compensate him for the risk."

"But if the robot can, after all, be controlled by its owner, surely it is not so dangerous that it can't be left with us. "

The Commander frowned. "Captain, I trust you are not trying to play games with me. You have my request and I would like to have it honored at once."

"I presume I may consult with Lady Gladia."

"If you do so immediately. Please explain to her exactly what is involved. If, meanwhile, you try to proceed toward Earth, I shall consider that an unfriendly act and take the appropriate action. Since, as you claim, your trip toward Earth is urgent, I advise you to proceed forthwith to consult with Gladia Solaria and come to the immediate decision to cooperate with us. You will then not be too long delayed."

"I will do what I can," said D.G., wooden-faced, as he moved out of focus.

70.

"Well?" said D.G. gravely.

Gladia looked distressed. Automatically, she looked toward Daneel and Giskard, but they remained silent and motionless.

She said, "I don't want to return to Aurora, D.G. They can't possibly want to destroy Giskard; he is in perfect working order, I assure you. That's only a subterfuge. They want me for some reason. I suppose there's no way they can be stopped, though, is there?"

D.G. said, "That's an Auroran warship--and a big one. This is only a Trading vessel. We've got energy shields and they can't just destroy us at a blow, but they can wear us down eventually--quite soon, in fact--and then destroy us."

"Is there any way you can strike at them?"

"With my weapons? I'm sorry, Gladia, but their shields can take anything I can throw at them for as long as I can possibly have energy to expend. Besides--"

"Yes?"

"Well, they've just about cornered me. Somehow I thought they would try to intercept me before I Jumped, but they knew my destination and they got here first and waited for me. We're inside the Solar System--the planetary system of which Earth is part. We can't fight here. Even if I wanted to, the crew wouldn't obey me."

"Why not?"

"Call it superstition. The Solar System is holy space to us--if you want to describe it in melodramatic terms. We can't desecrate it by fighting."

Giskard said suddenly, "May I contribute to the discussion, sir?"

D.G. frowned and looked toward Gladia.

Gladia said, "Please. Let him. These robots are highly intelligent. I know you find that hard to believe, but--"

"I'll listen. I don't have to be influenced."

Giskard said, "Sir, I am certain that it is me that they want. I cannot allow myself to be the cause of harm to human beings. If you cannot defend yourself and are sure of destruction in a conflict with the other vessel, you have no choice but to give me up. I am sure that if you offer to let them have me, they will not seriously object if you wish to retain Lady Gladia and friend Daneel. It is the only solution."

"No," said Gladia forcefully. "You are mine and I won't give you up. I'll go with you--if the captain decides you must go--and I'll see to it they don't destroy you."

"May I speak as well?" said Daneel.

D.G. spread his hands in mock-despair. "Please. Everyone speak."

Daneel said, "If you decide you must give up Giskard, you must understand the consequences. I believe that Giskard thinks that if he is given up, those on the Auroran ship would do him no harm and that they will even release him. I do not believe this to be so. I believe the Aurorans are serious in thinking him to be dangerous and they may well have instructions to destroy the lifeboat as it approaches, killing whoever is on board."

"For what reason would they do that?" asked D.G.

"No Auroran has ever encountered--or even conceived--of what they call a dangerous robot. They would take no chances of taking one on board one of their vessels. --I would suggest, Captain, that you retreat. Why not Jump again, away from Earth? We are not close enough to any planetary mass to prevent that. "

"Retreat? You mean run away? I can't do that. "

"Well, then, you have to give us up," said Gladia with an air of resigned hopelessness.

D.G. said forcefully, "I'm not giving you up. And I'm not running away. And I can't fight."

"Then what's left?" asked Gladia.

"A fourth alternative," said D.G. "Gladia, I must ask you to remain here with your robots till I return."

71.

D.G. considered the data. There had been enough time during the conversation for the location of the Auroran vessel to be pinpointed. It was a bit farther from the sun than his own ship was and that was good. To Jump toward the sun, at this distance from it, would have been risky indeed; to Jump sideways would be, so to speak, a piece of cake in comparison. There was the chance of accident through probability deviation, but there was always that.

He had himself assured the crew that not a shot would be fired (which would do no good, in any case). Clearly, they had utter faith in Earth space protecting them as long as they didn't profane its peace by offering violence. It was pure mysticism that D.G. would have scornfully derided had he not shared the conviction himself.

He moved back into focus. It had been a fairly long wait, but there had been no signal from the other side. They had shown exemplary patience.

"Captain Baley here," he said. "I wish to speak to Commander Lisiform. "

There was not much of a wait. "Commander Lisiform here. May I have your answer?"

D.G. said, "We will deliver the woman and the two robots."

"Good! A wise decision."

"And we will deliver them as quickly as we can."

"Again a wise decision."

"Thank you." D.G. gave the signal and his ship Jumped.

There was no time, no need, to hold one's breath. It was over as soon as it was begun--or, at least, the time lapse was insensible.

The word came from the pilot. "New enemy ship position fixed, Captain."

"Good," said D.G. "You know what to do." The ship had come out of the Jump at high speed relative to the Auroran vessel and the course correction (not a great deal, it was to be hoped) was being made. Then further acceleration.

D.G. moved back into focus. "We are close, Commander, and on our way to deliver. You may fire if you choose, but our shields are up and before you can batter them down we will have reached you in order to make the delivery."

"Are you sending a lifeboat?" The commander moved out of focus.

D.G. waited and the commander was back, his face contorted. "What is this? Your ship is on a collision course."

"It seems to be, yes," said D.G. "That is the fastest way of making delivery."

"You will destroy your" ship."

"And yours, too. Your ship is at least fifty times as expensive as mine, probably more. A poor exchange for Aurora."

"But you are engaging in combat in Earth space, Captain. Your customs do not allow that."

"Ah, you know our customs and you take advantage of them. --but I am not in combat. I have not fired an erg of energy and I won't. I am merely following a trajectory. That trajectory happens to intersect your position, but since I am sure you will move before that intersection movement arrives, it is clear that I intend no violence."

"Stop. Let's talk about this."

"I'm tired of talking, Commander. Shall we all say a fond farewell? If you don't move, I will be giving up perhaps four decades with the third and fourth not so good, anyway. How many will you be giving up?" And D.G. moved out of focus and stayed out.

A beam of radiation shot out from the Auroran ship--tentative, as though to test whether the other's shields were truly up. They were.

Ships' shields would hold against electromagnetic radiation and subatomic particles, including even neutrinos, and could withstand the kinetic energy of small masses--dust particles, even meteoric gravel. The shields could not withstand larger kinetic energies, such as that of an entire ship hurtling at it with supermeteoric speed.

Even dangerous masses, if not guided--a meteoroid, for instance--could be handled. A vessel's computers would automatically veer the ship out of the way of any oncoming meteoroid that was too large for the shield to handle. That, however, would not work against a ship that could veer as its target veered. And if the Settler ship was the smaller of the two, it was also the more maneuverable.

There was only one way that the Auroran ship could avoid destruction. D.G. watched the other ship visibly enlarging in his viewing panel and wondered if Gladia, in her cabin, knew what was going on. She must be aware of the acceleration, despite the hydraulic suspension of her cabin and the compensatory action of the pseudo-gravity field.

And then the other ship simply winked out of view, having Jumped away, and D.G., with considerable chagrin, realized he was holding his breath and that his heart was racing. Had he had no confidence in the protecting influence of Earth or in his own sure diagnosis of the situation?

D.G. spoke into the transmitter in a voice that, with iron resolution, he forced into coolness. "Well done, men! Correct course and head for Earth."

16. THE CITY

72.

Gladia said, "Are you serious, D.G.? You really intended to collide with the ship?"

"Not at all," said D.G. indifferently. "I wasn't expecting to. I merely lunged at them, knowing they would retreat. Those Spacers weren't going to risk their long, wonderful lives when they could easily preserve them."

"Those Spacers? What cowards they are."

D.G. cleared his throat. "I keep forgetting you're a Spacer, Gladia. "

"Yes--and I imagine you think that that is a compliment to me. What if they had been as foolish as you--if they had shown the childish madness you think of as bravery--and stayed in place? What would you have done?"

D.G. muttered, "Hit them."

"And then we would all have died."

"The transaction would have been in our favor, Gladia. One crummy old Trader ship from a Settler world for a new and advanced warship of the leading Spacer world."

D.G. tipped his chair back against the wall and put his hands behind his neck (amazing how comfortable he felt, now that it was all over). "I once saw a historical hyperdrama, in which, toward the end of the war, airplanes loaded with explosives were deliberately flown into much more expensive seaships in order to sink them. Of course, the pilot of each airplane lost his life. "

"That was fiction," said Gladia. "You don't suppose civilized people do things like that in real life, do you?"

"Why not? If the cause is good enough."

"What was it, then, you felt as you plunged toward a glorious death? Exaltation? -- You were hurtling all your crew toward the same death. "

"They knew about it. We could do nothing else. Earth was watching."

"The people on Earth didn't even know."

"I mean it metaphorically. We were in Earth space. We could not act ignobly."

"Oh, what nonsense! And you risked my life, too."

D.G. looked down at his boots. "Would you like to hear something crazy? That was the only thing that bothered me. "

"That I would die?"

"Not quite. That I would lose you. --When that ship ordered me to give you up, I knew I wouldn't--even if you asked me to. I would gladly ram them instead; they couldn't have you. And then, as I watched their ship expand in the viewscreen, I thought, 'If they don't get out of here, I'll lose her anyway,' and that's when my heart started to pound and I began to sweat. I knew they'd run, and still the thought--" He shook his head.

Gladia frowned. "I don't understand you. You weren't worrying about my dying, but you were worried about losing me? Don't the two go together?"

"I know. I'm not saying it's rational. I thought of you rushing at the overseer to save me when you knew it could murder you with a blow. I thought of you facing the crowd at Baleyworld and talking them down when you had never even seen a crowd before. I even thought of you going to Aurora when you were a young woman and learning a new way of life--and surviving. --and it seemed to me I didn't mind dying, I just minded losing you. --You're right. It doesn't make sense."

Gladia said thoughtfully, "Have you forgotten my age? I was just about as old as I am now when you were born. When I was your age, I used to dream of your remote Ancestor. What's more, I've got an artificial hip joint. My left thumb--this one right here"--she wiggled it--"is strictly prosthetic. Some of my nerves have been rebuilt. My teeth are all implanted ceramic. And you talk as though any moment you're going to confess a transcendent passion. For what? --For whom? --Think, D.G.! --Look at me and see me as I am!"

D.G. tilted his chair back on two legs and rubbed at his beard with an odd scraping sound. "All right. You've made me sound silly, but I'm going to keep right on. What I know about your age is that you're going to survive me and look scarcely any older when you do, so you're younger than I am, not older. Besides, I don't care if you are older. What I would like is for you to stay with me wherever I go--for all my life, if possible."

Gladia was about to speak, but D.G. intervened hastily, "Or, if it seems more convenient, for me to stay with you wherever you go--for all my life, if possible. --If it's all right with you."

Gladia said softly, "I'm a Spacer. You're a Settler."

"Who cares, Gladia? Do you?"

"I mean, there's no question of children. I've had mine."

"What difference does that make to me! There's no danger of the name Baley dying out."

"I have a task of my own. I intend to bring peace to the Galaxy."

"I'll help you."

"And your trading? Will you give up your chance to be rich?"

"We'll do some together. Just enough to keep my crew happy and to help me support you in your task as peacebringer."

"Life will be dull for you, D.G."

"Will it? It seems to me that since you joined me it's been too exciting."

"And you'll probably insist on my giving up my robots."

D.G. looked distressed. "Is that why you've been trying to talk me out of this? I wouldn't mind your keeping the two of them--even Daneel and his small lecherous smile--but if we're going to live among Settlers--"

"Then I suppose I'll have to try to find the courage to do it."

She laughed gently and so did D.G. He held out his arms to her and she placed her hands in his.

She said, "You're mad. I'm mad. But everything has been so strange since the evening I looked up at the sky in Aurora and tried to find Solara's sun that I suppose being mad is the only possible response to things."

"What you've just said isn't only mad," said D.G., "it's crazy, but that's the way I want you to be." He hesitated. "No, I'll wait. I'll shave my beard before I try to kiss you. That will lower the chances of infection."

"No, don't! I'm curious about how it might feel."

And she promptly found out.

73.

Commander Lisiform strode back and forth across the length of his cabin. He said, "There was no use losing the ship. No use at all."

His political adviser sat quietly in his chair. His eyes did not bother to follow the agitated and rapid to-and-fro movement of the other. "Yes, of course," he said.

"What have the barbarians to lose? They only live a few decades, in any case. Life means nothing to them."

"Yes, of course."

"Still, I've never seen or heard of a Settler ship doing that. It may be a new fanatical tactic and we have no defense against it. What if they send drone ships against us, with shields up and full momentum but no human beings aboard?"

"We might robotify our ships entirely."

"That wouldn't help. We couldn't afford to lose the ship. What we need is the shield knife they keep talking about. Something that will slice through a shield."

"Then they'll develop one, too, and we will have to devise a knife-proof shield, and so will they, and it will be a standoff again at a higher level."

"We need something completely new, then."

"Well," said the adviser, "maybe something will turn up. Your mission wasn't primarily the matter of the Solarian woman and her robots, was it? It would have been pleasant if we could have forced them out of the Settler ship, but that was secondary, wasn't it?"

"The Council isn't going to like it, just the same."

"It's my job to take care of that. The important fact is that Amadiro and Mandamus left the ship and are on their way to Earth in a good speedy ferry. "

"Well, yes."

"And you not only distracted the Settler ship but delayed it as well. That means Amadiro and Mandamus not only left the ship unnoticed but they will be on Earth before our barbarian captain will."

"I suppose so. But what of that?"

"I wonder. If it were only Mandamus, I would dismiss the matter. He's of no consequence. But Amadiro? To abandon the political wars back home at a difficult time and come to Earth? Something absolutely crucial must be going on here."

"What?" The commander seemed annoyed that he should be so nearly--and so all-but-fatally-involved in something of which he understood nothing.

"I haven't any idea."

"Do you suppose it might be secret negotiations at the highest level for some sort of overall modification of the peace settlement Fastolfe had negotiated?"

The adviser smiled. "Peace settlement? If you think that, you don't know our Dr. Amadiro. He wouldn't travel to Earth in order to modify a clause or two in a peace settlement. What he's after is a Galaxy without Settlers and if he comes to Earth--well, all I can say is that I wouldn't like to be in the shoes of the Settler barbarians at this time."

74.

"I trust, friend Giskard," said Daneel, "that Madam Gladia is not uneasy at being without us. Can you tell at her distance?"

"I can detect her mind faintly but unmistakably, friend Daneel. She is with the captain and there is a distinct overlay of excitement and joy."

"Excellent, friend Giskard."

"Less excellent for myself, friend Daneel. I find myself in a state of some disorder. I have been under a great strain."

"It distresses me to hear that, friend Giskard. May I ask the reason?"

"We have been here for some time while the captain negotiated with the Auroran ship."

"Yes, but the Auroran ship is now gone, apparently, so that the captain seems to have negotiated to good effect."

"He has done so in a manner of which you were apparently not aware. I was--to an extent. Though the captain was not here with us, I had little trouble sensing his mind. It exuded overwhelming tension and suspense and underneath that a gathering and strengthening sense of loss."

"Loss, friend Giskard? Were you able to determine of what that loss might consist?"

"I cannot describe my method of analysis of such things, but the loss did not seem to be the type of loss I have in the past associated with generalities or with inanimate objects. It had the touch--that is not the word, but there is no other that fits even vaguely --of the loss of a specific person."

"Lady Gladia. "

"Yes."

"That would be natural, friend Giskard. He was faced with the possibility of having to give her up to the Auroran vessel."

"It was too intense for that. Too wailing."

"Too wailing?"

"It is the only word I can think of in this connection. There was a stressful mourning associated with the sense of loss. It was not as though Lady Gladia would move elsewhere and be unavailable for that reason. That might, after all, be corrected at some future time. It was as though Lady Gladia would cease existing--would die--and be forever unavailable."

"He felt, then, that the Aurorans would kill her? Surely that is not possible."

"Indeed, not possible. And that is not it. I felt a thread of a sense of personal responsibility associated with the deep, deep fear of loss. I searched other minds on board ship and, putting it all together, I came to the suspicion that the captain was deliberately charging his ship into the Auroran vessel."

"That, too, is not possible, friend Giskard," said Daneel in a low voice.

"I had to accept it. My first impulse was to alter the captain's emotional makeup in such a way as to force him to change course, but I could not. His mind was so firmly set, so saturated with determination and--despite the suspense, tension, and dread of loss--so filled with confidence of success--"

"How could there be at once a dread of loss through death and a feeling of confidence of success?"

"Friend Daneel, I have given up marveling at the capacity of the human mind to maintain two opposing emotions simultaneously. I merely accept it. In this case, to have attempted to alter the captain's mind to the point of turning the ship from its course would have killed him. I could not do that. "

"But if you did not, friend Giskard, scores of human beings on this ship, including Madam Gladia, and several hundreds more on the Auroran vessel would die."

"They might not die if the captain were correct in his feeling of confidence in success. I could not bring about one certain death to prevent many merely probable ones. There is the difficulty, friend Daneel, in your Zeroth Law. The First Law deals with specific individuals and certainties. Your Zeroth Law deals with vague groups and probabilities."

"The human beings on board these ships are not vague groups. They are many specific individuals taken together."

"Yet when I must make a decision it is the specific individual I am about to influence directly whose fate must count with me. I cannot help that."

"What was it you did do, then, friend Giskard--or were you completely helpless?"

"In my desperation, friend Daneel, I attempted to contact the commander of the Auroran vessel after a small Jump had brought him quite close to us. --I could not. The distance was too great. And yet the attempt was not altogether a failure. I did detect something, the equivalent of a faint hum. I puzzled over it a short while before realizing I was receiving the overall sensation of the minds of all the human beings on board the Auroran vessel. I had to filter out that faint hum from the much more prominent sensations arising from our own vessel--a difficult task."

Daneel said, "Nearly impossible, I should think, friend Giskard."

"As you say, nearly impossible, but I managed it with an enormous effort. However, try as I might, I could make out no individual minds. --When Madam Gladia faced the large numbers of human beings in her audience on Baleyworld, I sensed an anarchic confusion of a vast jumble of minds, but I managed to pick out individual minds here and there for a moment or two. That was not so on this occasion. . .

Giskard paused, as though lost in his memory of the sensation.

Daneel said, "I imagine this must be analogous to the manner in which we see individual stars even among large groups of them, when the whole is comparatively close to us. In a distant galaxy, however, we cannot make out individual stars but can see only a faintly luminous fog."

"That strikes me as a good analogy, friend Daneel. --and as I concentrated on the faint but distant hum, it seemed to me that I could detect a very dim wash of fear permeating it. I was not sure of this, but I felt I had to try to take advantage of it. I had never attempted to exert influence over anything so far away, over anything as inchoate as a mere hum--but I tried desperately to increase that fear by however small a trifle. I cannot say whether I succeeded. "

"The Auroran vessel fled. You must have succeeded."

"Not necessarily. The vessel might have fled if I had done nothing."

Daneel seemed lost in thought. "It might. If our captain were so confident that it would flee--"

Giskard said, "On the other hand, I cannot be sure that there was a rational basis to that confidence. It seemed to me that what I detected was intermixed with a feeling of awe and reverence for Earth. The confidence I sensed was rather similar to the kind I have detected in young children toward their protectors--parental or otherwise. I had the

feeling that the captain believed he could not fail in the neighborhood of Earth because of the influence of Earth. I wouldn't say the feeling was exactly irrational, but it felt nonrational, in any case."

"You are undoubtedly right in this, friend Giskard. The captain has, in our hearing, spoken of Earth, on occasion, in a reverential manner. Since Earth cannot truly influence the success of an action through any mystical influence, it is quite possible to suppose that your influence was indeed successfully exerted. And moreover--"

Giskard, his eyes glowing dimly, said, "Of what are you thinking, friend Daneel?"

"I have been thinking of the supposition that the individual human being is concrete while humanity is abstract. When you detected that faint hum from the Auroran ship, you were not detecting an individual, but a portion of humanity. Could you not, if you were at a proper distance from Earth and if the background noise were sufficiently small, detect the hum of the mental activity of Earth's human population, overall? And, extending that, can one not imagine that in the Galaxy generally there is the hum of the mental activity of all of humanity? How, then, is humanity an abstraction? It is something you can point to. Think of that in connection with the Zeroth Law and you will see that the extension of the Laws of Robotics is a justified one--justified by your own experience."

There was a long pause and finally Giskard said, slowly as though it were being dragged out of him, "You may be right friend Daneel. --and yet, if we are landing on Earth now, with a Zeroth Law we may be able to use, we still don't know how we might use it. It seems to us, so far, that the crisis that Earth faces involves the use of a nuclear intensifier, but as far as we know, there is nothing of significance on Earth on which a nuclear intensifier can do its work. What, then, will we do on Earth?"

"I do not --as yet know," said Daneel sadly.

75.

Noise!

Gladia listened in astonishment. It didn't hurt her ears. It wasn't the sound of surface slashing on surface. It wasn't a piercing shriek, or a clamor, or a banging, or anything that could be expressed by an onomatopoetic word.

It was softer and less overwhelming, rising and falling, bearing within it an occasional irregularity--and always there.

D.G. watched her listening, cocking her head to this side and that, and said, "I call it the 'Drone of the City,' Gladia."

"Does it ever stop?"

"Never, really, but what can you expect? Haven't you ever stood in a field and heard the wind rustling the leaves, and insects stridulating, and birds calling, and water running. That never stops."

"That's different."

"No, it isn't. It's the same. The sound here is the melting together of the rumble of machinery and the various noises people make, but the principle is precisely the same as the natural nonhuman noises of a field. You're used to fields, so you don't hear the noise there. You're not used to this, so you hear it and probably find it annoying. Earthpeople don't hear it except on the rare occasions when they come fresh in from the countryside--and then they are very glad indeed to greet it. Tomorrow you won't hear it either."

Gladia looked about thoughtfully from their position on a small balcony. "So many buildings"

"That's true enough. Structures in every direction--stretching outward for miles. And up--and down, too. This is not just a city, in the fashion of Aurora or Baleyworld. It is a City--capital 'C'--of the kind that exists only on Earth."

"These are the Caves of Steel," said Gladia. "I know. We're underground, aren't we?"

"Yes. Absolutely. I must tell you that it took me time to get used to this sort of thing the first time I visited Earth. Wherever you go in a City, it looks like a crowded city scene. Walkways and roadways and storefronts and mobs of people, with the soft and universal lights of fluorescents making everything seem bathed in soft shadowless sunshine--but it isn't sunshine and, up above the surface, I don't know if the sun is really shining at the moment, or is covered by clouds, or is absent altogether, leaving this part of the world plunged in night and darkness. "

"It makes the City enclosed. People breathe each other's air."

"We do anyway--on any world--anywhere."

"Not like this." She sniffed. "It smells."

"Every world smells. Every City on Earth smells differently. You'll get used to it."

"Do I want to? Why don't people suffocate?"

"Excellent ventilation."

"What happens when it breaks down?"

"It never does."

Gladia looked about again and said. "Every building seems loaded with balconies."

"It's a sign of status. Very few people have apartments facing out and if they do have one they want the advantage of it. Most Citypeople live inside windowless apartments."

Gladia shuddered, "Horrible! What's the name of this City, D.G.?"

"It's New York. It's the chief City, but not the largest. On this continent, Mexico City and Los Angeles are the largest and there are Cities larger than New York on other continents."

"What makes New York the chief City, then?"

"The usual reason. The Global Government is located here. The United Nations."

"Nations?" She pointed her finger triumphantly at D.G. "Earth was divided into several independent political units. Right?"

"Right. Dozens of them. But that was before hyperspatial travel--prehyper times. The name remains, though. That's what's wonderful about Earth. It's frozen history. Every other world is new and shallow. Only Earth is humanity in its essence."

D.G. said it in a hushed whisper and then retreated back into the room. It was not a large one and its furnishings were skimpy.

Gladia said, disappointed, "Why isn't there anyone about?"

D.G. laughed. "Don't worry, dear. If it's parades and attention you want, you'll have them. It's just that I asked them to leave us alone for a while. I want a little peace and rest and I imagine you do, too. As for my men, they have to berth the ship, clean it up, renew supplies, tend to their devotions--"

"Women?"

"No, that's not what I mean, though I suppose women will play a role later. By devotions, I mean that Earth still has its religions and these comfort the men somehow. Here on Earth, anyway. It seems to have more meaning here."

"Well," said Gladia half-contemptuously. "Frozen history, as you say. --Do you suppose we can get out of the building and walk about a bit?"

"Take my advice, Gladia, and don't jump into that sort of thing just now. You'll get plenty of it when the ceremonies begin."

"But that will be so formal. Could we skip the ceremonies?"

"No chance at all. Since you insisted on making yourself a heroine on Baleyworld, you'll have to be one on Earth as well. Still, the ceremonies will be through eventually. When you recover from them, we will get a guide and we'll really see the City."

"Will we have any trouble taking my robots with us?" She gestured toward Daneel and Giskard at the other end of the room. "I don't mind being without them when I'm with you on the ship, but if I'm going to be with crowds of strangers I'll feel more secure having them with me."

"There'll be no problem with Daneel, certainly. He's a hero in his own right. He was the Ancestor's partner and he passes for human. Giskard, who is an obvious robot, should, in theory, not be allowed inside the city borders, but they've made an exception in his case and I hope they will continue to do so. --It is too bad, in a way, that we must wait here and can't step outside."

"You say I should not be exposed to all that noise just yet," said Gladia.

"No, no. I'm not referring to the public squares and roadways. I would just like to take you out into the corridors within this particular building. There are miles and miles of them--literally--and they're a small bit of City in themselves: shopping recesses, dining halls, amusement areas, Personals, elevators, transways, and so on. There's more color and variety on one floor in one building in one City on Earth than in a whole Settler town or in a whole Spacer world."

"I should think everyone would get lost. "

"Of course not. Everyone knows his own neighborhood here, as anywhere else. Even strangers need only follow the signs."

"I suppose all the walking that people are forced to do must be very good for them physically," said Gladia dubiously.

"Socially, too. There are people in the corridors at all times and the convention is that you stop to exchange words with anyone you know and that you greet even those you don't know. Nor is walking absolutely necessary. There are elevators everywhere for vertical travel. The main corridors are transways and move for horizontal travel. Outside the building, of course, there is a feeder line to the Expressway network. That's something. You'll get to ride it."

"I've heard of them. They have strips that you walk across and that drag you along faster and faster--or slower and slower--as you move from one to another. I couldn't do that. Don't ask me to."

"Of course you'll be able to do it," said D.G. genially. "I'll help you. If necessary, I'll carry you, but all it takes is a little practice. Among the Earthpeople, kindergarten children manage and so do old people with canes. I admit Settlers tend to be clumsy about it. I'm no miracle of grace myself, but I manage and so will you."

Gladia heaved an enormous sigh. "Well, then, I'll try if I have to. But I tell you what, D.G., dear. We must have a reasonably quiet room for the night. I want your 'Drone of the City' muted."

"That can be arranged, I'm sure."

"And I don't want to have to eat in the Section kitchens."

D.G. looked doubtful. "We can arrange to have food brought in, but really it would do you good to participate in the social life of Earth. I'll be with you, after all."

"Maybe after a while, D.G., but not just at first--and I want a Personal for myself. "

"Oh, no, that's impossible. There'll be a washbasin and a toilet bowl in any room they assign us because we have status, but if you intend to do any serious showering or bathing, you'll have to follow the crowd. There'll be a woman to introduce you to the procedure and you'll be assigned a stall or whatever it is they have there. You won't be embarrassed. Settler women have to be introduced to the use of Personals every day of the year. --and you may end up enjoying it, Gladia. They tell me that the Women's Personal is a place of much activity and fun. In the Men's Personal, on the other hand, not a word is allowed spoken. Very dull."

"It's all horrible," muttered Gladia. "How do you stand the lack of privacy?"

"On a crowded world, needs must," said D.G. lightly. "What you've never had, you never miss. --Do you want any other aphorisms?"

"Not really," said Gladia.

She looked dejected and D.G. put an arm about her shoulder. "Come, it won't be as bad as you think. I promise you. "

It was not exactly a nightmare, but Gladia was thankful to her earlier experience on Baleyworld for having given her a preview of what was now a veritable ocean of humanity. The crowds were much larger here in New York than they had been on the Settler world, but on the other hand, she was more insulated from the herd here than she had been on the earlier occasion.

The government officials were clearly anxious to be seen with her. There was a wordless, polite struggle for a position near enough to her to be seen with her on hypervision. It isolated her, not only from the crowds on the other side of the police lines but from D.G. and from her two robots. It also subjected her to a kind of polite jostling from people who seemed to have an eye only on the camera.

She listened to what seemed innumerable speeches, all mercifully brief, without really listening. She smiled periodically, both blandly and blindly, casting the vision of her implanted teeth in all directions indiscriminately.

Gladia went by ground-car through miles of passageways at a crawl, while an uncounted ant heap lined the walkways, cheering and waving as she passed. (She wondered if ever a Spacer had received such adulation from Earthpeople and was quite confident that her own case was entirely unprecedented.)

At one point, Gladia caught sight of a distant knot of people gathered round a hypervision screen and momentarily had an undoubted glimpse of herself upon it. They were listening, she knew, to a recording of her speech on Baleyworld. Gladia wondered how many times and in how many places and before how many people it was being played now, and how many times it had been played since she gave it, and how many times it would yet be played in the future, and whether anything at all had been heard of it on the Spacer worlds.

Might she, in fact, seem a traitor to the people of Aurora and would this reception be held to be proof of it?

She might--and it might--and she was beyond caring. She had her mission of peace and reconciliation and she would follow it wherever it led without complaint--even to the unbelievable orgy of mass bathing and shrilly unconscious exhibitionism in the Women's Personal that morning. (Well, without much complaint.)

They came to one of the Expressways that D.G. had mentioned, and Gladia gazed in open horror at the endless snake of passenger cars that passed--and passed--and passed--each with its load of people who were on business that could not be postponed for the motorcade (or who simply didn't want to be bothered) and who stared solemnly at the crowds and the procession for the few moments they remained in sight.

Then the ground-car plunged downward under the Expressway, through a short tunnel that in no way differed from the passage above (the City was all tunnel), and up again on the other side.

And eventually the motorcade came to an end at a large public building that was, mercifully, more attractive than the endlessly repetitious blocks that represented the units of the City's residential section.

Within the building, there was yet another reception, during which alcoholic drinks and various hors d'oeuvres were served. Gladia fastidiously touched neither. A thousand people milled about and an endless succession of them came up to speak to Gladia. The word had apparently gone out not to offer to shake hands, but some inevitably did, and, trying not to hesitate, Gladia would briefly place two fingers on the hand and then withdraw them.

Eventually, a number of women prepared to leave for the nearest Personal and one of them performed what was obviously a social ritual and tactfully asked Gladia if she would like to accompany them. Gladia didn't, but there might be a long night ahead and might be more embarrassing to have to interrupt it later.

Within the Personal, there was the usual excited laughing and chattering and Gladia, bowing to the exigencies of the situation and fortified by her experience that morning, made use of the facilities in a small chamber with partitions on either side, but with none in front of her.

No one seemed to mind and Gladia tried to remind herself she must adjust to local customs. At least the place was well-ventilated and seemed spotlessly clean.

Throughout, Daneel and Giskard had been ignored. This, Gladia realized, was a kindness. Robots were no longer allowed within City limits, though there were millions in the countryside without. To have made a point of the presence of Daneel and Giskard would have meant raising the legal issue that involved. It was easier to pretend, tactfully, that they weren't there.

Once the banquet began, they sat quietly at a table with D.G., not too far removed from the dais. At the dais, Gladia sat, eating sparingly and wondering if the food would give her dysentery.

D.G., perhaps not entirely pleased with his relegation to the post of keeper of the robots, kept staring restlessly in Gladia's direction and, occasionally, she lifted one hand and smiled at him.

Giskard, equally watchful of Gladia, had an opportunity to say to Daneel very quietly, under cover of the relentless and unending background clash of cutlery and babble, "Friend Daneel, these are high officials that sit here in this room. It is possible that one or more may have information of use to us."

"It is possible, friend Giskard. Can you, thanks to your abilities, guide me in this respect?"

"I cannot. The mental background yields me no specific emotional response of interest. Nor does the occasional flash among the nearest show me anything. Yet the climax of the crisis is, I am certain, approaching quickly, even as we sit here, idle."

Daneel said gravely, "I will try to do as Partner Elijah would have done and force the pace."

77.

Daneel was not eating. He watched the assemblage with his calm eyes and located the one he was searching for. Quietly, he rose and moved toward another table, his eyes on a woman who was managing to eat briskly and yet maintain a cheerful conversation with the man on her left. She was a stocky woman, with short hair that showed definite traces of gray. Her face, if not youthful, was pleasant.

Daneel waited for a natural break in the conversation and when that did not come, he said with an effort, "Madam, may I interrupt?"

She looked up at him, startled and plainly displeased. "Yes," she said rather brusquely, "what is it?"

"Madam," said Daneel, "I ask your pardon for this interruption, but may I have your permission to speak with you for a time?"

She stared at him, frowning for a moment, and then her expression softened. She said, "I should guess, from your excessive politeness, that you're the robot, aren't you?"

"I am one of Madam Gladia's robots, madam."

"Yes, but you're the human one. You're R. Daneel Olivaw."

"That is my name, madam."

The woman turned to the man on her left and said, "Please excuse me. I can't very well refuse this--robot."

Her neighbor smiled uncertainly and transferred his attention to the place before him.

The woman said to Daneel, "If you have a chair, why don't you bring it here? I will be glad to speak to you."

"Thank you, madam."

When Daneel had returned and seated himself, she said, "You are really R. Daneel Olivaw, aren't you?"

"That is my name, madam," said Daneel again.

"I mean the one who worked with Elijah Baley long ago. You're not a new model of the same line? You're not R. Daneel the Fourth or something like that?"

Daneel said, "There is little of me that has not been replaced in the past twenty decades--or even modernized and improved--but my positronic brain is the same as it was when I worked with Partner Elijah on three different worlds--and once on a spaceship. It has not been altered."

"Well!" She looked at him admiringly. "You're certainly a good job. If all robots were like you, I'd see no objection to them whatever. --What is it you want to talk to me about?"

"When you were introduced to Lady Gladia, madam, before we all took our seats, you were presented to her as the Undersecretary of Energy, Sophia Quintana."

"You remember well. That is my name and my office."

"Does the office refer to all of Earth or merely to the City?"

"I'm Global Undersecretary, I assure you."

"Then you are knowledgeable in the field of energetics?"

Quintana smiled. She did not seem to object to being questioned. Perhaps she thought it amusing or perhaps she found herself attracted to Daneel's air of deferential gravity or to the mere fact that a robot could question her so. In any case, she said with a smile, "I majored in energetics at the University of California and have a master's degree in it. As to how knowledgeable I still am, I'm not certain. I've spent too many years as an administrator--something that saps one's brains, I assure you."

"But you would be well acquainted with the practical aspects of Earth's present energy supply, would you not?"

"Yes. That I will admit to. Is there something you want to know about it?"

"There is something that piques my curiosity, madam. "

"Curiosity? In a robot?"

Daneel bowed his head. "If a robot is complex enough, he can be aware of something within himself that seeks information. This is analogous to what I have observed to be called 'curiosity' in human beings and I take the liberty of using the same word in connection with my own feelings."

"Fair enough. What are you curious about, R. Daneel? May I call you that?"

"Yes, madam. I understand that Earth's energy supply is drawn from solar power stations in geostationary orbit in Earth's equatorial plane."

"You understand correctly. "

"But are these power stations the sole energy supply of this planet?"

"No. They are the primary--but not the sole--energy supply. There is considerable use of energy from Earth's internal heat, from winds, waves, tides, flowing water, and so on. We have quite a complex mix and each variety has its advantages. Solar energy is the mainstay, however."

"You make no mention of nuclear energy, madam. Are there no uses for microfusion?"

Quintana raised her eyebrows. "Is that what you're curious about, R. Daneel?"

"Yes, madam. What is the reason for the absence of nuclear power sources on Earth?"

"They are not absent, R. Daneel. On a small scale, one comes across it. Our robots--we have many in the countryside, you know--are microfusionized. Are you, by the way?"

Daneel said, "Yes, madam."

"Then, too," she went on, "there are microfusionized machines here and there, but the total is quite trifling."

"Is it not true, Madam Quintana, that microfusion energy sources are sensitive to the action of nuclear intensifiers?"

"They certainly are. Yes, of course. The microfusion power source will blow up and I suppose that comes under the heading of being sensitive."

"Then it isn't possible for someone, using a nuclear intensifier, to seriously cripple some crucial portion of Earth's energy supply. "

Quintana laughed. "No, of course not. In the first place, I don't see anyone dragging a nuclear intensifier about from place to place. They weigh tons and I don't think they can be maneuvered through and along the streets and corridors of a City. Certainly, it would be noticed if anyone tried. And then, even if a nuclear intensifier were brought into play, all it could do would be to destroy a few robots and a few machines before the thing would be discovered and stopped. There is no chance at all--zero--of our being hurt in that way. Is that the reassurance you wanted, R. Daneel?"

It was almost a dismissal.

Daneel said, "There are just one or two small points I would like clarified, Madam Quintana. Why is there no large microfusion source on Earth? The Spacer worlds all depend on microfusion and so do all the Settler worlds. Microfusion is portable, versatile, and cheap--and doesn't require the enormous effort of maintenance, repair, and replacement that space structures do."

"And, as you said, R. Daneel, they are sensitive to nuclear intensifiers. "

"And, as you said, Madam Quintana, nuclear intensifiers are too large and bulky to be of much use."

Quintana smiled broadly and nodded. "You are very intelligent, R. Daneel," she said. "It never occurred to me that I would ever sit at a table and carry on a discussion like this with a robot. Your Auroran roboticists are very clever--too clever--for I fear to carry on this discussion. I'd have to worry about you taking my place in the government. You know, we do have a legend about a robot named Stephen Byerly taking a high post in the government. "

"That must be merely fiction, Madam Quintana," said Daneel gravely. "There are no robots in governmental posts on any of the Spacer worlds. We are merely--robots."

"I'm relieved to hear that and will therefore go on. The matter of differences in power sources has its roots in history. At the time that hyperspatial travel was developed, we had microfusion, so that people leaving Earth took microfusion power sources with them. It was necessary on spaceships and on planets, too, in the generations during which they were being adapted for human occupation. It takes many years to build an adequate complex of solar power stations--and rather than undertake such a task, the emigrants remained with microfusion. So it was with the Spacers in their time and so it is now with the Settlers.

"On Earth, however, microfusion and solar power in space were developed at roughly the same time and both were used more and more. Finally, we could make our choice and use either microfusion or solar power or, of course, both. And we chose solar power."

Daneel said, "That seems strange to me, Madam Quintana. Why not both?"

"Actually, that's not a very difficult question to answer, R. Daneel. Earth, in prehyperspatial days, had had experience with a primitive form of nuclear energy, and it wasn't a happy experience. When the time came to choose between solar power and microfusion, Earthpeople saw microfusion as a form of nuclear energy and turned away from it. Other worlds, which did not have our direct experience with the primitive form of nuclear energy, had no reason to turn away from microfusion."

"May I ask what this primitive form of nuclear energy to which you refer might be, madam?"

"Uranium fission," said Quintana. "It's completely different from microfusion. Fission involves the splitting of massive nuclei, such as those of uranium. Microfusion involves the joining of light nuclei, such as those of hydrogen. They're both forms of nuclear energy, however."

"I presume that uranium would be the fuel for fission devices."

"Yes--or other massive nuclei, such as those of thorium or plutonium."

"But uranium and these others are exceedingly rare metals. Could they support a fission-using society?"

"Those elements are rare on other worlds. On Earth, they are not exactly common, but neither are they terribly rare. Uranium and thorium are widely spread in the crust in small quantities and are concentrated in a few places."

"And are there any fission-power devices on Earth now, madam?"

"No," said Quintana flatly. "Nowhere and in no fashion. Human beings would far sooner burn oil--or even wood--than fission uranium. The very word 'uranium' is taboo in polite society. You wouldn't be asking me these questions or I giving you these answers if you were a human being and an Earthman."

Daneel persisted. "But are you certain, madam? Is there no secret device that makes use of fission that, for the sake of national security --"

"No, robot," said Quintana, frowning. "I tell you--no such device. None!"

Daneel rose. "I thank you, madam, and I ask your pardon for taking your time and for probing what would seem to be a sensitive subject. With your permission, I shall leave you now."

Quintana waved a careless hand. "You're welcome, R. Daneel. "

She turned again to her neighbor, secure in the knowledge that in the crowds of Earth, people never attempted to overhear a nearby conversation or, if they did, never admitted the fact. She said, "Would you imagine having a discussion on energetics with a robot?"

As for Daneel, he returned to his original place and said softly to Giskard, "Nothing, friend Giskard. Nothing helpful."

Then he added sadly, "Perhaps I asked the wrong questions. Partner Elijah would have asked the right ones."

17. THE ASSASSIN

78.

Secretary-General Edgar Andrev, chief executive of Earth, was a rather tall and imposing man, clean-shaven in the Spacer style. He moved always in a measured fashion, as though on constant display, and he had a twinkling way about him as though he was always very pleased with himself. His voice was a bit too high-pitched for his body, but it fell well short of being squeaky. Without seeming obdurate, he was not easily swayed.

And he wasn't this time. "Impossible," he said firmly to D.G. "She must make her appearance."

"She's had a hard day, Secretary-General," said D.G. . . She is not accustomed to crowds or to these surroundings. I am responsible to Baleyworld for her well-being and my personal honor is at stake."

"I appreciate your position," said Andrev, "but I represent, and I cannot deny Earthpeople their view of her. The corridors are filled, the hyperwave channels are ready, and I would not be able to hide her, even if I desperately wished to do so. After this--and how long can it last? Half an hour?--she can retire and she need not make another appearance till her speech tomorrow night."

"Her comfort must be cared for," said D.G., tacitly abandoning his position. "She has to be kept at some distance from the crowd. "

"There will be a cordon of security guards that will give her ample breathing space. The front row of the crowd will be kept well back. They're out there now. If we don't announce that she will soon appear, there might well be disorder."

D.G. said, "It shouldn't have been arranged. It isn't safe. There are Earthpeople who aren't fond of Spacers."

The Secretary-General shrugged. "I wish you could tell me how I could possibly have kept it from being arranged. At the present moment she is a heroine and she cannot be withheld. Nor will anyone offer her anything but cheers--for the moment. But if she doesn't appear, that will change. Now, let us go."

D.G. backed away discontentedly. He caught Gladia's eye. She looked tired and more than a little unhappy.

He said, "You must, Gladia. There's no way out."

For a moment, she stared down at her hands as though wondering if they could do anything to protect her, then she straightened herself and lifted her chin--a small Spacer amid this horde of barbarians. "If I must, I must. Will you remain with me?"

"Unless they remove me physically."

"And my robots?"

D.G. hesitated. "Gladia, how will two robots be able to help you in the midst of millions of human beings?"

"I know, D.G. And I also know that I will have to do without them eventually if I am to continue this mission of mine. But not just yet, please. For the moment, I will feel safer with them, whether that makes sense or not. If these Earth officials want me to acknowledge the crowd, to smile, to wave, to do whatever it is I am supposed to do, the presence of Daneel and Giskard will comfort me. --Look, D.G., giving in to them on a very big thing, even though I am so uneasy that I think nothing would be so nice as to run away. Let them give in to me on this very little thing."

"I'll try," said D.G., in clear discouragement and, as he stepped toward Andrev, Giskard moved quietly with him.

A few minutes later, when Gladia, surrounded by a carefully picked contingent of officials, moved forward toward an open balcony, D.G. remained a little behind Gladia, flanked on his left by Giskard and on his right by Daneel.

The Secretary-General had said ruefully, "All right, all right. I don't know how you managed to make me agree, but all right." He rubbed his forehead, aware of a small vague ache in his right temple. For some reason he caught Giskard's eye and turned away with a stifled shudder. "But you must keep them motionless, Captain, remember. And please keep the one that looks like a robot as unobtrusive as you can. He makes me uneasy and I don't want people any more aware of him than they have to be."

D.G. said, "They will be looking at Gladia, Secretary-General. They will see no one else."

"I hope so," said Andrev waspishly. He paused to take a message capsule someone placed in his hand. He put it into his pocket, then walked on and didn't think of it again till they had reached the balcony.

79.

To Gladia, it seemed that each time she moved into another scene, it grew worse--more people, more noise, more confusing light, more invasion of every sense perception.

There was shouting. She could hear her own name being shouted out. With difficulty, she overcame her own tendency to retreat and become immobile. She lifted her arm and waved it and smiled and the shouting became louder. someone began to speak, his voice booming out over the loudspeaker system, his image on a large screen high above them so that it could be visible to all the crowd. Undoubtedly, it was also visible on innumerable screens in innumerable meeting halls in every Section of every City on the planet.

Gladia sighed with relief at having someone else in the spotlight. She tried to shrink within herself and let the sound of the speaker distract the attention of the crowd.

Secretary-General Andrev, seeking cover under the voice, even as Gladia did, was rather thankful that, in giving precedence to Gladia, it had not seemed necessary for him to speak on this occasion. He suddenly remembered the message he had pocketed.

He frowned in sudden disturbance over what it might be that warranted the interruption of so important a ceremony and then experienced a reverse feeling of intense irritation over the fact that it would probably prove to be utterly unimportant.

He pressed the ball of his right thumb hard against the slight concavity designed to accept the pressure and the capsule opened. He removed the thin piece of plastipaper, read the message it contained, and then watched it crumble and fragment. He brushed away the impalpable powder that remained and gestured imperiously to D.G.

It was scarcely necessary to whisper under the conditions of the vast and continuing noise in the square.

Andrev said, "You said you encountered an Auroran war vessel within the space of the Solar System. "

"Yes--and I imagine Earth's sensors detected it."

"Of course they did. You said there were no hostile actions on either side."

"No weapon was used. They demanded Madam Gladia and her robots. I refused and they left. I explained all this."

"How long did it all take?"

"Not very long. Several hours."

"You mean that Aurora sent a warship just to argue back and forth with you for a couple of hours and then leave. "

D.G. shrugged. "Secretary-General, I don't know their motivations. I can only report what happened."

The Secretary-General stared at him haughtily. "But you do not report all that happened. The information of the sensors has now been thoroughly analyzed by computer and it would seem that you attacked."

"I did not fire a kilowatt of energy, sir."

"Have you considered kinetic energy? You used the ship itself as a projectile."

"So it may have seemed to them. They did not choose to withstand me and call what might have been a bluff."

"But was it a bluff?"

"It might have been."

"It seems to me, Captain, that you were ready to destroy two ships inside the Solar System and perhaps create a war crisis. That was a terrible chance to take."

"I did not think it would come to actual destruction and it didn't."

"But the whole process delayed you and occupied your attention."

"Yes, I suppose so, but why are you pointing this out?"

"Because our sensors did observe one thing you did not observe--or, at any rate, did not report."

"What might that be, Secretary-General?"

"It caught the launching of an orbital module, which seems to have had two human beings on board and which descended toward Earth."

The two were immersed in a world of their own. No other human being on the balcony was paying any attention to them. Only the two robots flanking D.G. were staring at them and listening.

It was at this point that the speaker ceased, his last words being, "Lady Gladia, born a Spacer on the world of Solaria, living as a Spacer on the world of Aurora, but becoming a Citizen of the Galaxy on the Settler world of Baleyworld." He turned to her and gestured expansively, "Lady Gladia--"

The sound of the crowd became a long, happy rumble and the many-headed crowd became a forest of waving arms. Gladia felt a gentle hand on her shoulder and heard a voice in her ear that said, "Please. A few words, my lady."

Gladia said weakly, "People of Earth." The words boomed out and, uncannily, silence fell. Gladia said again, more firmly, "People of Earth, I stand before you a human being as you are. A bit older, I admit, so that I lack your youth, your hopefulness, your capacity for enthusiasm. My misfortune is tempered at this moment, however, by the fact that in your presence I feel myself catching your fire, so that the cloak of age falls away--"

Applause swelled and someone on the balcony said to someone else, "She's making them happy they're shortlived. That Spacer woman has the impudence of a devil."

Andrev was not paying attention. He said to D.G., "The whole episode with you may have been a device to get those men on Earth."

D.G. said, "I had no way of knowing that. I could think of very little else but saving Lady Gladia and my ship. Where have they landed?"

"We don't know. They have not landed in any of the City spaceports."

D.G. said, "I guess they wouldn't."

"Not that it matters," said the Secretary-General, "except to give me passing annoyance. Over the past several years, there have been a number of landings of this sort, though none so carefully prepared. Nothing's ever happened and we pay no attention. Earth, after all, is an open world. It is humanity's home and any person from any world can come and go freely--even Spacers, if they wish."

D.G. rubbed his beard with a rasping noise. "And yet their intentions might not be to do us any good whatever."

(Gladia was saying, "I wish you all well on this world of human origin, on this well-packed special world, and in this marvel of a City--" and acknowledged the gathering applause with a smile and a wave as she stood there and allowed the enthusiasm to catch--and gather.)

Andrev raised his voice, to be heard over the clamor of the crowd. "Whatever their intentions, it can come to nothing. The peace that has descended on Earth since the Spacers withdrew and Settlement began is unbreakable within and without. For many decades now, the wilder spirits among ourselves have been leaving for the Settler worlds so that a spirit such as yours, Captain, which can dare risk the destruction of two vessels within the space of the Solar system is not to be found on Earth. There is no substantial level of crime on Earth any longer, no violence. The security guards assigned to control this crowd have no weapons because they have no need for any. "

And as he spoke, from the anonymity of the vast crowd a blaster pointed upward toward the balcony and was carefully aimed.

80.

A number of things happened at nearly the same time.

Giskard's head had turned to stare at the crowd, drawn by some sudden effect.

Daneel's eyes followed, saw the aimed blaster, and, with faster-than-human reflexes, he lunged.

The sound of the blaster rang out.

The people on the balcony froze and then broke out into loud exclamations.

D.G. seized Gladia and snatched her to one side.

The noise from the crowd erupted into a full-throated and terrifying roar.

Daneel's lunge had been directed at Giskard and he knocked the other robot down.

The shot from the blaster entered the room behind the balcony and gouged a hole out of a portion of the ceiling. A line drawn from the blaster to the hole might have passed through that portion of space occupied a second earlier by Giskard's head.

Giskard muttered as he was forced down. "Not human. A robot."

Daneel, releasing Giskard, surveyed the scene quickly. Ground level was some six meters beneath the balcony and the space below was empty. The security guards were struggling their way toward the region of upheaval within the crowd that marked the spot where the would-be assassin had stood.

Daneel vaulted over the balcony and dropped, his metal skeleton absorbing the shock easily, as a human being's would not have.

He ran toward the crowd.

Daneel had no choice. He had never encountered anything like this before. The supreme need was to reach the robot with the blaster before it was destroyed and, with that in mind, Daneel found that, for the first time in his existence, he could not stand on the niceties of preserving individual human beings from harm. He had to shake them up somewhat.

He tossed them aside, in actual fact, as he plowed into the crowd, crying out in stentorian fashion, "Make way! Make way! The person with the blaster must be questioned!"

Security guards fell in behind him and they found the "person" at last, down and somewhat battered.

Even on an Earth that prided itself on being nonviolent, an eruption of rage against an obvious murderer left its mark. The assassin had been seized, kicked, and beaten. It was only the very density of the crowd that had saved the assassin from being torn apart. The multiple assailants, getting in each other's way, succeeded in doing comparatively little.

The security guards pushed back the crowd with difficulty. On the ground near the prone robot was the blaster. Daneel ignored it.

Daneel was kneeling by the captured assassin. He said, "Can you talk?"

Bright eyes stared up at Daneel's. "I can," said the assassin in a voice that was low but quite normal otherwise.

"Are you of Auroran origin?"

The assassin did not answer.

Daneel said quickly, "I know you are. It was an unnecessary question. Where on this planet is your base?"

The assassin did not answer.

Daneel said, "Your base? Where is it? You must answer. I am ordering you to answer."

The assassin said. "You cannot order me. You are R. Daneel Olivaw. I have been told of you and I need not obey you."

Daneel looked up, touched the nearest guard, and said, "Sir, would you ask this person where his base is?"

The guard, startled, tried to speak but only a hoarse croak emerged. He swallowed in embarrassment, cleared his throat, and then barked out, "Where is your base?"

"I am forbidden to answer that question, sir," said the assassin.

"You must," said Daneel firmly. "A planetary official is asking it. --Sir, would you order him to answer it?"

The guard echoed, "I order you to answer it, prisoner."

"I am forbidden to answer that question, sir."

The guard reached downward to seize the assassin roughly by the shoulder, but Daneel said rapidly, "I would suggest that it would not be useful to offer force, sir."

Daneel looked about. Much of the clamor of the crowd had died down. There seemed to be a tension in the air, as though a million people were waiting anxiously to see what Daneel would do.

Daneel said to the several guards who had now clustered about him and the prone assassin, "Would you clear the way for me, sirs? I must take the prisoner to Lady Gladia. It may be that she can force an answer."

"What about medical attention for the prisoner?" asked one of the guards.

"That will not be necessary, sir," said Daneel. He did not explain.

81.

"That this should have happened," said Andrev tightly, his lips trembling with passion. They were in the room off the balcony and he glanced up at the hole in the ceiling that remained as mute evidence of the violence that had taken place.

Gladia said, in a voice that she strove successfully to keep from shaking, "Nothing has happened. I am unharmed. There is that hole in the ceiling that you will have to repair and perhaps some additional repairs in the room above. That's all."

Even as she spoke, she could hear people upstairs moving objects away from the hole and presumably assessing damage.

"That is not all," said Andrev. "It ruins our plans for your appearance tomorrow, for your major address to the planet."

"It does the opposite," said Gladia. . . The planet will be the more anxious to hear me, knowing I have been the near-victim of an assassination attempt. "

"But there's the chance of another attempt."

Gladia shrugged lightly. "That just makes me feel I'm on the right track. -- Secretary-General Andrev, I discovered not too long ago that I have a mission in life. It did not occur to me that this mission might place me in danger, but since it does, it also occurs to me that I would not be in danger and not worth the killing if I was not striking home. If danger is a measure of my effectiveness, I am willing to risk that danger."

Giskard said, "Madam Gladia, Daneel is here with, I presume, the individual who aimed a blaster in this direction."

It was not only Daneel--carrying a relaxed, unstruggling figure--who appeared in the doorway of the room, but half a dozen security guards as well. Outside, the noise of the crowd seemed lower and more distant. It was clearly beginning to disperse and periodically one could hear the announcement over the loudspeakers: "No one has been hurt. There is no danger. Return to your homes."

Andrev waved the guards away. "Is that the one?" he asked sharply.

Daneel said, "There is no question, sir, but that this is the individual with the blaster. The weapon was near him, but the people close to the scene witnessed his action, and he himself admits the deed. "

Andrev stared at him in astonishment. "He's so calm. He doesn't seem human."

"He is not human, sir. He is a robot, a humanoid robot."

"But we don't have any humanoid robots on Earth.--Except you. "

"This robot, Secretary-General," said Daneel, "is, like myself, of Auroran manufacture."

Gladia frowned. "But that's impossible. A robot couldn't have been ordered to assassinate me."

D.G., looking exasperated and, with a most possessive arm about Gladia's shoulder, said in an angry rumble, "An Auroran robot, specially programmed--"

"Nonsense, D.G.," said Gladia. "No way. Auroran or not, special programming or not, a robot cannot deliberately try to harm a human being it knows to be a human being. If this robot did fire the blaster in my direction, he must have missed me on purpose."

"To what end?" demanded Andrev. "Why should he miss, madam?"

"Don't you see?" said Gladia. "Whoever it was that gave the robot its orders must have felt that the attempt would be enough to disrupt my plans here on Earth and it was the disruption they were after. They couldn't order the robot to kill me, but they could order him to miss me--and if that was enough to disrupt the program, they would be satisfied.

--Except that it won't disrupt the program. I won't allow that."

D.G. said, "Don't be a heroine, Gladia. I don't know what they'll try next and nothing --nothing--is worth losing you."

Gladia's eyes softened. "Thank you, D.G. I appreciate your feelings, but we must chance it."

Andrev pulled at his ear in perplexity. "What do we do? The knowledge that a humanoid robot used a blaster in a crowd of human beings will not be taken well by Earth people."

"Obviously, it wouldn't," said D.G. "Therefore, let's not tell them."

"A number of people must already know--or guess--that we are dealing with a robot."

"You won't stop the rumor, Secretary-General, but there is no need to make it more than that by means of an official announcement. "

Andrev said, "If Aurora is willing to go to this extreme to--"

"Not Aurora," said Gladia quickly. "Merely certain people on Aurora, certain fire-eaters. There are such bellicose extremists among the Settlers, too, I know, and probably even on Earth. Don't play into the hands of these extremists, Secretary-General. I'm appealing to the vast majority of sensible human beings on both sides and nothing must be done to weaken that appeal."

Daneel, who had been waiting patiently, finally found a pause long enough to make it possible for him to insert his comment. "Madam Gladia--sirs--it is important to find out from this robot where on this planet he is based. There may be others."

"Haven't you asked him?" said Andrev.

"I have, Secretary-General, but I am a robot. This robot is not required to answer questions put to him by another robot. Nor is he required to follow my orders."

"Well, then, I will ask," said Andrev.

"That may not help, sir. The robot is under stringent orders not to answer and your order to answer will probably not overcome them. You do not know the proper phraseology and intonation. Madam Gladia is an Auroran and knows how this may be done. Madam Gladia, would you inquire as to where his planetary base might be?"

Giskard said in a low voice, so that only Daneel heard him, "It may not be possible. He may have been ordered into irreversible freeze if the questioning becomes too insistent."

Daneel's head turned sharply to Giskard. He whispered, "Can you prevent that?"

"Uncertain," said Giskard. "The brain has been physically damaged by the act of firing a blaster toward human beings."

Daneel turned back to Gladia. "Madam," he said, "I would suggest you be probing, rather than brutal."

Gladia said doubtfully, "Well, I don't know." She faced the robot assassin, drew a deep breath, and in a voice that was firm yet soft and gentle, she said, "Robot, how may I address you?"

The robot said, "I am referred to as R. Ernett Second, madam."

"Ernett, can you tell that I am an Auroran?"

"You speak in the Auroran fashion, yet not entirely, madam."

"I was born on Solaria, but I am a Spacer who has lived for twenty decades on Aurora and I am accustomed to being served by robots. I have expected and received service from robots every day of my life since I was a small child. I have never been disappointed. "

"I accept the fact, madam."

"Will you answer my questions and accept my orders, Ernett?"

"I will, madam, if they are not counteracted by a competing order."

"If I ask you the location of your base on this planet what portion of it you count as your master's establishment--will you answer that?"

"I may not do so, madam. Nor any other question with respect to my master. Any question at all."

"Do you understand that if you do not answer I will be bitterly disappointed and that my rightful expectation of robotic service will be permanently blunted?"

"I understand, madam," said the robot faintly.

Gladia looked at Daneel. "Shall I try?"

Daneel said, "There is no choice but to try, Madam Gladia. If the effort leaves us without information, we are no worse off than now."

Gladia said, in a voice that rang with authority, "Do not inflict damage on me, Ernett, by refusing to tell me the location of your base on this planet. I order you to tell me."

The robot seemed to stiffen. His mouth opened but made no sound. It opened again and he whispered huskily, ". . . mile. . . " It opened a third time silently--and then, while the mouth remained open, the gleam went out of the robot assassin's eyes and they became flat and waxen. One arm, which had been a little raised, dropped downward.

Daneel said, "The positronic brain has frozen."

Giskard whispered to Daneel only, "Irreversible! I did my best but could not hang on."

"We have nothing," said Andrev. "We don't know where the other robots might be."

D.G. said, "It said, 'mile.'"

"I do not recognize the word," said Daneel. "It is not Galactic Standard as the language is used on Aurora. Does it have meaning on Earth?"

Andrev said, rather blankly, "He might have been trying to say 'smile' or 'Miles.' I once knew a man whose first name was Miles."

Daneel said gravely, "I do not see how either word could make sense as an answer--or part of an answer--to the question. Nor did I hear any sibilance, either before or after the sound."

An elderly Earthman, who till now had remained silent, said, with a certain appearance of diffidence, "I am under the impression a mile may be an ancient measure of distance, robot."

"How long a measure, sir?" asked Daneel.

"I do not know," said the Earthman. "Longer than a kilometer, I believe."

"It isn't used any longer, sir?"

"Not since the prehyperspatial era." D.G. pulled at his beard and he said thoughtfully, "It's still used. At least, we have an old saying on Baleyworld that goes, 'A miss is as good as a mile.' It is used to mean that, in avoiding misfortune, avoidance by a little is as good as avoidance by a great deal. I always thought 'mile' meant 'a great deal.' If it really represents a measure of distance, I can understand the phrase better. "

Gladia said, "If that is so, the assassin may have been trying to say exactly that. He may have indicated his satisfaction that a miss--his deliberately missed shot--would accomplish what he was ordered to accomplish or, perhaps, that his missed shot, doing no harm, was equivalent to his not having fired at all."

"Madam Gladia," said Daneel, "a robot of Auroran manufacture would scarcely be using phrases that might exist on Baleyworld but have certainly never been heard on Aurora. And, in his damaged condition, he would not philosophize. He was asked a question and he would only be trying to answer the question."

"Ah," said Andrew, "perhaps he was trying to answer. He was trying to tell us that the base was a certain distance from here, for instance. So many miles."

"In that case," said D.G., "why should he use an archaic measure of distance? No Auroran would use anything but kilometers in this connection, nor would any robot of Auroran manufacture. In fact," he went on with an edge of impatience, "the robot was rapidly sinking into total inactivity and it might have been making nothing more than random sounds. It is useless to try to extract meaning from something that doesn't contain it. --And now I want to make sure that Madam Gladia gets some rest or that she is at least moved out of this room before the rest of the ceiling comes down."

They moved out quickly and Daneel, lingering behind for a moment, said softly to Giskard, "Again we fail!"

82.

The City never grew entirely quiet, but there were periods when the lights were dimmer, the noise of the ever-moving Expressways was subdued, and the endless clatter of machinery and humanity subsided just a bit. In several million apartments people slept.

Gladia got into bed in the apartment assigned to her, uncomfortable over the missing amenities that she feared might force her out into the corridors during the night.

Was it night on the surface, she wondered just before falling asleep, or was it merely an arbitrary "sleep period" fixed within this particular cave of steel, in deference to a habit developed over the hundreds of millions of years that human beings and their ancestors had lived on the surface of the land.

And then she slept.

Daneel and Giskard did not sleep. Daneel, finding there was a computer outlet in the apartment, spent an absorbed half hour learning the unfamiliar key combinations by hit-and-miss. There were no instructions of any sort available (who needs instructions for what every youngster learns in grade school?) but, fortunately, the controls, while not the same as those of Aurora, were not wholly different either. Eventually, he was able to tune into the reference section of the City library and call up the encyclopedia. Hours passed.

At the lowest depth of the humans' sleep period, Giskard said, "Friend Daneel."

Daneel looked up. "Yes, friend Giskard."

"I must ask for an explanation of your actions on the balcony."

"Friend Giskard, you looked toward the crowd. I followed your glance, saw a weapon aimed in your direction, and reacted at once."

Giskard said, "So you did, friend Daneel, and given certain assumptions, I can understand why it was me that you lunged forward to protect. Begin with the fact that the

would-be assassin was a robot. In that case, however it might be programmed, it could not aim its weapon at any human being with the intention of hitting him or her. Nor was it likely to aim its weapon at you, for you look enough like a human being to activate the First Law. Even if the robot had been told that a humanoid robot would be on the balcony, he could not be certain that you were he. Therefore, if the robot intended to destroy someone in the balcony, it could only be me--the obvious robot--and you acted at once to protect me.

"Or begin with the fact that the assassin was an Auroran--whether human or robot does not matter. Dr. Amadiro is most likely to have ordered such an attack, since he is an extremist in his anti-Earth stand and, we believe, is plotting its destruction. Dr. Amadiro, we can be reasonably certain, has learned of my special abilities from Madam Vasilisa and it might be argued that he would give my destruction top priority, since he would naturally fear me more than anyone else--robot or human. Reasoning this out, it would be logical for you to act as you did to protect me. --And, indeed, had you not knocked me down, I believe the blast would have destroyed me.

"But, friend Daneel, you could not possibly have known that the assassin was a robot or that he was Auroran. I myself had only just caught the strange anomaly of a robotic brain pattern against the vast blur of human emotion when you struck me--and it was only after that, that I had the chance of informing you. Without my ability, you could only be aware that a weapon was being aimed by what you must naturally have thought of as a human being and an Earthperson. The logical target, then, was Madam Gladia, as, in fact, everyone on the balcony assumed it to be. Why, then, did you ignore Madam Gladia and protect me, instead?"

Daneel said, "Friend Giskard, consider my line of thought. The Secretary-General had said that a two-man Auroran landing module had come to Earth's surface. I assumed at once that Dr. Amadiro and Dr. Mandamus had come to Earth. For this, there could be only one reason. The plan they have, whatever its nature, is at--or very nearly at the point of maturity. Now that you have come to Earth, friend Giskard, they have dashed here to see it carried through at once before you have a chance to stop it with your mind-adjusting powers. To make matters doubly sure, they would act to destroy you if they could. Therefore, when I saw an aimed weapon, I moved at once to force you out of the line of fire."

Giskard said, "The First Law should have forced you to move Madam Gladia out of the line of fire. No thought, no reasoning, should have altered that."

"No, friend Giskard. You are more important than Madam Gladia is. You are, in fact, more important than any human being could be at this moment. If anyone at all can stop the destruction of Earth, you can.

Since I am aware of your potential service to humanity, then, when I am confronted by a choice of action, the Zeroth Law demands that I protect you ahead of anyone else."

"And you do not feel uncomfortable at your having acted in defiance 'of the First Law."

"No, for I acted in obedience to the overriding Zeroth Law."

"But the Zeroth Law has not been imprinted into you."

"I have accepted it as a corollary of the First Law, for how can a human being best be kept from injury, if not by ensuring that human society in general is protected and kept functioning?"

Giskard thought a while. "I see what you are trying to say, but what if--in acting to save me and, therefore, in acting to save humanity --it had turned out that I was not aimed at and that Madam Gladia was killed? How would you have felt then, friend Daneel?"

Daneel said in a low tone, "I do not know, friend Giskard. Yet, had I leaped to save Madam Gladia and had it turned out that she was, in any case, safe and that I had allowed you to be destroyed and with you, in my opinion, the future of humanity, how could I have survived that blow?"

The two stared at each other--each, for a while, lost in thought.

Giskard said finally, "That may be so, friend Daneel, but do you agree, however, that judgment is difficult in such cases?"

"I agree, friend Giskard."

"It is difficult enough, when one must choose quickly between individuals, to decide which individual may suffer--or inflict--the greater harm. To choose between an individual and humanity, when you are not sure of what aspect of humanity you are dealing with, is so difficult that the very validity of Robotic Laws comes to be suspect. As soon as humanity in the abstract is introduced, the Laws of Robotics begin to merge with the Laws of Humanics--which may not even exist."

Daneel said, "I do not understand you, friend Giskard."

"I am not surprised. I am not certain I understand myself. But consider--When we think of the humanity we must save, we think of Earthpeople and the Settlers. They are more numerous than the Spacers, more vigorous, more expansive. They show more initiative because they are less dependent on robots. They have a greater potential for biological and social evolution because they are shorter-lived, though long-lived enough to contribute great things individually."

"Yes," said Daneel, "you put it succinctly."

"And yet the Earthpeople and the Settlers seem to possess a mystical and even irrational confidence in the sanctity and inviolability of Earth. Might not this mystique be as fatal to their development as the mystiques of robots and long life that hobble the Spacers?"

"I had not thought of this," said Daneel. "I do not know."

Giskard said, "If you were as aware of minds as I am, you would have been unable to avoid thinking of this. --How does one choose?" he went on with sudden intensity.

"Think of humanity as divided into two species: the Spacers, with one apparently fatal mystique, and the Earthpeople plus the Settlers, with another possibly fatal mystique. It may be that there will be other species, in the future, with even less attractive properties.

"It is not sufficient to choose, then, friend Daneel. We must be able to shape. We must shape a desirable species and then protect it, rather than finding ourselves forced to

select among two or more undesirabilities. But how can we achieve the desirable unless we have psychohistory, the science I dream of and cannot attain?"

Daneel said, "I have not appreciated the difficulty, friend Giskard, of possessing the ability to sense and influence minds. Is it possible that you learn too much to allow the Three Laws of Robotics to work smoothly within you?"

"That has always been possible, friend Daneel, but not until these recent events has the possibility become actual. I know the pathway pattern that produces this mind-sensing and mind-influencing effect within me. I have studied myself carefully for decades in order that I might know it and I can pass it on to you so that you might program yourself to be like me--but I have resisted the urge to do so. It would be unkind to you. It is enough that I bear the burden."

Daneel said, "Nevertheless, friend Giskard, if ever, in your judgment, the good of humanity would require it, I would accept the burden. Indeed, by the Zeroth Law, I would be obliged to."

Giskard said, "But this discussion is useless. It seems apparent that the crisis is nearly upon us--and since we have not even managed to work out the nature of the crisis--"

Daneel interrupted. "You are wrong, there at least, friend Giskard. I now know the nature of the crisis."

83.

One would not expect Giskard to show surprise. His face was, of course, incapable of expression. His voice possessed modulation, so that his speech sounded human and was neither monotonous nor unpleasant. That modulation, however, was never altered by emotion in any recognizable way.

Therefore, when he said, "Are you serious?" it sounded as it would have had he expressed doubt over a remark Daneel had made concerning what the weather would be like the next day. Yet, from the manner in which his head turned toward Daneel, the way in which one hand lifted, there was no doubt that he was surprised.

Daneel said, "I am, friend Giskard."

"How did the information come to you?"

"In part, from what I was told by Madam Undersecretary Quintana at the dinner table."

"But did you not say that you had obtained nothing helpful from her, that you supposed you had asked the wrong questions?"

"So it seemed in the immediate aftermath. On further reflection, however, I found myself able to make helpful deductions from what she had said. I have been searching Earth's central encyclopedia through the computer outlet these past few hours--"

"And found your deductions confirmed?"

"Not exactly, but I found nothing that would refute them, which is perhaps the next best thing. "

"But is negative evidence sufficient for certainty?"

"It is not. And therefore I am not certain. Let me tell you, however, my reasoning and if you find it faulty, say so."

"Please proceed, friend Daneel."

"Fusion power, friend Giskard, was developed on Earth before the days of hyperspatial travel and, therefore, while human beings were to be found only on the one planet, Earth. This is well known. It took a long time to develop practical controlled fusion power after the possibility had first been conceived and put on a sound scientific footing. The chief difficulty in converting the concept into practice involved the necessity of achieving a sufficiently high temperature in a sufficiently dense gas for a long enough time to bring about fusion ignition.

"And yet several decades before controlled fusion power had been established, fusion bombs had existed--these bombs representing an uncontrolled fusion reaction. But controlled or uncontrolled, fusion could not take place without an extremely high temperature in the millions of degrees. If human beings could not produce the necessary temperature for controlled fusion power, how could they do so for an uncontrolled fusion explosion?

"Madam Quintana told me that before fusion existed on Earth, there was another variety of nuclear reaction in existence--nuclear fission. Energy was derived from the splitting--or fission--of large nuclei, such as those of uranium and thorium. That, I thought, might be one way of achieving a high temperature.

"The encyclopedia I have this night been consulting gives very little information about nuclear bombs of any sort and, certainly, no real details. It is a taboo subject, I gather, and it must be so on all worlds, for I have never read of such details on Aurora either, even though such bombs still exist. It is a part of history that human beings are ashamed of, or afraid of, or both and I think this is rational. In what I did read of fusion bombs, however, I read nothing about their ignition that would have eliminated the fission bomb as the igniting mechanism. I suspect, then, that based, in part, on this negative evidence, the fission bomb was the igniting mechanism.

"But, then, how was the fission bomb ignited? Fission bombs existed before fusion bombs and if fission bombs required an ultrahigh temperature for ignition, as fusion bombs did, then there was nothing that existed before fission bombs that would supply a high enough temperature. From this, I conclude--even though the encyclopedia contained no information on the subject--that fission bombs could be ignited at relatively low temperatures, perhaps even at room temperature. There were difficulties involved, for it took several years of unremitting effort after the discovery that fission existed before the bomb was developed. Whatever those difficulties might have been, however, they did not involve the production of ultrahigh temperatures. --Your opinion of all this, friend Giskard?"

Giskard had kept his eyes steadily on Daneel throughout his explanation and he now said, "I think the structure you have built up has serious weak points, friend Daneel, and therefore may not be very trustworthy--but even if it were all perfectly sound, surely this has nothing to do with the possible forthcoming crisis that we are laboring to understand."

Daneel said, "I plead for your patience, friend Giskard, and I will continue. As it happens, both the fusion process and the fission process are expressions of the weak interactions, one of the four interactions that control all events in the Universe. Consequently, the same nuclear intensifier that will explode a fusion reactor will also explode a fission reactor.

"There is, however, a difference. Fusion takes place only at ultrahigh temperatures. The intensifier explodes the ultrahot portion of the fuel that is actively undergoing fusion, plus some of the surrounding fuel that is heated to fusion in the initial explosion--before the material is blown explosively outward and the heat is dissipated to the point where other quantities of fuel present are not ignited. Some of the fusion fuel is exploded, in other words, but a good deal--perhaps even most--is not. The explosion is powerful enough even so, of course, to destroy the fusion reactor and anything in its immediate neighborhood, such as a ship carrying the reactor.

"On the other hand, a fission reactor can operate at low temperatures, perhaps not much above the boiling point of water, perhaps even at room temperature. The effect of the nuclear intensifier, then, will be to make all the fission fuel go. Indeed, even if the fission reactor is not actively working, the intensifier will explode it. Although, gram for gram, I gather that fission fuel liberates less energy than fusion fuel, the fission reactor will produce the greater explosion because more of its fuel explodes than in the case of the fusion reactor."

Giskard nodded his head slowly and said, "All this may well be so, friend Daneel, but are there any fission power stations on Earth?"

"No, there aren't--not one. So Undersecretary Quintana seemed to indicate and the encyclopedia seems to agree. Indeed, whereas there are devices on Earth that are powered by small fusion reactors, there is nothing--nothing at all--that is powered by fission reactors, large or small."

"Then, friend Daneel, there is nothing for a nuclear intensifier to act upon. All your reasoning, even were it impeccable, ends in nothing."

Daneel said earnestly, "Not quite, friend Giskard. There remains a third type of nuclear reaction to be taken into consideration. "

Giskard said, "What might that be? I cannot think of a third."

"It is not an easy thought, friend Giskard, for on the Spacer and Settler worlds, there is very little uranium and thorium in the planetary crusts and, therefore, very little in the way of obvious radioactivity. The subject is of little interest, in consequence, and is ignored by all but a few theoretical physicists. On Earth, however, as Madam Quintana pointed out to me, uranium and thorium are comparatively common, and natural radioactivity, with its ultraslow production of heat and energetic radiation, must therefore

be a comparatively prominent part of the environment. That is the third type of nuclear reaction to be taken into consideration."

"In what way, friend Daneel?"

"Natural radioactivity is also an expression of the weak interaction. A nuclear intensifier that can explode a fusion reactor or a fission reactor can also accelerate natural radioactivity to the point, I presume, of exploding a section of the crust--if enough uranium or thorium is present."

Giskard stared at Daneel for a period of time without moving or speaking. Then he said softly, "You suggest, then, that it is Dr. Amadiro's plan to explode Earth's crust, destroy the planet as an abode of life, and, in this way, ensure the domination of the Galaxy by the Spacers."

Daneel nodded. "Or, if there is not enough thorium and uranium for mass explosion, the increase of radioactivity may produce excess heat that will alter the climate, and excess radiation that will produce cancer and birth defects, and these will serve the same purpose--if a bit more slowly."

Giskard said, "This is an appalling possibility. Do you think it can really be brought about?"

"Possibly. It seems to me that for several years now--just how many I do not know--humanoid robots from Aurora, such as the would-be-assassin--have been on Earth. They are advanced enough for complex programming and are capable, when needed, of entering the Cities for equipment. They have, it is to be presumed, been setting up nuclear intensifiers in places where the soil is rich in uranium or thorium. Perhaps many intensifiers have been set up over the years. Dr. Amadiro and Dr. Mandamus are here now to oversee the final details and to activate the intensifiers. Presumably, they are arranging matters so that they will have time to escape before the planet is destroyed."

"In that case," said Giskard, "it is imperative that the Secretary-General be informed, that Earth's security forces be mobilized at once, that Dr. Amadiro and Dr. Mandamus be located without delay, and that they be restrained from completing their project."

Daneel said, "I do not think that can be done. The Secretary-General is very likely to refuse to believe us, thanks to the widespread mystical belief in the inviolability of the planet. You have referred to that as something that would work against humanity and I suspect that is just what it will do in this case. If his belief in the unique position of Earth is challenged, he will refuse to allow his conviction, however irrational, to be shaken and he will seek refuge by refusing to believe us."

"Then, too, even if he believed us, any preparation for counter-measures would have to go through the governmental bureaucracy and, no matter how that process was speeded, it would take far too long to serve its purpose."

"Not only that but, even if we could imagine the full resources of Earth mobilized at once, I do not think Earthpeople are adapted to locate the presence of two human beings in an enormous wilderness. The Earthpeople have lived in the Cities for many scores of decades and almost never venture beyond the City confines. I remember that

well from the occasion of my first case with Elijah Baley here on Earth,. And even if Earthpeople could force themselves to tramp the open spaces, they are not likely to come across the two human beings soon enough to save the situation except by the most incredible of coincidences--and that is something we cannot count upon."

Giskard said, "Settlers could easily form a search party. They are not afraid of open environments or of strange ones."

"But they would be as firmly convinced in the planet's inviolability as Earthpeople are, just as insistent on refusing to believe us, and just as unlikely to find the two human beings quickly enough to save the situation--even if they should believe us."

"What of Earth's robots, then?" said Giskard. "They swarm in the spaces between the Cities. Some should already be aware of human beings in their midst. They should be questioned."

Daneel said, "The human beings in their midst are expert roboticists. They would not have failed to see to it that any robots in their vicinity remain unaware of their presence. Nor, for this same reason, need they fear danger from any robots who might be part of a searching party. The party will be ordered to depart and forget. To make it worse, Earth's robots are comparatively simple models, designed for very little more than for specific tasks in growing crops, herding animals, and operating mines. They cannot easily be adapted to such a general purpose as conducting a meaningful search."

Giskard said, "You have eliminated every possible action, friend Daneel? Does anything remain?"

Daneel said, "We must find the two human beings ourselves and we must stop them--and we must do it now."

"Do you know where they are, friend Daneel?"

"I do not, friend Giskard. "

"Then if it seems unlikely that an elaborate search party composed of many, many Earthpeople, or Settlers, or robots, or, I presume, all three, could succeed in finding their location in time except by the most marvelous of coincidences, how can we two do so?"

"I do not know, friend Giskard, but we must."

And Giskard said, in a voice that seemed to have an edge of harshness in its choice of words, "Necessity is not enough, friend Daneel. You have come a long way. You have worked out the existence of a crisis and, bit by bit, you have worked out its nature. And none of it serves. Here we remain, as helpless as ever to do anything about it."

Daneel said, "There remains one chance--a farfetched one, an all-but-useless one--but we have no choice except to try. Out of Amadiro's fear of you, he sent an assassin robot to destroy you and that may turn out to have been his mistake. "

"And if that all-but-useless chance fails, friend Daneel?"

Daneel looked calmly at Giskard. "Then we are helpless, and Earth will be destroyed, and human history will dwindle to an eventual end."

18. THE ZEROth LAW

84.

Keldon Amadiro was not happy. The surface gravity of Earth was a trifle too high for his liking, the atmosphere a trifle too dense, the sound and the odor of the outdoors subtly and annoyingly different from that on Aurora, and there was no indoors that could make any pretense of being civilized.

The robots had built shelters of a sort. There were ample food supplies and there were makeshift privies that were functionally adequate but offensively inadequate in every other way.

Worst of all, though the morning was pleasant enough, it was a clear day and Earth's too-bright sun was rising. Soon the temperature would be too high, the air would be too damp, and the biting insects would appear. Amadiro had not understood, at first, why there should be small itching swellings on his arms till Mandamus explained.

Now he mumbled, as he scratched, "Dreadful! They might carry infections. "

"I believe," said Mandamus with apparent indifference, "that they sometimes do. It isn't likely, however. I have lotions to relieve the discomfort and we can burn certain substances that the insects find offensive, although I find the odors offensive, too."

"Burn them," said Amadiro.

Mandamus continued, without changing tone, "And I don't want to do anything, however trifling--an odor, a bit of smoke--that would increase the chance of our being detected."

Amadiro eyed him suspiciously. "You have said, over and over, that this region is never visited by either Earthpeople or their field robots."

"That's right, but it's not a mathematical proposition. It's a sociological observation and there is always the possibility of exceptions to such observations."

Amadiro scowled. "The best road to safety lies with being done with this project. You said you'd be ready today."

"That, too, is a sociological observation, Dr. Amadiro. I should be ready today. I would like to be. I cannot guarantee it mathematically."

"How long before you can guarantee it?"

Mandamus spread his hands in a "Who knows?" gesture. "Dr. Amadiro, I am under the impression I have already explained this, but I'm willing to go through it again. It took me seven years to get this far. I have been counting on some months yet of personal observations at the fourteen different relay stations on Earth's surface. I can't do that now because we must finish before we are located and, possibly, stopped by the robot Giskard. That means I have to do my checking by communicating with our own humanoid robots at the relays. I can't trust them as I would myself. I must check and recheck their reports and it is possible that I may have to go to one or two places before I am satisfied. That would take days--perhaps a week or two."

"A week or two. Impossible! How long do you think I can endure this planet, Mandamus?"

"Sir, on one of my previous visits I stayed on this planet for nearly a year--on another, for over four months."

"And you liked it?"

"No, sir, but I had a job to do and I did it--without sparing myself." Mandamus stared coldly at Amadiro.

Amadiro flushed and said in a somewhat chastened tone, "Well, then, where do we stand?"

"I'm still weighing the reports that are coming in. We are not working with a smoothly designed laboratory-made system, you know. We have an extraordinary heterogeneous planetary crust to deal with. Fortunately, the radioactive materials are widely spread, but in places they run perilously thin and we must place a relay in such places and leave robots in charge. If those relays are not, in every case, properly positioned and in proper order, the nuclear intensification will die out and we will have wasted all these painful years of effort on nothing. Or else, there may be a surge of localized intensification that will have the force of an explosion that will blow itself out and leave the rest of the crust unaffected. In either case, total damage would be insignificant.

"What we want, Dr. Amadiro, is to have the radioactive materials and, therefore, significantly large sections of earth's crust grow--slowly--steadily--irreversibly"--he bit the words off as he pronounced them in spaced intervals--"more and more intensely radioactive, so that Earth becomes progressively more unlivable. The social structure of the planet will break down and the Earth, as an effective abode of humanity, will be over and done with. I take it, Dr. Amadiro, that this is what you want. It is what I described to you years ago and what you said, at that time, you wanted."

"I still do, Mandamus. Don't be a fool."

"Then bear with the discomfort, sir--or else, leave and I will carry on for whatever additional time it takes."

"No, no," muttered Amadiro. "I must be here when it's done--but I can't help being impatient. How long have you decided to allow the process to build? --I mean, once you initiate the original wave of intensification, how long before Earth becomes uninhabitable?"

"That depends on the degree of intensification I apply initially. I don't know, just yet, what degree will be required, for that depends on the overall efficiency of the relays, so I have prepared a variable control. What I want to arrange is a lapse period of ten to twenty decades. "

"And if you allow a smaller lapse period?"

"The less the lapse period we allow, the more rapidly portions of the crust will grow radioactive and the more rapidly the planet will Warm up and grow dangerous. And that means the less likely it will be that any significant number of its population can be removed in time. "

"Does that matter?" murmured Amadiro.

Mandamus frowned. "The more rapidly the Earth deteriorates, the more likely it is that Earthpeople and Settlers will suspect a technological cause--and that we are the likely ones to receive the blame. The Settlers will then attack us with fury and, in the cause of their holy world, they will fight to extinction, provided only that they can inflict substantial harm on us. This is something we have discussed before and it seems we agreed on the matter. It would be far better to allow ample time, during which we can prepare for the worst and during which a confused Earth may assume that the slowly increasing radioactivity is some natural phenomenon they don't understand. That is something that has become more urgent today than yesterday, in my judgment."

"Is that so?" Amadiro was frowning also. "You have that sour, puritanical look that makes me sure you have found a way to place the responsibility for that on my shoulders."

"With respect, sir, that is not difficult in this case. It was unwise to send out one of our robots to destroy Giskard."

"On the contrary, it had to be done. Giskard is the only one who might destroy us."

"He must find us first--and he won't. And even if he does, we are knowledgeable roboticists. Don't you think we could handle him?"

"Indeed?" said Amadiro. "So Vasilia thought and she knew Giskard better than we--and yet she couldn't handle him. And somehow the warship that was to take him into charge and destroy him at a distance could not handle him. So he has now landed on Earth. One way or another, he must be destroyed."

"He has not been. There has been no report of it."

"Bad news is sometimes repressed by a prudent government--and Earth officials, though barbarians, might conceivably be prudent. And if our robot failed and was questioned, he would certainly go into irreversible block. That means we will have lost a robot, something we can afford to do, but nothing more. And if Giskard should still be at large, the more reason we have to hurry."

"If we have lost a robot, we have lost more than a robot if they manage to elicit the location of this center of operations. We ought, at least, not to have used a local robot."

"I used one that was immediately available. And he will reveal nothing. You can trust my programming, I think."

"He cannot help reveal, by his mere existence, whether frozen or not, that he is of Auroran manufacture. Earth roboticists--and there are some on this planet--will be sure of that. All the more reason to make the increase in radioactivity very slow. Enough time must pass so that Earthpeople forget the incident and don't associate it with the progressive change in radioactivity. We must have ten decades at the very least, perhaps fifteen, or even twenty."

He walked away to inspect his instruments again and to re-establish contact with relays six and ten, which he still found troublesome. Amadiro looked after him with a mixture of disdain and intense dislike and muttered to himself, "Yes, but I don't have twenty more decades, or fifteen, or maybe even ten. You do--but I don't."

It was early morning in New York. Giskard and Daneel assumed that from the gradual heightening of activity.

"Somewhere above and outside the City," said Giskard, "it may be dawn now. Once, in speaking to Elijah Baley twenty decades ago, I referred to Earth as the World of the Dawn. Will it continue to be so for much longer? Or has it already ceased to be that?"

"These are morbid thoughts, friend Giskard," said Daneel. "It will be better if we occupy ourselves with what must be done on this day to help keep Earth the World of the Dawn."

Gladia entered the apartment, wearing a bathrobe and slippers. Her hair was freshly dried.

"Ridiculous!" she said. "Earthwomen go through the corridors on their way to the mass Personals in the morning disheveled and slatternly. It is done on purpose, I think. It is bad manners to comb one's hair on the way to the Personal. Apparently, dishevelment to begin with enhances that well-cared-for look afterward. I should have brought a complete morning outfit with me. You should have seen the looks I got when I left with my bathrobe on. Leaving the Personal, one must be the last word. --Yes, Daneel?"

"Madam," said Daneel, "May we have a word with you?"

Gladia hesitated. "Not much of a word, Daneel. As you are probably aware, this is going to be a big day and my morning appointments begin almost at once."

"That is precisely what I wish to discuss, madam," said Daneel. "On this important day, all will go better if we are not with you."

"What?"

"The effect you would wish to have on Earthpeople would be greatly diminished if you surround yourself with robots."

"I will not be surrounded. There will be just you two. How can I do without you?"

"It is necessary that you learn to, madam. While we are with you, you are marked off as different from Earthpeople. You are made to seem afraid of them. "

Gladia said, troubled, "I need some protection, Daneel. Remember what happened last night."

"Madam, we could not have prevented what happened last night and we could not have protected you--if that were necessary. Fortunately, you were not the target last night. The blaster bolt was aimed at Giskard's head."

"Why Giskard?"

"How could a robot aim at you or at any human being? The robot aimed at Giskard for some reason. For us to be near you, then, might but increase your danger. Remember that as the tale of last night's events spreads, even though the Earth government may try to suppress the details, there will be a rumor to the effect that it was a robot who held a blaster and fired it. That will arouse public indignation against robots--against us--and even against you if you persist in being seen with us. It would be better if you were without us."

"For how long?"

"For at least as long as your mission lasts, madam. The captain will be better able to help you in the days to come than we will be. He knows Earthpeople, he is highly thought of by them--and he thinks very highly of you, madam."

Gladia said, "Can you tell that he thinks very highly of me?"

"Although I am a robot, it would seem so to me. And at any time that you should wish us back, we will come back, of course--but, for now, we think that the best way we can serve and protect you is to leave you in Captain Baley's hands."

Gladia said, "I will think of it."

"In the meanwhile, madam," said Daneel, "we will see Captain Baley and find out if he agrees with us."

"Do so!" said Gladia and passed into her bedroom.

Daneel turned and spoke minimally to Giskard. "Is she willing?"

"More than willing," said Giskard. "She has always been a little restless in my presence and would not suffer unduly at my absence. For you, friend Daneel, she has ambivalent feelings. You remind her markedly of friend Jander, whose inactivation, many decades ago, was so traumatic for her. This has been a source of both attraction and repulsion to her, so it was not necessary to do much. I lessened her attraction to you and increased her strong attraction to the captain. She will do without us easily."

"Then let us find the captain," said Daneel. Together, they left the room and entered the hallway that passed by the apartment.

86.

Daneel and Giskard had both been on Earth on previous occasions, Giskard the more recently. They understood the use of the computerized directory that gave them the section, Wing, and number of the apartment to which D.G. had been assigned and they understood, further, the color codes in the hallways that led them to the proper turnings and elevators.

It was early enough for the human traffic to be light, but those human beings who passed or approached at first stared with astonishment at Giskard, then looked away with elaborate unconcern.

Giskard's steps were slightly uneven by the time they approached D.G.'s apartment door. It was not very noticeable, but it caught Daneel's attention.

He said in a low voice, "Are you in discomfort, friend Giskard?"

Giskard replied, "It has been necessary for me to wipe out astonishment, apprehension, and even attention in a number of men and women--and in one youngster, which was harder still. I had no time to make completely certain I was doing no harm."

"It was important to do so. We must not be stopped."

"I understand that, but the Zeroth Law does not work well with me. I have not your facility in that respect." He went on, as though to distract his own attention from his

discomfort, "I have often noted that hyperresistance in the positronic pathways makes itself first felt in the matter of standing and walking and next in speech."

Daneel tapped the door signal. He said, "It is the same in my case, friend Giskard. Maintaining balance on two supports is difficult under the best of circumstances. Controlled imbalance, as in walking, is even more difficult. I have heard once that there were early attempts made to produce robots with four legs and two arms. They were called 'centaurs.' They worked well but were unacceptable because they were basically inhuman in appearance."

"At the moment," said Giskard, "i would appreciate four legs, friend Daneel. However, I think my discomfort is passing."

D.G. was at the door now. He looked at them with a broad smile. He then glanced in each direction along the corridor, whereupon his smile vanished and was replaced with a look of the utmost concern. "What are you doing here without Gladia? Is she--"

Daneel said, "Captain, Madam Gladia is well. She is in no danger. May we enter and explain?"

D.G. glowered as he gestured them inside. His voice gained the hectoring tone one naturally assumes toward misbehaving machines and he said, "Why have you left her alone? What circumstances could possibly permit you to leave her alone?"

Daneel said, "She is no more alone than any person is on Earth--and no more in danger. If you will question her later on die matter, I believe she will tell you that she cannot be effective here on Earth as long as she is trailed by Spacer robots. I believe she will tell you that what guidance and protection she needs should be supplied by you, rather than by robots. It is what we believe she wishes--at least for now. If, at any time, she wishes us back, she will have us."

D.G.'s face relaxed into a smile again. "She wants my protection, does she?"

"At the moment, Captain, we believe she is quite anxious for your presence, rather than for ours."

D.G.'s smile became a grin. "Who can blame her?--I'll get myself ready and go to her apartment as soon as I can. "

"But first, sir--"

"Oh," said D.G., "there is a quid pro quo?"

"Yes, sir. We are anxious to discover as much as we can about the robot who fired the blaster at the balcony last night."

D.G. looked tense again. "Do you anticipate further danger for Madam Gladia?"

"None at all of that kind. The robot, last night, did not fire at Lady Gladia. Being a robot, he could not have. He fired at friend Giskard."

"Why should he have done that?"

"It is what we would like to find out. For that purpose, we wish you to call Madam Quintana, Undersecretary of Energy, and state that it would be important and would please you and the government of Baleyworld--if you would care to add that--for her to allow me to ask her a few questions on that subject. We wish you to do whatever seems best to persuade her to agree to such an interview."

"Is that all you want me to do? Persuade a reasonably important and busy official to submit to cross-examination by a robot?"

Daneel said, "Sir, she may agree if you are earnest enough in the request. In addition, since she may be located a distance away, it would be helpful if you would hire a darter on our behalf to take us there. We are, as you can imagine, in haste."

"And are those little things all?" asked D.G.

"Not quite, Captain," said Daneel. "We will need a driver and please pay him well enough so that he will consent to transport friend Giskard, who is an obvious robot. He may not mind me."

D.G. said, "I hope you realize, Daneel, that what you ask is completely unreasonable."

Daneel said, "I had hoped not, Captain. But since you tell me it is, there is nothing more to say. We have no choice, then, but to return to Madam Gladia, which will make her unhappy, for she would rather be with you."

He turned to leave, motioning Giskard to accompany him, but D.G. said, "Wait. There's a public communication contact just down the hallway. I can only try. Remain here and wait for me."

The two robots remained standing. Daneel said. "Did you have to do much, friend Giskard?"

Giskard seemed well balanced on his legs now. He said, "I was helpless. He was strongly opposed to dealing with Madam Quintana and as strongly opposed to getting us a darter. I could not have altered those feelings without damage. When, however, you suggested returning to Madam Gladia, his attitude changed suddenly and dramatically. You were anticipating that, I take it, friend Daneel?"

"I was."

"You scarcely need me, it would seem. There is more than one way of adjusting minds. However, I ended by doing something. The captain's change of mind was accompanied by a strong favorable emotion toward Madam Gladia. I took the opportunity of strengthening that. "

"That is the reason you are needed. I could not have done that."

"You will be able to yet, friend Daneel. Perhaps quite soon."

D.G. returned. "Believe it or not, she will see you, Daneel. The darter and driver will be here in a moment--and the sooner you leave, the better. I will be heading toward Gladia's apartment at once."

The two robots stepped outside in the hallway to wait.

Giskard said, "He is very happy."

"So it would seem, friend Giskard," said Daneel, "but I fear the easy part is over for us. We have easily arranged to have Madam Gladia grant us leave to move about on our own. We have then, with some difficulty, persuaded the captain to make it possible for us to see the Undersecretary. With her, however, it may be that we will come to a dead end."

The driver took one look at Giskard and his courage seemed to fail him. "Listen," he said to Daneel, "I was told I'd be paid double to take a robot, but robots aren't allowed in the City and I could get in plenty of trouble. Money isn't going to help me if I lose my license. Can't I just take you, mister?"

Daneel said, "I am a robot, too, sir. We are now in the City and that is not your fault. We are trying to get out of the City and you will be helping us. We are going to a high government official who, I hope, will arrange that and it is your civic duty to help us. If you refuse to take us, driver, you will be acting to keep robots in the City and that may be considered to be against the law. "

The driver's face smoothed. He opened the door and said gruffly, "Get in!" However, he carefully closed the thick translucent partition that blocked him off from his passengers.

Daneel said quietly, "Was much required, friend Giskard?"

"Very little, friend Daneel. Your statement did most of the necessary work. It is astonishing that a collection of statements that are individually true can be used, in combination, to yield an effect that the truth should not."

"I have observed this often in human conversation, friend Giskard, even in that of normally truthful human beings. I suspect that the practice is justified in the minds of such people as serving a higher purpose."

"The Zeroth Law, you mean."

"Or the equivalent--if the human mind has such an equivalent. --Friend Giskard, you said a short while ago that I will have your powers, possibly soon. Are you preparing me for that purpose?"

"I am, friend Daneel."

"Why? May I ask that?"

"The Zeroth Law again. The passing episode of shakiness on my feet told me how vulnerable I was to the attempted use of the Zeroth Law. Before this day is over, I may have to act on the Zeroth Law to save the world and humanity and I may not be able to. In that case, you must be in position to do the job. I am preparing you, bit by bit, so that, at the desired moment, I can give you the final instructions and have it all fall into place."

"I do not see how that can be, friend Giskard."

"You will have no trouble in understanding when the time comes. I used the technique in a very small way on robots I sent to Earth in the early days before they were outlawed from the Cities and it was they who helped adjust Earth leaders to the point of approving the decision to send out Settlers."

The driver, whose darter was not on wheels but remained a centimeter or so above the ground at all times, had moved along special corridors reserved for such vehicles and had done so speedily enough to justify the name of the vehicle. He now emerged into an ordinary City corridor, which was paralleled on the moderately distant left by an Expressway. The darter, moving now much more slowly, made a left turn, swooped under

the Expressway, came out on the other side, and then, a curving half-mile later, stopped before an ornate building front.

The darter door opened automatically. Daneel emerged first, waited for Giskard to follow, then handed to the driver a piece of foil he had received from D.G. The driver looked at it narrowly, then the doors closed sharply and he left speedily without a word.

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There was a pause before the door opened in response to their signal and Daneel assumed they were being scanned. When it did open, a young woman led them gingerly into the vitals of the building. She avoided looking at Giskard, but she showed rather more than a mild curiosity in Daneel.

They found Undersecretary Quintana behind a large desk. She smiled and said, with gaiety that seemed somewhat forced, "Two robots, unescorted by human beings. Am I safe?"

"Entirely, Madam Quintana," said Daneel gravely. "It is as unusual for us to see a human being unaccompanied by robots."

"I assure you," said Quintana, "I have my robots. I call them underlings and one of them escorted you here. I am amazed that she didn't faint at the sight of Giskard. I think she might have if she hadn't been warned and if you yourself weren't so extraordinarily interesting in appearance, Daneel. But never mind that. Captain Baley was so enormously pressing in his desire that I see you and my interest in maintaining comfortable relations with an important Settler world was such that I have agreed to the interview. However, my day remains busy even so and I will be grateful if we can dispose of this quickly. --What can I do for you?"

"Madam Quintana--" began Daneel.

"One moment. Do you sit? I saw you sitting last night, you know."

"We can sit, but it is just as comfortable for us to stand. We do not mind."

"But I do. It would not be comfortable for me to stand--and if I sit, I will get a stiff neck looking up at you. Please pull up chairs and sit down. Thank you. --Now, Daneel, what is this all about?"

"Madam Quintana," said Daneel, "you remember, I imagine, the incident of the blaster fired at the balcony last night after the banquet."

"I certainly do. What's more, I know it was a humanoid robot who held the blaster, even though we are not admitting that officially. Yet here I sit with two robots on the other side of the desk and have no protection. And one of you is humanoid too."

"I have no blaster, madam," said Daneel, smiling.

"I trust not. --That other humanoid robot did not look at all like you, Daneel. You're rather a work of art, do you know that?"

"I am complexly programmed, madam."

"I mean, your appearance. But what about the blasting incident?"

"Madam, that robot has a base somewhere on Earth and I must know where it is. I have come from Aurora in order to find that base and prevent such incidents as may disturb the peace between our worlds. I have reason to believe--"

"You have come? Not the captain? Not Madam Gladia?"

"We, madam," said Daneel. "Giskard and I. I am in no position to tell you the whole story of how we came to have undertaken the task and there is no way in which I can tell you the name of the human being under whose instructions we work."

"Well! International espionage! How fascinating. What a pity I can't help you, but I don't know where the robot came from. I haven't any idea at all where his base might be. I don't even know why you have come to me for such information, as a matter of fact. I should have gone to the Department of Security had I been you, Daneel." She leaned toward him. "Do you have real skin on your face, Daneel? It's an extraordinary imitation if it isn't." She reached toward him and her hand rested delicately on his cheek. "It even feels right."

"Nevertheless, madam, it is not real skin. It does not heal of its own accord--if cut. On the other hand, a tear can easily be welded closed or a patch can even be replaced."

"Ugh," said Quintana, with a wrinkle of her nose. "But our business is over, for I can't help you as far as that blaster user is concerned. I know nothing."

Daneel said, "Madam, let me explain further. This robot may be part of a group that is interested in the early energy-producing process you described last night-fission. Assume this is so, that there are those interested in fission and in the content of uranium and thorium in the crust. What might be a convenient place for them to use as a base?"

"An old uranium mine, perhaps? I don't even know where one might be located. You must understand, Daneel, that Earth has an almost superstitious aversion to anything nuclear-fission, in particular. You'll find almost nothing about fission in our popular works on energy and only bare essentials in technical products for experts. Even I know very little, but then I'm an administrator, not a scientist."

Daneel said, "One more item, then, madam. We questioned the would-be assassin as to the location of his base and did so most strenuously. He was programmed to undergo permanent inactivation, a total freezing of his brain paths, in such a case--and he did inactivate. Before doing so, however, in his final struggle between answering and inactivation, he opened his mouth three times as though--possibly--to say three syllables, or three words, or three groups of words, or any combination of these. The second syllable, or word, or mere sound was 'mile.' Does this mean anything to you as having anything at all to do with fission?"

Slowly Quintana shook her head. "No. I can't say it does. It's certainly not a word you'll find in a dictionary of Standard Galactic. I'm sorry, Daneel. It's pleasant meeting you again, but I have a desk full of trivia to work through. You'll excuse me."

Daneel said, as though he hadn't heard her, "I was told, madam, that 'mile' might be an archaic expression that refers to some ancient unit of length, one that is possibly longer than a kilometer."

"That sounds totally irrelevant," said Quintana, "even if true. What would a robot from Aurora know about archaic expressions and ancient--" She stopped abruptly. Her eyes widened and her face lost color.

She said, "Is it possible?"

"Is what possible, madam?" asked Daneel.

"There is a place," said Quintana, half--lost in thought, "that is avoided by everyone--Earthpeople and Earth robots alike. If I wanted to be dramatic, I would say it was a place of ill omen. It is so ill-omened that it has been all but wiped out of conscious existence. It is not even included in maps. It is the quintessence of all that fission means. I remember coming across it in a very old reference film in my early days on this job. It was talked about constantly then as the site of an 'incident' that forever turned the minds of Earthpeople against fission as an energy source. The place is called Three Mile Island."

Daneel said, "An isolated place, then, absolutely isolated and free from any possible intrusion; the sort of place one would surely come across when working one's way through ancient reference material on fission and would then recognize at once as an ideal base where absolute secrecy was required; and with a three-word name of which 'mile' is the second word. That must be the place, madam. --Could you tell us how to get there and could you arrange some way of allowing us to leave the City and be taken to Three Mile Island or its nearest possible vicinity?"

Quintana smiled. She seemed younger when she smiled. "Clearly, if you are dealing with an interesting case of interstellar espionage, you can't afford to waste time, can you?"

"No. Indeed we cannot, madam."

"Well, then, it comes within the purview of my duties to take a look at Three Mile Island. Why don't I take you by air-car? I can handle an air-car."

"Madam, your work load--"

"No one will touch it. It will still be here when I return."

"But you would be leaving the City--"

"And if so? These are not old times. In the bad old days of Spacer domination, Earthpeople never left their Cities, it's true, but we've been moving outward and settling the Galaxy for nearly twenty decades. There are still some of the less educated who maintain the old provincial attitude, but most of us have become quite mobile. There's always the feeling, I suppose, that we might eventually join some Settler group. I myself don't intend to, but I fly my own air-car frequently and five years ago I flew to Chicago and then, eventually, flew back. --Sit here. I'll make the arrangements."

She left, very much a whirlwind.

Daneel looked after her and murmured, "Friend Giskard, that, somehow, did not seem characteristic of her. Have you done something?"

Giskard said, "A bit. It seemed to me when we entered that the young woman who showed us in was attracted by your appearance. I was certain that there had been the same factor in Madam Quintana's mind last night at the banquet, though I was too far from her and there were too many others in the room for me to be sure. Once our

conversation with her began, however, the attraction was unmistakable. Little by little, I strengthened it and each time she suggested the interview might come to an end, she seemed less determined--and at no time did she seriously object to your continuing it. Finally, she suggested the air-car because, I believe, she had reached the point where she could not bear to lose the chance to be with you for a while longer."

"This may complicate matters for me," said Daneel thoughtfully.

"It is in a good cause," said Giskard. "Think of it in terms of the Zeroth Law." Somehow he gave the impression, in saying so, that he would be smiling--if his face allowed such an expression.

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Quintana drew a sigh of relief as she landed the air-car on a concrete slab suitable for the purpose. Two robots approached at once for the obligatory examination of the vehicle and for repowering if necessary.

She looked out to the right, leaning across Daneel as she did so. "It is in that direction, several miles up the Susquehanna River. It's a hot day, too." She straightened, with some apparent reluctance, and smiled at Daneel. "That's the worst of leaving the City. The environment is totally uncontrolled out here. Imagine allowing it to be this hot. Don't you feel hot, Daneel?"

"I have an internal thermostat, madam, that is in good working order."

"Wonderful. I wish I did. There are no roads into this area, Daneel. Nor are there any robots to guide you, for they never enter it. Nor do I know what might be the right place within the area, which is a sizable one. We might stumble all through the area without coming upon the base, even though we passed within five hundred meters of it."

"Not 'we,' madam. It is quite necessary for you to remain here. What follows might conceivably be dangerous and since you are without air-conditioning, the task might be more than you could easily bear, physically, even if it were not dangerous. Could you wait for us, madam? To have you do so would be important to me."

"I will wait."

"We may be some hours."

"There are facilities of various sorts here and the small City of Harrisburg is not far."

"In that case, madam, we must be on our way." He sprang lightly from the air-car and Giskard followed him. They set off northward. It was nearly noon and the bright summer sun sparkled from the polished portion of Giskard's body.

Daneel said, "Any sign of mental activity you can detect will be those we want. There should be no one else for kilometers about. "

"Are you certain that we can stop them if we encounter them, friend Daneel?"

"No, friend Giskard, I am by no means certain--but we must."

Levular Mandamus grunted and looked up at Amadiro with a tight smile on his thin face.

"Amazing," he said, "and most satisfactory."

Amadiro mopped his brow and cheeks with a piece of toweling and said, "What does that mean?"

"It means that every relay station is in working order."

"Then you can initiate the intensification?"

"As soon as I calculate the proper degree of W particle concentration."

"And how long will that take?"

"Fifteen minutes. Thirty."

Amadiro watched with an air of intensifying grimness on his face until Mandamus said, "All right. I have it. It's 2.72 on the arbitrary scale I have set up. That will give us fifteen decades before an upper equilibrium level will be reached that will be maintained without essential change for millions of years thereafter. And that level will make certain that, at best, Earth can maintain a few scattered groups in areas that are relatively radiation-free. We'll have only to wait and, in fifteen decades, a thoroughly disorganized group of Settler worlds will be meat for our slicing."

"I will not live fifteen more decades," said Amadiro slowly.

"My personal regrets, sir," said Mandamus dryly, "but we are now talking of Aurora and the Spacer worlds. There will be others who will carry on your task."

"You, for instance?"

"You have promised me the headship of the Institute and, as you see, I have earned it. From that political base, I may reasonably hope to become Chairman someday and I will carry through those policies that will be necessary to make certain of the final dissolution of the by-then anarchic worlds of the Settlers."

"That's pretty confident of you. What if you turn on the W particle flow and then someone else turns it down in the course of the next fifteen decades?"

"Not possible, sir. Once the device is set, an internal atomic shift will freeze it in that position. After that, the process is irreversible--no matter what happens here. The whole place may be vaporized and the crust will nevertheless continue its slow burn. I suppose it would be possible to rebuild an entirely new setup if anyone on earth or among the Settlers can duplicate my work, but if so they can only further increase the rate of radioactivity, never decrease it. The second law of thermodynamics will see to that."

Amadiro said, "Mandamus, you say you have earned the headship. However, I'm the one to decide that, I think."

Mandamus said stiffly, "You are not, sir. With respect, the details of this process are known to me, but not to you. Those details are encoded in a place you will not find and, even if you do, it is guarded by robots who will destroy it rather than allow it to fall into your hands. You cannot gain credit for this. I can."

Amadiro said, "Nevertheless, getting my approval will hasten matters for you. If you were to wrest the headship from my unwilling hands, by whatever means, you will have a continuing opposition among other members of the Council that will hamper you through all your decades in the post. Is it just the title of head you want or the opportunity to experience all that comes of true leadership?"

Mandamus said, "Is this the time to talk politics? A moment ago, you were all impatience over the fact that I might linger fifteen minutes over my computer. "

"Ah, but we are now talking about adjusting the W particle beam. You want to place it at 2.72--was that the figure?--and yet I wonder if that can be right. What is the extreme range you can handle?"

"The range goes from zero to twelve, but it is 2.72 that is required. Plus or minus 0.05--if you wish further detail. It is that which, on the basis of reports from all fourteen relays will allow a lapse of fifteen decades to equilibrium. "

"Yet what I think is the correct figure is twelve. "

Mandamus stared at the other in horror. "Twelve? Do you understand what that means?"

"Yes. It means we will have the Earth too radioactive to live upon in a decade or a decade and a half and we will kill a few billion Earthpeople in the process. "

"And make certain a war with an infuriated Settler Federation. What can you want of such a holocaust?"

"I tell you again. I do not expect to live another fifteen decades and I want to live to see the destruction of Earth. "

"But you would also be assuring the maiming--maiming, at the very least--of Aurora, You cannot be serious. "

"But I am. I have twenty decades of defeat and humiliation to make up. "

"Those decades were brought about by Han Fastolfe and Giskard--and not by Earth. "

"No, they were brought about by an Earthman, Elijah Baley. "

"Who has been dead for more than sixteen decades. What is the value of a moment of vengeance over a man long dead?"

"I do not want to argue the matter. I will make you an offer. The title of head at once. I will resign my post the instant we return to Aurora and nominate you in my place. "

"No. I do not want the headship on those terms. Death to billions!"

"Billions of Earthmen. Well, I cannot trust you, then, to manipulate the controls properly. Show me--me--how to set the control installment and I will take the responsibility. I will still resign my post on our return and will nominate you in my place. "

"No. It will still mean the death of billions and who knows how many millions of Spacers as well. Dr. Amadiro, please understand that I will not do it on any terms and that you cannot do it without me. The setting mechanism is keyed to my left thumbprint. "

"I ask you again. "

"You cannot be sane if you ask me again despite all I have said. "

"That, Mandamus, is a personal opinion of yours. I am not so insane that I have failed to send off all the local robots on one errand or another. We are alone here."

Mandamus lifted a corner of his upper lip in a sneer. "And with what do you intend to threaten me? Are you going to kill me now that there are no robots present to stop you?"

"Yes, as a matter of fact, Mandamus, I will if I have to." Amadiro produced a small-caliber blaster from a pouch at his side. "These are difficult to obtain on Earth, but not impossible--if the price is right. And I know how to use it. Please believe me when I tell you that I am perfectly willing to blow your head off right now--if you do not place your thumb on the contact and allow me to adjust the dial to twelve."

"You dare not. If I die, how will you set the dial without me?"

"Don't be an utter fool. If I blow your head off, your left thumb will remain intact. It will even be at blood temperature for a while. I will use that thumb, then set the dial as easily as I would turn on a water tap. I would prefer you alive, since your death might be wearisome to explain back on Aurora, but it would not be more wearisome than I could bear. Therefore, I give you thirty seconds to make up your mind. If you cooperate, I will still give you the headship at once. If you don't, it will all go as I wish, in any case, and you will be dead. We start now. One--two--three--"

Mandamus stared in horror at Amadiro, who continued to count and stare at him over the leveled blaster with hard, expressionless eyes.

And then Mandamus hissed, "Put the blaster away, Amadiro, or we'll both be immobilized on the plea that we must be protected from harm."

The warning came too late. Quicker than the eye could follow, an arm stretched out to seize Amadiro's wrist, paralyzing it with pressure, and the blaster was gone.

Daneel said, "I apologize for having had to inflict pain on you, Dr. Amadiro, but I cannot allow you to hold a blaster pointed at another human being."

91.

Amadiro said nothing.

Mandamus said coldly, "You are two robots with, as far as I can see, no master in view. By default, I am your master and I order you to leave and not return. Since, as you see, there is no danger to any human being present at this moment, there is nothing to overcome your necessitated obedience to this order. Leave at once."

Daneel said, "Respectfully, sir, there is no need to hide our identities or abilities from you, since you know them already. My companion, R. Giskard Reventlov, has the ability to detect emotion. --Friend Giskard. "

Giskard said, "As we approached, having detected your presence at quite a distance, I took note, Dr. Amadiro, of an overwhelming rage in your mind. In yours, Dr. Mandamus, there was extreme fear."

"The rage, if rage there was," said Mandamus, "was Dr. Amadiro's reaction to the approach of two strange robots, especially of one who was capable of meddling with the human mind and who had already badly--and perhaps permanently--damaged that of Lady Vasilia. My fear, if fear there was, was also the result of your approach. We are not in control of our emotions and there is no reason for you to interfere. We again order you to withdraw permanently."

Daneel said, "Your pardon, Dr. Mandamus, but I merely wish to ascertain that we may safely follow your orders. Was there not a blaster in Dr. Amadiro's hand when we approached--and was it not pointed at you?"

Mandamus said, "He was explaining its workings and he was about to put it away when you took it from him."

"Then shall I return it to him, sir, before I leave?"

"No," said Mandamus without a quiver, "for then you would have an excuse to remain here in order to--as you would say--protect us. Take it with you when you go and you will have no reason to return."

Daneel said, "We have reason to think that you are here in a region which human beings are not allowed to penetrate--"

"That is a custom, not a law, and one which, in any case, holds no force over us, since we are not Earthpeople. For that matter, robots are not allowed to be here, either."

"We were brought here, Dr. Mandamus, by a high official of Earth's government. We have reason to think that you are here in order to raise the level of radioactivity in Earth's crust and do grave and irreparable damage to the planet. "

"Not at all--" began Mandamus.

Here Amadiro interrupted for the first time. "By what right, robot, do you cross-examine us? We are human beings who have given you an order. Follow it now!"

His tone of authority was overwhelming and Daneel quivered, while Giskard half-turned.

But Daneel said, "Your pardon, Dr. Amadiro. I do not cross-examine. I merely seek reassurance, in order that I may know that I can safely follow the order. We have reason to think that--"

"You need not repeat," said Mandamus. Then, in an aside, "Dr. Amadiro, please allow me to answer." To Daneel again, "Daneel, we are here on an anthropological mission. It is our purpose to seek the origins of various human customs that influence behavior among Spacers. These origins can be found only here on Earth and it is here, then, that we seek them."

"Do you have Earth's permission for this?"

"Seven years ago, I consulted the appropriate officials on Earth and received their permission."

Daneel said in a low voice, "Friend Giskard, what do you say?"

Giskard said, "The indications in Dr. Mandamus's mind are that what he is saying is not in accord with the situation as it is."

"He is lying, then?" said Daneel firmly.

"That is my belief," said Giskard.

Mandamus said, his calmness untouched, "That may be your belief, but belief is not certainty. You cannot disobey an order on the basis of mere belief. I know that and you know that."

Giskard said, "But in Dr. Amadiro's mind, rage is dammed only by emotional forces that are barely up to the job required of them. It is quite possible to slit those forces, so to speak, and allow the rage to pour out."

And Amadiro cried out, "Why do you fence with these things, Mandamus?"

Mandamus shouted, "Do not say a word, Amadiro! You play into their hands!"

Amadiro paid no attention. "It is demeaning and it is useless." With violent anger, he shook off Mandamus's restraining arm. "They know the truth, but what of that? -- Robots, we are Spacers. More than that, we are Aurorans, from the world on which you were constructed. More than that, we are high officials on the world of Aurora and you must interpret the phrase 'human beings' in the Three Laws of Robotics as meaning Auroran.

"If you do not obey us now, you harm us and humiliate us, so that you will be violating both the First and Second Laws. That our actions here are intended to destroy Earthmen, even large numbers of Earthmen, is true, but is, even so, utterly irrelevant. You might as well offer to refuse to obey us because we eat the meat of animals we have killed. Now that I have explained this to you, leave!"

But the last words turned into a croak. Amadiro's eyes bulged and he crumpled to the ground.

Mandamus, with a wordless cry, bent over him.

Giskard said, "Dr. Mandamus, Dr. Amadiro is not dead. He is at the moment in a coma from which he can be roused at any time. However, he will have forgotten everything in connection with this present project, nor will he ever be able to understand anything in connection with it--if, for instance, you tried to explain it. In the process of doing this--which I could not have done without his own admission that he intended to destroy large numbers of Earthmen--I may have permanently damaged other parts of his memory and his thinking processes. That I regret, but I could not help it."

Daneel said, "You see, Dr. Mandamus, some time ago, on Solaria, we encountered robots who narrowly defined human beings as Solarians only. We recognize the fact that if different robots are subject to narrow definitions of one sort or another, there can only be measureless destruction. It is useless to try to have us define human beings as Aurorans only. We define human beings as all members of the species *Homo sapiens*, which includes Earthpeople and Settlers' and we feel that the prevention of harm to human beings in groups and to humanity as a whole comes before the prevention of harm to any specific individual."

Mandamus said breathlessly, "That is not what the First Law says."

"It is what I call the Zeroth Law and it takes precedence."

"You have not been programmed in such a way."

"It is how I have programmed myself. And since I have known from the moment of our arrival here that your presence is intended for harm, you cannot order me away or keep me from harming you. The Zeroth Law takes precedence and I must save Earth. Therefore, I ask you to join me--voluntarily--in destroying these devices you have here. Otherwise, I will be forced to threaten harm to you, as Dr. Amadiro did, although I would not use a blaster."

But Mandamus said, "Wait! Wait! Hear me out. Let me explain. That Dr. Amadiro has had his mind wiped clean is a good thing. He wanted to destroy Earth, but I did not want to. That was why he held a blaster on me."

Daneel said, "It was you, however, who originated the notion, who designed and built these devices. Otherwise, Dr. Amadiro would not have had to try to force you to do anything. He would have done it himself and would not have required any help from you. Isn't that right?"

"Yes, that is right. Giskard can examine my emotions and see if I'm lying. I built these devices and I was prepared to use them, but not in the fashion Dr. Amadiro wished. Am I telling the truth?"

Daneel looked at Giskard, who said, "As nearly as I can tell, he is telling the truth."

"Of course I am," said Mandamus. "What! am doing is to introduce a very gradual acceleration of the natural radioactivity in the Earth's crust. There will be one hundred and fifty years during which the people of Earth can move to other worlds. It will increase the population of the present Settler worlds and increase the Settlement of additional worlds in great numbers. It will remove Earth as a huge anomalous world that forever threatens the Spacers and stultifies the Settlers. It will remove a center of mystical fervor that is holding back the Settlers. Am I telling the truth?"

Again Giskard said, "As nearly as I can tell, he is telling the truth."

"My plan, if it works out, would preserve the peace and make the Galaxy a home for Spacer and Settler alike. That is why, when I constructed this device--"

He gestured toward it, placing his left thumb on the contact, and then, lunging toward the volume control, shouted, "Freeze!"

Daneel moved toward him and stopped, frozen, right hand upraised. Giskard did not move.

Mandamus turned back, panting, "It's at 2.72. It's done. It's irreversible. Now it will be played out exactly as I intended. Nor can you bear witness against me, for you will start a war and your Zeroth Law forbids that."

He looked down at the prone body of Amadiro and said, with a cold look of contempt, "Fool! You will never know how it should have been done."

19. ALONE

92.

Mandamus said, "You cannot harm me now, robots, for nothing you do to me will alter the fate of the Earth."

"Nevertheless," said Giskard shakily, "you must not remember what you have done. You must not explain the future to the Spacers." He reached for a chair and, with a trembling hand, pulled it toward himself and sat down, as Mandamus crumpled and slid down into what seemed to be a gentle sleep.

"At the last," said Daneel in soft despair, as he looked down at the two unconscious bodies, "I failed. When it was necessary for me to seize Dr. Mandamus to prevent harm to people who were not present before my eyes, I found myself forced to follow his order and froze. The Zeroth Law did not work. "

Giskard said, "No, friend Daneel, you did not fail. I prevented you. Dr. Mandamus had the urge to try to do what he did and was held back by the fear of what you would certainly do if he did try. I neutralized his fear and then I neutralized you. So Dr. Mandamus set the Earth's crust on fire, so to speak--on very slow fire."

Daneel said, "But why, friend Giskard, why?"

"Because he was telling the truth. I told you so. He thought he was lying. From the nature of the triumph in his mind, I am under the firm impression he felt that the consequence of the growing radioactivity would be anarchy and confusion among Earthpeople and Settlers and that the Spacers would destroy them and seize the Galaxy. But I thought the scenario he presented us to win us over was the correct one. The removal of Earth as a large crowded world would remove a mystique I have already felt to be dangerous and would help the Settlers. They will streak outward into the Galaxy at a pace that will double and redouble and--without Earth to look back to always, without Earth to set up a god of the past--they will establish a Galactic Empire. It was necessary for us to make that possible." He paused and, his voice weakening, he said, "Robots and Empire. "

"Are you well, friend Giskard?"

"I cannot stand, but I can still talk. Listen to me. It is time for you to take on my burden. I have adjusted you for mental detection and control. You have but to listen to the final pathways as they are impressed upon yourself. Listen --"

He spoke steadily--but increasingly weakly--in language and symbols that Daneel could feel internally. Even as Daneel listened, he could feel the pathways moving and ticking into place. And when Giskard was done, there was suddenly the cool purr of Mandamus's mind impinging on his own, the unsteady thumping of Amadiro's, and the thin metallic thread of Giskard's.

Giskard said, "You must return to Madam Quintana and arrange to have these two human beings sent back to Aurora. They will not be able to harm Earth further. Then see

to it that Earth's security forces seek out and inactivate the humanoid robots sent to Earth by Mandamus.

"Be careful how you use your new powers, for you are new to them and they will not be under perfect control. You will improve with time--slowly--if you are careful always to undergo self-examination with each use. Use the Zeroth Law, but not to justify needless harm to individuals. The First Law is almost as important.

"Protect Madam Gladia and Captain Baley--unobtrusively. Let them be happy together and let Madam Gladia continue with her efforts to bring peace. Help supervise, over the decades, the removal of Earthpeople from this world. And--one more thing--if I can remember--Yes--if you can--find out where the Solarians have gone. That may be--important."

Giskard's voice trailed off.

Daneel knelt at the side of the seated Giskard and took the unresponsive metal hand in his own. He said, in an agonized whisper, "Recover, friend Giskard. Recover. What you did was right by the Zeroth Law. You have preserved as much life as possible. You have done well by humanity. Why suffer so when what you have done saves all?"

Giskard said, in a voice so distorted that the words could barely be made out, "Because I am not certain. --What if the other view--is right--after all--and the Spacers will--triumph and then themselves decay so that--the Galaxy--will be--empty.--Good-bye, friend--Dan--"

And Giskard was silent, never to speak or move again.

Daneel rose.

He was alone--and with a Galaxy to care for.

THE CURRENTS OF SPACE

1952

PROLOG. A YEAR BEFORE

TBE MAN from Earth came to a decision. It had been slow in coming and developing, but it was here.

It had been weeks since he had felt the comforting deck of his ship and the cool, dark blanket of space about it. Originally, he had intended a quick report to the local office of the Interstellar Spatio-analytic Bureau and a quicker retreat to space. Instead, he had been held here.

It was almost like a prison.

He drained his tea and looked at the man across the table. He said, "I'm not staying any longer."

The other man came to a decision. It had been slow in coming and developing, but it was here. He would need time, much more time. The response to the first letters had been nil. They might have fallen into a star for all they had accomplished.

That had been no more than he had expected, or, rather, no less. But it was only the first move.

It was certain that, while future moves developed, he could not allow the man from Earth to squirm out of reach. He fingered the smooth black rod in his pocket.

He said, "You don't appreciate the delicacy of the problem."

The Earthman said, "What's delicate about the destruction of a planet? I want you to broadcast the details to all of Sark; to everyone on the planet."

"We can't do that. You know it would mean panic."

"You said at first you would do it."

"I've thought it over and it just isn't practical."

The Earthman turned to a second grievance. "The representative of the I.S.B. hasn't arrived."

"I know it. They are busy organizing proper procedures for this crisis. Another day or two."

"Another day or two! It's always another day or two! Are they so busy they can't spare me a moment? They haven't even seen my calculations."

"I have offered to bring your calculations to them. You don't want me to."

"And I still don't. They can come to me or I can go to them." He added violently, "I don't think you believe me. You don't believe Florina will be destroyed."

"I believe you."

"You don't. I know you don't. I see you don't. You're humoring me. You can't understand my data. You're not a Spatio-analyst. I don't even think you're who you say you are. Who are you?"

"You're getting excited."

"Yes, I am. Is that surprising? Or are you just thinking, Poor devil, Space has him. You think I'm crazy."

"Nonsense."

"Sure you do. That's why I want to see the I.S.B. They'll know if I'm crazy or not. They'll know."

The other man remembered his decision. He said, "Now you're not feeling well. I'm going to help you."

"No, you're not," shouted the Earthman hysterically, "because I'm going to walk out. If you want to stop me, kill me, except that you won't dare. The blood of a whole world of people will be on your hands if you do."

The other man began shouting, too, to make himself heard. "I won't kill you. Listen to me, I won't kill you. There's no need to kill you."

The Earthman said, "You'll tie me up. You'll keep me here. Is that what you're thinking? And what will you do when the I.S.B. starts looking for me? I'm supposed to send in regular reports, you know."

"The Bureau knows you're safely with me."

"Do they? I wonder if they know I've reached the planet at all? I wonder if they received my original message?" The Earthman was giddy. His limbs felt stiff.

The other man stood up. It was obvious to him that his decision had come none too soon. He walked slowly about the long table, toward the Earthman.

He said soothingly, "It will be for your own good." He took the black rod from his pocket.

The Earthman croaked, "That's a psychic probe." His words were slurred, and when he tried to rise, his arms and legs barely quivered.

He said, between teeth that were clenching in rigor, "Drugged!"

"Drugged!" agreed the other man. "Now look, I won't hurt you. It's difficult for you to understand the true delicacy of the matter while you're so excited and anxious about it. I'll just remove the anxiety. Only the anxiety."

The Earthman could no longer talk. He could only sit there. He could only think numbly, Great Space, I've been drugged. He wanted to shout and scream and run, but he couldn't.

The other had reached the Earthman now. He stood there, looking down at him. The Earthman looked up. His eyeballs could still move.

The psychic probe was a self-contained unit. Its wires needed only to be fixed to the appropriate places on the skull. The Earthman watched in panic until his eye muscles froze. He did not feel the fine sting as the sharp, thin leads probed through skin and flesh to make contact with the sutures of his skull bones.

He yelled and yelled in the silence of his mind. He cried, No, you don't understand. It's a planet full of people. Don't you see that you can't take chances with hundreds of millions of living people? The other man's words were dim and receding, heard from the other end of a long, windy tunnel. "It won't hurt you. In another hour you'll feel well, really well. You'll be laughing at all this with me."

The Earthman felt the thin vibration against his skull and then that faded too.

Darkness thickened and collapsed about him. Some of it never lifted again. It took a year for even parts of it to lift.

1. THE FOUNDLING

Rik put down his feeder and jumped to his feet. He was trembling so hard he had to lean against the bare milk-white wall.

He shouted, "I remember!"

They looked at him and the gritty mumble of men at lunch died somewhat. Eyes met his out of faces indifferently clean and indifferently shaven, glistening and white in the imperfect wall illumination. The eyes reflected no great interest, merely the reflex attention enforced by any sudden and unexpected cry.

Rik cried again, "I remember my job. I had a job!"

Someone called, "Shoddop!" and someone else yelled, "Siddown!"

The faces turned away, the mumble rose again. 131k stared blankly along the table. He heard the remark, "Crazy Rik," and a shrug of shoulders. He saw a finger spiral at a man's temple. It all meant nothing to him. None of it reached his mind.

Slowly he sat down. Again he clutched his feeder, a spoonlike affair, with sharp edges and little tines projecting from the front curve of the bowl, which could therefore with equal clumsiness cut, scoop and impale. It was enough for a millworker. He turned it over and stared without seeing at his number on the back of the handle. He didn't have to see it. He knew it by heart. All the others had registration numbers, just as he had, but the others had names also. He didn't. They called him Rik because it meant something like "moron" in the slang of the kyrt mills. And often enough they called him "Crazy Rik."

But perhaps he would be remembering more and more now. This was the first time since he had come to the mill that he had Rik was stirred by the memory. He said, "Let's go to the fields, Lona."

"It's late."

"Please. Just outside town."

She fumbled at the thin money pouch she kept between herself and the soft blue leather belt she wore, the only luxury of dress she allowed herself.

Rik caught her arm. "Let's walk."

They left the highway for the winding, dustless, packed-sand roads half an hour later. There was a heavy silence between them and Valona felt a familiar fear clutching at her. She had no words to express her feelings for him, so she had never tried.

What if he should leave her? He was a little fellow, no taller than herself and weighing somewhat less, in fact. He was still like a helpless child in many ways. But before they had turned his mind off he must have been an educated man. A very important educated man.

Valona had never had any education besides reading and writing and enough trade-school technology to be able to handle mill machinery, but she knew enough to know that all people were not so limited. There was the Townman, of course, whose great knowledge was so helpful to all of them. Occasionally Squires came on inspection tours.

She had never seen them close up but once, on a holiday, she had visited the City and seen a group of incredibly -gorgeous creatures at a distance. Occasionally the millworkers were allowed to listen to what educated people sounded like. They spoke differently, more fluently, with longer words and softer tones. Rik talked like that more and more as his memory improved.

She had been frightened at his first words. They came so suddenly after long whimpering over a headache. They were pronounced queerly. When she tried to correct him he wouldn't change.

Even then she had been afraid that he might remember too much and then leave her. She was only Valona March. They called her Big Lona. She had never married. She never would. A large, big-footed girl with work-reddened hands like herself could never marry. She had never been able to do more than look at the boys with dumb resentment when they ignored her at the idle-day dinner festivals. She was too big to giggle and smirk at them.

She would never have a baby to cuddle and hold. The other girls did, one after the other, and she could only crowd about for a quick glimpse of something red and hairless with screwed-up eyes, fists impotently clenched, gummy mouth— "It's your turn next, Lona."

"When will you have a baby, Lona?"

She could only turn away.

But when Rik had come, he was like a baby. He had to be fed and taken care of, brought out into the sun, soothed to sleep when the headaches racked him.

The children would run after her, laughing. They would yell, "Lona's got a boy friend. Big Lona's got a crazy boy friend. Lona's boy friend is a rik."

Later on, when Rik could walk by himself (she had been as proud the day he took his first step as though he were really only one year old, instead of more like thirty-one) and stepped out, unescorted, into the village streets, they had run about him in rings, yelling their laughter and foolish ridicule in order to see a grown man cover his eyes in fear, and cringe, with nothing but whimpers to answer them. Dozens of times she had come charging out of the house, shouting at them, waving her large fists.

Even grown men feared those fists. She had felled her section head with a single wild blow the first day she had brought Rik to work at the mill because of a sniggering indecency concerning them which she overheard. The mill council fined her a week's pay for that incident, and might have sent her to the City for further trial at the Squire's court, but for the Townman's intervention and the plea that there had been provocation.

So she wanted to stop Rik's remembering. She knew she had nothing to offer him; it was selfish of her to want him to stay mind-blank and helpless forever. It was just that no one had ever before depended upon her so utterly. It was just that she dreaded a return to loneliness.

She said, "Are you sure you remember, Rik?"

"Yes."

They stopped there in the fields, with the sun adding its reddening blaze to all that surrounded them. The mild, scented evening breeze would soon spring up, and the checkerboard irrigation canals were already beginning to purple.

He said, "I can trust my memories as they come back, Lona. You know I can. You didn't teach me to speak, for instance. I remembered the words myself. Didn't I? Didn't I?"

She said reluctantly, "Yes."

"I even remember the times you took me out into the fields before I could speak. I keep remembering new things all the time. Yesterday I remembered that once you caught a kyrt fly for me. You held it closed in your hands and made me put my eye to the space between your thumbs so that I could see it flash purple and orange in the darkness. I laughed and tried to force my hand between yours to get it, so that it flew away and left me crying after all. I didn't know it was a kyrt fly then, or anything about it, but it's all very clear to me now. You never told me about that, did you, Lona?"

She shook her head.

"But it did happen, didn't it? I remember the truth, don't I?"

"Yes, Rik."

"And now I remember something about myself from before. There must have been a before, Lona."

There must have been. She felt the weight on her heart when she thought that. It was a different before, nothing like the now they lived in. It had been on a different world. She knew that because one word he had never remembered was kyrt. She had to teach him the word for the most important object on all the world of Florina.

"What is it you remember?" she asked.

At this, Rik's excitement seemed suddenly to die. He hung back. "It doesn't make much sense, Lona. It's just that I had a job once, and I know what it was. At least, in a way."

"What was it?"

"I analyzed Nothing."

She turned sharply upon him, peering into his eyes. For a moment she put the flat of her hand upon his forehead, until he moved away irritably. She said, "You don't have a headache again, Rik, have you? You haven't had one in weeks."

"I'm all right. Don't you go bothering me."

Her eyes fell, and he added at once, "I don't mean that you bother me, Lona. It's just that I feel fine and I don't want you to worry."

She brightened. "What does 'analyzed' mean?" He knew words she didn't. She felt very humble at the thought of how educated he must once have been.

He thought a moment. "It means—it means 'to take apart.' You know, like we would take apart a sorter to find out why the scanning beam was out of alignment."

"Oh. But, Rik, how can anyone have a job not analyzing anything? That's not a job."

"I didn't say I didn't analyze anything. I said I analyzed Nothing. With a capital N."

"Isn't that the same thing?" It was coming, she thought. She was beginning to sound stupid to him. Soon he would throw her off in disgust.

"No, of course not." He took a deep breath. "I'm afraid I can't explain though. That's all I remember about that. But it must have been an important job. That's the way it feels. I couldn't have been a criminal."

Valona winced. She should never have told him that. She had told herself it was only for his own protection that she warned him, but now she felt that it had really been to keep him bound tighter to herself.

It was when he had first begun to speak. It was so sudden it had frightened her. She hadn't even dared speak to the Town-man about it. The next idle-day she had withdrawn five credits from her life-ward—there would never be a man to claim it as dowry, so that it didn't matter—and taken Rik to a City doctor. She had the name and address on a scrap of paper, but even so it took two frightening hours to find her way to the proper building through the huge pillars that held the Upper City up to the sun.

She had insisted on watching and the doctor had done all sorts of fearful things with strange instruments. When he put Rik's head between two metal objects and then made it glow like a kyrt fly in the night, she had jumped to her feet and tried to make him stop. He called two men who dragged her out, struggling wildly.

Half an hour afterward the doctor came out to her, tall and frowning. She felt uncomfortable with him because he was a Squire, even though he kept an office down in the Lower City, but his eyes were mild, even kind. He was wiping his hands on a little towel, which he tossed into a wastecan, even though it looked perfectly clean to her.

He said, "Where did you meet this man?"

She had told him the circumstances cautiously, reducing it to the very barest essentials and leaving out all mention of the Townman and the patrollers.

"Then you know nothing about him?"

She shook her head. "Nothing before that."

He said, "This man has been treated with a psychic probe. Do you know what that is?"

At first she had shaken her head again, but then she said in a dry whisper, "Is it what they do to crazy people, Doctor?"

"And to criminals. It is done to change their minds for their own good. It makes their minds healthy, or it changes the parts that make them want to steal and kill. Do you understand?"

She did. She grew brick-red and said, "He'd never stole anything or hurt anybody."

"You call him Rik?" He seemed amused. "Now look here, how do you know what he did before you met him? It's hard to tell from the condition of his mind now. The probing was thorough and brutal. I can't say how much of his mind has been permanently removed and how much has been temporarily lost through shock. What I mean is that some of it will come back, like his speaking, as time goes on, but not all of it. He should be kept under observation."

"No, no. He's got to stay with me. I've been taking good care of him, Doctor."

He frowned, and then his voice grew milder. "Well, I'm thinking of you, my girl. Not all the bad may be out of his mind. You wouldn't want him to hurt you someday."

At that moment a nurse led out Rik. She was making little sounds to quiet him, as one would an infant. 111k put a hand to his head and stared vacantly, until his eyes focused on Valona; then he held out his hands and cried, feebly, "Lona-----"

She sprang to him and put his head on her shoulder, holding him tightly. She said to the doctor, "He wouldn't hurt me, no matter what."

The doctor said thoughtfully, "His case will have to be reported, of course. I don't know how he escaped from the authorities in the condition he must have been in."

"Does that mean they'll take him away, Doctor?"

"I'm afraid so."

"Please, Doctor, don't do that." She wrenched at the handkerchief, in which were the five gleaming pieces of credit-alloy. She said, "You can have it all, Doctor. I'll take good care of him. He won't hurt anyone."

The doctor looked at the pieces in his hand. "You're a mill-worker, aren't you?"

She nodded.

"How much do they pay you a week?"

"Two point eight credits."

He tossed the coins gently, brought them together in his closed palm with a tinkle of metal, then held them out to her. "Take it, girl. There's no charge."

She accepted them with wonder. "You're not going to tell anyone, Doctor?"

But he said, "I'm afraid I have to. It's the law."

She had driven blindly, heavily, back to the village, clutching Rik to her desperately.

The next week on the hypervideo newscast there had been the news of a doctor dying in a gyro-crash during a short failure in one of the local transit power-beams. The name was familiar and in her room that night she compared it with that on the scrap of paper. It was the same.

She was sad, because he had been a good man. She had received his name once long before from another worker as a Squire doctor who was good to the mill hands and had saved it for emergencies. And when the emergency had come he had been good to her too. Yet her joy drowned the sorrow. He had not had the time to report 111k. At least, no one ever came to the village to inquire.

Later, when Rik's understanding had grown, she had told him what the doctor had said so that he would stay in the village and be safe.

Rik was shaking her and she left her reveries.

He said, "Don't you hear me? I couldn't be a criminal if I had an important job."

"Couldn't you have done wrong?" she began hesitantly. "Even if you were a big man, you might have. Even Squires——"

"I'm sure I haven't. But don't you see that I've got to find out so that others can be sure? There's no other way. I've got to leave the mill and village and find out more about myself."

She felt the panic rise. "Rik! That would be dangerous. Why should you? Even if you analyzed Nothing, why is it so important to find out more about it?"

"Because of the other thing I remember."

"What other thing?"

He whispered, "I don't want to tell you."

"You ought to tell somebody. You might forget again."

He seized her arm. "That's right. You won't tell anyone else, will you, Lona? You'll just be my spare memory in case I forget."

"Sure, 131k."

Rik looked about him. The world was very beautiful. Valona had once told him that there was a huge shining sign in the Upper City, miles above it even, that said: "Of all the Planets in the Galaxy, Florina is the Most Beautiful."

And as he looked about him he could believe it.

He said, "It is a terrible thing to remember, but I always remember correctly, when I do remember. It came this afternoon.", "Yes?"

He was staring at her in horror. "Everybody in the world is going to die. Everybody on Florina."

2. THE TOWNMAN

MYIIL TERENS was in the act of removing a book-film from its place on the shelf when the door-signal sounded. The rather pudgy outlines of his face had been set in lines of thought, but now these vanished and changed into the more usual expression of bland caution. He brushed one hand over his thinning, ruddy hair and shouted, "One minute."

He replaced the film and pressed the contact that allowed the covering section to spring back into place and become indistinguishable from the rest of the wall. To the simple millworkers and farm hands he dealt with, it was a matter of vague pride that one of their own number, by birth at any rate, should own films. It lightened, by tenuous reflection, the unrelieved dusk of their own minds. And yet it would not do to display the films openly.

The sight of them would have spoiled things. It would have frozen their none too articulate tongues. They might boast of their Townman's books, but the actual presence of them before their eyes would have made Terens seem too much the Squire. There were, of course, the Squires as well. It was unlikely in the extreme that any of them would visit him socially at his house, but should one of them enter, a row of films in sight would be injudicious. He was a Townman and custom gave him certain privileges but it would never do to flaunt them.

He shouted again, "I'm coming!"

This time he stepped to the door, closing the upper seam of his tunic as he went. Even his clothing was somewhat Squirelike. Sometimes he almost forgot he had been born on Florina.

Valona March was on the doorstep. She bent her knees and ducked her head in respectful greeting.

Terens threw the door wide. "Come in, Valona. Sit down. Surely it's past curfew. I hope the patrollers didn't see you."

"I don't think so, Townman."

"Well, let's hope that's so. You've got a bad record, you know."

"Yes, Townman. I am very grateful for what you have done for me in the past."

"Never mind. Here, sit down. Would you like something to eat or drink?"

She seated herself, straight-backed, at the edge of a chair and shook her head.

"No, thank you, Townman. I have eaten."

It was good form among the villagers to offer refreshment. It was bad form to accept. Terens knew that. He didn't press her.

He said, "Now what's the trouble, Valona? Rik again?" Valona nodded, but seemed at a loss for further explanation. Terens said, "Is he in trouble at the mill?"

"No, Townman."

"Headaches again?"

"No, Townman."

Terens waited, his light eyes narrowing and growing sharp.

"Well, Valona, you don't expect me to guess your trouble, do you? Come, speak out or I can't help you. You do want help, I suppose." - She said, "Yes, Townman," then burst out, "How shall I tell you, Townman? It sounds almost crazy."

Terens had an impulse to pat her shoulder, but he knew she would shrink from the touch. She sat, as usual, with her large hands buried as far as might be in her dress. He noticed that her blunt, strong fingers were intertwined and slowly twisting.

He said, "Whatever it is, I will listen."

"Do you remember, Townman, when I came to tell you about the City doctor and what he said?"

"Yes, I do, Valona. And I remember I told you particularly that you were never to do anything like that again without consulting me. Do you remember that?"

She opened her eyes wide. She needed no spur to recollect his anger. "I would never do such a thing again, Townman. It's just that I want to remind you that you said you would do everything to help me keep Rik."

"And so I will. Well, then, have the patrollers been asking about him?"

"No. Oh, Townman, do you think they might?"

"I'm sure they won't." He was losing patience. "Now, come, Valona, tell me what is wrong."

Her eyes clouded. "Townman, he says he will leave me. I want you to stop him."

"Why does he want to leave you?"

"He says he is remembering things."

Interest leaped into Terens' face. He leaned forward and almost he reached out to grip her hand. "Remembering things? What things?"

Terens remembered the day Rik had first been found. He had seen the youngsters clustered near one of the irrigation ditches just outside the village. They had raised their shrill voices to call him.

"Townman! Townman!"

He had broken into a run. "What's the matter, Rasie?" He had made it his business to learn the youngsters' names when he came to town. That went well with the mothers and made the first month or two easier.

Rasie was looking sick. He said, "Looky here, Townman."

He was pointing at something white and squirming, and it was Rik. The other boys were yelling at once in confused explanation. Terens managed to understand that they were playing some game that involved running, hiding and pursuing. They were intent on telling him the name of the game, its progress, the point at which they had been interrupted, with a slight subsidiary argument as to exactly which individual or side was "winning." All that didn't matter, of course.

Rasie, the twelve-year-old black-haired one, had heard the whimpering and had approached cautiously. He had expected an animal, perhaps a field rat that would make good chasing. He had found 131k.

All the boys were caught between an obvious sickness and an equally obvious fascination at the strange sight. It was a grown human being, nearly naked, chin wet with drool, whimpering and crying feebly, arms and legs moving about aimlessly. Faded blue eyes shifted in random fashion out of a face that was covered with a grown stubble. For a moment the eyes caught those of Terens and seemed to focus. Slowly the man's thumb came up and inserted itself into his mouth.

One of the children laughed. "Looka him, Townman. He's finger-sucking."

The sudden shout jarred the prone figure. His face reddened and screwed up. A weak whining, unaccompanied by tears, sounded but his thumb remained where it was. It showed wet and pink in contrast to the rest of the dirt-smeared hand.

Terens broke his own numbness at the sight. He said, "All right, look, fellows, you shouldn't be running around here in the kyrt field. You're damaging the crop and you know what that will mean if the farm hands catch you. Get going, and keep quiet about this. And listen, Rasie, you run to Mr. Jencus and get him to come here."

Ull Jencus was the nearest thing to a doctor the town had. He had passed some time as apprentice in the offices of a real doctor in the City and on the strength of it he had been relieved of duty on the farms or in the mills. It didn't work out too badly. He could take temperatures, administer pills, give injections and, most important, he could tell when some disorder was sufficiently serious to warrant a trip to the City hospital. Without such semiprofessional backing, those unfortunates stricken with spinal meningitis or acute appendicitis might suffer intensively but usually not for long. As it was, the foremen muttered and accused Jencus in everything but words of being an accessory after the fact to a conspiracy of malingering.

Jencus helped Terens lift the man into a scooter cart and, as unobtrusively as they might, carried him into town.

Together they washed off the accumulated and hardened grime and filth. There was nothing to be done about the hair. Jencus shaved the entire body and did what he could by way of physical examination.

Jencus said, "No infection I c'n tell of, Townman. He's been fed. Ribs don't stick out too much. I don't know what to make of it. How'd he get out there, d'you suppose, Townman?"

He asked the question with a pessimistic tone as though no one could expect Terens to have the answer to anything. Terens accepted that philosophically. When a village has lost the Townman it has grown accustomed to over a period of nearly fifty years, a newcomer of tender age must expect a transition period of suspicion and distrust. There was nothing personal in it.

Terens said, "I'm afraid I don't know."

"Can't walk, y'know. Can't walk a step. He'd have to be put there. Near's I c'n make out, he might's well be a baby. Everything else seems t'be gone."

"Is there a disease that has this effect?"

"Not's I know of. Mind trouble might do it, but I don't know nothing 'tall about that. Mind trouble I'd send to the City. Y'ever see this one, Townman?"

Terens smiled and said gently, "I've just been here a month." Jencus sighed and reached for his handkerchief. "Yes. Old Townman, he was a fine man. Kept us well, he did. I been here 'most sixty years, and never saw this fella before. Must be from 'nother town."

Jencus was a plump man. He had the look of having been born plump, and if to this natural tendency is added the effect of a largely sedentary life, it is not surprising that he tended to punctuate even short speeches by a puff and a rather futile swipe at his gleaming forehead with his large red handkerchief.

He said, "Don't 'xactly know what t'say t'the patrollers."

The patrollers came all right. It was impossible to avoid that. The boys told their parents; their parents told one another. Town life was quiet enough. Even this would be unusual enough to be worth the telling in every possible combination of informer and informee. And in all the telling, the patrollers could not help but hear.

The patrollers, so called, were members of the Florinian Patrol. They were not natives of Florina and, on the other hand, they were not countrymen of the Squires from the planet Sark. They were simply mercenaries who could be counted on to keep order for the sake of the pay they got and never to be led into the misguidance of sympathy for Florinians through any ties of blood or birth.

There were two of them and one of the foremen from the mill came with them, in the fullness of his own midget authority.

The patrollers were bored and indifferent. A mindless idiot might be part of the day's work but it was scarcely an exciting part. One said to the foreman, "Well, how long does it take you to make an identification? Who is this man?"

The foreman shook his head energetically. "I never saw him, Officer. He's no one around here!"

The patroller turned to Jencus. "Any papers on him?"

"No, sir. He just had a rag 'bout him. Burned it t'prevent infection."

"What's wrong with him?"

"No mind, near's I c'n make out."

At this point Terens took the patrollers aside. Because they were bored they were amenable. The patroller who had been asking the questions put up his notebook and said, "All right, it isn't even worth making a record of. It has nothing to do with us. Get rid of it somehow."

Then they left.

The foreman remained. He was a freckled man, red of hair, with a large and bristly moustache. He had been a foreman of rigid principles for five years and that meant his responsibility for the fulfillment of quota in his mill rested heavily upon him.

"Look here," he said fiercely. "What's to be done about this? The damn folk are so busy talking, they ain't working. "

"Send him t'City hospital, near's I c'n make out," said Jencus, wielding his handkerchief industriously. "Noth'n' I c'n do."

"To the City!" The foreman was aghast. "Who's going to pay? Who'll stand the fees? He ain't none of us, is he?"

"Not's far's I know," admitted Jencus.

"Then why should we pay? Find out who he belongs to. Let his town pay."

"How we going t'find out? Tell me that."

The foreman considered. His tongue licked out and played with the coarse reddish foliage of his upper lip. He said, "Then we'll just have to get rid of him. Like the patroller said."

Terens interrupted. "Look here. What do you mean by that?" The foreman said, "He might as well be dead. It would be a mercy."

Terens said, "You can't kill a living person."

"Suppose you tell me what to do then."

"Can't one of the townpeople take care of him?"

"Who'd want to? Would you?"

Terens ignored the openly insolent attitude. "I've got other work to do."

"So have all the folk. I can't have anyone neglecting mill work to take care of this crazy thing."

Terens sighed, and said without rancor, "Now, Foreman, let's be reasonable. If you don't make quota this quarter I might suppose it's because one of your workers is taking care of this poor fellow, and I'll speak up for you to the Squires. Otherwise I'll just say that I don't know of any reason you couldn't make quota, in case you don't make it."

The foreman glowered. The Townman had only been here a month, and already he was interfering with men who had lived in town all their lives. Still, he had a card marked with Squire's -marks. It wouldn't do to stand too openly against him too long. He said, "But who'd take him?" A horrible suspicion smote him. "I can't. I got three kids of my own and my wife ain't well."

"I didn't suggest that you should."

Terens looked out the window. Now that the patrollers had left, the squirming, whispering crowd had gathered closer about the Townman's house. Most were youngsters, too young to be working, others were farm hands from the nearer farms. A few were millworkers, away from their shifts.

Terens saw the big girl at the very edge of the crowd. He had noticed her often in the past month. Strong, competent, and hard-working. Good natural intelligence hidden under that unhappy expression. If she were a man she might have been chosen for Townman's training. But she was a woman; parents dead, and plain enough she was to preclude romantic side interests. A lone woman, in other words, and likely to remain so.

He said, "What about her?"

The foreman looked, then roared, "Damn it. She ought to be at work."

"All right," soothed Terens. "What's her name?"

"That's Valona March."

"That's right. I remember now. Call her in."

From that moment Terens had made himself an unofficial guardian of the pair. He had done what he could to obtain additional food rations for her, extra clothing coupons and whatever else was required to allow two adults (one unregistered) to live on the income of one. He had been instrumental in helping her obtain training for Rik at the kyrt mills. He had intervened to prevent greater punishment on the occasion of Valona's quarrel with a section head. The death of the City doctor had made it unnecessary for him to attempt further action there than he had taken, but he had been ready.

It was natural for Valona to come to him in all her troubles, and he was waiting now for her to answer his question.

Valona was still hesitating. Finally she said, "He says everyone in the world will die."

Terens looked startled. "Does he say how?"

"He says he doesn't know how. He just says he remembers that from before he was like, you know, like he is. And he says he remembers he had an important job, but I don't understand what it is."

"How does he describe it?"

"He says he an—analyzes Nothing with a capital N."

Valona waited for comment, then hastened to explain, "Analyze means taking something apart like——"

"I know what it means, girl." Terens remained lost.

Valona watched him anxiously. "Do you know what he means, Townman?"

"Perhaps, Valona."

"But, Townman, how can anyone do anything to Nothing?"

Terens got to his feet. He smiled briefly. "Why, Valona, don't you know that everything in all the Galaxy is mostly Nothing?"

No light of understanding dawned on Valona, but she accepted that. The Townman was a very educated man. With an unexpected twinge of pride, she was suddenly certain that her Rik was even more educated.

"Come." Terens was holding his hand out to her.

She said, "Where are we going?"

"Well, where's Rik?"

"Home," she said. "Sleeping."

"Good. I'll take you there. Do you want the patrollers to find you on the street alone?"

The village seemed empty of life in the nighttime. The lights along the single street that split the area of workers' cabins in two gleamed without glare. There was a hint of rain in the air, but only of that light warm rain that fell almost every night. There was no need to take special precautions against it.

Valona had never been out so late on a working evening and it was frightening. She tried to shrink away from the sound of her own footsteps, while listening for the possible distant step of the patrollers.

Terens said, "Stop trying to tiptoe, Valona. I'm with you."

His voice boomed in the quiet and Valona jumped. She hurried forward in response to his urging.

Valona's hut was as dark as the rest and they stepped in gingerly. Terens had been born and brought up in just such a hut and though he had since lived on Sark and now occupied a house with three rooms and plumbing, there was still something of a nostalgia about the barrenness of its interior. One room was all that was required, a bed, a chest of drawers, two chairs, a smooth poured-cement floor, a closet in one corner.

There was no need for kitchen facilities, since all meals were eaten at the mill, nor for a bathroom, since a line of community outhouses and shower cells ran along the space behind the houses. In the mild, unvarying climate, windows were not adapted for protection against cold and rain. All four walls were pierced by screened openings and eaves above were sufficient ward against the nightly windless sprinkles.

In the flare of a little pocket light which he held cupped in one palm Terens noted that one corner of the room was marked off by a battered screen. He remembered getting it for Valona rather recently when Rik had become too little of a child or too much of a man. He could hear the regular breathing of sleep behind it.

He nodded his head in that direction. "Wake him, Valona."

Valona tapped on the screen. "Rik! Rik, baby!"

There was a little cry.

"It's only Lona," said Valona. They rounded the screen and Terens played his little light upon their own faces, then upon Rik.

Rik threw an arm up against the glare. "What's the matter?"

Terens sat down on the edge of the bed. Rik slept in the standard cottage bed, - he noted. He had obtained for Valona an old, rather rickety cot at the very first, but she had reserved that for herself.

"Rik," he said, "Valona says you're beginning to remember things."

"Yes, Townman." Rik was always very humble before the Townman, who was the most important man he had ever seen. Even the mill superintendent was polite to the Townman. 111k repeated the scraps his mind had gathered during the day.

Terens said, "Have you remembered anything else since you told this to Valona?"

"Nothing else, Townman."

Terens kneaded the fingers of one hand with those of the other. "All right, Rik. Go back to sleep."

Valona followed him out of the house. She was trying hard to keep her face from twisting and the back of one rough hand slid across her eyes. "Will he have to leave me, Townman?"

Terens took her hands and said gravely, "You must be a grown woman, Valona. He will have to come with me for just a short while but I'll bring him back."

"And after that?"

"I don't know. You must understand, Valona. Right now it is the most important thing in all the world that we find out more about Rik's memories."

Valona said suddenly, "You mean everybody on Florina might die, the way he says?"

Terens' grip tightened. "Don't ever say that to anyone, Valona, or the patrollers may take Rik away forever. I mean that."

He turned away and walked slowly and thoughtfully back to his house without really noticing that his hands were trembling. He tried futilely to sleep and after an hour of that he adjusted the narco-field. It was one of the few pieces of Sark he had brought with him when he first returned to Florina to become Townman. It fitted about his skull like a thin black felt cap. He adjusted the controls to five hours and closed contact.

He had time to adjust himself comfortably in bed before the delayed response shorted the conscious centers of his cerebrum and blanketed him into instantaneous, dreamless sleep.

3. THE LIBRARIAN

THEY LEFT the diamagnetic scooter in a scooter-cubby outside the City limits. Scooters were rare in the City and Terens had no wish to attract unnecessary attention. He thought for a savage moment of those of the Upper City with their diamagnetic ground-cars and anti-gray gyros. But that was the Upper City. It was different.

Rik waited for Terens to lock the cubby and fingerprint-seal it. He was dressed in a new one-piece suit and felt a little uncomfortable. Somewhat reluctantly he followed the Townman under the first of the tall bridgelike structures that supported the Upper City.

On Florina, all other cities had names, but this one was simply the "City." The workers and peasants who lived in it and around it were considered lucky by the rest of the planet. In the City there were better doctors and hospitals, more factories and more liquor stores, even a few dribbles of very mild luxury. The inhabitants themselves were somewhat less enthusiastic. They lived in the shadow of the Upper City.

The Upper City was exactly what the name implied, for the City was double, divided rigidly by a horizontal layer of fifty square miles of cement alloy resting upon some twenty thousand steel-girdered pillars. Below in the shadow were the "natives." Above, in the sun, were the Squires. It was difficult to believe in the Upper City that the planet of its location was Florina. The population was almost exclusively Sarkite in nature, together with a sprinkling of patrollers. They were the upper class in all literalness.

Terens knew his way. He walked quickly, avoiding the stares of passers-by, who surveyed his Townman clothing with a mixture of envy and resentment. Ull's shorter legs made his gait less dignified as he tried to keep up. He did not remember very much from his only other visit to the City. It seemed so different now. Then it had been cloudy. Now the sun was out, pouring through the spaced openings in the cement alloy above to form strips of light that made the intervening space all the darker. They plunged through the bright strips in a rhythmic, almost hypnotic fashion.

Oldsters sat on wheeled chairs in the strips, absorbing the warmth and moving as the strip moved. Sometimes they fell asleep and would remain behind in the shade, nodding in their chairs until the squeaking of the wheels when they shifted position woke them. Occasionally mothers nearly blocked the strips with their carriageci offspring.

Terens said, "Now, Rik, stand up straight. We're going up." He was standing before a structure that filled the space between four square-placed pillars, and from ground to Upper City.

Rik said, "I'm scared."

Rik could guess what the structure was. It was an elevator that lifted to the upper level. These were necessary, of course. Production was below, but consumption was above. Basic chemicals and raw food staples were shipped into Lower City, but finished plastic ware and fine meals were matters for Upper City. Excess population spawned below; maids, gardeners, chauffeurs, construction laborers were used above.

Terens ignored Rik's expression of fright. He was amazed that his own heart beat so violently. Not fright, of course. Rather a fierce satisfaction that he was going up. He would step all over that sacred cement alloy, stamp on it, scuff his dirt upon it. He could do that as a Townman. Of course he was still only a Florinian native to the Squires, but he was a Townman and he could step on the cement alloy whenever he pleased.

Galaxy, he hated them!

He stopped himself, drew a firm breath and signaled for the elevator. There was no use thinking hate. He had been on Sark for many years; on Sark itself, the center and breeding place of the Squires. He had learned to bear in silence. He ought not forget what he had learned now. Of all times, not now.

He heard the whir of the elevator settling at the lower level, and the entire wall facing him dropped into its slot.

The native who operated the elevator looked disgusted. "Just two of you."

"Just two," said Terens, stepping in. 131k followed.

The operator made no move to restore the fallen wall to its original position. He said, "Seems to me you guys could wait for the two o'clock load and move with it. I ain't supposed to run this thing up and down for no two guys." He spat carefully, making sure that the sputum hit lower-level concrete and not the floor of his elevator.

He went on, "Where's your employment tickets?"

Terens said, "I'm a Townman. Can't you see it by my clothes?"

"Clothes don't mean nothing. Listen, you think I'm risking my job because you maybe picked up some uniform somewheres? Where's your card?"

Terens, without another word, presented the standard document-folder all natives had to carry at all times: registration number, employment certificate, tax receipts. It was open to the crimson of his Townman's license. The operator scanned it briefly.

"Well, maybe you picked that up, too, but that's not my business. You got it and I pass you, though Townman's just a fancy name for a native to my way of figuring. What about the other guy?"

"He's in my charge," said Terens. "He can come with me, or shall we call a patroller and check into the rules?"

It was the last thing Terens wanted but he suggested it with suitable arrogance.

"Awrright! Y'don't have to get sore." The elevator wall moved up, and with a lurch the elevator climbed. The operator mumbled direfully under his breath.

Terens smiled tightly. It was almost inevitable. Those who worked directly for the Squires were only too glad to identify themselves with the rulers and make up for their real inferiority by a tighter adherence to the rules of segregation, a harsh and haughty attitude toward their fellows. They were the "uppermen" for whom the other Florinians reserved their particular hate, unalloyed by the carefully taught awe they felt for the Squires.

The vertical distance traveled was thirty feet, but the door opened again to a new world. Like the native cities of Sark, Upper City was laid out with a particular eye to color. Individual structures, whether dwelling places or public buildings, were inset in an

intricate multicolored mosaic which, close at hand, was a meaningless jumble, but at a distance of a hundred yards took on a soft clustering of hues that melted and changed with the angle of view.

"Come on, 131k," said Terens.

Rik was staring wide-eyed. Nothing alive and growing! Just stone and color in huge masses. He had never known houses could be so huge. Something stirred momentarily in his mind. For a second the hugeness was not so strange. . . And then the memory closed down again.

A ground-car flashed by.

"Are those Squires?" Rik whispered.

There had been time for only a glance. Hair close-cropped, wide, flaring sleeves of glossy, solid colors ranging from blue to violet, knickers of a velvety appearance and long, sheer hose that gleamed as if it were woven of thin copper wire. They wasted no glance at 111k and Terens.

"Young ones," said Terens. He had not seen them at such close quarters since he left Sark. On Sark they were bad enough but at least they had been in place. Angels did not fit here, thirty feet over Hell. Again he squirmed to suppress a useless tremble of hatred.

A two-man flatcar hissed up behind them. It was a new model that had built-in air controls. At the moment it was skimming smoothly two inches above surface, its gleaming flat bottom curled upward at all edges to cut air resistance. Still, the slicing of air against its lower surface sufficed to produce the characteristic hiss which meant "patrollers."

They were large, as all patrollers were; broad-faced, flatcheeked, long, straight black hair, light brown in complexion. To the natives, all patrollers looked alike. The glossy black of their uniforms, enhanced as they were by the startling silver of strategically placed buckles and ornamental buttons, depressed the importance of the face and encouraged the impression of likeness still more.

One patroller was at the controls. The other leaped out lightly over the shallow rim of the car.

He said, "Folder!" stared mechanically and momentarily at it and flipped it back at Terens. "Your business here."

"I intend consulting the library, Officer. It is my privilege." The patroller turned to Elk. "What about you?"

"I—" began Rik.

"He is my assistant," interposed Terens.

"He has no Townman privileges," said the patroller.

"I'll be responsible for him."

The patroller shrugged. "It's your lookout. Townmen have privileges, but they're not Squires. Remember that, boy."

"Yes, Officer. By the way, could you direct me to the library?" The patroller directed him, using the thin, deadly barrel of a needle-gun to indicate direction. From

their present angle, the library was a blotch of brilliant vermilion deepening into crimson toward the upper stories. As they approached, the crimson crept downward.

Rik said with sudden vehemence, "I think it's ugly."

Terens gave him a quick, surprised glance. He had been accustomed to all this on Sark, but he, too, found the garishness of Upper City somewhat vulgar. But then, Upper City was more Sark than Sark itself. On Sark, not all men were aristocrats. There were even poor Sarkites, some scarcely better off than the average Florinian. Here only the top of the pyramid existed, and the library showed that.

It was larger than all but a few on Sark itself, far larger than Upper City required, which showed the advantage of cheap labor. Terens paused on the curved ramp that led to the main entrance. The color scheme on the ramp gave the illusion of steps, somewhat disconcerting to 131k, who stumbled, but giving the library the proper air of archaism that traditionally accompanied academic structures.

The main hall was large, cold, and all but empty. The librarian behind the single desk it contained looked like a small, somewhat wrinkled pea in a bloated pod. She looked up and half rose.

Terens said quickly, "I'm a Townman. Special privileges. I am responsible for this native." He had his papers ready and marched them before him.

The librarian seated herself and looked stern. She plucked a metal sliver from a slot and thrust it at Terens. The Townman placed his right thumb firmly upon it. The librarian took the sliver and put it in another slot where a dim violet light shone briefly.

She said, "Room 242."

"Thank you."

The cubicles on the second floor had that icy lack of personality that any link in an endless chain would have. Some were filled, their glassite doors frosted and opaque. Most were not.

"Two forty-two," said 131k. His voice was squeaky.

"What's the matter, 13.1k?"

"I don't know. I feel very excited."

"Ever been in a library before?"

"I don't know."

Terens put his thumb on the round aluminum disk which, five minutes before, had been sensitized to his thumbprint. The clear glass door swung open and, as they stepped within, it closed silently and, as though a blind had been drawn, became opaque.

The room was six feet in each direction, without window or adornment. It was lit by the diffuse ceiling glow and ventilated by a forced-air draft. The only contents were a desk that stretched from wall to wall and an upholstered backless bench between it and the door. On the desk were three "readers." Their frosted-glass fronts slanted backward at an angle of thirty degrees. Before each were the various control-dials.

"Do you know what this is?" Terens sat down and placed his soft, plump hand upon one of the readers.

Rik sat down too.

"Books?" he asked eagerly.

"Well." Terens seemed uncertain. "This is a library, so your guess doesn't mean much. Do you know how to work the reader?"

"No. I don't think so, Townman."

"You're sure? Think about it a little."

Rik tried valiantly. "I'm sorry, Townman."

"Then I'll show you. Look! First, you see, there's this knob, labeled 'Catalog' with the alphabet printed about it. Since we want the encyclopaedia first, we'll turn the knob to E and press downward."

He did so and several things happened at once. The frosted glass flared into life and printing appeared upon it. It stood out black on yellow as the ceiling light dimmed. Three smooth panels moved out like so many tongues, one before each reader, and each was centered by a tight light-beam. Tereus snapped a toggle switch and the panels moved back into their recesses.

He said, "We won't be taking notes."

Then he went on, "Now we can go down the list of E's by turning this knob."

The long line of alphabetized materials, titles, authors, catalog numbers flipped upward, then stopped at the packed column listing the numerous volumes of the encyclopaedia.

Rik said suddenly, "You press the numbers and letters after the book you want on these little buttons and it shows on the screen."

Terens turned on him. "How do you know? Do you remember that?"

"Maybe I do. I'm not sure. It just seems the right thing."

"Well, call it an intelligent guess."

He punched a letter-number combination. The light on the glass faded, then brightened again. It said: "Encyclopaedia of Sark, Volume 54, Sol—Spec."

Terens said, "Now look, 131k, I don't want to put any ideas in your head, so I won't tell you what's in my mind. I just want you to look through this volume and stop at anything that seems familiar. Do you understand?"

"Yes."

"Good. Now take your time."

The minutes passed. Suddenly Rik gasped and sent the dials spinning backward.

When he stopped, Terens read the heading and looked pleased. "You remember now? This isn't a guess? You remember?"

Elk nodded vigorously. "It came to me, Townman. Very suddenly."

It was the article on Spatio-analysis.

"I know what it says," Elk said. "You'll see, you'll see." He was having difficulty breathing normally and Terens, for his part, was almost equally excited.

"See," said Rik, "they always have this part."

He read aloud haltingly, but in a manner far more proficient than could be accounted for by the sketchy lessons in reading he had received from Valona. The article said: "It is not surprising that the Spatio-analyst is by temperament an introverted and,

often enough, maladjusted individual. To devote the greater part of one's adult life to the lonely recording of the terrible emptiness between the stars is more than can be asked of someone entirely normal. It is perhaps with some realization of this that the Spatio-analytic Institute has adopted as its official slogan the somewhat wry statement, "We Analyze Nothing".

Rik finished with what was almost a shriek.

Terens said, "Do you understand what you've read?"

The smaller man looked up with blazing eyes. "It said, 'We Analyze Nothing.' That's what I remembered. I was one of them."

"You were a Spatio-analyst?"

"Yes," cried Rik. Then, in a lower voice, "My head hurts."

"Because you're remembering?"

"I suppose so." He looked up, forehead furrowed. "I've got to remember more. There's danger. Tremendous danger! I don't know what to do."

"The library's at our disposal, Rik." Terens was watching carefully, weighing his words. "Use the catalog yourself and look up some texts on Spatio-analysis. See where that leads you."

Rik flung himself upon the reader. He was shaking visibly. Terens moved aside to give him room.

"How about Wrijt's Treatise of Spatio-analytic Instrumentation?" asked Rik.

"Doesn't that sound right?"

"It's all up to you, Rik."

Rik punched the catalog number and the screen burned brightly and steadily. It said, "Please Consult Librarian for Book in Question."

Terens reached out a quick hand and neutralized the screen. "Better try another book, Rik."

"But . . ." Rik hesitated, then followed orders. Another search through the catalog and then he chose Enning's Composition of Space.

The screen filled itself once more with a request to consult the librarian. Terens said, "Damn!" and deadened the screen again.

Rik said, "What's the matter?"

Terens said, "Nothing. Nothing. Now don't get panicky, Rik. I just don't quite see—"

There was a little speaker behind the grillwork on the side of the reading mechanism. The librarian's thin, dry voice emerged therefrom and froze them both.

"Room 242! Is there anyone in Room 242?"

Terens answered harshly, "What do you want?"

The voice said, "What book is it you want?"

"None at all. Thank you. We are only testing the reader."

There was a pause as though some invisible consultation was proceeding. Then the voice said with an even sharper edge to it, "The record indicates a reading request for

Wrijt's Treatise of Spatio-analytical Instrumentation, and Enning's Composition of Space. Is that correct?"

"We were punching catalog numbers at random," said Terens. "May I ask your reason for desiring those books?" The voice was inexorable.

"I tell you we don't want them. . . Now stop it." The last was an angry aside to Elk, who had begun whimpering.

A pause again. Then the voice said, "If you will come down to the desk you may have access to the books. They are on a reserved listing and you will have to fill out a form."

Terens held out a hand to Rik. "Let's go."

"Maybe we've broken a rule," quavered Rik.

"Nonsense, Elk. We're leaving."

"We won't fill out the form?"

"No, we'll get the books some other time."

Terens was hurrying, forcing Elk along with him. He strode down the main lobby. The librarian looked up.

"Here now," she cried, rising and circling the desk. "One moment. One moment!" They weren't stopping for her.

That is, until a patroller stepped in front of them. "You're in an awful hurry, laddies."

The librarian, somewhat breathless, caught up to them. "You're 242, aren't you?"

"Look here," said Terens firmly, "why are we being stopped?"

"Didn't you inquire after certain books? We'd like to get them for you."

"It's too late. Another time. Don't you understand that I don't want the books? I'll be back tomorrow."

"The library," said the woman primly, "at all times endeavors to give satisfaction. The books will be made available to you in one moment." Two spots of red burned high upon her cheekbones. She turned away, hurrying through a small door that opened at her approach.

Terens said, "Officer, if you don't mind—"

But the patroller held out his moderately long, weighted neuronic whip. It could serve as an excellent club, or as a longer-range weapon of paralyzing potentialities. He said, "Now, laddy, why don't you sit down quietly and wait for the lady to come back? It would be the polite thing to do."

The patroller was no longer young, no longer slim. He looked close to retirement age and he was probably serving out his time in quiet vegetation as library guard, but he was armed and the joviality on his swarthy face had an insincere look about it.

Terens' forehead was wet and he could feel the perspiration collecting at the base of his spine. Somehow he had underestimated the situation. He had been sure of his own analysis of the matter, of everything. Yet here he was. He shouldn't have been so reckless. It was his damned desire to invade Upper City, to stalk through the library corridors as though he were a Sarkite. . .

For a desperate moment he wanted to assault the patroller and then, unexpectedly, he didn't have to.

It was just a flash of movement at first. The patroller started to turn a little too late. The slower reactions of age betrayed him. The neuronic whip was wrenched from his grasp and before he could do more than emit the beginning of a hoarse cry it was laid along his temple. He collapsed.

Rik shrieked with delight, and Terens cried, "Valona! By all the devils of Sark, Valonat"

4. THE REBEL

TERENS RECOVERED almost at once. He said, "Out. Quickly!" and began walking.

For a moment he had the impulse to drag the patroller's unconscious body into the shadows behind the pillars that lined the main hall, but there was obviously no time.

They emerged onto the ramp, with the afternoon sun making the world bright and warm about them. The colors of Upper City had shifted to an orange motif.

Valona said anxiously, "Come on!" but Terens caught her elbow.

He was smiling, but his voice was hard and low. He said, "Don't run. Walk naturally and follow me. Hold on to 111k. Don't let him run."

A few steps. They seemed to be moving through glue. Were there sounds behind them from the library? Imagination? Terens did not dare look.

"In here," he said. The sign above the driveway he indicated flickered a bit in the light of afternoon. It didn't compete very well with Florina's sun. It said: Ambulance Entrance.

Up the drive, through a side entrance, and between incredibly white walls. They were blobs of foreign material against the aseptic glassiness of the corridor.

A woman in uniform was looking at them from a distance. She hesitated, frowned, began to approach. Terens did not wait for her. He turned sharply, followed a branch of the corridor, then another one. They passed others in uniform and Terens could imagine the uncertainty they aroused. It was quite unprecedented to have natives wandering about unguarded in the upper levels of a hospital. What did one do? Eventually, of course, they would be stopped.

So Terens felt his heartbeat step up when he saw the unobtrusive door that said: To Native Levels. The elevator was at their level. He herded Rik and Talona within and the soft lurch as the elevator dropped was the most delightful sensation of the day.

There were three kinds of buildings in the City. Most were Lower Buildings, built entirely on the lower level. Workers' houses, ranging up to three stories in height. Factories, bakeries, disposal plants. Others were Upper Buildings: Sarkite homes, theaters, the library, sports arenas. But some few were Doubles, with levels and entrances both below and above; the patroller stations, for instance, and the hospitals.

One could therefore use a hospital to go from Upper City to Lower City and avoid in that manner the use of the large freight elevators with their slow movements and overattentive operators. For a native to do so was thoroughly illegal, of course, but the added crime was a pinprick to those already guilty of assaulting patrollers.

They stepped out upon the lower level. The stark aseptic walls were there still, but they had a faintly haggard appearance as though they were less often scrubbed. The upholstered benches that lined the corridors on the upper level were gone. Most of all there was the uneasy babble of a waiting room filled with wary men and frightened

women. A single attendant was attempting to make sense out of the mess, and succeeding poorly.

She was snapping at a stubbled oldster who pleated and unpleated the wrinkled knee of his raveling trousers and who answered all questions in an apologetic monotone.

"Exactly what is your complaint? . . . How long have you had these pains? . . . Ever been to the hospital before? . . Now look, you people can't expect to bother us over every little thing. You sit down and the doctor will look at you and give you more medicine."

She cried shrilly, "Next!" then muttered something to herself as she looked at the large timepiece on the wall.

Terens, Valona and Elk were edging cautiously through the crowd. Valona, as though the presence of fellow Florinians had freed her tongue of paralysis, was whispering intensely.

"I had to come, Townman. I was so worried about Rik. I thought you wouldn't bring him back and——"

"How did you get to Upper City, anyway?" demanded Terens over his shoulder, as he shoved unresisting natives to either side.

"I followed you and saw you go up the freight elevator. When it came down I said I was with you and he took me up."

"Just like that."

"I shook him a little."

"Imps of Sark," groaned Terens.

"I had to," explained Valona miserably. "Then I saw the patrollers pointing out a building to you. I waited till they were gone and went there too. Only I didn't dare go inside. I didn't know what to do so I sort of hid until I saw you coming out with the patroller stopping——"

"You people there!" It was the sharp, impatient voice of the receptionist. She was standing now, and the hard rapping of her metal stylus on the cement alloy desk top dominated the gathering and reduced them to a hard-breathing silence.

"Those people trying to leave. Come here. You cannot leave without being examined. There'll be no evading work-days with pretended sick calls. Come back here!"

But the three were out in the half shadow of Lower City. There were the smells and noise of what the Sarkites called the Native Quarter about them and the upper level was once more only a roof above them. But however relieved Valona and 13.1k might feel at being away from the oppressive richness of Sarkite surroundings, Terens felt no lifting of anxiety. They had gone too far and henceforth there might be no safety anywhere.

The thought was still passing through his turbulent mind when Rik called, "Look!" Terens felt salt in his throat.

It was perhaps the most frightening sight the natives of the Lower City could see. It was like a giant bird floating down through one of the openings in the Upper City. It shut off the sun and deepened the ominous gloom of that portion of the City. But it wasn't a bird. It was one of the armed ground-cars of the patrollers.

Natives yelled and began running. They might have no specific reason to fear, but they scattered anyway. One man, nearly in the path of the car, stepped aside reluctantly. He had been hurrying on his way, intent on some business of his own, when the shadow caught him. He looked about him, a rock of calm in the wildness. He was of medium height, but almost grotesquely broad across the shoulders. One of his shirt sleeves was slit down its length, revealing an arm like another man's thigh.

Terens was hesitating, and Rik and Valona could do nothing without him. The Townman's inner uncertainty had mounted to a fever. If they ran, where could they go? If they remained where they were, what would they do? There was a chance that the patrollers were after others altogether, but with a patroller unconscious on the library floor through their act, the chances of that were negligible.

The broad man was approaching at a heavy half trot. For a moment he paused in passing them, as though with uncertainty. He said in a conversational voice, "Khorov's bakery is second left, beyond the laundry."

He veered back.

Terens said, "Come on."

He was sweating freely as he ran. Through the uproar, he heard the barking orders that came naturally to patroller throats. He threw one look over his shoulder. A half dozen of them were piling out of the ground-car, fanning out. They would have no trouble, he knew. In his damned Townman's uniform, he was as conspicuous as one of the pillars supporting the Upper City.

Two of the patrollers were running in the right direction. He didn't know whether or not they had seen him, but that didn't matter. Both collided with the broad man who had just spoken to Terens. All three were close enough for Terens to hear the broad man's hoarse bellow and the patrollers' sharp cursing. Terens herded Valona and Elk around the corner.

Khorov's bakery was named as such by an almost defaced "worm" of crawling illuminated plastic, broken in half a dozen places, and was made unmistakable by the wonderful odor that filtered through its open door. There was nothing to do but enter, and they did.

An old man looked out from the inner room within which they could see the flour-obscured gleam of the radar furnaces. He had no chance to ask their business.

Terens began, "A broad man——" He was holding his arms apart in illustration, and the cries of "Patrollers! Patrollers!" began to be heard outside.

The old man said hoarsely, "This way! Quickly!"

Terens held back. "In there?"

The old man said, "This one is a dummy."

First Rik, then Valona, then Terens crawled through the furnace door. There was a faint click and the back wall of the furnace moved slightly and hung freely from the hinges above. They pushed through it and into a small room, dimly lit, beyond.

They waited. Ventilation was bad, and the smell of baking increased hunger without satisfying it. Valona kept smiling at Rik, patting his hand mechanically from time to time. Rik stared back at her blankly. Once in a while he put a hand to his flushed face.

Valona began, "Townman——"

He snapped back in a tight whisper, "Not now, Lona. Please!"

He passed the back of his hand across his forehead, then stared at the dampness of Ms knuckles.

There was a click, magnified by the close confinement of their hiding place. Terens stiffened. Without quite realizing it, he raised clenched fists.

It was the broad man, poking his immense shoulders through the opening. They scarcely fit.

He looked at Terens and was amused. "Come on, man. We're not going to be fighting."

Terens looked at his fists, and let them drop.

The broad man was in markedly poorer condition now than when they had first seen him. His shirt was all but removed from his back and a fresh weal, turning red and purple, marked one cheekbone. His eyes were little and the eyelids crowded them above and below.

He said, "They've stopped looking. If you're hungry, the fare here isn't fancy, but there's enough of it. What do you say?"

It was night in the City. There were lights in the Upper City that lit the sky for miles, but in the Lower City the darkness was clammy. The shades were drawn tightly across the front of the bakery to hide the illegal, past-curfew lights away from it.

Rik felt better with warm food inside him. His headache began to recede. He fixed his eyes on the broad man's cheek.

Timidly he asked, "Did they hurt you, mister?"

"A little," said the broad one. "It doesn't matter. It happens every day in my business." He laughed, showing large teeth.

"They had to admit I hadn't done anything but I was in their way while they were chasing someone else. The easiest way of getting a native out of the way——" His hand rose and fell, holding an invisible weapon, butt-first.

Rik flinched away and Valona reached out an anxious, protective arm.

The broad man leaned back, sucking at his teeth to get out particles of food. He said, "I'm Matt Khorov, but they just call me the Baker. Who are you people?"

Terens shrugged. "Well. . ." The Baker said, "I see your point. What I don't know won't hurt anyone. Maybe. Maybe. At that, though, you might trust me. I saved you from the patrollers, didn't I?"

"Yes. Thank you." Terens couldn't squeeze cordiality into his voice. He said, "How did you know they were after us? There were quite a few people running."

The other smiled. "None of them had the faces you three were wearing. Yours could have been ground up and used for chalk."

Terens tried to smile in return. He didn't succeed well. "I'm not sure I know why you risked your life. Thank you, anyway. It isn't much, just saying 'Thank you,' but there's nothing else I can do right now."

"You don't have to do anything." The Baker's vast shoulders leaned back against the wall. "I do this as often as I can. It's nothing personal. If the patrollers are after someone I do my best for him. I hate the patrollers."

Valona gasped. "Don't you get into trouble?"

"Sure. Look at this." He put a finger gently on his bruised cheek. "But you don't think I ought to let it stop me, I hope. That's why I built the dummy oven. So the patrollers wouldn't catch me and make things too hard for me."

Valona's eyes were wide with mingled fright and fascination.

The Baker said, "Why not? You know how many Squires there are on Florina? Ten thousand. You know how many patrollers? Maybe twenty thousand. And there are five hundred million of us natives. If we all lined up against them . . ." He snapped his fingers.

Terens said, "We'd be lining up against needle-guns and blaster-cannon, Baker."

The Baker retorted, "Yeah. We'd have to get some of our own. You Townmen have been living too close to the Squires. You're scared of them."

Valona's world was being turned upside down today. This man fought with patrollers and spoke with careless self-confidence to the Townman. When Rik plucked at her sleeve she disengaged his fingers gently and told him to sleep. She scarcely looked at him. She wanted to hear what this man said.

The broad man was saying, "Even with needle-guns and blast-cannon, the only way the Squires hold Florina is with the help of a hundred thousand Townmen."

Terens looked offended, but the Baker went on, "For instance, look at you. Very nice clothes. Neat. Pretty. You've got a nice little shack, I'll bet, with book-films, a private hopper and no curfew. You can even go to Upper City if you want to. The Squires wouldn't do that for you for nothing."

Terens felt in no position to lose his temper. He said, "All right. What do you want the Townmen to do? Pick fights with the patrollers? What good would it do? I admit I keep my town quiet and up to quota, but I keep them out of trouble. I try to help them, as much as the law will allow. Isn't that something? Someday——"

"Aah, someday. Who can wait for someday? When you and I are dead, what difference will it make who runs Florina? To us, I mean."

Terens said, "In the first place, I hate the Squires more than you do. Still——" He stopped, reddening.

The Baker laughed. "Go ahead. Say it again. I won't turn you in for hating the Squires. What did you do to get the patrollers after you?"

Terens was silent.

The Baker said, "I can make a guess. When the patrollers fell over me they were plenty sore. Sore in person, I mean, and not just because some Squire told them to be sore. I know them and I can tell. So I figure that there's only one thing that could have happened. You must've knocked down a patroller. Or killed him, maybe."

Terens was still silent.

The Baker lost none of his agreeable tone. "It's all right to keep quiet but there's such a thing as being too cautious, Town-man. You're going to need help. They know who you are."

"No, they don't," said Terens hastily.

"They must have looked at your cards in the Upper City."

"Who said I was in the Upper City?"

"A guess. I'll bet you were."

"They looked at my card, but not long enough to read my name."

"Long enough to know you're a Townman. All they have to do is find a Townman missing from his town or one who can't account for his movements today. The wires all over Florina are probably scorching right now. I think you're in trouble."

"Maybe."

"You know there's no maybe. Want help?"

They were talking in whispers. Elk had curled up in the corner and gone to sleep. Valona's eyes were moving from speaker to speaker.

Terens shook his head. "No, thanks. I—I'll get out of this."

The Baker's ready laughter came. "It will be interesting to see how. Don't look down on me because I haven't got an education. I've got other things. Look, you spend the night thinking about it. Maybe you'll decide you can use help."

Valona's eyes were open in the darkness. Her bed was only a blanket thrown on the floor, but it was nearly as good as the beds she was used to. Elk slept deeply on another blanket in an opposite corner. He always slept deeply on days of excitement after his headaches passed.

The Townman had refused a bed and the Baker had laughed (he laughed at everything, it seemed), turned out the light and told him he was welcome to sit up in the darkness.

Valona's eyes remained open. Sleep was far away. Would she ever sleep again? She had knocked down a patroller!

Unaccountably, she was thinking of her father and mother.

They were very misty in her mind. She had almost made herself forget them in the years that had stretched between them and herself. But now she remembered the sound of whispered conversations during the night, when they thought her asleep. She remembered people who came in the dark.

The patrollers had awakened her one night and asked her questions she could not understand but tried to answer. She never saw her parents again after that. They had gone away, she was told, and the next day they had put her to work when other children her age still had two years of play time. People looked after her as she passed and other children weren't allowed to play with her, even when work time was over. She learned to keep to herself. She learned not to speak. So they called her "Big Lona" and laughed at her and said she was a half-wit.

Why did the conversation tonight remind her of her parents? "Valona."

The voice was so close that its light breath stirred her hair and so low she scarcely heard it. She tensed, partly in fear, partly in embarrassment. There was only a sheet over her bare bosom.

It was the Townman. He said, "Don't say anything. Just listen. I am leaving. The door isn't locked. I'll be back, though. Do you hear me? Do you understand?"

She reached in the darkness, caught his hand, pressed it with her fingers. He was satisfied.

"And watch Rik. Don't let him out of your sight. And Valona." There was a long pause. Then he went on, "Don't trust this Baker too much. I don't know about him. Do you understand?"

There was a faint noise of motion, an even fainter distant creak, and he was gone. She raised herself to one elbow and, except for Rik's breathing and her own, there was only silence.

She put her eyelids together in the darkness, squeezing them, trying to think. Why did the Townman, who knew everything, say this about the Baker, who hated patrollers and had saved them? Why? She could think of only one thing. He had been there. Just when things looked as black as they could be, the Baker had come and had acted quickly. It was almost as though it had been arranged or as if the Baker had been waiting for it all to happen. She shook her head. It seemed strange. If it weren't for what the Townman had said, she would never think this.

The silence was broken into quivering pieces by a loud and unconcerned remark. "Hello? Still here?"

She froze as a beam of light caught her full. Slowly she relaxed and bunched the sheet about her neck. The beam fell away.

She did not have to wonder about the identity of the new speaker. His squat broad form bulked in the half-light that leaked backward from the flash.

The Baker said, "You know, I thought you'd go with him."

Valona said weakly, "Who, sir?"

"The Townman. You know he left, girl. Don't waste time pretending."

"He'll be back, sir."

"Did he say he would be back? If he did, he's wrong. The patrollers will get him. He's not a very smart man, the Townman, or he'd know when a door is left open for a purpose. Are you planning to leave too?"

Valona said, "I'll wait for the Townman."

"Suit yourself. It will be a long wait. Go when you please." His light-beam suddenly left her altogether and traveled along the floor, picking out Rik's pale, thin face. Elk's eyelids crushed together automatically, at the impact of the light, but he slept on.

The Baker's voice grew thoughtful. "But I'd just as soon you left that one behind. You understand that, I suppose. If you decide to leave, the door is open, but it isn't open for him."

"He's just a poor, sick fellow—" Valona began in a high, frightened voice.

"Yes? Well, I collect poor sick fellows and that one stays here. Remember!"

The light-beam did not move from Elk's sleeping face.

5. THE SCIENTIST

DR. SELIM Junz had been impatient for a year, but one does not become accustomed to impatience with time. Rather the reverse. Nevertheless the year had taught him that the Sarkite Civil Service could not be hurried; all the more so since the civil servants themselves were largely transplanted Florinians and therefore dreadfully careful of their own dignity.

He had once asked old Abel, the Trantorian Ambassador, who had lived on Sark so long that the soles of his boots had grown roots, why the Sarkites allowed their government departments to be run by the very people they despised so heartily.

Abel had wrinkled his eyes over a goblet of green wine.

"Policy, Junz," he said. "Policy. A matter of practical genetics, carried out with Sarkite logic. They're a small, no-account world, these Sarkites, in themselves, and are only important so long as they control that everlasting gold mine, Florina. So each year they skim Florina's fields and villages, bringing the cream of its youth to Sark for training. The mediocre ones they set to filing their papers and filling their blanks and signing their forms and the really clever ones they send back to Florina to act as native governors for the towns. Townmen they call them."

Dr. Junz was a Spatio-analyst, primarily. He did not quite see the point of all this. He said so.

Abel pointed a blunt old forefinger at him and the green light shining through the contents of his goblet touched the ridged fingernail and subdued its yellow-grayness.

He said, "You will never make an administrator. Ask me for no recommendations. Look, the most intelligent elements of Florina are won over to the Sarkite cause wholeheartedly, since while they serve Sark they are well taken care of, whereas if they turn their backs on Sark the best they can hope for is a return to a Florinian existence, which is not good, friend, not good."

He swallowed the wine at a draught and went on. "Further, neither the Townmen nor Sark's clerical assistants may breed without losing their positions. Even with female Florinians, that is. Interbreeding with Sarkites is, of course, out of the question. In this way the best of the Florinian genes are being continually withdrawn from circulation, so that gradually Florina will be composed only of hewers of wood and drawers of water."

"They'll run out of clerks at that rate, won't they?"

"A matter for the future."

So Dr. Junz sat now in one of the outer anterooms of the Department for Florinian Affairs and waited impatiently to be allowed past the slow barriers, while Florinian underlings scurried endlessly through a bureaucratic maze.

An elderly Florinian, shriveled in service, stood before him.

"Dr. Junz?"

"Yes."

"Come with me."

A flashing number on a screen would have been as efficient in summoning him and a fluoro-channel through the air as efficient in guiding him, but where manpower is cheap, nothing need be substituted. Dr. Junz thought "manpower" advisedly. He had never seen women in any government department on Sark. Florinian women were left on their planet, except for some house servants who were likewise forbidden to breed, and Sarkite women were, as Abel said, out of the question.

He was gestured to a seat before the desk of the Clerk to the Undersecretary. He knew the man's title from the channeled glow etched upon the desk. No Florinian could, of course, be more than a clerk, regardless of how much of the actual threads of office ran through his white fingers. The Undersecretary and the Secretary of Florinian Affairs would themselves be Sarkites, but though Dr. Junz might meet them socially, he knew he would never meet them here in the department.

He sat, still impatiently, but at least nearer the goal. The Clerk was glancing carefully through the file, turning each minutely coded sheet as though it held the secrets of the universe. The man was quite young, a recent graduate perhaps, and like all Florinians, very fair of skin and light of hair.

Dr. Junz felt an atavistic thrill. He himself came from the world of Libair, and like all Libairians, he was highly pigmented and his skin was a deep, rich brown. There were few worlds in the Galaxy in which the skin color was so extreme as on either Libair or Florina. Generally, intermediate shades were the rule.

Some of the radical young anthropologists were playing with the notion that men of worlds like Libair, for instance, had arisen by independent but convergent evolution. The older men denounced bitterly any notion of an evolution that converged different species to the point where interbreeding was possible, as it certainly was among all the worlds in the Galaxy. They insisted that on the original planet, whatever it was, mankind had already been split into subgroups of varying pigmentation.

This merely placed the problem further back in time and answered nothing so that Dr. Junz found neither explanation satisfying. Yet even now he found himself thinking of the problem at times. Legends of a past of conflict had lingered, for some reason, on the dark worlds. Libairian myths, for instance, spoke of times of war between men of different pigmentation and the founding of Libair itself was held due to a party of browns fleeing from a defeat in battle.

When Dr. Junz left Libair for the Arcturian Institute of Spatial Technology and later entered his profession, the early fairy tales were forgotten. Only once since then had he really wondered. He had happened upon one of the ancient worlds of the Centaurian Sector in the course of business; one of those worlds whose history could be counted in millennia and whose language was so archaic that its dialect might almost be that lost and mythical language, English. They had a special word for a man with dark skin.

Now why should there be a special word for a man with dark skin? There was no special word for a man with blue eyes, or large ears, or curly hair. There was no——The

Clerk's precise voice broke his reverie. "You have been at this office before, according to the record."

Dr. Junz said with some asperity, "I have indeed, sir."

"But not recently."

"No, not recently."

"You are still in search of a Spatio-analyst who disappeared"—the Clerk flipped sheets—"some eleven months and thirteen days ago."

"That's right."

"In all that time," said the Clerk in his dry, crumbly voice out of which all the juice seemed carefully pressed, "there has been no sign of the man and no evidence to the effect that he ever was anywhere in Sarkite territory."

"He was last reported," said the scientist, "in space near Sark." The Clerk looked up and his pale blue eyes focused for a moment on Dr. Junz, then dropped quickly. "This may be so, but it is not evidence of his presence on Sark."

Not evidence! Dr. Junz's lips pressed tightly together. It was what the Interstellar Spatio-analytic Bureau had been telling him with increasing bluntness for months.

No evidence, Dr. Junz. We feel that your time might be better employed, Dr. Junz. The Bureau will see to it that the search is maintained, Dr. Junz.

What they really meant was, Stop wasting our dough, Junz!

It had begun, as the Clerk had carefully stated, eleven months and thirteen days ago by Interstellar Standard Time (the Clerk would, of course, not be guilty of using local time on a matter of this nature). Two days before that he had landed on Sark on what was to be a routine inspection of the Bureau's offices on that planet, but which turned out to be—well, which turned out to be what it was.

He had been met by the local representative of the I.S.B., a wispy young man who was marked in Dr. Junz's thoughts chiefly by the fact that he chewed, incessantly, some elastic product of Sark's chemical industry.

It was when the inspection was almost over and done with that the local agent had recalled something, parked his lastoplug in the space behind his molars and said, "Message from one of the field men, Dr. Junz. Probably not important. You know them."

It was the usual expression of dismissal: You know them. Dr.

Junz looked up with a momentary flash of indignation. He was about to say that fifteen years ago he himself had been a "field man," then he remembered that after three months he had been able to endure it no longer. But it was that bit of anger that made him read the message with an earnest attention.

It went: Please keep direct coded line open to I.S.B. Central HQ for detailed message involving matter of utmost importance. All Galaxy affected. Am landing by minimum trajectory.

The agent was amused. His jaws had gone back to their rhythmic champing and he said, "Imagine, sir. 'All Galaxy affected.' That's pretty good, even for a field man. I called him after I got this to see if I could make any sense out of him, but that flopped. He just kept saying that the life of every human being on Florina was in danger. You know, half a

billion lives at stake. He sounded very psychopathic. So, frankly, I don't want to try to handle him when he lands. What do you suggest?"

Dr. Junz had said, "Do you have a transcript of your talk?"

"Yes, sir." There was a few minutes searching. A sliver of film was finally found.

Dr. Junz ran it through the reader. He frowned. "This is a copy, isn't it?"

"I sent the original to the Bureau of Extra-Planetary Transportation here on Sark. I thought it would be best if they met him on the landing field with an ambulance. He's probably in a bad way."

Dr. Junz felt the impulse to agree with the young man. When the lonely analysts of the depths of space finally broke over their jobs, their psychopathies were likely to be violent.

Then he said, "But wait. You sound as though he hasn't landed yet."

The agent looked surprised. "I suppose he has, but nobody's called me about it."

"Well, call Transportation and get the details. Psychopathic or not, the details must be on our records."

The Spatio-analyst had stopped in again the next day on a last-minute check before he left the planet. He had other matters to attend to on other worlds, and he was in a moderate hurry. Almost at the doorway, he said, over his shoulder, "How's our field man doing?"

The agent said, "Oh, say—I meant to tell you. Transportation hasn't heard from him. I sent out the energy pattern of his hyperatomic motors and they say his ship is nowhere in near space. The guy must have changed his mind about landing."

Dr. Junz decided to delay his departure for twenty-four hours. The next day he was at the Bureau of Extra-Planetary Transportation in Sark City, capital of the planet. He met the Florinian bureaucracy for the first time and they shook their heads at him. They had received the message concerning the prospective landing of an analyst of the I.S.B. Oh yes, but no ship had landed.

But it was important, Dr. Junz insisted. The man was very sick. Had they not received a copy of the transcript of his talk with the local I.S.B. agent? They opened their eyes wide at him. Transcript? No one could be found who remembered receiving that. They were sorry if the man were sick, but no I.S.B. ship had landed, and no I.S.B. ship was anywhere in near space.

Dr. Junz went back to his hotel room and thought many thoughts. The new deadline for his leaving passed. He called the desk and arranged to be moved to another suite more adapted to an extended occupancy. Then he arranged an appointment with Ludigan Abel, the Trantorian Ambassador.

He spent the next day reading books on Sarkite history, and when it was time for the appointment with Abel, his heart had become a slow drumbeat of anger. He was not going to quit easily, he knew that.

The old Ambassador treated it as a social call, pumped his hand, had his mechanical bartender rolled in, and would not allow any discussion of business over the first two drinks. Junz used the opportunity for worth-while small talk, asked about the

Florinian Civil Service and received the exposition on the practical genetics of Sark. His sense of anger deepened.

Junz always remembered Abel as he had been that day. Deepset eyes half closed under startling white eyebrows, beaky nose hovering intermittently over his goblet of wine, insunken cheeks accentuating the thinness of his face and body, and a gnarled finger slowly keeping time to some unheard music. Junz began his story, telling it with stolid economy. Abel listened carefully and without interruption.

When Junz was finished, he dabbed delicately at his lips and said, "Look now, do you know this man who has disappeared?"

"No."

"Nor met him?"

"Our field analysts are hard men to meet."

"Has he had delusions before this?"

"This is his first, according to the records at central I.S.B. offices, if it is a delusion."

"If?" The Ambassador did not follow that up. He said, "And why have you come to me?"

"For help."

"Obviously. But in what way? What can I do?"

"Let me explain. The Sarkite Bureau of Extra-Planetary Transportation has checked near space for the energy pattern of the motors of our man's ship, and there is no sign of it. They wouldn't be lying about that. I do not say that the Sarkites are above lying, but they are certainly above useless lying, and they must know that I can have the matter checked in the space of two or three hours."

"True. What then?"

"There are two times when an energy-pattern trace will fail. One, when the ship is not in near space, because it has jumped through hyperspace and is in another region of the Galaxy, and two, when it is not in space at all because it has landed on a planet. I cannot believe our man has jumped. If his statements about peril to Florina and Galactic importance are megalomaniac delusions, nothing would stop him from coming to Sark to report on them. He would not have changed his mind and left. I've had fifteen years experience with such things. If, by any chance, his statements were sane and real, then certainly the matter would be too serious to allow him to change his mind and leave near space."

The old Trantorian lifted a finger and waved it gently. "Your conclusion then is that he is on Sark."

"Exactly. Again, there are two alternatives. First, if he is in the grip of a psychosis, he may have landed anywhere on the planet other than at a recognized spaceport. He may be wandering about, sick and semi-amnesiac. These things are very unusual, even for field men, but they have happened. Usually, in such a case, the fits are temporary. As they pass, the victim finds the details of his job returning first, before any personal memories at all. After all, the Spatio-analyst's job is his life. Very often the amnesiac is picked up because he wanders into a public library to look up references on Spatio-analysis."

"I see. Then you want to have me help you arrange with the Board of Librarians to have such a situation reported to you."

"No, because I don't anticipate any trouble there. I will ask that certain standard works on Spatio-analysis be placed on reserve and that any man asking for them, other than those who can prove they are native Sarkites, be held for questioning. They will agree to that because they will know, or certain of their superiors will know, that such a plan will come to nothing."

"Why not?"

"Because," and Junz was speaking rapidly now, caught up in a trembling cloud of fury, "I am certain that our man landed at Sark City spaceport exactly as he planned and, sane or psychotic, was then possibly imprisoned but probably killed by the Sarkite authorities."

Abel put down his nearly empty glass. "Are you joking?"

"Do I look as if I were? What did you tell me just half an hour ago about Sark? Their lives, prosperity and power depend upon their control of Florina. What has all my own reading in this past twenty-four hours shown me? That the kyrt fields of Florina are the wealth of Sark. And here comes a man, sane or psychotic, it doesn't matter, who claims that something of Galactic importance has put the life of every man and woman on Florina in danger. Look at this transcript of our man's last known conversation."

Abel picked up the sliver of film that had been dashed upon his lap by Junz and accepted the reader held out to him. He ran it through slowly, his faded eyes blinking and peering at the eyepiece.

"It's not very informative."

"Of course not. It says there is a danger. It says there is horrible urgency. That's all. But it should never have been sent to the Sarkites. Even if the man were wrong, could the Sarkite government allow him to broadcast whatever madness, granting it be madness, he has in his mind and fill the Galaxy with it? Leaving out of consideration the panic it might give rise to on Florina, the interference with the production of kyrt thread, it remains a fact that the whole dirty mess of Sark-Florina political relationships would be exposed to the view of the Galaxy as a whole. Consider that they need do away with only one man to prevent all that, since I can't take action on this transcript alone and they know it. Would Sark hesitate to stop at murder in such a case? The world of such genetic experimenters as you describe would not hesitate."

"And what would you have me do? I am still, I must say, not certain." Abel seemed unmoved.

"Find out if they have killed him," said Junz grimly. "You must have an organization for espionage here. Oh, let's not quibble. I have been knocking about the Galaxy long enough to have passed my political adolescence. Get to the bottom of this while I distract their attention with my library negotiations. And when you find them out for the murderers they are, I want Trantor to see to it that no government anywhere in the Galaxy ever again has the notion it can kill an I.S.B. man and get away with it."

And there his first interview with Abel had ended.

Junz was right in one thing. The Sarkite officials were cooperative and even sympathetic as far as making library arrangements were concerned.

But he seemed right in nothing else. Months passed, and Abel's agents could find no trace of the missing field man anywhere on Sark, alive or dead.

For over eleven months that held true. Almost, Junz began to feel ready to quit. Almost, he decided to wait for the twelfth month to be done and then no more. And then the break had come and it was not from Abel at all, but from the nearly forgotten straw man he had himself set up. A report came from Sark's Public Library and Junz found himself sitting across the desk from a Florinian civil servant in the Bureau of Florinian Affairs.

The Clerk completed his mental arrangement of the case. He had turned the last sheet.

He looked up. "Now what can I do for you?"

Junz spoke with precision. "Yesterday, at 4:22 P.M., I was informed that the Florinian branch of the Public Library of Sark was holding a man for me who had attempted to consult two standard texts on Spatio-analysis and who was not a native Sarkite. I have not heard from the library since."

He continued, raising his voice to override some comment begun by the Clerk. He said, "A tele-news bulletin received over a public instrument owned by the hotel at which I maintain residence, and timed 5:05 P.M. yesterday, claimed that a member of the Florinian Patrol had been knocked unconscious in the Florinian branch of the Public Library of Sark and that three native Florinians believed responsible for the outrage were being pursued. That bulletin was not repeated in later news-broadcast summaries.

"Now I have no doubt that the two pieces of information are connected. I have no doubt that the man I want is in the custody of the Patrol. I have asked for permission to travel to Florina and been refused. I have sub-ethered Florina to send the man in question to Sark and have received no answer. I come to the Bureau of Florinian Affairs to demand action in this respect. Either I go there or he comes here."

The Clerk's lifeless voice said, "The government of Sark cannot accept ultimata from officers of the I.S.B. I have been warned by my superiors that you would probably be questioning me in these matters and I have been instructed as to the facts I am to make known to you. The man who was reported to be consulting the reserved texts, along with two companions, a Town-man and a Florinian female, did indeed commit the assault you referred to, and they were pursued by the Patrol. They were not, however, apprehended."

A bitter disappointment swept over Junz. He did not bother to try to hide it. "They have escaped?"

"Not exactly. They were traced to the bakery shop of one Matt Khorov."

Junz stared. "And allowed to remain there?"

"Have you been in conference with His Excellency, Ludigan Abel, lately?"

"What has that to do with——"

"We are informed that you have been frequently seen at the Trantorian Embassy."

"I have not seen the Ambassador in a week."

"Then I suggest you see him. We allowed the criminals to remain unharmed at Khorov's shop out of respect for our delicate interstellar relationships with Trantor. I have been instructed to tell you, if it seemed necessary, that Khorov, as you probably will not be surprised to hear," and here the white face took on something uncommonly like a sneer, "is well known to our Department of Security as an agent of Trantor."

6. THE AMBASSADOR

IT WAS ten hours before Junz had his interview with the Clerk that Terens left Khorov's bakery.

Terens kept a hand on the rough surfaces of the workers' hovels he passed, as he stepped gingerly along the alleys of the City. Except for the pale light that washed down in a periodic glimmer from the Upper City, he was in total darkness. What light might exist in Lower City would be the pearly flashes of the patrollers, marching in twos and threes.

Lower City lay like a slumbering noxious monster, its greasy coils hidden by the glittering cover of Upper City. Parts of it probably maintained a shadowy life as produce was brought in and stored for the coming day, but that was not here, not in the slums.

Terens shrank into a dusty alley (even the nightly showers of Florina could scarcely penetrate into the shadowy regions beneath the cement alloy) as the distant clank of footsteps reached him. Lights appeared, passed, and disappeared a hundred yards away.

All night long the patrollers marched back and forth. They needed only to march. The fear they inspired was strong enough to maintain order with scarcely any display of force. With no City lights, the darkness might well be cover for innumerable crawling humans, but even without patrollers as a distant threat, that danger could have been discounted. The food stores and workshops were well guarded; the luxury of Upper City was unattainable; and to steal from one another, to parasitize on one another's misery, was obviously futile.

What would be considered crime on other worlds was virtually non-existent here in the dark. The poor were at hand but had been picked clean, and the rich were strictly out of reach.

Terens flitted on, his face gleaming white when he passed under one of the openings in the cement alloy above, and he could not help but look up.

Out of reach!

Were they indeed out of reach? How many changes in attitude toward the Squires of Sark had he endured in his life? As a child, he had been but a child. Patrollers were monsters in black and silver, from whom one fled as a matter of course, whether one had done wrong or not. The Squires were misty and mystical supermen, enormously good, who lived in a paradise known as Sark and brooded watchfully and patiently over the welfare of the foolish men and women of Florina.

He would repeat every day in school: May the Spirit of the Galaxy watch over the Squires as they watch over us.

Yes, he thought now, exactly. Exactly! Let the Spirit be to them as they to us. No more and no less. His fists clenched and burned in the shadows.

When he was ten, he had written an essay for school about what he imagined life to be like on Sark. It had been a work of purely creative imagination, designed to show off

his penmanship. He remembered very little, only one passage in fact. In that, he described the Squires, gathering every morning in a great hall with colors like those of the kyrt blossoms and standing about gravely in twenty-foot-high splendor, debating on the sins of the Florinians and sorrowfully somber over the necessities of winning them back to virtue.

The teacher had been very pleased, and at the end of the year, when the other boys and girls proceeded with their short sessions on reading, writing and morality, he had been promoted to a special class where he learned arithmetic, galactography, and Sarkite history. At the age of sixteen he had been taken to Sark.

He could still remember the greatness of that day, and he shuddered away from the memory. The thought of it shamed him.

Terens was approaching the outskirts of the City now. An occasional breeze brought him the heavy night odor of the kyrt blossoms. A few minutes now and he would be out in the relative safety of the open fields where there were no regular patroller beats and where, through the ragged night clouds, he would see the stars again. Even the hard, bright yellow star that was Sark's sun.

It had been his sun for half his life. When he first saw it through a spaceship's porthole as more than a star, as an unbearably bright little marble, he wanted to get on his knees. The thought that he was approaching paradise removed even the paralyzing fright of his first space flight.

He had landed on his paradise, and been delivered to an old Florinian who saw to it that he was bathed and clothed becomingly. He was brought to a large building, and on the way there his elderly guide had bowed low to a figure that passed.

"Bow!" the old one muttered angrily to the young Terens.

Terens did so and was confused. "Who was that?"

"A Squire, you ignorant farm hand."

"He! A Squire?"

He stopped dead in his tracks and had to be urged forward. It was his first sight of a Squire. Not twenty feet tall at all, but a man like men. Other Florinian youths might have recovered from the shock of such a disillusion, but not Terens. Something changed inside him, changed permanently.

In all the training he received, through all the studies in which he did so well, he never forgot that Squires were men.

For ten years he studied, and when he neither studied nor ate nor slept, he was taught to make himself useful in many small ways. He was taught to run messages and empty wastebaskets, to bow low when a Squire passed and to turn his face respectfully to the wall when a Squire's Lady passed.

For five more years he worked in the Civil Service, shifted as usual from post to post in order that his capacities might best be tested under a variety of conditions.

A plump, soft Florinian visited him once, smiling his friendship, pinching his shoulder gently, and asked what he thought of the Squires.

Terens repressed a desire to turn away and run. He wondered if his thoughts could have imprinted themselves in some obscure code upon the lines of his face. He shook his head, murmured a string of banalities on the goodness of the Squires.

But the plump one stretched his lips and said, "You don't mean that. Come to this place tonight." He gave him a small card, that crumbled and charred in a few minutes.

Terens went. He was afraid, but very curious. There he met friends of his, who looked at him with secrecy in their eyes and who met him at work later with bland glances of indifference. He listened to what they said and found that many seemed to believe what he had been hoarding in his own mind and honestly had thought to be his own creation and no one else's.

He learned that at least some Florinians thought the Squires to be vile brutes who milked Florina of its riches for their own useless good while they left the hard-working natives to wallow in ignorance and poverty. He learned that the time was coming when there would be a giant uprising against Sark and all the luxury and wealth of Florina would be appropriated by their rightful owners.

How? Terens asked. He asked it over and over again. After all, the Squires and the patrollers had the weapons.

And they told him of Trantor, of the gigantic empire that had swollen in the last few centuries until half the inhabited worlds of the Galaxy were part of it. Trantor, they said, would destroy Sark with the help of the Florinians.

But, said Terens, first to himself, then to others, if Trantor was so large and Florina so small, would not Trantor simply replace Sark as a still larger and more tyrannical master? If that were the only escape, Sark was to be endured in preference. Better the master they knew than the master they knew not.

He was derided and ejected, with threats against his life if he ever talked of what he had heard.

But some time afterward, he noted that one by one those of the conspiracy disappeared, until only the original plump one was left.

Occasionally he saw that one whisper to some newcomer here and there, but it would not have been safe to warn the young victim that he was being presented with a temptation and a test. He would have to find his own way, as had Terens.

Terens even spent some time in the Department of Security, which only a few Florinians could ever expect to accomplish. It was a short stay, for the power attached to an official in Security was such that the time spent there by any individual was even shorter than elsewhere.

But here Terens found, somewhat to his surprise, that there were real conspiracies to be countered. Somehow men and women met on Florina and plotted rebellion. Usually these were surreptitiously supported by Trantorian money. Sometimes the would-be rebels actually thought Florina would succeed unaided.

Terens meditated on the matter. His words were few, his bearing correct, but his thoughts ranged unchecked. The Squires he hated, partly because they were not twenty feet tall, partly because he might not look at their women, and partly because he had

served a few, with bowed head, and had found that for all their arrogance they were foolish creatures no better educated than himself and usually far less intelligent.

Yet what alternative to this personal slavery was there? To exchange the stupid Sarkite Squire for the stupid Trantorian Imperial was useless. To expect the Florinian peasants to do something on their own was fantastically foolish. So there was no way out.

It was the problem that had been in his mind for years, as student, as petty official, and as Townman.

And then there had arisen the peculiar set of circumstances that put an undreamed-of answer in his hands in the person of this insignificant-looking man who had once been a Spatioanalyst and who now babbled of something that put the life of every man and woman on Florina in danger.

Terens was out in the fields now, where the night rain was ending and the stars gleamed wetly among the clouds. He breathed deeply of the kyrt that was Florina's treasure and her curse.

He was under no illusions. He was no longer a Townman. He was not even a free Florinian peasant. He was a criminal on the run, a fugitive who must hide.

Yet there was a burning in his mind. For the last twenty-four hours he had had in his hands the greatest weapon against Sark anyone could have dreamed of. There was no question about it.

He knew that Rik remembered correctly, that he had been a Spatio-analyst once, that he had been psycho-probed into near brainlessness; and that what he remembered was something true and horrible and—powerful. He was sure of it.

And now this Rik was in the thick hands of a man who pretended to be a Florinian patriot but was actually a Trantorian agent.

Terens felt the bitterness of his anger in the back of his throat. Of course this Baker was a Trantorian agent. He had had no doubt about that from the first moment. Who else among dwellers in the Lower City would have the capital to build dummy radar ovens? He could not allow Rik to fall into the hands of Trantor. He would not allow Rik to fall into the hands of Trantor. There was no limit to the risks he was prepared to run. What matter the risks? He had incurred the death penalty already.

There was a dim gleam in the corner of the sky. He would wait for dawn. The various patroller stations would have his description, of course, but it might take several minutes for his appearance to register.

And during those several minutes he would be a Townman. It would give him time to do something that even now, even now, he did not dare let his mind dwell upon.

It was ten hours after Junz had had his interview with the Clerk that he met Ludigan Abel again.

The Ambassador greeted Junz with his usual surface cordiality, yet with a definite and disturbing sensation of guilt. At their first meeting (it had been a long time ago; nearly a Standard Year had passed) he had paid no attention to the man's story per se. His only thought had been: Will this, or can this, help Trantor? Trantor! It was always first in his thought, yet he was not the kind of fool who would worship a cluster of stars or the

yellow emblem of Spaceship-and-Sun that the Trantorian armed forces wore. In short, he was not a patriot in the ordinary meaning of the word and Trantor as Trantor meant nothing to him.

But he did worship peace; all the more so because he was growing old and enjoyed his glass of wine, his atmosphere saturated with mild music and perfume, his afternoon nap, and his quiet wait for death. It was how he imagined all men must feel; yet all men suffered war and destruction. They died frozen in the vacuum of space, vaporized in the blast of exploding atoms, famished on a besieged and bombarded planet.

How then to enforce peace? Not by reason, certainly, nor by education. If a man could not look at the fact of peace and the fact of war and choose the former in preference to the latter, what additional argument could persuade him? What could be more eloquent as a condemnation of war than war itself? What tremendous feat of dialectic could carry with it a tenth the power of a single gutted ship with its ghastly cargo? So then, to end the misuse of force, only one solution was left, force itself.

Abel had a map of Trantor in his study, so designed as to show the application of that force. It was a clear crystalline ovoid in which the Galactic lens was three-dimensionally laid out. Its stars were specks of white diamond dust, its nebulae, patches of light or dark fog, and in its central depths there were the few red specks that had been the Trantorian Republic.

Not "were" but "had been." The Trantorian Republic had been a mere five worlds, five hundred years earlier.

But it was a historical map, and showed the Republic at that stage only when the dial was set at zero. Advance the dial one notch and the pictured Galaxy would be as it was fifty years later and a sheaf of stars would redden about Trantor's rim.

In ten stages, half a millennium would pass and the crimson would spread like a widening bloodstain until more than half the Galaxy had fallen into the red puddle.

That red was the red of blood in more than a fanciful way. As the Trantorian Republic became the Trantorian Confederation and then the Trantorian Empire, its advance had lain through a tangled forest of gutted men, gutted ships, and gutted worlds. Yet through it all Trantor had become strong and within the red there was peace.

Now Trantor trembled at the brink of a new conversion: from Trantorian Empire to Galactic Empire and then the red would engulf all the stars and there would be universal peace—pax Trantorica.

Abel wanted that. Five hundred years ago, four hundred years ago, even two hundred years ago, he would have opposed Trantor as an unpleasant nest of nasty, materialistic and aggressive people, careless of the rights of others, imperfectly democratic at home though quick to see the minor slaveries of others, and greedy without end. But the time had passed for all that.

He was not for Trantor, but for the all-embracing end that Trantor represented. So the question: How will this help Galactic peace? naturally became: How will this help Trantor? The trouble was that in this particular instance he could not be certain. To Junz

the solution was obviously a straightforward one. Trantor must uphold the I.S.B. and punish Sark.

Possibly this would be a good thing, if something could definitely be proven against Sark. Possibly not, even then. Certainly not, if nothing could be proven. But in any case Trantor could not move rashly. All the Galaxy could see that Trantor stood at the edge of Galactic dominion and there was still a chance that what yet remained of the non-Trantorian planets might unite against that. Trantor could win even such a war, but perhaps not without paying a price that would make victory only a pleasanter name for defeat.

So Trantor must never make an incautious move in this final stage of the game. Abel had therefore proceeded slowly, casting his gentle web across the labyrinth of the Civil Service and the glitter of the Sarkite Squiredom, probing with a smile and questioning without seeming to. Nor did he forget to keep the fingers of the Trantorian secret service upon Junz himself lest the angry Libairian do in a moment damage that Abel could not repair in a year.

Abel was astonished at the Libairian's persistent anger. He had asked him once, "Why does one agent concern you so?"

He half expected a speech on the integrity of the I.S.B. and the duty of all to uphold the Bureau as an instrument not of this world or that, but of all humanity. He did not get it.

Instead Junz frowned and said, "Because at the bottom of all this lies the relationship between Sark and Florina. I want to expose that relationship and destroy it."

Abel felt nothing less than nausea. Always, everywhere, there was this preoccupation with single worlds that prevented, over and over again, any intelligent concentration upon the problem of Galactic unity. Certainly social injustices existed here and there. Certainly they seemed sometimes impossible to stomach. But who could imagine that such injustice could be solved on any scale less than Galactic? First, there must be an end to war and national rivalry and only then could one turn to the internal miseries that, after all, had external conflict as their chief cause. And Junz was not even of Florina. He had not even that cause for emotionalized short-sightedness.

Abel said, "What is Florina to you?"

Junz hesitated. He said, "I feel a kinship."

"But you are a Libairian. Or at least that is my impression."

"I am, but there lies the kinship. We are both extremes in a Galaxy of the average."

"Extremes? I don't understand."

Junz said, "In skin pigmentation. They are unusually pale. We are unusually dark. It means something. It binds us together. It gives us something in common. It seems to me our ancestors must have had long histories of being different, even of being excluded from the social majority. We are unfortunate whites and darks, brothers in being different."

By that time, under Abel's astonished gaze, Junz stumbled to a halt. The subject had never been sounded again.

And now, after a year, without warning, without any previous intimations, just at the point where, perhaps, a quiet trailing end might be expected of the whole wretched matter and where even Junz showed signs of flagging zeal, it all exploded.

He faced a different Junz now, one whose anger was not reserved for Sark, but spilled and overflowed onto Abel as well.

"It is not," the Libairian said in part, "that I resent the fact that your agents have been set upon my heels. Presumably you are cautious and must rely on nothing and nobody. Good, as far as that goes. But why was I not informed as soon as our man was located?"

Abel's hand smoothed the warm fabric of the arm of his chair. "Matters are complicated. Always complicated. I had arranged that any report on an unauthorized seeker after Spatio-analytic data be reported to certain of my own agents as well as to you. I even thought you might need protection. But on Florina——"

Junz said bitterly, "Yes. We were fools not to have considered that. We spent nearly a year proving we could find him nowhere on Sark. He had to be on Florina and we were blind to that. In any case, we have him now. Or you have, and presumably it will be arranged to have me see him?"

Abel did not answer directly. He said, "You say they told you this man Khorov was a Trantorian agent?"

"Isn't he? Why should they lie? Or are they misinformed?"

"They neither lie nor are they misinformed. He has been an agent of ours for a decade, and it is disturbing to me that they were aware of it. It makes me wonder what more they know of us and how shaky our structure may be altogether. But doesn't it make you wonder why they told you baldly that he was one of our men?"

"Because it was the truth, I imagine, and to keep me, once and for all, from embarrassing them by further demands that could only cause trouble between themselves and Trantor."

"Truth is a discredited commodity among diplomats and what greater trouble can they cause for themselves than to let us know the extent of their knowledge about us: to give us the opportunity before it is too late, to draw in our damaged net, mend it and put it out whole again?"

"Then answer your own question."

"I say they told you of their knowledge of Khorov's true identity as a gesture of triumph. They knew that the fact of their knowledge could no longer either help or harm them since I have known for twelve hours that they knew Khorov was one of our men."

"But how?"

"By the most unmistakable hint possible. Listen! Twelve hours ago Matt Khorov, agent for Trantor, was killed by a member of the Florinian Patrol. The two Florinians he held at the time, a woman and the man who, in all probability, is the field man you have been seeking, are gone, vanished. Presumably they are in the hands of the Squires."

Junz cried out and half rose from his seat.

Abel lifted a glass of wine to his lips calmly and said, "There is nothing I can do officially. The dead man was a Florinian and those who have vanished, for all we can prove to the contrary, are likewise Florinians. So, you see, we have been badly outplayed, and are now being mocked in addition."

7. THE PATROLLER

RIK saw the Baker killed. He saw him crumple without a sound, his chest driven in and charred into smoking ruins under the silent push of the blaster. It was a sight that drowned out for him most of what had preceded and almost all that had followed.

There was the dim memory of the patroller's first approach, of the quiet but terribly intent manner in which he had drawn his weapon. The Baker had looked up and shaped his lips for one last word that he had no time to utter. Then the deed was done, there was the rushing of blood in Rik's ears and the wild screaming scramble of the mob swirling in all directions, like a river in flood.

For a moment it negated the improvement Rik's mind had made in those last few hours of sleep. The patroller had plunged toward him, throwing himself forward upon yelling men and women as though they were a viscous sea of mud he would have to slog through. Rik and Lona turned with the current and were carried away. There were eddies and subcurrents, turning and quivering as the flying patrollers' cars began to hover overhead. Valona urged Rik forward, ever outward to the outskirts of the City. For a while he was the frightened child of yesterday, not the almost adult of that morning.

He had awakened that morning in the grayness of a dawn he could not see in the windowless room he slept in. For long minutes he lay there, inspecting his mind. Something had healed during the night; something had knit together and become whole. It had been getting ready to happen ever since the moment, two days before, when he had begun to "remember." The process had been proceeding all through yesterday. The trip to the Upper City and the library, the attack upon the patroller and the fight that followed, the encounter with Baker—it had all acted upon him like a ferment. The shriveled fibers of his mind, so long dormant, had been seized and stretched, forced into an aching activity, and now, after a sleep, there was a feeble pulsing about them.

He thought of space and the stars, of long, long, lonely stretches, and great silences.

Finally he turned his head to one side and said, "Lona."

She snapped awake, lifting herself to an elbow, peering in his direction.

"Rik?"

"Here I am, Lona."

"Are you all right?"

"Sure." He couldn't hold down his excitement. "I feel fine, Lona. Listen! I remember more. I was in a ship and I know exactly——"

But she wasn't listening to him. She slipped into her dress and with her back to him smoothed the seam shut down the front and then fumbled nervously with her belt.

She tiptoed toward him. "I didn't mean to sleep, Rik. I tried to stay awake."

Rik felt the infection of her nervousness. He said, "Is something wrong?"

"Sh, don't speak so loudly. It's all right."

"Where's the Townman?"

"He's not here. He—he had to leave. Why don't you go back to sleep, Rik?"

He pushed her consoling arm aside. "I'm all right. I don't want to sleep. I wanted to tell the Townman about my ship."

But the Townman wasn't there and Valona would not listen. Rik subsided and for the first time felt actively annoyed with Valona. She treated him as though he were a child and he was beginning to feel like a man.

A light entered the room and the broad figure of the Baker entered with it. He blinked at him and was, for a moment, daunted. He did not entirely object when Valona's comforting arm stole about his shoulder.

The Baker's thick lips stretched in a smile. "You're early awake."

Neither answered..

The Baker said, "It's just as well. You'll be moving today."

Valona's mouth, was dry. She said, "You'll not be giving us to the patrollers?"

She remembered the way he had looked at Rik after the Townman had left. He was still looking at Rik; only at Rik.

"Not to the patrollers," he said. "The proper people have been informed and you'll be safe enough."

He left, and when he returned shortly thereafter he brought food, clothes and two basins of water. The clothes were new and looked completely strange.

He watched them as they ate, saying, "I'm going to give you new names and new histories. You're to listen, and I don't want you to forget. You're not Florinians, do you understand? You're brother and sister from the planet Wotex. You've been visiting Florina——"

He went on, supplying details, asking questions, listening to their answers.

Rik was pleased to be able to demonstrate the workings of his memory, his easy ability to learn, but Valona's eyes were dark with worry.

The Baker was not blind to that. He said to the girl, "If you give me the least trouble I'll send him on alone and leave you behind."

Valona's strong hands clenched spasmodically. "I will give you no trouble."

It was well into the morning when the Baker rose to his feet and said, "Let's go!"

His last action was to place little black sheets of limp leatherette in their breast pockets.

Once outside, Rik looked with astonishment at what he could see of himself. He did not know clothing could be so complicated. The Baker had helped him get it on, but who would help him take it off? Valona didn't look like a farm girl at all. Even her legs were covered with thin material, and her shoes were raised at the heels so that she had to balance carefully when she walked.

Passers-by gathered, staring and gawking, calling to one another. Mostly they were children, marketing women, and skulking, ragged idlers. The Baker seemed oblivious to them. He carried a thick stick which found itself occasionally, as though by accident, between the legs of any who pressed too closely.

And then, when they were still only a hundred yards from the bakery and had made but one turning, the outer reaches of the surrounding crowd swirled excitedly and Rik made out the black and silver of a patroller.

That was when it happened. The weapon, the blast, and again a wild flight. Was there ever a time when fear had not been with him, when the shadow of the patroller had not been behind him? They found themselves in the squalor of one of the outlying districts of the City. Valona was panting harshly; her new dress bore the wet stains of perspiration.

Rik gasped, "I can't run any more."

"We've got to."

"Not like this. Listen." He pulled back firmly against the pressure of the girl's grip. "Listen to me."

The fright and panic were leaving him.

He said, "Why don't we go on and do what the Baker wanted us to do?"

She said, "How do you know what he wanted us to do?" She was anxious. She wanted to keep moving.

He said, "We were to pretend we were from another world and he gave us these." Rik was excited. He pulled the little rectangle out of his pocket, staring at both sides and trying to open it as though it were a booklet.

He couldn't. It was a single sheet. He felt about the edges and as his fingers closed at one corner he heard, or rather felt, something give, and the side toward him turned a startling milky white. The close wording on the new surface was difficult to understand though he began carefully making out the syllables.

Finally he said, "It's a passport."

"What's that?"

"Something to get us away." He was sure of it. It had popped into his head. A single word, "passport," like that. "Don't you see? He was going to have us leave Florina. On a ship. Let's go through with that."

She said, "No. They stopped him. They killed him. We couldn't, Rik, we couldn't."

He was urgent about it. He was nearly babbling. "But it would be the best thing to do. They wouldn't be expecting us to do that. And we wouldn't go on the ship he wanted us to go on. They'd be watching that. We'd go on another ship. Any other ship."

A ship. Any ship. The words rang in his ears. Whether his idea was a good one or not, he didn't care. He wanted to be on a ship. He wanted to be in space.

"Please, Lona!"

She said, "All right. If you really think so. I know where the spaceport is. When I was a little girl we used to go there on idle-days sometimes and watch from far away to see the ships shoot upward."

They were on their way again, and only a slight uneasiness scratched vainly at the gateway of Rik's consciousness. Some memory not of the far past but of the very near past; something he should remember and could not; could just barely not. Something.

He drowned it in the thought of the ship that waited for them. The Florinian at the entry gate was having his fill of excitement that day, but it was excitement at long distance. There had been the wild stories of the previous evening, telling of patrollers attacked and of daring escapes. By this morning the stories had expanded and there were whispers of patrollers killed.

He dared not leave his post, but he craned his neck and watched the air-cars pass, and the grim-faced patrollers leave, as the spaceport contingent was cut and cut till it was almost nothing.

They were filling the City with patrollers, he thought, and was at once frightened and drunkenly uplifted. Why should it make him happy to think of patrollers being killed? They never bothered him. At least not much. He had a good job. It wasn't as though he were a stupid peasant.

But he was happy.

He scarcely had time for the couple before him, uncomfortable and perspiring in the outlandish clothing that marked them at once as foreigners. The woman was holding a passport through the slot.

A glance at her, a glance at the passport, a glance at the list of reservations. He pressed the appropriate button and two translucent ribbons of film sprang out at them.

"Go on," he said impatiently. "Get them on your wrists and move on."

"Which ship is ours?" asked the woman in a polite whisper.

That pleased him. Foreigners were infrequent at the Florinian spaceport. In recent years they had grown more and more infrequent. But when they did come they were neither patrollers nor Squires. They didn't seem to realize you were only a Florinian yourself and they spoke to you politely.

It made him feel two inches taller. He said, "You'll find it in Berth '7, madam. I wish you a pleasant trip to Wotex." He said it in the grand manner.

He then returned to his task of putting in surreptitious calls to friends in the City for more information and of trying, even more unobtrusively, to tap private power-beam conversations in Upper City.

It was hours before he found out that he had made a horrible mistake.

Rik said, "Lona!"

He tugged at her elbow, pointed quickly and whispered, "That one!"

Valona looked at the indicated ship doubtfully. It was much smaller than the ship in Berth '7, for which their tickets held good. It looked more burnished. Four air locks yawned open and the main port gaped, with a ramp leading from it like an outstretched tongue reaching to ground level.

Rik said, "They're airing it. They usually air passenger ships before flight to get rid of the accumulated odor of canned oxygen, used and reused."

Valona stared at him. "How do you know?"

Rik felt a sprig of vanity grow within himself. "I just know. You see, there wouldn't be anyone in it now. It isn't comfortable, with the draft on."

He looked about uneasily. "I don't know why there aren't more people about, though. Was it like this when you used to watch it?"

Valona thought not, but she could scarcely remember. Childhood memories were far away.

There was not a patroller in sight as they walked up the ramp on quivering legs. What figures they could see were civilian employees, intent on their own jobs, and small in the distance.

Moving air cut through them as they stepped into the hold and Valona's dress bellied so that she had to bring her hands down to keep the hemline within bounds.

"Is it always like this?" she asked. She had never been on a spaceship before; never dreamed of being on one. Her lips stuck together and her heart pounded.

Rik said, "No. Just during aeration."

He walked joyfully over the hard metallite passageways, inspecting the empty rooms eagerly.

"Here," he said. It was the galley.

He spoke rapidly. "It isn't food so much. We can get along without food for quite a while. It's water."

He rummaged through the neat and compact nestings of utensils and came up with a large, capped container. He looked about for the water tap, muttered a breathless hope that they had not neglected to fill the water tanks, then grinned his relief when the soft sound of pumps came, and the steady gush of liquid.

"Now just take some of the cans. Not too many. We don't want them to take notice."

Rik tried desperately to think of ways of countering discovery. Again he groped for something he could not quite remember. Occasionally he still ran into those gaps in his thought and, coward-like, he avoided them, denied their existence.

He found a small room devoted to fire-fighting equipment, emergency medical and surgical supplies, and welding equipment.

He said with a certain lack of confidence, "They won't be in here, except in emergencies. Are you afraid, Lona?"

"I won't be afraid with you, Rik," she said humbly. Two days before, no, twelve hours before, it had been the other way around. But on board ship, by some transmutation of personality she did not question, it was Rik who was the adult, she who was the child.

He said, "We won't be able to use lights because they would notice the power drain, and to use the toilets, we'll have to wait for rest periods and try to get out past any of the night crew."

The draft cut off suddenly. Its cold touch on their faces was no longer there and the soft, steady humming sound, that had distantly accompanied it, stopped and left a large silence to fill its place.

Rik said, "They'll be boarding soon, and then we'll be out in space."

Valona had never seen such joy in Rik's face. He was a lover going to meet his love.

If Rik had felt a man on awaking that dawn, he was a giant now, his arms stretching the length of the Galaxy. The stars were his marbles, and the nebulae were cobwebs to brush away.

He was on a ship! Memories rushed back continuously in a long flood and others left to make room. He was forgetting the kyrt fields and the mill and Valona crooning to him in the dark. They were only momentary breaks in a pattern that was now returning with its raveled ends slowly knitting.

It was the ship!

If they had put him on a ship long ago, he wouldn't have had to wait so long for his burnt-out brain cells to heal themselves.

He spoke softly to Valona in the darkness. "Now don't worry. You'll feel a vibration and hear a noise but that will be just the motors. There'll be a heavy weight on you. That's acceleration."

There was no common Florirrian word for the concept and he used another word for it, one that came easily to mind. Valona did not understand.

She said, "Will it hurt?"

He said, "It will be very uncomfortable, because we don't have anti-acceleration gear to take up the pressure, but it won't last. Just stand against this wall, and when you feel yourself being pushed against it, relax. See, it's beginning."

He had picked the right wall, and as the thrumming of the thrusting hyperatomics swelled, the apparent gravity shifted, and what had been a vertical wall seemed to grow more and more diagonal.

Valona whimpered once, then lapsed into a hard-breathing silence. Their throats rasped as their chest walls, unprotected by straps and hydraulic absorbers, labored to free their lungs sufficiently for just a little air intake.

Rik managed to pant out words, any words that might let Valona know he was there and ease the terrible fear of the unknown that he knew must be filling her. It was only a ship, only a wonderful ship; but she had never been on a ship before.

He said, "There's the jump, of course, when we go through hyperspace and cut across most of the distance between the stars all at once. That won't bother you at all. You won't even know it happened. It's nothing compared to this. Just a little twitch in your insides and it's over." He got the words out syllable by grunted syllable. It took a long time.

Slowly, the weight on their chests lifted and the invisible chain holding them to the wall stretched and dropped off. They fell, panting, to the floor.

Finally Valona said, "Are you hurt, Rik?"

"I, hurt?" He managed a laugh. He had not caught his breath yet, but he laughed at the thought that he could be hurt on a ship.

He said, "I lived on a ship for years once. I didn't land on a planet for months at a time."

"Why?" she asked. She had crawled closer and put a hand to his cheek, making sure he was there.

He put his arm about her shoulder, and she rested within it quietly, accepting the reversal.

"Why?" she asked.

111k could not remember why. He had done it; he had hated to land on a planet. For some reason it had been necessary to stay in space, but he could not remember why. Again he dodged the gap.

He said, "I had a job."

"Yes," she said. "You analyzed Nothing."

"That's right." He was pleased. "That's exactly what I did. Do you know what that means?"

He didn't expect her to understand, but he had to talk. He had to revel in memory, to delight drunkenly in the fact that he could call up past facts at the flick of a mental finger.

He said, "You see, all the material in the universe is made up of a hundred different kinds of substances. We call those substances elements. Iron and copper are elements."

"I thought they were metals."

"So they are, and elements too. Also oxygen, and nitrogen, carbon and palladium. Most important of all, hydrogen and helium. They're the simplest and most common."

"I never heard of those," Valona said wistfully.

"Ninety-five per cent of the universe is hydrogen and most of the rest is helium. Even space."

"I was once told," said Valona, "that space was a vacuum. They said that meant there was nothing there. Was that wrong?"

"Not quite. There's almost nothing there. But you see, I was a Spatio-analyst, which meant that I went about through space collecting the extremely small amounts of elements there and analyzing them. That is, I decided how much was hydrogen, how much helium and how much other elements."

"Why?"

"Well, that's complicated. You see, the arrangement of elements isn't the same everywhere in space. In some regions there is a little more helium than normal; in other places, more sodium than normal; and so on. These regions of special analytic makeup wind through space like currents. That's what they call them. They're the currents of space. It's important to know how these currents are arranged because that might explain how the universe was created and how it developed."

"How would it explain that?"

Rik hesitated. "Nobody knows exactly."

He hurried on, embarrassed that this immense store of knowledge in which his mind was thankfully wallowing could come so easily to an end marked "unknown" under the questioning of. . of. . It suddenly occurred to him that Valona, after all, was nothing but a Florinian peasant girl.

He said, "Then, again, we find out the density, you know, the thickness, of this space gas in all regions of the Galaxy. It's different in different places and we have to know exactly what it is in order to allow ships to calculate exactly how to jump through hyperspace. It's like. . ." His voice died away.

Valona stiffened and waited uneasily for him to continue, but only silence followed. Her voice sounded hoarsely in the complete darkness.

"Rik? What's wrong, Rik?"

Still silence. Her hands groped to his shoulders, shaking him. "Rik! uk!"

And it was the voice of the old Rik, somehow, that answered. It was weak, frightened, its joy and confidence vanished.

"Lona. We did something wrong."

"What's the matter? We did what wrong?"

The memory of the scene in which the patroller had shot down the Baker was in his mind, etched hard and clear, as though called back by his exact memory of so many other things.

He said, "We shouldn't have run away. We shouldn't be here on this ship."

He was shivering uncontrollably, and Valona tried futilely to wipe the moisture from his forehead with her hand.

"Why?" she demanded. "Why?"

"Because we should have known that if the Bakers were willing to take us out in daylight he expected no trouble from patrollers. Do you remember the patroller? The one who shot the Baker?"

"Yes."

"Do you remember his face?"

"I didn't dare look."

"I did, and there was something queer, but I didn't think. I didn't think. Lona, that wasn't a patroller. It was the Townman, Lona. It was the Townman dressed like a patroller."

8. THE LADY

SAMIA of Fife was five feet tall, exactly, and all sixty inches of her were in a state of quivering exasperation. She weighed one and a half pounds per inch and, at the moment, each of her ninety pounds represented sixteen ounces of solid anger.

She stepped quickly from end to end of the room, her dark hair piled in high masses, her spiked heels lending a spurious height and her narrow chin, with its pronounced cleft, trembling.

She said, "Oh no. He wouldn't do it to me. He couldn't do it to me. Captain!"

Her voice was sharp and carried the weight of authority. Captain Racety bowed with the storm. "My Lady?"

To any Florinian, of course, Captain Racety would have been a "Squire." Simply that. To any Florinian, all Sarldites were Squires. But to the Sarkites there were Squires and real Squires. The Captain was simply a Squire. Samia of Fife was a real Squire; or the feminine equivalent of one, which amounted to the same thing.

"My Lady?" he asked.

She said, "I am not to be ordered about. I am of age. I am my own mistress. I choose to remain here."

The Captain said carefully, "Please to understand, my Lady, that no orders of mine are involved. My advice was not asked. I have been told plainly and flatly what I am to do."

He fumbled for the copy of his orders half-heartedly. He had tried to present her with the evidence twice before and she had refused to consider it, as though by not looking she could continue, with a clear conscience, to deny where his duty lay.

She said once again, exactly as before, "I am not interested in your orders."

She turned away with a ringing of her heels and moved rapidly away from him.

He followed and said softly, "The orders include directions to the effect that, if you are not willing to come, I am, if you will excuse my saying so, to have you carried to the ship."

She whirled. "You wouldn't dare do such a thing."

"When I consider," said the Captain, "who it is who has ordered me to do it, I would dare anything."

She tried cajolery. "Surely, Captain, there is no real danger. This is quite ridiculous, entirely mad. The City is peaceful. All that has happened is that one patroller was knocked down yesterday afternoon in the library. Really!"

"Another patroller was killed this dawn, again by Florinian attack."

That rocked her, but her olive skin grew dusky and her black eyes flashed. "What has that to do with me? I am not a patroller."

"My Lady, the ship is being prepared right now. It will leave shortly. You will have to be on it."

"And my work? My research? Do you realize——. No, you wouldn't realize."

The Captain said nothing. She had turned from him. Her gleaming dress of copper kyrt, with its strands of milky silver, set off the extraordinary warm smoothness of her shoulders and upper arms. Captain Racety looked at her with something more than the bald courtesy and humble objectivity a mere Sarkite owed such a great Lady. He wondered why such an entirely desirable bite-size morsel should choose to spend her time in mimicking the scholarly pursuits of a university don.

Samia knew well that her earnest scholarship made her an object of mild derision to people who were accustomed to thinking of the aristocratic Ladies of Sark as devoted entirely to the glitter of polite society and, eventually, acting as incubators for at least, but not more than, two future Squires of Sark. She didn't care.

They would come to her and say, "Are you really writing a book, Samia?" and ask to see it, and giggle.

Those were the women. The men were even worse, with their gentle condescension and obvious conviction that it would only take a glance from themselves or a man's arm about her waist to cure her of her nonsense and turn her mind to things of real importance.

It had begun as far back, almost, as she could remember, because she had always been in love with kyrt, whereas most people took it for granted. Kyrt! The king, emperor, god of fabrics. There was no metaphor strong enough.

Chemically, it was nothing more than a variety of cellulose. The chemists swore to that. Yet with all their instruments and theories they had never yet explained why on Florina, and only on Florina in all the Galaxy, cellulose became kyrt. It was a matter of the physical state; that's what they said. But ask them exactly in what way the physical state varied from that of ordinary cellulose and they were mute.

She had learned ignorance originally from her nurse.

"Why does it shine, Nanny?"

"Because it's kyrt, Miakins."

"Why don't other things shine so, Nanny?"

"Other things aren't kyrt, Miakins."

There you had it. A two-volume monograph on the subject had been written only three years before. She had read it carefully and it could all have been boiled down to her Nanny's explanation. Kyrt was kyrt because it was kyrt. Things that weren't kyrt, weren't kyrt because they weren't kyrt.

Of course kyrt didn't really shine of itself but, properly spun, it would gleam metallically in the sun in a variety of colors or in all colors at once. Another form of treatment could impart a diamond sparkle of the thread. It could be made, with little effort, completely impervious to heat up to 600 degrees Centigrade, and quite inert to almost all chemicals. Its fibers could be spun finer than the most delicate synthetics and those same fibers had a tensile strength no steel alloy known could duplicate. It had more uses, more versatility than any substance known to man. If it were not so expensive it could be used to replace glass, metal, or plastic in any of infinite industrial applications.

As it was, it was the only material used for cross hairs on optical equipment, as molds in the casting of hydrochrons used in hyperatomic motors, and as lightweight, long-lived webbing where metal was too brittle or too heavy or both.

But this was, as said, small-scale use, since use in quantity was prohibitive. Actually the kyrt harvest of Florina went into the manufacture of cloth that was used for the most fabulous garments in Galactic history. Florina clothed the aristocracy of a million worlds, and the kyrt harvest of the one world, Florina, had to be spread thin for that. Twenty women on a world might have outfits in kyrt; two thousand more might have a holiday jacket of the material, or perhaps a pair of gloves. Twenty million more watched from a distance and wished.

The million worlds of the Galaxy shared a slang expression for the snob. It was the only idiom in the language that was easily and exactly understood everywhere. It went: "You'd think she blew her nose in kyrt!"

When Samia was older she went to her father.

"What is kyrt, Daddy?"

"It's your bread and butter, Mia."

"Mine?"

"Not just yours, Mia. It's S ark's bread and butter."

Of course! She learned the reason for that easily enough. Not a world in the Galaxy but had tried to grow kyrt on its own soil. At first Sark had applied the death penalty to anyone, native or foreign, caught smuggling kyrt seed out of the planet. That had not prevented successful smuggling, and as the centuries passed, and the truth dawned on Sark, that law had been abolished. Men from anywhere were welcome to kyrt seed at the price, of course (weight for weight), of finished kyrt cloth.

They might have it, because it turned out that kyrt grown anywhere in the Galaxy but on Florina was simply cellulose. White, flat, weak and useless. Not even honest cotton.

Was it something in the soil? Something in the characteristics of the radiation of Florina's sun? Something about the bacteria make-up of Florinian life? It had all been tried. Samples of Florinian soil had been taken. Artificial arc lights duplicating the known spectrum of Florina's sun had been constructed. Foreign soil had been infected with Floriian bacteria. And always the kyrt grew white, flat, weak and useless.

There was so much to be said about kyrt that had never been said. Material other than that contained in technical reports or in research papers or even in travel books. For five years Samia had been dreaming of writing a real book about the story of kyrt; of the land it grew on and of the people who grew it.

It was a dream surrounded by mocking laughter, but she held to it. She had insisted on travelling to Florina. She was going to spend a season in the fields and a few months in the mills. She was going to— But what did it matter what she was going to do? She was being ordered back.

With the sudden impulsiveness that marked her every act she made her decision. She would be able to fight this on Sark. Grimly she promised herself she would be back on Florina in a week.

She turned to the Captain and said coolly, "When do we leave, sir?"

Samia remained at the observation port for as long as Florina was a visible globe. It was a green, spring like world, much pleasanter than Sark in climate. She had looked forward to studying the natives. She didn't like the Florinians on Sark, sapless men who dared not look at her but turned away when she passed, in accordance with the law. On their own world, however, the natives, by universal report, were happy and carefree. Irresponsible, of course, and like children, but they had charm.

Captain Racety interrupted her thoughts. He said, "My Lady, would you retire to your room?"

She looked up, a tiny vertical crease between her eyes. "What new orders have you received, Captain? Am I a prisoner?"

"Of course not. Merely a precaution. The space field was unusually empty before the take-off. It seems that another killing had taken place, again by a Florinian, and the field's patroller contingent had joined the rest on a man hunt through the City."

"And the connection of that with myself?"

"It is only that under the circumstances, which I ought to have reacted to by placing a guard of my own (I do not minimize my own offense), unauthorized persons may have boarded the ship."

"For what reason?"

"I could not say, but scarcely to do our pleasure."

"You are romancing, Captain."

"I am afraid not, my Lady. Our energometrics were, of course, useless within planetary distance of Florina's sun, but that is not the case now and I am afraid there is definite excess heat radiation from Emergency Stores."

"Are you serious?"

The Captain's lean, expressionless face regarded her aloofly for a moment. He said, "The radiation is equivalent to that which would be given off by two ordinary people."

"Or a heating unit someone forgot to turn off."

"There is no drain on our power supply, my Lady. We are ready to investigate, my Lady, and ask only that you first retire to your room."

She nodded silently and left the room. Two minutes later his calm voice spoke unhurriedly into the communi-tube. "Break into Emergency Stores."

Myrlyn Terens, had he released his taut nerves the slightest, might easily, and even thankfully, have gone into hysteria. He had been a trifle too late in returning to the bakery. They had already left it and it was only by good fortune that he met them in the street. His next action had been dictated; it was in no way a matter of free choice; and the Baker lay quite horribly dead before him.

Afterward, with the crowd swirling, Rik and Valona melting into the crowd, and the air-cars of the patrollers, the real patrollers, beginning to put in their vulture appearance, what could he do? His first impulse to race after Rik he quickly fought down. It would do no good. He would never find them, and there was too great a chance that the patrollers would not miss him. He scurried in another direction, toward the bakery.

His only chance lay in the patroller organization itself. There had been generations of a quiet life. At least there had been no Florinian revolts to speak of in two centuries. The institution of the Townman (he grinned savagely at the thought) had worked wonders and the patrollers had only perfunctory police duties since. They lacked the fine-pointed teamwork that would have developed under more strenuous conditions.

It had been possible for him to walk into a patroller station at dawn, where his description must have already been sent, though obviously it had not been much regarded. The lone patroller on duty was a mixture of indifference and sulkiness. Terens had been asked to state his business, but his business included a plastic two-by-four he had wrenched from the side of a crazy hovel at the outskirts of town.

He had brought it down upon the patroller's skull, changed clothing and weapons. The list of his crimes was already so formidable that it did not bother him in the least to discover that the patroller had been killed, not stunned.

Yet he was still at large and the rusty machinery of patroller justice had so far creaked after him in vain.

He was at the bakery. The Baker's elderly helper, standing in the doorway in a vain attempt to peer knowledge of the disturbance into himself, squeaked thinly at the sight of the dread black and silver of patrollerhood and oozed back into his shop.

The Townman lunged after him, crumpling the man's loose, floury collar into his pudgy fist and twisting. "Where was the Baker going?"

The old man's lips yawned open, but no sound came.

The Townman said, "I killed a man two minutes ago. I don't care if I kill another."

"Please. Please. I do not know, sir."

"You will die for not knowing."

"But he did not tell me. He made some sort of reservations."

"You have overheard so much, have you? What else did you overhear?"

"He mentioned Wotex once. I think the reservations were on a spaceship."

Terens thrust him away.

He would have to wait. He would have to let the worst of the excitement outside die. He would have to risk the arrival of real patrollers at the bakery.

But not for long. Not for long. He could guess what his erstwhile companions would do. Rik was unpredictable, of course, but Valona was an intelligent girl. From the way they ran, they must have taken him for a patroller indeed and Valona was sure to decide that their only safety lay in continuing the flight that the Baker had begun for them.

The Baker had made reservations for them. A spaceship would be waiting. They would be there.

And he would have to be there first.

There was this about the desperation of the situation. Nothing more mattered. If he lost Rik, if he lost that potential weapon against the tyrants of Sark, his life was a small additional loss.

So when he left, it was without a qualm, though it was broad daylight, though the patrollers must know by now it was a man in patroller uniform they sought, and though two air-cars were in easy sight.

Terens knew the spaceport that would be involved. There was only one of its type on the planet. There were a dozen tiny ones in Upper City for the private use of space-yachts and there were hundreds all over the planet for the exclusive use of the ungainly freighters that carried gigantic bolts of kyrt cloth to Sark, and machinery and simple consumer goods back. But among all those there was only one spaceport for the use of ordinary travelers, for the poorer Sarldtes, Florinian civil servants and the few foreigners who managed to obtain permission to visit Florina.

The Florinian at the port's entry gate observed Terens' approach with every symptom of lively interest. The vacuum that surrounded him had grown insupportable.

"Greetings, sir," he said. There was a slyly eager tone in his voice. After all, patrollers were being killed. "Considerable excitement in the City, isn't there?"

Terens did not rise to the bait. He had drawn the arced visor of his hat low and buttoned the uppermost button of the tunic.

Gruffly he snapped, "Did two persons, a man and a woman, enter the port recently en route to Wotex?"

The gatekeeper looked startled. For a moment he gulped and then, in a considerably subdued tone, said, "Yes, Officer. About half an hour ago. Maybe less." He reddened suddenly. "Is there any connection between them and— Officer, they had reservations which were entirely in order. I wouldn't let foreigners through without proper authority."

Terens ignored that. Proper authority! The Baker had managed to establish that in the course of a night. Galaxy, he wondered, how deeply into the Sarkite administration did the Trantorian espionage organization go? "What names did they give?"

"Careth and Hansa Barne."

"Has their ship left? Quickly!"

"N-no, sir."

"What berth?"

"Seventeen."

Terens forced himself to refrain from running, but his walk was little short of that. Had there been a real patroller in sight that rapid, undignified half run of his would have been his last trip in freedom.

A spaceman in officer's uniform stood at the ship's main air lock.

Terens panted a little. He said, "Have Gareth and Hansa Barne boarded ship?"

"No, they haven't," said the spaceman phlegmatically. He was a Sarkite and a patroller was only another man in uniform to him. "Do you have a message for them?"

With cracking patience Terens said, "They haven't boarded!"

"That's what I've said. And we're not waiting for them. We leave on schedule, with or without them."

Terens turned away.

He was at the gatekeeper's booth again. "Have they left?"

"Left? 'Who, sir?"

"The Barnes. The ones for Wotex. They're not on board ship. Did they leave?"

"No, sir. Not to my knowledge."

"What about the other gates?"

"They're not exits, sir. This is the only exit."

"Check them, you miserable idiot."

The gatekeeper lifted the communi-tube in a state of panic. No patroller had ever spoken to him so in anger and he dreaded the results. In two minutes he put it down.

He said, "No one has left, sir."

Terens stared at him. Under his black hat his sandy hair was damping against his skull and down each cheek there was the gleaming mark of perspiration.

He said, "Has any ship left the port since they entered?"

The gatekeeper consulted the schedule. "One," he said, "the liner Endeavor."

Volubly he went on, eager to gain favor with the angry patroller by volunteering information. "The Endeavor is making a special trip to Sark to carry the Lady Samia of Fife back from Florina."

He did not bother to describe exactly by what refined manner of eavesdropping he had managed to acquaint himself with the "confidential report."

But to Terens now, nothing mattered.

He backed slowly away. Eliminate the impossible and whatever remained, however improbable, was the truth. Rik and Valona had entered the spaceport. They had not been captured or the gatekeeper would certainly have known about it. They were not simply wandering about the port, or they would by now have been captured. They were not on the ship for which they had tickets. They had not left the field. The only object that had left the field was the Endeavor. Therefore, on it, possibly as captives, possibly as stowaways, were 131k and Valona.

And the two were equivalent. If they were stowaways they would soon be captives. Only a Florinian peasant girl and a mind-wrecked creature would fail to realize that one could not stow away on a modern spaceship.

And of all spaceships to choose, they chose that which carried the daughter of the Squire of Fife.

The Squire of Fife!

9. THE SQUIRE

The SQUIRE of Fife was the most important individual on Sark and for that reason did not like to be seen standing. Like his daughter, he was short, but unlike her, he was not perfectly proportioned, since most of the shortness lay in his legs. His torso was even beefy, and his head was undoubtedly majestic, but his body was fixed upon stubby legs that were forced into a ponderous waddle to carry their load.

So he sat behind a desk and except for his daughter and personal servants and, when she had been alive, his wife, none saw him in any other position.

There he looked the man he was. His large head, with its wide, nearly lipless mouth, broad, large-nostriled nose, and pointed, cleft chin, could look benign and inflexible in turn, with equal ease. His hair, brushed rigidly back and, in careless disregard for fashion, falling nearly to his shoulders, was blue-black, untouched by gray. A shadowy blue marked the regions of his cheeks, lips and chin where his Florinian barber twice daily battled the stubborn growth of facial hair.

The Squire was posing and he knew it. He had schooled expression out of his face and allowed his hands, broad, strong and short-fingered, to remain loosely clasped on a desk whose smooth, polished surface was completely bare. There wasn't a paper on it, no communi-tube, no ornament. By its very simplicity the Squire's own presence was emphasized.

He spoke to his pale, fish-white secretary with the special lifeless tone he reserved for mechanical appliances and Florinian civil servants. "I presume all have accepted?"

He had no real doubt as to the answer.

His secretary replied in a tone as lifeless, "The Squire of Bort stated that the press of previous business arrangements prevented his attending earlier than three."

"And you told him?"

"I stated that the nature of the present business made any delay inadvisable."

"The result?"

"He will be here, sir. The rest have agreed without reservation."

Fife smiled. Half an hour this way or that would have made no difference. There was a new principle involved, that was all. The Great Squires were too touchy with regard to their own independence, and such touchiness would have to go.

He was waiting, now. The room was large, the places for the others were prepared. The large chronometer, whose tiny powering spark of radioactivity had not failed or faltered in a thousand years, said two twenty-one.

What an explosion in the last two days! The old chronometer might yet witness events equal to any in the past.

Yet that chronometer had seen many in its millennium. When it counted its first minutes Sark had been a new world of hand-hewn cities with doubtful contacts among the other, older worlds. The timepiece had been in the wall of an old brick building then,

the very bricks of which had since become dust. It had counted its even tenor through three short-lived Sarkite "empires" when the undisciplined soldiers of Sark managed to govern, for a longer or shorter interval, some half a dozen surrounding worlds. Its radioactive atoms had exploded in strict statistical sequence through two periods when the fleets of neighboring worlds dictated policy on Sark.

Five hundred years ago it had marked cool time as Sark discovered that the world nearest to it, Florina, had a treasure in its soil past counting. It had moved evenly through two victorious wars and recorded solemnly the establishment of a conqueror's peace. Sark had abandoned its empires, absorbed Florina tightly, and become powerful in a way that Trantor itself could not duplicate.

Trantor wanted Florina and other powers had wanted it. The centuries had marked Florina as a world for which hands stretched out through space, groping and reaching eagerly. But it was Sark whose hand clasped it and Sark, sooner than release that grasp, would allow Galactic war.

Trantor knew that! Trantor knew that!

It was as though the silent rhythm of the chronometer set up the little singsong in the Squire's brain.

It was two twenty-three.

Nearly a year before, the five Great Squires of Sark had met. Then, as now, it had been here, in his own hall. Then, as now, the Squires, scattered over the face of the planet, each on his own continent, had met in trimensic personification.

In a bald sense, it amounted to three-dimensional television in life size with sound and color. The duplicate could be found in any moderately well-to-do private home on Sark. Where it went beyond the ordinary was in the lack of any visible receiver. Except for Fife, the Squires present were present in every possible way but reality. The wall could not be seen behind them, they did not shimmer, yet a hand could have been passed through their bodies.

The true body of the Squire of Rune was sitting in the antipodes, his continent the only one upon which, at the moment, night prevailed. The cubic area immediately surrounding his image in Fife's office had the cold, white gleam of artificial light, dimmed by the brighter daylight about it.

Gathered in the one room, in body or in image, was Sark itself. It was a queer and not altogether heroic personification of the planet. Rune was bald and pinkly fat, while Balle was gray and dryly wrinkled. Steen was powdered and rouged, wearing the desperate smile of a worn-out man pretending to a life force he no longer had, and Bort carried indifference to creature comforts to the unpleasant point of a two-day growth of beard and dirty fingernails.

Yet they were the five Great Squires.

They were the topmost of the three rungs of ruling powers on Sark. The lowest rung was, of course, the Florinian Civil Service, which remained steady through all the vicissitudes that marked the rise and fall of the individual noble houses of Sark. It was they who actually- greased the axles and turned the wheels of government. Above them were

the ministers and department heads appointed by the hereditary (and harmless) Chief of State. Their names and that of the Chief himself were needed on state papers to make them legally binding, but their only duties consisted of signing their names.

The highest rung was occupied by these five, each tacitly allowed a continent by the remaining four. They were the heads of the families that controlled the major volume of the kyrt trade, and the revenues therefrom derived. It was money that gave power and eventually dictated policy on Sark, and these had it. And of the five, it was Fife who had the most.

The Squire of Fife had faced them that day, nearly a year ago, and said to the other masters of the Galaxy's second richest single planet (second richest after Trantor, which, after all, had half a million worlds to draw upon, rather than two): "I have received a curious message."

They said nothing. They waited.

Fife handed a slip of metallite film to his secretary, who stepped from one seated figure to another, holding it well up for each to see, lingering just long enough for each to read.

To each of the four who attended the conference in Fife's office, he, himself, was real, and the others, including Fife, only shadows. The metallite film was a shadow as well. They could only sit and observe the light rays that focused across vast world-sectors from the Continent of Fife to those of Balle, Bort, Steen, and the island Continent of Rune. The words they read were shadows on shadow.

Only Bort, direct and ungiven to subtleties, forgot that fact and reached for the message.

His hand extended to the edge of the rectangular image-receptor and was cut off. His arm ended in a featureless stump. In his own chambers, Fife knew, Bores arm had succeeded merely in closing upon nothingness and passing through the filmed message. He smiled, and so did the others. Steen giggled.

Bort reddened. He drew back his arm and his hand reappeared.

Fife said, "Well, you have each seen it. If you don't mind, I will now read it aloud so that you may consider its significance."

He reached upward, and his secretary, by hastening his steps, managed to hold the film in the proper position for Fife's grasp to close upon it without an instant's groping.

Fife read mellowly, imparting drama to the words as though the message were his own and he enjoyed delivering it.

He said, "This is the message: 'You are a Great Squire of Sark and there is none to compete with you in power and wealth. Yet that power and wealth rest on a slender foundation. You may think that a planetary supply of kyrt, such as exists on Florina, is by no means a slender foundation, but ask yourself, how long will Florina exist? Forever? 'No! Florina may be destroyed tomorrow. It may exist for a thousand years. Of the two, it is more likely to be destroyed tomorrow. Not by myself, to be sure, but in a way you cannot predict or foresee. Consider that destruction. Consider, too, that your power and

wealth are already gone, for I demand the greater part of them. You will have time to consider, but not too much time.

"Attempt to take too much time and I shall announce to all the Galaxy and particularly to Florina the truth about the waiting destruction. After that there will be no more kyrt, no more wealth, no more power. None for me, but then I am used to that. None for you, and that would be extremely serious, since you were born to great wealth.

"Turn over most of your estates to myself in the amount and in the manner which I shall dictate in the near future and you will remain in secure possession of what remains. Not a great deal will be left you by your present standards, to be sure, but it will be more than the nothing that will otherwise be left you. Do not sneer at the fragment you will retain, either. Florina may last your lifetime and you will live, if not lavishly, at least comfortably."

Fife had finished. He turned the film over and over in his hand, then folded it gently into a silvery translucent cylinder through which the stenciled letters merged into a reddish blur.

He said in his natural voice, "It is an amusing letter. There is no signature and the tone of the letter, as you heard, is stilted and pompous. What do you think of it, Squires?"

Rune's ruddy face was set in displeasure. He said, "It's obviously the work of a man not far removed from the psychotic. He writes like a historical novel. Frankly, Fife, I don't see that such rubbish is a decent excuse to disrupt our traditions of continental autonomy by calling us together. And I don't like all this going on in the presence of your secretary."

"My secretary? Because he is a Florinian? Are you afraid his mind will be unsettled by such things as this letter? Nonsense." His tone shifted from one of mild amusement to the unmodulated syllables of command. "Turn to the Squire of Rune."

The secretary did so. His eyes were discreetly lowered and his white face was uncreased by lines and unmarred by expression. It almost seemed untouched by life.

"This Florinian," said Fife, careless of the man's presence, "is my personal servant. He is never away from me, never with others of his kind. But it is not for that reason that he is absolutely trustworthy. Look at him. Look at his eyes. Isn't it obvious to you that he has been under the psychic probe? He is incapable of any thought which is disloyal to myself in the slightest degree. With no offense intended, I can say that I would sooner trust him than any of you."

Bort chuckled. "I don't blame you. None of us owes you the loyalty of a probed Florinian servant."

Steen giggled again and writhed in his seat as though it were growing gently warm.

Not one of them made any comment on Fife's use of a psychic probe for personal servants. Fife would have been tremendously astonished had they done so. The use of the psychic probe for any reason other than the correction of mental disorders or the removal of criminal impulses was forbidden. Strictly speaking, it was forbidden even to the Great Squires.

Yet Fife probed whenever he felt it necessary, particularly when the subject was a Florinian. The probing of a Sarkite was a much more delicate matter. The Squire of Steen, whose writhings at the mention of the probing Fife did not miss, was well reputed to make use of probed Florinians of both sexes for purposes far removed from the secretarial.

"Now." Fife put his blunt fingers together. "I did not bring you all together for the reading of a crackpot letter. That, I hope, is understood. Actually I am afraid we have an important problem on our hands. First of all, I ask myself, why bother only with me? To be sure, I am the wealthiest of the Squires, but alone, I control only a third of the kyrt trade. Together the five of us control it all. It is easy to make five cello-copies of a letter, as easy as it is to make one."

"You use too many words," muttered Bort. "What do you want?"

Balle's withered and colorless lips moved in a dull gray face. "He wants to know, my Lord of Bort, if we have received copies of this letter."

"This let him say so."

"I thought I was saying so," said Fife evenly. "Well?"

They looked at one another, doubtfully or defiantly, as the personality of each dictated.

Rune spoke first. His pink forehead was moist with discrete drops of perspiration and he lifted a soft square of kyrt to mop the dampness out of the creases between the folds of fat that ran semicircles from ear to ear.

He said, "I wouldn't know, Fife. I can ask my secretaries, who are all Sarkites, by the way. After all, even if such a letter had reached my office, it would have been considered a—what is it we say?—a crank letter. It would never have come to me. That's certain. It's only your own peculiar secretarial system that kept you from being spared this trash yourself."

He looked about and smiled, his gums gleaming wetly between his lips above and below artificial teeth of chrome-steel. Each individual tooth was buried deeply, knit to the jawbone, and stronger than any tooth of mere enamel could ever be. His smile was more frightening than his frown could possibly be.

Balle shrugged. "I imagine that what Rune has just said can hold for all of us."

Steen tittered. "I never read mail. Really, I never do. It's such a bore, and such loads come in that I just wouldn't have any time." He looked about him earnestly, as though it were really necessary to convince the company of this important fact.

Bort said, "Nuts. What's wrong with you all? Afraid of Fife? Look here, Fife, I don't keep any secretary because I don't need anyone between myself and my business. I got a copy of that letter and I'm sure these three did too. Want to know what I did with mine? I threw it into the disposal chute. I'd advise you to do the same with yours. Let's stop this. I'm tired."

His hand reached upward for the toggle switch that would cut contact and release his image from its presence in Fife.

"Wait, Bort." Fife's voice rang out harshly. "Don't do that. I'm not done. You wouldn't want us to take measures and come to decisions in your absence. Surely you wouldn't."

"Let us linger, Squire Bort," urged Rune in his softer tones, though his little fat-buried eyes were not particularly amiable. "I wonder why Squire Fife seems to worry so about a trifle."

"Well," said Balle, his dry voice scratching at their ears, "perhaps Fife thinks our letter-writing friend has information about a Trantorian attack on Florina."

"Pooh," said Fife with scorn. "How would he know, whoever he is? Our secret service is adequate, I assure you. And how would he stop the attack if he received our properties as bribe? No, no. He speaks of the destruction of Flora as though he meant physical destruction and not political destruction."

"It's just too insane," said Steen.

"Yes?" said Fife. "Then you don't see the significance of the events of the last two weeks?"

"Which particular events?" asked Bort.

"It seems a Spatio-analyst has disappeared. Surely you've heard of that."

Bort looked annoyed and in no way soothed. "I've heard from Abel of Trantor about it. What of it? I know nothing of Spatioanalysts."

"At least you've read a copy of the last message to his base on Sank before he turned up missing."

"Abel showed it to me. I paid no attention to it."

"What about the rest of you?" Fife's eyes challenged them one by one. "Your memory goes back a week?"

"I read it," said Rune. "I remember it too. Of course! It spoke of destruction also. Is that what you're getting at?"

"Look here," Steen said shrilly, "it was full of nasty hints that made no sense. Really, I do hope we're not going to discuss it now. I could scarcely get rid of Abel, and it was just before dinner, too. Most distressing. Really."

"There's no help for it, Steen," said Fife with more than a trace of impatience. (What could one do with a thing like Steen?) "We must speak of it again. The Spatio-analyst spoke of the destruction of Florina. Coincident with his disappearance, we receive messages also threatening the destruction of Florina. Is that coincidence?"

"You are saying that the Spatio-analyst sent the blackmailing message?" whispered old Balle.

"Not likely. Why say it first in his own name, then anonymously?"

"When he spoke of it at first," said Balle, "he was communicating with his district office, not with us."

"Even so. A blackmailer deals with no one but his victim if he can help it."

"Well then?"

"He has disappeared. Call the Spatio-analyst honest. But he broadcast dangerous information. He is now in the hands of others who are not honest and they are blackmailers."

"What others?"

Fife sat grimly back in his chair, his lips scarcely moving. "You ask me seriously? Trantor."

Steen shivered. "Trantor!" His high-pitched voice broke.

"Why not? What better way to gain control of Florina? It's one of the prime aims of their foreign policy. And if they can do it without war, so much the better for them. Look here, if we accede to this impossible ultimatum, Florina is theirs. They offer us a little"—he brought two fingers close together before his face—"hut how long shall we keep even that? "On the other hand, suppose we ignore this, and, really, we have no choice. What would Trantor do then? Why, they will spread rumors of an imminent end of the world to the Florinian peasants. As their rumors spread the peasants will panic, and what can follow but disaster? What force can make a man work if he thinks the end of the world will come tomorrow? The harvest will rot. The warehouses will empty."

Steen lifted a finger to smooth the coloring on one cheek, as he glanced at a mirror in his own apartments, out of range of the receptor-cube.

He said, "I don't think that would harm us much. If the supply goes down, wouldn't the price go up? Then after a while it would turn out that Florina was still there and the peasants would go back to work. Besides, we could always threaten to clamp down on exports. Really, I don't see how any cultured world could be expected to live without kyrt. Oh, it's King Kyrt all right. I think this is a fuss about nothing."

He threw himself into an attitude of boredom, one finger placed delicately upon his cheek.

Balle's old eyes had been closed through all of this last. He said, "There can be no price increases now. We've got them at absolute ceiling height."

"Exactly," said Fife. "It won't come to serious disruption anyway. Trantor waits for any sign of disorder on Florina. If they could present the Galaxy with the prospect of a Sark that was unable to guarantee kyrt shipments, it would be the most natural thing in the universe for them to move in to maintain what they call order and to keep the kyrt coming. And the danger would be that the free worlds of the Galaxy would probably play along with them for the sake of the kyrt. Especially if Trantor agreed to break the monopoly, increase production and lower prices. Afterward it would be another story, but meanwhile, they would get their support."

"It's the only logical way that Trantor could possibly grip Florina. If it were simple force, the free Galaxy outside the Trantorian sphere of influence would join us in sheer self-protection."

Rune said, "How does the Spatio-analyst fit in this? Is he necessary? If your theory is adequate it should explain that."

"I think it does. These Spatio-analysts are unbalanced for the most part, and this one has developed some"—Fife's fingers moved, as though building a vague structure—

"some crazy theory. It doesn't matter what. Trantor can't let it come out, or the Spatio-analytic Bureau would quash it. To seize the man and learn the details would, however, give them something that would probably possess a surface validity to non-specialists. They could use it, make it sound real. The Bureau is a Trantorian puppet, and their denials, once the story is spread by way of scientific rumor mongering, would never be forceful enough to overtake the lie."

"It sounds too complicated," said Bort. "Nuts. They can't let it come out, but then again they will let it come out."

"They can't let it come out as a serious scientific announcement, or even reach the Bureau as such," said Fife patiently. "They can let it leak out as a rumor. Don't you see that?"

"What's old Abel doing wasting his time looking for the Spatio-analyst then?"

"You expect him to advertise the fact that he's got him? What Abel does and what Abel seems to be doing are two different things."

"Well," said Rune, "if you're right, what are we to do?"

Fife said, "We have learned the danger, and that is the important thing. We'll find the Spatio-analyst if we can. We must keep all known agents of Trantor under strict scrutiny without really interfering with them. From their actions we may learn the course of coming events. We must suppress thoroughly any propaganda on Florina to the effect of the planet's destruction. The first faint whisper must meet with instant counteraction of the most violent sort.

"Most of all, we must remain united. That is the whole purpose of this meeting, in my eyes; the forming of a common front. We all know about continental autonomy and I'm sure there is no one more insistent upon it than I am. That is, under ordinary circumstances. These are not ordinary circumstances. You see that?"

More or less reluctantly, for continental autonomy was not a thing to be abandoned lightly, they saw that.

"Then," said Fife, "we will wait for the second move."

That had been a year ago. They had left and there had followed the strangest and most complete fiasco ever to have fallen to the lot of the Squire of Fife in a moderately long and a more than moderately audacious career.

No second move followed. There were no further letters to any of them. The Spatio-analyst remained unfound, while Trantor maintained a desultory search. There was no trace of apocalyptic rumors on Florina, and the harvesting and processing of kyrt continued its smooth pace.

The Squire of Rune took to calling Fife at weekly intervals.

"Fife," he would call. "Anything new?" His fatness would quiver with delight and thick chuckles would force their way out of his gullet.

Fife took it bleakly and stolidly. What could he do? Over and over again he sifted the facts. It was no use. Something was missing. Some vital factor was missing.

And then it all began exploding at once, and he had the answer. He knew he had the answer, and it was what he had not expected.

He had called a meeting once again. The chronometer now said two twenty-nine.

They were beginning to appear now. Bort first, lips compressed and a rough hang-nailed finger rasping against the grain of his grizzly-stubbled cheek. Then Steen, his face freshly washed clear of its paint and presenting a pallid, unhealthy appearance. Balle, indifferent and tired, his cheeks sunken, his armchair well cushioned, a glass of warm milk at his side. Lastly Rune, two minutes late, wet-lipped and sulky, sitting in the night once again. This time his lights were dimmed to the point where he was a hazy bulk sitting in a cube of shadow which Fife's lights could not have illuminated though they had had the power of Sark's sun.

Fife began. "Squires! Last year I speculated on a distant and complicated danger. In so doing I fell into a trap. The danger exists, but it is not distant. It is near us, very near. One of you already knows what I mean. The others will find out shortly."

"What do you mean?" asked Bort shortly.

"High treason!" shot back Fife.

10. THE FUGITIVE

MYIILYN TEBENS was not a man of action. He told himself that as an excuse, since now, leaving the spaceport, he found his mind paralyzed.

He had to pick his pace carefully. Not too slowly, or he would seem to be dawdling. Not too quickly, or he would seem to be running. Just briskly, as a patroller would walk, a patroller who was about his business and ready to enter his ground-car.

If only he could enter a ground-car! Driving one, unfortunately, did not come within the education of a Florinian, not even a Florinian Townman, so he tried to think as he walked and could not. He needed silence and leisure.

And he felt almost too weak to walk. He might not be a man of action but he had acted quickly now for a day and a night and part of another day. It had used up his lifetime's supply of nerve.

Yet he dared not stop.

If it were night he might have had a few hours to think. But it was early afternoon.

If he could drive a ground-car he could put the miles between himself and the City. Just long enough to think a bit before deciding on the next step. But he had only his legs.

If he could think. That was it. If he could think. If he could suspend all motion, all action. If he could catch the universe between instants of time, order it to halt, while he thought things through. There must be some way.

He plunged into the welcome shade of Lower City. He walked stiffly, as he had seen the patrollers walk. He swung his shock-stick in a firm grip. The streets were bare. The natives were huddling in their shacks. So much the better.

The Townman chose his house carefully. It would be best to choose one of the better ones, one with patches of colored plastic briquets and polarized glass in the windows. The lower orders were sullen. They had less to lose. An "upper man" would be falling over himself to help.

He walked up a short path to such a house. It was set back from the street, another sign of affluence. He knew he would have no need of pounding the door or breaking it in. There had been a noticeable movement at one window as he walked up the ramp. (How generations of necessity enabled a Florinian to smell the approach of a patroller.) The door would open.

It did open.

A young girl opened it, her eyes white-rimmed circles. She was gawky in a dress whose frills showed a determined effort on the part of her parents to uphold their status as something more than the ordinary run of "Florinian trash." She stood aside to let him pass, her breath coming quickly between parted lips.

The Townman motioned to her to shut the door. "Is your father here, girl?"

She screamed, "Pa!" then gasped, "Yes, sir!"

"Pa" was moving in apologetically from another room. He came slowly. It was no news to him that a patroller was at the door. It was simply safer to let a young girl admit him. She was less apt to be knocked down out of hand than he himself was, if the patroller happened to be angry.

"Your name?" asked the Townman.

"Jacof, if it please you, sir."

The Townman's uniform had a thin-sheeted notebook in one of its pockets. The Townman opened it, studied it briefly, made a crisp check mark and said, "Jacof! Yes! I want to see every member of the household. Quickly!"

If he could have found room for any emotion but one of hopeless oppression, Terens would almost have enjoyed himself. He was not immune to the seductive pleasures of authority.

They filed in. A thin woman, worried, a child of about two years wriggling in her arms. Then the girl who had admitted him and a younger brother.

"That's all?"

"Everyone, sir," said Jacof humbly.

"Can I tend the baby?" asked the woman anxiously. "It's her nap time. I was putting her to bed." She held the young child out as though the sight of young innocence might melt a patroller's heart.

The Townman did not look at her. A patroller, he imagined, would not have, and he was a patroller. He said, "Put it down and give it a sugar sucker to keep it quiet. Now, you! Jacof!"

"Yes, sir."

"You're a responsible boy, aren't you?" A native of whatever age was, of course, a "boy."

"Yes, sir." Jacof's eyes brightened and his shoulders lifted a trifle. "I'm a clerk in the food-processing center. I've had mathematics, long division. I can do logarithms."

Yes, the Townman thought, they've shown you how to use a table of logarithms and taught you how to pronounce the word.

He knew the type. The man would be prouder of his logarithms than a Squireling of his yacht. The polaroid in his windows was the consequence of his logarithms and the tinted briquets advertised his long division. His contempt for the uneducated native would be equal to that of the average Squire for all natives and his hatred would be more intense since he had to live among them and was taken for one of them by his betters.

"You believe in the law, don't you, boy, and in the good Squires?" The Townman maintained the impressive fiction of consulting his notebook.

"My husband is a good man," burst in the woman volubly. "He hasn't ever been in trouble. He doesn't associate with trash. And I don't. No more do the children. We always——"

Terens waved her down. "Yes. Yes. Now look, boy, I want you to sit right here and do what I say. I want a list of everyone you know about on this block. Names, addresses,

what they do, and what kind of boys they are. Especially the last. If there's one of these troublemakers, I want to know. We're going to clean up. Understand?"

"Yes, sir. Yes, sir. There's Husting first of all. He's down the block a way. He——"

"Not like that, boy. Get him a piece of paper, you. Now you sit there and write it all down. Every bit. Write it slowly because I can't read native chicken tracks,"

"I have a trained writing hand, sir."

"Let's see it, then."

Jacof bent to his task, hand moving slowly. His wife looked over his shoulder.

Terens spoke to the girl who had let him in. "Go to the window and let me know if any other patrollers come this way. I'll want to speak to them, Don't you call them. Just tell me."

And then, finally, he could relax. He had made a momentarily secure niche for himself in the midst of danger.

Except for the noisy sucking of the baby in the corner, there was reasonable silence. He would be warned of the enemy's approach in time for a fighting chance at escape.

Now he could think.

In the first place, his role as patroller was about over. There were undoubtedly road blocks at all possible exits from the town, and they knew he could use no means of transportation more complicated than a diamagnetic scooter. It would not be long before it would dawn on the search-rusty patrollers that only by a systematic quartering of the town, block by block and house by house, could they be sure of their man.

When they finally decided that, they would undoubtedly start at the outskirts and work inward. If so, this house would be among the first to be entered, so his time was particularly limited.

Until now, despite its black and silver conspicuousness, the patroller uniform had been useful. The natives themselves had not questioned it. They had not stopped to see his pale Floninian face; they had not studied his appearance. The uniform had been enough.

Before long the pursuing hounds would find that fact dawning upon them. It would occur to them to broadcast instructions to all natives to hold any patroller unable to show proper identification, particularly one with a white skin and sandy hair. Temporary identifications would be passed out to all legitimate patrollers. Rewards would be offered. Perhaps only one native in a hundred would be courageous enough to tackle the uniform no matter how patently false the occupant was. One in a hundred would be enough.

So he would have to stop being a patroller.

That was one thing. Now another. He would be safe nowhere on Florina from now on. Killing a patroller was the ultimate crime and in fifty years, if he could elude capture so long, the chase would remain hot. So he would have to leave Florina.

How? Well, he gave himself one more day of life. This was a generous estimate. It assumed the patrollers to be at maximum stupidity and himself in a state of maximum luck.

In one way this was an advantage. A mere twenty-four hours of life was not much to risk. It meant he could take chances no sane man could possibly take.

He stood up.

Jacof looked up from his paper. "I'm not quite done, sir. I'm writing very carefully."

"Let me see what you have written."

He looked at the paper handed him and said, "It is enough. If other patrollers should come, don't waste their time saying that you have already made a list. They are in a hurry and may have other tasks for you. Just do as they say. Are there any coming now?"

The girl at the window said, "No, sir. Shall I go out in the street and look?"

"It's not necessary. Let's see now. Where is the nearest elevator?"

"It's about a quarter of a mile to the left, sir, as you leave the house. You can——"

"Yes, yes. Let me out."

A squad of patrollers turned into the street just as the door of the elevator ground into place behind the Townman. He could feel his heart pound. The systematic search was probably starting, and they were at his heels.

A minute later, heartbeat still drumming, he stepped out of the elevator into Upper City. There would be no cover here. No pillars. No cement alloy hiding him from above.

He felt like a moving black dot among the glare of the garish buildings. He felt visible for two miles on every side and for five miles up in the sky. There seemed to be large arrows pointing to him.

There were no patrollers in view. The Squires who passed looked through him. If a patroller was an object of fear to a Florinian, he was an object of nothing-at-all to a Squire. If anything would save him, that would.

He had a vague notion of the geography of Upper City. Somewhere in this section was City Park. The most logical step would have been to ask directions, the next most logical to enter any moderately tall building and look out from several of the upperstory terraces. The first alternative was impossible. No patroller could possibly need directions. The second was too risky. Inside a building, a patroller would be more conspicuous. Too conspicuous.

He simply struck out in the direction indicated by his memory of the maps of Upper City he had seen on occasion. It served well enough. It was unmistakably City Park that he came across in five minutes' time.

City Park was an artificial patch of greenery about one hundred acres in area. On Sark itself, City Park had an exaggerated reputation for many things from bucolic peace to nightly orgies. On Florina, those who had vaguely heard of it imagined it ten to a hundred times its actual size and a hundred to a thousand times its actual luxuriance.

The reality was pleasant enough. In Florina's mild climate it was green all year round. It had its patches of lawn, wooded areas and stony grottoes. It had a little pool with decorative fish in it and a larger pool for children to paddle in. At night it was aflame with colored illumination till the light rain started. It was between twilight and the rain that

it was most alive. There was dancing, trimensional shows, and couples losing themselves along the winding walks.

Terens had never actually been inside it. He found its artificiality repellent when he entered the Park. He knew that the soil and rocks he stepped on, the water and trees around him, all rested on a dead-flat cement alloy bottom and it annoyed him. He thought of the kyrt fields, long and level, and the mountain ranges of the south. He despised the aliens who had to build toys for themselves in the midst of magnificence.

For half an hour Terens tramped the walks aimlessly. What he had to do would have to be done in City Park. Even here it might be impossible. Elsewhere it was impossible.

No one saw him. No one was conscious of him. He was sure of that. Let them ask the Squires and Squirettes who passed him, "Did you see a patroller in the Park yesterday?"

They could only stare. They might as well be asked whether they had seen a tree midge skitter across the path.

The Park was too tame. He felt panic begin to grow. He made his way up a staircase between boulders and began descending into the cuplike hollow circled by small caves designed to shelter couples caught in the nightly rainfall. (More were caught than could be accounted for by chance alone.) And then he saw what he was looking for.

A man! A Squire, rather. Stepping back and forth quickly. Smoking the stub of a cigarette with sharp drags, cramming it into an ash recess, where it lay quietly for a moment, then vanished with a quick flash. Consulting a pendant watch.

There was no one else in the hollow. It was a place made for the evening and night.

The Squire was waiting for someone. So much was obvious. Terens looked about him. No one was following him up the stairs.

There might be other stairs. There were sure to be. No matter. He could not let the chance go.

He stepped down toward the Squire. The Squire did not see him, of course, until Terens said, "If you'll pardon me?"

It was respectful enough, but a Squire is not accustomed to having a patroller touch the crook of his elbow in however respectful a fashion.

"What the hell?" he said.

Terens abandoned neither the respect nor the urgency in his tone. (Keep him talking. Keep his eyes on yours for just half a minute!) He said, "This way, sir. It is in connection with the City-wide search for the native murderer."

"What are you talking about?"

"It will take just a moment."

Unobtrusively Terens had drawn his neuronc whip. The Squire never saw it. It buzzed a little and the Squire strained into rigor and toppled.

The Towrman had never raised a hand against a Squire before. He was surprised at how sick and guilty he felt.

There was still no one in sight. He dragged the wooden body, with its glazed and staring eyes, into the nearest cave. He dragged it to the cave's shallow end.

He stripped the Squire, yanking clothing off the stiffened arms and legs with difficulty. He stepped out of his own dusty, sweat-stained patroller uniform and climbed into the Squire's underclothing. For the first time he felt kyrt fabric with some part of himself beside his fingers.

Then the rest of the clothing, and the Squire's skullcap. The last was necessary. Skullcaps were not entirely fashionable among the younger set but some wore them, this Squire luckily among them. To Terens it was a necessity as otherwise his light hair would make the masquerade impossible. He pulled the cap down tightly, covering his ears.

Then he did what had to be done. The killing of a patroller was, he suddenly realized, not the ultimate crime after all.

He adjusted his blaster to maximum dispersion and turned it on the unconscious Squire. In ten seconds only a charred mass was left. It would delay identification, confuse the pursuers.

He reduced the patroller's uniform to a powdery white ash with the blaster and clawed out of the heap blackened silver buttons and buckles. That, too, would make the chase harder. Perhaps he was buying only an additional hour, but that, too, was worth it. And now he would have to leave without delay. He paused a moment just outside the mouth of the cave to sniff. The blaster worked cleanly. There was only the slightest odor of burned flesh and the light breeze would clear it in a few moments.

He was walking down the steps when a young girl passed him on the way up. For a moment he dropped his eyes out of habit. She was a Lady. He lifted them in time to see that she was young and quite good-looking, and in a hurry.

His jaws set. She wouldn't find him, of course. But she was late, or he wouldn't have been staring at his watch so. She might think he had grown tired of waiting and had left. He walked a trifle faster. He didn't want her returning, pursuing him breathlessly, asking if he had seen a young man.

He left the Park, walking aimlessly. Another half hour passed.

What now? He was no longer a patroller, he was a Squire.

But what now? He stopped at a small square in which a fountain was centered in a plot of lawn. To the water a small quantity of detergent had been added so that it frothed and foamed in gaudy iridescence.

He leaned against the railing, back to the western sun, and, bit by bit, slowly, he dropped blackened silver into the fountain.

He thought of the girl who had passed him on the steps as he did so. She had been very young. Then he thought of Lower City and the momentary spasm of remorse left him.

The silver remnants were gone and his hands were empty. Slowly he began searching his pockets, doing his best to make it seem casual.

The contents of the pockets were not particularly unusual. A booklet of key slivers, a few coins, an identification card. (Holy Sark! Even the Squires carried them. But then,

they didn't have to produce them for every patroller that came along.) His new name, apparently, was Aistare Deamone. He hoped he wouldn't have to use it. There were only ten thousand men, women and children in Upper City. The chance of his meeting one among them who knew Deamone personally was not large, but it wasn't insignificant either.

He was twenty-nine. Again he felt a rising nausea as he thought of what he had left in the cave, and fought it. A Squire was a Squire. How many twenty-nine-year-old Florinians had been done to death at their hands or by their directions? How many nine-year-old Florinians? He had an address, too, but it meant nothing to him. His knowledge of Upper City geography was rudimentary.

Say!

A color portrait of a young boy, perhaps three, in pseudotrimension. The colors flashed as he drew it out of its container, faded progressively as he returned it. A young son? A nephew? There had been the girl in the Park so it couldn't be a son, could it? Or was he married? Was the meeting one of those they called "clandestine?" Would such a meeting take place in daylight? Why not, under certain circumstances? Terens hoped so. If the girl were meeting a married man she would not quickly report his absence. She would assume he had not been able to evade his wife. That would give him time.

No, it wouldn't. Instant depression seized him. Children playing hide-and-seek would stumble on the remains and run screaming. It was bound to happen within twenty-four hours.

He turned to the pocket's contents once more. A pocket-copy license as yacht pilot. He passed it by. All the richer Sarkites owned yachts and piloted them. It was this century's fad. Finally, a few strips of Sarkite credit vouchers. Now those might be temporarily useful.

It occurred to him that he hadn't eaten since the night before at the Baker's place. How quickly one could grow conscious of hunger.

Suddenly he turned back to the yacht license. Wait, now, the yacht wasn't in use now, not with the owner dead. And it was his yacht. Its hangar number was z6, at Port 9. Well.

Where was Port 9? He hadn't the slightest notion.

He leaned his forehead against the coolness of the smooth railing around the fountain. What now? What now? The voice startled him.

"Hello," it said. "Not sick?"

Terens looked up. It was an older Squire. He was smoking a long cigarette containing some aromatic leaf while a green stone of some sort hung suspended from a gold wristband. His expression was one of kindly interest that astonished Terens into a moment of speechlessness, until he remembered. He was one of the clan himself now. Among themselves, Squires might well be decent human beings.

The Townman said, "Just resting. Decided to take a walk and lost track of time. I'm afraid I'm late for an appointment now."

He waved his hand in a wry gesture. He could imitate the Sarkite accent fairly well from long association but he didn't make the mistake of trying to exaggerate it. Exaggeration was easier to detect than insufficiency.

The other said, "Stuck without a skeeter, hey?" He was the older man, amused by the folly of youth.

"No skeeter," admitted Terens.

"Use mine," came the instant offer. "It's parked right outside. You can set the controls and send it back here when you're through. I won't be needing it for the next hour or so."

To Terens, that was almost ideal. The skeeters were fast and skittery as chain lightning, could outspeed and outmaneuver any patroller ground-car. It fell short of ideal only in that Terens could no more drive the skeeter than he could fly without it.

"From here to Sark," he said. He knew that piece of Squire slang for "thanks," and threw it in. "I think I'll walk. It isn't far to Port 9."

"No, it isn't far," agreed the other.

That left Terens no better off than before. He tried again. "Of course, I wish I were closer. The walk to Kyrt Highway is healthy enough by itself."

"Kyrt Highway? What's that got to do with it?"

Was he looking queerly at Terens? It occurred to the Town-man, suddenly, that his clothing probably lacked the proper fitting. He said quickly, "Wait! I'm twisted at that. I've got myself crossed up walking. Let's see now." He looked about vaguely.

"Look. You're on Recket Road. All you have to do is go down to Triffis and turn left, then follow it into the port." He had pointed automatically.

Terens smiled. "You're right. I'm going to have to stop dreaming and start thinking. From here to Sark, sir."

"You can still use my skeeter."

"Kind of you, but. . ." Terens was walking away, a bit too quickly, waving his hand. The Squire stared after him.

Perhaps tomorrow, when they found the corpse in the rocks and began searching, the Squire might think of this interview again. He would probably say, "There was something queer about him, if you know what I mean. He had an odd turn of phrase and didn't seem to know where he was. I'll swear he'd never heard of Triffis Avenue."

But that would be tomorrow.

He walked in the direction that the Squire had pointed out. He came to the glittering sign "Triffis Avenue," almost drab against the iridescent orange structure that was its background. He turned left.

Port 9 was alive with youth in yachting costume, which seemed to feature high-peaked hats and hip-bellying breeches. Terens felt conspicuous but no one paid attention to him. The air was full of conversation spiced with terms he did not understand.

He found Booth 26 but waited for minutes before approaching it. He wanted no Squire remaining persistently in its vicinity, no Squire who happened to own a yacht in a

nearby booth who would know the real Alstare Deamone by sight and would wonder what a stranger was doing about his ship.

Finally, with the booth's neighborhood apparently safe, he walked over. The yacht's snout peered out from its hangar into the open field about which the booths were placed.' He craned his neck to stare at it.

Now what? He had killed three men in the last twelve hours. He had risen from Florinian Townman to patroller, from patroller to Squire. He had come from Lower City to Upper City and from Upper City to a spaceport. To all intents and purposes he owned a yacht, a vessel sufficiently spaceworthy to take him to safety on any inhabited world in this sector of the Galaxy.

There was only one catch.

He could not pilot a yacht.

He was tired to the bone, and hungry to boot. He had come this far, and now he could go no further. He was on the edge of space but there was no way of crossing the edge.

By now the patrollers must have decided he was nowhere in Lower City. They would turn the search to Upper City as soon as they could get it through their thick skulls that a Florinian would dare. Then the body would be found and a new direction would be taken. They would look for an impostor Squire.

And here he was. He had climbed to the farthest niche of the blind alley and with his back to the closed end he could only wait for the faint sounds of pursuit to grow louder and louder until eventually the bloodhounds would be on him.

Thirty-six hours ago the greatest opportunity of his life had been in his hands. Now the opportunity was gone and his life would soon follow.

11. THE CAPTAIN

IT was the first time, really, that Captain Racety had found himself unable to impose his will upon a passenger. Had that passenger been one of the Great Squires themselves, he might still have counted on co-operation. A Great Squire might be all-powerful on his own continent, but on a ship he would recognize that there could be only one master, the Captain.

A woman was different. Any woman. And a woman who was daughter of a Great Squire was completely impossible.

He said, "My Lady, how can I allow you to interview them in private?"

Samia of Fife, her dark eyes snapping, said, "Why not? Are they armed, Captain?"

"Of course not. That's not the point."

"Anyone can see they're only a pair of very frightened creatures. They're half scared to death."

"Frightened people can be very dangerous, my Lady. They can't be counted on to act sensibly."

"Then why do you keep them frightened?" She had the tiniest stammer when she was angry. "You've got three tremendous sailors standing over them with blasters, poor things. Captain, I'll not forget this."

No, she wouldn't, the Captain thought. He could feel himself beginning to give way.

"If Your Ladyship pleases, will you tell me exactly what it is that you want?"

"It's simple. I've told you. I want to speak to them. If they're Florinians, as you say they are, I can get tremendously valuable information from them for my book. I can't do that, though, if they're too frightened to speak. If I could be with them alone it would be fine. Alone, Captain! Can you understand a simple word? Alone!"

"And what would I say to your father, my Lady, if he discovers that I allowed you to remain unguarded in the presence of two desperate criminals?"

"Desperate criminals! Oh, Great Space! Two poor fools that tried to escape their planet and had no more sense than to board a ship going to Sark! Besides, how would my father know?"

"If they hurt you he would know."

"Why should they hurt me?" Her small fist lifted and vibrated, while she put every atom of force she could find into her voice. "I demand it, Captain."

Captain Racety said, "How about this then, my Lady? I will be present. I shall not be three sailors with blasters. I shall be one man with no blaster in view. Otherwise"—and in his turn he put all his resolution into his voice—"I must refuse your demand."

"Very well, then." She was breathless. "Very well. But if I can't get them to speak because of you I will personally see to it that you captain no more ships."

Valona put her hand hastily over Rik's eyes as Samia entered the brig.

"What's the matter, girl?" asked Samia sharply, before she could remember that she was going to speak to them comfortingly.

Valona spoke with difficulty. She said, "He is not bright, Lady. He wouldn't know you were a Lady. He might have looked at you. I mean without intending any harm, Lady."

"Oh, goodness," said Samia. "Let him look." She went on, "Must they stay here, Captain?"

"Would you prefer a stateroom, my Lady?"

Samia said, "Surely you could manage a cell not quite so grim."

"It is grim to you, my Lady. To them, I am sure this is luxury. There is running water here. Ask them if there was any in their hut on Florina."

"Well, tell those men to leave."

The Captain motioned to them. They turned, stepping out nimbly.

The Captain set down the light aluminum folding chair he had brought with him. Samia took it.

He said brusquely to Rik and Valona, "Stand up."

Samia broke in instantly. "No! Let them sit. You're not to interfere, Captain."

She turned to them. "So you are a Floninian, girl."

Valona shook her head. "We're from Wotex."

"You needn't be frightened. It doesn't matter that you're from Florina. No one will hurt you."

"We're from Wotex."

"But don't you see that you've practically admitted you're from Florina, girl? Why did you cover the boy's eyes?"

"He's not allowed to look at a Lady."

"Even if he's from Wotex?"

Valona was silent.

Samia let her think about it. She tried to smile in a friendly way. Then she said, "Only Florinians aren't allowed to look at Ladies. So you see you've admitted that you're a Florinian."

Valona burst out, "He's not."

"Are you?"

"Yes, I am. But he's not. Don't do anything to him. He really isn't a Florinian. He was just found one day. I don't know where he comes from, but it's not Florina." Suddenly she was almost voluble.

Samia looked at her with some surprise. "Well, I'll speak to him. What's your name, boy?"

Rik was staring. Was that how women Squires looked? So small, and friendly-looking. And she smelled so nice. He was very glad she had let him look at her.

Samia said again, "What's your name, boy?"

Rik came to life but stumbled badly in the attempt to shape a monosyllable.

"Rik," he said. Then he thought, Why, that's not my name. He said, "I think it's Rik."

"Don't you know?"

Valona, looking woebegone, tried to speak, but Samia held up a sharply restraining hand.

Rik shook his head. "I don't know."

"Are you a Florinian?"

Rik was positive here. "No. I was on a ship. I came here from somewhere else." He could not bear to look away from Samia but he seemed to see the ship co-existing with her. A small and very friendly and homelike ship.

He said, "It was on a ship that I came to Florina and before that I lived on a planet."

"What planet?"

It was as though the thought were forcing its way painfully through mental channels too small for it. Then Rik remembered and was delighted at the sound his voice made, a sound so long forgotten.

"Earth! I come from Earth!"

"Earth?"

Rik nodded.

Samia turned to the Captain. "Where is this planet Earth?"

Captain Racety smiled briefly. "I never heard of it. Don't take the boy seriously, my Lady. A native lies the way he breathes. It comes naturally to him. He says whatever comes first into his mind."

"He doesn't talk like a native." She turned to Rik again. "Where is Earth, Rik?"

"I—" He put a shaking hand to his forehead. Then he said, "It's in the Sirius Sector." The intonation of the statement made it half a question.

Samia said to the Captain, "There is a Sirius Sector, isn't there?"

"Yes, there is. I'm amazed he has that right. Still, that doesn't make Earth any more real"

Rik said vehemently, "But it is. I remember, I tell you. It's been so long since I remembered. I can't be wrong now. I can't."

He turned, gripping Valona's elbows and clawing at her sleeve. "Lona, tell them I come from Earth. I do. I do."

Valona's eyes were wide with anxiety. "We found him one day, Lady, and he had no mind at all. He couldn't dress himself or talk or walk. He was nothing. Ever since then he's been remembering little by little. So far everything he's remembered has been so." She cast a quick, fearful glance at the bored face of the Captain. "He may really have come from Earth, Squire. No contradiction intended."

The last was a long-established conventional phrase that went with any statement that seemed in contradiction to a previous statement by a superior.

Captain Racety grunted. "He may have come from the center of Sark for all that story proves, my Lady."

"Maybe, but there's something queer about all this," insisted Samia, making up her mind flatly, woman-wise, on the side of romance. "I'm sure of it. . . What made him so helpless when you found him, girl? Had he been hurt?"

Valona said nothing at first. Her eyes darted helplessly back and forth. First to Rik, whose fingers clutched at his hair, then to the Captain, who was smiling without humor, finally to Samia, who waited.

"Answer me, girl," said Samia.

It was a hard decision for Valona to make, but no conceivable lie could substitute for the truth in this place and at this time. She said, "A doctor once looked at him. He said m—my Rik was psycho-probed."

"Psycho-probed!" Samia felt a slight wash of repulsion well over her. She pushed her chair away. It squeaked against the metal floor. "You mean he was psychotic?"

"I don't know what that means, Lady," said Valona humbly. "Not in the sense you're thinking of, my Lady," said the Captain almost simultaneously. "Natives aren't psychotic. Their needs and desires are too simple. I've never heard of a psychotic native in my life."

"But then——"

"It's simple, my Lady. If we accept this fantastic story the girl tells, we can only conclude that the boy had been a criminal, which is a way of being psychotic, I suppose. If so, he must have been treated by one of those quacks who practice among the natives, been nearly killed and was then dumped in a deserted section to avoid detection and prosecution."

"But it would have to be someone with a psycho-probe," protested Samia. "Surely you wouldn't expect natives to be able to use them."

"Perhaps not. But then you wouldn't expect an authorized medical man to use one so inexpertly. The fact that we arrive at a contradiction proves the story to be a lie throughout. If you will accept my suggestion, my Lady, you will leave these creatures to our handling. You see that it's useless to expect anything out of them."

Samia hesitated. "Perhaps you're right."

She rose and looked uncertainly at Rik. The Captain stepped behind her, lifted the little chair and folded it with a snap.

Rik jumped to his feet. "Wait!"

"If you please, my Lady," said the Captain, holding the door open for her. "My men will quiet him."

Samia stopped at the threshold. "They won't hurt him?"

"I doubt if he'll make us go to extremes. He will be easy handling."

"Lady! Lady!" Rik called. "I can prove it. I'm from Earth."

Samia stood irresolute for a moment. "Let's hear what he has to say."

The Captain said coldly, "As you wish, my Lady."

She returned, but not very far. She remained a step from the door.

Rik was flushed. With the effort of remembering, his lips drew back into the caricature of a smile. He said, "I remember Earth. It was radioactive. I remember the

Forbidden Areas and the blue horizon at night. The soil glowed and nothing would grow in it. There were just a few spots men could live on. That's why I was a Spatio-analyst. That's why I didn't mind staying in space. My world was a dead world."

Samia shrugged. "Come along, Captain. He's simply raving." But this time it was Captain Racety who stood there, open-mouthed. He muttered, "A radioactive world!"

She said, "You mean there is such a thing?"

"Yes." He turned wondering eyes on her. "Now where could he have picked that up?"

"How could a world be radioactive and inhabited?"

"But there is one. And it is in the Sirius Sector. I don't remember its name. It might even be Earth."

"It is Earth," said Rik, proudly and with confidence. "It is the oldest planet of the Galaxy. It is the planet on which the whole human race originated."

The Captain said softly, "That's so!"

Samia said, mind whirling, "You mean the human race originated on this Earth?"

"No, no," said the Captain abstractedly. "That's superstition. It's just that that's how I came to hear about the radioactive planet. It claims to be Man's home planet."

"I didn't know we were supposed to have a home planet."

"I suppose we started somewhere, my Lady, but I doubt that anyone can possibly know on what planet it happened."

With sudden decision he walked toward Rik. "What else do you remember?"

He almost added "boy," but held it back.

"The ship mostly," said Rik, "and Spatio-analysis."

Samia joined the Captain. They stood there, directly before Rik, and Samia felt the excitement returning. "Then it's all true? But then how did he come to be psycho-probed?"

"Psycho-probed!" said Captain Racety thoughtfully. "Suppose we ask him. Here, you, native or outworder or whatever you are. How did you come to be psycho-probed?"

Rik looked doubtful. "You all say that. Even Lona. But I don't know what the word means."

"When did you stop remembering, then?"

"I'm not sure." He began again, desperately. "I was on a ship."

"We know that. Go on."

Samia said, "It's no use barking, Captain. You'll drive out what few wits are left him."

Rik was entirely absorbed in wrenching at the dimness within his mind. The effort left no room for any emotion. It was to his own astonishment that he said, "I'm not afraid of him, Lady. I'm trying to remember. There was danger. I'm sure of that. Great danger to Florina, but I can't remember the details about it."

"Danger to the whole planet?" Samia cast a swift glance at the Captain.

"Yes. It was in the currents."

"What currents?" asked the Captain.

"The currents of space."

The Captain spread his hands and let them drop. "This is madness."

"No, no. Let him go on." The tide of belief had shifted to Samia again. Her lips were parted, her dark eyes gleamed and little dimples between cheek and chin made their appearance as she smiled. "What are the currents of space?"

"The different elements," said Rik vaguely. He had explained that before. He didn't want to go through that again.

He went on rapidly, nearly incoherently, speaking as the thoughts came to him, driven by them. "I sent a message to the local office on Sark. I remember that very clearly. I had to be careful. It was a danger that went beyond Florina. Yes. Beyond Florina. It was as wide as the Milky Way. It had to be handled carefully."

He seemed to have lost all real contact with those who listened to him, to be living in a world of the past before which a curtain was tearing away in places. Valona placed a soothing hand upon his shoulder and said, "Don't!" but he was unresponsive even to that.

"Somehow," he went on breathlessly, "my message was intercepted by some official on Sark. It was a mistake. I don't know how it happened."

He frowned. "I'm sure I sent it to the local office on the Bureau's own wave length. Do you suppose the sub-ether could have been tapped?" He did not even wonder that the word "sub-ether" came so easily to him.

He might have been waiting for an answer, but his eyes were still unseeing.

"Anyway, when I landed on Sark they were waiting for me."

Again a pause, this time long and meditative. The Captain did nothing to break it; he seemed to be meditating himself.

Samia, however, said, "Who was waiting for you? Who?"

Rik said, "I—I don't know. I can't remember. It wasn't the office. It was someone of Sark. I remember speaking to him. He knew about the danger. He spoke of it. I'm sure he spoke of it. We sat at a table together. I remember the table. He sat opposite me. It's as clear as space. We spoke for quite a while. It seems to me I wasn't anxious to give details. I'm sure of that. I would have had to speak to the office first. And then he. . ."

"Yes?" prompted Samia.

"He did something. He—— No, nothing more will come. Nothing will come!"

He screamed the words and then there was silence, a silence that was anticlimactically broken by the prosaic buzz of the Captain's wrist communo.

He said, "What is it?"

The answering voice was reedy and precisely respectful. "A message to the Captain from Sark. It is requested that he accept it personally."

"Very well. I will be at the sub-etherics presently."

He turned to Samia. "My Lady, may I suggest that it is, in any case, dinnertime."

He saw that the girl was about to protest her lack of appetite, to urge him to leave and not to bother about her. He continued, more diplomatically, "It is also time to feed these creatures. They are probably tired and hungry."

Samia could say nothing against that. "I must see them again, Captain."

The Captain bowed silently. It might have been acquiescence. It might not.

Samia of Fife was thrilled. Her studies of Florina satisfied a certain aspiration to intellect within her, but the Mysterious Case of the Psycho-probed Earthman (she thought of the matter in capitals) appealed to something much more primitive and much more demanding. It roused the sheer animal curiosity in her.

It was a mystery!

There were three points that fascinated her. Among these was not the perhaps reasonable question (under the circumstances) of whether the man's story was a delusion or a deliberate lie, rather than the truth. To believe it anything other than truth would spoil the mystery and Samia could not allow that.

The three points were therefore these. (i) What was the danger that threatened Florina, or, rather, the entire Galaxy? (ii) Who was the person who had psycho-probed the Earthman? (iii) Why had the person used the psycho-probe? She was determined to sift the matter to her own thorough satisfaction. No one is so modest as not to believe himself a competent amateur sleuth, and Samia was far from modest.

As soon after dinner as she could politely manage, she hurried down to the brig.

She said to the guard, "Open the door!"

The sailor remained perfectly erect, staring blankly and respectfully ahead. He said, "If Your Ladyship pleases, the door is not to be opened."

Samia gasped. "How dare you say so? If you do not open the door instantly, the Captain shall be informed."

"If Your Ladyship pleases, the door is not to be opened. That is by the strict order of the Captain."

She stormed up the levels once more, bursting into the Captain's stateroom like a tornado compressed into sixty inches.

"Captain!"

"My Lady?"

"Have you ordered the Earthman and the native woman to be kept from me?"

"I believe, my Lady, it was agreed that you were to interview them only in my presence."

"Before dinner, yes. But you saw they were harmless?"

"I saw that they seemed harmless."

Samia simmered. "In that case I order you to come with me now."

"I cannot, my Lady. The situation has changed."

"In what way?"

"They must be questioned by the proper authorities on Sark and until then I think they should be left alone."

Samia's lower jaw dropped, but she rescued it from its undignified position almost immediately. "Surely you are not going to deliver them to the Bureau of Florinian Affairs."

"Well," temporized the Captain, "that was certainly the original intention. They have left their village without permission. In fact they have left their planet without permission. In addition, they have taken secret passage on a Sarkite vessel."

"The last was a mistake."

"Was it?"

"In any case, you knew all their crimes before our last interview."

"But it was only at the interview that I heard what the so-called Earthman had to say."

"So-called. You said yourself that the planet Earth existed."

"I said it might exist. But, my Lady, may I be so bold as to ask what you would like to see done with these people?"

"I think the Earthman's story should be investigated. He speaks of a danger to Florina and of someone on Sark who has deliberately attempted to keep knowledge of that danger from the proper authorities. I think it is even a case for my father. In fact I would take him to my father, when the proper time came."

The Captain said, "The cleverness of it all!"

"Are you being sarcastic, Captain?"

The Captain flushed. "Your pardon, my Lady. I was referring to our prisoners. May I be allowed to speak at some length?"

"I don't know what you mean by 'some length,'" she retorted angrily, "but I suppose you may begin."

"Thank you. In the first place, my Lady, I hope you will not minimize the importance of the disturbances on Florina."

"What disturbances?"

"You cannot have forgotten the incident in the library."

"A patroller killed! Really, Captain!"

"And a second patroller killed this morning, my Lady, and a native as well. It is not very usual for natives to kill patrollers and here is one who has done it twice, and yet remains uncaught. Is he a lone hand? Is it an accident? Or is it all part of a carefully laid scheme?"

"Apparently you believe the last."

"Yes, I do. The murdering native had two accomplices. Their description is rather like that of our two stowaways."

"You never said so!"

"I did not wish to alarm Your Ladyship. You'll remember, however, that I told you repeatedly that they could be dangerous."

"Very well! What follows from all this?"

"What if the murders on Florina were simply side shows intended to distract the attention of the patroller squadrons while these two sneaked aboard our ship?"

"That sounds so silly."

"Does it? Why are they running away from Florina? We haven't asked them. Let us suppose they are running away from the patrollers since that is certainly the most

reasonable assumption. Would they be running to Sark of all places? And on a ship that carries Your Ladyship? And then he claims to be a Spatioanalyst."

Samia frowned. "What of that?"

"A year ago a Spatio-analyst was reported missing. The story was never given wide publicity. I knew, of course, because my ship was one of those that searched near space for signs of his ship. Whoever is backing these Florinian disorders has undoubtedly seized on that fact, and just knowing that the matter of the missing Spatio-analyst is known to them shows what a tight and unexpectedly efficient organization they have."

"It might be that the Earthman and the missing Spatio-analyst have no connection."

"No real connection, my Lady, undoubtedly. But to expect no connection at all is to expect too much of coincidence. It is an impostor we are dealing with. That is why he claims to have been psycho-probed."

"Oh?"

"How can we prove he isn't a Spatio-analyst? He knows no details of the planet Earth beyond the bare fact that it is radioactive. He cannot pilot a ship. He knows nothing of Spatioanalysis. And he covers up by insisting he was psycho-probed. Do you see, my Lady?"

Samia could make no direct answer. "But to what purpose?" she demanded.

"So that you might do exactly what you said you intended to do, my Lady."

"Investigate the mystery?"

"No, my Lady. Take the man to your father."

"I still see no point."

"There are several possibilities. At the best, he could be a spy upon your father, either for Florina or possibly for Trantor. I imagine old Abel of Trantor would certainly come forward to identify him as an Earthman, if for no other reason than to embarrass Sark by demanding the truth concerning this fictitious psycho-probing. At the worst, he will be your father's assassin."

"Captain!"

"My Lady?"

"This is ridiculous!"

"Perhaps, my Lady. But if so, the Department of Security is also ridiculous. You will recall that just before dinner I was called away to receive a message from Sark."

"Yes."

"This is it."

Samia received the thin translucent foil with its red lettering. It said: "Two Florinians are reported to have taken secret, illegal passage on your ship. Secure them immediately. One of them may claim to be a Spatio-analyst and not a Florinian native. You are to take no action in this matter. You will be held strictly responsible for the safety of these people. They are to be held for delivery to Depsec. Extreme secrecy. Extreme urgency."

Samia felt stunned. "Depsec," she said. "The Department of Security."

"Extreme secrecy," said the Captain. "I stretch a point to tell you this, but you have left me no choice, my Lady."

She said, "What will they do to him?"

"I cannot say for certain," said the Captain. "Certainly a suspected spy and assassin cannot expect gentle treatment. Probably his pretense will become partly a reality and he will learn what a psycho-probe is really like."

12. THE DETECTIVE

Tins Four Great Squires regarded the Squire of Fife each in his own way. Bort was angry, Rune was amused, Balle was annoyed, and Steen was frightened.

Rune spoke first. He said, "High treason? Are you trying to frighten us with a phrase? What does it mean? Treason against you? Against Bort? Against myself? By whom and how? And for S ark's sake, Fife, these conferences interfere with my normal sleeping hours."

"The results," said Fife, "may interfere with many sets of sleeping hours. I don't refer to treason against any of us, Rune. I mean treason against Sark."

Bort said, "Sark? What's that, anyway, if not us?"

"Call it a myth. Call it something ordinary Sarkites believe in."

"I don't understand," moaned Steen. "You men always seem so interested in talking each other down. Really! I wish you'd get all this over with."

Balle said, "I agree with Steen." Steen looked gratified.

Fife said, "I'm perfectly willing to explain immediately. You have heard, I suppose, of the recent disturbances on Florina."

Rune said, "The Depsec dispatches speak of several patrollers killed. Is that what you mean?"

Bort broke in angrily. "By Sark, if we must have a conference, let's talk about that. Patrollers killed! They deserve to be killed! Do you mean to say a native can simply come up to a patroller and bash his head in with a two-by-four? Why should any patroller let any native with a two-by-four in his hand come close enough to use it? Why wasn't the native burned down at twenty paces? "By Sark, I'd rattle the Patrol Corps from captain to recruit and send every dunderhead out on ship duty. The entire Corps is just an accumulation of fat. It's too easy a life for them down there. I say that every five years we should put Florina under martial law and scrape out the troublemakers. It would keep the natives quiet and our own men on their toes."

"Are you through?" asked Fife.

"For now, yes. But I'll take it up again. It's my investment down there, too, you know. It may not be as big as yours, Fife, but it's big enough for me to worry about."

Fife shrugged. He turned suddenly to Steen. "And have you heard of the disturbances?"

Steen jumped. "I have. I mean, I've heard you just saying—"

"You haven't read the Depsec announcements?"

"Well, really!" Steen became intensely interested in his long, pointed fingernails with their exquisitely applied coppery coating. "I don't always have time to read all the announcements. I didn't know it was required of me. In fact," and he gathered his courage in both hands and looked full at Fife, "I didn't know you were making rules for me. Really!"

"I haven't," said Fife. "Just the same since you, at least, know none of the details, let me summarize it for you. The rest may find it interesting as well."

It was surprising into how few words the events of forty-eight hours could be put and how flat they could sound. First, there had been an unexpected reference to Spatio-analysis texts. Then a blow on the head of a superannuated patroller who died of a fractured skull two hours later. Then a pursuit that ended with untouchability in the lair of a Trantorian agent. Then a second patroller dead at dawn with the murderer tricked out in the patroller's uniform and the Trantorian agent dead in his turn some hours later.

"If you wish the very latest nugget of news," Fife concluded, "you might add this to this catalog of apparent trivia. Some hours ago a body, or, rather, the bony remnants of one, was found in City Park on Florina."

"Whose body?" asked Rune.

"Just a moment, please. Lying next to it was a pile of ash that seemed to be the charred remnants of clothing. Anything of metal had been carefully removed from it, but the ash analysis proved it to be what was left of a patroller uniform."

"Our impostoring friend?" asked Balle.

"Not likely," said Fife. "Who would kill him in secret?"

"Suicide," said Bort viciously. "How long did the bloody bastard expect to keep out of our hands? I imagine he had a better death this way. Personally, I'd find out who in the Corps were responsible for letting him reach the suicide stage and put a one-charge blaster in their hands."

"Not likely," said Fife again. "If the man committed suicide he either killed himself first, then took off his uniform, blasted it to ash, removed the buckles and braid, and then got rid of them. Or else he first removed his uniform, ashed it, removed the buckles and braid, left the cave naked, or perhaps in his underwear, discarded them, came back and killed himself."

"The body was in a cave?" asked Bort.

"In one of the ornamental caves of the Park. Yes."

"Then he had plenty of time and plenty of privacy," said Bort belligerently. He hated to give up a theory. "He could have taken off the buckles and braid first, then——"

"Ever try to remove braid from a patroller uniform that hasn't been ashed first?" asked Fife sarcastically. "And can you suggest a motive, if the body were that of the impostor after suicide? Besides, I have a report from the medical examiners who studied the bone structure. The skeleton is that of neither a patroller nor a Florinian. It is of a Sarkite."

Steen cried, "Really!"; Balle's old eyes opened wide; Rune's metal teeth, which, by catching a gleam of light now and then, added a bit of life to the cube of dusk in which he sat, vanished as he closed his mouth. Even Bort was dumfounded.

"Do you follow?" asked Fife. "Now you see why the metal was removed from the uniform. Whoever killed the Sarkite wanted the ash to be taken for that of the Sarkite's own clothing, removed and ashed before the killing, which we might then take for suicide or for the result of a private feud in no way connected with our patroller-impostor friend."

What he did not know was that ash analysis could distinguish between the kyrt of Sarkite clothing and the cellulite of a patroller uniform even with the buckles and braid removed.

"Now given a dead Sarkite and the ash of a patroller uniform, we can only assume that somewhere in Upper City there is a live Townman in Sarkite clothing. Our Florinian, having posed as a patroller long enough, and finding the danger too great and growing greater, decided to become a Squire. And he did that in the only way he could."

"Has he been caught?" inquired Bort thickly.

"No, he hasn't."

"Why not? By Sark, why not?"

"He will be caught," said Fife indifferently. "At the moment we have more important things to wonder about. This last atrocity is a trifle in comparison."

"Get to the point!" demanded Rune instantly.

"Patience! First, let me ask you if you remember the missing Spatio-analyst of last year."

Steen giggled.

Bort said with infinite contempt, "That again?"

Steen asked, "Is there a connection? Or are we just going to talk about that horrible affair of last year all over again? I'm tired."

Fife was unmoved. He said, "This explosion of yesterday and day before yesterday began with a request at the Florinian library for reference books on Spatio-analysis. That is connection enough for me. Let's see if I can't make the connection for the rest of you as well. I will begin by describing the three people involved in the library incident, and please, let me have no interruptions for a few moments.

"First, there is a Townman. He is the dangerous one of the three. On Sark he had an excellent record as an intelligent and faithful piece of material. Unfortunately he has now turned his abilities against us. He is undoubtedly the one responsible for four killings now. Quite a record for anyone. Considering that the four include two patrollers and a Sarkite, it is unbelievably remarkable for a native. And he is still uncaught.

"The second person involved is a native woman. She is uneducated and completely insignificant. However, the last couple of days have seen an extensive search into every facet of this affair and we know her history. Her parents were members of the 'Soul of Kyrt' if any of you remember that rather ridiculous peasant conspiracy that was wiped out without trouble some twenty years ago.

"This brings us to the third person, the most unusual one of the three. This third person was a common mill hand and an idiot."

There was an expulsion of breath from Bort and another high-pitched giggle from Steen. Balle's eyes remained closed and Rune was motionless in the dark.

Fife said, "The word 'idiot' is not used figuratively. Depsec has driven itself mercilessly but his history could not be traced back more than ten and a half months. At that time he was found in a village just outside Florina's main metropolis in a state of complete mindlessness. He could neither walk nor talk. He could not even feed himself.

"Now note that he made this first appearance some few weeks after the disappearance of the Spatio-analyst. Note in addition that, in a matter of months, he learned how to talk and even how to fill a job at a kyrt mill. What kind of an idiot could learn so quickly?"

Steen began, almost eagerly, "Oh, really, if he were psycho-probed properly, it could be arranged so . . ." His voice trailed off.

Fife said sardonically, "I can think of no greater authority on the subject. Even without Steen's expert opinion, however, the same thought occurred to me. It was the only possible explanation.

"Now the psycho-probing could have taken place only on Sark or in Upper City on Florina. As a matter of simple thoroughness, doctors' offices in Upper City were checked. There was no trace of any unauthorized psycho-probing. It was then the notion of one of our agents to check the records of doctors who had died since the idiot first made his appearance. I shall see to it that he is promoted for that idea.

"We found a record of our idiot in just one of those offices. He had been brought in for a physical check-up about six months ago by the peasant woman who is the second of our trio. Apparently this was done secretly since she was absent that day from her job on quite another pretext. The doctor examined the idiot and recorded definite evidence of psycho-probic tampering.

"Now here is the interesting point. The doctor was one of those who kept double-deck offices in Upper City and Lower City. He was one of these idealists who thought the natives deserved first-rate medical care. He was a methodical man and kept duplicate records in full in both his offices to avoid unnecessary elevator travel. Also it pleased his idealism, I imagine, to practice no segregation between Sarkite and Florinian in his files. But the record of the idiot in question was not duplicated, and it was the only record not duplicated.

"Why should that be? If, for some reason, he had decided of his own accord not to duplicate that particular record, why should it have appeared only in the Upper City records, which is where it did appear? Why not only in the Lower City records, which is where it did not appear? After all, the man was a Florinian. He had been brought in by a Florinian. He had been examined in the Lower City office. All that was plainly recorded in the copy we found.

"There is only one answer to that particular puzzle. The record was duly entered in both files, but it was destroyed in the Lower City files by somebody who did not realize there would remain another record in the Upper City office. Now let's pass on.

"Included with the idiot's examination record was the definite notation to include the findings of this case with the doctor's next routine report to Depsec. That was entirely proper. Any case of psycho-probing could involve a criminal or even a subversive. But no such report was ever made. Within the week he was dead in a traffic accident.

"The coincidences pile up past endurance, don't they?"

Balle opened his eyes. He said, "This is a detective thriller you are telling us."

"Yes," cried Fife with satisfaction, "a detective thriller. And for the moment I am the detective."

"And who are the accused?" asked Balle in a tired whisper.

"Not yet. Let me play the detective for a moment longer."

In the middle of what Fife considered to be the most dangerous crisis that had ever confronted Sark, he suddenly found that he was enjoying himself hugely.

He said, "Let's approach the story from the other end. We will, for the moment, forget the idiot and remember the Spatio analyst. The first we hear of him is the notification to the Bureau of Transportation that his ship will soon land. A message received from him earlier accompanies the notification.

"The Spatio-analyst never arrives. He is located nowhere in near space. Furthermore, the message sent by the Spatioanalyst, which had been forwarded to BuTrans, disappeared. The I.S.B. claimed that we were deliberately concealing the message. Depsec believed that they were inventing a fictitious message for propaganda purposes. It now occurs to me that we were both wrong. The message had been delivered but it had not been concealed by the government of Sark.

"Let us invent someone and, for the moment, call him X. X has access to the records of BuTrans. He learns of this Spatioanalyst and his message and has the brains and ability to act quickly. He arranges that a secret sub-ethergram be sent out to the Spatio-analyst's ship, directing the man's landing on some small, private field. The Spatio-analyst does so and X meets him there.

"X has taken the Spatio-analyst's message of doom with him. There may be two reasons for that. First, it would confuse possible attempts at detection by eliminating a piece of evidence. Second, it would serve, perhaps, to win the confidence of the mad Spatio-analyst. If the Spatio-analyst felt he could talk only to his own superiors, and he might well feel that, X might persuade him to grow confidential by proving that he was already in possession of the essentials of the story.

"Undoubtedly the Spatio-analyst talked. However incoherent, mad, and generally impossible that talk might have been, X recognized it as an excellent handle for propaganda. He sent out his blackmailing letter to the Great Squires, to us. His procedure, as then planned, was probably precisely that which I attributed to Trantor at the time. If we didn't come to terms with him, he intended to disrupt Florinian production by rumors of destruction until he forced surrender.

"But then came his first miscalculation. Something frightened him. We'll consider exactly what that was later. In any case, he decided he would have to wait before continuing. Waiting, however, involved one complication. X didn't believe the Spatioanalyst's story, but there is no question that the Spatio-analyst himself was madly sincere. X would have to arrange affairs so that the Spatio-analyst would be willing to allow his 'doom' to wait.

"The Spatio-analyst could not do that unless his warped mind was put out of action. X might have killed him, but I am of the opinion that the Spatio-analyst was necessary to him as a source of further information (after all, he knew nothing of

Spatioanalysis himself and he couldn't conduct successful blackmail on total bluff) and, perhaps, as ransom in case of ultimate failure. In any case, he used a psycho-probe. After treatment, he had on his hands, not a Spatio-analyst, but a mindless idiot who would, for a time, cause him no trouble. And after a time his senses would be recovered.

"The next step? That was to make certain that during the year's wait the Spatio-analyst would not be located, that no one of importance would see him even in his role as idiot. So he proceeded with a masterly simplicity. He carried his man to Florina and for nearly a year the Spatio-analyst was simply a half-wit native, working in the kyrt mills.

"I imagine that during that year he, or some trusted subordinate, visited the town where he had 'planted' the creature, to see that he was safe and in reasonable health. On one of these visits he learned, somehow, that the creature had been taken to a doctor who knew a psycho-probing when he saw one. The doctor died and his report disappeared, at least from his Lower City office. That was X's first miscalculation. He never thought a duplicate might be in the office above.

"And then came his second miscalculation. The idiot began regaining his senses a little too quickly and the village Townman had brains enough to see that there was something more to it than simple raving. Perhaps the girl who took care of the idiot told the Townman about the psycho-probing. That's a guess.

"There you have the story."

Fife clasped his strong hands and waited for the reaction.

Rune supplied it first. The light had turned on in his cubicle some moments earlier and he sat there, blinking and smiling. He said, "And a moderately dull story it was, Fife. Another moment in the dark and I would have been asleep."

"As nearly as I can see," said Balle slowly, "you have created a structure as insubstantial as the one of last year. It is nine tenths guesswork."

"Hogwash!" said Bort.

"Who is X, anyway?" asked Steen. "If you don't know who X is, it just doesn't make any sense." And he yawned delicately, covering his small white teeth with a bent forefinger.

Fife said, "At least one of you sees the essential point. The identity of X is the nub of the affair. Consider the characteristics that X must possess if my analysis is accurate.

"In the first place, X is a man with contacts in the Civil Service. He is a man who can order a psycho-probing. He is a man who thinks he can arrange a powerful blackmailing campaign. He is a man who can take the Spatio-analyst from Sark to Florina without trouble. He is a man who can arrange the death of a doctor on Florina. He isn't a nobody, certainly.

"In fact he is a very definite somebody. He must be a Great Squire. Wouldn't you say so?"

Bort rose from his seat. His head disappeared and he sat down again. Steen burst into high, hysterical laughter. Rune's eyes, half buried in the pulpy fat that surrounded them, glittered feverishly. Balle slowly shook his head.

Bort yelled, "Who in Space is being accused, Fife?"

"No one yet." Fife remained even-tempered. "No one specifically. Look at it this way. There are five of us. Not another man on Sark could have done what X did. Only we five. That can be taken as settled. Now which of the five is it? To begin with, it isn't myself."

"We can take your word for it, can we?" sneered Rune.

"You don't have to take my word for it," retorted Fife. "I'm the only one here without a motive. X's motive is to gain control of the kyrt industry. I have control of it. I own a third of Florina's land outright. My mills, machine plants and shipping fleets are sufficiently predominant to force any or all of you out of business if I wish. I wouldn't have to resort to complicated blackmail."

He was shouting over their united voices. "Listen to me! The rest of you have every motive. Rune has the smallest continent and the smallest holdings. I know he doesn't like that. He can't pretend he likes it. Balle has the oldest lineage. There was a time when his family ruled all of Sark. He probably hasn't forgotten that. Bort resents the fact that he is always outvoted in council and cannot therefore conduct business in his territories in quite the whip-and-blaster fashion he would like. Steen has expensive tastes and his finances are in a bad way. The necessity of recouping is a hard-driving one. We have it there. All the possible motives. Envy. Greed for power. Greed for money. Questions of prestige. Now which of you is it?"

There was a gleam of sudden malice in Balle's old eyes. "You don't know?"

"It doesn't matter. Now hear this. I said that something frightened X (let's still call him X) after his first letters to us. Do you know what it was? It was our first conference when I preached the necessity of united action. X was here. X was, and is, one of us. He knew united action meant failure. He had counted on winning over us because he knew that our rigid ideal of continental autonomy would keep us at odds to the last moment and beyond. He saw that he was wrong and he decided to wait until the sense of urgency vanished and he could proceed again.

"But he is still wrong. We will still take united action and there is only one way we can do it safely, considering that X is one of us. Continental autonomy is at an end. It is a luxury we can no longer afford, for X's schemes will end only with the economic defeat of the rest of us or the intervention of Trantor. I, myself, am the only one I can trust, so from now on I head a united Sark. Are you with me?"

They were out of their seats, shouting. Bort was waving his fist. There was a light froth at the corner of his lips.

Physically, there was nothing they could do. Fife smiled. Each was a continent away. He could sit behind his desk and watch them foam.

He said, "You have no choice. In the year since our first conference, I, too, have made my preparations. While you four have been quietly in conference, listening to me, officers loyal to myself have taken charge of the Navy."

"Treason!" they howled.

"Treason to continental autonomy," retorted Fife. "Loyalty to Sark."

Steen's fingers intertwined nervously, their ruddy, copper tips the only splash of color upon his skin. "But it's X. Even if X is one of us, there are three innocent. I'm not X." He cast a poisonous glance about him. "It's one of the others."

"Those of you who are innocent will form part of my government if they wish. They have nothing to lose."

"But you won't say who is innocent," bawled Bort. "You will keep us all out on the story of X, on the—on the——" Breathlessness brought him to a halt.

"I will not. In twenty-four hours I will know who X is. I have not told you. The Spatio-analyst we have all been discussing is now in my hands."

They fell silent. They looked at one another with reserve and suspicion.

Fife chuckled. "You are wondering which of you can be X. One of you knows, be sure of that. And in twenty-four hours we shall all know. Now keep in mind, gentlemen, that you are all quite helpless. The ships of war are mine. Good day!"

His gesture was one of dismissal.

One by one they went out, like stars in the depths of the vacuum being blotted out on the visiplat by the passing and unseen bulk of a wrecked spaceship.

Steen was the last to leave. "Fife," he said tremulously.

Fife looked up. "Yes? You wish to confess now that we two are alone? You are Steen's face twisted in wild alarm. "No, no. Really. I just wanted to ask if you're really serious. I mean, continental autonomy and all that. Really?"

Fife stared at the old chronometer in the wall. "Good day."

Steen whimpered. His hand went up to the contact switch and he, too, disappeared.

Fife sat there, stony and unmoving. With the conference over, the heat of the crisis gone, depression seized him. His lipless mouth was a severe gash in his large face.

All calculations began with this fact: that the Spatio-analyst was mad, there was no doom. But over a madman, so much had taken place. Would Junz of the I.S.B. have spent a year searching for a madman? Would he be so unyielding in his chase after fairy stories? Fife had told no one this. He scarcely dared share it with his own soul. What if the Spatio-analyst had never been mad? What if destruction dangled over the world of kyrt? The Florinian secretary glided before the Great Squire, his voice pallid and dry.

"Sir!"

"What is it?"

"The ship with your daughter has landed."

"The Spatio-analyst and the native woman are safe?"

"Yes, sir."

"Let there be no questioning in my absence. They are to be held incommunicado until I arrive. . . Is there news from Florina?"

"Yes, sir. The Townman is in custody and is being brought to Sark."

13. THE YACHTSMAN

TUE PORT'S LIGHTS brightened evenly as the twilight deepened. At no time did the over-all illumination vary from that to be expected of a somewhat subdued late afternoon. At Port 9, as at the other yacht ports of Upper City, it was daylight throughout Florina's rotation. The brightness might grow unusually pronounced under the midday sun, but that was the only deviation.

Markis Genro could tell that the day proper had passed only because, in passing into the port, he had left the colored night lights of the City behind him. Those were bright against the blackening sky but they made no pretense of substituting for day.

Genro paused just inside the main entrance and seemed in no way impressed by the gigantic horseshoe with its three dozen hangars and five take-off pits. It was part of him, as it was part of any experienced yachtsman.

He took a long cigarette, violet in color and tipped with the filmiest touch of silvery kyrt, and put it to his lips. He cupped his palms about the exposed tip and watched it glow to greenish life as he inhaled. It burned slowly and left no ash. An emerald smoke filtered out his nostrils.

He murmured, "Business as usual!"

A member of the yacht committee, in yachting costume, with only a discreet and tasteful lettering above one tunic button to indicate that he was a member of the committee, had moved up quickly to meet Genro, carefully avoiding any appearance of hurry.

"Ah, Genro! And why not business as usual?"

"Hello, Doty. I only thought that with all this fume and fuss going on it might occur to some bright boy to close the ports. Thank Sark it hasn't."

The committeeman sobered. "You know, it may come to that. Have you heard the latest?"

Genro grinned. "How can you tell the latest from the next-to-the-latest?"

"Well, have you heard that it's definite now about the native? The killer?"

"You mean they've caught him? I hadn't heard that."

"No, they haven't caught him. But they know he's not in Lower City!"

"No? Where is he then?"

"Why, in Upper City. Here."

"Go on." Genro's eyes widened, then narrowed in disbelief. "No, really," said the committeeman, a little hurt, "I have it for a fact. The patrollers are swooping up and down Kyrt Highway. They've got City Park surrounded and they're using Central Arena as a coordination point. This is all authentic."

"Well, maybe." Genro's eyes roved carelessly over the hangared ships. "I haven't been at g for two months, I think. Are there any new ships in the place?"

"No. Well, yes, there's Hjordesesse's Flame Arrow."

Genro shook his head. "I've seen that. It's all chromium and nothing else. I hate to think I'll have to end by designing my own."

"Are you selling Comet VP?" "Selling it or junking it. I'm tired of these late models. They're too automatic. With their automatic relays and trajectory computers, they're killing the sport."

"You know, I've heard others say the same thing," agreed the committeeman. "Tell you what. If I hear of an old model in good condition on the market, I'll let you know."

"Thanks. Mind if I wander about the place?"

"Of course not. Go ahead." The committeeman grinned, waved, trotted away.

Genro made his slow rounds, his cigarette, half gone, drooping from one side of his mouth. He stopped at each occupied hangar, appraising its contents shrewdly.

At Hangar 26 he displayed a heightened interest. He looked over the low barrier and said, "Squire?"

The call was one of polite inquiry, but after a pause of several moments he had to call again, a little more peremptorily, a little less politely.

The Squire who emerged to view was not an impressive sight. For one thing, he was not in yachting costume. Secondly, he needed a shave, and his rather repellent-looking skullcap was yanked down in a most unfashionable manner. It seemed to cover half his face. Lastly, his attitude was one of peculiarly suspicious over-caution.

Genro said, "I'm Markis Genro. Is this your craft, sir?"

"Yes, it is." The words were slow and tense.

Genro disregarded that. He tilted his head back and looked over the yacht's lines carefully. He removed what was left of his cigarette from between his lips and flicked it high in the air. It had not yet reached the high point of its arc when, with a little flash, it vanished.

Genro said, "I wonder if you'd mind my coming in?" The other hesitated, then stepped aside. Genro entered.

He said, "What kind of motor does the craft carry, sir?"

"Why do you ask?"

Genro was tall, skin and eyes were dark, hair crisp and cut short. He topped the other by half a head, and his smile showed white, evenly spaced teeth. He said, "To be very frank, I'm in the market for a new ship."

"You mean you're interested in this one?"

"I don't know. Something like it, maybe, if the price is right. But anyway, I wonder if you'd mind my looking at the controls and engines?"

The Squire stood there silently.

Genro's voice grew a trifle colder. "As you please, of course." He turned away.

The Squire said, "I might sell." He fumbled in his pockets. "Here's the license!"

Genro looked at each side with a quick, experienced glance. He handed it back. "You're Deamone?"

The Squire nodded. "You can come in if you wish."

Genro looked briefly at the large port-chronometer, the luminescent hands, sparking brightly even in the daylight illumination, indicating the beginning of the second hour after sunset.

"Thank you. Won't you lead the way?"

The Squire rummaged his pockets again and held out a booklet of key slivers.

"After you, sir."

Genro took the booklet. He leafed through the slivers, looking at the small code marks for the "ship stamp." The other man made no attempt to help him.

Finally he said, "This one, I suppose?"

He walked up the short ramp to the air-lock balcony and considered the fine seam at the right of the lock carefully. "I don't see---- Oh, here it is," and he stepped to the other side of the lock.

Slowly, noiselessly, the lock yawned and Genro moved into the blackness. The red air-lock light went on automatically as the door closed behind them. The inner door opened and as they stepped into the ship proper white lights flickered on over all the length of the ship.

Myrlyn Terens had no choice. He no longer remembered the time, long since, when such a thing as "choice" had existed. For three long, wretched hours, now, he had remained near Deamone's ship, waiting and helpless to do anything else. It had led to nothing till now. He did not see that it could lead to anything but capture.

And then this fellow had come with an eye to the ship. To deal with him at all was madness. He could not possibly maintain his imposture at such close quarters. But then he could not possibly remain where he was, either.

At least within the ship there might be food. Strange that that had not occurred to him before.

There was.

Terens said, "It's close to dinnertime. Would you like to have something?"

The other had scarcely looked over his shoulder. "Why, later, perhaps. Thank you."

Terens did not urge him. He let him roam the ship and applied himself thankfully to the potted meat and cellulite-wrapped fruit. He drank thirstily. There was a shower across the corridor from the kitchen. He locked its door and bathed. It was a pleasure to be able to remove the tight skullcap, at least temporarily. He even found a shallow closet from which he could choose a change of clothing.

He was far more master of himself when Genro returned.

Genro said, "Say, would you mind if I tried to fly this ship?"

"I have no objection. Can you handle this model?" asked Terens with an excellent imitation of nonchalance.

"I think so," said the other with a little smile. "I flatter myself I can handle any of the regular models. Anyway, I've taken the liberty of calling the control tower and there's a take-off pit available. Here's my yachtsman's license if you'd like to see it before I take over."

Terens gave it as cursory a glance as Genro had given his. "The controls are yours," he said.

The ship rolled out of the hangar like an air-borne whale, moving slowly, its diamagnetized hull clearing the smooth-packed clay of the field by three inches.

Terens watched Genro handling the controls with finger-tip precision. The ship was a live thing under his touch. The small replica of the field that was upon the visiplat shifted and changed with each tiny motion of every contact.

The ship came to a halt, pinpointed at the lip of a take-off pit. The diamagnetic field strengthened progressively towards the ship's prow and it began tipping upward. Terens was mercifully unaware of this as the pilot room turned on its universal gimbals to meet the shifting gravity. Majestically, the ship's rear flanges fitted into the appropriate grooves of the pit. It stood upright, pointing to the sky.

The duralite cover of the take-off pit slipped into its recess, revealing the neutralized lining, a hundred yards deep, that received the first energy thrusts of the hyperatomic motors.

Genro kept up a cryptic exchange of information with the control tower. Finally, "Ten seconds to take-off," he said.

A rising red thread in a quartz tube marked off the disappearing seconds. It made contact and the first surge of power tore backward.

Terens grew heavier, felt himself pressing against the seat. Panic tore at him.

He grunted, "How does it handle?"

Genro seemed impervious to acceleration. His voice had almost its natural timbre as he said, "Moderately well."

Terens leaned back in his chair, trying to relax with the pressure, watching the stars in the visiplat turn hard and bright as the atmosphere vanished from between himself and them. The kyrt next to his skin felt cold and damp.

They were out in space now. Genro was putting the ship through its paces. Terens had no way of telling that first hand but he could see the stars march steadily across the visiplat as the yachtman's long, slim fingers played with the controls as though they were the keys of a musical instrument. Finally a bulky orange segment of a globe filled the visiplat's clear surface.

"Not bad," said Genro. "You keep your craft in good condition, Deamone. It's small but it has its points."

Terens said carefully, "I suppose you'd like to test its speed and its jumping capacity. You may, if you like. I have no objection."

Genro nodded. "Very well. Where do you suggest we take ourselves? What about—" He hesitated, then went on, "Well, why not to Sark?"

Terens breathed a little more quickly. He had expected that. He was on the point of believing himself to be living in a world of magic. How things forced his moves, even without his connivance. It would not have been difficult to convince him that it was not "things" but design that prompted the moves. His childhood had been steeped in the

superstitions that the Squires fostered among the natives and such things are hard to outgrow. On Sark was uk with his returning memories. The game was not over.

He said wildly, "Why not, Genro?"

Genro said, "Sark it is then."

With gathering speed, the globe of Florina slanted out beyond the visiplat's view and the stars returned.

"What's your best time on the Sark-Florina run?" asked Genro.

"Nothing record-breaking," said Terens. "About average."

"Then you've done it in better than six hours, I suppose?"

"On occasion, yes."

"Do you object to my trying to shave five?"

"Not at all," said Terens.

It took hours to reach a point far enough from star-mass distortion of the space fabric to make a jump possible.

Terens found wakefulness a torture. This was his third night with little or no sleep and the tensions of the days had exaggerated that lack.

Genro looked at him askance. "Why don't you turn in?"

Terens forced an expression of liveliness onto his sagging facial muscles. He said, "It's nothing. Nothing."

He yawned prodigiously and smiled in apology. The yachtsman turned back to his instruments and Terens' eyes glazed over once again.

Seats in a space-yacht are comfortable by very necessity. They must cushion the person against accelerations. A man not particularly tired can easily and sweetly fall asleep upon them. Terens, who could, at the moment, have slept on broken glass, never knew when he passed the border line.

He slept for hours; he slept as deeply and as dreamlessly as ever in his life.

He did not stir; he showed no single sign of life other than his even breathing when the skullcap was removed from his head.

Terens woke blearily, slowly. For long minutes he had not the slightest notion of his whereabouts. He thought he was back in his Townman's cottage. The true state of affairs seeped back in stages. Eventually he could smile at Genro, who was still at the controls, and say, "I guess I fell asleep."

"I guess you did. There's Sark." Genro nodded toward the large white crescent in the visiplat.

"When do we land?"

"About an hour."

Terens was awake enough now to sense a subtle change in the other's attitude. It was an icy shock to him that the steel-gray object in Genro's hand turned out to be the graceful barrel of a needle-gun.

"What in Space——" began Terens, rising to his feet.

"Sit down," said Genro carefully. There was a skullcap in his other hand.

Terens raised a hand to his head and his fingers found themselves clutching sandy hair.

"Yes," said Genro, "it's quite obvious. You're a native."

Terens stared and said nothing.

Genro said, "I knew you were a native before I ever got on poor Deamone's ship."

Terens' mouth was cotton-dry and his eyes burned. He watched the tiny, deadly muzzle of the gun and waited for a sudden, noiseless flash. He had carried it so far, so far, and had lost the gamble after all.

Genro seemed in no hurry. He held the needle-gun steady and his words were even and slow.

"Your basic mistake, Townman, was the thought that you could really outwit an organized police force indefinitely. Even so, you would have done better if you hadn't made the unfortunate choice of Deamone as your victim."

"I didn't choose him," croaked Terens.

"Then call it luck. Aistare Deamone, some twelve hours ago, was standing in City Park, waiting for his wife. There was no reason, other than sentiment, for him to meet her there of all places. They had met in that very spot originally, and they met there again on every anniversary of that meeting. There's nothing particularly original about that sort of ceremony between young husbands and wives, but it seems important to them. Of course Deamone did not realize that the comparative isolation of the spot made him an appropriate victim for a murderer. Who would have thought that in Upper City? "In the ordinary course of events the murder might not have been discovered for days. Deamone's wife, however, was on the scene within half an hour of the crime. The fact that her husband was not there astonished her. He was not the type, she explained, to leave in a fury because she herself was a trifle late. She was often late. He would more or less have expected that. It occurred to her that her husband might be waiting for her inside 'their' cave.

"Deamone had been waiting outside 'their' cave, naturally. It was the nearest one to the scene of the assault, consequently, and the one into which he was dragged. His wife entered that cave and found—well, you know what she found. She managed to relay the news to the Patrol Corps through our own Depsec offices, although she was almost incoherent with shock and hysteria.

"How does it feel, Townman, to kill a man in cold blood, leaving him to be found by his wife at the one spot most steeped with happy memories for them both?"

Terens was choking. He gasped out, through a red mist of anger and frustration, "You Sarkites have killed millions of Florinians. Women. Children. You've grown rich out of us. This yacht——" It was all he could manage.

"Deamone wasn't responsible for the state of affairs he found at birth," said Genro. "If you had been born a Sarkite, what would you have done? Resigned your estates, if any, and gone to work in the kyrt fields?"

"Well then, shoot," cried Terens, writhing. "What are you waiting for?"

"There's no hurry. There is plenty of time to finish my story. We weren't certain as to the identity of either the corpse or the murderer, but it was a very good guess that they were Deamone and yourself respectively. It seemed obvious to us from the fact that the ashes next to the body were of a patroller uniform that you were masquerading as a Sarkite. It seemed further probable that you would make for Deamone's yacht. Don't overestimate our stupidity, Townman.

"Matters were still rather complex. You were a desperate man. It was insufficient to track you down. You were armed and would undoubtedly commit suicide if trapped. Suicide was something we did not wish. They wanted you on Sark and they wanted you in working order.

"It was a particularly delicate affair for myself and it was quite necessary to convince Depsec that I could handle it alone, that I could get you to Sark without noise or difficulty. You'll have to admit that is just what I'm doing.

"To tell you the truth, I wondered at first if you were really our man. You were dressed in ordinary business costume on the yacht-port grounds. It was in incredibly bad taste. No one, it seemed to me, would dream of impersonating a yachtsman without the proper costume. I thought you were being deliberately sent in as a decoy, that you were trying to be arrested while the man we wanted escaped in another direction.

"I hesitated and tested you in other ways. I fumbled with the ship's key in the wrong place. No ship ever invented opened at the right side of the air lock. It opens always and invariably at the left side. You never showed any surprise at my mistake. None at all. Then I asked you if your ship had ever made the Sark-Florina run in less than six hours. You said you had—occasionally. That is quite remarkable. The record time for the run is over nine hours.

"I decided you couldn't be a decoy. The ignorance was too supreme. You had to be naturally ignorant and probably the right man. It was only a question of your falling asleep (and it was obvious from your face that you needed sleep desperately), disarming you and covering you quietly with an adequate weapon. I removed your hat more out of curiosity than anything else. I wanted to see what a Sarkite costume looked like with a red-haired head sticking out of it."

Terens kept his eyes on the whip. Perhaps Genro saw his jaw muscles bunch. Perhaps he simply guessed at what Terens was thinking.

He said, "Of course I must not kill you, even if you jump me. I can't kill you even in self-defense. Don't think that gives you an advantage. Begin to move and I'll shoot your leg off."

The fight went out of Terens. He put the heels of his palms to his forehead and sat rigid.

Genro said softly, "Do you know why I tell you all this?"

Terens did not answer.

"First," said Genro, "I rather enjoy seeing you suffer. I don't like murderers and I particularly don't like natives who kill Sarkites. I've been ordered to deliver you alive but nothing in my orders says I have to make the trip pleasant for you. Secondly, it is

necessary for you to be fully aware of the situation since, after we land on Sark, the next steps will be up to you."

Terens looked up. "What!"

"Depsec knows you're coming in. The Florinian regional office sent the word as soon as this craft cleared Florina's atmosphere.

You can be sure of that. But I said it was quite necessary for me to convince Depsec that I could handle this alone and the fact that I have makes all the difference."

"I don't understand you," said Terens desperately.

With composure, Genro answered, "I said 'they' wanted you on Sark, 'they' wanted you in working order. By 'they' I don't mean Depsec, I mean Trantor!"

14. THE RENEGADE

SELIM JUNZ had never been the phlegmatic type. A year of frustration had done nothing to improve that. He could not sip wine carefully while his mental orientation sat upon suddenly trembling foundations. In short, he was not Ludigan Abel.

And when Junz had done with his angry shouting that on no account was Sark to be allowed freedom to kidnap and imprison a member of the I.S.B. regardless of the condition of Trantor's espionage network, Abel merely said, "I think you had better spend the night here, Doctor."

Junz said freezingly, "I have better things to do."

Abel said, "No doubt, man, no doubt. Just the same, if my men are being blasted to death, Sark must be bold indeed. There is a great possibility that some accident may happen to you before the night is over. Let us wait a night then and see what comes of a new day."

Junz's protests against inaction came to nothing. Abel, without ever losing his cool, almost negligent air of indifference, was suddenly hard of hearing. Junz was escorted with firm courtesy to a chamber.

In bed, he stared at the faintly luminous, frescoed ceiling (on which glowed a moderately skillful copy of Lenhaden's "Battle of the Arcturian Moons") and knew he would not sleep. Then he caught one whiff, a faint one, of the gas, somnin, and was asleep before he could catch another. Five minutes later, when a forced draft swept the room clean of the anesthetic, enough had been administered to assure a healthful eight hours.

He was awakened in the cold half-light of dawn. He blinked up at Abel.

"What time is it?" he asked.

"Six."

"Great Space." He looked about and thrust his bony legs out from under the sheet. "You're up early."

"I haven't slept."

"What?"

"I feel the lack, believe me. I don't respond to antisomnin as I did when I was younger."

Junz murmured, "If you will allow me a moment."

This once his morning preparations for the day took scarcely more than that. He re-entered the room, drawing the belt about his tunic and adjusting the magneto-seam.

"Well?" he asked. "Surely you don't wake through the night and rouse me at six unless you have something to tell me."

"You're right. You're right." Abel sat down on the bed vacated by Junz and threw his head back in a laugh. It was high-pitched and rather subdued. His teeth showed, their strong, faintly yellow plastic incongruous against his shrunken gums.

"I beg your pardon, Junz," he said. "I am not quite myself. This drugged wakefulness has me a little light-headed. I almost think I will advise Trantor to replace me with a younger man."

Junz said, with a flavor of sarcasm not entirely unmixed with sudden hope, "You find they haven't got the Spatio-analyst after all?"

"No, they do. I'm sorry but they do. I'm afraid that my amusement is due entirely to the fact that our nets are intact."

Junz would have liked to say, "Damn your nets," but refrained. Abel went on, "There is no doubt they knew Khorov was one of our agents. They may know of others on Florina. Those are small fry. The Sarkites knew that and never felt it worth while to do more than hold them under observation."

"They killed one," Junz pointed out.

"They did not," retorted Abel. "It was one of the Spatioanalyst's own companions in a patroller disguise who used the blaster."

Junz stared. "I don't understand."

"It's a rather complicated story. Won't you join me at breakfast? I need food badly."

Over the coffee, Abel told the story of the last thirty-six hours. Junz was stunned. He put down his own coffee cup, half full, and returned to it no more. "Even allowing them to have stowed away on that ship of all ships, the fact still remains they might not have been detected. If you send men to meet that ship as it lands——"

"Bah. You know better than that. No modern ship could fail to detect the presence of excess body heat."

"It might have been overlooked. Instruments may be infallible but men are not."

"Wishful thinking. Look here. At the very time that the ship with the Spatio-analyst aboard is approaching Sark, there are reports of excellent reliability that the Squire of Fife is in conference with the other Great Squires. These intercontinental conferences are spaced as widely as the stars of the Galaxy. Coincidence?"

"An intercontinental conference over a Spatio-analyst?"

"An unimportant subject in itself, yes. But we have made it important. The I.S.B. has been searching for him for nearly a year with remarkable pertinacity."

"Not the I.S.B.," insisted Junz. "Myself. I've been working in almost an unofficial manner."

"The Squires don't know that and wouldn't believe it if you told them. Then, too, Trantor has been interested."

"At my request."

"Again they don't know that and wouldn't believe it."

Junz stood up and his chair moved automatically away from the table. Hands firmly interlocked behind his back, he strode the carpet. Up and back. Up and back. At intervals he glanced harshly at Abel.

Abel turned unemotionally to a second cup of coffee.

Junz said, "How do you know all this?"

"All what?"

"Everything. How and when the Spatio-analyst stowed away. How and in what manner the Townman has been eluding capture. Is it your purpose to deceive me?"

"My dear Dr. Junz."

"You admitted you had your men watching for the Spatioanalyst independently of myself. You saw to it that I was safely out of the way last night, leaving nothing to chance." Junz remembered, suddenly, that whiff of somnin.

"I spent a night, Doctor, in constant communication with certain of my agents. What I did and what I learned comes under the heading of, shall we say, classified material. You had to be out of the way, and yet safe. What I have told you just now I learned from my agents last night."

"To learn what you did you would need spies in the Sarkite government itself."

"Well, naturally."

Junz whirled on the ambassador. "Come, now."

"You find that surprising? To be sure, Sark is proverbial for the stability of its government and the loyalty of its people. The reason is simple enough since even the poorest Sarkite is an aristocrat in comparison with Florinians and can consider himself, however fallaciously, to be a member of a ruling class.

"Consider, though, that Sark is not the world of billionaires most of the Galaxy thinks it is. A year's residence must have well convinced you of that. Eighty per cent of its popilation has its living standard at a par with that of other worlds and not much higher than the standard of Florina itself. There will always be a certain number of Sarkites who, in their hunger, will be sufficiently annoyed with the small fraction of the population obviously drenched in luxury to lend themselves to my uses.

"It is the great weakness of the Sarkite government that for centuries they have associated rebellion only with Florina. They have forgotten to watch over themselves."

Junz said, "These small Sarkites, assuming they exist, can't do you much good."

"Individually, no. Collectively, they form useful tools for our more important men. There are members even of the real ruling class who have taken the lessons of the last two centuries to heart. They are convinced that in the end Trantor will have established its rule over all the Galaxy, and, I believe, rightly convinced. They even suspect that the final dominion may take place within their lifetimes, and they prefer to establish themselves, in advance, on the winning side."

Junz grimaced. "You make interstellar politics sound a very dirty game."

"It is, but disapproving of dirt doesn't remove it. Nor are all its facets unrelieved dirt. Consider the idealist. Consider the few men in Sark's government who serve Trantor neither for money nor for promises of power but only because they honestly believe that a unified Galactic government is best for humanity and that only Trantor can bring such a government about. I have one such man, my best one, in Sark's Department of Security, and at this moment he is bringing in the Townman."

Junz said, "You said he had been captured."

"By Depsec, yes. But my man is Depsec and my car" For a moment Abel frowned and turned pettish. "His usefulness will be sharply reduced after this. Once he lets the Town-man get away, it will mean demotion at the best and imprisonment at the worst. Oh well!"

"What are you planning now?"

"I scarcely know. First, we must have our Townman. I am sure of him only to the point of arrival at the spaceport. What happens thereafter . . ." Abel shrugged, and his oily, yellowish skin stretched parchmentlike over his cheekbones.

Then he added, "The Squires will be waiting for the Town-man as well. They are under the impression they have him, and until one or the other of us has him in our fists, nothing more can happen."

But that statement was wrong.

Strictly speaking, all foreign embassies throughout the Galaxy maintained extraterritorial rights over the immediate areas of their location. Generally this amounted to nothing more than a pious wish, except where the strength of the home planet enforced respect. In actual practice it meant that only Trantor could truly maintain the independence of its envoys.

The grounds of the Trantorian Embassy covered nearly a square mile and within it armed men in Trantorian costumes and insignia maintained patrol. No Sarkite might enter but on invitation, and no armed Sarkite on any account. To be sure, the sum of Trantorian men and arms could withstand the determined attack of a single Sarkite armored regiment for not more than two or three hours, but behind the small band was the power of reprisal from the organized might of a million worlds.

It remained inviolate.

It could even maintain direct material communication with Trantor, without the need of passing through Sarkite ports of entry or debarkation. From the hold of a Trantorian mothership, hovering just outside the hundred-mile limit that marked off the boundary between "planetary space" and "free space," small gyro-ships, vane-equipped for atmospheric travel with minimum power expenditure, might emerge and needle down (half coasting, half driven) to the small port maintained within the embassy grounds.

The gyro-ship which now appeared over the embassy port, however, was neither scheduled nor Trantorian. The mosquito-might of the embassy was brought quickly and truculently into play. A needle-cannon lifted its puckered muzzle into the air. Force screens went up.

Radioed messages whipped back and forth. Stubborn words rode the impulses upward, agitated ones slipped down.

Lieutenant Camrum turned away from the instrument and said, "I don't know. He claims he'll be shot out of the sky in two minutes if we don't let him down. He claims sanctuary."

Captain Elyut had just entered. He said, "Sure. Then Sark will claim we're interfering in politics and if Trantor decides to let things ride, you and I are broken as a gesture. 'Who is he?'"

"Won't say," said the lieutenant with more than a little exasperation. "Says he must speak to the Ambassador. Suppose you tell me what to do, Captain."

The short-wave receiver sputtered and a voice, half hysterical, said, "Is anyone there? I'm just coming down, that's all. Really! I can't wait another moment, I tell you." It ended in a squeak.

The captain said, "Great Space, I know that voice. Let him down! My responsibility!"

The orders went out. The gyro-ship sank vertically, more quickly than it should have, the result of a hand at the controls that was both inexperienced and panicky. The needle-cannon maintained focus.

The captain established a through line to Abel and the embassy was thrown into full emergency. The flight of Sarkite ships that hovered overhead not ten minutes after the first vessel had landed maintained a threatening vigil for two hours, then departed. They sat at dinner, Abel, Junz and the newcomer. With admirable aplomb, considering the circumstances, Abel had acted the unconcerned host. For hours he had refrained from asking why a Great Squire needed sanctuary.

Junz was far less patient. He hissed at Abel, "Space! What are you going to do with him?"

And Abel smiled back. "Nothing. At least until I find out whether I have my Towrman or not. I like to know what my hand is before tossing chips onto the table. And since he's come to me, waiting will rattle him more than it will us."

He was right. Twice the Squire launched into rapid monolog and twice Abel said, "My dear Squire! Surely serious conversation is unpleasant on an empty stomach." He smiled gently and ordered dinner.

Over the wine, the Squire tried again. He said, "You'll want to know why I have left Steen Continent."

"I cannot conceive of any reason," admitted Abel, "for the Squire of Steen ever to have fled from Sarkite vessels."

Steen watched them carefully. His slight figure and thin, pale face were tense with calculation. His long hair was bound into carefully arranged tufts held by tiny clips that rubbed against one another with a rustling sound whenever he moved his head, as though to call attention to his disregard for the current Sarkite clipped-hair fashion. A faint fragrance came from his skin and clothing.

Abel, who did not miss the slight tightening of Junz's lips and the quick way in which the Spatio-analyst patted his own short, woolly hair, thought how amusing Junz's reaction might have been if Steen had appeared more typically, with rouged cheeks and coppered fingernails.

Steen said, "There was an intercontinental conference today."

"Really?" said Abel.

Abel listened to the tale of the conference without a quiver of countenance.

"And we have twenty-four hours," Steen said indignantly. "It's sixteen hours now. Really!"

"And you're X," cried Junz, who had been growing increasingly restless during the recitation. "You're X. You've come here because he's caught you. Well now, that's fine. Abel, here's our proof as to the identity of the Spatio-analyst. We can use him to force a surrender of the man."

Steen's thin voice had difficulty making itself heard over Junz's staunch baritone.

"Now really. I say, now really. You're mad. Stop it! Let me speak, I tell you. . . Your Excellency, I can't remember this man's name."

"Dr. Selim Junz, Squire."

"Well then, Dr. Selim Junz, I have never in my life seen this idiot or Spatio-analyst or whatever in the world he may be. Really! I never heard such nonsense. I am certainly not X. Really! I'll thank you not even to use the silly letter. Imagine believing Fife's ridiculous melodrama! Really!"

Junz clung to his notion. "Why did you run then?"

"Good Sark, isn't it clear? Oh, I could choke. Really! Look here, don't you see what Fife was doing?"

Abel interrupted quietly. "If you'll explain, Squire, there will be no interruptions."

"Well, thank you at least." He continued, with an air of wounded dignity. "The others don't think much of me because I don't see the point of bothering with documents and statistics and all those boring details. But, really, what is the Civil Service for, I'd like to know? If a Great Squire can't be a Great Squire? "Still that doesn't mean I'm a ninny, you know, just because I like my comfort. Really! Maybe the others are blind, but I can see that Fife doesn't give a darn for the Spatio-analyst. I don't even think he exists. Fife just got the idea a year ago and he's been manipulating it ever since.

"He's been playing us for fools and idiots. Really! And so the others are. Disgusting fools! He's arranged all this perfectly awful nonsense about idiots and Spatio-analysis. I wouldn't be surprised if the native who's supposed to be killing patrollers by the dozen isn't just one of Fife's spies in a red wig. Or if he's a real native, I suppose Fife has hired him.

"I wouldn't put it past Fife. Really! He would use natives against his own kind. That's how low he is.

"Anyway, it's obvious that he's using it just as an excuse to ruin the rest of us and to make himself dictator of Sark. Isn't it obvious to you? "There isn't any X at all, but tomorrow, unless he's stopped, he'll spread the sub-etherics full of conspiracies and declarations of emergencies and he'll have himself declared Leader. We haven't had a Leader on Sark in five hundred years but that won't stop Fife. He'd just let the constitution go hang. Really!

"Only I mean to stop him. That's why I had to leave. If I were still in Steen, I'd be under house arrest.

"As soon as the conference was over I had my own personal port checked, and, you know, his men had taken over. It was in clear disregard of continental autonomy. It was the act of a cad. Really! But nasty as he is, he isn't so bright. He thought some of us might try to leave the planet so he had the spaceports watched, but"—here he smiled in

vulpine fashion and emitted the ghost of a giggle—"it didn't occur to him to watch the gyro-ports.

"Probably he thought there wasn't a place on the planet that would be safe for us. But I thought of the Trantorian Embassy. It's more than the others did. They make me tired. Especially Bort. Do you know Bort? He's terribly uncouth. Actually dirty. Talks at me as though there were something wrong with being clean and smelling pleasant."

He put his finger tips to his nose and inhaled gently.

Abel put a light hand on Junz's wrist as the latter moved restlessly in his seat. Abel said, "You have left a family behind. Have you thought that Fife can still hold a weapon over you?"

"I couldn't very well pile all my pretty ones in my gyroplane." He reddened a trifle. "Fife wouldn't dare touch them. Besides, I'll be back in Steen tomorrow."

"How?" asked Abel.

Steen looked at him in astonishment. His thin lips parted. "I'm offering alliance, Your Excellency. You can't pretend Trantor isn't interested in Sark. Surely you'll tell Fife that any attempt to change Sark's constitution would necessitate Trantor's intervention."

"I scarcely see how that can be done, even if I felt my government would back me," said Abel.

"How can it not be done?" asked Steen indignantly. "If he controls the entire kyrt trade he'll raise the price, ask concessions for rapid delivery and all sorts of things."

"Don't the five of you control the price as is?"

Steen threw himself back in the seat. "Well, really! I don't know all the details. Next you'll be asking me for figures. Goodness, you're as bad as Bort." Then he recovered and giggled. "I'm just teasing, of course. What I mean is that, with Fife out of the way, Trantor might make an arrangement with the rest of us. In return for your help, it would only be right that Trantor get preferential treatment, or even maybe a small interest in the trade."

"And how would we keep intervention from developing into a Galaxy-wide war?"

"Oh, but really, don't you see? It's plain as day. You wouldn't be aggressors. You would just be preventing civil war to keep the kyrt trade from disruption. I'd announce that I'd appealed to you for help. It would be worlds removed from aggression. The whole Galaxy would be on your side. Of course, if Trantor benefits from it afterward, why, that's nobody's business at all. Really!"

Abel put his gnarled fingers together and regarded them. "I can't believe you really mean to join forces with Trantor."

An intense look of hatred passed momentarily over Steen's weakly smiling face. He said, "Rather Trantor than Fife."

Abel said, "I don't like threatening force. Can't we wait and let matters develop a bit——"

"No, no," cried Steen. "Not a day. Really! If you're not firm now, right now, it will be too late. Once the deadline is past, he'll have gone too far to retreat without losing face. If you'll help me now, the people of Steen will back me, the other Great Squires will join me. If you wait even a day, Fife's propaganda mill will begin to grind. I'll be smeared

as a renegade. Really! !! A renegade! He'll use all the anti-Trantor prejudice he can whip up and you know, meaning no offense, that's quite a bit."

"Suppose we ask him to allow us to interview the Spatioanalyst?"

"What good will that do? He'll play both ends. He'll tell us the Florinian idiot is a Spatio-analyst, but he'll tell you the Spatio-analyst is a Florinian idiot. You don't know the man. He's awful!"

Abel considered that. He hummed to himself, his forefinger keeping gentle time. Then he said, "We have the Townman, you know."

"What Townman?"

"The one who killed the patrollers and the Sarkite."

"Oh! Well, really! Do you suppose Fife will care about that if it's a question of taking all Sark?"

"I think so. You see, it isn't that we have the Townman. It's the circumstances of his capture. I think, Squire, that Fife will listen to me and listen very humbly, too."

For the first time in his acquaintance with Abel, Junz sensed a lessening of coolness in the old man's voice, a substitution for it of satisfaction, almost of triumph.

15. THE CAPTIVE

IT WAS not very usual for the Lady Samia of Fife to feel frustrated. It was unprecedented, even inconceivable, that she had felt frustrated for hours now.

The commander of the spaceport was Captain Racety all over again. He was polite, almost obsequious, looked unhappy, expressed his regrets, denied the least willingness to contradict her, and stood like iron against her plainly stated wishes.

She was finally forced from stating her desires to demanding her rights as though she were a common Sarkite. She said, "I suppose that as a citizen I have the right to meet any incoming vessel if I wish." - She was poisonous about it.

The commander cleared his throat and the expression of pain on his lined face grew, if anything, clearer and more definite. Finally he said, "As a matter of fact, my Lady, we have no wish at all to exclude you. It is only that we have received specific orders from the Squire, your father, to forbid your meeting the ship."

Samia said frozenly, "Are you ordering me to leave the port, then?"

"No, my Lady." The commander was glad to compromise. "We were not ordered to exclude you from the port. If you wish to remain here you may do so. But, with all due respect, we will have to stop you from approaching closer to the pits."

He was gone and Samia sat in the futile luxury of her private ground-car, a hundred feet inside the outermost entrance of the port. They had been waiting and watching for her. They would probably keep on watching her. If she as much as rolled a wheel onward, she thought indignantly, they would probably cut her power-drive.

She gritted her teeth. It was unfair of her father to do this. It was all of a piece. They always treated her as though she understood nothing. Yet she had thought he understood.

He had risen from his seat to greet her, a thing he never did for anyone else now that Mother was dead. He had clasped her, squeezed her tightly, abandoned all his work for her. He had even sent his secretary out of the room because he knew she was repelled by the native's still, white countenance.

It was almost like the old days before Grandfather died when Father had not yet become Great Squire.

He said, "Mia, child, I've counted the hours. I never knew it was such a long way from Florina. When I heard that those natives had hidden on your ship, the one I had sent just to insure your safety, I was nearly wild."

"Daddy! There was nothing to worry about."

"Wasn't there? I almost sent out the entire fleet to take you off and bring you in with full military security."

They laughed together at the thought. Minutes passed before Samia could bring the conversation back to the subject that filled her.

She said casually, "What are you going to do with the stowaways, Dad?"

"Why do you want to know, Mia?"

"You don't think they've plans to assassinate you, or anything like that?"

Fife smiled. "You shouldn't think morbid thoughts."

"You don't think so, do you?" she insisted.

"Of course not."

"Good! Because I've talked to them, Dad, and I just don't believe they're anything more than poor harmless people. I don't care what Captain Racety says."

"They've broken a considerable number of laws for 'poor harmless people,' Mia."

"You can't treat them as common criminals, Dad." Her voice rose in alarm.

"How else?"

"The man isn't a native. He's from a planet called Earth and he's been psycho-probed and he's not responsible."

"Well then, dear, Depsec will realize that. Suppose you leave it to them."

"No, it's too important to just leave to them. They won't understand. Nobody understands. Except me!"

"Only you in the whole world, Mia?" he - asked indulgently, and put out a finger to stroke a lock of hair that had fallen over her forehead.

Samia said with energy, "Only I! Only I! Everyone else is going to think he's crazy, but I'm sure he isn't. He says there is some great danger to Florina and to all the Galaxy. He's a Spatio-analyst and you know they specialize in cosmogony. He would know "How do you know he's a Spatio-analyst, Mia?"

"He says so."

"And what are the details of the danger?"

"He doesn't know. He's been psycho-probed. Don't you see that that's the best evidence of all? He knew too much. Someone was interested in keeping it dark." Her voice instinctively fell and grew huskily confidential. She restrained an impulse to look over her shoulder. She said, "If his theories were false, don't you see, there wouldn't have been any need to psycho-probe him."

"Why didn't they kill him, if that's the case?" asked Fife and instantly regretted the question. There was no use in teasing the girl.

Samia thought awhile, fruitlessly, then said, "If you'll order Depsec to let me speak to him, I'll find out. He trusts me. I know he does. I'll get more out of him than Depsec can. Please tell Depsec to let me see him, Dad. It's very important."

Fife squeezed her clenched fists gently and smiled at her. "Not yet, Mia. Not yet. In a few hours we'll have the third person in our hands. After that, perhaps."

"The third person? The native who did all the killings?"

"Exactly. The ship carrying him will land in about an hour."

"And you won't do anything with the native girl and the Spatio-analyst till then?"

"Not a thing."

"Good! I'll meet the ship." She rose.

"Where are you going, Mia?"

"To the port, Father. I have a great deal to ask of this other native." She laughed.
"I'll show you that your daughter can be quite a detective."

But Fife did not respond to her laughter. He said, "I'd rather you didn't."

"Why not?"

"It's essential that there be nothing out of the way about this man's arrival. You'd be too conspicuous at the port."

"What of it?"

"I can't explain statecraft to you, Mia."

"Statecraft, pooh." She leaned toward him, pecked a quick kiss at the center of his forehead and was gone.

Now she sat helplessly car-bound in the port while far overhead there was a growing speck in the sky, dark against the brightness of the late afternoon.

She pressed the button that opened the utility compartment and took out her polo-glasses. Ordinarily they were used to follow the gyrating antics of the one-man speedsters which took part in stratospheric polo. They could be put to more serious use too. She put them to her eyes and the descending dot became a ship in miniature, the ruddy glow of its stern drive plainly visible.

She would at least see the men as they left, learn as much as she could by the one sense of sight, arrange an interview somehow, somehow thereafter.

Sark filled the visiplate. A continent and half an ocean, obscured in part by the dead cotton-white of clouds, lay below.

Genro said, his words a trifle uneven as the only indication that the better part of his mind was perforce on the controls before him, "The spaceport will not be heavily guarded. That was at my suggestion too. I said that any unusual treatment of the arrival of the ship might warn Trantor that something was up. I said that success depended upon Trantor being at no time aware of the true state of affairs until it was too late. Well, never mind that."

Terens shrugged his shoulders glumly. "What's the difference?"

"Plenty, to you. I will use the landing pit nearest the East Gate. You will get out the safety exit in the rear as soon as I land. Walk quickly but not too quickly toward that gate. I have some papers that may get you through without trouble and may not. I'll leave it to you to take necessary action if there is trouble. From past history, I judge I can trust you that far. Outside the gate there will be a car waiting to take you to the embassy. That's all."

"What about you?"

Slowly Sark was changing from a huge featureless sphere of blinding browns and greens and blues and cloud-white into something more alive, into a surface broken by rivers and wrinkled by mountains.

Genro's smile was cool and humorless. "Your worries may end with yourself. When they find you gone, I may be shot as a traitor. If they find me completely helpless and physically unable to stop you, they may merely demote me as a fool. The latter, I suppose, is preferable, so I will ask you, before you leave, to use a neuronc whip on me."

The Townman said, "Do you know what a neuronomic whip is like?"

"Quite." There were small drops of perspiration at his temples. "How do you know I won't kill you afterward? I'm a Squire-killer, you know."

"I know. But killing me won't help you. It will just waste your time. I've taken worse chances."

The surface of Sark as viewed in the visiplat was expanding, its edges rushed out past the border of visibility, its center grew and the new edges rushed out in turn. Something like the rainbow of a Sarkite city could be made out.

"I hope," said Genro, "you have no ideas of striking out on your own. Sark is no place for that. It's either Trantor or the Squires. Remember."

The view was definitely that of a city now and a green-brown patch on its outskirts expanded and became a spaceport below them. It floated up toward them at a slowing pace.

Genro said, "If Trantor doesn't have you in the next hour the Squires will have you before the day is out. I don't guarantee what Trantor will do to you, but I can guarantee what Sark will do to you."

Terens had been in the Civil Service. He knew what Sark would do with a Squire-killer.

The port held steady in the visiplat, but Genro no longer regarded it. He was switching to instruments, riding the pulse-beam downward. The ship turned slowly in air, a mile high, and settled, tail down.

A hundred yards above the pit, the engines thundered high. Over the hydraulic springs, Terens could feel their shuddering. He grew giddy in his seat.

Genro said, "Take the whip. Quickly now. Every second is important. The emergency lock will close behind you. It will take them five minutes to wonder why I don't open the main lock, another five minutes to break in, another five minutes to find you. You have fifteen minutes to get out of the port and into the car."

The shuddering ceased and in the thick silence Terens knew they had made contact with Sark.

The shifting diamagnetic fields took over. The yacht tipped majestically and slowly moved down upon its side.

Genro said, "Now!" His uniform was wet with perspiration.

Terens, with swimming head, and eyes that all but refused to focus, raised his neuronomic whip. .

Terens felt the nip of a Sarkite autumn. He had spent years in its harsh seasons until he had almost forgotten the soft eternal June of Florina. Now his days in Civil Service rushed back upon him as though he had never left this world of Squires.

Except that now he was a fugitive and branded upon him was the ultimate crime, the murder of a Squire.

He was walking in time to the pounding of his heart. Behind him was the ship and in it was Genro, frozen in the agony of the whip. The lock had closed softly behind him, and he was walking down a broad, paved path. There were workmen and mechanics in

plenty about him. Each had his own job and his own troubles. They didn't stop to stare a man in the face. They had no reason to.

Had anyone actually seen him emerge from the ship? He told himself no one had, or by now there would have been the clamor of pursuit.

He touched his hat briefly. It was still down over his ears, and the little medallion it now carried was smooth to the touch. Genro had said that it would act as identification. The men from Trantor would be watching for just that medallion, glinting in the sun.

He could remove it, wander away on his own, find his way to another ship—somehow. He would get away from Sark—somehow. He would escape—somehow.

Too many somehows! In his heart he knew he had come to the final end, and as Genro had said, it was either Trantor or Sark. He hated and feared Trantor, but he knew that in any choice it could not and must not be Sark.

"You! You there!"

Terens froze. He looked up in cold panic. The gate was a hundred feet away. If he ran. . . But they wouldn't allow a running man to get out. It was a thing he dared not do. He must not run.

The young woman was looking out the open window of a car such as Terens had never seen, not even during fifteen years on Sark. It gleamed with metal and sparkled with translucent gem mite.- She said, "Come here."

Terens' legs carried him slowly to the car. Genro had said Trantor's car would be waiting outside the port. Or had he? And would they send a woman on such an errand? A girl, in fact. A girl with a dark, beautiful face.

She said, "You arrived on the ship that just landed, didn't you?"

He was silent.

She became impatient. "Come, I saw you leave the ship!" She tapped her polo-glasses. He had seen such glasses before.

Terens mumbled, "Yes. Yes."

"Get in then."

She held the door open for him. The car was even more luxurious inside. The seat was soft and it all smelled new and fragrant and the girl was beautiful. - She said, "Are you a member of the crew?"

She was testing him, Terens imagined. He said, "You know who I am." He raised his fingers momentarily to the medallion.

Without any sound of motive power the car backed and turned.

At the gate Terens shrank back into the soft, cool, kyrt-covered upholstery, but there was no need for caution. The girl spoke peremptorily and they passed through.

She said, "This man is with me. I am Samia of Fife."

It took seconds for the tired Terens to hear and understand that. When he lurched tensely forward in his seat the car was travelling along the express lanes at a hundred per.

A laborer within the port looked up from where he stood and muttered briefly into his lapel. He entered the building then and returned to his work. His superintendent

frowned and made a mental note to talk to Tip about this habit of lingering outside to smoke cigarettes for half an hour at a time.

Outside the port one of two men in a ground-car said with annoyance, "Got into a car with a girl? What car? What girl?" For all his Sarkite costume, his accent belonged definitely to the Arcturian worlds of the Trantorian Empire.

His companion was a Sarkite, well versed in the visicast news releases. When the car in question rolled through the gate and picked up speed as it began to veer off and upward to the express level, he half rose in his seat and cried, "It's the Lady Samia's car. There isn't another like it. Good Galaxy, what do we do?"

"Follow," said the other briefly.

"But the Lady Samia—"

"She's nothing to me. She shouldn't be anything to you either. Or what are you doing here?"

Their own car was making the turn, climbing upward onto the broad, nearly empty stretches on which only the speediest of ground travel was permitted.

The Sarkite groaned, "We can't catch that car. As soon as she spots us she'll kick out resistance. That car can make two-fifty."

"She's staying at a hundred so far," said the Arcturian.

After a while he said, "She's not going to Depsec. That's for sure."

And after another while he said, "She's not going to the Palace of Fife."

Still another interval and he said, "I'll be spun in space if I know where she's going. She'll be leaving the city again."

The Sarkite said, "How do we know it's the Squire-killer that's in there? Suppose it's a game to get us away from the post. She's not trying to shake us and she wouldn't use a car like that if she didn't want to be followed. You can't miss it at two miles."

"I know, but Fife wouldn't send his girl to get us out of the way. A squad of patrollers would have done the job better."

"Maybe it isn't really the Lady in it."

"We're going to find out, man. She's slowing. Flash past and stop around a curve!"

"I want to speak to you," said the girl.

Terens decided it was not the ordinary kind of trap he had first considered it. She was the Lady of Fife. She must be. It did not seem to occur to her that anyone could or ought to interfere with her.

She had never looked back to see if she were followed. Three times as they turned he had noted the same car to the rear, keeping its distance, neither closing the gap nor falling behind.

It was not just a car. That was certain. It might be Trantor, which would be well. It might be Sark, in which case the Lady would be a decent sort of hostage.

He said, "I'm ready to speak."

She said, "You were on the ship that brought the native from Florina? The one wanted for all those killings?"

"I said I was."

"Very well. Now I've brought you out here so that there'll be no interference. Was the native questioned during the trip to Sark?"

Such naiveté, Terens thought, could not be assumed. She really did not know who he was. He said guardedly, "Yes."

"Were you present at the questioning?"

"Yes."

"Good. I thought so. Why did you leave the ship, by the way?"

That, thought Terens, was the question she should have asked first of all.

He said, "I was to bring a special report to——" He hesitated. She seized on the hesitation eagerly. "To my father? Don't worry about that. I'll protect you completely. I'll say you came with me at my orders."

He said, "Very well, my Lady."

The words "my Lady" struck deeply into his own consciousness. She was a Lady, the greatest in the land, and he was a Florinian. A man who could kill patrollers could learn easily how to kill Squires, and a Squire-killer might, by the same token, look a Lady in the face.

He looked at her, his eyes hard and searching. He lifted his head and stared down at her.

She was very beautiful.

And because she was the greatest Lady in the land, she was unconscious of his regard. She said, "I want you to tell me everything that you heard at the questioning. I want to know all that was told to you by the native. It's very important."

"May I ask why you are interested in the native, my Lady?"

"You may not," she said flatly.

"As you wish, my Lady."

He didn't know what he was going to say. With half his consciousness he was waiting for the pursuing car to catch up. With the other half he was growing more aware of the face and body of the beautiful girl sitting near him.

Florinians in the Civil Service and those acting as Townmen were, theoretically, celibates. In actual practice, most evaded that restriction when they could. Terens had done what he dared and what was expedient in that direction. At best, his experiences had never been satisfactory.

So it was all the more important that he had never been so near a beautiful girl in a car of such luxuriance under conditions of such isolation.

She was waiting for him to speak, dark eyes (such dark eyes) aflame with interest, full red lips parted in anticipation, a figure more beautiful for being set off in beautiful kirt. She was completely unaware that anyone, anyone, could possibly dare harbor dangerous thought with regard to the Lady of Fife.

The half of his consciousness that waited for the pursuers faded out. He suddenly knew that the killing of a Squire was not the ultimate crime after all.

He wasn't quite aware that he moved. He knew only that her small body was in his arms, that it stiffened, that for an instant she cried out, and then he smothered the cry with his lips.

There were hands on his shoulder and the drift of cool air on his back through the opened door of the car. His fingers groped for his weapon, too late. It was ripped from his hand.

Samia gasped wordlessly.

The Sarkite said with horror, "Did you see what he did?"

The Arcturian said, "Never mind!"

He put a small black object into his pocket and smoothed the seam shut. "Get him," he said.

The Sarkite dragged Terens out of the car with the energy of fury. "And she let him," he muttered. "She let him."

"Who are you?" cried Samia with sudden energy. "Did my father send you?"

The Arcturian said, "No questions, please."

"You're a foreigner," said Samia angrily.

The Sarkite said, "By Sark, I ought to bust his head in." He cocked his fist.

"Stop it!" said the Arcturian. He seized the Sarkite's wrist and forced it back.

The Sarkite growled sullenly, "There are limits. I can take the Squire-killing. I'd like to kill a few myself, but standing by and watching a native do what he did is just about too much for me."

Samia said in an unnaturally high-pitched voice, "Native?" The Sarkite leaned forward, snatched viciously at Terens' cap. The Townman paled but did not move. He kept his gaze steadily upon the girl and his sandy hair moved slightly in the breeze.

Samia moved helplessly back along the car seat as far as she could and then, with a quick movement, she covered her face with both hands, her skin turning white under the pressure of her fingers.

The Sarkite said, "What are we going to do with her?"

"Nothing."

"She saw us; She'll have the whole planet after us before we've gone a mile."

"Are you going to kill the Lady of Fife?" asked the Arcturian sarcastically.

"Well, no. But we can wreck her car. By the time she gets to a radio-phone, we'll be all right."

"Not necessary." The Arcturian leaned into the car. "My Lady, I have only a moment. Can you hear me?"

She did not move.

The Arcturian said, "You had better hear me. I am sorry I interrupted you at a tender moment but luckily I have put that moment to use. I acted quickly and was able to record the scene by tri-camera. This is no bluff. I will transmit the negative to a safe place minutes after I leave you and thereafter any interference on your part will force me to be rather nasty. I'm sure you understand me."

He turned away. "She won't say anything about this. Not a thing. Come along with me, Townman."

Terens followed. He could not look back at the white, pinched face in the car.

Whatever might now follow, he had accomplished a miracle. For one moment he had kissed the proudest Lady on Sark, had felt the fleeting touch of her soft, fragrant lips.

16. THE ACCUSED

DIPLOMACY has a language and a set of attitudes all its own. Relationships between the representatives of sovereign states, if conducted strictly according to protocol, are stylized and stultifying. The phrase "unpleasant consequences" becomes synonymous with war and "suitable adjustment" with surrender.

When on his own, Abel preferred to abandon diplomatic double-talk. With a tight personal beam connecting himself and Fife, he might merely have been an elderly man talking amiably over a glass of wine.

He said, "You have been hard to reach, Fife."

Fife smiled. He seemed at ease and undisturbed. "A busy day, Abel."

"Yes. I've heard a bit about it."

"Steen?" Fife was casual.

"Partly. Steen's been with us about seven hours."

"I know. My own fault, too. Are you considering turning him over to us?"

"I'm afraid not."

"He's a criminal."

Abel chuckled and turned the goblet in his hand, watching the lazy bubbles. "I think we can make out a case for his being a political refugee. Interstellar law will protect him on Trantorian territory."

"Will your government back you?"

"I think it will, Fife. I haven't been in the foreign service for thirty-seven years without knowing what Trantor will back and what it won't."

"I can have Sark ask for your recall."

"What good would that do? I'm a peaceable man with whom you are well acquainted. My successor might be anybody."

There was a pause. Fife's leonine countenance puckered. "I think you have a suggestion."

"I do. You have a man of ours."

"What man of yours?"

"A Spatio-analyst. A native of the planet Earth, which, by the way, is part of the Trantorian domain."

"Steen told you this?"

"Among other things."

"Has he seen this Earthman?"

"He hasn't said he has."

"Well, he hasn't. Under the circumstances, I doubt that you can have faith in his word."

Abel put down his glass. He clasped his hands loosely in his lap and said, "Just the same, I'm sure the Earthman exists. I tell you, Fife, we should get together on this. I have

Steen and you have the Earthman. In a sense we're even. Before you go on with your current plans, before your ultimatum expires and your coup d'état takes place, why not a conference on the kyrt situation generally?"

"I don't see the necessity. What is happening on Sark now is an internal matter entirely. I'm quite willing to guarantee personally that there will be no interference with the kyrt trade regardless of political events here. I think that should end Trantor's legitimate interests."

Abel sipped at his wine, seemed to consider. He said, "It seems we have a second political refugee. A curious case. One of your Florinian subjects, by the way. A Townman. Myrlyn Terens, he calls himself."

Fife's eyes blazed suddenly. "We half suspected that. By Sark, Abel, there's a limit to the open interference of Trantor on this planet. The man you have kidnapped is a murderer. You can't make a political refugee out of him."

"Well, now, do you want the man?"

"You have a deal in mind? Is that it?"

"The conference I spoke of."

"For one Florinian murderer. Of course not."

"But the manner in which the Townman managed to escape to us is rather curious. You may be interested. . ."

Junz paced the floor, shaking his head. The night was already well advanced. He would like to be able to sleep but he knew he would require somnolence once again.

Abel said, "I might have had to threaten force, as Steen suggested. That would have been bad. The risks would have been awful, the results uncertain. Yet until the Townman was brought to us I saw no alternative, except of course, a policy of doing nothing."

Junz shook his head violently. "No. Something had to be done. Yet it amounted to blackmail."

"Technically, I suppose so. What would you have had me do?"

"Exactly what you did. I'm not a hypocrite, Abel. Or I try not to be. I won't condemn your methods when I intend to make full use of the results. Still, what about the girl?"

"She won't be hurt as long as Fife keeps his bargain."

"I'm sorry for her. I've grown to dislike the Sarkite aristocrats for what they've done to Florina, but I can't help feeling sorry for her."

"As an individual, yes. But the true responsibility lies with Sark itself. Look here, old man, did you ever kiss a girl in a ground-car?"

The tip of a smile quivered at the corners of Junz's mouth. "Yes."

"So have I, though I have to call upon longer memories than you do, I imagine. My eldest granddaughter is probably engaged in the practice at this moment, I shouldn't wonder. What is a stolen kiss in a ground-car, anyway, except the expression of the most natural emotion in the Galaxy? "Look here, man. We have a girl, admittedly of high social standing, who, through mistake, finds herself in the same car with, let us say, a criminal.

He seizes the opportunity to kiss her. It's on impulse and without her consent. How ought she to feel? How ought her father to feel? Chagrined? Perhaps. Annoyed? Certainly. Angry? Offended? Insulted? All that, yes. But disgraced? Not disgraced enough to be willing to endanger important affairs of state to avoid exposure? Nonsense.

"But that's exactly the situation and it could happen only on Sark. The Lady Samia is guilty of nothing but willfulness and a certain naïveté. She has, I am sure, been kissed before. If she kissed again, if she kissed innumerable times, anyone but a Florinian, nothing would be said. But she did kiss a Florinian.

"It doesn't matter that she did not know he was a Florinian. It doesn't matter that he forced the kiss upon her. To make public the photograph we have of the Lady Samia in the arms of the Florinian would make life unbearable for her and for her father. I saw Fife's face when he stared at the reproduction. There was no way of telling for certain that the Townman was a Florinian. He was in Sarkite costume with a cap that covered his hair well. He was light-skinned, but that was inconclusive. Still, Fife knew that the rumor would be gladly believed by many who were interested in scandal and sensation and that the picture would be considered incontrovertible proof. And he knew that his political enemies would make the greatest possible capital out of it. You may call it blackmail, Junz, and maybe it is, but it's a blackmail that would not work on any other planet in the Galaxy. Their own sick social system gave us this weapon and I have no compunction about using it."

Junz sighed. "What's the final arrangement?"

"We'll meet at noon tomorrow."

"His ultimatum has been postponed then?"

"Indefinitely. I will be at his office in person."

"Is that a necessary risk?"

"It's not much of one. There will be witnesses. And I am anxious to be in the material presence of this Spatio-analyst you have been searching for so long."

"I'll attend?" asked Junz anxiously.

"Oh yes. The Townman as well. We'll need him to identify the Spatio-analyst. And Steen, of course. All of you will be present by trimensic personification."

"Thank you."

The Trantorian Ambassador smothered a yawn and blinked at Junz through watering eyes. "Now, if you don't mind, I've been awake for two days and a night and I'm afraid my old body can take no more antisomnin. I must sleep."

With trimensic personification perfected, important conferences were rarely held face to face. Fife felt strongly an element of actual indecency in the material presence of the old Ambassador. His olive complexion could not be said to have darkened, but its lines were set in silent anger.

It had to be silent. He could say nothing. He could only stare sullenly at the men who faced him.

Abel! An old dotard in shabby clothes with a million worlds behind him.

Junz, a dark-skinned, woolly-haired interferer whose perseverance had precipitated the crisis.

Steen! The traitor! Afraid to meet his eyes! The Townman! To look at him was most difficult of all. He was the native who had dishonored his daughter with his touch yet who could remain safe and untouchable behind the walls of the Trantorian Embassy. He would have been glad to grind his teeth and pound his desk if he had been alone. As it was, not a muscle of his face must move though it tore beneath the strain.

If Samia had not . . . He dropped that. His own negligence had cultivated her willfulness and he could not blame her for it now. She had not tried to excuse herself or soften her own guilt. She had told him all the truth of her private attempts to play the interstellar spy and how horribly it had ended. She had relied completely, in her shame and bitterness, on his understanding, and she would have that much. She would have that much, if it meant the ruin of the structure he had been building.

He said, "This conference has been forced upon me. I see no point in saying anything. I'm here to listen."

Abel said, "I believe Steen would like to have his say first."

Fife's eyes filled with contempt that stung Steen.

Steen yelled his answer. "You made me turn to Trantor, Fife. You violated the principle of autonomy. You couldn't expect me to stand for that. Really."

Fife said nothing and Abel said, not without a little contempt of his own, "Get to your point, Steen. You said you had something to say. Say it."

Steen's sallow cheekbones reddened without benefit of rouge. "I will, and right now. Of course I don't claim to be the detective that the Squire of Fife represents himself to be, but I can think. Really! And I've been thinking. Fife had a story to tell yesterday, all about a mysterious traitor he called X. I could see it was just a lot of talk so that he could declare an emergency. I wasn't fooled a minute."

"There's no X?" asked Fife quietly. "Then why did you run? A man who runs needs no other accusation."

"Is that so? Really?" cried Steen. "Well, I would run out of a burning building even if I had not set the fire myself."

"Go on, Steen," said Abel.

Steen licked his lips and turned to a minute consideration of his fingernails. He smoothed them gently as he spoke. "But then I thought, why make up that particular story with all its complications and things? It's not his way. Really! It's not Fife's way. I know him. We all know him. He has no imagination at all, Your Excellency. A brute of a man! Almost as bad as Bort."

Fife scowled. "Is he saying something, Abel, or is he babbling?"

"Go on, Steen," said Abel.

"I will, if you'll let me talk. My goodness! Whose side are you on? I said to myself (this was after dinner), I said, Why would a man like Fife make up a story like that? There was only one answer. He couldn't make it up. Not with his mind. So it was true. It must be

true. And, of course, patrollers had been killed, though Fife is quite capable of arranging to have that happen."

Fife shrugged his shoulders.

Steen drove on. "Only who is X? It isn't I. Really! I know it isn't I! And I'll admit it could only have been a Great Squire. But what Great Squire knew most about it, anyway? What Great Squire has been trying to use the story of the Spatio-analyst for a year now to frighten the others into some sort of what he calls 'united effort' and what I call surrender to a Fife dictatorship? "I'll tell you who X is." Steen stood up, the top of his head brushing the edge of the receptor-cube and flattening as the uppermost inch sliced off into nothingness. He pointed a trembling finger. "He's X. The Squire of Fife. He found this Spatio-analyst. He put him out of the way, when he saw the rest of us weren't impressed with his silly remarks at our first conference, and then he brought him out again after he had already arranged a military coup."

Fife turned wearily to Abel. "Is he through? If so, remove him. He is an unbearable offense to any decent man."

Abel said, "Have you any comment to make on what he says?"

"Of course not. It isn't worth comment. The man is desperate. He'll say anything."

"You can't just brush it off, Fife," called Steen. He looked about at the rest. His eyes narrowed and the skin at his nostrils was white with tension. He remained standing. "Listen. He said his investigators found records in a doctor's office. He said the doctor had died by accident after diagnosing the Spatio-analyst as the victim of psycho-probing. He said it was murder by X to keep the identity of the Spatio-analyst secret. That's what he said. Ask him. Ask him if that isn't what he said."

"And if I did?" asked Fife.

"Then ask him how he could get the records from the office of a doctor who was dead and buried for months unless he had them all along. Really!"

Fife said, "This is foolish. We can waste time indefinitely this way. Another doctor took over the dead man's practice and his records as well. Do any of you think medical records are destroyed along with a physician?"

Abel said, "No, of course not."

Steen stuttered, then sat down.- Fife said, "What's next? Have any of you more to say? More accusations? More anything?" His voice was low. Bitterness showed through.

Abel said, "Why, that was Steen's say, and we'll let it pass. Now Junz and I, we're here on another kind of business. We would like to see the Spatio-analyst."

Fife's hands had been resting upon the desk top. They lifted now and came down to clutch the edge of the desk. His black eyebrows drew together.

He said, "We have in custody a man of subnormal mentality who claims to be a Spatio-analyst. I'll have him brought in!"

Valona March had never, never in her life dreamed such impossibilities could exist. For over a day now, ever since she had landed on this planet of Sark, there had been a touch of wonder about everything. Even the prison cells in which she and Rik had been separately placed seemed to have an unreal quality of magnificence about them. Water

came out of a hole in a pipe when you pressed a button. Heat came out of the wall, although the air outside had been colder than she had thought air could possibly get. And everyone who spoke to her wore such beautiful clothes.

She had been in rooms in which were all sorts of things she had never seen before. This one now was larger than any yet but it was almost bare. It had more people in it, though. There was a stern-looking man behind a desk, and a much older, very wrinkled man in a chair, and three others.

One was the Townman!

She jumped up and ran to him. "Townman! Townman!"

But he wasn't there!

He had gotten up and waved at her. "Stay back, Lona. Stay back!"

And she passed right through him. She had reached out to seize his sleeve, he moved it away. She lunged, half stumbling, and passed right through him. For a moment the breath went out of her body. The Townman had turned, was facing her again, but she could only stare down at her legs.

Both of them were thrusting through the heavy arm of the chair in which the Townman had been sitting. She could see it plainly, in all its color and solidity. It encircled her legs but she did not feel it. She put out a trembling hand and her fingers sank an inch deep into upholstery they could not feel either. Her fingers remained visible.

She shrieked and fell, her last sensation being that of the Townman's arms reaching automatically for her and herself failing through their circle as though they were pieces of flesh-tinted air.

She was in a chair again, Rik holding one hand tightly and the old, wrinkled man leaning over her.

He was saying, "Don't be frightened, my dear. It's just a picture. A photograph, you know."

Valona looked about. The Townman was still sitting there. He wasn't looking at her. She pointed a finger. "Isn't he there?"

Rik said suddenly, "It's a trimensic personification, Lona. He's somewhere else, but we can see him from here."

Valona shook her head. If Rik said so, it was all right. But she lowered her eyes. She dared not look at people who were there and not there at the same time.

Abel said to Rik, "So you know what trimensic personification is, young man?"

"Yes, sir." It had been a tremendous day for her, too, but where Valona was increasingly dazzled, he had found things increasingly familiar and comprehensible.

"Where did you learn that?"

"I don't know. I knew it before—before I forgot."

Fife had not moved from his seat behind the desk during the wild plunge of Valona March toward the Townman.

He said acidly, "I am sorry to have to disturb this meeting by bringing in a hysterical native woman. The so-called Spatioanalyst required her presence."

"It's all right," said Abel. "But I notice that your Florinian of subnormal mentality seems to be acquainted with trimensic personification."

"He has been well drilled, I imagine," said Fife. - Abel said, "Has he been questioned since arriving on Sark?"

"He certainly has."

"With what result?"

"No new information."

Abel turned to Rik. "What's your name?"

"Rik is the only name I remember," said Elk calmly.

"Do you know anyone here?"

Rik looked from face to face without fear. He said, "Only the Towrman. And Lona, of course."

"This," said Abel, gesturing toward Fife, "is the greatest Squire that ever lived. He owns the whole world. What do you think of him?"

Rik said boldly, "I'm an Earthman. He doesn't own me."

Abel said in an aside to Fife, "I don't think an adult native Florinian could be trained into that sort of defiance."

"Even with a psycho-probe?" returned Fife scornfully.

"Do you know this gentleman?" asked Abel, returning to Elk.

"No, sir."

"This is Dr. Selim Junz. He's an important official at the Interstellar Spatio-analytic Bureau."

Elk looked at him intently. "Then he'd be one of my chiefs. But," with disappointment, "I don't know him. Or maybe I just don't remember."

Junz shook his head gloomily. "I've never seen him, Abel."

"That's something for the record," muttered Fife.

"Now listen, Elk," said Abel. "I'm going to tell you a story. I want you to listen with all your mind and think. Think and think! Do you understand me?"

Rik nodded.

Abel talked slowly. His voice was the only sound in the room for long minutes. As he went on, Elk's eyelids closed and screwed themselves tight shut. His lips drew back, his fists moved up to his chest, and his head bent forward. He had the look of a man in agony.

Abel talked on, passing back and forth across the reconstruction of events as they had originally been presented by the Squire of Fife. He talked of the original message of disaster, of its interception, of the meeting between Elk and X, of the psycho-probing, of how Elk had been found and brought up on Florina, of the doctor who diagnosed him and then died, of his returning memory.

He said, "That's the whole story, Rik. I've told you all of it. Does anything sound familiar to you?"

Slowly, painfully, Elk said, "I remember the last parts. You know, the last few days. I remember something further back, too. Maybe it was the doctor, when I first started talking. It's very dim. . . But that's all."

Abel said, "But you do remember further back. You remember danger to Florina."

"Yes. Yes. That was the first thing I remembered."

"Then can't you remember after that? You landed on Sark and met a man."

Rik moaned, "I can't. I can't remember."

"Try! Try!"

Elk looked up. His white face was wet with perspiration. "I remember a word."

"What word, Rik?"

"It doesn't make sense."

"Tell us anyway."

"It goes along with a table. Long, long ago. Very dim. I was sitting. I think, maybe, someone else was sitting. Then he was standing, looking down at me. And there's a word."

Abel was patient. "What word?"

Rik clenched his fists and whispered, "Fife!"

Every man but Fife rose to his feet. Steen shrieked, "I told you," and burst into a high-pitched bubbling cackle.

17. THE ACCUSER

Fife said with tightly controlled passion, "Let us end this farce." He had waited before speaking, his eyes hard and his face expressionless, until in sheer anticlimax the rest were forced to take their seats again. Rik had bent his head, eyes screwed painfully shut, probing his own aching mind. Valona pulled him toward herself, trying hard to cradle his head on her shoulder, stroking his cheek softly.

Abel said shakily, "Why do you say this is a farce?"

Fife said, "Isn't it? I agreed to this meeting in the first place only because of a particular threat you held over me. I would have refused even so if I had known the conference was intended to be a trial of myself with renegades and murderers acting as both prosecutors and jury."

Abel frowned and said with chilling formality, "This is not a trial, Squire. Dr. Junz is here in order to recover the person of a member of the I.S.B., as is his right and duty. I am here to protect the interests of Trantor in a troubled time. There is no doubt in my mind that this man, Elk, is the missing Spatioanalyst. We can end this part of the conference immediately if you will agree to turn over the man to Dr. Junz for further examination, including a check of physical characteristics. We would naturally require your further help in finding the guilty psycho-prober and in setting up safeguards against a future repetition of such acts against what is, after all, an interstellar agency which has consistently held itself above regional politics."

Fife said, "Quite a speech! But the obvious remains obvious and your plans are quite transparent. What would happen if I gave up this man? I rather think that the I.S.B. will manage to find out exactly what it wants to find out. It claims to be an interstellar agency with no regional ties, but it's a fact, isn't it, that Trantor contributes two thirds of its annual budget? I doubt that any reasonable observer would consider it really neutral in the Galaxy of today. Its findings with regard to this man will surely suit Trantor's imperial interests.

"And what will these findings be? That's obvious too. The man's memory will slowly come back. The I.S.B. will issue daily bulletins. Bit by bit he will remember more and more of the necessary details. First my name. Then my appearance. Then my exact words. I will be solemnly declared guilty. Reparations will be required and Trantor will be forced to occupy Sark temporarily, an occupation which will somehow become permanent.

"There are limits beyond which any blackmail breaks down. Yours, Mr. Ambassador, ends here. If you want this man, have Trantor send a fleet after him."

"There is no question of force," said Abel. "Yet I notice that you have carefully avoided denying the implication in what the Spatio-analyst has last said."

"There isn't any implication that I need dignify by a denial. He remembers a word, or says he does. What of it?"

"Doesn't it mean anything that he does?" - "Nothing at all. The name Fife is a great one on Sark. Even if we assume the so-called Spatio-analyst is sincere, he had a year's opportunity to hear the name on Florina. He came to Sark on a ship that carried my daughter, a still better opportunity to have heard the name of Fife. What is more natural than that the name became involved with his trace memories? Of course, he may not be sincere. This man's bit-by-bit disclosures may be well rehearsed."

Abel thought of nothing to say. He looked at the others. Junz was frowning darkly, the fingers of his right hand slowly kneading his chin. Steen was simpering foolishly and muttering to himself. The Florinian Towrman stared blankly at his knees.

It was Rik who spoke, forcing himself from Valona's grasp and standing up.

"Listen," he said. His pale face was twisted. His eyes mirrored pain.

Fife said, "Another disclosure, I suppose."

Rik said, "Listen! We were sitting at a table. The tea was drugged. We had been quarreling. I don't remember why. Then I couldn't move. I could only sit there. I couldn't talk. I could only think, Great Space, rye been drugged. I wanted to shout and scream and run, but I couldn't. Then the other one, Fife, came. He had been shouting at me. Only now he wasn't shouting. He didn't have to. He came around the table. He stood there, towering over me. I couldn't say anything. I couldn't do anything. I could only try to turn my eyeballs up toward him."

Rik remained standing, silent.

Selim Junz said, "This other man was Fife?"

"I remember his name was Fife."

"Well, was he that man?"

Rik did not turn to look. He said, "I can't remember what he looked like."

"Are you sure?"

"I've been trying." He burst out, "You don't know how hard it is. It hurts! It's like a red-hot needle. Deep! In here!" He put his hands to his head.

Junz said softly, "I know it's hard. But you must try. Don't you see, you must keep on trying. Look at that man! Turn and look at him!"

111k twisted toward the Squire of Fife. For a moment he stared, then turned away.

Junz said, "Can you remember now?"

"No! No!"

Fife smiled grimly. "Has your man forgotten his lines, or will the story seem more believable if he remembers my face the next time around?"

Junz said hotly, "I have never seen this man before, and I have never spoken to him. There has been no arrangement to frame you and I am tired of your accusations in that direction. I am after the truth only."

"Then may I ask him a few questions?"

"Go ahead."

"Thank you, I'm sure, for your kindness. Now you—Elk, or whatever your real name is——"

He was a Squire, addressing a Florinian.

Elk looked up. "Yes, sir."

"You remember a man approaching you from the other side of the table as you sat there, drugged and helpless."

"Yes, sir."

"The last thing you remember is this man staring down at you."

"Yes, sir."

"You stared up at him, or tried to."

"Yes, sir."

"Sit down."

Elk did so.

For a moment Fife did nothing. His lipless mouth might have grown tighter, the jaw muscles under the blue-black sheen of the stubble on his cheeks and chin bunched a bit. Then he slid down from his chair.

Slid down! It was as though he had gotten down on his knees there behind the desk. But he moved from behind it and was seen plainly to be standing.

Junz's head swam. The man, so statuesque and formidable in his seat, had been converted without warning into a pitiful midget.

Fife's deformed legs moved under him with an effort, carrying the ungainly mass of torso and head forward. His face flushed but his eyes kept their look of arrogance intact. Steen broke into a wild giggle and choked it off when those eyes turned on him. The rest sat in fascinated silence.

Elk, wide-eyed, watched him approach.

Fife said, "Was I the man who approached you around the table?"

"I can't remember his face, sir."

"I don't ask you to remember his face. Can you have forgotten this?" His two arms went wide, framing his body. "Can you have forgotten my appearance, my walk?"

111k said miserably, "It seems I shouldn't, sir, but I don't know."

"But you were sitting, he was standing, and you were looking up at him."

"Yes, sir."

"He was looking down at you, 'towering' over you, in fact."

"Yes, sir."

"You remember that at least? You're certain of that?"

"Yes, sir."

The two were now face to face.

"Am I looking down at you?"

111k said, "No, sir."

"Are you looking up at me?"

Rik, sitting, and Fife, standing, stared levelly at one another, eye to eye.

"No, sir."

"Could I have been the man?"

"No, sir."

"Are you certain?"

"Yes, sir."

"You still say the name you remember is Fife?"

"I remember that name," insisted Rik stubbornly.

"Whoever it was, then, used my name as a disguise?"

"He—he must have."

Fife turned and with slow dignity struggled back to his desk and climbed into his seat.

He said, "I have never allowed any man to see me standing before this in all my adult life. Is there any reason why this conference should continue?"

Abel was at once embarrassed and annoyed. So far the conference had backfired badly. At every step Fife had managed to put himself in the right, the others in the wrong. Fife had successfully presented himself as a martyr. He had been forced into conference by Trantorian blackmail, and made the subject of false accusations that had broken down at once.

Fife would see to it that his version of the conference flooded the Galaxy and he would not have to depart very far from the truth to make it excellent anti-Trantorian propaganda.

Abel would have liked to cut his losses. The psycho-probed Spatio-analyst would be of no use to Trantor now. Any "memory" he might have thereafter would be laughed down, made ridiculous, however true it might be. He would be accepted as an instrument of Trantorian imperialism, and a broken instrument at that.

But he hesitated, and it was Junz who spoke.

Junz said, "It seems to me there's a very good reason for not ending the conference just yet. We have not yet determined exactly who is responsible for the psycho-probing. You have accused the Squire of Steen, and Steen has accused you. Granting that both of you are mistaken and that both are innocent, it still remains true that you each believe one of the Great Squires is guilty. Which one, then?"

"Does it matter?" asked Fife. "As far as you're concerned, I'm sure it doesn't. That matter would have been solved by now except for the interference of Trantor and the I.S.B. Eventually I will find the traitor. Remember that the psycho-prober, whoever he is, had the original intention of forcing a monopoly of the kyrt trade into his own hands, so I am not likely to let him escape. Once the psycho-prober is identified and dealt with, your man here will be returned unharmed to you. That is the only offer I can make and it is a very reasonable one."

"What will you do with the psycho-prober?"

"That is a purely internal matter that does not concern you."

"But it does," Junz said energetically. "This is not just a question of the Spatio-analyst. There's something of greater importance involved and I'm surprised that it hasn't been mentioned yet. This man Elk wasn't psycho-probed just because he was a Spatio-analyst."

Abel was not sure what Junz's intentions were, but he threw his weight into the scales. He said blandly, "Dr. Junz is referring, of course, to the Spatio-analyst's original message of danger."

Fife shrugged. "As far as I know, no one has yet attached any importance to that, including Dr. Junz over the past year. However, your man is here, Doctor. Ask him what it's all about."

"Naturally, he won't remember," Junz retorted angrily. "The psycho-probe is most effective upon the more intellectual chains of reasoning stored in the mind. The man may never recover the quantitative aspects of his work."

"Then it's gone," said Fife. "What can be done about that?"

"Something very definite. That's the point. There's someone else who knows, and that's the psycho-prober. He may not have been a Spatio-analyst himself; he may not know the precise details. However, he spoke to the man in a state of untouched mind. He will have learned enough to put us far on the right track. Without having learned enough he would not have dared to destroy the source of his information. Still, for the record, do you remember, Elk?"

"Only that there was danger and that it involved the currents of space," muttered Rik.

Fife said, "Even if you find out, what will you have? How reliable are any of the startling theories that sick Spatio-analysts are forever coming up with? Many of them think they know the secrets of the universe when they're so sick they can barely read their instruments."

"It may be that you are right. Are you afraid to let me find out?"

"I am against starting any morbid rumors that might, whether true or false, affect the kyrt trade. Don't you agree with me, Abel?"

Abel squirmed inwardly. Fife was maneuvering himself into the position where any break in kyrt deliveries resulting from his own coup could be blamed on Trantorian maneuvers. But Abel was a good gambler. He raised the stakes calmly and unemotionally.

He said, "I don't. I suggest you listen to Dr. Junz."

"Thanks," said Junz. "Now you have said, Squire Fife, that whoever the psycho-prober was, he must have killed the doctor who examined this man Rik. That implies that the psycho-prober had kept some sort of watch over Elk during his stay on Florina."

"Well?"

"There must be traces of that kind of watching."

"You mean you think these natives would know who was watching them."

"Why not?"

Fife said, "You are not a Sarkite and so you make mistakes. I assure you that natives keep their places. They don't approach Squires and if Squires approach them they know enough to keep their eyes on their toes. They would know nothing of being watched." Junz quivered visibly with indignation. The Squires had their despotism so ingrained that they saw nothing wrong or shameful in speaking of it openly.

He said, "Ordinary natives perhaps. But we have a man here who is not an ordinary native. I think he has shown us rather thoroughly that he is not a properly respectful Florinian. So far he has contributed nothing to the discussion and it is time to ask him a few questions."

Fife said, "That native's evidence is worthless. In fact, I take the opportunity once more to demand that Trantor surrender him to proper trial by the courts of Sark."

"Let me speak to him first."

Abel put in mildly, "I think it will do no harm to ask him a few questions, Fife. If he proves uncooperative or unreliable, we may consider your request for extradition."

Terens, who, till now, had stolidly concentrated on the fingers of his clasped hands, looked up briefly.

Junz turned to Terens. He said, "Elk has been in your town since he was first found on Florina, hasn't he?"

"Yes."

"And you were in town all that time? I mean you weren't on any extended business trips, were you?"

"Townmen don't make business trips. Their business is in their town."

All right. Now relax and don't get touchy. It would be part of your business to know about any Squire that might come to town, I imagine."

"Sure. When they come."

"Did they come?"

Terens shrugged. "Once or twice. Pure routine, I assure you. Squires don't dirty their hands with kyrt. Unprocessed kyrt, that is."

"Be respectful!" roared Fife.

Terens looked at him and said, "Can you make me?"

Abel interrupted smoothly, "Let's keep this between the man and Dr. Junz, Fife. You and I are spectators."

Junz felt a glow of pleasure at the Townman's insolence, but he said, "Answer my questions without side comments please, Townman. Now who exactly were the Squires who visited your town this past year?"

Terens said fiercely, "How can I know? I can't answer that question. Squires are Squires and natives are natives. I may be a Townman but I'm still a native to them. I don't greet them at the town gates and ask their names."

"I get a message, that's all. It's addressed 'Townman.' It says there'll be a Squire's Inspection on such-and-such a day and I'm to make the necessary arrangements. I must then see to it that the miliworkers have on their best clothes, that the mill is cleaned up and working properly, that the kyrt supply is ample, that everyone looks contented and pleased, that the houses have been cleaned and the streets policed, that some dancers are on hand in case the Squires would care to view some amusing native dance, that maybe a few pretty g——"

"Never mind that, Townman," said Junz.

"You never mind that. I do."

After his experiences with the Florinians of the Civil Service, Junz found the Townman as refreshing as a drink of cold water. He made up his mind that what influence the I.S.B. could bring to bear would be used to prevent any surrender of the Townman to the Squires.

Terens went on, in calmer tones, "Anyway, that's my part. When they come, I line up with the rest. I don't know who they are. I don't speak to them."

"Was there any such inspection the week before the City Doctor was killed? I suppose you know what week that happened."

"I think I heard about it in the newscasts. I don't think there was any Squire's Inspection at that time. I can't swear to it."

"Whom does your land belong to?"

Terens pulled the corners of his mouth back. "To the Squire of Fife."

Steen spoke up, breaking into the give-and-take with rather surprising suddenness. "Oh, look here. Really! You're playing into Fife's hands with this kind of questioning, Dr. Junz. Don't you see you won't get anywhere? Really! Do you suppose if Fife were interested in keeping tabs on that creature there that he would go to all the trouble of making trips to Florina to look at him? What are patrollers for? Really!"

Junz looked flustered. "In a case like this, with a world's economy and maybe its physical safety resting on the contents of one man's mind, it's natural that the psycho-prober would not care to leave the guardianship to patrollers."

Fife intervened. "Even after he had wiped out that mind, to all intents?"

Abel pushed out his lower lip and frowned. He saw his latest gamble sliding into Fife's hands with all the rest.

Junz tried again, hesitantly. "Was there any particular patroller or group of patrollers that was always underfoot?"

"I'd never know. They're just uniforms to me."

Junz turned to Valona with the effect of a sudden pounce. A moment before she had gone a sickly white and her eyes had become wide and stary. Junz had not missed that.

He said, "What about you, girl?"

But she only shook her head, wordlessly.

Abel thought heavily, There's nothing more to do. It's all over.

But Valona was on her feet, trembling. She said in a husky whisper, "I want to say something."

Junz said, "Go ahead, girl. What is it?"

Valona talked breathlessly and with fright obvious in every line of her countenance and every nervous twitch of her fingers.

She said, "I'm just a country girl. Please don't be angry with me.

It's just that it seems that things can only be one way. Was my Elk so very important? I mean, the way you said?"

Junz said gently, "I think he was very, very important. I think he still is."

"Then it must be like you said. Whoever it was who had put him on Florina wouldn't have dared take his eye away for even a minute hardly. Would he? I mean, suppose Rik was beaten by the mill superintendent or was stoned by the children or got sick and died. He wouldn't be left helpless in the fields, would he, where he might die before anyone found him? They wouldn't suppose that it would just be luck that would keep him safe." She was speaking with an intense fluency now.

"Go on," said Junz, watching her.

"Because there was one person who did watch Rik from the start. He found him in the fields, fixed it so I would take care of him, kept him out of trouble and knew about him every day. He even knew all about the doctor, because I told him. It was he! It was he!"

--'I With her voice at screaming intensity, her finger pointed rigidly at Myrlyn Terens, Townman.

And this time even Fife's superhuman calm broke and his arms stiffened on his desk, lifting his massive body a full inch off his seat, as his head swiveled quickly toward the Townman.

18. THE VICTORS

IT WAS as though vocal paralysis had gripped them all. Even Rik, with disbelief in his eyes, could only stare woodenly, first at Valona, then at Terens.

Then came Steen's high-pitched laugh and the silence was broken.

Steen said, "I believe it. Really! I said so all along. I said the native was in Fife's pay. That shows you the kind of man Fife is. He'd pay a native to—"

"That's an infernal lie."

It wasn't Fife who spoke, but the Townman. He was on his feet, eyes glistening with passion. - Abel, who of them all seemed the least moved, said, "What is?"

Terens stared at him a moment, not comprehending, then said chokingly, "What the Squire said. I am in the pay of no Sarkite."

"And what the girl said? Is that a lie too?"

Terens wet his dry lips with the tip of his tongue. "No, that's true. I am the psycho-prober." He hurried on. "Don't look at me like that, Lona. I didn't mean to hurt him. I didn't intend any of what happened." He sat down again.

Fife said, "This is a sort of device. I don't know exactly what you're planning, Abel, but it's impossible on the face of it that this criminal could have included this particular crime in his repertoire. It's definite that only a Great Squire could have had the necessary knowledge and facilities. Or are you anxious to take your man Steen off the hook by arranging for a false confession?"

Terens, hands tightly clasped, leaned forward in his seat. "I don't take Trantorian money, either."

Fife ignored him.

Junz was the last to come to himself. For minutes, he could not adjust to the fact that the Townman was not really in the same room with him, that he was somewhere else on the embassy grounds, that he could see him only in image form, no more real actually than was Fife, who was twenty miles away. He wanted to go to the Townman, grip him by the shoulder, speak to him alone, but he couldn't. He said, "There's no point in arguing before we hear the man. Let's have the details. If he is the psycho-prober, we need the details badly. If he isn't, the details he'll try to give us will prove it."

"If you want to know what happened," cried Terens, "I'll tell you. Holding it back won't do me any good any longer. It's Sark or Trantor after all, so to Space with it. This will at least give me a chance to get one or two things into the open."

He pointed at Fife in scorn. "There's a Great Squire. Only a Great Squire, says this Great Squire, can have the knowledge or the facilities to do what the psycho-prober did. He believes it, too. But what does he know? What do any of the Sarkites know? "They don't run the government. Florinians do! The Florinian Civil Service does. They get the papers, they make the papers, they file the papers. And it's the papers that run Sark. Sure, most of us are too beaten even to whimper, but do you know what we could do if

we wanted to, even under the noses of our damned Squires? Well, you see what I've done.

"I was temporarily traffic manager at the spaceport a year ago. Part of my training. It's in the records. You'll have to dig a little to find it because the listed traffic manager is a Sarkite. He had the title but I did the actual work. My name would be found in the special section headed Native Personnel. No Sarkite would have dirtied his eyes looking there.

"When the local I.S.B. sent the Spatio-analyst's message to the port with a suggestion that we meet the ship with an ambulance, I got the message. I passed on what was safe. This matter of the destruction of Florina was not passed on.

"I arranged to meet the Spatio-analyst at a small suburban port. I could do that easily. All the wires and strings that ran Sark were at my finger tips. I was in the Civil Service, remember. A Great Squire who wanted to do what I did, couldn't, unless he ordered some Florinian to do it for him. I could do it without anyone's help. So much for knowledge and facility.

"I met the Spatio-analyst, kept him away from both Sark and the I.S.B. I squeezed as much information out of him as I could and set about using that information for Florina and against Sark."

Words were forced out of Fife. "You sent those first letters?"

"I sent those first letters, Great Squire," said Terens calmly. "I thought I could force control of enough of the kyrt lands into my own hands to make a deal with Trantor on my terms and drive you off the planet."

"You were mad."

"Maybe. Anyway, it didn't work. I had told the Spatio-analyst I was the Squire of Fife. I had to, because he knew that Fife was the biggest man on the planet, and as long as he thought I was Fife, he was willing to talk openly. It made me laugh to realize that he thought Fife was anxious to do whatever was best for Florina.

"Unfortunately, he was more impatient than I was. He insisted that every day lost was a calamity, while I knew that my dealings with Sark needed time more than anything else. I found it difficult to control him and eventually had to use a psychic probe. I could get one. I had seen it used in hospitals. I knew something about it. Unfortunately, not enough.

"I set the probe to wipe out the anxiety from the surface layers of his mind. That's a simple operation. I still don't know what happened. I think the anxiety must have run deeper, very deep, and the probe automatically followed it, digging out most of the conscious mind along with it. I was left with a mindless thing on my hands I'm sorry, Rik."

Rik, who had been listening intently, said sadly, "You shouldn't have interfered with me, Townman, but I know how you must have felt."

"Yes," said Terens, "you've lived on the planet. You know about patrollers and Squires and the difference between Lower City and Upper City."

He took up the current of his story again. "So there I was with the Spatio-analyst completely helpless. I couldn't let him be found by anyone who might trace his identity. I

couldn't kill him. I felt sure his memory would return and I would still need his knowledge, to say nothing of the fact that killing him would forfeit the good will of Trantor and the I.S.B., which I would eventually need. Besides, in those days, I was incapable of killing.

"I arranged to be transferred to Florina as Townman and I took the Spatio-analyst with me on forged papers. I arranged to have him found, I picked Valona to take care of him. There was no danger thereafter except for that one time with the doctor. Then I had to enter the power plants of Upper City. That was not impossible. The engineers were Sarkites but the janitors were Florinian. On Sark I learned enough about power mechanics to know how to short a power line. It took me three days to find the proper time for it. After that, I could murder easily. I never knew, though, that the doctor kept duplicate records in both halves of his office. I wish I had."

Terens could see Fife's chronometer from where he sat. "Then, one hundred hours ago—it seems like a hundred years—Rik began remembering again. Now you have the whole story."

"No," said Junz, "we have not. What are the details of the Spatio-analyst's story of planetary destruction?"

"Do you think I understood the details of what he had to say? It was some sort of—pardon me, Rik—madness."

"It wasn't," blazed Elk. "It couldn't have been."

"The Spatio-analyst had a ship," said Junz. "Where is it?"

"On the scrap heap long ago," said Terens. "An order scrapping it was sent out. My superior signed it. A Sarldite never reads papers, of course. It was scrapped without question."

"And Elk's papers? You said he showed you papers!"

"Surrender that man to us," said Fife suddenly, "and we'll find out what he knows."

"No," said Junz. "His first crime was against the I.S.B. He kidnapped and damaged the mind of a Spatio-analyst. He belongs to us."

Abel said, "Junz is correct."

Terens said, "Now look here. I don't say a word without safeguards. I know where Rik's papers are. They're where no Sarkite or Trantorian will ever find them. If you want them you'll have to agree that I'm a political refugee. Whatever I did was out of patriotism, out of a regard for the needs of my planet. A Sarkite or a Trantorian may claim to be patriotic; why not a Florinian as well?"

"The Ambassador," said Junz, "has said you will be given over to the I.S.B. I assure you that you will not be turned over to Sark. For your treatment of the Spatio-analyst, you will be tried. I cannot guarantee the result, but if you co-operate with us now, it will count in your favor."

Terens looked searchingly at Junz. Then he said, "I'll take my chance with you, Doctor. . . According to the Spatio-analyst, Florina's sun is in the pre-nova stage."

"What!" The exclamation or its equivalent came from all but Valona.

"It's about to explode and go boom," said Terens sardonically. "And when that happens all of Florina will go poof, like a mouthful of tobacco smoke."

Abel said, "I'm no Spatio-analyst, but I have heard that there is no way of predicting when a star will explode."

"That's true. Until now, anyway. Did Elk explain what made him think so?" asked Junz.

"I suppose his papers will show that. All I can remember is about the carbon current."

"What?"

"He kept saying, 'The carbon current of space. The carbon current of space.' That, and the words 'catalytic effect.' There it is.

Steen giggled. Fife frowned. Junz stared.

Then Junz muttered, "Pardon me. I'll be right back." He stepped out of the limits of the receptor cube and vanished.

He was back in fifteen minutes.

Junz looked about in bewilderment when he returned. Only Abel and Fife were present.

He said, "Where——"

Abel broke in instantly. "We have been waiting for you, Dr. Junz. The Spatio-analyst and the girl are on their way to the Embassy. The conference is ended."

"Ended! Great Galaxy, we have only begun. I've got to explain the possibilities of nova formation."

Abel shifted uneasily in his seat. "It is not necessary to do that, Doctor."

"It is very necessary. It is essential. Give me five minutes."

"Let him speak," said Fife. He was smiling.

Junz said, "Take it from the beginning. In the earliest recorded scientific writings of Galactic civilization it was already known that stars obtained their energy from nuclear transformations in their interiors. It was also known that, given what we know about conditions in stellar interiors, two types, and only two types, of nuclear transformations can possibly yield the necessary energy. Both involve the conversion of hydrogen to helium. The first transformation is direct: two hydrogens and two neutrons combine to form one helium nucleus. The second is indirect, with several steps. It ends up with hydrogen becoming helium, but in the intermediate steps, carbon nuclei take part. These carbon nuclei are not used up but are re-formed as the reactions proceed, so that a trifling amount of carbon can be used over and over again, serving to convert a great deal of hydrogen to helium. - The carbon acts as a catalyst, in other words. All this has been known back to the days of prehistory, back to the time when the human race was restricted to a single planet, if there ever was such a time."

"If we all know it," said Fife, "I would suggest that you are contributing nothing but a waste of time."

"But this is all we know. Whether stars use one or the other, or both, nuclear processes has never been determined. There have always been schools of thought in favor of each of the alternatives. Usually the weight of opinion has been in favor of the direct hydrogen-helium conversion as being the simpler of the two.

"Now Elk's theory must be this. The hydrogen-helium direct conversion is the normal source of stellar energy, but under certain conditions the carbon catalysis adds its weight, hastening the process, speeding it up, heating up the star.

"There are currents in space. You all know that well. Some of these are carbon currents. Stars passing through the currents pick up innumerable atoms. The total mass of atoms attracted, however, is incredibly microscopic in comparison to the star's weight and does not affect it in any way. Except for carbon! A star that passes through a current containing unusual concentrations of carbon becomes unstable. I don't know how many years or centuries or millions of years it takes for the carbon atoms to diffuse into the star's interior, but it probably takes a long time. That means that a carbon current must be wide and a star must intersect it at a small angle. In any case, once the quantity of carbon percolating into the star's interior passes a certain critical amount, the star's radiation is suddenly boosted tremendously. The outer layers give way under an unimaginable explosion and you have a nova.

"Do you see?"

Junz waited.

Fife said, "Have you figured all this out in two minutes as a result of some vague phrase the Townman remembered the Spatioanalyst to have said a year ago?"

"Yes. Yes. There's nothing surprising in that. Spatio-analysis is ready for that theory. If Rik had not come up with it, someone else would have shortly. In fact, similar theories have been advanced before, but they were never taken seriously. They were put forward before the techniques of Spatio-analysis were developed and no one was ever able to account for the sudden acquisition of excess carbon by the star in question.

"But now we know there are carbon currents. We can plot their courses, find out what stars intersected those courses in the past ten thousand years, check that against our records for nova formation and radiation variations. That's what Rik must have done. Those must have been the calculations and observations he tried to show the Townman. But that's all beside the immediate point.

"What must be arranged for now is the immediate beginning of an evacuation of Florina."

"I thought it would come to that," said Fife composedly.

"I'm sorry, Junz," said Abel, "but that's quite impossible."

"Why impossible?"

"When will Florina's sun explode?"

"I don't know. From Elk's anxiety a year ago, I'd say we had little time."

"But you can't set a date?"

"Of course not."

"When will you be able to set a date?"

"There's no way of telling. Even if we get Elk's calculations, it would all have to be rechecked."

"Can you guarantee that the Spatio-analyst's theory will prove to be correct?"

Junz frowned. "I am personally certain of it, but no scientist can guarantee any theory in advance."

"Then it turns out that you want Florina evacuated on mere speculation."

"I think the chance of killing the population of a planet is not one that can be taken."

"If Florina were an ordinary planet I would agree with you. But Florina bears the Galactic supply of kyrt. It can't be done."

Junz said angrily, "Is that the agreement you came to with Fife while I was gone?"

Fife intervened. He said, "Let me explain, Dr. Junz. The government of Sark would never consent to evacuate Florina, even if the I.S.B. claimed it had proof of this nova theory of yours. Trantor cannot force us because while the Galaxy might support a war against Sark for the purpose of maintaining the kyrt trade, it will never support one for the purpose of ending it."

"Exactly," said Abel. "I am afraid our own people would not support us in such a war."

Junz found revulsion growing strong within him. A planet full of people meant nothing against the dictates of economic necessity!

He said, "Listen to me. This is not a matter of one planet, but of a whole Galaxy. There are now twenty full novae originating within the Galaxy every year. In addition, some two thousand stars among the Galaxy's hundred billion shift their radiation characteristics sufficiently to render uninhabitable any habitable planet they may have. Human beings occupy one million stellar systems in the Galaxy. That means that on an average of once every fifty years some inhabited planet somewhere becomes too hot for life. Such cases are a matter of historical record. Every five thousand years some inhabited planet has a fifty-fifty chance of being puffed to gas by a nova.

"If Trantor does nothing about Florina, if it allows it to evaporate with its people on it, that will serve notice to all the people of the Galaxy that when their own turn comes they may expect no help, if such help is in the way of the economic convenience of a few powerful men. Can you risk that, Abel? "On the other hand, help Florina and you will have shown that Trantor puts its responsibility to the people of the Galaxy above the maintenance of mere property rights. Trantor will win good will that it could never win by force."

Abel bowed his head. Then he shook it wearily. "No, Junz. What you say appeals to me, but it is not practical. I can't count on emotions as against the assured political effect of any attempt to end the kyrt trade. In fact, I think it might be wise to avoid investigating the theory. The thought that it might be true would do too much harm."

"But what if it is true?"

"We must work on the assumption that it is not. I take it that when you were gone a few moments ago it was to contact the I.S.B."

"Yes."

"No matter. Trantor, I think, will have enough influence to stop their investigations."

"I'm afraid not. Not these investigations. Gentlemen, we will soon have the secret of cheap kyrt. There will be no kyrt monopoly within a year, whether or not there is a nova."

"What do you mean?"

"The conference is reaching the essential point now, Fife. Kyrt grows only on Florina of all inhabited planets. Its seeds produce ordinary cellulose elsewhere. Florina is probably the only inhabited planet, on a chance basis, that is currently pre-nova, and it has probably been pre-nova since it first entered the carbon current, perhaps thousands of years ago, if the angle of intersection was small. It seems quite probable, then, that kyrt and the pre-nova stage go together."

"Nonsense," said Fife.

"Is it? There must be a reason why kyrt is kyrt on Florina and cotton elsewhere. Scientists have tried many ways of artificially producing kyrt elsewhere, but they tried blindly, so they've always failed. Now they will know it is due to factors induced in a pre-nova stellar system."

Fife said scornfully, "They've tried duplicating the radiation qualities of Fife's sun."

"With appropriate arc lights, yes, that duplicated the visible and ultraviolet spectrum only. What about radiation in the infrared and beyond? What about magnetic fields? What about electron emission? What about cosmic-ray effects? I'm not a physical biochemist so there may be factors I know nothing about. But people who are physical biochemists will be looking now, a whole Galaxy of them. Within the year, I assure you, the solution will be found."

"Economics is on the side of humanity now. The Galaxy wants cheap kyrt, and if they find it or even if they imagine they will shortly find it, they will want Florina evacuated, not only out of humanity, but out of a desire to turn the tables, at long last, on the kyrt-gouging Sarkites."

"Bluff!" growled Fife.

"Do you think so, Abel?" demanded Junz. "If you help the Squires, Trantor will be looked on not as the saviors of the kyrt trade but of the kyrt monopoly. Can you chance that?"

"Can Trantor chance a war?" demanded Fife.

"War? Nonsense! Squire, in one year your holdings on Florina will be worthless, nova or not. Sell out. Sell out all Florina. Trantor can pay for it."

"Buy a planet?" said Abel in dismay.

"Why not? Trantor has the funds, and its gain in good will among the people of the universe will pay it back a thousandfold. If telling them that you are saving hundreds of millions of lives is not enough, tell them that you will bring them cheap kyrt. That will do it."

"I'll think about it," said Abel.

Abel looked at the Squire. Fife's eyes fell.

After a long pause he too said, "I'll think about it."

Junz laughed harshly. "Don't think too long. The kyrt story will break quickly enough. Nothing can stop it. After that, neither one of you will have freedom of action. You can each strike a better bargain now."

The Townman seemed beaten. "It's really true?" he kept repeating. "Really true? No more Florina?"

"It's true," said Junz.

Terens spread his arms, let them fall against his side. "If you want the papers I got from Rik, they're filed among vital statistic files in my home town. I picked the dead files, records a century back and more. No one would ever look there for any reason."

"Look," said Junz, "I'm sure we can make an agreement with the I.S.B. We'll need a man on Florina, one who knows the Florinian people, who can tell us how to explain the facts to them, how best to organize the evacuation, how to pick the most suitable planets of refuge. Will you help us?"

"And beat the game that way, you mean? Get away with murder? Why not?" There were sudden tears in the Townman's eyes. "But I lose anyway. I will have no world, no home. We all lose. The Florinians lose their world, the Sarkites lose their wealth, the Trantorians their chance to get that wealth. There are no winners at all."

"Unless," said Junz gently, "you realize that in the new Galaxy—a Galaxy safe from the threat of stellar instability, a Galaxy with kyrt available to all, and a Galaxy in which political unification will be so much closer—there will be winners after all. One quadrillion winners. The people of the Galaxy, they are the victors."

EPILOG. A YEAR AFTER

"Rix! Rix!" Selim Junz hurried across the port grounds toward the ship, hands outstretched. "And Lona! I'd never have recognized either of you. How are you? How are you?"

"As well as we could wish. Our letter reached you, I see," said Elk.

"Of course. Tell me, what do you think of it all?" They were walking back together, toward Junz's offices.

Valona said sadly, "We visited our old town this morning. The fields are so empty." Her clothing was now that of a woman of the Empire, rather than that of a peasant of Florina.

"Yes, it must be dreary for a person who has lived here. It grows dreary even for me, but I will stay as long as I can. The radiation recordings of Florina's sun are of tremendous theoretical interest."

"So much evacuation in less than a year! It speaks for excellent organization."

"We're doing our best, Elk. Oh, I think I should be calling you by your real name."

"Please don't. I'll never be used to it. I'm Elk. That's still the only name I remember."

Junz said, "Have you decided whether you're going to return to Spatio-analysis?"

Rik shook his head. "I've decided, but the decision is, no. I'll never remember enough. That part's gone forever. It doesn't bother me, though. I'll be returning to Earth. . . By the way, I rather hoped I'd see the Townman."

"I think not. He decided to go off today. I think he'd rather not see you. He feels guilty, I think. You have no grudge against him?"

Rik said, "No. He meant well, and he changed my life in many ways for the better. For one thing, I met Lana." His arm went about her shoulder.

Valona looked at him and smiled.

"Besides," Elk went on, "he cured me of something. I've found out why I was a Spatio-analyst. I know why nearly a third of all Spatio-analysts are recruited from the one planet, Earth. Anyone living on a radioactive world is bound to grow up in fear and insecurity. A misstep can mean death and our planet's own surface is the greatest enemy we have.

"That makes for a sort of anxiety bred into us, Dr. Junz, a fear of planets. We're only happy in space; that's the only place we can feel safe."

"And you don't feel that way any longer, Rik?"

"I certainly don't. I don't even remember feeling that way. That's it, you see. The Townman had set his psychic probe to remove feelings of anxiety and he hadn't bothered to set the intensity controls. He thought he had a recent, superficial trouble to deal with. Instead there was this deep, ingrained anxiety he knew nothing of. He got rid of all of it. In a sense, it-was worth getting rid of it even though so much else went with it. I don't

have to stay in space now. I can go back to Earth. I can work there and Earth needs men. It always will."

"You know," Junz said, "why can't we do for Earth what we're doing for Florina? There's no need to bring up Earthmen in such fear and insecurity. The Galaxy is big."

"No," said Rik vehemently. "It's a different case. Earth has its past, Dr. Junz. Many people may not believe it, but we of Earth know that Earth was the original planet of the human race."

"Well, perhaps. I can't say, one way or the other."

"It was. It's a planet that can't be abandoned; it mustn't be abandoned. Someday we'll change it, change its surface back to what it once must have been. Till then—we're staying."

Valona said softly, "And I'm an Earthwoman now."

Rik was looking out at the horizon. Upper City was as garish as ever, but the people were gone.

He said, "How many are left on Florina?"

"About twenty million," said Junz. "We work slower as we go along. We have to keep our withdrawals balanced. The people that are left must always maintain themselves as an economic unit in the months that are left. Of course, resettlement is in its earliest stages. Most of the evacuees are still in temporary camps on neighboring worlds. There is unavoidable hardship."

"When will the last person leave?"

"Never, really."

"I don't understand."

"The Townman has applied unofficially for permission to remain. It's been granted, also unofficially. It won't be a matter of public record."

"Remain?" Elk was shocked. "But for the sake of all the Galaxy, why?"

"I didn't know," said Junz, "but I think you explained it when you talked of Earth. He feels as you do. He says he can't bear the thought of leaving Florina to die alone."

PEBBLE IN THE SKY

1950

Dedication

TO MY FATHER,
WHO FIRST INTRODUCED ME TO SCIENCE FICTION.

1. BETWEEN ONE FOOTSTEP AND THE NEXT

Two minutes before he disappeared forever from the face of the Earth he knew, Joseph Schwartz strolled along the pleasant streets of suburban Chicago quoting Browning to himself.

In a sense this was strange, since Schwartz would scarcely have impressed any casual passer-by as the Browning-quoting type. He looked exactly what he was: a retired tailor, thoroughly lacking in what the sophisticates of today call a "formal education." Yet he had expended much of an inquisitive nature upon random reading. By the sheer force of indiscriminate voracity, he had gleaned a smattering of practically everything, and by means of a trick memory had managed to keep it all straight.

For instance, he had read Robert Browning's Rabbi Ben Ezra twice when he was younger, so, of course, knew it by heart. Most of it was obscure to him, but those first three lines had become one with the beating of his heart these last few years. He intoned them to himself, deep within the silent fortress of his mind, that very sunny and very bright early summer day of 1949:

"Grow old along with me!

The best is yet to be,

The last of life, for which the first was made. . . "

Schwartz felt that to its fullness. After the struggles of youth in Europe and those of his early manhood in the United States, the serenity of a comfortable old age was pleasant. With a house of his own and money of his own, he could, and did, retire. With a wife in good health, two daughters safely married, a grandson to soothe these last best years, what had he to worry about?

There was the atom bomb, of course, and this somewhat lascivious talk about World War III, but Schwartz was a believer in the goodness of human nature. He didn't think there would be another war. He didn't think Earth would ever see again the sunlike hell of an atom exploded in anger. So he smiled tolerantly at the children he passed and silently wished them a speedy and not too difficult ride through youth to the peace of the best that was yet to be.

He lifted his foot to step over a Raggedy Ann doll smiling through its neglect as it lay there in the middle of the walk, a foundling not yet missed. He had not quite put his foot down again. . .

In another part of Chicago stood the Institute for Nuclear Research, in which men may have had theories upon the essential worth of human nature but were half ashamed of them, since no quantitative instrument had yet been designed to measure it. When they thought about it, it was often enough to wish that some stroke from heaven would prevent human nature (and damned human ingenuity) from turning every innocent and interesting discovery into a deadly weapon.

Yet, in a pinch, the same man who could not find it in his conscience to curb his curiosity into the nuclear studies that might someday kill half of Earth would risk his life to save that of an unimportant fellow man.

It was the blue glow behind the chemist's back that first attracted the attention of Dr. Smith.

He peered at it as he passed the half-open door. The chemist, a cheerful youngster, was whistling as he tipped up a volumetric flask, in which the solution had already been made up to volume. A white powder tumbled lazily through the liquid, dissolving in its own good time. For a moment that was all, and then Dr. Smith's instinct, which had stopped him in the first place, stirred him to action.

He dashed inside, snatched up a yardstick, and swept the contents of the desk top to the floor. There was the deadly hiss of molten metal. Dr. Smith felt a drop of perspiration slip to the end of his nose.

The youngster stared blankly at the concrete floor along which the silvery metal had already frozen in thin splash marks. They still radiated heat strongly.

He said faintly, "What happened?" Dr. Smith shrugged. He wasn't quite himself either. "I don't know. You tell me. . . .What's been doing here?"

"Nothing's been doing here," the chemist yammered. "That was just a sample of crude uranium. I'm making an electrolytic copper determination. . . .I don't know what could have happened."

"Whatever happened, young man, I can tell you what I saw. That platinum crucible was showing a corona. Heavy radiation was taking place. Uranium, you say?"

"Yes, but crude uranium, and that isn't dangerous. I mean, extreme purity is one of the most important qualifications for fission, isn't it?" He touched his tongue to his lips quickly. "Do you think it was fission, sir? It's not plutonium, and it wasn't being bombarded."

"And," said Dr. Smith thoughtfully, "it was below the critical mass. Or, at least, below the critical masses we think we know." He stared at the soapstone desk, at the bummed and blistered paint of the cabinets and the silvery streaks along the concrete floor. "Yet uranium melts at about 1800 degrees Centigrade, and nuclear phenomena are not so well known that we can afford to talk too glibly. After all, this place must be fairly saturated with stray radiations. When the metal cools, young man, it had better be chipped up, collected, and thoroughly analyzed."

He gazed thoughtfully about him, then stepped to the opposite wall and felt uneasily at a spot about shoulder height.

"What's this?" he said to the chemist. "Has this always been here?"

"What, sir?" The young man stepped up nervously and glanced at the spot the older man indicated. It was a tiny hole, one that might have been made by a thin nail driven into the wall and withdrawn--but driven through plaster and brick for the full thickness of the building's wall, since daylight could be seen through it.

The chemist shook his head, "I never saw that before. But I never looked for it, either, sir."

Dr. Smith said nothing. He stepped back slowly and passed the thermostat, a parallelopiped of a box made out of thin sheet iron. The water in it moved swirlingly as the stirrer turned in motor-driven monomania, while the electric bulbs beneath the water, serving as heaters, flicked on and off distractingly, in time with the clicking of the mercury relay.

"Well, then, was this here?" And Dr. Smith scraped gently with his fingernail at a spot near the top of the wide side of the thermostat. It was a neat, tiny circle drilled through the metal. The water did not quite reach it.

The chemist's eyes widened. "No, sir, that wasn't there ever before. I'll guarantee that."

"Hmm. Is there one on the other side?"

"Well, I'll be damned. I mean, yes, sir!"

"All right, come round here and sight through the holes. . . .Shut the thermostat off, please. Now stay there." He placed his finger on the hole in the wall. "What do you see?" he called out.

"I see your finger, sir. Is that where the hole is?"

Dr. Smith did not answer. He said, with a calmness he was far from feeling, "Sight through in the other direction. . . . Now what do you see?"

"Nothing now."

"But that's the place where the crucible with the uranium was standing. You're looking at the exact place, aren't you?"

Reluctantly, "I think so, sir."

Dr. Smith said frostily, with a quick glance at the name plate on the still-open door, "Mr. Jennings, this is absolutely top-secret. I don't want you ever to speak about this to anyone. Do you understand?"

"Absolutely, sir!"

"Then let's get out of here. We'll send in the radiation men to check the place, and you and I will spend a siege in the infirmary."

"Radiation burns, you mean?" The chemist paled.

"We'll find out."

But there were no serious signs of radiation burns in either. Blood counts were normal and a study of the hair roots revealed nothing. The nausea that developed was eventually tabbed as psychosomatic and no other symptoms appeared.

Nor, in all the Institute, was anyone found, either then or in the future, to explain why a crucible of crude uranium, well below critical size, and under no direct neutronic bombardment, should suddenly melt and radiate that deadly and significant corona.

The only conclusion was that nuclear physics had queer and dangerous crannies left in it.

Yet Dr. Smith never brought himself to tell all the truth in the report he eventually prepared. He made no mention of the holes in the laboratory, no mention of the fact that the one nearest the spot where the crucible had been was barely visible, the one on the

other side of the thermostat was a trace larger, while the one in the wall, three times as far away from that fearful spot, could have had a nail thrust through it.

A beam expanding in a straight line could travel several miles before the Earth's curvature made the surface fall away from it sufficiently to prevent further damage, and then it would be ten feet across. After that, flashing emptily into space, expanding and weakening, a queer strain in the fabric of the cosmos.

He never told anyone of that fancy.

He never told anyone that he called for the morning papers next day, while still in the infirmary, and searched the columns with a definite purpose in mind.

But so many people in a giant metropolis disappear every day. And nobody had gone screaming to the police with vague tales of how, before his eyes, a man (or would it be half a man?) had disappeared. At least no such case was reported.

Dr. Smith forced forgetfulness, eventually.

To Joseph Schwartz it had happened between one step and the next. He had lifted his right foot to clear the Raggedy Ann doll and for a moment he had felt dizzy--as though for the merest trifle of time a whirlwind had lifted him and turned him inside out. When he placed his right foot down again, all the breath went out of him in a gasp and he felt himself slowly crumple and slide down to the grass.

He waited a long time with his eyes closed--and then he opened them.

It was true! He was sitting on grass, where previously he had been walking on concrete. The houses were gone. The white houses, each with its lawn, squatting there, row on row, all gone.

And it was not a lawn he was sitting on, for the grass was growing rank, untended, and there were trees about, many of them, with more on the horizon. That was when the worst shock of all came, because the leaves on those trees were ruddy, some of them, and in the curve of his hand he felt the dry brittleness of a dead leaf. He was a city man, but he knew autumn when he saw it.

Autumn! Yet when he had lifted his right foot it had been a June day, with everything a fresh and glistening green.

He looked toward his feet automatically as he thought that and, with a sharp cry, reached toward them. . . .The little cloth doll that he had stepped over, a little breath of reality, a--

Well, no! He turned it over in his trembling hands, and it was not whole. Yet it was not mangled; it was sliced. Now wasn't that queer! Sliced lengthwise very neatly, so that the waste-yarn stuffing wasn't stirred a hair. It lay there in interrupted threads, ending flatly.

The glitter on his left shoe caught Schwartz's eye. Still clutching the doll, he forced his foot over his raised knee. The extreme tip of the sole, the part that extended forward past the uppers, was smoothly sliced off. Sliced off as no earthly knife in the hand of an earthly cobbler could have duplicated. The fresh surface gleamed almost liquidly in its unbelievable smoothness.

Schwartz's confusion had reached up from his spinal cord and touched the cerebrum, where it finally froze him with horror.

At last, because even the sound of his own voice was a soothing element in a world otherwise completely mad, he spoke aloud. The voice he heard was low and tense and panting.

He said, "In the first place, I'm not crazy. I feel inside just the way I've always felt. . . Of course, if maybe I were crazy, I wouldn't know it, or would I? No--" Inside, he felt the hysteria rise and forced it down. "There must be something else possible."

He considered, "A dream, maybe? How can I tell if it's a dream or not?" He pinched himself and felt the nip, but shook his head. "I can always dream I feel a pinch. That's no proof."

He looked about him despairingly. Could dreams be so clear, so detailed, so lasting? He had read once that most dreams last not more than five seconds, that they are induced by trifling disturbances to the sleeper, that the apparent length of the dreams is an illusion.

Cold comfort! He shifted the cuff of his shirt upward and stared at his wrist watch. The second hand turned and turned and turned. If it were a dream, the five seconds was going to stretch madly.

He looked away and wiped futilely at the cold dampness of his forehead. "What about amnesia?"

He did not answer himself, but slowly buried his head in both hands.

If he had lifted his foot and, as he did so, his mind had slipped the well-worn and well-oiled tracks it had followed so faithfully for so long. . . If three months later, in the autumn, or a year and three months later, or ten years and three months later, he had put his foot down in this strange place, just as his mind returned. . . Why, it would seem a single step, and all this. . . Then where had he been and what had he done in the interval?

"No!" The word came out in a loud cry. That couldn't be! Schwartz looked at his shirt. It was the one he had put on that morning, or what should have been that morning, and it was a fresh shirt. He bethought himself, plunged a fist into his jacket pocket, and brought out an apple.

He bit into it wildly. It was fresh and still had a lingering coolness from the refrigerator which had held it two hours earlier--or what should have been two hours.

And the little rag doll, what about that?

He felt himself beginning to go wild. It had to be a dream. or he really was insane.

It struck him that the time of day had changed. It was late afternoon, or at least the shadows were lengthening. The quiet desolation of the place flooded down upon him suddenly and freezingly.

He lurched to his feet. Obviously he would have to find people, any people. And, as obviously, he would have to find a house, and the best way to do that would be to find a road.

Automatically he turned in the direction in which the trees seemed thinnest, and walked.

The slight chill of evening was creeping inside his jacket and the tops of the trees were becoming dim and forbidding when he came upon that straight and impersonal streak of macadam. He lunged toward it with sobbing gratitude and loved the feel of the hardness beneath his feet.

But along either direction was absolute emptiness, and for a moment he felt the cold clutch again. He had hoped for cars. It would have been the easiest thing to wave them down and say--he said it aloud in his eagerness--"Going toward Chicago, maybe?"

What if he was nowhere near Chicago? Well, any large city; anyplace he could reach a telephone line. He had only four dollars and twenty-seven cents in his pocket, but there was always the police. . .

He was walking along the highway, walking along the middle, watching in both directions. The setting of the sun made no impression upon him, or the fact that the first stars were coming out.

No cars. Nothing' And it was getting to be really dark.

He thought that first dizziness might be coming back, because the horizon at his left glimmered. Through the gaps in the trees there was a cold blue shine. It was not the leaping red he imagined a forest fire would be like, but a faint and creeping glow. And the macadam beneath his feet seemed to sparkle ever so faintly. He bent down to touch it, and it felt normal. But there was that tiny glimmer that caught the edges of his eyes.

He found himself running wildly along the highway, his shoes thudding in blunt and uneven rhythm. He was conscious of the damaged doll in his hand and he tossed it wildly over his head.

Leering, mocking remnant of life. . . And then he stopped in a panic. Whatever it was, it was a proof of his sanity. And he needed it! So he felt about in the darkness, crawling on his knees till he found it, a dark patch on the ultra-faint glow. The stuffing was plumping out and, absently, he forced it back.

He was walking again--too miserable to run, he told himself.

He was getting hungry and really, really frightened when he saw that spark to the right.

It was a house, of course!

He shouted wildly and no one answered, but it was a house, a spark of reality blinking at him through the horrible, nameless wilderness of the last hours. He turned off the road and went plunging cross-country, across ditches, around trees, through the underbrush, and over a creek.

Queer thing! Even the creek glowed faintly--phosphorescently! But it was only the tiniest fragment of his mind that noted it.

Then he was there, with his hands reaching out to touch the hard white structure. It was neither brick nor stone nor wood, but he never paid that the least mind. It looked like a dun, strong porcelain, but he didn't give a hoot. He was just looking for a door, and when he came to it and saw no bell, he kicked at it and yelled like a demon.

He heard the stirring inside and the blessed, lovely sound of a human voice other than his own. He yelled again.

"Hey, in there!"

There was a faint, oiled whir, and the door opened. A woman emerged, a spark of alarm in her eyes. She was tan and wiry, and behind her was the gaunt figure of a hard-faced man in work clothes. . . .No, not work clothes. Actually they were like nothing Schwartz had ever seen, but, in some indefinable way, they looked like the kind of clothes men worked in.

But Schwartz was not analytical. To him they, and their clothes, were beautiful; beautiful only as the sight of friends to a man alone can be beautiful.

The woman spoke and her voice was liquid, but peremptory, and Schwartz reached for the door to keep himself upright. His lips moved, uselessly, and, in a rush, all the clammiest fears he had known returned to choke his windpipe and stifle his heart.

For the woman spoke in no language Schwartz had ever heard.

2. THE DISPOSAL OF A STRANGER

Loa Maren and her stolid husband, Arbin, played cards in the cool of the same evening, while the older man in the motor-driven wheel chair in the corner rustled his newspaper angrily and caned, " Arbin!"

Arbin Maren did not answer at once. He fingered the thin, smooth rectangles carefully as he considered the next play. Then, as he slowly made his decision, he responded with an absent, "What do you want, Grew?"

The grizzled Grew regarded his son-in-law fiercely over the top of the paper and rustled it again. He found noise of that sort a great relief to his feelings. When a man teems with energy and finds himself spiked to a wheel chair with two dead sticks for legs, there must be something, by Space, he can do to express himself. Grew used his newspaper. He rustled it; he gestured with it; when necessary, he swatted at things with it.

Elsewhere than on Earth, Grew knew, they had telenews machines that issued rolls of microfilm as servings of current news. Standard book viewers were used for them. But Grew sneered silently at that. An effete and degenerate custom!

Grew said, "Did you read about the archaeological expedition they're sending to Earth?"

"No, I haven't," said Arbin calmly.

Grew knew that, since nobody but himself had seen the paper yet, and the family had given up their video last year. But then his remark had simply been in the nature of an opening gambit, anyway.

He said, "Well, there's one coming. And on an Imperial grant, too, and how do you like that?" He began reciting in the queer unevenness of tone that most people somehow assume automatically when reading aloud, " 'Bel Arvardan, Senior Research Associate at the Imperial Archaeological Institute, in an interview granted the Galactic Press, spoke hopefully of the expected valuable results of archaeological studies which are being projected upon the planet Earth, located on the outskirts of the Sirius Sector (see map). 'Earth,' he said, 'with its archaic civilization and its unique environment, offers a freak culture which has been too long neglected by our social scientists, except as a difficult exercise in local government. I have every expectation that the next year or two will bring about revolutionary changes in some of our supposed fundamental concepts of social evolution and human history.' And so on and so on," he finished with a flourish.

Arbin Maren had been listening with only half an ear. He mumbled, "What does he mean, 'freak culture'?"

Loa Maren hadn't been listening at all. She simply said. "It's your play, Arbin."

Grew went on, "Well, aren't you going to ask me why the Tribune printed it? You know they wouldn't print a Galactic Press release for a million Imperial Credits without a good reason."

He waited uselessly for an answer, then said, "Because they have an editorial on it. A full-page editorial that blasts the living daylights out of this guy Arvandan. Here's a fellow wants to come here for scientific purposes and they're choking themselves purple to keep him out. Look at this piece of rabble-rousing. Look at it!" He shook the paper at them. "Read it, why don't you?"

Loa Maren put down her cards and clamped her thin lips firmly together. "Father," she said, "we've had a hard day, so let's not have politics just now. Later, maybe, eh? Please, Father."

Grew scowled and mimicked, " 'Please, Father! Please, Father.' It appears to me you must be getting pretty tired of your old father when you begrudge him a few quiet words on current events. I'm in your way, I suppose, sitting here in the corner and letting you two work for three. . . .Whose fault is it? I'm strong. I'm willing to work. And you know I could get my legs treated and be as well as ever." He slapped them as he spoke: hard, savage, ringing slaps, which he heard but did not feel. "The only reason I can't is because I'm getting too old to make a cure worth their while. Don't you can that a 'freak culture'? What else could you can a world where a man can work but they won't let him? By Space, I think it's about time we stopped this nonsense about our so-called 'peculiar institutions.' They're not just peculiar; they're cracked! I think--"

He was waving his arms and angry blood was reddening his face.

But Arbin had risen from his chair, and his grip was strong on the older man's shoulder. He said, "Now where's the call to be upset, Grew? When you're through with the paper, I'll read the editorial."

"Sure, but you'll agree with them, so what's the use? You young ones are a bunch of milksops; just sponge rubber in the hands of the Ancients."

And Loa said sharply, "Quiet, Father. Don't start that." She sat there listening for a moment. She could not have said exactly what for, but. . .

Arbin felt that cold little prickle that always came when the Society of Ancients was mentioned. It just wasn't safe to talk as Grew did, to mock Earth's ancient culture, to--to--

Why, it was rank Assimilationism. He swallowed earnestly; the word was an ugly one, even when confined to thought.

Of course in Grew's youth there had been much of this foolish talk of abandoning the old ways, but these were different times. Grew should know that--and he probably did, except that it wasn't easy to be reasonable and sensible when you were in a wheel-chair prison, just waiting away your days for the next Census.

Grew was perhaps the least affected, but he said no more. And as the moments passed he grew quieter and the print became progressively more difficult to place in focus. He had not yet had time to give the sports pages a detailed and critical perusal when his nodding head lolled slowly down upon his chest. He snored softly, and the paper fell from his fingers with a final, unintentional rustle.

Then Loa spoke, in a worried whisper. "Maybe we're not being kind to him, Arbin. It's a hard life for a man like Father. It's like being dead compared to the life he used to lead."

"Nothing's like being dead, Loa. He has his papers and his books. Let him be! A bit of excitement like this peps him up. He'll be happy and quiet for days now."

Arbin was beginning to consider his cards again, and as he reached for one the pounding at the door sounded, with hoarse yells that didn't quite coalesce into words.

Arbin's hand lurched and stopped. Loa's eyes grew fearful; she stared at her husband with a trembling lower lip.

Arbin said, "Get Grew out of here. Quickly!"

Loa was at the wheel chair as he spoke. She made soothing sounds with her tongue.

But the sleeping figure gasped, startled awake at the first motion of the chair. He straightened and groped automatically for his paper.

"What's the matter?" he demanded irritably, and by no means in a whisper.

"Shh. It's all right," muttered Loa vaguely, and wheeled the chair into the next room. She closed the door and placed her back against it, thin chest heaving as her eyes sought those of her husband. There was that pounding again.

They stood close to each other as the door opened, almost defensively so, and hostility peeped from them as they faced the short, plump man who smiled faintly at them.

Loa said, "Is there anything we can do for you?" with a ceremonial courtesy, then jumped back as the man gasped and put out a hand to stop himself from falling.

"Is he sick?" asked Arbin bewilderedly. "Here, help me take him inside."

The hours after that passed, and in the quiet of their bedroom Loa and Arbin prepared slowly for bed.

"Arbin," said Loa.

"What is it?"

"Is it safe?"

"Safe?" He seemed to avoid her meaning deliberately.

"I mean, taking this man into the house. Who is he?"

"How should I know?" was the irritated response. "But, after an, we can't refuse shelter to a sick man. Tomorrow, if he lacks identification, we'll inform the Regional Security Board, and that will be the end of it." He turned away in an obvious attempt at breaking off the conversation.

But his wife broke the returning silence, her thin voice more urgent. "you don't think he might be an agent of the Society of Ancients, do you? There's Grew, you know."

"You mean because of what he said tonight? That's past the limit of reason. I won't argue about it."

"I don't mean that, and you know it. I mean that we've been keeping Grew illegally now for two years, and you know we're breaking just about the most serious Custom."

Arbin muttered, "We're harming no one. We're fining our quota, aren't we, even though it's set for three people--three workers? And if we are, why should they suspect anything? We don't even let him out of the house."

"They might trace the wheel chair. You had to buy the motor and fittings outside."

"Now don't start that again, Loa. I've explained many times that I've bought nothing but standard kitchen equipment for that chair. Besides, it does not make any sense at all to consider him an agent of the Brotherhood. Do you suppose that they would go through such an elaborate trickery for the sake of a poor old man in a wheel chair? Couldn't they enter by daylight and with legal search warrants? Please, reason this thing out."

"Well, then, Arbin"--her eyes were suddenly bright and eager--"if you really think so--and I've been so hoping you would--he must be an Outsider. He can't be an Earthman."

"What do you mean, he can't be? That's more ridiculous still. Why should a man of the Empire come here to Earth, of all places?"

"I don't know why! Yes, I do; maybe he's committed a crime out there." She was caught up instantly in her own fancy. "Why not? It makes sense. Earth would be the natural place to come to. Who would ever think of looking for him here?"

"If he's an Outsider. What evidence do you have for that?"

"He doesn't speak the language, does he? You'll have to grant me that. Could you understand a single word? So he must come from some far-off corner of the Galaxy where the dialect is strange. They say the men of Fomalhaut have to learn practically a new language to be understood at the Emperor's court on Trantor. . . .But don't you see what all this can mean? If he's a stranger on Earth, he will have no registration with the Census Board, and he will be only too glad to avoid reporting to them. We can use him on the farm, in the place of Father, and it will be three people again, not two, who will have to meet the quota for three this next season. . . .He could even help with the harvest now."

She looked anxiously at the uncertain face of her husband, who considered long, then said, "Well, go to bed, Loa. We'll speak further in the common sense of daylight."

The whispering ended, the light was put out, and eventually sleep filled the room and the house.

The next morning it was Grew's turn to consider the matter. Arbin put the question to him hopefully. He felt a confidence in his father-in-law that he could not muster in himself.

Grew said, "Your troubles, Arbin, obviously arise from the fact that I am registered as a worker, so that the produce quota is set at three. I'm tired of creating trouble. This is the second year I have lived past my time. It is enough."

Arbin was embarrassed. . . .Now that wasn't the point at an. I'm not hinting that you're a trouble to us."

"Well, after an, what's the difference? In two years there will be the Census, and I will go anyway."

"At least you will have two more years of your books and your rest. Why should you be deprived of that?"

"Because others are. And what of you and Loa? When they come to take me, they will take you two as well. What kind of a man would I be to live a few stinking years at the expense--"

"Stop it, Grew. I don't want histrionics. We've told you many times what we're going to do. We'll report you a week before the Census. "

"And fool the doctor, I suppose?"

"We'll bribe the doctor."

"Hmp. And this new man--he'll double the offense. You'll be concealing him too."

"We'll turn him loose. For Space's sake, why bother about this now? We have two years. What shall we do with him?"

"A stranger," mused Grew. "He comes knocking at the door. He's from nowhere. He speaks unintelligibly. . . .I don't know what to advise."

The farmer said, "He is mild-mannered; seems frightened to death. He can't do us any harm."

"Frightened, eh? What if he's feeble-minded? What if his babbling isn't a foreign dialect at all, but just insane mouthing?"

"That doesn't sound likely." But Arbin stirred uneasily.

"You tell yourself that because you want to use him. . . . All right, I'll tell you what to do. Take him into town."

"To Chica?" Arbin was horrified. "That would be ruin."

"Not at all," said Grew calmly. "The trouble with you is that you don't read the newspapers. Fortunately for this family, I do. It so happens that the Institute for Nuclear Research has developed an instrument that is supposed to make it easier for people to learn. There was a full-page spread in the Week-end Supplement. And they want volunteers. Take this man. Let him be a volunteer."

Arbin shook his head firmly. "You're mad. I couldn't do anything like that, Grew. They'll ask for his registration number first thing. It's only inviting investigation to have things in improper order, and then they'll find out about you."

"No, they won't. It so happens you're all wrong, Arbin. The reason the Institute wants volunteers is that the machine is still experimental. It's probably killed a few people, so I'm sure they won't ask questions. And if the stranger dies, he'll probably be no worse off than he is now. . . .Here, Arbin, hand me the book projector and set the mark at reel six. And bring me the paper as soon as it comes, will you?"

When Schwartz opened his eyes, it was past noon. He felt that dun, heart-choking pain that feeds on itself, the pain of a wife no longer by his side at waking, of a familiar world lost. . .

Once before he had felt such a pain, and that momentary flash of memory came, lighting up a forgotten scene into sharp brilliance. There was himself, a youngster, in the snow of the wintry village. . . with the sleigh waiting. . . at the end of whose journey would be the train. . . and, after that, the great ship. . .

The longing, frustrating fear for the world of the familiar united him for the moment with that twenty-year-old who had emigrated to America.

The frustration was too real. This could not be a dream.

He jumped up as the light above the door blinked on and off and the meaningless baritone of his host sounded. Then the door opened and there was breakfast--a mealy

porridge that he did not recognize but which tasted faintly like corn mush (with a savory difference) and milk.

He said, "Thanks," and nodded his head vigorously.

The farmer said something in return and picked up Schwartz's shirt from where it hung on the back of the chair. He inspected it carefully from all directions, paying particular attention to the buttons. Then, replacing it, he flung open the sliding door of a closet, and for the first time Schwartz became visually aware of the warm milkiness of the walls.

"Plastic," he muttered to himself, using that all-inclusive word with the finality laymen always do. He noted further that there were no corners or angles in the room, all planes fading into each other at a gentle curve.

But the other was holding objects out toward him and was making gestures that could not be mistaken. Schwartz obviously was to wash and dress.

With help and directions, he obeyed. Except that he found nothing with which to shave, nor could gestures to his chin elicit anything but an incomprehensible sound accompanied by a look of distinct revulsion on the part of the other. Schwartz scratched at his gray stubble and sighed windily.

And then he was led to a small, elongated, biwheeled car, into which he was ordered by gestures. The ground sped beneath them and the empty road moved backward on either side, until low, sparkling white buildings rose before him, and there, far ahead, was the blue of water.

He pointed eagerly. "Chicago?"

It was the last gasp of hope within him, for certainly nothing he ever saw looked less like that city.

The farmer made no answer at all.

And the last hope died.

3. ONE WORLD--OR MANY?

Bel Arvandan, fresh from his interview with the press, on the occasion of his forthcoming expedition to Earth, felt at supreme peace with all the hundred million star systems that composed the all-embracing Galactic Empire. It was no longer a question of being known in this sector or that. Let his theories concerning Earth be proven and his reputation would be assured on every inhabited planet of the Milky Way, on every planet that Man had set foot through the hundreds of thousands of years of expansion through space.

These potential heights of renown, these pure and rarefied intellectual peaks of science were coming to him early, yet not easily. He was scarcely thirty-five, but already his career had been packed with controversy. It had begun with an explosion that had rocked the halls of the University of Arcturus when he first graduated as Senior Archaeologist from that institution at the unprecedented age of twenty-three. The explosion--no less effective for being immaterial --consisted of the rejection for publication, on the part of the Journal of the Galactic Archaeological Society, of his Senior Dissertation. It was the first time in the history of the university that a Senior Dissertation had been rejected. It was equally the first time in the history of that staid professional journal that a rejection had been couched in such blunt terms.

To a non-archaeologist, the reason for such anger against an obscure and dry little pamphlet, entitled *On the Antiquity of Artifacts in the Sirius Sector with Considerations of the Application Thereof to the Radiation Hypothesis of Human Origin*, might seem mysterious. What was involved, however, was that from the first Arvandan adopted as his own the hypothesis advanced earlier by certain groups of mystics who were more concerned with metaphysics than with archaeology; i.e., that Humanity had originated upon some single planet and had radiated by degrees throughout the Galaxy. This was a favorite theory of the fantasy writers of the day, and the bete noire of every respectable archaeologist of the Empire.

But Arvandan became a force to be reckoned with by even the most respectable, for within the decade he had become the recognized authority on the relics of the pre-Empire cultures still left in the eddies and quiet backwaters of the Galaxy.

For instance, he had written a monograph on the mechanistic civilization of the Rigel Sector, where the development of robots created a separate culture that persisted for centuries, till the very perfection of the metal slaves reduced the human initiative to the point where the vigorous fleets of the War Lord. Moray, took easy control. Orthodox archaeology insisted on the evolution of Human types independently on various planets and used such atypical cultures, as that on Rigel, as examples of race differences that had not yet been ironed out through intermarriage. Arvandan destroyed such concepts effectively by showing that Rigellian robot culture was but a natural outgrowth of the economic and social forces of the times and of the region.

Then there were the barbarous worlds of Ophiuchus, which the orthodox had long upheld as samples of primitive Humanity not yet advanced to the stage of interstellar travel. Every textbook used those worlds as the best evidence of the Merger Theory; i.e., that Humanity was the natural climax of evolution on any world based upon a water-oxygen chemistry with proper intensities of temperature and gravitation; that each independent strain of Humanity could intermarry; that with the discovery of interstellar travel, such intermarriage took place.

Arvardan, however, uncovered traces of the early civilization that had preceded the then thousand-year-old barbarism of Ophiuchus and proved that the earliest records of the planet showed traces of interstellar trade. The final touch came when he demonstrated beyond any doubt that Man had emigrated to the region in an already civilized state.

It was after that that the Gal. Arch. Soc. (to give the Journal its professional abbreviation) decided to print Arvardan's Senior Dissertation more than ten years after it had been presented.

And now the pursuit of his pet theory led Arvardan to probably the least significant planet of the Empire--the planet called Earth.

Arvardan landed at that one spot of Empire on all Earth, that patch among the desolate heights of the plateaus north of the Himalayas. There where radioactivity was not, and never had been, there gleamed a palace that was not of Terrestrial architecture. In essence it was a copy of the viceregal palaces that existed on more fortunate worlds. The soft lushness of the grounds was built for comfort. The forbidding rocks had been covered with topsoil, watered, immersed in an artificial atmosphere and climate--and converted into five square miles of lawns and flower gardens.

The cost in energy involved in this performance was terrific by Earthly calculations, but it had behind it the completely incredible resources of tens of millions of planets, continually growing in number. (It has been estimated that in the Year of the Galactic Era 827 an average of fifty new planets each day were achieving the dignity of provincial status, this condition requiring the attainment of a population of five hundred millions.)

In this spot of non-Earth lived the Procurator of Earth, and sometimes, in this artificial luxury, he could forget that he was a Procurator of a rathole world and remember that he was an aristocrat of great honor and ancient family.

His wife was perhaps less often deluded, particularly at such times as, topping a grassy knoll, she could see in the distance the sharp, decisive line separating the grounds from the fierce wilderness of Earth. It was then that not all the colored fountains (luminescent at night, with an effect of cold liquid fire), flowered walks, or idyllic groves could compensate for the knowledge of their exile.

So perhaps Arvardan was welcomed even more than protocol might call for. To the Procurator, after all, Arvardan was a breath of Empire, of spaciousness, of boundlessness.

And Arvardan for his part found much to admire.

He said, "This is done well--and with taste. It is amazing how a touch of the central culture permeates the most outlying districts of our Empire, Lord Ennius."

Ennius smiled. "I'm afraid the Procurator's court here on Earth is more pleasant to visit than to live in. It is but a shell that rings hollowly when touched. When you have considered myself and family, the staff, the Imperial garrison, both here and in the important planetary centers, together with an occasional visitor such as yourself, you have exhausted all the touch of the central culture that exists. It seems scarcely enough."

They sat in the colonnade in the dying afternoon, with the sun glinting downward toward the mist-purpled jags of the horizon and the air so heavy with the scent of growing things that its motions were merely sighs of exertion.

It was, of course, not quite suitable for even a Procurator to show too great a curiosity about the doings of a guest, but that does not take into account the inhumanity of day-to-day isolation from all the Empire.

Ennius said, "Do you plan to stay for some time, Dr. Arvandan?"

"As to that, Lord Ennius, I cannot surely say. I have come ahead of the rest of my expedition in order to acquaint myself with Earth's culture and to fulfill the necessary legal requirements. For instance, I must obtain the usual official permission from you to establish camps at the necessary sites, and soon."

"Oh granted, granted! But when do you start digging? And whatever can you possibly expect to find on this miserable heap of rubble?"

"I hope, if all goes well, to be able to set up camp in a few months. And as to this world--why, it's anything but a miserable heap. It is absolutely unique in the Galaxy."

"Unique?" said the Procurator stiffly. "Not at all! It is a very ordinary world. It is more or less of a pigpen of a world, or a horrible hole of a world, or a cesspool of a world, or almost any other particularly derogative adjective you care to use. And yet, with all its refinement of nausea, it cannot even achieve uniqueness in villainy, but remains an ordinary, brutish peasant world."

"But," said Arvandan, somewhat taken aback by the energy of the inconsistent statements thus thrown at him, "the world is radioactive."

"Well, what of that? Some thousands of planets in the Galaxy are radioactive, and some are considerably more so than Earth."

It was at this moment that the soft-gliding motion of the mobile cabinet attracted their attention. It came to a halt within easy hand reach.

Ennius gestured toward it and said to the other, "What would you prefer?"

"I'm not particular. A lime twist, perhaps."

"That can be handled. The cabinet will have the ingredients. . . .With or without Chensey?"

"Just about a tang of it," said Arvandan, and held up his forefinger and thumb, nearly touching.

"You'll have it in a minute."

Somewhere in the bowels of the cabinet (perhaps the most universally popular mechanical offspring of human ingenuity) a bartender went into action--a non-human bartender whose electronic soul mixed things not by jiggers but by atom counts, whose

ratios were perfect every time, and who could not be matched by all the inspired artistry of anyone merely human.

The tall glasses appeared from nowhere, it seemed, as they waited in the appropriate recesses.

Arvardan took the green one and, for a moment, felt the chill of it against his cheek. Then he placed the rim to his lips and tasted.

"Just right," he said. He placed the glass in the well-fitted holder in the arm of his chair and said, "Thousands of radioactive planets, Procurator, just as you say, but only one of them is inhabited. This one, Procurator."

"Well"--Ennius smacked his lips over his own drink and seemed to lose some of his sharpness after contact with its velvet--"perhaps it is unique in that way. It's an unenviable distinction."

"But it is not just a question of statistical uniqueness." Arvardan spoke deliberately between occasional sips. "It goes further; it has tremendous potentialities. Biologists have shown, or claim to have shown, that on planets in which the intensity of radioactivity in the atmosphere and in the seas is above a certain point life will not develop. . . .Earth's radioactivity is above that point by a considerable margin."

"Interesting. I didn't know that. I imagine that this would constitute definite proof that Earth life is fundamentally different from that of the rest of the Galaxy. . . .That should suit you, since you're from Sirius." He seemed sardonically amused at this point and said in a confidential aside, "Do you know that the biggest single difficulty involved in ruling this planet lies in coping with the intense anti-Terrestrialism that exists throughout the entire Sirius Sector? And the feeling is returned with interest on the part of these Earthmen. I'm not saying, of course, that anti-Terrestrialism doesn't exist in more or less diluted form in many places in the Galaxy, but not like on Sirius."

Arvardan's response was impatient and vehement. "Lord Ennius, I reject the implication. I have as little intolerance in me as any man living. I believe in the oneness of humanity to my very scientific core, and that includes even Earth. And all life is fundamentally one, in that it is all based upon protein complexes in colloidal dispersion, which we call protoplasm. The effect of radioactivity that I just talked of does not apply simply to some forms of human life, or to some forms of any life. It applies to all life, since it is based upon the quantum mechanics of the protein molecules. It applies to you, to me, to Earthmen, to spiders, and to germs.

"You see, proteins, as I probably needn't tell you, are immensely complicated groupings of amino acids and certain other specialized compounds, arranged in intricate three-dimensional patterns that are as unstable as sunbeams on a cloudy day. It is this instability that is life, since it is forever changing its position in an effort to maintain its identity--in the manner of a long rod balanced on an acrobat's nose.

"But this marvelous chemical, this protein, must be first built up out of inorganic matter before life can exist. So, at the very beginning, by the influence of the sun's radiant energy upon those huge solutions we call oceans, organic molecules gradually increase in complexity from methane to formaldehyde and finally to sugars and starches in one

direction, and from urea to amino acids and proteins in another direction. It's a matter of chance, of course, these combinations and disintegrations of atoms, and the process on one world may take millions of years while on another it may take only hundreds. Of course it is much more probable that it will take millions of years. In fact, it is most probable that it will end up never happening.

"Now physical organic chemists have worked out with great exactness all the reaction chain involved, particularly the energetics thereof; that is, the energy relationships involved in each atom shift. It is now known beyond the shadow of a doubt that several of the crucial steps in the building of life require the absence of radiant energy. If this strikes you as queer, Procurator, I can only say that photochemistry (the chemistry of reactions induced by radiant energy) is a well-developed branch of the science, and there are innumerable cases of very simple reactions which will go in one of two different directions depending upon whether it takes place in the presence or absence of quanta of light energy.

"In ordinary worlds the sun is the only source of radiant energy, or, at least, by far the major source. In the shelter of clouds, or at night, the carbon and nitrogen compounds combine and recombine, in the fashions made possible by the absence of those little bits of energy hurled into the midst of them by the sun-like bowling balls into the midst of an infinite number of infinitesimal tenpins.

"But on radioactive worlds, sun or no sun, every drop of water--even in the deepest night, even five miles undersparkles and bursts with darting gamma rays, kicking up the carbon atoms--activating them, the chemists say--and forcing certain key reactions to proceed only in certain ways, ways that never result in life."

Arvardan's drink was gone. He placed the empty glass on the waiting cabinet. It was withdrawn instantly into the special compartment where it was cleaned, sterilized, and made ready for the next drink.

"Another one?" asked Ennius.

"Ask me after dinner," said Arvardan. "I've had quite enough for now."

Ennius tapped a tapering fingernail upon the arm of his chair and said, "you make the process sound quite fascinating, but if it is as you say, then what about the life on Earth? How did it develop?"

"Ah, you see, even you are beginning to wonder. But the answer, I think, is simple. Radioactivity, in excess of the minimum required to prevent life, is still not necessarily sufficient to destroy life already formed. It might modify it, but, except in comparatively huge excess, it will not destroy it. . . . You see, the chemistry involved is different. In the first case, simple molecules must be prevented from building up, while in the second, already-formed complex molecules must be broken down. Not at all the same thing."

"I don't get the application of that at all," said Ennius.

"Isn't it obvious? Life on Earth originated before the planet became radioactive. My dear Procurator, it is the only possible explanation that does not involve denying either the fact of life on Earth or enough chemical theory to upset half the science."

Ennius gazed at the other in amazed disbelief. "But you can't mean that."

"Why not?"

"Because how can a world become radioactive? The life of the radioactive elements in the planet's crust are in the millions and billions of years. I've learned that, at least, during my university career, even in a pre-law course. They must have existed indefinitely in the past."

"But there is such a thing as artificial radioactivity, Lord Ennius--even on a huge scale. There are thousands of nuclear reactions of sufficient energy to create all sorts of radioactive isotopes. Why, if we were to suppose that human beings might use some applied nuclear reaction in industry, without proper controls, or even in war, if you can imagine anything like a war proceeding on a single planet, most of the topsoil could, conceivably, be converted into artificially radioactive materials. What do you say to that?"

The sun had expired in blood on the mountains, and Ennius's thin face was ruddy in the reflection of that process. The gentle evening wind stirred, and the drowsy murmur of the carefully selected varieties of insect life upon the palace grounds was more soothing than ever.

Ennius said, "It sounds very artificial to me. For one thing, I can't conceive using nuclear reactions in war or letting them get out of control to this extent in any manner--"

"Naturally, sir, you tend to underestimate nuclear reactions because you're living in the present, when they're so easily controlled. But what if someone--or some army--used such weapons before the defense had been worked out? For instance, it's like using fire bombs before anyone knew that water or sand would put out fire."

"Hmm," said Ennius, "you sound like Shekt."

"Who's Shekt?" Arvandan looked up quickly.

"An Earthman. One of the few decent ones--I mean, one that a gentleman can speak to. He's a physicist. He told me once that Earth might not always have been radioactive."

"Ah. . . Well, that's not unusual, since the theory is certainly not original with me. It's part of the Book of the Ancients, which contains the traditional, or mythical, history of prehistoric Earth. I'm saying what it says, in a way, except that I'm putting its rather elliptical phraseology into equivalent scientific statements."

"The Book of the Ancients?" Ennius seemed surprised, and a little upset. "Where did you get that?"

"Here and there. It wasn't easy, and I only obtained parts. Of course all this traditional information about non-radioactivity, even where completely unscientific, is important to my project. . . Why do you ask?"

"Because the book IS the revered text of a radical sect of Earthmen. It is forbidden for Outsiders to read it. I wouldn't broadcast the fact that you did, either, while you're here. Non-Earthmen, or Outsiders, as they call them, have been lynched for less."

"You make it sound as if the Imperial police power here is defective."

"It is in cases of sacrilege. A word to the wise, Dr. Arvandan!"

A melodious chime sounded a vibrant note that seemed to harmonize with the rustling whisper of the trees. It faded out slowly, lingering as though in love with its surroundings.

Ennius rose. "I believe it is time for dinner. Will you join me, sir, and enjoy such hospitality as this husk of Empire on Earth can afford?"

An occasion for an elaborate dinner came infrequently enough. An excuse, even a slim one, was not to be missed. So the courses were many, the surroundings lavish, the men polished, and the women bewitching. And, it must be added, Dr. B. Arvardan of Baronn, Sirius, was lionized to quite an intoxicating extent.

Arvardan took advantage of his dinner audience during the latter portion of the banquet to repeat much of what he had said to Ennius, but here his exposition met with markedly less success.

A florid gentleman in colonel's uniform leaned toward him with that marked condescension of the military man for the scholar and said, "If I interpret your expressions rightly, Dr. Arvardan, you are trying to tell us that these hounds of Earth represent an ancient race that may once have been the ancestors of all humanity?"

"I hesitate, Colonel, to make the flat assertion, but I think there is an interesting chance that it might be so. A year from now I confidently hope to be able to make a definite judgment."

"If you find that they are, Doctor, which I strongly doubt," rejoined the colonel, "you will astonish me beyond measure. I have been stationed on Earth now for four years, and my experience is not of the smallest. I find these Earthmen to be rogues and knaves, every one of them. They are definitely our inferiors intellectually. They lack that spark that has spread humanity throughout the Galaxy. They are lazy, superstitious, avaricious, and with no trace of nobility of soul. I defy you, or anyone, to show me an Earthman who can in any way be an equal of any true man--yourself or myself, for instance--and only then will I grant you that he may represent a race who once were our ancestors. But, until then, please excuse me from making any such assumption."

A portly man at the foot of the table said suddenly, "They say the only good Earthman is a dead Earthman, and that even then they generally stink," and laughed immoderately.

Arvardan frowned at the dish before him and said, without looking up, "I have no desire to argue racial differences, especially since it is irrelevant in this case. It is the Earthman of prehistory that I speak of. His descendants of today have been long isolated, and have been subjected to a most unusual environment--yet I still would not dismiss them too casually."

He turned to Ennius and said, "My Lord, I believe you mentioned an Earthman before dinner."

"I did? I don't recall."

"A physicist. Shekt."

"Oh yes. Yes."

"Affret Shekt, perhaps?"

"Why, yes. Have you heard of him?"

"I think I have. It's been bothering me all through dinner, ever since you mentioned him, but I think I've placed him. He wouldn't be at the Institute of Nuclear Research at--Oh, what's the name of that damned place?" He struck at his forehead with the heel of his palm once or twice. "At Chica?"

"You have the right person. What about him?"

"Only this. There was an article by him in the August issue of Physical Reviews. I noticed it because I was looking for anything that had to do with Earth, and articles by Earthmen in journals of Galactic circulation are very rare. . . .In any case, the point I am trying to make is that the man claims to have developed something he calls a Synapsifier, which is supposed to improve the learning capacity of the mammalian nervous system."

"Really?" said Ennius a bit too sharply. "I haven't heard about it."

"I can find you the reference. It's quite an interesting article; though, of course, I can't pretend to understand the mathematics involved. What he has done, however, has been to treat some indigenous animal form on Earth--rats, I believe they call them--with the Synapsifier and then put them to solving a maze. You know what I mean: learning the proper pathway through a tiny labyrinth to some food supply. He used non-treated rats as controls and found that in every case the Synapsified rats solved the maze in less than one third the time. . . .Do you see the significance, Colonel?"

The military man who had initiated the discussion said indifferently, "No, Doctor, I do not."

"I'll explain, then, that I firmly believe that any scientist capable of doing such work. even an Earthman, is certainly my intellectual equal, at least, and, if you'll pardon my presumption, yours as well."

Ennius interrupted. "Pardon me, Dr. Arvadan. I would like to return to the Synapsifier. Has Shekt experimented with human beings?"

Arvadan laughed. "I doubt it, Lord Ennius. Nine tenths of his Synapsified rats died during treatment. He would scarcely dare use human subjects until much more progress has been made."

So Ennius sank back into his chair with a slight frown on his forehead and, thereafter, neither spoke nor ate for the remainder of the dinner.

Before midnight the Procurator had quietly left the gathering and, with a bare word to his wife only, departed in his private cruiser on the two-hour trip to the city of Chica, with the slight frown still on his forehead and a raging anxiety in his heart.

Thus it was that on the same afternoon that Arbin Maren brought Joseph Schwartz into Chica for treatment with Shekt's Synapsifier. Shekt himself had been closeted with none less than the Procurator of Earth for over an hour.

4. THE ROYAL ROAD

Arbin was uneasy in Chica. He felt surrounded. Somewhere in Chica, one of the largest cities on Earth--they said it had fifty thousand human beings in it--somewhere there were officials of the great outer Empire.

To be sure, he had never seen a man of the Galaxy: yet here, in Chica, his neck was continually twisting in fear that he might. If pinned down, he could not have explained how he would identify an Outsider from an Earthman, even if he were to see one, but it was in his very marrow to feel that there was, somehow, a difference.

He looked back over his shoulder as he entered the Institute. His biwheel was parked in an open area, with a six-hour coupon holding a spot open for it. Was the extravagance itself suspicious? . . . Everything frightened him now. The air was full of eyes and ears.

If only the strange man would remember to remain hidden in the bottom of the rear compartment. He had nodded violently--but had he understood? He was suddenly impatient with himself. Why had he let Grew talk him into this madness?

And then somehow the door was open in front of him and a voice had broken in on his thoughts.

It said, "What do you want?"

It sounded impatient; perhaps it had already asked him that same thing several times.

He answered hoarsely, words choking out of his throat like dry powder, "Is this where a man can apply for the Synapsifier?"

The receptionist looked up sharply and said, "Sign here."

Arbin put his hands behind his back and repeated huskily, "Where do I see about the Synapsifier?" Grew had told him the name, but the word came out queerly, like so much gibberish.

But the receptionist said, with iron in her voice, "I can't do anything for you unless you sign the register as a visitor. It's in the rules."

Without a word, Arbin turned to go. The young woman behind the desk pressed her lips together and kicked the signal bar at the side of her chair violently.

Arbin was fighting desperately for a lack of notoriety and failing miserably in his own mind. This girl was looking hard at him. She'd remember him a thousand years later. He had a wild desire to run, run back to the car, back to the farm. . .

Someone in a white lab coat was coming rapidly out of another room, and the receptionist was pointing to him. "Volunteer for the Synapsifier, Miss Shekt," she was saying. "He won't give his name."

Arbin looked up. It was still another girl, young. He looked disturbed. "Are you in charge of the machine, miss?"

"No, not at all." She smiled in a very friendly fashion, and Arbin felt anxiety ebb slightly.

"I can take you to him, though," she went on. Then, eagerly, "Do you really want to volunteer for the Synapsifier?"

"I just want to see the man in charge," Arbin said woodenly.

"All right." She seemed not at all disturbed by the rebuff. She slipped back through the door from which she had come. There was a short wait. Then, finally, there was the beckon of a finger. . .

He followed her, heart pounding, into a small anteroom. She said gently, "If you will wait about half an hour or less. Dr. Shekt will be with you. He is very busy just now. . . If you would like some book films and a viewer to pass the time. I'll bring them to you."

But Arbin shook his head. The four walls of the small room closed about him, and held him rigid, it seemed. Was he trapped? Were the Ancients coming for him?

It was the longest wait in Arbin's life.

Lord Ennius, Procurator of Earth, had experienced no comparable difficulties in seeing Dr. Shekt, though he had experienced an almost comparable excitement. In his fourth year as Procurator, a visit to Chica was still an event. As the direct representative of the remote Emperor, his social standing was, legalistically, upon a par with viceroys of huge Galactic sectors that sprawled their gleaming volumes across hundreds of cubic parsecs of space, but, actually, his post was little short of exile.

Trapped as he was in the sterile emptiness of the Himalayas, among the equally sterile quarrels of a population that hated him and the Empire he represented, even a trip to Chica was escape.

To be sure, his escapes were short ones. They had to be short, since here at Chica it was necessary to wear lead-impregnated clothes at all times, even while sleeping, and, what was worse, to dose oneself continually with metaboline.

He spoke bitterly of that to Shekt.

"Metaboline," he said, holding up the vermilion pill for inspection, "is perhaps a true symbol of all that your planet means to me, my friend. Its function is to heighten all metabolic processes while I sit here immersed in the radioactive cloud that surrounds me and which you are not even aware of."

He swallowed it. "There' Now my heart will beat more quickly; my breath will pump a race of its own accord; and my liver will boil away in those chemical syntheses that, medical men tell me, make it the most important factory in the body. And for that I pay with a siege of headaches and lassitude afterward."

Dr. Shekt listened with some amusement. He gave a strong impression of being nearsighted, did Shekt, not because he wore glasses or was in any way afflicted, but merely because long habit had given him the unconscious trick of peering closely at things, of weighing all facts anxiously before saying anything. He was tall and in his late middle age, his thin figure slightly stooped.

But he was well read in much of Galactic culture, and he was relatively free of the trick of universal hostility and suspicion that made the average Earthman so repulsive even to so cosmopolitan a man of the Empire as Ennius.

Shekt said, "I'm sure you don't need the pill. Metaboline is just one of your superstitions, and you know it. If I were to substitute sugar pills without your knowledge, you'd be none the worse. What's more, you would even psychosomaticize yourself into similar headaches afterward."

"You say that in the comfort of your own environment. Do you deny that your basal metabolism is higher than mine?"

"Of course I don't, but what of it? I know that it is a superstition of the Empire, Ennius, that we men of Earth are different from other human beings, but that's not really so in the essentials. Or are you coming here as a missionary of the anti-Terrestrians?"

Ennius groaned. "By the life of the Emperor, your comrades of Earth are themselves the best such missionaries. Living here, as they do, cooped up on their deadly planet, festering in their own anger, they're nothing but a standing ulcer in the Galaxy.

"I'm serious, Shekt. What planet has so much ritual in its daily life and adheres to it with such masochistic fury? Not a day passes but I receive delegations from one or another of your ruling bodies for the death penalty for some poor devil whose only crime has been to invade a forbidden area, to evade the Sixty, or perhaps merely to eat more than his share of food."

"Ah, but you always grant the death penalty. Your idealistic distaste seems to stop short at resisting."

"The Stars are my witness that I struggle to deny the death. But what can one do? The Emperor will have it that all the subdivisions of the Empire are to remain undisturbed in their local customs--and that is right and wise, since it removes popular support from the fools who would otherwise kick up rebellion on alternate Tuesdays and Thursdays. Besides, were I to remain obdurate when your Councils and Senates and Chambers insist on the death, such a shrieking would arise and such a wild howling and such denunciation of the Empire and all its works that I would sooner sleep in the midst of a legion of devils for twenty years than face such an Earth for ten minutes."

Shekt sighed and rubbed the thin hair back upon his skull. "To the rest of the Galaxy, if they are aware of us at all, Earth is but a pebble in the sky. To us it is home, and all the home we know. Yet we are no different from you of the outer worlds, merely more unfortunate. We are crowded here on a world all but dead, immersed within a wall of radiation that imprisons us, surrounded by a huge Galaxy that rejects us. What can we do against the feeling of frustration that bums us? Would you, Procurator, be willing that we send our surplus population abroad?"

Ennius shrugged. "Would I care? It is the outside populations themselves that would. They don't care to fall victim to Terrestrial diseases."

"Terrestrial diseases!" Shekt scowled. "It is a nonsensical notion that should be eradicated. We are not carriers of death. Are you dead for having been among us?"

"To be sure," smiled Ennius, "I do everything to prevent undue contact."

"It is because you yourself fear the propaganda created, after all, only by the stupidity of your own bigots."

"Why, Shekt, no scientific basis at all to the theory that Earthmen are themselves radioactive?"

"Yes, certainly they are. How could they avoid it? So are you. So is everyone on every one of the hundred million planets of the Empire. We are more so, I grant you, but scarcely enough to harm anyone."

"But the average man of the Galaxy believes the opposite, I am afraid, and is not desirous of finding out by experiment. Besides--"

"Besides, you're going to say, we're different. We're not human beings, because we mutate more rapidly, due to atomic radiation, and have therefore changed in many ways. . . . Also not proven."

"But believed."

"And as long as it is so believed, Procurator, and as long as we of Earth are treated as pariahs, you are going to find in us the characteristics to which you object. If you push us intolerably, is it to be wondered at that we push back? Hatina us as you do, can you complain that we hate in our turn? No, no, we are far more the offended than the offending."

Ennius was chagrined at the anger he had raised. Even the best of these Earthmen, he thought, have the same blind spot, the same feeling of Earth versus all the universe.

He said tactfully, "Shekt, forgive my boorishness, will you? Take my youth and boredom as excuse. You see before you a poor man, a young fellow of forty--and forty is the age of a babe in the professional civil service--who is grinding out his apprenticeship here on Earth. It may be years before the fools in the Bureau of the Outer Provinces remember me long enough to promote me to something less deadly. So we are both prisoners of Earth and both citizens of the great world of the mind in which there is distinction of neither planet nor physical characteristics. Give me your hand, then, and let us be friends."

The lines on Shekt's face smoothed out, or, more exactly, were replaced by others more indicative of good humor. He laughed outright. "The words are the words of a suppliant, but the tone is still that of the Imperial career diplomat. You are a poor actor, Procurator."

"Then counter me by being a good teacher, and tell me of this Synapsifier of yours."

Shekt started visibly and frowned. "What, you have heard of the instrument? You are then a physicist as well as an administrator?"

"All knowledge is my province. But seriously, Shekt, I would really like to know."

The physicist peered closely at the other and seemed doubtful. He rose and his gnarled hand lifted to his lip, which it pinched thoughtfully. "I scarcely know where to begin."

"Well, Stars above, if you are considering at which point in the mathematical theory you are to begin, I'll simplify your problem. Abandon them all. I know nothing of your functions and tensors and what not."

Shekt's eyes twinkled. "Well, then, to stick to descriptive matter only, it is simply a device intended to increase the learning capacity of a human being."

"Of a human being? Really! And does it work?"

"I wish we knew. Much more work is necessary. I'll give you the essentials, Procurator, and you can judge for yourself. The nervous system in man--and in animals--is composed of neuroprotein material. Such material consists of huge molecules in very precarious electrical balance. The slightest stimulus will upset one, which will right itself by upsetting the next, which will repeat the process, until the brain is reached. The brain itself is an immense grouping of similar molecules which are connected among themselves in all possible ways. Since there are something like ten to the twentieth power--that is, a one with twenty zeros after it--such neuroproteins in the brain, the number of possible combinations are of the order of factorial ten to the twentieth power. This is a number so large that if all the electrons and protons in the universe were made universes themselves, and all the electrons and protons in all of these new universes again made universes, then all the electrons and protons in all the universes so created would still be nothing in comparison. . . . Do you follow me?"

"Not a word, thank the Stars. If I even attempted to, I should bark like a dog for sheer pain of the intellect."

"Hmp. Well, in any case, what we call nerve impulses are merely the progressive electronic unbalance that proceeds along the nerves to the brain and then from the brain back along the nerves. Do you get that?"

"Yes."

"Well, blessings on you for a genius, then. As long as this impulse continues along a nerve cell, it proceeds at a rapid rate, since the neuroproteins are practically in contact. However, nerve cells are limited in extent, and between each nerve cell and the next is a very thin partition of non-nervous tissue. In other words, two adjoining nerve cells do not actually connect with each other."

"Ah," said Ennius, "and the nervous impulse must jump the barrier."

"Exactly! The partition drops the strength of the impulse and slows the speed of its transmission according to the square of the width thereof. This holds for the brain as well. But imagine, now, if some means could be found to lower the dielectric constant of this partition between the cells."

"That what constant?"

"The insulating strength of the partition. That's all I mean. If that were decreased, the impulse would jump the gap more easily. You would think faster and learn faster."

"Well, then, I come back to my original question. Does it work?"

"I have tried the instrument on animals."

"And with what result?"

"Why, that most die very quickly of denaturation of brain protein-coagulation, in other words, like hard-boiling an egg."

Ennius winced. "There is something ineffably cruel about the cold-bloodedness of science. What about those that didn't die?"

"Not conclusive, since they're not human beings. The burden of the evidence seems to be favorable, for them. . . .But I need humans. You see, it is a matter of the natural electronic properties of the individual brain. Each brain gives rise to microcurrents of a certain type. None are exactly duplicates. They're like fingerprints, or the blood-vessel patterns of the retina. If anything, they're even more individual. The treatment, I believe, must take that into account, and, if I am right, there will be no more denaturation. . . .But I have no human beings on whom to experiment. I ask for volunteers, but--" He spread his hands.

"I certainly don't blame them, old man," said Ennius. "But seriously, should the instrument be perfected, what do you intend doing with it?"

The physicist shrugged. "That's not for me to say. It would be up to the Grand Council, of course."

"You would not consider making the invention available to the Empire?"

"I? I have no objections at all. But only the Grand Council has jurisdiction over--"

"Oh," said Ennius with impatience, "the devil with your Grand Council. I have had dealings with them before. Would you be willing to talk to them at the proper time?"

"Why, what influence could I possibly have?"

"You might tell them that if Earth could produce a Synapsifier that would be applicable to human beings in complete safety, and if the device were made available to the Galaxy, then some of the restrictions on emigration to other planets might be broken down."

"What," said Shekt sarcastically, "and risk epidemics and our differentness and our non-humanity?"

"You might," said Ennius quietly, "even be removed en masse to another planet. Consider it." The door opened at this point and a young lady brushed her way in past the book-film cabinet. She destroyed the musty atmosphere of the cloistered study with an automatic breath of spring. At the sight of a stranger she reddened slightly and turned.

"Come in, Pola," called Shekt hastily. "My Lord," he said to Ennius, "I believe you have never met my daughter. Pola this is Lord Ennius, Procurator of Earth."

The Procurator was on his feet with an easy gallantry that negated her first wild attempt at a curtsy.

"My dear Miss Shekt," he said, "you are an ornament I did not believe Earth capable of producing. You would, indeed, be an ornament on any world I can think of."

He took Pola's hand, which was quickly and somewhat bashfully extended to meet his gesture. For a moment Ennius made as if to kiss it, in the courtly fashion of the past generation, but the intention, if such it was, never came to fruition. Half lifted, the hand was released--a trace too quickly, perhaps.

Pola, with the slightest of frowns, said, "I'm overwhelmed at your kindness, my Lord, to a simple girl of Earth. You are brave and gallant to dare infection as you do."

Shekt cleared his throat and interrupted. "My daughter, Procurator, is completing her studies at the University of Chica and is obtaining some needed field credits by spending two days a week in my laboratory as a technician. A competent girl, and though I say it with the pride of a father, she may someday sit in my place."

"Father," said Pola gently, "I have some important information for you." She hesitated.

"Shall I leave?" said Ennius quietly.

"No, no," said Shekt. "What is it, Pola?"

The girl said, "We have a volunteer, Father."

Shekt stared, almost stupidly. "For the Synapsifier?"

"So he says."

"Well," said Ennius, "I bring you good fortune, I see."

"So it would seem." Shekt turned to his daughter. "Tell him to wait. Take him to Room C, and I'll be with him soon."

He turned to Ennius after Pola left. "Will you excuse me, Procurator?"

"Certainly. How long does the operation take?"

"It's a matter of hours, I'm afraid. Do you wish to watch?"

"I can imagine nothing more gruesome, my dear Shekt. I'll be in the State House till tomorrow. Will you tell me the result?"

Shekt seemed relieved. "Yes, certainly."

"Good. . . .And think over what I said about your Synapsifier. Your new royal road to knowledge."

Ennius left, less at ease than when he had arrived; his knowledge no greater, his fears much increased.

5. THE INVOLUNTARY VOLUNTEER

Once alone, Dr. Shekt, quietly and cautiously, touched the summoner, and a young technician entered hurriedly, white robe sparkling, long brown hair carefully bound back.

Dr. Shekt said, "Has Pola told you--"

"Yes, Dr. Shekt. I've observed him through the visiplat, and he must undoubtedly be a legitimate volunteer. He's certainly not a subject sent in the usual manner."

"Ought I refer to the Council, do you suppose?"

"I don't know what to advise. The Council wouldn't approve of any ordinary communication. Any beam can be tapped, you know." Then, eagerly, "Suppose I get rid of him. I can tell him we need men under thirty. The subject is easily thirty-five."

"No, no. I'd better see him." Shekt's mind was a cold whirl. So far things had been most judiciously handled. Just enough information to lend a spurious frankness, but no more. And now an actual volunteer--and immediately after Ennius's visit. Was there a connection? Shekt himself had but the vaguest knowledge of the giant misty forces that were now beginning to wrestle back and forth across the blasted face of Earth. But, in a way, he knew enough. Enough to feel himself at the mercy of them, and certainly more than any of the Ancients suspected he knew.

Yet what could he do, since his life was doubly in danger?

Ten minutes later Dr. Shekt was peering helplessly at the gnarled farmer standing before him, cap in hand, head half averted, as though attempting to avoid a too-close scrutiny. His age, thought Shekt, was certainly under forty, but the hard life of the soil was no flatterer of men. The man's cheeks were reddened beneath the leathery brown, and there were distinct traces of perspiration at the hairline and the temples, though the room was cool. The man's hands were fumbling at each other.

"Now, my dear sir," said Shekt kindly, "I understand you refuse to give your name."

Arbin's was a blind stubbornness. "I was told no questions would be asked if you had a volunteer."

"Hmm. Well, is there anything at all you would like to say? Or do you just want to be treated immediately?"

"Me? Here, now?" in sudden panic. "It's not myself that's the volunteer. I didn't say anything to give that impression."

"No? You mean someone else is the volunteer?"

"Certainly. What would I want--"

"I understand. Is the subject, this other man, with you?"

"In a way," said Arbin cautiously.

"All right. Now, look, just tell us whatever you wish. Everything you say will be held in strict confidence, and we'll help you in whatever way we can. Agreed?"

The farmer ducked his head, as a sort of rudimentary gesture of respect. "Thank you. It's like this, sir. We have a man about the farm, a distant--uh--relative. He helps, you understand--"

Arbin swallowed with difficulty, and Shekt nodded gravely.

Arbin continued. "He's a very willing worker and a very good worker--we had a son, you see, but he died--and my good woman and myself, you see, need the help--she's not well--we could not get along without him, scarcely." He felt that somehow the story was a complete mess.

But the gaunt scientist nodded at him. "And this relative of yours is the one you wish treated?"

"Why, yes, I thought I had said that--but you'll pardon me if this takes me some time. You see, the poor fellow is not-exactly-right in his head." He hurried on, furiously. "He is not sick, you understand. He is not wrong so that he has to be put away. He's just slow. He doesn't talk, you see."

"He can't talk?" Shekt seemed startled.

"Oh--he can. It's just that he doesn't like to. He doesn't talk well."

The physicist looked dubious. "And you want the Synapsifier to improve his mentality, eh?"

Slowly, Arbin nodded. "If he knew a bit more, sir, why, he could do some of the work my wife can't, you see."

"He might die. Do you understand that?"

Arbin looked at him helplessly, and his fingers writhed furiously.

Shekt said, "I'd need his consent."

The farmer shook his head slowly, stubbornly. "He won't understand." Then, urgently, almost beneath his breath, "Why, look, sir, I'm sure you'll understand me. You don't look like a man who doesn't know what a hard life is. This man is getting old. It's not a question of the Sixty, you see, but what if, in the next Census, they think he's a half-wit and --and take him away? We don't like to lose him, and that's why we bring him here.

"The reason I'm trying to be secret-like is that maybe--maybe"--and Arbin's eyes swiveled involuntarily at the walls, as if to penetrate them by sheer will and detect the listeners that might be behind--"well, maybe the Ancients won't like what I'm doing. Maybe trying to save an afflicted man can be judged as against the Customs, but life is hard, sir. . . .And it would be useful to you. You have asked for volunteers."

"I know. Where is your relative?"

Arbin took the chance. "Out in my biwheel, if no one's found him. He wouldn't be able to take care of himself if anyone has--"

"Well, we'll hope he's safe. You and I will go out right now and bring the car around to our basement garage. I'll see to it that no one knows of his presence but ourselves and my helpers. And I assure you that you won't be in trouble with the Brotherhood."

His arm dropped in friendly fashion to Arbin's shoulder, who grinned spasmodically. To the farmer it was like a rope loosening from about his neck.

Shekt looked down at the plump, balding figure upon the couch. The patient was unconscious, breathing deeply and regularly. He had spoken unintelligibly, had understood nothing. Yet there had been none of the physical stigmata of feeble-mindedness. Reflexes had been in order, for an old man.

Old! Hmm.

He looked across at Arbin, who watched everything with a glance like a vise.

"Would you like us to take a bone analysis?"

"No," cried Arbin. Then, more softly, "I don't want anything that might be identification."

"It might help us--be safer, you know--if we knew his age," said Shekt.

"He's fifty," said Arbin shortly.

The physicist shrugged. It didn't matter. Again he looked at the sleeper. When brought in, the subject had been, or certainly seemed, dejected, withdrawn, uncaring. Even the Hypno-pills had apparently aroused no suspicion. They had been offered him; there had been a quick, spasmodic smile in response, and he had swallowed them.

The technician was already rolling in the last of the rather clumsy units which together made up the Synapsifier. At the touch of a push button the polarized glass in the windows of the operating room underwent molecular rearrangement and became opaque. The only light was the white one that blazed its cold brilliance upon the patient suspended, as he was, in the multihundred-kilowatt diamagnetic field some two inches above the operating table to which he was transferred.

Arbin still sat in the dark there, understanding nothing, but determined in deadly fashion to prevent, somehow, by his presence, the harmful tricks he knew he had not the knowledge to prevent.

The physicists paid no attention to him. The electrodes were adjusted to the patient's skull. It was a long job. First there was the careful study of the skull formation by the Ullster technique that revealed the winding, tight-knit fissures. Grimly, Shekt smiled to himself. Skull fissures weren't an unalterable quantitative measure of age, but they were good enough in this case. The man was older than the claimed fifty.

And then, after a while, he did not smile. He frowned. There was something wrong with the fissures. They seemed odd--not quite. . .

For a moment he was ready to swear that the skull formation was a primitive one, a throwback, but then. . . Well, the man was subnormal in mentality. Why not?

And suddenly he exclaimed in shock, "Why, I hadn't noticed! This man has hair on his face!" He turned to Arbin. "Has he always been bearded?"

"Bearded?"

"Hair on his face! Come here! Don't you see it?"

"Yes, sir." Arbin thought rapidly. He had noticed it that morning and then had forgotten. "He was born like that," he said, and then weakened it by adding, "I think."

"Well, let's remove it. You don't want him going around like a brute beast, do you?"

"No, sir."

The hair came off smoothly at the application of a depilatory salve by the carefully gloved technician.

The technician said, "He has hair on his chest too, Dr. Shekt."

"Great Galaxy," said Shekt, "let me see! Why, the man is a rug! Well, let it be. It won't show with a shirt, and I want to get on with the electrodes. Let's have wires here and here, and here." Tiny pricks and the insertion of the platinum hair-lets. "Here and here."

A dozen connections, probing through skin to the fissures, through the tightness of which could be felt the delicate shadow echoes of the microcurrents that surged from cell to cell in the brain.

Carefully they watched the delicate ammeters stir and leap, as the connections were made and broken. The tiny needlepoint recorders traced their delicate spider webs across the graphed paper in irregular peaks and troughs.

Then the graphs were removed and placed on the illuminated opal glass. They bent low over it, whispering.

Arbin caught disjointed flashes: remarkably regular . . . look at the height of the quaternary peak. . . think it ought to be analyzed. . . clear enough to the eye. . . "

And then, for what seemed a long time, there was a tedious adjustment of the Synapsifier. Knobs were turned, eyes on vernier adjustments, then clamped and their readings recorded. Over and over again the various electrometers were checked and new adjustments were made necessary.

Then Shekt smiled at Arbin and said, "It will all be over very soon."

The large machinery was advanced upon the sleeper like a slow-moving and hungry monster. Four long wires were dangled to the extremities of his limbs, and a dull black pad of something that looked like hard rubber was carefully adjusted at the back of his neck and held firmly in place by clamps that fitted over the shoulders. Finally, like two giant mandibles, the opposing electrodes were parted and brought downward over the pale, pudgy head, so that each pointed at a temple.

Shekt kept his eyes firmly on the chronometer; in his other hand was the switch. His thumb moved; nothing visible happened--not even to the fear-sharpened sense of the watching Arbin. After what might have been hours, but was actually less than three minutes, Shekt's thumb moved again.

His assistant bent over the still-sleeping Schwartz hurriedly, then looked up triumphantly. "He's alive."

There remained yet several hours, during which a library of recordings were taken, to an undertone of almost wild excitement. It was well past midnight when the hypodermic was pressed home and the sleeper's eyes fluttered.

Shekt stepped back, bloodless but happy. He dabbed at his forehead with the back of a hand. "It's all right."

He turned to Arbin firmly. "He must stay with us a few days, sir."

The look of alarm grew madly in Arbin's eyes. "But--but --"

"No, no, you must rely on me," urgently. "He will be safe; I will stake my life on it. I am staking my life on it. Leave him to us; no one will see him but ourselves. If you take him with you now, he may not survive. What good will that do you? . . . And if he does die, you may have to explain the corpse to the Ancients."

It was the last that did the trick. Arbin swallowed and said, "But look, how am I to know when to come and take him? I won't give you my name!"

But it was submission. Shekt said, "I'm not asking you for your name. Come a week from today at ten in the evening. I'll be waiting for you at the door of the garage, the one we took in your biwheel at. You must believe me, man; you have nothing to fear."

It was evening when Arbin arrowed out of Chica. Twenty-four hours had passed since the stranger had pounded at his door, and in that time he had doubled his crimes against the Customs. Would he ever be safe again?

He could not help but glance over his shoulder as his biwheel sped along the empty road. Would there be someone to follow? Someone to trace him home? Or was his face already recorded? Were matchings being leisurely made somewhere in the distant files of the Brotherhood at Washenn, where all living Earthmen, together with their vital statistics, were listed, for purposes of the Sixty.

The Sixty, which must come to all Earthmen eventually. He had yet a quarter of a century before it came to him, yet he lived daily with it on Grew's account, and now on the stranger's account.

What if he never returned to Chica?

No! He and Loa could not long continue producing for three, and once they failed, their first crime, that of concealing Grew, would be discovered. And so crimes against the Customs, once begun, must be compounded.

Arbin knew that he would be back, despite any risk.

It was past midnight before Shekt thought of retiring, and then only because the troubled Pola insisted. Even then he did not sleep. His pillow was a subtle smothering device, his sheets a pair of maddening snarls. He arose and took his seat by the window. The city was dark now, but there on the horizon, on the side opposite the lake, was the faint trace of that blue glow of death that held sway over all but a few patches of Earth.

The activities of the hectic day just past danced madly before his mind. His first action after having persuaded the frightened farmer to leave had been to televise the State House. Ennius must have been waiting for him, for he himself had answered. He was still encased in the heaviness of the lead-impregnated clothing.

"Ah, Shekt, good evening. Your experiment is over?"

"And nearly my volunteer as well, poor man."

Ennius looked ill. . . 1 thought well when I thought it better not to stay. You scientists are scarcely removed from murderers, it seems to me."

"He is not yet dead, Procurator, and it may be that we will save him, but--" And he shrugged his shoulders.

"I'd stick to rats exclusively henceforward, Shekt. . . . But you don't look at all your usual self, friend. Surely you, at least, must be hardened to this, even if I am not."

"I am getting old, my Lord," said Shekt simply. "A dangerous pastime on Earth," was the dry reply. "Get you to bed, Shekt."

And so Shekt sat there, looking out at the dark city of a dying world.

For two years now the Synapsifier had been under test, and for two years he had been the slave and sport of the Society of Ancients, or the Brotherhood, as they called themselves.

He had seven or eight papers that might have been published in the Sirian Journal of Neurophysiology, that might have given that Galaxy-wide fame to him that he so wanted. These papers moldered in his desk. Instead there was that obscure and deliberately misleading paper in Physical Reviews. That was the way of the Brotherhood. Better a half-truth than a lie.

And still Ennius was inquiring. Why?

Did it fit in with other things he had learned? Was the Empire suspecting what he himself suspected?

Three times in two hundred years Earth had risen. Three times, under the banner of a claimed ancient greatness, Earth had rebelled against the Imperial garrisons. Three times they had failed--of course--and had not the Empire been, essentially, enlightened, and the Galactic Councils, by and large, statesmanlike, Earth would have been bloodily erased from the roll of inhabited planets.

But now things might be different. . . Or could they be different? How far could he trust the words of a dying madman, three quarters incoherent?

What was the use? In any case, he dared do nothing. He could only wait. He was getting old, and, as Ennius had said, that was a dangerous pastime on Earth. The Sixty was almost upon him, and there were few exceptions to its inevitable grasp.

And even on this miserable, burning mud ball of Earth, he wanted to live.

He went to bed once more at that point, and just before falling asleep he wondered feebly if his call to Ennius might have been tapped by the Ancients. He did not know at the time that the Ancients had other sources of information.

It was morning before Shekt's young technician had completely made up his mind.

He admired Shekt, but he knew well that the secret treatment of a non-authorized volunteer was against the direct order of the Brotherhood. And that order had been given the status of a Custom, which made disobedience a capital offense.

He reasoned it out. After all, who was this man who had been treated? The campaign for volunteers had been carefully worked out. It was designed to give enough information about the Synapsifier to remove suspicion on the part of possible Imperial spies without giving any real encouragement to volunteers. The Society of Ancients sent their own men for treatment. and that was enough.

Who had sent this man, then? The Society of Ancients in secret? In order to test Shekt's reliability?

Or was Shekt a traitor? He had been closeted with someone earlier in the day--someone in bulky clothes, such as Outsiders wore in fear of radioactive poisoning.

In either case Shekt might go down in doom, and why should he himself be dragged down as well? He was a young man with nearly four decades of life before him. Why should he anticipate the Sixty?

Besides, it would mean promotion for him. . . .And Shekt was so old, the next Census would probably get him anyway, so it would involve very little harm for him. Practically none at all.

The technician had decided. His hand reached for the communicator, and he punched the combination that would lead directly to the private room of the High Minister of all Earth, who, under the Emperor and Procurator, held the power of life and death over every man on Earth.

It was evening again before the misty impressions within Schwartz's skull sharpened through the pink pain. He remembered the trip to the low, huddling structures by the lakeside, the long crouching wait in the rear of the car.

And then--what? What? His mind yanked away at the sluggish thoughts. . . .Yes, they had come for him. There was a room, with instruments and dials, and two pills. . . . That was it. They had given him pills, and he had taken them cheerfully. What had he to lose? Poisoning would have been a favor.

And then--nothing.

Wait! There had been flashes of consciousness. . . . People bending over him. . . . Suddenly he remembered the cold motion of a stethoscope over his chest. . . .A girl had been feeding him.

It flashed upon him that he had been operated upon and, in panic, he flung the bed sheets from him and sat up.

A girl was upon him, hands on his shoulders, forcing him back onto the pillows. She spoke soothingly, but he did not understand her. He tensed himself against the slim arms, but uselessly. He had no strength.

He held his hands before his face. They seemed normal. He moved his legs and heard them brush against the sheets. They couldn't have been amputated..

He turned to the girl and said, without much hope, "Can you understand me? Do you know where I am?" He scarcely recognized his own voice.

The girl smiled and suddenly poured out a rapid patter of liquid sound. Schwartz groaned. Then an older man entered, the one who had given him the pills. The man and the girl spoke together, the girl turning to him after a while, pointing to his lips and making little gestures of invitation to him.

"What?" he said.

She nodded eagerly, her pretty face glowing with pleasure, until, despite himself, Schwartz felt glad to look at it.

"You want me to talk?" he asked.

The man sat down upon his bed and motioned him to open his mouth. He said, "Ah-h-h," and Schwartz repeated "Ah-h-h" while the man's fingers massaged Schwartz's Adam's apple.

"What's the matter?" said Schwartz peevishly, when the pressure was removed. "Are you surprised I can talk? What do you think I am?"

The days passed, and Schwartz learned a few things. The man was Dr. Shekt--the first human being he knew by name since he had stepped over the rag doll. The girl was his daughter, Pola. Schwartz found that he no longer needed to shave. The hair on his face never grew. It frightened him. Did it ever grow?

His strength came back quickly. They were letting him put on clothes and walk about now, and were feeding him something more than mush.

Was his trouble amnesia, then? Were they treating him for that? Was all this world normal and natural, while the world he thought he remembered was only the fantasy of an amnesic brain?

And they never let him step out of the room, not even into the corridor. Was he a prisoner, then? Had he committed a crime?

There never can be a man so lost as one who is lost in the vast and intricate corridors of his own lonely mind, where none may reach and none may save. There never was a man so helpless as one who cannot remember.

Pola amused herself by teaching him words. He was not at all amazed at the ease with which he picked them up and remembered. He remembered that he had had a trick memory in the past; that memory, at least, seemed accurate. In two days he could understand simple sentences. In three he could make himself understood.

On the third day, however, he did become amazed. Shekt taught him numbers and set him problems. Schwartz would give answers, and Shekt would look at a timing device and record with rapid strokes of his stylus. But then Shekt explained the term "logarithm" to him and asked for the logarithm of two.

Schwartz picked his words carefully. His vocabulary was still minute and he reinforced it with gestures. "I--not--say. Answer--not--number."

Shekt nodded his head excitedly and said, "Not number. Not this, not that; part this, part that."

Schwartz understood quite well that Shekt had confirmed his statement that the answer was not an even number but a fraction and therefore said, "Point three zero one zero three --and--more--numbers."

"Enough!"

Then came the amazement. How had he known the answer to that? Schwartz was certain that he had never heard of logarithms before, yet in his mind the answer had come as soon as the question was put. He had no idea of the process by which it had been calculated. It was as if his mind were an independent entity, using him only as its mouthpiece.

Or had he once been a mathematician, in the days before his amnesia?

He found it exceedingly difficult to wait the days out. Increasingly he felt he must venture out into the world and force an answer from it somehow. He could never learn in the prison of this room, where (the thought suddenly came to him) he was but a medical specimen.

The chance came on the sixth day. They were beginning to trust him too much, and one time when Shekt left he did not lock the door. Where usually the door so neatly closed itself that the very crack of its joining the wall became invisible, this time a quarter inch of space showed.

He waited to make sure Shekt was not returning on the instant, and then slowly put his hand over the little gleaming light as he had seen them often do. Smoothly and silently the door slid open. . . .The corridor was empty.

And so Schwartz "escaped."

How was he to know that for the six days of his residence there the Society of Ancients had its agents watching the hospital, his room, himself?

6. APPREHENSION IN THE NIGHT

The Procurator's palace was scarcely less a fairyland at night. The evening flowers (none native to Earth) opened their fat white blossoms in festoons that extended their delicate fragrance to the very walls of the palace. Under the polarized light of the moon, the artificial silicate strands woven cleverly into the stainless aluminum alloy of the palace structure sparked a faint violet against the metallic sheen of their surroundings.

Ennius looked at the stars. They were the real beauty to him, since they were the Empire.

Earth's sky was of an intermediate type. It had not the unbearable glory of the skies of the Central Worlds, where star elbowed star in such blinding competition that the black of night was nearly lost in a coruscant explosion of light. Nor did it possess the lonely grandeur of the skies of the Periphery, where the unrelieved blackness was broken at great intervals by the dimness of an orphaned star--with the milky lens shape of the Galaxy spreading across the sky, the individual stars thereof lost in diamond dust.

On Earth two thousand stars were visible at one time. Ennius could see Sirius, round which circled one of the ten most populous planets of the Empire. There was Arcturus, capital of the sector of his birth. The sun of Trantor, the Empire's capital world, was lost somewhere in the Milky Way. Even under a telescope it was just part of a general blaze.

He felt a soft hand on his shoulder, and his own went up to meet it.

"Flora?" he whispered.

"It had better be," came his wife's half-amused voice. "Do you know that you haven't slept since you returned from Chica? Do you know further that it is almost dawn? . . Shall I have breakfast sent out here?"

"Why not?" He smiled fondly up at her and felt in the darkness for the brown ringlet that hovered next her cheek. He tugged at it. "And must you wait up with me and shadow the most beautiful eyes in the Galaxy?"

She freed her hair and replied gently, "You are trying to shadow them yourself with your sugar syrup, but I've seen you this way before and am not in the tiniest hoodwinked. What worries you tonight, dear?"

"Why, that which always worries me. That I have buried you here uselessly, when there's not a viceregal society in the Galaxy you could not grace."

"Besides that! Come, Ennius, I will not be played with."

Ennius shook his head in the shadows and said, "I don't know. I think an accumulation of little puzzling things has finally sickened me. There's the matter of Shekt and his Synapsifier. And there's this archaeologist, Arvardan, and his theories. And other things, other things. Oh, what's the use, Flora--I'm doing no good here at all."

"Surely this time of the morning isn't quite the moment for putting your morale to the test."

But Ennius was speaking through clenched teeth. "These Earthmen! Why should so few be such a burden to the Empire? Do you remember, Flora, when I was first appointed to the Procuracy, the warnings I received from old Faroul, the last Procurator, as to the difficulties of the position? . . . He was right. If anything, he did not go far enough in his warnings. Yet I laughed at him at the time and privately thought him the victim of his own senile incapacity. I was young, active, daring. I would do better. . . ." He paused, lost in himself, then continued, apparently at a disconnected point. "Yet so many independent pieces of evidence seem to show that these Earthmen are once again being misled into dreams of rebellion."

He looked up at his wife. "Do you know that it is the doctrine of the Society of Ancients that Earth was at one time the sole home of Humanity, that it is the appointed center of the race, the true representation of Man?"

"Why, so Arvandan told us two evenings ago, didn't he?" It was always best at these times to let him talk himself out.

"Yes, so he did," said Ennius gloomily, "but even so, he spoke only of the past. The Society of Ancients speaks of the future as well. Earth, once more, they say, will be the center of the race. They even claim that this mythical Second Kingdom of Earth is at hand; they warn that the Empire will be destroyed in a general catastrophe which will leave Earth triumphant in all its pristine glory"--and his voice shook--"as a backward, barbarous, soil-sick world. Three times before this same nonsense has raised rebellion, and the destruction brought down upon Earth has never served in the least to shake their stupid faith."

"They are but poor creatures," said Flora, "these men of Earth. What should they have, if not their Faith? They are certainly robbed of everything else--of a decent world, of a decent life. They are even robbed of the dignity of acceptance on a basis of equality by the rest of the Galaxy. So they retire to their dreams. Can you blame them?"

"Yes, I can blame them," cried Ennius with energy. "Let them turn from their dreams and fight for assimilation. They don't deny they are different. They simply wish to replace 'worse' by 'better,' and you can't expect the rest of the Galaxy to let them do that. Let them abandon their cliquishness, their outdated and offensive 'Customs.' Let them be men, and they will be considered men. Let them be Earthmen and they will be considered only as such."

"But never mind that. For instance, what's going on with the Synapsifier? Now there's a little thing that is keeping me from sleep." Ennius frowned thoughtfully at the dullness which was overcoming the polished darkness of the eastern sky.

"The Synapsifier? . . . Why, isn't that the instrument Dr. Arvandan spoke of at dinner? Did you go to Chica to see about that?"

Ennius nodded.

"And what did you find out there?"

"Why nothing at all," said Ennius. "I know Shekt. I know him well. I can tell when he's at ease; I can tell when he isn't. I tell you, Flora, that man was dying of apprehension"

all the time he was speaking to me. And when I left he broke into a sweat of thankfulness. It is an unhappy mystery, Flora."

"But will the machine work?"

"Am I a neurophysicist? Shekt says it will not. He called me up to tell me that a volunteer was nearly killed by it. But I don't believe that. He was excited! He was more than that. He was triumphant! His volunteer had lived and the experiment had been successful, or I've never seen a happy man in my life. . . . Now why do you suppose he lied to me, then? Do you suppose that the Synapsifier is in operation? Do you suppose that it can be creating a race of geniuses?"

"But then why keep it secret?"

"Ah! Why? It isn't obvious to you. Why has Earth failed in its rebellions? There are fairly tremendous odds against it, aren't there? Increase the average intelligence of the Earthman. Double it. Triple it. And where may your odds be then?"

"Oh, Ennius."

"We may be in the position of apes attacking human beings. What price numerical odds?"

"You're really jumping at shadows. They couldn't hide a thing like that. You can always have the Bureau of Outer Provinces send in a few psychologists and keep testing random samples of Earthmen. Surely any abnormal rise in I.Q. could be detected instantly."

"Yes. I suppose so. . . . But that may not be it. I'm not sure of anything, Flora, except that a rebellion is in the cards. Something like the Uprising of 750, except that it will probably be worse."

"Are we prepared for it? I mean, if you're so certain--"

"Prepared?" Ennius's laughter was a bark. "I 'am. The garrison is in readiness and fully supplied. Whatever can possibly be done with the material at hand. I have done. But, Flora, I don't want to have a rebellion. I don't want my Procuracy to go down in history as the Procuracy of the Rebellion. I don't want my name linked with death and slaughter. I'll be decorated for it, but a century from now the history books will call me a bloody tyrant. What about the Viceroy of Santanni in the sixth century? Could he have done other than he did, though millions died? He was honored then, but who has a good word for him now? I would rather be known as the man who prevented a rebellion and saved the worthless lives of twenty million fools." He sounded quite hopeless about it.

"Are you so sure you can't, Ennius--even yet?" She sat down beside him and brushed her finger tips along the line of his jaw.

He caught them and held them tightly. "How can I? Everything works against me. The Bureau itself rushes into the struggle on the side of the fanatics of Earth by sending this Arvardan here."

"But, dear, I don't see that this archaeologist will do anything so awful. I'll admit he sounds like a faddist, but what harm can he do?"

"Why, isn't it plain! He wants to be allowed to prove that Earth is the original home of Humanity. He wants to bring scientific authority to the aid of subversion."

"Then stop him.'."

"I can't. There you have it, frankly. There's a theory about that viceroys can do anything, but that just isn't so. That man, Arvadan, has a writ of permission from the Bureau of Outer Provinces. It is approved by the Emperor. That supersedes me completely. I could do nothing without appealing to the Central Council, and that would take months. . . . And what reasons could I give? If I tried to stop him by force, on the other hand, it would be an act of rebellion; and you know how ready the Central Council is to remove any executive they think is overstepping the line, ever since the Civil War of the eighties. And then what? I'd be replaced by someone who wouldn't be aware of the situation at all, and Arvadan would go ahead anyway."

"And that still isn't the worst, Flora. Do you know how he intends to prove the antiquity of Earth? Suppose you guess."

Flora laughed gently. "You're making fun of me, Ennius. How should I guess? I'm no archaeologist. I suppose he'll try to dig up old statues or bones and date them by their radioactivity or something like that."

"I wish it were like that. What Arvadan intends to do, he told me yesterday, is to enter the radioactive areas on Earth. He intends to find human artifacts there, show that they exist from a time previous to that at which Earth's soil became radioactive--since he insists the radioactivity is manmade--and date it in that fashion."

"But that's almost what I said."

"Do you know what it means to enter the radioactive areas? They're Forbidden. It's one of the strongest Customs these Earthmen have. No one can enter the Forbidden Areas, and all radioactive areas are Forbidden."

"But then that's good. Arvadan will be stopped by the men of Earth themselves."

"Oh, fine. He'll be stopped by the High Minister! And then how will we ever convince him that all this was not a Government-sponsored project, that the Empire is not conniving at deliberate sacrilege?"

"The High Minister can't be that touchy."

"Can't he?" Ennius reared back and stared at his wife. The night had lightened to a slatiness in which she was just visible. "You have the most touching naivete. He certainly can be that touchy. Do you know what happened--oh, about fifty years ago? I'll tell you, and then you can judge for yourself."

"Earth, it so happens, will allow no outward sign of Imperial domination on their world because of their insistence that Earth is the rightful ruler of the Galaxy. But it so happened that young Stannell II--the boy emperor who was somewhat insane and who was removed by assassination after a reign of two years; you remember!--ordered that the Emperor's insignia be raised in their Council Chamber at Washenn. In itself the order was reasonable, since the insignia is present in every planetary Council Chamber in the Galaxy as a symbol of the Imperial unity. But what happened in this case? The day the insignia was raised, the town became a mass of riots."

"The lunatics of Washenn tore down the insignia and took up arms against the garrison. Stannell II was sufficiently mad to demand that his order be complied with if it meant the slaughter of every Earthman alive, but he was assassinated before that could be put into effect, and Edard, his successor, canceled the original order. All was peace again."

"You mean," said Flora incredulously, "that the Imperial insignia was not replaced?"

"I mean that exactly. By the Stars, Earth is the only one of the millions and millions of planets in the Empire that has no insignia in its Council Chamber. This miserable planet we are on now. And if even today we were to try again, they would fight to the last man to prevent us. And you ask me if they're touchy. I tell you they're mad."

There was silence in the slowly graying light of dawn, until Flora's voice sounded again, little and unsure of itself.

"Ennius?"

"Yes."

"You're not just concerned about the rebellion that you're expecting because of its effect on our reputation. I wouldn't be your wife if I couldn't half read your thoughts, and it seems to me that you expect something actually dangerous to the Empire. . . . You shouldn't hide anything from me, Ennius. You're afraid these Earthmen will win."

"Flora, I can't talk about it." There was something tortured in his eyes. "It isn't even a hunch. . . . Maybe four years on this world is too long for any sane man. But why are these Earthmen so confident?"

"How do you know they are?"

"Oh, they are. I have my sources of information too. After all, they've been crushed three times. They can't have illusions left. Yet they face two hundred million worlds, each one singly stronger than they, and they are confident. Can they really be so firm in their faith in some Destiny or some supernatural Force--something that has meaning only to them? Maybe--maybe--maybe--"

"Maybe what, Ennius?"

"Maybe they have their weapons."

"Weapons that will allow one world to defeat two hundred millions? You are panicky. No weapon could do that."

"I have already mentioned the Synapsifier."

"And I have told you how to take care of that. Do you know of any other type of weapon they could use?"

Reluctantly, "No."

"Exactly. There isn't any such weapon possible. Now I'll tell you what to do, dear. Why don't you get in touch with the High Minister and, in earnest of your good faith, warn him of Arvardan's plans? Urge, unofficially, that he not be granted permission. This will remove any suspicion--or should--that the Imperial Government has any hand in this silly violation of their customs. At the same time you will have stopped Arvardan without having appeared in the mess yourself. Then have the Bureau send out two good

psychologists--or, better, ask for four, so they'll be sure to send at least two--and have them check on the Synapsifier possibility. . . .And anything else can be taken care of by our soldiers, while we allow posterity to take care of itself.

"Now why don't you sleep right here? We can put the chair back down, you can use my fur piece as a blanket, and I'll have a breakfast tray wheeled out when you awake. Things will seem different in the sun."

And so it was that Ennius, after waking the night through, fell asleep five minutes before sunrise.

Thus it was eight hours later that the High Minister first learned of Bel Arvardan and his mission from the Procurator himself.

7. CONVERSATION WITH MADMEN?

As for Arvardan, he was concerned only with making holiday. His ship, the Ophiuchus, was not to be expected for at least a month, therefore he had a month to spend as lavishly as he might wish.

So it was that on the sixth day after his arrival at Everest, Bel Arvardan left his host and took passage on the Terrestrial Air Transport Company's largest jet Stratospheric, traveling between Everest and the Terrestrial capital, Washenn.

If he took a commercial liner, rather than the speedy cruiser placed at his service by Ennius, it was done deliberately, out of the reasonable curiosity of a stranger and an archaeologist toward the ordinary life of men inhabiting such a planet as Earth.

And for another reason too.

Arvardan was from the Sirian Sector, notoriously the sector above all others in the Galaxy where anti-Terrestrial prejudice was strong. Yet he had always liked to think he had not succumbed to that prejudice himself. As a scientist, as an archaeologist, he couldn't afford to. Of course he had grown into the habit of thinking of Earthmen in certain set caricature types, and even now the word "Earthman " seemed an ugly one to him. But he wasn't really prejudiced.

At least he didn't think so. For instance, if an Earthman had ever wished to join an expedition of his or work for him in any capacity--and had the training and the ability--he would be accepted. If there were an opening for him, that was. And if the other members of the expedition didn't mind too much. That was the rub. Usually the fellow workers objected, and then what could you do?

He pondered the matter. Now certainly he would have no objection to eating with an Earthman, or even bunking with one in case of need--assuming the Earthman were reasonably clean, and healthy. In fact, he would in all ways treat him as he would treat anyone else, he thought. Yet there was no denying that he would always be conscious of the fact that an Earthman was an Earthman. He couldn't help that. That was the result of a childhood immersed in an atmosphere of bigotry so complete that it was almost invisible, so entire that you accepted its axioms as second nature. Then you left it and saw it for what it was when you looked back.

But here was his chance to test himself. He was in a plane with only Earthmen about him, and he felt perfectly natural, almost. Well, just a little self-conscious.

Arvardan looked about at the undistinguished and normal faces of his fellow passengers. They were supposed to be different, these Earthmen, but could he have told these from ordinary men if he had met them casually in a crowd? He didn't think so. The women weren't bad-looking. . . His brows knit. Of course even tolerance must draw the line somewhere. Inter-marriage, for instance, was quite unthinkable.

The plane itself was, in his eyes, a small affair of imperfect construction. It was, of course, atomic-powered, but the application of the principle was far from efficient. For

one thing, the power unit was not well shielded. Then it occurred to Arvardan that the presence of stray gamma rays and a high neutron density in the atmosphere might well strike Earthmen as less important than it might strike others.

Then the view caught his eyes. From the dark wine-purple of the extreme stratosphere, Earth presented a fabulous appearance. Beneath him the vast and misted land areas in sight (obscured here and there by the patches of sun-bright clouds) showed a desert orange. Behind them, slowly receding from the fleeing stratoliner, was the soft and fuzzy night line, within whose dark shadow there was the sparking of the radioactive areas.

His attention was drawn from the window by the laughter among the others. It seemed to center about an elderly couple, comfortably stout and all smiles.

Arvardan nudged his neighbor. "What's going on?"

His neighbor paused to say, "They've been married forty years, and they're making the Grand Tour."

"The Grand Tour?"

"You know. All around the Earth."

The elderly man, flushed with pleasure, was recounting in voluble fashion his experiences and impressions. His wife joined in periodically, with meticulous corrections involving completely unimportant points; these being given and taken in the best of humor. To all this the audience listened with the greatest attention, so that to Arvardan it seemed that Earthmen were as warm and human as any people in the Galaxy.

And then someone asked, "And when is it that you're scheduled for the Sixty?"

"In about a month," came the ready, cheerful answer. "Sixteenth November."

"Well," said the questioner, "I hope you have a nice day for it. My father reached his Sixty in a damned pouring rain. I've never seen one like it since. I was going with him--you know, a fellow likes company on a day like that--and he complained about the rain every step of the way. We had an open biwheel, you see, and we got soaked. 'Listen,' I said, 'what are you complaining about, Dad? I've got to come back.' "

There was a general howl of laughter which the anniversary couple were not backward in joining. Arvardan, however, felt plunged in horror as a distinct and uncomfortable suspicion entered his mind.

He said to the man sharing his seat, "This Sixty, this subject of conversation here--I take it they're referring to euthanasia. I mean, you're put out of the way when you reach your sixtieth birthday, aren't you?"

Arvardan's voice faded somewhat as his neighbor choked off the last of his chuckles to turn in his seat and favor the questioner with a long and suspicious stare. Finally he said, "Well, what do you think he meant?"

Arvardan made an indefinite gesture with his hand and smiled rather foolishly. He had known of the custom, but only academically. Something in a book. Something discussed in a scientific paper. But it was now borne in upon him that it actually applied to living beings, that the men and women surrounding him could, by custom, live only to sixty.

The man next to him was still staring. "Hey, fella, where you from? Don't they know about the Sixty in your home town?"

"We call it the 'Time,' " said Arvardan feebly. "I'm from back there." He jerked his thumb hard over his shoulder, and after an additional quarter minute the other withdrew that hard, questioning stare.

Arvardan's lips quirked. These people were suspicious. That facet of the caricature, at least, was authentic.

The elderly man was talking again. "She's coming with me," he said, nodding toward his genial wife. "She's not due for about three months after that, but there's no point in her waiting, she thinks, and we might as well go together. Isn't that it, Chubby?"

"Oh yes," she said, and giggled rosily. "Our children are all married and have homes of their own. I'd just be a bother to them. Besides, I couldn't enjoy the time anyway without the old fellow--so we'll just leave off together."

Whereupon the entire list of passengers seemed to engage themselves in a simultaneous arithmetical calculation of the time remaining to each--a process involving conversion factors from months to days that occasioned several disputes among the married couples involved.

One small fellow with tight clothes and a determined expression said fiercely, "I've got exactly twelve years, three months, and four days left. Twelve years, three months, and four days. Not a day more, not a day less."

Which someone qualified by saying, reasonably, "Unless you die first, of course."

"Nonsense," was the immediate reply. "I have no intention of dying first. Do I look like the sort of man who would die first? I'm living twelve years, three months, and four days, and there's not a man here with the hardihood to deny it." And he looked very fierce indeed.

A slim young man took a long, dandyish cigarette from between his lips to say darkly, "It's well for them that can calculate it out to a day. There's many a man living past his time."

"Ah, surely," said another, and there was a general nod and a rather inchoate air of indignation arose.

"Not," continued the young man, interspersing his cigarette puffs with a complicated flourish intended to remove the ash, "that I see any objection to a man--or woman--wishing, to continue on past their birthday to the next Council day, particularly if they have some business to clean up. It's these sneaks and parasites that try to go past to the next Census, eating the food of the next generation--" He seemed to have a personal grievance there.

Arvardan interposed gently, "But aren't the ages of everyone registered? They can't very well pass their birthday too far, can they?"

A general silence followed, admixed not a little with contempt at the foolish idealism expressed. Someone said at last, in diplomatic fashion, as though attempting to conclude the subject, "Well, there isn't much point living past the Sixty, I suppose."

"Not if you're a farmer," shot back another vigorously. " After you've been working in the fields for half a century, you'd be crazy not to be glad to call it off. How about the administrators, though, and the businessmen?"

Finally the elderly man, whose fortieth wedding anniversary had begun the conversation, ventured his own opinion, emboldened perhaps by the fact that, as a current victim of the Sixty, he had nothing to lose.

"As to that," he said, "it depends on who you know." And he winked with a sly innuendo. "I knew a man once who was sixty the year after the 810 Census and lived till the 820 Census caught him. He was sixty-nine before he left off. Sixty-nine! Think of that!"

"How did he manage that?"

"He had a little money, and his brother was one of the Society of Ancients. There's nothing you can't do if you've got that combination."

There was general approval of that sentiment.

"Listen," said the young man with the cigarette emphatically, "I had an uncle who lived a year past--just a year. He was just one of these selfish guys who don't feel like going, you know. A lot he cared for the rest of us. . . .And I didn't know about it, you see, or I would have reported him, believe me, because a guy should go when it's his time. It's only fair to the next generation. Anyway, he got caught all right, and the first thing I knew, the Brotherhood calls on me and my brother and wants to know how come we didn't report him.

I said, hell, I didn't know anything about it; nobody in my family knew anything about it. I said we hadn't seen him in ten years. My old man backed us up. But we got fined five hundred credits just the same. That's when you don't have any pull."

The look of discomposure on Arvardan's face was growing. Were these people madmen to accept death so--to resent their friends and relatives who tried to escape death? Could he, by accident, be on a ship carrying a cargo of lunatics to asylum--or euthanasia? Or were these simply Earthmen?

His neighbor was scowling at him again, and his voice broke in on Arvardan's thoughts. "Hey fella, where's 'back there?'"

"Pardon me?"

"I said--where are you from? You said 'back there.' What's 'back there'? Hey?"

Arvardan found the eyes of all upon him now, each with its own sudden spark of suspicion in it. Did they think him a member of this Society of Ancients of theirs? Had his questioning seemed the cajolery of an agent provocateur?

So he met that by saying, in a burst of frankness, "I'm not from anywhere on Earth. I'm Bel Arvardan from Baronn, Sirius Sector. What's your name?" And he held out his hand.

He might as well have dropped an atomic explosive capsule into the middle of the plane.

The first silent horror on every face turned rapidly into angry, bitter hostility that flamed at him. The man who had shared his seat rose stiffly and crowded into another, where the pair of occupants squeezed closely together to make room for him.

Faces turned away. Shoulders surrounded him, hemmed him in. For a moment Arvardan burned with indignation. Earthmen to treat him so. Earthmen! He had held out the hand of friendship to them. He, a Sirian, had condescended to treat with them and they had rebuffed him.

And then, with an effort, he relaxed. It was obvious that bigotry was never a one-way operation, that hatred bred hatred!

He was conscious of a presence beside him, and he turned toward it resentfully. "Yes?"

It was the young man with the cigarette. He was lighting a new one as he spoke. "Hello," he said. "My name's Creen. . . . Don't let those jerks get you."

"No one's getting me," said Arvardan shortly. He was not too pleased with the company, nor was he in the mood for patronizing advice from an Earthman.

But Creen was not trained to the detection of the more delicate nuances. He puffed his cigarette to life in man-sized drags and tapped its ashes over the arm of the seat into the middle aisle.

"Provincials!" he whispered with contempt. "Just a bunch of farmers. . . .They lack the Galactic view. Don't bother with them. . . .Now you take me. I got a different philosophy. Live and let live, I say. I got nothing against Outsiders. If they want to be friendly with me, I'll be friendly with them. What the hell--They can't help being an Outsider just like I can't help being an Earthman. Don't you think I'm right?" And he tapped Arvardan familiarly on the wrist.

Arvardan nodded and felt a crawling sensation at the other's touch. Social contact with a man who felt resentful over losing a chance to bring about his uncle's death was not pleasant, quite regardless of planetary origin.

Creen leaned back. "Heading for Chica? What did you say your name was? Albadan?"

"Arvardan. Yes, I'm going to Chica."

"That's my home town. Best damned city on Earth. Going to stay there long?"

"Maybe. I haven't made any plans."

"Umm. . . .Say, I hope you don't object to my saying that I've been noticing your shirt. Mind if I take a close look? Made in Sirius, huh?"

"Yes, it is."

"It's very good material. Can't get anything like that on Earth. . . .Say, bud, you wouldn't have a spare shirt like that in your luggage, would you? I'd pay for it if you wanted to sell it. It's a snappy number."

Arvardan shook his head emphatically. "Sorry, but I don't have much of a wardrobe. I am planning to buy clothes here on Earth as I go along."

"I'll pay you fifty credits," said Creen. . . .Silence. He added, with a touch of resentment, "That's a good price."

"A very good price," said Arvardan, "but, as I told you, I have no shirts to sell."

"Well. . . ." Creen shrugged. "Expect to stay on Earth quite a while, I suppose?"

"Maybe."

"What's your line of business?"

The archaeologist allowed irritation to rise to the surface. "Look, Mr. Creen, if you don't mind, I'm a little tired and would like to take a nap. Is that all right with you?"

Creen frowned. "What's the matter with you? Don't your kind believe in being civil to people? I'm just asking you a polite question; no need to bite my ear off."

The conversation, hitherto conducted in a low voice, had suddenly amplified itself into a near shout. Hostile expressions turned Arvardan's way, and the archaeologist's lips compressed themselves into a thin line.

He had asked for it, he decided bitterly. He would not have gotten into this mess if he had held aloof from the beginning, if he hadn't felt the necessity of vaunting his damned tolerance and forcing it on people who didn't want it.

He said levelly, "Mr. Creen, I didn't ask you to join me, and I haven't been uncivil. I repeat, I am tired and would like to rest. I think there's nothing unusual in that."

"Listen"--the young man rose from his seat, threw his cigarette away with a violent gesture, and pointed a finger--"you don't have to treat me like I'm a dog or something. You stinking Outsiders come here with your fine talk and standoffishness and think it gives you the right to stamp all over us. We don't have to stand for it, see. If you don't like it here, you can go back where you came from, and it won't take much more of your lip to make me light into you, either. You think I'm afraid of you?"

Arvardan turned his head away and stared stonily out the window.

Creen said no more, but took his original seat once again. There was an excited buzz of conversation round and about the plane which Arvardan ignored. He felt, rather than saw, the sharpened and envenomed glances being cast at him. Until, gradually, it passed, as all things did.

He completed the journey, silent and alone.

The landing at the Chica airport was welcome. Arvardan smiled to himself at the first sight from the air of the "best damned city on Earth," but found it, nevertheless, an immense improvement over the thick, unfriendly atmosphere of the plane.

He supervised the unloading of his luggage and had it transferred into a biwheel cab. At least he would be the only passenger here, so that if he took care not to speak unnecessarily to the driver, he could scarcely get into trouble.

"State House," he told the cabby, and they were off.

Arvardan thus entered Chica for the first time, and he did so on the day that Joseph Schwartz escaped from his room at the Institute for Nuclear Research.

Creen watched Arvardan leave with a bitter half-smile. He took out his little book and studied it closely between puffs at his cigarette. He hadn't gotten much out of the passengers, despite his story about his uncle (which he had used often before to good effect). To be sure, the old guy had complained about a man living past his time and had blamed it on "pull" with the Ancients. That would come under the heading of slander against the Brotherhood. But then the geezer was heading for the Sixty in a month, anyway. No use putting his name down.

But this Outsider, that was different. He surveyed the item with a feeling of pleasure: "Bel Arvardan, Baronn, Sirius Sector--curious about the Sixty--secretive about own affairs--entered Chica by commercial plane 11 A.M. Chica time, 12 October--anti-Terrestrial attitude very marked."

This time maybe he had a real haul. Picking up these little squealers who made incautious remarks was dull work, but things like this made it payoff.

The Brotherhood would have his report before half an hour was up. He made his way leisurely off the field.

8. CONVERGENCE AT CHICA

For the twentieth time Dr. Shekt leafed through his latest volume of research notes, then looked up as Pola entered his office. She frowned as she slipped on her lab coat.

"Now, Father, haven't you eaten yet?"

"Eh? Certainly I have. . . .Oh, what's this?"

"This is lunch. Or it was, once. What you ate must have been breakfast. Now there's no sense in my buying meals and bringing them here if you're not going to eat them. I'm just going to make you go home for them."

"Don't get excited. I'll eat it. I can't interrupt a vital experiment every time you think I ought to eat, you know."

He grew cheerful again over the dessert. "You have no idea," he said, "the kind of man this Schwartz is. Did I ever tell you about his skull sutures?"

"They're primitive. You told me."

"But that's not all. He's got thirty-two teeth: three molars up and down, left and right, counting one false one that must be homemade. At least I've never seen a bridge that has metal prongs hooking it onto adjacent teeth instead of being grafted to the jawbone. . . .But have you ever seen anyone with thirty-two teeth?"

"I don't go about counting people's teeth, Father. What's the right number--twenty-eight?"

"It sure as Space is. . . .I'm still not finished, though. We took an internal analysis yesterday. What do you suppose we found?. . . Guess!"

"Intestines?"

"Pola, you're being deliberately annoying, but I don't care. You needn't guess; 111 tell you. Schwartz has a vermiform appendix, three and a half inches long, and it's open. Great Galaxy, it's completely unprecedented! I have checked with the Medical School--cautiously, of course--and appendixes are practically never longer than half an inch, and they're never open."

"And just what does that mean?"

"Why, he's a complete throwback, a living fossil." He had risen from his chair and paced the distance to the wall and back with hasty steps. "I tell you what, Pola, I don't think we ought to give Schwartz up. He's too valuable a specimen."

"No, no, Father," said Pola quickly, "you can't do that. You promised that farmer to return Schwartz, and you must for Schwartz's own sake. He's unhappy."

"Unhappy! Why, we're treating him like a rich Outsider."

"What difference does that make? The poor fellow is used to his farm and his people. He's lived there all his life. And now he's had a frightening experience--a painful one, for all I know--and his mind works differently now. He can't be expected to understand. We've got to consider his human rights and return him to his family."

"But, Pola, the cause of science--"

"Oh, slush! What is the cause of science worth to me? What do you suppose the Brotherhood will say when they hear of your unauthorized experiments? Do you think they care about the cause of science? I mean, consider yourself if you don't wish to consider Schwartz. The longer you keep him, the greater the chance of being caught. You send him home tomorrow night, the way you originally planned to, do you hear?. . . I'll go down and see if Schwartz wants anything before dinner."

But she was back in less than five minutes, face damp and chalky. "Father, he's gone!"

"Who's gone?" he asked, startled.

"Schwartz!" she cried, half in tears. "You must have forgotten to lock the door when you left him."

Shekt was on his feet, throwing a hand out to steady himself. "How long?"

"I don't know. But it can't be very long. When were you last there?"

"Not fifteen minutes. I had just been here a minute or two when you came in."

"Well, then," with sudden decision, "I'll run out. He may simply be wandering about the neighborhood. You stay here. If someone else picks him up, they mustn't connect him with you. Understand?"

Shekt could only nod.

Joseph Schwartz felt no lifting of the heart when he exchanged the confines of his prison hospital for the expanses of the city outside. He did not delude himself to the effect that he had a plan of action. He knew, and knew well, that he was simply improvising.

If any rational impulse guided him (as distinct from mere blind desire to exchange inaction for action of any sort), it was the hope that by chance encounter some facet of life would bring back his wandering memory. That he was an amnesiac he was now fully convinced.

The first glimpse of the city, however, was disheartening. It was late afternoon and, in the sunlight, Chica was a milky white. The buildings might have been constructed of porcelain, like that farmhouse he had first stumbled upon.

Stirrings deep within told him that cities should be brown and red. And they should be much dirtier. He was sure of that.

He walked slowly. He felt, somehow, that there would be no organized search for him. He knew that, without knowing how he knew. To be sure, in the last few days he had found himself growing increasingly sensitive to "atmosphere," to the "feel" of things about him. It was part of the strangeness in his mind, since--since. . .

His thought trailed away.

In any case, the "atmosphere" at the hospital prison was one of secrecy; a frightened secrecy, it seemed. So they could not pursue him with loud outcry. He knew that. Now why should he know that? Was this queer activity of his mind part of what went on in cases of amnesia?

He crossed another intersection. Wheeled vehicles were relatively few. Pedestrians were--well, pedestrians. Their clothes were rather laughable: seamless, buttonless,

colorful. But then so were his own. He wondered where his old clothes were, then wondered if he had ever really owned such clothes as he remembered. It is very difficult to be sure of anything, once you begin doubting your memory on principle.

But he remembered his wife so clearly; his children. They couldn't be fictions. He stopped in the middle of the walk to regain a composure suddenly lost. Perhaps they were distorted versions of real people, in this so unreal-seeming real life, whom he must find.

People were brushing past him and several muttered unamiably. He moved on. The thought occurred to him, suddenly and forcibly, that he was hungry, or would be soon, and that he had no money.

He looked about. Nothing like a restaurant in sight. Well, how did he know? He couldn't read the signs.

He gazed into each store front he passed. . . .And then he found an interior which consisted in part of small alcoved tables, at one of which two men sat and another at which a single man sat. And the men were eating.

At least that hadn't changed. Men who ate still chewed and swallowed.

He stepped in and, for a moment, stopped in considerable bewilderment. There was no counter, no cooking going on, no signs of any kitchen. It had been his idea to offer to wash the dishes for a meal, but--to whom could he make the offer?

Diffidently, he stepped up to the two diners. He pointed, and said painstakingly, "Food! Where? Please."

They looked up at him, rather startled. One spoke fluently, and quite incomprehensibly, patting a small structure at the wall end of the table. The other joined in, impatiently.

Schwartz's eyes fell. He turned to leave, and there was a hand upon his sleeve--

Granz had seen Schwartz while the latter was still only a plump and wistful face at the window.

He said "What's he want?"

Messter, sitting across the little table, with his back to the street, turned, looked, shrugged his shoulders, and said nothing.

Granz said, "He's coming in," and Messter replied, "So what?"

"Nothing. Just mentioning it."

But a few moments later the newcomer, after looking about helplessly, approached and pointed to their beef stew, saying in a queer accent, "Food! Where? Please."

Granz looked up. "Food right here, bud. Just pull up a chair at any table you want and use the Foodomat. . . . Foodomat! Don't you know what a Foodomat is?. . . Look at the poor jerk, Messter. He's looking at me as if he doesn't understand a word I say. Hey, fella--this thing, see. Just put a coin in and let me eat, will you?"

"Leave him alone," grunted Messter. "He's just a bum, looking for a handout."

"Hey, hold on." Granz seized Schwartz's sleeve as the latter turned to go. He added in an aside to Messter, "Space, let the guy eat. He's probably getting the Sixty soon. It's the least I can do to give him a break. . . .Hey, bud, you got any money?. . .

Well, I'll be damned, he still doesn't understand me. Money, pal, money! This--" And he drew a shining half-credit piece out of his pocket, flipping it so that it sparkled in the air.

"Got any?" he asked.

Slowly Schwartz shook his head.

"Well, then, have this on me!" He replaced the half-credit piece in his pocket and tossed over a considerably smaller coin.

Schwartz held it uncertainly.

"All right. Don't just stand there. Stick it in the Foodomat. This thing here."

Schwartz suddenly found himself understanding. The Foodomat had a series of slits for coins of different sizes and a series of knobs opposite little milky rectangles, the writing upon which he could not read. Schwartz pointed to the food on the table and ran a forefinger up and down the knobs, raising his eyebrows in question.

Messter said in annoyance, " A sandwich isn't good enough for him. We're getting classy bums in this burg nowadays. It doesn't pay to humor them, Granz."

"All right, so I lose point eight five credits. Tomorrow's payday, anyway. . . .Here," he said to Schwartz. He placed coins of his own into the Foodomat and withdrew the wide metal container from the recess in the wall. "Now take it to another table. . . .Nab, keep that tenth piece. Buy yourself a cup of coffee with it."

Schwartz carried the container gingerly to the next table. It had a spoon attached to the side by means of a transparent, filmy material, which broke with a slight pop under the pressure of a fingernail. As it did so, the top of the container parted at a seam and curled back upon itself.

The food, unlike that which he saw the others eating, was cold; but that was a detail. It was only after a minute or so that he realized the food was getting warmer and that the container had grown hot to the touch. He stopped, in alarm, and waited.

The gravy first steamed, then bubbled gently for a moment. It cooled again and Schwartz completed the meal.

Granz and Messter were still there when he left. So was the third man, to whom, throughout, Schwartz had paid no attention.

Nor had Schwartz noticed, at any time since he had left the Institute, the thin, little man who, without seeming to, had managed to remain always within eyeshot.

Bel Arvardan, having showered and changed his clothes, promptly followed his original intention of observing the human animal, subspecies Earth, in its native habitat. The weather was mild, the light breeze refreshing, the village itself--pardon, the city--bright, quiet, and clean.

Not so bad.

Chica first stop, he thought. Largest collection of Earth. men on the planet. Washenn next; local capital. Senloo! Senfran! Bonair!. . . He had plotted an itinerary all over the western continents (where most of the meager scattering of Earth's population lived) and, allowing two or three days at each, he would be back in Chica just about the time his expeditionary ship was due.

It would be educational.

As afternoon began to decline he stepped into a Foodomat and, as he ate, observed the small drama that played itself out between the two Earthmen who had entered shortly after himself and the plump, elderly man who came in last of all. But his observation was detached and casual, simply noting it as an item to set against his unpleasant experience on the jet transport. The two men at the table were obviously air-cab drivers and not wealthy, yet they could be charitable.

The beggar left, and two minutes later Arvardan left as well.

The streets were noticeably fuller, as the workday was approaching its end.

He stepped hastily aside to avoid colliding with a young girl.

"Pardon me," he said.

She was dressed in white, in clothing which bore the stereotyped lines of a uniform. She seemed quite oblivious of the near collision. The anxious look on her face, the sharp turning of her head from side to side, her utter preoccupation, made the situation quite obvious.

He laid a light finger on her shoulder. "May I help you, miss? Are you in trouble?"

She stopped and turned startled eyes upon him. Arvardan found himself judging her age at nineteen to twenty-one, observing carefully her brown hair and dark eyes, her high cheekbones and little chin, her slim waist and graceful carriage. He discovered, suddenly, that the thought of this little female creature being an Earthwoman lent a sort of perverse piquancy to her attractiveness.

But she was still staring, and almost at the moment of speaking she seemed to break down. "Oh, it's no use. Please don't bother about me. It's silly to expect to find someone when you don't have the slightest idea where he could have gone. " She was drooping in discouragement, her eyes wet. Then she straightened and breathed deeply. "Have you seen a plump man about five-four, dressed in green and white, no hat, rather bald?"

Arvardan looked at her in astonishment. "What? Green and white? . . . Oh, I don't believe this. . . . Look, this man you're referring to--does he speak with difficulty?"

"Yes, yes. Oh yes. You have seen him, then?"

"Not five minutes ago he was in there eating with two men. . . . Here they are. . . . Say, you two." He beckoned them over.

Granz reached them first. "Cab, sir?"

"No, but if you tell the young lady what happened to the man you were eating with, you'll stand to make the fare, anyway."

Granz paused and looked chagrined. "Well, I'd like to help you, but I never saw him before in my life."

Arvardan turned to the girl. "Now look, miss, he can't have gone in the direction you came from or you'd have seen him. And he can't be far away. Suppose we move north a bit. I'll recognize him if I see him."

His offer of help was an impulse, yet Arvardan was not, ordinarily, an impulsive man. He found himself smiling at her.

Granz interrupted suddenly. "What's he done, lady? He hasn't broken any of the Customs, has he?"

"No, no," she replied hastily. "He's only a little sick, that's all."

Messter looked after them as they left. "A little sick?" He shoved his visored cap back upon his head, then pinched balefully at his chin. "How d'ya like that, Granz? A little sick."

His eyes looked askance at the other for a moment.

"What's got into you?" asked Granz uneasily.

"Something that's making me a little sick. That guy must've been straight out of the hospital. That was a nurse looking for him, and a plenty worried nurse, too. Why should she be worried if he was just a little sick? He couldn't hardly talk, and he didn't hardly understand. You noticed that, didn't you?"

There was a sudden panicky light in Granz's eyes. "You don't think it's Fever?"

"I sure do think it's Radiation Fever--and he's far gone. He was within a foot of us, too. It's never any good--"

There was a little thin man next to them. A little thin man with bright, sharp eyes and a twittering voice, who had stepped out of nowhere. "What's that, gents? Who's got Radiation Fever?"

He was regarded with disfavor. "Who are you?"

"Ho," said the sharp little man, "you want to know, do you? It so happens that I'm a messenger of the Brotherhood, to be sure." He flashed a little glowing badge on the inner lapel of his jacket. "Now, in the name of the Society of Ancients, what's all this about Radiation Fever?"

Messter spoke in cowed and sullen tones. "I don't know nothing. There's a nurse looking for somebody who's sick, and I was wondering if it was Radiation Fever. That's not against the Customs, is it?"

"Ho! You're telling me about the Customs, are you? You better go about your business and let me worry about the Customs."

The little man rubbed his hands together, gazed quickly about him, and hurried northward.

"There he is!" and Pola clutched feverishly at her companion's elbow. It had happened quickly, easily, and accidentally. Through the despairing blankness he had suddenly materialized just within the main entrance of the self-service department store, not three blocks from the Foodomat.

"I see him," whispered Arvandan. "Now stay back and let me follow him. If he sees you and dashes into the mob, we'll never locate him."

Casually they followed in a sort of nightmare chase. The human contents of the store was a quicksand which could absorb its prey slowly--or quickly--keep it hidden impenetrably, spew it forth unexpectedly; set up barriers that somehow would not yield. The mob might almost have had a malevolent conscious mind of its own.

And then Arvandan circled a counter watchfully, playing Schwartz as though he were at the end of a fishing line. His huge hand reached out and closed on the other's shoulder.

Schwartz burst into incomprehensible prose and jerked away in panic. Arvandan's grip, however, was unbreakable to men far stronger than Schwartz, and he contented himself with smiling and saying, in normal tones, for the benefit of the curious spectator, "Hello, old chap, haven't seen you in months. How are you?"

A palpable fraud, he supposed, in the face of the other's gibberish, but Pola had joined them.

"Schwartz," she whispered, "come back with us."

For a moment Schwartz stiffened in rebellion, then he drooped.

He said wearily, "I--go--along--you," but the statement was drowned in the sudden blare of the store's loud-speaker system.

"Attention! Attention! Attention! The management requests that all patrons of the store leave by the Fifth Street exit in orderly fashion. You will present your registration cards to the guards at the door. It is essential that this be done rapidly. Attention! Attention! Attention!"

The message was repeated three times, the last time over the sound of scuffling feet as crowds were beginning to line up at the exits. A many-tongued cry was making itself heard, asking in various fashions the forever-unanswerable question of "What's happened? What's going on?"

Arvandan shrugged and said, "Let's get on line, miss. We're leaving anyway."

But Pola shook her head. "We can't. We can't--"

"Why not?" The archaeologist frowned.

The girl merely shrank away from him. How could she tell him that Schwartz had no registration card? Who was he? Why had he been helping her? She was in a whirl of suspicion and despair.

She said huskily, "You'd better go, or you'll get into trouble."

They were pouring out the elevators as the upper floors emptied. Arvandan, Pola, and Schwartz were a little island of solidity in the human river.

Looking back on it later, Arvandan realized that at this point he could have left the girl. Left her! Never seen her again! Have nothing to reproach himself with! . . . And all would have been different. The great Galactic Empire would have dissolved in chaos and destruction.

He did not leave the girl. She was scarcely pretty in her fear and despair. No one could be. But Arvandan felt disturbed at the sight of her helplessness.

He had taken a step away, and now he turned. "Are you going to stay here?"

She nodded.

"But why?" he demanded.

"Because"--and the tears now overflowed--"I don't know what else to do."

She was just a little, frightened girl, even if she was an Earthie. Arvandan said, in a softer voice, "If you'll tell me what's wrong, I'll try to help."

There was no answer.

The three formed a tableau. Schwartz had sunk to the floor in a squatting posture, too sick at heart to try to follow the conversation, to be curious at the sudden emptiness of the store, to do anything but bury his head in his hands in the last unspoken and unuttered whimper of despair. Pola, weeping, knew only that she was more frightened than she had ever thought it possible for anyone to be. Arvardan, puzzled and waiting, tried clumsily and ineffectually to pat Pola's shoulder in encouraging fashion, and was conscious only of the fact that for the first time he had touched an Earthgirl.

The little man came upon them thus.

9. CONFLICT AT CHICA

Lieutenant Marc Claudy of the Chica garrison yawned slowly and gazed into the middle distance with an ineffable boredom. He was completing his second year of duty on Earth and waited yearningly for replacement.

Nowhere in the Galaxy was the problem of maintaining a garrison quite so complicated as it was on this horrible world. On other planets there existed a certain camaraderie between soldier and civilian, particularly female civilian. There was a sense of freedom and openness.

But here the garrison was a prison. There were the radiation-proof barracks and the filtered atmosphere, free of radioactive dust. There was the lead-impregnated clothing, cold and heavy, which could not be removed without grave risk. As a corollary to that, fraternization with the population (assuming that the desperation of loneliness could drive a soldier to the society of an "Earthie" girl) was out of the question.

What was left, then, but short snorts, long naps, and slow madness?

Lieutenant Claudy shook his head in a futile attempt to clear it, yawned again, sat up and began dragging on his shoes. He looked at his watch and decided it was not yet quite time for evening chow.

And then he jumped to his feet, only one shoe on, acutely conscious of his uncombed hair, and saluted.

The colonel looked about him disparagingly but said nothing directly on the subject. Instead he directed crisply, "Lieutenant, there are reports of rioting in the business district. You will take a decontamination squad to the Dunham department store and take charge. You will see to it that all your men are thoroughly protected against infection by Radiation Fever."

"Radiation Fever!" cried the lieutenant. "Pardon me, sir, but--"

"You will be ready to leave in fifteen minutes," said the colonel coldly.

Arvandan saw the little man first, and stiffened as the other made a little gesture of greeting. "Hi, guv'ner. Hi, big fella. Tell the little lady there ain't no call for the waterworks. "

Pola's head had snapped up, her breath sucked in. Automatically she leaned toward the protecting bulk of Arvandan, who, as automatically, put a protective arm about her. It did not occur to him that that was the second time he had touched an Earthgirl.

He said sharply, "What do you want?"

The little man with the sharp eyes stepped diffidently out from behind a counter piled high with packages. He spoke in a manner which managed to be both ingratiating and impudent simultaneously.

"Here's a weird go outside," he said, "but it don't need to bother you, miss. I'll get your man back to the Institute for you."

"What institute?" demanded Pola fearfully.

"Aw, come off it," said the little man. "I'm Natter, fella with the fruit stand right across the street from the Institute for Nuclear Research. I seen you here lots of times."

"See here," said Arvardan abruptly, "what's all this about?"

Natter's little frame shook with merriment. "They think this fella here has Radiation Fever--"

"Radiation Fever?" It came from both Arvardan and Pola at once.

Natter nodded. "That's right. Two cabbies ate with him and that's what they said. News like that kinda spreads, you know."

"The guards outside," demanded Pola, "are just looking for someone with fever?"

"That's right."

"And just why aren't you afraid of the fever?" demanded Arvardan abruptly. "I take it that it was fear of contagion that caused the authorities to empty the store."

"Sure. The authorities are waiting outside, afraid to come in, too. They're waiting for the Outsiders' decontamination squad to get here."

"And you're not afraid of the fever, is that it?"

"Why should I be? This guy don't have no fever. Look at him. Where's the sores on his mouth? He isn't flushed. His eyes are all right. I know what fever looks like. Come on, miss, we'll march out of here, then."

But Pola was frightened again. "No, no. We can't. He's--he's--" She couldn't go on.

Natter said insinuatingly, "I could take him out. No questions asked. No registration card necessary--"

Pola failed to suppress a little cry, and Arvardan said, with considerable distaste, "What makes you so important?"

Natter laughed hoarsely. He flipped his lapel. "Messenger for the Society of Ancients. Nobody'll ask me questions."

"And what's in it for you?"

"Money! You're anxious and I can help you. There ain't no fairer than that. It's worth, say, a hundred credits to you, and it's worth a hundred credits to me. Fifty credits now, fifty on delivery."

But Pola whispered in horror, "You'll take him to the Ancients."

"What for? He's no good to them, and he's worth a hundred credits to me. If you wait for the Outsiders, they're liable to kill the fella before they find out he's fever-free. You know Outsiders--they don't care if they kill an Earthman or not. They'd rather, in fact."

Arvardan said, "Take the young lady with you."

But Natter's little eyes were very sharp and very sly. "Oh no. Not that guv'ner. I take what you call calculated risks. I can get by with one, maybe not with two. And if I only take one, I take the one what's worth more. Ain't that reasonable to you?"

"What," said Arvardan, "if I pick you up and pull your legs off? What'll happen then?"

Natter flinched, but found his voice, nevertheless, and managed a laugh. "Why, then, you're a dope. They'll get you anyway, and there'll be murder, too, on the list. . . .All right, guv'ner. Keep your hands off."

"Please"--Pola was dragging at Arvardan's arm--"we must take a chance. Let him do as he says. . . .You'll be honest with us, w-won't you, Mr. Natter?"

Natter's lips were curling. "Your big friend wrenched my arm. He had no call to do that, and I don't like nobody to push me around. I'll just take an extra hundred credits for that. Two hundred in all."

"My father'll pay you--"

"One hundred in advance," he replied obdurately.

"But I don't have a hundred credits," Pola wailed.

"That's all right, miss," said Arvardan stonily. "I can swing it."

He opened his wallet and plucked out several bills. He threw them at Natter. "Get going!"

"Go with him, Schwartz," whispered Pola.

Schwartz did, without comment, without caring. He would have gone to hell at that moment with as little emotion.

And they were alone, staring at each other blankly. It was perhaps the first time that Pola had actually looked at Arvardan, and she was amazed to find him tall and craggily handsome, calm and self-confident. She had accepted him till now as an inchoate, unmotivated helper, but now--She grew suddenly shy, and all the events of the last hour or two were enmeshed and lost in a scurry of heartbeating.

They didn't even know each other's name.

She smiled and said, "I'm Pola Shekt."

Arvardan had not seen her smile before, and found himself interested in the phenomenon. It was a glow that entered her face, a radiance. It made him feel--But he put that thought away roughly. An Earthgirl!

So he said, with perhaps less cordiality than he intended, "My name is Bel Arvardan." He held out a bronzed hand, into which her little one was swallowed up for a moment.

She said, "I must thank you for all your help."

Arvardan shrugged it away. "Shall we leave? I mean, now that your friend is gone; safely, I trust."

"I think we would have heard quite a noise if they had caught him, don't you think so?" Her eyes were pleading for confirmation of her hope, and he refused the temptation toward softness.

"Shall we go?"

She was somehow frozen. "Yes, why not?" sharply.

But there was a whining in the air, a shrill moan on the horizon, and the girl's eyes were wide and her outstretched hand suddenly withdrawn again,

"What's the matter now?" asked Arvardan.

"It's the Imperials."

"And are you frightened of them too?" It was the self-consciously non-Earthman Arvardan who spoke--the Sirian archaeologist. Prejudice or not, however the logic might be chopped and minced, the approach of Imperial soldiers meant a trace of sanity and humanity. There was room for condescension here, and he grew kind.

"Don't worry about the Outsiders," he said, even stooping to use their term for non-Earthmen. "I'll handle them, Miss Shekt."

She was suddenly concerned. "Oh no, don't try anything like that. Just don't talk to them at all. Do as they say, and don't even look at them."

Arvardan's smile broadened.

The guards saw them while they were still a distance from the main entrance and fell back. They emerged into a little space of emptiness and a strange hush. The whine of the army cars was almost upon them.

And then there were armored cars in the square and groups of glass-globe-headed soldiers springing out therefrom. The crowds scattered before them in panic, aided in their scramblings by clipped shouts and thrusts with the butt ends of the neuronic whips.

Lieutenant Claudy, in the lead, approached an Earthman guard at the main entrance. "All right, you, who's got the fever?"

His face was slightly distorted within the enclosing glass, with its content of pure air. His voice was slightly metallic as a result of radio amplification.

The guard bent his head in deep respect. "If it please your honor, we have isolated the patient within the store. The two who were with the patient are now standing in the doorway before you."

"They are, are they? Good! Let them stand there. Now in the first place, I want this mob out of here. Sergeant! Clear the square!"

There was a grim efficiency in the proceedings thereafter. The deepening twilight gloomed over Chica as the crowd melted into the darkening air. The streets were beginning to gleam in soft, artificial lighting.

Lieutenant Claudy tapped his heavy boots with the butt of his neuronic whip. "You're sure the sick Earthie is inside?"

"He has not left, your honor. He must be."

"Well, we'll assume he is and waste no time about it. Sergeant! Decontaminate the building!"

A contingent of soldiers, hermetically sealed away from all contact with Terrestrial environment, charged into the building. A slow quarter hour passed, while Arvardan watched all in absorbed fashion. It was a field experiment in intercultural relationships that he was professionally reluctant to disturb.

The last of the soldiers were out again, and the store was shrouded in deepening night.

"Seal the doors!"

Another few minutes and then the cans of disinfectant which had been placed in several spots on each floor were discharged at long distance. In the recesses of the building those cans were flung open and the thick vapors rolled out and curled up the

walls, clinging to every square inch of surface, reaching through the air and into the inmost crannies. No protoplasm, from germ to man, could remain alive in its presence, and chemical flushing of the most painstaking type would be required eventually for decontamination.

But now the lieutenant was approaching Arvardan and Pola.

"What was his name?" There was not even cruelty in his voice, merely utter indifference. An Earthman, he thought, had been killed. Well, he had killed a fly that day also. That made two.

He received no answer, Pola bending her head meekly and Arvardan watching curiously. The Imperial officer did not take his eyes off them. He beckoned curtly. "Check them for infection."

An officer bearing the insignia of the Imperial Medical Corps approached them, and was not gentle in his investigation; His gloved hands pushed hard under their armpits and yanked at the corners of their mouths so that he might investigate the inner surfaces of their cheeks.

"No infection, Lieutenant. If they had been exposed this afternoon, the stigmata would be clearly visible by now if infection had occurred."

"Umm." Lieutenant Claudy carefully removed his globe and enjoyed the touch of "live" air, even that of Earth. He tucked the ungainly glass object into the crook of his left elbow and said harshly, "Your name, Earthie-squaw?"

The term itself was richly insulting; the tone in which it was uttered added disgrace to it, but Pola showed no sign of resentment.

"Pola Shekt, sir," she responded in a whisper.

"Your papers!"

She reached into the small pocket of her white jacket and removed the pink folder.

He took it, flared it open in the light of his pocket flash, and studied it. Then he tossed it back. It fell, fluttering, to the floor, and Pola bent quickly for it.

"Stand up," the officer ordered impatiently, and kicked the booklet out of reach. Pola, white-faced, snatched her fingers away.

Arvardan frowned and decided it was time to interfere. He said, "Say, look here, now."

The lieutenant turned on him in a flash, his lips drawn back. "What did you say, Earthie?"

Pola was between them at once. "If you please, sir, this man has nothing to do with anything that has happened today. I never saw him before--"

The lieutenant yanked her aside. "I said, What did you say, Earthie?"

Arvardan returned his stare coolly. "I said, Look here, now. And I was going to say further that I don't like the way you treat women and that I'd advise you to improve your manners."

He was far too irritated to correct the lieutenant's impression of his planetary origin.

Lieutenant Claudy smiled without humor. . . And where have you been brought up, Earthie? Don't you believe in saying 'sir' when you address a man? You don't know your place, do you? Well, it's been a while since I've had the pleasure of teaching the way of life to a nice big Earthie-buck. Here, how's this--"

And quickly, like the flick of a snake, his open palm was out and across Arvardan's face, back and forth, once, twice. Arvardan stepped back in surprise and then felt the roaring in his ears. His hand shot out to catch the extended arm that pecked at him. He saw the other's face twist in surprise.

The muscles in his shoulders writhed easily.

The lieutenant was on the pavement with a crashing thud that sent the glass globe rolling into shattered fragments. He lay still, and Arvardan's half-smile was ferocious. He dusted his hands lightly. . . Any other bastard here think he can play pattycake on my face?"

But the sergeant had raised his neuronc whip'. The contact closed and there was the dim violet flash that reached out and licked at the tall archaeologist.

Every muscle in Arvardan's body stiffened in unbearable pain, and he sank slowly to his knees. Then, with total paralysis upon him, he blacked out.

When Arvardan swam out of the haze he was conscious first of all of a wash of welcome coolness on his forehead. He tried to open his eyes and found his lids reacting as if swinging on rusty hinges. He let them remain closed and, with infinitely slow jerks (each fragmentary muscular movement shooting pins through him), lifted his arm to his face.

A soft, damp towel, held by a little hand. . .

He forced an eye open and battled with the mist.

"Pola," he said.

There was a little cry of sudden joy. "Yes. How do you feel?"

"As if I were dead," he croaked, "without the advantage of losing pain. . . .What happened?"

"We were carted off to the military base. The colonel's been in here. They've searched you--and I don't know what they're going to do, but--Oh, Mr. Arvardan, you shouldn't ever have struck the lieutenant. I think you broke his arm. "

A faint smile wrenched at Arvardan's face. "Good! I wish I'd broken his back."

"But resisting an Imperial officer--it's a capital offense." Her voice was a horrified whisper.

"Indeed? We'll see about that."

"Ssh. They're coming back."

Arvardan closed his eyes and relaxed. Pola's cry was faint and far-off in his ears, and when he felt the hypodermic's thrust he could not gather his muscles into motion.

And then there was the wash of wonderful soothing nonpain along his veins and nerves. His arms unknotted and his back released itself slowly from its rigid arch, settling down. He fluttered his eyelids rapidly and, with a thrust of his el. bow, sat up. "

The colonel was regarding him thoughtfully; Pola, apprehensively, yet, somehow, joyfully.

The colonel said, "Well, Dr. Arvardan, we seem to have had an unpleasant contretemps in the city this evening."

Dr. Arvardan. Pola realized the little she knew about him, not even his occupation. . .She had never felt quite like this.

Arvardan laughed shortly. "Unpleasant, you say. I consider that a rather inadequate adjective."

"You have broken the arm of an officer of the Empire about the performance of his duty."

"That officer struck me first. His duty in no way included the necessity for grossly insulting me, both verbally and physically. In doing so he forfeited any claim he might have to treatment as an officer and gentleman. As a free citizen of the Empire, I had every right to resent such cavalier, not to say illegal, treatment."

The colonel harumphed and seemed at a loss for words. Pola stared at both of them with wide, unbelieving eyes.

Finally the colonel said softly, "Well, I need not say that I consider the whole incident to have been unfortunate. Apparently the pain and indignity involved have been equally spread on both sides. It may be best to forget this matter."

"Forget? I think not. I have been a guest at the Pro. curator's palace, and he may be interested in hearing exactly in what manner his garrison maintains order on Earth."

"Now, Dr. Arvardan, if I assure you that you will receive a public apology--"

"To hell with that. What do you intend doing with Miss Shekt?"

"What would you suggest?"

"That you free her instantly, return her papers, and tender your apologies--right now."

The colonel reddened, then said with an effort, "Of course." He turned to Pola. "If the young lady will accept my deepest regrets..."

They had left the dark garrison walls behind them. It had been a short and silent ten-minute air-taxi ride to the city proper, and now they stood at the deserted blackness of the Institute. It was past midnight.

Pola said, "I don't think I quite understand. You must be very important. It seems silly of me not to know your name. I didn't ever imagine that Outsiders could treat an Earthman so."

Arvardan felt oddly reluctant and yet compelled to end the fiction. "I'm not an Earthman, Pola. I'm an archaeologist from the Sirian Sector."

She turned on him quickly, her face white in the moonlight. For the space of a slow count to ten she said nothing. "Then you outfaced the soldiers because you were safe, after all, and knew it. And I thought--I should have known."

There was an outraged bitterness about her. "I humbly beg your pardon, sir, if at any time today, in my ignorance, I affected any disrespectful familiarity with you--"

"Pola," he cried angrily, "what's the matter? What if I'm not an Earthman? How does that make me different from what I seemed to you to be five minutes ago?"

"You might have told me, sir."

"I'm not asking you to call me 'sir.' Don't be like the rest of them, will you?"

"Like the rest of whom, sir? The rest of the disgusting animals that live on Earth? . . I owe you a hundred credits."

"Forget it," said Arvardan disgustedly.

"I cannot follow that order. If you'll give me your address, I will send you a money order for the amount tomorrow."

Arvardan was suddenly brutal. "You owe me much more than a hundred credits."

Pola bit her lip and said in lowered tones, "It is the only part of my great debt, sir, that I can repay. Your address?"

"State House, " he flung at her across his shoulder. He was lost in the night. And Pola found herself weeping. Shekt met Pola at the door of his office.

"He's back," he said. "A little thin man brought him."

"Good!" She was having difficulty speaking.

"He asked for two hundred credits. I gave it to him."

"He was to ask for one hundred, but never mind."

She brushed past her father. He said wistfully, "I was terribly worried. The commotions in the neighborhood--I dared not ask; I might have endangered you."

"It's all right. Nothing's happened. . . .Let me sleep here tonight, Father."

But not all her weariness could make her sleep, for something had happened. She had met a man, and he was an Outsider.

But she had his address. She had his address.

10. INTERPRETATION OF EVENTS

They presented a complete contrast, these two Earthmen--one with the greatest semblance of power on Earth, and one with the greatest reality.

Thus the High Minister was the most important Earthman on Earth, the recognized ruler of the planet by direct and definite decree of the Emperor of all the Galaxy--subject, of course, to the orders of the Emperor's Procurator. His Secretary seemed no one at all, really--merely a member of the Society of Ancients, appointed, theoretically, by the High Minister to take care of certain unspecified details, and dismissable, theoretically, at will.

The High Minister was known to all the Earth and was looked up to as the supreme arbiter on matters of Custom. It was he who announced the exemptions to the Sixty and it was he who judged the breakers of ritual, the defiers of rationing and of production schedules, the invaders of restricted territory and so on. The Secretary, on the other hand, was known to nobody, not even by name, except to the Society of Ancients and, of course, to the High Minister himself.

The High Minister had a command of language and made frequent speeches to the people, speeches of high emotional content and copious flow of sentiment. He had fair hair, worn long, and a delicate and patrician countenance. The Secretary, snub-nosed and wry-faced, preferred a short word to a long one, a grunt to a word, and silence to a grunt--at least in public.

It was the High Minister, of course, who had the semblance of power; the Secretary who had the reality. And in the privacy of the High Minister's office that circumstance was quite plain.

For the High Minister was pettishly puzzled and the Secretary coolly indifferent.

"What I don't see," said the High Minister, "is the connection of all these reports you bring me. Reports, reports!" He lifted an arm above his head and struck viciously at an imaginary heap of paper. "I don't have the time for them."

"Exactly," said the Secretary coldly. "It is why you hire me. I read them, digest them, transmit them."

"Well, good Balkis, about your business, then. And quickly, since these are minor matters."

"Minor? Your Excellency may lose a great deal someday if your judgment is not sharpened. . . .Let us see what these reports mean, and I shall then ask you if you still consider them minor. First we have the original report, now seven days old, from Shekt's underling, and it is that which first put me on the trail."

"What trail?"

Balkis's smile was faintly bitter. "May I recall to Your Excellency certain important projects which have been nurtured here on Earth for several years."

"Ssh!" the High Minister, in sudden loss of dignity, could not forbear looking about hastily.

"Your Excellency, it is not nervousness but confidence that will win for us. . . .You know further that the success of this project has depended upon the judicious use of Shekt's little toy, the Synapsifier. Until now, at least as far as we know, it has been utilized under our direction only, and for definite purposes. And now, without warning, Shekt has Synapsified an unknown man, in complete violation of our orders."

"This," said the High Minister, "is a simple matter. Discipline Shekt, take the treated man into custody, and end the matter. "

"No, no. You are far too straightforward, Your Excellency. You miss the point. It is not what Shekt has done, but why he has done so. Note that there exists a coincidence about the matter, one of a considerable series of subsequent coincidences. The Procurator of Earth had visited Shekt that same day, and Shekt himself reported to us, in loyal and trustworthy fashion, all that had passed between them. Ennius had wanted the Synapsifier for Imperial use. He made promise, it seems, of great help and gracious assistance from the Emperor."

"Hmm," said the High Minister.

"You are intrigued? A compromise such as that seems attractive as compared to the dangers attending our present course?. . . Do you remember the promises of food to us during the famine five years ago? Do you? Shipments were refused because we lacked Imperial credits, and Earth-manufactured products would not be accepted, as being radioactively contaminated. Was there a free gift of food as promised? Was there even a loan? A hundred thousand died of starvation. Don't put your trust in Outsider promises."

"But that does not matter. What does is that Shekt made a great display of loyalty. Surely we could never doubt him again. With compounded certainty, we could not suspect him of treason that very day" Yet so it came to pass."

"You mean in this unauthorized experiment, Balkis?"

"I do, Your Excellency. Who was the man treated? We have photographs of him and, with the help of Shekt's technician, retinal patterns. A check with the Planetary Registry shows no record of him. The conclusion must therefore be reached that he is no Earthman, but an Outsider. Furthermore, Shekt must have been aware of it, since a registration card cannot be forged or transferred, if checked with retinal patterns. So, in simple fashion, the unalterable facts lead us to the conclusion that Shekt has Synapsified, knowingly, an Outsider. And why?. . .

"The answer to that may be disturbingly simple. Shekt is not an ideal instrument for our purposes. In his youth he was an Assimilationist; he even once stood for election to the Washenn Council on a platform of conciliation with the Empire. He was defeated, by the way."

The High Minister interrupted. "I didn't know that."

"That he was defeated?"

"No, that he ran. Why wasn't I informed of this? Shekt is a very dangerous man in the position he now holds."

Balkis smiled softly and tolerantly. "Shekt invented the Synapsifier and still represents the one man truly experienced in its operation. He has always been watched,

and will now be watched more closely than ever. Do not forget that a traitor within our ranks, known to us, can do more harm to the enemy than a loyal man can do good to us.

"Now, let us continue to deal with the facts. Shekt has Synapsified an Outsider. Why? There is only one reason why a Synapsifier can possibly be used--to improve a mind. And why that? Because only so can the minds of our scientists, already improved by Synapsification, be overtaken. Eh? This means that the Empire has at least a faint suspicion of what is going on upon Earth. Is that minor, Your Excellency?"

There was a scattered dew on the High Minister's forehead. "Do you really think so?"

"The facts are a jigsaw puzzle that can fit only one way. The Outsider so treated was a man of undistinguished, even contemptible, appearance. A good stroke, too, since a bald and fat old man can still be the Empire's most skilled espionage agent. Oh yes. Yes. Who else could be trusted on a mission such as this? . . . But we have followed this stranger, whose alias, by the way, is Schwartz, as far as we can. Let us take this second file of reports."

The High Minister cast an eye upon them. "The ones concerning Bel Arvardan?"

"Dr. Bel Arvardan," assented Balkis, "eminent archaeologist of the gallant Sirian Sector, those worlds of brave and chivalrous bigots," He spat the last out. Then, "Well, never mind. In any case, we have here a queer mirror image to Schwartz, an almost poetic contrast. He is not unknown, but, instead, a famous figure. He is not a secret intruder, but one who comes floating on a tidal wave of publicity. We are warned of him not by an obscure technician, but by the Procurator of Earth himself."

"Do you think there is a connection, Balkis?"

"Your Excellency may suppose it possible that one may be designed to distract our attention from the other. Or else, since the ruling classes of the Empire are skilled enough in intrigue, we have an example of two methods of camouflage. In the case of Schwartz, the lights are put out. In the case of Arvardan, the lights are flashed in our eyes. In neither case are we intended to see anything? . . . Come, of what did Ennius warn us concerning Arvardan?"

The High Minister rubbed his nose thoughtfully. . . . Arvardan, he said, was on an archaeological expedition under Imperial sponsorship and wished to enter the Forbidden Areas for scientific purposes. No sacrilege, he said, was intended, and if we could stop him in gentle fashion, he would back our action to the Imperial Council. Something like that. "

"So then we will watch Arvardan closely, but for what purpose? Why, to see that he makes no unauthorized entry into the Forbidden Areas. Here's the head of an archaeological expedition without men, ships, or equipment. Here's an Outsider who does not remain at Everest, where he belongs, but wanders about Earth; for some reason--and goes to Chica first. And how is our attention distracted from all these most curious and suspicious circumstances? Why, by urging us to watch carefully something that is of no importance.

"But notice, Your Excellency, that Schwartz was kept hidden in the Institute for Nuclear Research for six days. And then he escaped. Isn't that strange? The door, suddenly, wasn't locked. The corridor, suddenly, wasn't guarded. What queer negligence. And on what day was it that he escaped? Why, on the same day that Arvardan arrived at Chica. A second peculiar coincidence."

"You think, then. . . " said the High Minister tensely.

"I think that Schwartz is the Outsider agent on Earth, that Shekt is the contact man with the Assimilationist traitors among us, and that Arvardan is the contact man with the Empire. Observe the skill with which the meeting between Schwartz and Arvardan was arranged. Schwartz is allowed to escape, and after an appropriate interval his nurse-- Shekt's daughter, by a not-too-surprising additional coincidence--is out after him. If anything were to go wrong with their split-second timetable, it is obvious that she would have found him suddenly; that he would have become a poor, sick patient for the benefit of anyone's curiosity; that he would have been brought back to safety for another attempt later. In fact, two overcurious cabbies were told that he was a sick man, and that, ironically enough, backfired upon them.

"Follow it closely, now. Schwartz and Arvardan meet first in a Foodomat. They are, apparently, unaware of each other's existence. It is a preliminary meeting, designed, simply, to indicate that all has gone well so far and that the next step may be taken. . . .At least they don't underestimate us, which is gratifying.

"Then Schwartz leaves; a few minutes later Arvardan leaves and the Shekt girl meets him. It is stop-watch timing. Together, after playing a little part for the benefit of the afore-mentioned cabbies, they head for the Dunham department store, and now all three are together. Where else but a department store? It is an ideal meeting place. It has a secrecy no cave in the mountains could duplicate. Too open to be suspected. Too crowded to be stalked. Wonderful--wonderful--I give credit to my opponent."

The High Minister writhed in his chair. "If our opponent deserves too much credit, he will win."

"Impossible. He is already defeated. And in that respect we must give credit to the excellent Natter."

"And who is Natter?"

"An insignificant agent who must be used to the limit after this. His actions yesterday could not have been improved upon. His long-range assignment has been to watch Shekt. For the purpose, he keeps a fruit stand across the street from the Institute. For the last week he has been specifically instructed to watch the development of the Schwartz affair.

"He was on hand when the man, known to him through photographs and through a glimpse at the time he was first brought to the Institute, escaped. He observed every action, himself unobserved, and it is his report that details yesterday's events. With incredible intuition, he decided that the entire purpose of the 'escape' was to arrange a meeting with Arvardan. He felt himself to be not in a position, single-handed, to exploit that meeting, so he decided to prevent it. The cabbies, to whom the Shekt girl had

described Schwartz as being sick, speculated on Radiation Fever. Natter seized on that with the swiftness of genius. As soon as he observed the meeting in the department store, he reported the case of fever and the local authorities at Chica were, praised be Earth, intelligent enough to co-operate quickly.

"The store was emptied, and the camouflage which they counted upon to hide their conversation was stripped from them. They were alone and very conspicuous in the store. Natter went further. He approached them and talked them into allowing him to escort Schwartz back to the Institute. They agreed. What could they do? . . . So that the day ended without a single word passing between Arvadan and Schwartz.

"Nor did he commit the folly of arresting Schwartz. The two are still in ignorance of their detection and will yet lead us to bigger game

"And Natter went further still. He notified the Imperial garrison, and that is beyond praise. It presented Arvadan with a situation he could not possibly have counted upon. He must either reveal himself to be an Outsider and destroy his usefulness, which apparently depends upon conducting himself upon Earth as though he were an Earthman, or he must keep the fact secret and subject himself to whatever unpleasantness might result. He took the more heroic alternative, and even broke the arm of an officer of the Empire, in his passion for realism. That, at least, must be remembered in his favor.

"It is significant that his actions were as they were. Why should he, an Outsider, expose himself to the neuronc whip for an Earthgirl if the matter at stake was not supremely important?"

Both fists of the High Minister were on the desk before him. He glowered savagely, the long, smooth lines of his face crumpled in distress. "It is well for you, Balkis, from such meager details, to construct the spider web you do. It is skillfully done, and I feel that it is as you say. Logic leaves us no other alternative. . . .But it means that they are too close, Balkis. They are too close. . . .And they will have no mercy this time."

Balkis shrugged. "They cannot be too close, or, in a case of such potential destructiveness for all the Empire, they would have already struck. . . .And their time is running short. Arvadan must still meet with Schwartz if anything is to be accomplished, and so I can predict for you the future."

"Do so--do so."

"Schwartz must be sent away now and events allowed to quiet down from their current high pitch."

"But where will he be sent?"

"We know that too. Schwartz was brought to the Institute by a man, obviously a farmer. Descriptions reached us from both Shekt's technician and from Natter. We went through the registration data of every farmer within sixty miles of Chica, and Natter identified one Arbin Maren as the man. The technician supported that decision independently. We investigated the man quietly, and it seems that is is supporting a father-in-law, a helpless cripple. in evasion of the Sixty."

The High Minister pounded the table. "Such cases are entirely too frequent, Balkis. The laws must be tightened--"

"It is not now the point, Your Excellency. What is important is the fact that since the farmer is violating the customs, he can be blackmailed."

"Oh. . . "

"Shekt, and his Outsider allies, need a tool for just such a case--that is, where Schwartz must remain in seclusion for a longer period than he can safely stay hidden in the Institute. This farmer, probably helpless and innocent, is perfect' for the purpose. Well, he will be watched. Schwartz will never be out of sight. . . .Now, eventually another meeting between him and Arvardan will have to be arranged, and that time we will be prepared. Do you understand everything now?"

"I do."

"Well, praise Earth. Then I will leave you now." And, with a sardonic smile, he added, "With your permission, of course. "

And the High Minister, completely oblivious to the sarcasm, waved a hand in dismissal.

The Secretary, on his way to his own small office, was alone, and, when alone, his thoughts sometimes escaped from beneath his firm control and disported themselves in the secrecy of his mind.

They concerned themselves very little with Dr. Shekt, Schwartz, Arvardan--least of all with the High Minister.

Instead there was the picture of a planet, Trantor--from whose huge, planet-wide metropolis all the Galaxy was ruled. And there was the picture of a palace whose spires and sweeping arches he had never seen in reality; that no other Earthman had ever seen. He thought of the invisible lines of power and glory that swept from sun to sun in gathering strings, ropes, and cables to that central palace and to that abstraction, the Emperor, who was, after all, merely a man.

His mind held that thought fixedly--the thought of that power which could alone bestow a divinity during life--concentrated in one who was merely human.

Merely human! Like himself!

He could be—

11. THE MIND THAT CHANGED

The coming of the change was dim in Joseph Schwartz's mind. Many times, in the absolute quiet of the night--how much more quiet the nights were now; were they ever noisy and bright and clanging with the life of energetic millions? --in the new quiet, he traced it back. He would have liked to say that here, here was the moment.

There was first that old, shattering day of fear when he was alone in a strange world--a day as misty in his mind now as the memory of Chicago itself. There was the trip to Chica, and its strange, complicated ending. He thought of that often.

Something about a machine--pills he had taken. Days of recuperation and then the escape, the wandering, the inexplicable events that last hour in the department store. He couldn't possibly remember that part correctly. Yet, in the two months since, how clear everything was, how unfaulted his memory.

Even then things had begun to seem strange. He had been sensitive to atmosphere. The old doctor and his daughter had been uneasy, even frightened. Had he known that then? Or had it just been a fugitive impression, strengthened by the hindsight of his thoughts since?

But then, in the department store, just before that big man had reached out and trapped him--just before that--he had become conscious of the coming snatch. The warning had not been soon enough to save him, but it was a definite indication of the change.

And, since then, the headaches. No, not quite headaches. Throbbings, rather, as though some hidden dynamo in his brain had started working and, with its unaccustomed action, was vibrating every bone of his skull. There had been nothing like it in Chicago--supposing his fantasy of Chicago had meaning--or even during his first few days here in reality.

Had they done something to him that day in Chica? The machine? The pills--that had been anesthetic. An operation? And his thoughts, having reached that point for the hundredth time, stopped once more.

He had left Chica the day after his abortive escape, and now the days passed easily.

There had been Grew in his wheel chair, repeating words and pointing, or making motions, just as the girl, Pola, had done before him. Until one day Grew stopped speaking nonsense and began talking English. Or no, he himself--he, Joseph Schwartz--had stopped speaking English and had begun talking nonsense. Except that it wasn't nonsense, any more.

It was so easy. He learned to read in four days. He surprised himself. He had had a phenomenal memory once, in Chicago, or it seemed to him that he had. But he had not been capable of such feats. Yet Grew did not seem surprised.

Schwartz gave it up.

Then, when the autumn had become really golden, things were clear again, and he was out in the fields working. It was amazing, the way he picked it up. There it was again--he never made a mistake. There were complicated machines that he could run without trouble after a single explanation.

He waited for the cold weather and it never quite came. The winter was spent in clearing ground, in fertilizing, in preparing for the spring planting in a dozen ways.

He questioned Grew, tried to explain what snow was, but the latter only stared and said, "Frozen water falling like rain, eh? Oh! The word for that is snow! I understand it does that on other planets but not on Earth."

Schwartz watched the temperature thereafter and found that it scarcely varied from day to day--and yet the days shortened, as would be expected from a northerly location, say as northerly as Chicago. He wondered if he was on Earth.

He tried reading some of Grew's book films but gave up. People were people still, but the minutiae of daily life, the knowledge of which was taken for granted, the historical and sociological allusions that meant nothing to him, forced him back.

The puzzles continued. The uniformly warm rains, the wild instructions he received to remain away from certain regions. For instance, there had been the evening that he had finally become too intrigued by the shining horizon, the blue glow to the south. . .

He had slipped off after supper, and when not a mile had passed, the almost noiseless whirl of the biwheel engine came up behind him and Arbin's angry shout rang out in the evening air. He had stopped and had been taken back.

Arbin had paced back and forth before him and had said, "You must stay away from anywhere that it shines at night."

Schwartz had asked mildly, "Why?"

And the answer came with biting incision, "Because it is forbidden." A long pause, then, "You really don't know what it's like out there, Schwartz?"

Schwartz spread his hands.

Arbin said, "Where do you come from? Are you an--an Outsider?"

"What's an Outsider?"

Arbin shrugged and left.

But that night had had a great importance for Schwartz, for it was during that short mile toward the shiningness that the strangeness in his mind had coalesced into the Mind Touch. It was what he called it, and the closest he had come, either then or thereafter, to describing it.

He had been alone in the darkling purple. His own footsteps against the springy pavement were muted. He hadn't seen anybody. He hadn't heard anybody. He hadn't touched anything.

Not exactly. . . It had been something like a touch, but not anywhere on his body. It was in his mind. . . .Not exactly a touch, but a presence--a somethingness there like a velvety tickle.

Then there had been two--two touches, distinct, apart. And the second--how could he tell them apart?--had grown louder (no, that wasn't the right word) ; it had grown distincter, more definite.

And then he knew it was Arbin. He knew it five minutes, at least, before he caught the sound of the biwheel, ten minutes before he laid eyes on Arbin.

Thereafter it occurred again and again with increasing frequency.

It began to dawn on him that he always knew when Arbin, Loa, or Grew was within a hundred feet of himself, even when he had no reason for knowing, even when he had every reason to suppose the opposite. It was a hard thing to take for granted, yet it began to seem so natural.

He experimented, and found that he knew exactly where any of them were, at any time. He could distinguish between them, for the Mind Touch differed from person to person. Not once had he the nerve to mention it to the others.

And sometimes he would wonder what that first Mind Touch on the road to the Shiningness had been. It had been neither Arbin, Loa, nor Grew. Well? Did it make a difference?

It did later. He had come across the Touch again, the same one, when he brought in the cattle one evening. He came to Arbin then and said :

"What about that patch of woods past the South Hills, Arbin?"

"Nothing about it," was the gruff answer. "It's Ministerial Ground."

"What's that?"

Arbin seemed annoyed. "It's of no importance to you, is it? They call it Ministerial Ground because it is the property of the High Minister."

"Why isn't it cultivated?"

"It's not intended for that." Arbin's voice was shocked. "It was a great Center. In ancient days. It is very sacred and must not be disturbed. Look, Schwartz, if you want to remain here safely, curb your curiosity and tend to your job."

"But if it's so sacred, then nobody can live there?"

"Exactly. You're right."

"Are you sure?"

"I'm sure. . . .And you're not to trespass. It will mean the end for you."

"I won't."

Schwartz walked away, wondering and oddly uneasy. It was from that wooded ground that the Mind Touch came, quite powerfully, and now something additional had been added to the sensation. It was an unfriendly Touch, a threatening Touch.

Why? Why?

And still he dared not speak. They would not have believed him, and something unpleasant would happen to him as a consequence. He knew that too. He knew too much, in fact.

He was younger these days, also. Not so much in the physical sense, to be sure. He was thinner in his stomach and broader in his shoulders. His muscles were harder and

springier and his digestion was better. That was the result of work in the open. But it was something else he was chiefly conscious of. It was his way of thinking.

Old men tend to forget what thought was like in their youth; they forget the quickness of the mental jump, the daring of the youthful intuition, the agility of the fresh insight. They become accustomed to the more plodding varieties of reason, and because this is more than made up by the accumulation of experience, old men think themselves wiser than the young.

But to Schwartz experience remained, and it was with a sharp delight that he found he could understand things at a bound, that he gradually progressed from following Arbin's explanations to anticipating them, to leaping on ahead. As a result, he felt young in a far more subtle way than any amount of physical excellence could account for.

Two months passed, and it all came out--over a game of chess with Grew in the arbor.

Chess, somehow, hadn't changed, except for the names of the pieces. It was as he remembered it, and therefore it was always a comfort to him. At least, in this one respect, his poor memory did not play him false.

Grew told him of variations of chess. There was fourhanded chess, in which each player had a board, touching each other at the corners, with a fifth board filling the hollow in the center as a common No Man's Land. There were three-dimensional chess games in which eight transparent boards were placed one over the other and in which each piece moved in three dimensions as they formerly moved in two, and in which the number of pieces and pawns were doubled, the win coming only when a simultaneous check of both enemy kings occurred. There were even the popular varieties, in which the original position of the chessmen were decided by throws of the dice, or where certain squares conferred advantages or disadvantages to the pieces upon them, or where new pieces with strange properties were introduced.

But chess itself, the original and unchangeable, was the same--and the tournament between Schwartz and Grew had completed its first fifty games.

Schwartz had a bare knowledge of the moves when he began, so that he lost constantly in the first games. But that had changed and losing games were becoming rarer. Gradually Grew had grown slow and cautious, had taken to smoking his pipe into glowing embers in the intervals between moves, and had finally subsided into rebellious and querulous losses.

Grew was White and his pawn was already on King 4.

"Let's go," he urged sourly. His teeth were clamped hard on his pipe and his eyes were already searching the board tensely.

Schwartz took his seat in the gathering twilight and sighed. The games were really becoming uninteresting as more and more he became aware of the nature of Grew's moves before they could be made. It was as if Grew had a misty window in his skull. And the fact that he himself knew, almost instinctively, the proper course of chess play to take was simply of a piece with the rest of his problem.

They used a "night-board," one that glowed in the darkness in a checkered blue-and-orange glimmer. The pieces, ordinary lumpish figures of a reddish clay in the sunlight, were metamorphosed at night. Half were bathed in a creamy whiteness that lent them the look of cold and shining porcelain, and the others sparked in tiny glitters of red.

The first moves were rapid. Schwartz's own King's Pawn met the enemy advance head on. Grew brought out his King's Knight to Bishop 3; Schwartz countered with Queen's Knight to Bishop 3. Then the White Bishop leaped to Queen's Knight 5, and Schwartz's Queen's Rook's Pawn slid ahead a square to drive it back to Rook 4. He then advanced his other Knight to Bishop 3.

The shining pieces slid across the board with an eery volition of their own as the grasping fingers lost themselves in the night.

Schwartz was frightened. He might be revealing insanity, but he had to know. He said abruptly, "Where am I?"

Grew looked up in the midst of a deliberate move of his Queen's Knight to Bishop 3 and said, "What?"

Schwartz didn't know the word for "country," or "nation." He said, "What world is this?" and moved his Bishop to King 2.

"Earth," was the short reply, and Grew castled with great emphasis, first the tall figurine that was the King, moving, and then the lumpish Rook topping it and resting on the other side.

That was a thoroughly unsatisfactory answer. The word Grew had used Schwartz translated in his mind as "Earth." But what was "Earth"? Any planet is "Earth" to those that live on it. He advanced his Queen's Knight's Pawn two spaces, and again Grew's Bishop had to retreat, to Knight 3 this time. Then Schwartz and Grew, each in turn, advanced the Queen's Pawn one space, each freeing his Bishop for the battle in the center that was soon to begin.

Schwartz asked, as calmly and casually as he could, "What year is this?" He castled.

Grew paused. He might have been startled. "What is it you're harping on today? Don't you want to play? If it will make you happy, this is 827." He added sarcastically, "G.E." He stared frowningly at the board, then slammed his Queen's Knight to Queen 5, where it made its first assault.

Schwartz dodged quickly, moving his own Queen's Knight to Rook 4 in counterattack. The skirmish was on in earnest. Grew's Knight seized the Bishop, which leaped upward in a bath of red fire to be dropped with a sharp click into the box where it might lie, a buried warrior, until the next game. And then the conquering Knight fell instantly to Schwartz's Queen. In a moment of overcaution, Grew's attack faltered and he moved his remaining Knight back to the haven of King 1, where it was relatively useless. Schwartz's Queen's Knight now repeated the first exchange, taking the Bishop and falling prey in its turn to the Rook's Pawn.

Now another pause, and Schwartz asked mildly, "What's G.E.?"

"What?" demanded Grew bad-humoredly. "Oh--you mean you're still wondering what year this is? Of all the fool--Well, I keep forgetting you just learned to talk a month

or so ago. But you're intelligent. Don't you really know? Well, it's 827 of the Galactic Era. Galactic Era: G.E.--see? It's 827 years since the foundation of the Galactic Empire; 827 years since the coronation of Frankenn the First. Now, please, it's your move."

But the Knight that Schwartz held was swallowed up in the grip of his hand for the moment. He was in a fury of frustration. He said, "Just one minute," and put the Knight down on Queen 2. "Do you recognize any of these names? America, Asia, the United States, Russia, Europe--" He groped for identification.

In the darkness Grew's pipe was a sullen red glow and the dim shadow of him hunched over the shining chessboard as if it had the less life of the two. He might have shaken his head curtly, but Schwartz could not see that. He didn't have to. He sensed the other's negation as clearly as though a speech had been delivered.

Schwartz tried again. "Do you know where I can get a map?"

"No maps," growled Grew, "unless you want to risk your neck in Chica. I'm no geographer. I never heard of the names you mention, either. What are they? People?"

Risk his neck? Why that? Schwartz felt the coldness gather. Had he committed a crime? Did Grew know about it?

He asked doubtfully, "The sun has nine planets, hasn't it?"

"Ten," was the uncompromising answer.

Schwartz hesitated. Well, they might have discovered another that he hadn't heard about. But then why should Grew have heard about it? He counted on his fingers, and then, "How about the sixth planet? Has it got rings?"

Grew was slowly moving the King's Bishop's Pawn forward two squares, and Schwartz instantly did the same.

Grew said, "Saturn, you mean? Of course it has rings." He was calculating now. He had the choice of taking either the Bishop's Pawn or the King's Pawn, and the consequences of the choice were not too clear.

"And is there an asteroid belt--little planets--between Mars and Jupiter? I mean between the fourth and fifth planets?"

"Yes," mumbled Grew. He was relighting his pipe and thinking feverishly. Schwartz caught that agonized uncertainty and was annoyed at it. To him, now that he was sure of Earth's identity, the chess game was less than a trifle. Questions quivered along the inner surface of his skull, and one slipped out.

"Your book films are real, then? There are other worlds? With people?"

And now Grew looked up from the board, eyes probing uselessly in the darkness. "Are you serious?"

"Are there?"

"By the Galaxy! I believe you really don't know."

Schwartz felt humiliated in his ignorance. "Please--"

"Of course there are worlds. Millions of them! Every star you see has worlds, and most of those you don't see. It's all part of the Empire."

Delicately, inside, Schwartz felt the faint echo of each of Grew's intense words as they sparked directly from mind to mind. Schwartz felt the mental contacts growing

stronger with the days. Maybe, soon, he could hear those tiny words in his mind even when the person thinking them wasn't talking.

And now, for the first time, he finally thought of an alternative to insanity. Had he passed through time, somehow? Slept through, perhaps?

He said huskily, "How long since it's all happened, Grew? How long since the time when there was only one planet?"

"What do you mean?" He was suddenly cautious. "Are you a member of the Ancients?"

"Of the what? I'm not a member of anything, but wasn't Earth once the only planet? . . . Well, wasn't it?"

"The Ancients say so," said Grew grimly, "but who knows? Who really knows? The worlds up there have been existing all history long as far as I know."

"But how long is that?"

"Thousands of years, I suppose. Fifty thousand, a hundred --I can't say."

Thousands of years! Schwartz felt a gurgle in his throat and pressed it down in panic. All that between two steps? A breath, a moment, a flicker of time--and he had jumped thousands of years? He felt himself shrinking back to amnesia. His identification of the Solar System must have been the result of imperfect memories penetrating the mist.

But now Grew was making his next move--he was taking the other's Bishop's Pawn, and it was almost mechanically that Schwartz noted mentally the fact that it was the wrong choice. Move fitted to move now with no conscious effort. His King's Rook swooped forward to take the foremost of the now-doubled White Pawns. White's Knight advanced again to Bishop 3. Schwartz's Bishop moved to Knight 2, freeing itself for action. Grew followed suit by moving his own Bishop to Queen 2.

Schwartz paused before launching the final attack. He said, "Earth is boss, isn't it?"

"Boss of what?"

"Of the Emp--"

But Grew looked up with a roar at which the chessmen quivered. "Listen, you, I'm tired of your questions. Are you a complete fool? Does Earth look as if it's boss of anything?" There was a smooth whir as Grew's wheel chair circled the table. Schwartz felt grasping fingers on his arm.

"Look! Look there!" Grew's voice was a whispered rasp. "You see the horizon? You see it shine?"

"Yes."

"That is Earth--all Earth. Except here and there, where a few patches like this one exist."

"I don't understand."

"Earth's crust is radioactive. The soil glows, always glowed, will glow forever. Nothing can grow. No one can live--You really didn't know that? Why do you suppose we have the Sixty?"

The paralytic subsided. He circled his chair about the table again. "It's your move."

The Sixty! Again a Mind Touch with an indefinable aura of menace. Schwartz's chess pieces played themselves, while he wondered about it with a tight-pressed heart. His King's Pawn took the opposing Bishop's Pawn. Grew moved his Knight to Queen 4 and Schwartz's Rook side-stepped the attack to Knight 4. Again Grew's Knight attacked, moving to Bishop 3, and Schwartz's Rook avoided the issue again to Knight 5. But now Grew's King's Rook's Pawn advanced one timorous square and Schwartz's Rook slashed forward. It took the Knight's Pawn, checking the enemy King. Grew's King promptly took the Rook, but Schwartz's Queen plugged the hole instantly, moving to Knight 4 and checking. Grew's King scurried to Rook 1, and Schwartz brought up his Knight, placing it on King 4. Grew moved his Queen to King 2 in a strong attempt to mobilize his defenses, and Schwartz countered by marching his Queen forward two squares to Knight 6, so that the fight was now in close quarters. Grew had no choice; he moved his Queen to Knight 2, and the two female majesties were now face to face. Schwartz's Knight pressed home, taking the opposing Knight on Bishop 6, and when the now-attacked White Bishop moved quickly to Bishop 3, the Knight followed to Queen 5. Grew hesitated for slow minutes, then advanced his outflanked Queen up the long diagonal to take Schwartz's Bishop.

Then he paused and drew a relieved breath. His sly opponent had a Rook in danger with a check in the offing and his own Queen ready to wreak havoc. And he was ahead a Rook to a Pawn.

"Your move," he said with satisfaction.

Schwartz said finally, "What--what is the Sixty?"

There was a sharp unfriendliness to Grew's voice. "Why do you ask that? What are you after?"

"Please," humbly. He had little spirit left in him. "I am a man with no harm in me. I don't know who I am or what happened to me. Maybe I'm an amnesia case."

"Very likely," was the contemptuous reply. "Are you escaping from the Sixty? Answer truthfully."

"But I tell you I don't know what the Sixty is!"

It carried conviction. There was a long silence. To Schwartz, Grew's Mind Touch was ominous, but he could not, quite, make out words.

Grew said slowly, "The Sixty is your sixtieth year. Earth supports twenty million people, no more. To live, you must produce. If you cannot produce, you cannot live. Past Sixty--you cannot produce."

"And so. . ." Schwartz's mouth remained open.

"You're put away. It doesn't hurt."

"You're killed?"

"It's not murder," stiffly. "It must be that way. Other worlds won't take us, and we must make room for the children some way. The older generation must make room for the younger."

"Suppose you don't tell them you're sixty?"

"Why shouldn't you? Life after sixty is no joke. . . .And there's a Census every ten years to catch anyone who is foolish enough to try to live. Besides, they have your age on record."

"Not mine." The words slipped out, Schwartz couldn't stop them. "Besides, I'm only fifty--next birthday."

"It doesn't matter. They can check by your bone structure. Don't you know that? There's no way of masking it. They'll get me next time. . . .Say, it's your move."

Schwartz disregarded the urging. "You mean they'll--"

"Sure, I'm only fifty-five, but look at my legs. I can't work, can I? There are three of us registered in our family, and our quota is adjusted on a basis of three workers. When I had the stroke I should have been reported, and then the quota would have been reduced. But I would have gotten a premature Sixty, and Arbin and Loa wouldn't do it. They're fools, because it has meant hard work for them--till you came along. And they'll get me next year, anyway. . . . Your move."

"Is next year the Census?"

"That's right....Your move."

"Wait!" urgently. "Is everyone put away after sixty? No exceptions at all?"

"Not for you and me. The High Minister lives a full life, and members of the Society of Ancients; certain scientists or those performing some great service. Not many qualify. Maybe a dozen a year. . . .It's your move!"

"Who decides who qualifies?"

"The High Minister, of course. Are you moving?"

But Schwartz stood up. "Never mind. It's checkmate in five moves. My Queen is going to take your Pawn to check you; you've got to move to Knight 1; I bring up the Knight to check you at King 2; you must move to Bishop 2; my Queen checks you at King 6; you must move to Knight 2; my Queen goes to Knight 6, and when you're then forced to Rook 1, my Queen mates you at Rook 6.

"Good game," he added automatically.

Grew stared long at the board, then, with a cry, dashed it from the table. The gleaming pieces rolled dejectedly about on the lawn.

"You and your damned distracting chatter," yelled Grew.

But Schwartz was conscious of nothing. Nothing except the overwhelming necessity of escaping the Sixty. For though Browning said: "Grow old along with me! The best is yet to be. . . .", that was in an Earth of teeming billions and of unlimited food. The best that was now to be was the Sixty--and death.

Schwartz was sixty-two.

Sixty-two. . .

12. THE MIND THAT KILLED

It worked out so neatly in Schwartz's methodical mind. Since he did not want to die, he would have to leave the farm. If he stayed where he was, the Census would come, and with it, death.

Leave the farm, then. But where would he go?

There was the--what was it, a hospital?--in Chica. They had taken care of him before. And why? Because he had been a medical "case." But wasn't he still a case? And he could talk now; he could give them the symptoms, which he couldn't before. He could even tell them about the Mind Touch.

Or did everyone have the Mind Touch? Was there any way he could tell? . . . None of the others had it. Not Arbin or Loa or Grew. He knew that. They had no way of telling where he was unless they saw or heard him. Why, he couldn't beat Grew in chess if Grew could--

Wait, now, chess was a popular game. And it couldn't be played if people had the Mind Touch. Not really.

So that made him a peculiarity--a psychological specimen. It might not be a particularly gay life, being a specimen, but it would keep him alive,

And suppose one considered the new possibility that had just arisen. Suppose he were not an amnesiac but a man who had stumbled through time. Why, then, in addition to the Mind Touch, he was a man from the past. He was a historical specimen, an archaeological specimen; they couldn't kill him.

If they believed him.

Hmm, if they believed him.

That doctor would believe. He had needed a shave that morning Arbin took him to Chica. He remembered that very well. After that his hair never grew, so they must have done something to him. That meant that the doctor knew that he--he, Schwartz--had had hair on his face. Wouldn't that be significant? Grew and Arbin never shaved. Grew had once told him that only animals had hair on their face.

So he had to get to the doctor.

What was his name? Shekt?. . . Shekt, that was right.

But he knew so little of this horrible world. To leave by night or cross-country would have entangled him in mysteries, would have plunged him into radioactive danger pockets of which he knew nothing. So, with the boldness of one with no choice, he struck out upon the highway in the early afternoon.

They wouldn't be expecting him back before supertime, and by that time he would be well away. They would have no Mind Touch to miss.

For the first half hour he experienced a feeling of elation, the first such sensation he had had since all this had started. He was finally doing something; he was making an

attempt to fight back at his environment. Something with a purpose, and not mere unreasoning flight as that time in Chica.

Ah, for an old man he wasn't bad. He'd show them.

And then he stopped--He stopped in the middle of the highway, because something obtruded itself upon his notice, something he had forgotten.

There was the strange Mind Touch, the unknown Mind Touch; the one he had detected first when he had tried to reach the shining horizon and had been stopped by Arbin; the one that had been watching from the Ministerial Ground.

It was with him now--behind him and watching.

He listened closely--or, at least, he did that which was the equivalent of listening with regard to the Mind Touch. It came no closer, but it was fastened upon himself. It had within it watchfulness and enmity, but not desperation.

Other things became clear. The follower must not lose sight of him, and the follower was armed.

Cautiously, almost automatically, Schwartz turned, picking apart the horizon with eager eyes.

And the Mind Touch changed instantly.

It became doubtful and cautious, dubious as to its own safety, and the success of its own project, whatever that was. The fact of the follower's weapons became more prominent, as though he were speculating upon using it if trapped.

Schwartz knew that he himself was unarmed and helpless. He knew that the follower would kill him rather than allow him to get out of sight; kill him at the first false move. . . .And he saw no one.

So Schwartz walked on, knowing that his follower remained close enough to kill him. His back was stiff in the anticipation of he knew not what. How does death feel? . . . How does death feel? . . . The thought jostled him in time to his steps, jounced in his mind, jiggled in his subconscious, until it went nearly past endurance.

He held onto the follower's Mind Touch as the one salvation. He would detect that instant's increase in tension that would mean that a weapon was being leveled, a trigger being pulled, a contact being closed. At that instant he would drop, he would run.

But why? If it were the Sixty, why not kill him out of hand?

The time-slip theory was fading out in his mind; amnesia again. He was a criminal, perhaps-a dangerous man, who must be watched. Maybe he had once been a high official, who could not be simply killed but must be tried. Perhaps his amnesia was the method used by his unconscious to escape the realization of some tremendous guilt.

And so now he was walking down an empty highway toward a doubtful destination, with death walking at his back.

It was growing dark, and the wind had a dying chill to it. As usual, it didn't seem right. Schwartz judged it to be December, and certainly sunset at four-thirty was right for it, but the wind's chill was not the iciness of a midwestern winter.

Schwartz had long decided that the reason for the prevalent mildness was that the planet (Earth?) did not depend on the sun entirely for its heat. The radioactive soil itself gave off heat, small by the square foot but huge by the million square miles.

And in the darkness the follower's Mind Touch grew nearer. Still attentive, and keyed up to a gamble. In the darkness, following was harder. He had followed him that first night--toward the shiningness. Was he afraid to take the risk again?

"Hey! Hey, fella--"

It was a nasal, high-pitched voice. Schwartz froze.

Slowly, in one piece, he turned around. The small figure coming up to him waved its hand, but in the sunless time of day he could not make it out clearly. It approached, unhurrying. He waited.

"Hey, there. Glad to see you. It ain't much fun beating it along the road without company. Mind if I go along with you?"

"Hello," said Schwartz dully. It was the correct Mind Touch. It was the follower. And the face was familiar. It belonged to that hazy time, in Chica.

And then the follower gave every sign of recognition. "Say, I know you. Sure! . . . Don't you remember me?"

It was impossible for Schwartz to say whether under ordinary conditions, in another time, he might or might not have believed the other to be sincere. But now how could he avoid seeing that thin, ragged layer of synthetic recognition that overlay the deep currents of a Touch that told him--shouted at him--that the little man with the very sharp eyes had known him from the start? Knew him and had a death weapon ready for him, if necessary.

Schwartz shook his head.

"Sure," insisted the little man. "It was in the department store. I got you away from that mob." He seemed to double up in artificial laughter. "They thought you had Radiation Fever. You remember."

Schwartz did, too, vaguely--dimly. A man like this, for a few minutes, and a crowd, which had first stopped them and then parted for them.

"Yes," he said. "Pleased to meet you." It wasn't very brilliant conversation, but Schwartz could do no better, and the little man did not seem to mind.

"My name's Natter," he said, shoving out a limp hand at the other. "I didn't get a chance to talk much with you that first time--overlooked it in the crisis of things, you might say--but I'm sure glad to get a second chance. . . .Let's have the mitt."

"I'm Schwartz." And he touched palms with the other, briefly.

"How come you're walking?" asked Natter. "Going somewheres?"

Schwartz shrugged. "Just walking."

"A hiker, huh? That's for me too. All year round I'm on the road--puts the old kibosh on the grummies."

"What?"

"You know. Makes you full of life. You get to breathe that air and feel the blood pumping, hey?. . . Walked too far this time. Hate to get back after night by my lonesome. Always glad for the company. Where you going?"

It was the second time Natter had asked the question, and the Mind Touch made plain the importance attached to it. Schwartz wondered how long he could evade the issue. There was a questing anxiety in the follower's mind. And no lie would do. Schwartz didn't know enough about this new world to lie.

He said, "I'm going to the hospital."

"The hospital? What hospital?"

"I was there when I was in Chica."

"You mean the Institute. Ain't that it? That's where I took you before, that time in the department store, I mean." Anxiety and increasing tension.

"To Dr. Shekt," said Schwartz. "Do you know him?"

"I've heard of him. He's a big shot. Are you sick?"

"No, but I'm supposed to report once in a while." Did that sound reasonable?

"Walking?" said Natter. "Doesn't he send a car for you?" Apparently it did not seem reasonable.

Schwartz said nothing now--a clammy silence.

Natter, however, was buoyant. "Look here, chum, soon's I pass a public Communi-wave, I'll order a taxi from the city. It'll meet us on the road."

"A Communi-wave?"

"Sure. They have 'em all along the highway. See, there's one."

He took a step away from Schwartz, and the latter found himself in a sudden shriek. "Stop! Don't move."

Natter stopped. There was a queer coldness in his expression as he turned.

"What's eating you, bud?"

Schwartz found the new language almost inadequate for the rapidity with which he hurled words at the other. "I'm tired of this acting. I know you, and I know what you're going to do. You're going to call somebody to tell them I'm going to Dr. Shekt. They'll be ready for me in the city and they'll send out a car to pick me up. And you'll kill me if I try to get away."

There was a frown on Natter's face. He muttered, "You're sure right on the gizzbo with that last--" It was not intended for Schwartz's ears, nor did it reach them, but the words rested lightly on the very surface of his Mind Touch.

Aloud he said, "Mister, you've got me confused. You're shoving a fast one right past my nose." But he was making room, and his hand was drifting toward his hip.

And Schwartz lost control of himself. He waved his arms in a wild fury. "Leave me alone, why don't you? What have I done to you?. . . Go away! Go away!"

He ended in a voice-cracked shriek, his forehead ridged with hate and fear of the creature who stalked him and whose mind was so alive with enmity. His own emotions heaved and thrust at the Mind Touch, attempting to evade the clingingness of it, rid itself of the breath of it.

And it was gone. Suddenly and completely gone. There had been the momentary consciousness of overwhelming pain--not in himself, but in the other--then nothing. No Mind Touch. It had dropped away like the grip of a fist growing lax and dead.

Natter was a crumpled smear on the darkening highway. Schwartz crept toward him. Natter was a little man, easy to turn over. The look of agony on his face might have been stamped on, deeply, deeply. The lines remained, did not relax. Schwartz felt for the heartbeat and did not find it.

He straightened in a deluge of self-horror.

He had murdered a man!

And then a deluge of amazement--

Without touching him! He had killed this man just by hating him, by striking somehow at the Mind Touch.

What other powers did he have? He made a quick decision. He searched the other's pockets and found money. Good! He could use that. Then he dragged the corpse into the fields and let the high grass cover it.

He walked on for two hours. No other Mind Touch disturbed him.

He slept in an open field that night, and the next morning, after two hours more, reached the outskirts of Chica.

Chica was only a village to Schwartz, and by comparison with the Chicago he remembered, the motion of the populace was still thin and sporadic. Even so, the Mind Touches were for the first time numerous. They amazed and confused him.

So many! Some drifting and diffuse; some pointed and intense. There were men who passed with their minds popping in tiny explosions; others with nothing inside their skulls but, perhaps, a gentle rumination on the breakfast just completed.

At first Schwartz turned and jumped with every Touch that passed, taking each as a personal contact; but within the hour he learned to ignore them.

He was hearing words now, even when "they were not actually mouthed. This was something new, and he found himself listening. They were thin, eery phrases, disconnected and wind-whipped; far off, far off. . . And with them, living, crawling emotion and other subtle things that cannot be described--so that all the world was a panorama of boiling life visible to himself only.

He found he could penetrate buildings as he walked, sending his mind in as though it were something he held on a leash, something that could suck its way into crannies invisible to the eye and bring out the bones of men's inner thoughts.

It was before a huge stone-fronted building that he halted, and considered. They (whoever they were) were after him. He had killed the follower, but there must be others--the others that the follower had wanted to call. It might be best for him to make no move for a few days, and how to do that best?. . . A job?. . . "

He probed the building before which he had stopped. In there was a distant Mind Touch that to him might mean a job. They were looking for textile workers in there--and he had once been a tailor.

He stepped inside, where he was promptly ignored by everyone. He touched someone's shoulder.

"Where do I see about a job, please?"

"Through that door!" The Mind Touch that reached him was full of annoyance and suspicion.

Through the door, and then a thin, point-chin fellow fired questions at him and fingered the classifying machine onto which he punched the answers.

Schwartz stammered his lies and truths with equal uncertainty.

But the personnel man began, at least, with a definite unconcern. The questions were fired rapidly: "Age?. . . Fifty-two? Hmm. State of health?. . . Married?. . . Experience?. . . Worked with textiles?. . . Well, what kind?. . . Thermoplastic? Elastomeric?. . . What do you mean, you think all kinds?. . . Whom did you work with last?. . . Spell his name. . . You're not from Chica, are you?. . . Where are your papers?. . . You'll have to bring them here if you want action taken. . . What's your registration number?. . . "

Schwartz was backing away. He hadn't foreseen this end when he had begun. And the Mind Touch of the man before him was changing. It had become suspicious to the point of single-trackedness, and cautious too. There was a surface layer of sweetness and good-fellowship that was so shallow. and which overlay animosity so thinly, as to be the most dangerous feature of all.

"I think," said Schwartz nervously, "that I'm not suited for this job."

"No, no, come back." And the man beckoned at him. "We have something for you. Just let me look through the files a bit." He was smiling, but his Mind Touch was clearer now and even more unfriendly.

He had punched a buzzer on his desk--

Schwartz, in a sudden panic, rushed for the door.

"Hold him!" cried the other instantly. dashing from behind his desk.

Schwartz struck at the Mind Touch, lashing out violently with his own mind, and he heard a groan behind him. He looked quickly over his shoulder. The personnel man was seated on the floor, face contorted and temples buried in his palms. Another man bent over him; then, at an urgent gesture, headed for Schwartz. Schwartz waited no more.

He was out on the street, fully aware now that there must be an alarm out for him with a complete description made public, and that the personnel man, at least, had recognized him.

He ran and doubled along the streets blindly. He attracted attention; more of it now, for the streets were filling up--suspicion, suspicion everywhere--suspicion because he ran--suspicion because his clothes were wrinkled and ill-fitting.

In the multiplicity of Mind Touches and in the confusion of his own fear and despair. he could not identify the true enemies, the ones in which there was not only suspicion but certainty, and so he hadn't the slightest warning of the neuronc whip.

There was only that awful pain, which descended like the whistle of a lash and remained like the crush of a rock. For seconds he coasted down the slope of that descent into agony before drifting into the black.

13. SPIDER WEB AT WASHENN

The grounds of the College of Ancients in Washenn are nothing if not sedate. Austerity is the key word, and there is something authentically grave about the clustered knots of novices taking their evening stroll among the trees of the Quadrangle--where none but Ancients might trespass. Occasionally the green-robed figure of a Senior Ancient might make its way across the lawn, receiving reverences graciously.

And, once in a long while, the High Minister himself might appear.

But not as now, at a half run, almost in a perspiration, disregarding the respectful raising of hands, oblivious to the cautious stares that followed him, the blank looks at one another, the slightly raised eyebrows.

He burst into the Legislative Hall by the private entrance and broke into an open run down the empty, step-ringing ramp. The door that he thundered at opened at the foot pressure of the one within, and the High Minister entered.

His Secretary scarcely looked up from behind his small, plain desk, where he hunched over a midget Field-shielded Televisor, listening intently and allowing his eyes to rove over a quire or so of official-looking communications that piled high before him.

The High Minister rapped sharply on the desk. "What is this? What is going on?"

The Secretary's eyes flicked coldly at him, and the Televisor was put to one side. "Greetings, Your Excellency."

"Greet me no greetings!" retorted the High Minister impatiently. "I want to know what is going on."

"In a sentence, our man has escaped."

"You mean the man who was treated by Shekt with the Synapsifier--the Outsider--the spy--the one on the farm outside Chica--"

It is uncertain how many qualifications the High Minister, in his anxiety, might have rattled out had not the Secretary interrupted with an indifferent "Exactly."

"Why was I not informed? Why am I never informed?"

"Immediate action was necessary and you were engaged. I substituted, therefore, to the best of my ability."

"Yes, you are careful about my engagements when you wish to do without me. Now, I'll not have it. I will not permit myself to be by-passed and sidetracked. I will not--"

"We delay," was the reply at ordinary speaking volume, and the High Minister's half shout faded. He coughed, hovered uncertainly at further speech, then said mildly:

"What are the details, Balkis?"

"Scarcely any. After two months of patient waiting, with nothing to show for it, this man Schwartz left--was followed--and was lost."

"How lost?"

"We are not sure, but there is a further fact. Our agent, Natter, missed three reporting periods last night. His alternates set out after him along the highway toward Chica and found him at dawn. He was in a ditch at the side of the highway--quite dead."

The High Minister paled. "The Outsider had killed him?"

"Presumably, though we cannot say certainly. There were no visible signs of violence other than a look of agony on the dead face. There will be an autopsy, of course. He might have died of a stroke just at that inconvenient moment."

"That would be an incredible coincidence."

"So I think, " was the cool response, "but if Schwartz killed him, it makes subsequent events puzzling. You see, Your Excellency, it seemed quite obvious from our previous analysis that Schwartz would make for Chica in order to see Shekt, and Natter was found dead on the highway between the Maren farm and Chica. We therefore sent out an alarm to that city three hours ago and the man was caught."

"Schwartz?" incredulously.

"Certainly."

"Why didn't you say that immediately?"

Balkis shrugged. "Your Excellency, there is more important work to be done. I said that Schwartz was in our hands. Well, he was caught quickly and easily, and that fact does not seem to me to jibe very well with the death of Natter. How could he be at once so clever as to detect and kill Natter--a most capable man--and so stupid as to enter Chica the very next morning and openly enter a factory, without disguise, to find a job?"

"Is that what he did?"

"That's what he did. . . . There are two possible thoughts that this gives rise to, therefore. Either he has already transmitted such information as he has to Shekt or Arvardan, and has now let himself be caught in order to divert out attention, or else other agents are involved, whom we have not detected and whom he is now covering. In either case, we must not be overconfident."

"I don't know," said the High Minister helplessly, his handsome face twisted into anxious lines. "It gets too deep for me."

Balkis smiled with more than a trace of contempt and volunteered a statement.

"You have an appointment four hours from now with Professor Bel Arvardan."

"I have? Why? What am I to say to him? I don't want to see him."

"Relax. You must see him, Your Excellency. It seems obvious to me that since the date of commencement of his fictitious expedition is approaching, he must play out the game by asking you for permission to investigate the Forbidden Areas. Ennius warned us he would, and Ennius must know exactly the details of this comedy. I suppose that you are able to return him froth for froth in this matter and to counter pretense with pretense."

The High Minister bowed his head. "Well, I shall try."

Bel Arvardan arrived in good time, and was able to look about him. To a man well acquainted with the architectural triumphs of all the Galaxy, the College of Ancients could scarcely seem more than a brooding block of steel-ribbed granite, fashioned in an archaic

style. To one who was an archaeologist as well, it might signify, in its gloomy, nearly savage austerity, the proper home of a gloomy, nearly savage way of life. It's very primitiveness marked the turning back of eyes to the far past.

And Arvardan's thoughts slipped away once again. His two-month tour about Earth's western continents had proven not quite--amusing. That first day had ruined things. He found himself thinking back to that day at Chica.

He was instantly angry with himself for thinking about it again. She had been rude, egregiously ungrateful, a common Earthgirl. Why should he feel guilty? And yet. . .

Had he made allowances for her shock at discovering him to be an Outsider, like that officer who had insulted her and whose arrogant brutality he had repaid with a broken arm? After all, how could he know how much she had already suffered at the hands of Outsiders? And then to find out, like that, without any softening of the blow, that he was one.

If he had been more patient. . . Why had he broken it off so brutally? He didn't even remember her name. It was Pola something. Strange! His memory was ordinarily better than that. Was it an unconscious effort to forget?

Well, that made sense. Forget! What was there to remember, anyway? An Earthgirl. A common Earthgirl.

She was a nurse in a hospital. Suppose he tried to locate the hospital. It had been just a vague blot in the night when he parted from her, but it must be in the neighborhood of that Foodomat.

He snatched at the thought and broke into a thousand angry fragments. Was he mad? What would he have gained? She was an Earthgirl. Pretty, sweet, somehow entic--
An Earthgirl!

The High Minister was entering, and Arvardan was glad. It meant relief from that day in Chica. But, deep in his mind, he knew that they would return. They--the thoughts, that is--always did.

As for the High Minister, his robe was new and glistening in its freshness. His forehead showed no trace of haste or doubt; perspiration might have been a stranger to it.

And the conversation was friendly, indeed. Arvardan was at pains to mention the well-wishings of some of the great men of the Empire to the people of Earth. The High Minister was as careful to express the thorough gratification that must be felt by all Earth at the generosity and enlightenment of the Imperial Government.

Arvardan expounded on the importance of archaeology to Imperial philosophy, on its contribution to the great conclusion that all humans of whatever world of the Galaxy were brothers--and the High Minister agreed blandly and pointed out that Earth had long held such to be the case and could only hope that the time would shortly come when the rest of the Galaxy might turn theory into practice.

Arvardan smiled very shortly at that and said, "It is for that very purpose, Your Excellency, that I have approached you. The differences between Earth and some of the Imperial Dominions neighboring it rest largely, perhaps, on differing ways of thinking.

Still, a good deal of friction could be removed if it could be shown that Earthmen were not different, racially, from other Galactic citizens."

"And how would you propose to do that, sir?"

"That is not easy to explain in a word. As Your Excellency may know, the two main currents of archaeological thinking are commonly called the Merger Theory and the Radiation Theory."

"I am acquainted with a layman's view of both."

"Good. Now the Merger Theory, of course, involves the notion that the various types of humanity, evolving independently, have intermarried in the very early, scarcely documented days of primitive space travel. A conception like that is necessary to account for the fact that Humans are so alike one to the other now."

"Yes," commented the High Minister dryly, "and such a conception also involves the necessity of having several hundred, or thousand, separately evolved beings of a more or less human type so closely related chemically and biologically that intermarriage is possible."

"True," replied Arvardan with satisfaction. "You have put your finger on an impossibly weak point. Yet most archaeologists ignore it and adhere firmly to the Merger Theory, which would, of course, imply the possibility that in isolated portions of the Galaxy there might be subspecies of humanity who remained different, didn't intermarry--"

"You mean Earth," commented the High Minister.

"Earth is considered an example. The Radiation Theory, on the other hand--"

"Considers us all descendants of one planetary group of humans."

"Exactly."

"My people," said the High Minister, "because of the evidence of our own history, and of certain writings which are sacred to us and cannot be exposed to the view of Outsiders, are of the belief that Earth itself is the original home of humanity."

"And so I believe as well, and I ask your help to prove this point to all the Galaxy."

"You are optimistic. Just what is involved?"

"It is my conviction, Your Excellency, that many primitive artifacts and architectural remains may be located in those areas of your world which are now, unfortunately, masked by radioactivity. The age of the remains could be accurately calculated from the radioactive decay present and compared--"

But the High Minister was shaking his head.. "That is out of the question."

"Why?" And Arvardan frowned in thorough amazement.

"For one thing," said the High Minister, reasoning mildly, "what do you expect to accomplish? If you prove your point, even to the satisfaction of all the worlds, what does it matter that a million years ago all of you were Earthmen? After all, a billion years ago we were all apes, yet we do not admit present-day apes into the relationship."

"Come, Your Excellency, the analogy is unreasonable."

"Not at all, sir. Isn't it reasonable to assume that Earthmen, in their long isolation, have so changed from their emigrating cousins, especially under the influence of radioactivity, as now to form a different race?"

Arvardan bit at his lower lip and answered reluctantly, "You argue well on the side of your enemy."

"Because I ask myself what my enemy will say. So you will accomplish nothing, sir, except perhaps to further exacerbate the hatred against us."

"But," said Arvardan, "there is still the matter of the interests of pure science, the advance of knowledge--"

The High Minister nodded gravely. "I am truly sorry to have to stand in the way of that. I speak now, sir, as one gentleman of the Empire to another. I myself would cheerfully help you, but my people are an obstinate and stiff-necked race, who over centuries have withdrawn into themselves because of the--uh--lamentable attitudes toward them in parts of the Galaxy. They have certain taboos, certain fixed Customs--which even I could not afford to violate."

"And the radioactive areas--"

"Are one of the most important taboos. Even if I were to grant you permission, and certainly my every impulse is to do so, it would merely provoke rioting and disturbances, which would not only endanger your life and those of the members of your expedition but would, in the long run, bring down upon Earth the disciplinary action of the Empire. I would betray my position and the trust of my people if I were to allow that."

"But I am willing to take all reasonable precautions. If you wish to send observers with me--Or, of course, I can offer to consult you before publishing any results obtained."

The High Minister said, "You tempt me, sir. It is an interesting project. But you overestimate my power, even if we leave the people themselves out of consideration. I am not an absolute ruler. In fact, my power is sharply limited--and all matters must be submitted to the consideration of the Society of Ancients before final decisions are possible."

Arvardan shook his head. "This is most unfortunate. The Procurator warned me of the difficulties, yet I was hoping that--When can you consult your legislature, Your Excellency?"

"The Presidium of the Society of Ancients will meet three days hence. It is beyond my power to alter the agenda, so it may be a few days more before the matter can be discussed. Say a week."

Arvardan nodded abstractedly. "Well, it will have to do. . . .By the way, Your Excellency--"

"Yes?"

"There is a scientist upon your planet whom I would like to meet. A Dr. Shekt at Chica. Now, I've been in Chica, but left before I could do much and would like to repair the omission. Since I am sure he is a busy man, I wonder if I could trouble you for a letter of introduction?"

The High Minister had stiffened visibly and for several moments said nothing. Then, "May I ask what it is you want to see him about?"

"Certainly. I have read of an instrument he has developed, which he calls a Synapsifier, I believe. It concerns the neurochemistry of the brain and could have something very interesting to do with another project of mine. I have been doing some work on the classification of humanity into encephalographic groups--brain-current types, you understand."

"Umm. . . I have heard vaguely about the device. I seem to recall that it was not a success."

"Well, maybe not, but he is an expert in the field and could probably be very helpful to me."

"I see. In that case a letter of introduction will be prepared immediately for you. Of course there must be no mention of your intentions with regard to the Forbidden Areas."

"That is understood, Your Excellency." He rose. "I thank you for your courtesy and your kind attitude and can only hope that the Council of Ancients will be liberal with respect to my project."

The Secretary entered after Arvardan left. His lips were spread in his characteristic cold, savage smile.

"Very good," he said. "You handled yourself well, Your Excellency. "

The High Minister looked at him somberly and said, "What was that last about Shekt?"

"You are puzzled? Don't be. All things are working out well. You noticed his lack of heat when you vetoed his project. Was that the response of a scientist whose heart is set upon something withdrawn from his grasp for no apparent reason? Or is it the response of one who is playing a part and is relieved to be well rid of it?"

"And again we have a queer coincidence. Schwartz escapes and makes his way to Chica. The very next day Arvardan appears here and, after a lukewarm rigmarole about his expedition, mentions casually that he is going to Chica to see Shekt."

"But why mention it, Balkis? It seems foolhardy."

"Because you are straightforward. Put yourself in his position. He imagines we suspect nothing. In such a case it is audacity that wins. He's going to see Shekt. Good! He mentions it frankly. He even asks for a letter of introduction. What better guarantee of honest and innocent intentions can he present? And that brings up another point. Schwartz may have discovered that he was being watched. He may have killed Natter. But he has had no time to warn the others, or this comedy could not have played itself out in just this fashion."

The Secretary's eyes were half lidded as he spun his spider web. "There is no way of telling how long it will be before Schwartz's absence becomes suspicious for them, but it is at least safe to allow sufficient time for Arvardan to meet Shekt. We'll catch them together; there will be that much less they can deny."

"How much time do we have?" demanded the High Minister.

Balkis looked up thoughtfully. "The schedule is fluid, and ever since we uncovered Shekt's treason they've been on triple shift--and things are proceeding well. We await only the mathematical computations for the necessary orbits. What holds us up there is the inadequacy of our computers. Well. . . it may be only a matter of days now."

"Days!" It was said in a tone queerly compounded of triumph and horror.

"Days!" repeated the Secretary. "But remember--one bomb even two seconds before zero time will be enough to stop us. And even afterward there will be a period of from one to six months when reprisals can be taken. So we are not yet entirely safe."

Days! And then the most incredibly one-sided battle in the history of the Galaxy would be joined and Earth would attack all the Galaxy.

The High Minister's hands were trembling gently.

Arvardan was seated in a stratoplane again. His thoughts were savage ones. There seemed no reason to believe that the High Minister and his psychopathic subject population would allow an official invasion of the radioactive areas. He was prepared for that. Somehow he wasn't even sorry about it. He could have put up a better fight--if he had cared more.

As it was, by the Galaxy, there would be illegal entry. He would arm his ship and fight it out, if necessary. He would rather.

The bloody fools! Who the devil did they think they were?

Yes, yes, he knew. They thought they were the original humans, the inhabitants of the planet. The worst of it was he knew that they were right.

Well. . . The ship was taking off. He felt himself sinking back into the soft cushion of his seat and knew that within the hour he'd be seeing Chica.

Not that he was eager to see Chica, he told himself, but the Synapsifier thing could be important, and there was no use being on Earth if he didn't take advantage of it. He certainly never intended to return once he left.

Rathole! Ennius was right. This Dr. Shekt, however. . . He fingered his letter of introduction, heavy with official formality.

And then he sat bolt upright--or tried to, struggling bitterly against the forces of inertia that were compressing him down into his seat as the Earth still sank away and the blue of the sky was deepened into a rich purple.

He remembered the girl's name. It was Pola Shekt. Now why had he forgotten? He felt angry and cheated. His mind was plotting against him, holding back the last name till it was too late.

But, deep underneath, something was rather glad of it.

14. SECOND MEETING

In the two months that had elapsed from the day that Dr. Shekt's Synapsifier had been used on Joseph Schwartz, the physicist had changed completely. Physically not so much, though perhaps he was a thought more stooped, a shade thinner. It was his manner--abstracted, fearful. He lived in an inner communion, withdrawn from even his closest colleagues, and from which he emerged with a reluctance that was plain to the blindest.

Only to Pola could he unburden himself, perhaps because she, too, had been strangely withdrawn those two months.

"They're watching me," he would say. "I feel it somehow. Do you know what the feeling is like?. . . There's been a turnover in the Institute in the last month or so, and it's the ones I like and feel I can trust that go. . . I never get a minute to myself. Always someone about. They won't even let me write reports."

And Pola would alternately sympathize with him and laugh at him, saying over and over again, "But what can they possibly have against you to do all this? Even if you did experiment on Schwartz, that's not such a terrible crime. They'd have just called you on the carpet for it."

But his face was yellow and thin as he muttered, "They won't let me live. My Sixty is coming and they won't let me live."

"After all you've done. Nonsense!"

"I know too much, Pola, and they don't trust me."

"Know too much about what?"

He was tired that night, aching to remove the load. He told her. At first she wouldn't believe him, and finally, when she did, she could only sit there, in cold horror.

Pola called up the State House the next day from a public Communi-wave at the other end of town. She spoke through a handkerchief and asked for Dr. Bel Arvardan.

He wasn't there. They thought he might be in Bonair, six thousand miles away, but he hadn't been following his scheduled itinerary very closely. Yes, they did expect him back in Chica eventually, but they didn't know exactly when. Would she leave her name? They would try to find out.

She broke connections at that and leaned her soft cheek against the glass enclosure, grateful for the coolness thereof. Her eyes were deep with unshed tears and liquid with disappointment.

Fool. Fool!

He had helped her and she had sent him away in bitterness. He had risked the neuronc whip and worse to save the dignity of a little Earthgirl against an Outsider and she had turned on him anyway.

The hundred credits she had sent to the State House the morning after that incident had been returned without comment. She had wanted then to reach him and

apologize, but she had been afraid. The State House was for Outsiders only, and how could she invade it? She had never even seen it, except from a distance.

And now--She'd have gone to the palace of the Procurator himself to--to--

Only he could help them now. He, an Outsider who could talk with Earthmen on a basis of equality. She had never guessed him to be an Outsider until he had told her. He was so tall and self-confident. He would know what to do.

And someone had to know, or it would mean the ruin of all the Galaxy.

Of course so many Outsiders deserved it--but did all of them? The women and children and sick and old? The kind and the good? The Arvardans? The ones who had never heard of Earth? And they were humans, after all. Such a horrible revenge would for all time drown whatever justice might be--no, was--in Earth's cause in an endless sea of blood and rotting flesh.

And then, out of nowhere, came the call from Arvardan. Dr. Shekt shook his head. "I can't tell him."

"You must," said Pola savagely.

"Here? It is impossible--it would mean ruin for both."

"Then turn him away. I'll take care of it."

Her heart was singing wildly. It was only because of this chance to save so many countless myriads of humans, of course. She remembered his wide, white smile. She remembered how he had calmly forced a colonel of the Emperor's own forces to turn and bow his head to her in apology--to her, an Earthgirl, who could stand there and forgive him.

Bel Arvardan could do anything!

Arvardan could, of course, know nothing of all this. He merely took Shekt's attitude for what it seemed--an abrupt and odd rudeness, of a piece with everything else he had experienced on Earth.

He felt annoyed, there in the anteroom of the carefully lifeless office, quite obviously an unwelcome intruder.

He picked his words. "I would never have dreamed of imposing upon you to the extent of visiting you, Doctor, were it not that I was professionally interested in your Synapsifier. I have been informed that, unlike many Earthmen, you are not unfriendly to men of the Galaxy."

It was apparently an unfortunate phrase, for Dr. Shekt jumped at it. "Now, whoever your informant is, he does wrong to impute any especial friendliness to strangers as such. I have no likes and dislikes. I am an Earthman--"

Arvardan's lips compressed and he half turned.

"You understand, Dr. Arvardan"--the words were hurried and whispered--"I am sorry if I seem rude, but I really cannot--"

"I quite understand," the archaeologist said coldly, though he did not understand at all. "Good day, sir."

Dr. Shekt smiled feebly. "The pressure of my work--"

"I am very busy too, Dr. Shekt."

He turned to the door, raging inwardly at all the tribe of Earthmen, feeling within him, involuntarily, some of the catchwords that were bandied so freely on his home world. The proverbs, for instance: "Politeness on Earth is like dryness in the ocean" or "An Earthman will give you anything as long as it costs nothing and is worth less."

His arm had already broken the photoelectric beam that opened the front door when he heard the flurry of quick steps behind him and a hint of warning in his ear. A piece of paper was thrust in his hand, and when he turned there was only a flash of red as a figure disappeared.

He was in his rented ground car before he unraveled the paper in his hand. Words were scrawled upon it:

"Ask your way to the Great Playhouse at eight this evening. Make sure you are not followed."

He frowned ferociously at it and read it over five times, then stared all over it, as though expecting invisible ink to bound into visibility. Involuntarily, he looked behind him. The street was empty. He half raised his hand to throw the silly scrap out of the window, hesitated, then stuffed it into his vest pocket.

Undoubtedly, if he had had one single thing to do that evening other than what the scrawl had suggested, that would have been the end of it, and, perhaps, of several trillions of people. But, as it turned out, he had nothing to do.

And, as it turned out, he wondered if the sender of the note had been.

At eight o'clock he was making his slow way as part of a long line of ground cars along the serpentine way that apparently led to the Great Playhouse. He had asked only once, and the passerby questioned had stared suspiciously at him (apparently no Earthman was ever free of that all-pervasive suspicion) and had said curtly, "You just follow all the rest of the cars."

It seemed that all the rest of the cars were indeed going to the Playhouse, for when he got there he found all being swallowed, one by one, into the gaping maw of the underground parking lot. He swung out of line and crawled past the Playhouse, waiting for he knew not what.

A slim figure dashed down from the pedestrian ramp and hung outside his window. He stared at it, startled, but it had the door open and was inside in a single gesture.

"Pardon me," he said, "but--"

"Ssh!" The figure was hunched down low in the seat. "Were you followed?"

"Should I have been?"

"Don't be funny. Go straight ahead. Turn when I tell you. . . .My goodness, what are you waiting for?"

He knew the voice. A hood had shifted down to the shoulders, and light brown hair was showing. Dark eyes were gazing at him.

"You'd better move on," she said softly.

He did, and for fifteen minutes, except for an occasional muffled but curt direction, she said nothing. He stole glances at her and thought, with a sudden pleasure, that she was even prettier than he had remembered her. Strange that now he felt no resentment.

They stopped--or Arvardan did, at the girl's direction--at the corner of an unpeopled residential district. After a careful pause the girl motioned him ahead once more and they inched down a drive that ended in the gentle ramp of a private garage.

The door closed behind them and the light in the car was the only source of illumination.

And now Pola looked at him gravely and said, "Dr. Arvardan, I'm sorry that I had to do this in order to speak to you privately. I know that I have no standing in your good opinion to lose--"

"Don't think that," he said awkwardly.

"I must think that. I want you to believe that I fully realize how small and vicious I was that night. I don't have the proper words to apologize--"

"Please don't." He glanced away from her. "I might have been a little more diplomatic."

"Well. . . ." Pola paused a few moments to regain a certain minimal composure. "It's not what I've brought you here for. You're the only Outsider I've ever met that could be kind and noble--and I need your help."

A cold pang shot through Arvardan. Was this what it was all about? He packed that thought into a cold "Oh?"

And she cried, "No," in return. "It is not for me, Dr. Arvardan. It is for all the Galaxy. Nothing for myself. Nothing!"

"What is it?"

"First--I don't think anyone followed us, but if you hear any noise at all, would you--would you"--her eyes dropped--"put your arms about me, and--and--you know."

He nodded his head and said dryly, "I believe I can improvise without any trouble. Is it necessary to wait for noise?"

Pola reddened. "Please don't joke about it, or mistake my intentions. It would be the only way of avoiding suspicion of our real intentions. It is the one thing that would be convincing."

Arvardan said softly, "Are things that serious?"

He looked at her curiously. She seemed so young and so soft. In a way he felt it to be unfair. Never in his life did he act unreasoningly. He took pride in that. He was a man of strong emotions, but he fought them and beat them. And here, just because a girl seemed weak, he felt the unreasoning urge to protect her.

She said, "Things are that serious. I'm going to tell you something, and I know you won't believe it at first. But I want you to try to believe it. I want you to make up your mind that I'm sincere. And most of all I want you to decide that you will stick with us after I tell you and see it through. Will you try? I'll give you fifteen minutes, and if you think at the end of that time that I'm not worth trusting or bothering with, I'll leave, and that's the end of it."

"Fifteen minutes?" His lips quirked in an involuntary smile, and he removed his wrist watch and put it before him. " All right."

She clasped her hands in her lap and looked firmly ahead through the windshield that afforded a view only of the blank wall of the garage ahead.

He watched her thoughtfully--the smooth, soft line of her chin, belying the firmness into which she was attempting to force it, the straight and thinly drawn nose, the peculiarly rich overtone to the complexion, so characteristic of Earth.

He caught the corner of her eye upon him. It was hastily withdrawn.

"What's the matter?" he said.

She turned to him and caught her underlip in two teeth. "I was watching you."

"Yes, I could see that. Smudge on my nose?"

"No." She smiled tinily, the first since she had entered his car. He was becoming absurdly conscious of little things about her: the way her hair seemed to hover and float gently each time she shook her head. "It's just that I've been wondering ever since--that night--why you don't wear that lead clothing, if you're an Outsider. That's what fooled me. Outsiders generally look like sacks of potatoes."

"And I don't?"

"Oh no"--and there was a sudden tinge of enthusiasm in her voice--"you look--you look quite like an ancient marble statue, except that you're alive and warm. . . .I'm sorry. I'm being impertinent."

"You mean you think that it's my opinion you're an Earthgirl who doesn't know your place. You'll have to stop thinking that of me, or we can't be friendly. . . .I don't believe in the radioactivity superstition. I've measured the atmospheric radioactivity of Earth and I've conducted laboratory experiments on animals. I'm quite convinced that under ordinary circumstances the radiations won't hurt me. I've been here two months and I don't feel sick yet. My hair isn't falling out"--he pulled at it--"my stomach isn't in knots. And I doubt that my fertility is being endangered, though I will admit to taking slight precautions in that respect. But lead-impregnated shorts, you see, don't show."

He said that gravely, and she was smiling again. "You're slightly mad, I think," she said.

"Really? You'd be surprised how many very intelligent and famous archaeologists have said that--and in long speeches, too."

And she said suddenly, "Will you listen to me now? The fifteen minutes are up."

"What do you think?"

"Why, that you might be. If you weren't, you wouldn't still be sitting here. Not after what I've done."

He said softly, "Are you under the impression that I have to force myself very hard to sit here next to you? If you do, you're wrong. . . .Do you know, Pola, I've never seen, I really believe I've never seen, a girl quite as beautiful as yourself."

She looked up quickly, with fright in her eyes. "Please don't. I'm not trying for that. Don't you believe me?"

"Yes, I do, Pola. Tell me whatever it is you want to. I'll believe it and I'll help you." He believed himself, implicitly. At the moment Arvardan would cheerfully have undertaken to unseat the Emperor. He had never been in love before, and at that point he ground his thoughts to a halt. He had not used that word before.

Love? With an Earthgirl?

"You've seen my father, Dr. Arvardan?"

"Dr. Shekt is your father?. . . Please call me Bel. I'll call you Pola."

"If you want me to, I'll try. I suppose you were pretty angry with him."

"He wasn't very polite."

"He couldn't be. He's being watched. In fact, he and I arranged in advance that he was to get rid of you and I was to see you here. This is our house, you know. . . . You see"--her voice dropped to a tight whisper--"Earth is going to revolt."

Arvardan couldn't resist a moment of amusement.

"No!" he said, opening his eyes wide. "All of it?"

But Pola flared into instant fury. "Don't laugh at me. You said you would listen and believe me. Earth is going to revolt, and it is serious, because Earth can destroy all the Empire."

"Earth can do that?" Arvardan struggled successfully against a burst of laughter. He said gently, "Pola, how well do you know your Galactography?"

"As well as anybody, teacher, and what has that to do with it, anyway?"

"It has this to do with it. The Galaxy has a volume of several million cubic light-years. It contains two hundred million inhabited planets and an approximate population of five hundred quadrillion people. Right?"

"I suppose so, if you say so."

"It is, believe me. Now Earth is one planet, with a population of twenty millions, and no resources besides. In other words, there are twenty-five billion Galactic citizens for every single Earthman. Now what harm can Earth do against odds of twenty-five billion to one?"

For a moment the girl seemed to sink into doubt, then she emerged. "Bel, " she said firmly, "I can't answer that, but my father can. He has not told me the crucial details. because he claims that that would endanger my life. But he will now, if you come with me. He's told me that Earth knows a way by which it can wipe out all life outside Earth, and he must be right. He's always been right before."

Her cheeks were pink with earnestness, and Arvardan longed to touch them. (Had he ever before touched her and felt horrified at it? What was happening to him?)

"Is it after ten?" asked Pola.

"Yes," he replied.

"Then he should be upstairs now--if they haven't caught him." She looked about with an involuntary shudder. "We can get into the house directly from the garage now. and if you'll come with me--"

She had her hand on the knob that controlled the car door, when she froze. Her voice was a husky whisper: "There's someone coming. . . Oh, quick--"

The rest was smothered. It was anything but difficult for Arvardan to remember her original injunction. His arms swept about her with an easy motion, and, in an instant, she was warm and soft against him. Her lips trembled upon his and were limitless seas of sweetness. . .

For about ten seconds he swiveled his eyes to their extremes in an effort to see that first crack of light or hear that first footstep, but then he was drowned and swept under by the excitement of it all. Blinded by stars, deafened by his own heartbeat.

Her lips left his, but he sought them again, frankly, and found them. His arms tightened, and she melted within them until her own heartbeat was shaking him in time to his own.

It was quite a while before they broke apart, and for a moment they rested, cheek against cheek.

Arvardan had never been in love before, and this time he did not start at the word. What of it? Earthgirl or not, the Galaxy could not produce her equal.

He said, with a dreamy pleasure, "It must have been only a traffic noise."

"It wasn't," she whispered. "I didn't hear any noise."

He held her at arm's distance, but her eyes did not falter. "You devil. Are you serious?"

Her eyes sparkled. "I wanted you to kiss me. I'm not sorry."

"Do you think I am? Kiss me again, then, for no reason but that I want to this time."

Another long, long moment and she was suddenly away from him, arranging her hair and adjusting the collar of her dress with prim and precise gestures. "I think we had better go into the house now. Put out the car light. I've got a pencil flash."

He stepped out of the car after her, and in the new darkness she was the vaguest shadow in the little pockmark of light that came from her pencil flash.

She said, "You'd better hold my hand. There's a flight of stairs we must go up."

His voice was a whisper behind her. "I love you, Pola." It came out so easily--and it sounded so right. He said it again. "I love you, Pola."

She said softly, "You hardly know me."

"No. All my life. I swear! All my life. Pola, for two months I've been thinking and dreaming of you. I swear it."

"I am an Earthgirl, sir."

"Then I will be an Earthman. Try me."

He stopped her and bent her hand up gently until the pocket flash rested upon her flushed, tear-marked face. "Why are you crying?"

"Because when my father tells you what he knows, you'll know that you cannot love an Earthgirl."

"Try me on that too."

15. THE ODDS THAT VANISHED

Arvardan and Shekt met in a back room on the second story of the house, with the windows carefully polarized to complete opaqueness. Pola was downstairs, alert and sharp-eyed in the armchair from which she watched the dark and empty street.

Shekt's stooped figure wore somehow an air different from that which Arvardan had observed some ten hours previously. The physicist's face was still haggard, and infinitely weary, but where previously it had seemed uncertain and timorous, it now bore an almost desperate defiance.

"Dr. Arvardan," he said, and his voice was firm, "I must apologize for my treatment of you in the morning. I had hoped you would understand--"

"I must admit I didn't, sir, but I believe I do now."

Shekt seated himself at the table and gestured toward the bottle of wine. Arvardan waved his hand in a deprecating motion. "If you don't mind, I'll have some of the fruit instead. . . .What is this? I don't think I've ever seen anything like it."

"It's a kind of orange," said Shekt. "I don't believe it grows outside Earth. The rind comes off easily." He demonstrated, and Arvardan, after sniffing at it curiously, sank his teeth into the winy pulp. He came up with an exclamation.

"Why, this is delightful, Dr. Shekt! Has Earth ever tried to export these objects?"

"The Ancients," said the biophysicist grimly, "are not fond of trading with the Outside. Nor are our neighbors in space fond of trading with us. It is but an aspect of our difficulties here."

Arvardan felt a sudden spasm of annoyance seize him. "That is the most stupid thing yet. I tell you that I could despair of human intelligence when I see what can exist in men's minds."

Shekt shrugged with the tolerance of lifelong use. "It is part of the nearly insoluble problem of anti-Terrestrianism, I fear."

"But what makes it so nearly insoluble," exclaimed the archaeologist, "is that no one seems to really want a solution! How many Earthmen respond to the situation by hating all Galactic citizens indiscriminately? It is an almost universal disease--hate for hate. Do your people really want equality, mutual tolerance? No! Most of them want only their own turn as top dog."

"Perhaps there is much in what you say," said Shekt sadly. "I cannot deny it. But that is not the whole story. Give us but the chance, and a new generation of Earthmen would grow to maturity, lacking insularity and believing wholeheartedly in the oneness of Man. The Assimilationists, with their tolerance and belief in wholesome compromise, have more than once been a power on Earth. I am one. Or, at least, I was one once. But the Zealots rule all Earth now. They are the extreme nationalists, with their dreams of past rule and future rule. It is against them that the Empire must be protected."

Arvardan frowned. "You refer to the revolt Pola spoke of?"

"Dr. Arvardan," Shekt said grimly, "it's not too easy a job to convince anyone of such an apparently ridiculous possibility as Earth conquering the Galaxy, but it's true. I am not physically brave, and I am most anxious to live. You can imagine, then, the immense crisis that must now exist to force me to run the risk of committing treason with the eye of the local administration already upon me."

"Well," said Arvardan, "if it is that serious, I had better tell you one thing immediately. I will help you all I can, but only in my own capacity as a Galactic citizen. I have no official standing here, nor have I any particular influence at the Court or even at the Procurator's Palace. I am exactly what I seem to be--an archaeologist on a scientific expedition which involves only my own interests. Since you are prepared to risk treason, hadn't you better see the Procurator about this? He could really do something."

"That is exactly what I cannot do, Dr. Arvardan. It is that very contingency against which the Ancients guard me. When you came to my house this morning I even thought you might be a go-between. I thought that Ennius suspected."

"He may suspect--I cannot answer for that. But I am not a go-between. I'm sorry. If you insist on making me your confidant, I can promise to see him for you."

"Thank you. It is all I ask. That--and to use your good offices to intercede for Earth against too strong a reprisal."

"Of course." Arvardan was uneasy. At the moment he was convinced that he was dealing with an elderly and eccentric paranoiac, perhaps harmless, but thoroughly cracked. Yet he had no choice but to remain, to listen, and to try to smooth over the gentle insanity--for Pola's sake.

Shekt said, "Dr. Arvardan, you have heard of the Synapsifier? You said so this morning."

"Yes, I did. I read your original article in Physical Reviews. I discussed the instrument with the Procurator and with the High Minister."

"With the High Minister?"

"Why, certainly. When I obtained the letter of introduction that you--uh--refused to see, I'm afraid."

"I'm sorry for that. But I wish you had not--What is the extent of your knowledge concerning the Synapsifier?"

"That it is an interesting failure. It is designed to improve learning capacity. It has succeeded to some extent on rats, but has failed on human beings."

Shekt was chagrined. "Yes, you could think nothing else from that article. It was publicized as a failure, and the eminently successful results have been suppressed, deliberately."

"Hmp. A rather unusual display of scientific ethics, Dr. Shekt."

"I admit it. But I am fifty-six, sir, and if you know anything of the customs of Earth, you know that I haven't long to live."

"The Sixty. Yes, I have heard of it--more than I would have liked, in fact." And he thought wryly of that first trip on a Terrestrial stratoliner. "Exceptions are made for noted scientists, among others, I have heard."

"Certainly. But it is the High Minister and the Council of Ancients who decide on that, and there is no appeal from their decisions, even to the Emperor. I was told that the price of life was secrecy concerning the Synapsifier and hard work for its improvement." The older man spread his hands helplessly. "Could I know then of the outcome, of the use to which the machine would be put?"

"And the use?" Arvardan extracted a cigarette from his shirt-pocket case and offered one to the other, which was refused.

"If you'll wait a moment--One by one, after my experiments had reached the point where I felt the instrument might be safely applied to human beings, certain of Earth's biologists were treated. In each case they were men I knew to be in sympathy with the Zealots--the extremists, that is. They all survived, though secondary effects made themselves shown after a time. One of them was brought back for treatment eventually. I could not save him. But, in his dying delirium, I found out."

It was close upon midnight. The day had been long and much had happened. But now something stirred within Arvardan. He said tightly, "I wish you'd get to the point."

Shekt said, "I beg your patience. I must explain thoroughly, if you're to believe me. You, of course, know of Earth's peculiar environment--its radioactivity--"

"Yes, I have a fair knowledge of the matter."

"And of the effect of this radioactivity upon Earth and its economy?"

"Yes."

"Then I won't belabor the point. I need only say that the incidence of mutation on Earth is greater than in the rest of the Galaxy. The idea of our enemies that Earthmen are different thus has a certain basis of physical truth. To be sure, the mutations are minor, and most possess no survival value. If any permanent change has occurred in Earthmen, it is only in some aspects of their internal chemistry which enables them to display greater resistance to their own particular environment. Thus they show greater resistance to radiation effects, more rapid healing of burned tissues--"

"Dr. Shekt, I am acquainted with all you say."

"Then has it ever occurred to you that these mutational processes occur in living species on Earth other than human?"

There was a short silence, and then Arvardan said, "Why, no, it hasn't, though, of course, it is quite inevitable, now that you mention it."

"That is so. It happens. Our domestic animals exist in greater variety than on any other inhabited world. The orange you ate is a mutated variety, which exists nowhere else. It is this, among other things, which makes the orange so unacceptable for export. Outsiders suspect it as they suspect us--and we ourselves guard it as a valuable property peculiar to ourselves. And of course what applies to animals and plants applies also to microscopic life."

And now, indeed, Arvardan felt the thin pang of fear enter.

He said, "You mean--bacteria?"

"I mean the whole domain of primitive life. Protozoa, bacteria, and the self-reproducing proteins that some people call viruses. "

"And what are you getting at?"

"I think you have a notion of that, Dr. Arvardan. You seem suddenly interested. You see, there is a belief among your people that Earthmen are bringers of death, that to associate with an Earthman is to die, that Earthmen are the bearers of misfortune, possess a sort of evil eye--"

"I know all that. It is merely superstition."

"Not entirely. That is the dreadful part. Like all common beliefs, however superstitious, distorted, and perverted, it has a speck of truth at bottom. Sometimes, you see, an Earthman carries Within his body some mutated form of microscopic parasite which is not quite like any known elsewhere, and to which, sometimes, Outsiders are not particularly resistant. What follows is simple biology, Dr. Arvardan. "

Arvardan was silent.

Shekt went on, "We are caught sometimes, too, of course. A new species of germ will make its way out of the radioactive mists and an epidemic will sweep the planet, but, by and large, Earthmen have kept pace. For each variety of germ and virus, we build our defense over the generations, and we survive. Outsiders don't have the opportunity."

"Do you mean," said Arvardan with a strangely faint sensation, "that contact with you now--" He pushed his chair back. He was thinking of the evening's kisses.

Shekt shook his head. "Of course not. We don't create the disease; we merely carry it. And even such carriage occurs very rarely. If I lived on your world, I would no more carry the germ than you would; I have no special affinity for it. Even here it is only one out of every quadrillion germs, or one out of every quadrillion of quadrillions, that is dangerous. The chances of your infection right now are less than that of a meteorite penetrating the roof of this house and hitting you. Unless the germs in question are deliberately searched for, isolated, and concentrated."

Again a silence, longer this time. Arvardan said in a queer, strangled voice, "Have Earthmen been doing that?"

He had stopped thinking in terms of paranoia. He was ready to believe.

"Yes. But for innocent reasons, at first. Our biologists are, of course, particularly interested in the peculiarities of Earth life, and, recently, isolated the virus of Common Fever. "

"What is Common Fever?"

"A mild endemic disease on Earth. That is, it is always with us. Most Earthmen have it in their childhood, and its symptoms are not very severe. A mild fever, a transitory rash, and inflammation of the joints and of the lips, combined with an annoying thirst. It runs its course in four to six days, and the subject is thereafter immune. I've had it. Pola has had it. Occasionally there is a more virulent form of this same disease--a slightly different strain of virus is concerned, presumably--and then it is called Radiation Fever."

"Radiation Fever. I've heard of it," said Arvardan.

"Oh, really? It is called Radiation Fever because of the mistaken notion that it is caught after exposure to radioactive areas. Actually, exposure to radioactive areas is often followed by Radiation Fever, because it is in those areas that the virus is most apt to mutate to dangerous forms. But it is the virus and not the radiation which does it. In the case of Radiation Fever, symptoms develop in a matter of two hours. The lips are so badly affected that the subject can scarcely talk, and he may be dead in a matter of days.

"Now, Dr. Arvardan, this is the crucial point. The Earthman has adapted himself to Common Fever and the Outsider has not. Occasionally a member of the Imperial garrison is exposed to it, and, in that case, he reacts to it as an Earthman would to Radiation Fever. Usually he dies within twelve hours. He is then burned--by Earthmen--since any other soldier approaching also dies.

"The virus, as I say, was isolated ten years ago. It is a nucleoprotein, as are most filtrable viruses, which, however, possesses the remarkable property of containing an unusually high concentration of radioactive carbon, sulphur, and phosphorus. When I say unusually high I mean that fifty per cent of its carbon, sulphur, and phosphorus is radioactive. It is supposed that the effects of the organism on its host is largely that of its radiations, rather than of its toxins. Naturally it would seem logical that Earthmen, who are adapted to gamma radiations, are only slightly affected. Original research in the virus centered at first about the method whereby it concentrated its radioactive isotopes. As you know, no chemical means can separate isotopes except through very long and tedious procedures. Nor is any organism other than this virus known which can do so. But then the direction of research changed.

"I'll be short, Dr. Arvardan. I think you see the rest. Experiments might be conducted on animals from outside Earth, but not on Outsiders themselves. The numbers of Outsiders on Earth were too few to allow several to disappear without notice. Nor could premature discovery of their plans be allowed. So it was a group of bacteriologists that was sent to the Synapsifier.. to return with insights enormously developed. It was they who developed a new mathematical attack on protein chemistry and on immunology, which enabled them finally to develop an artificial strain of virus that was designed to affect Galactic human beings--Outsiders--only. Tons of the crystallized virus now exist."

Arvardan was haggard. He felt the drops of perspiration glide sluggishly down his temple and cheek.

"Then you are telling me," he gasped, "that Earth intends to set loose this virus on the Galaxy; that they will initiate a gigantic bacteriological warfare--"

"Which we cannot lose and you cannot win. Exactly. Once the epidemic starts, millions will die each day, and nothing will stop it. Frightened refugees fleeing across space will carry the virus with them, and if you attempt to blow up entire planets, the disease can be started again in new centers. There will be no reason to connect the matter with Earth. By the time our own survival becomes suspicious, the ravages will have progressed so far, the despair of the Outsiders will be so deep, that nothing will matter to them."

"And all will die?" The appalling horror did not penetrate--could not.

"Perhaps not. Our new science of bacteriology works both ways. We have the antitoxin as well, and the means of production thereof. It might be used in case of early surrender. Then there may be some out-of-the-way eddies of the Galaxy that could escape, or even a few cases of natural immunity."

In the horrible blankness that followed--during which Arvardan never thought of doubting the truth of what he had heard, the horrible truth which at a stroke wiped out the odds of twenty-five billion to one--Shekt's voice was small and tired.

"It is not Earth that is doing this. A handful of leaders, perverted by the gigantic pressure that excluded them from the Galaxy, hating those who keep them outside, wanting to strike back at any cost, and with insane intensity--

Once they have begun, the rest of Earth must follow. What can it do? In its tremendous guilt, it will have to finish what it started. Could it allow enough of the Galaxy to survive and thus risk a later punishment?

"Yet before I am an Earthman, I am a man. Must trillions die for the sake of millions? Must a civilization spreading over a Galaxy crumble for the sake of the resentment, however justified, of a single planet? And will we be better off for all that? The power in the Galaxy will reside still on those worlds with the necessary resources--and we have none. Earthmen may even rule at Trantor for a generation, but their children will become Trantorian, and in their turn will look down upon the remnant on Earth.

"And besides, is there an advantage to Humanity to exchange the tyranny of a Galaxy for the tyranny of Earth? No--no--There must be a way out for all men, a way to justice and freedom."

His hands stole to his face, and behind their gnarled fingers he rocked gently to and fro.

Arvardan had heard all this in a numbed haze. He mumbled, "There is no treason in what you have done, Dr. Shekt. I will go to Everest immediately. The Procurator will believe me. He must believe me."

There was the sound of running footsteps, the flash of a frightened face into the room, the door left swinging open.

"Father--Men are coming up the walk."

Dr. Shekt went gray. "Quickly, Dr. Arvardan, through the garage." He was pushing violently. "Take Pola, and don't worry about me. I'll hold them back."

But a man in a green robe waited for them as they turned. He wore a thin smile and carried, with a casual ease, a neuronc whip. There was a thunder of fists at the main door, a crash, and the sound of pounding feet.

"Who are you?" demanded Arvardan in a feeble defiance of the armed green-robe. He had stepped before Pola.

"I?" said Green-robe harshly. "I am merely the humble Secretary of His Excellency, the High Minister." He advanced. "I almost waited too long. But not quite. Hmm, a girl, too. Injudicious--"

Arvardan said evenly, "I am a Galactic citizen, and I dispute your right to detain me--or, for that matter, to enter this house--without legal authority."

"I"--and the Secretary tapped his chest gently with his free hand--"am all the right and authority on this planet. Within a short time I will be all the right and authority on the Galaxy. We have all of you, you know--even Schwartz."

"Schwartz!" cried Dr. Shekt and Pola, nearly together.

"You are surprised? Come, I will bring you to him."

The last thing Arvardan was conscious of was that smile, expanding--and the flash of the whip. He toppled through a crimson sear of pain into unconsciousness.

16. CHOOSE YOUR SIDE!

For the moment Schwartz was resting uneasily on a hard bench in one of the small sub-basement rooms of the Chica "Hall of Correction."

The Hall, as it was commonly termed, was the great token of the local power of the High Minister and those surrounding him. It lifted its gloominess in a rocky, angular height that overshadowed the Imperial barracks beyond it, just as its shadow clutched at the Terrestrial malefactor far more than did the unexerted authority of the Empire.

Within its walls many an Earthman in past centuries had waited for the judgment that came to one who falsified or evaded the quotas of production, who lived past his time, or connived at another's such crime, or who was guilty of attempting subversion of the local government. Occasionally, when the petty prejudices of Terrestrial justice made particularly little sense to the sophisticated and usually blase Imperial government of the time, a conviction might be set aside by the Procurator, but this meant insurrection, or, at the very least, wild riots.

Ordinarily, where the Council demanded death, the Procurator yielded. After all. it was only Earthmen who suffered--

Of all this, Joseph Schwartz, very naturally, knew nothing. To him, immediate optical awareness consisted of a small room, its walls transfused with but a dim light, its furniture consisting of two hard benches and a table, plus a small recess in the wall that served as washroom and sanitary convenience combined. There was no window for a glimpse of sky, and the drift of air into the room through the ventilating shaft was feeble.

He rubbed the hair that circled his bald spot and sat up ruefully. His attempt to escape to nowhere (for where on Earth was he safe?) had been short, not sweet, and had ended here.

At least there was the Mind Touch to play with.

But was that bad or good?

At the farm it had been a queer, disturbing gift, the nature of which he did not know, the possibilities of which he did not think of. Now it was a flexible gift to be investigated.

With nothing to do for twenty-four hours but brood on imprisonment, he could have been courting madness. As it was, he could Touch the jailers as they passed, reach out for guardsmen in the adjacent corridors, extend the furthest fibrils of his mind even to the Captain of the Hall in his distant office.

He turned the minds over delicately and probed them. They fell apart like so many walnuts--dry husks out of which emotions and notions fell in a sibilant rain.

He learned much in the process of Earth and Empire--more than he had, or could have, in all two months on the farm.

Of course one of the items that he learned, over and over again, beyond any chance of mistaking, was just this: He was condemned to death! There was no escape, no doubt, no reservation. It might be today; it might be tomorrow. But he would die.

Somehow it sank in and he accepted it almost gratefully. The door opened, and he was on his feet, in tense fear. One might accept death reasoningly, with every aspect of the conscious mind, but the body was a brute beast that knew nothing of reason. This was it!

No--it wasn't. The entering Mind Touch held nothing of death in it. It was a guard with a metal rod held ready in his hand. Schwartz knew what it was.

"Come with me," he said sharply.

Schwartz followed him, speculating on this odd power of his. Long before his guard could use his weapon, long before he could possibly know he should, he could be struck down without a sound, without a giveaway moment. His Mind was in Schwartz's mental hands. A slight squeeze and it would be over.

But why? There would be others. How many could he handle at once? How many pairs of hands were in his mind?

He followed, docilely.

It was a large, large room that he was brought into. Two men and a girl occupied it, stretched out corpsewise on high, high benches. Yet not corpses--since three active minds were much in evidence.

Paralyzed! Familiar?. . . Were they familiar?

He was stopping to look, but the guard's hard hand was on his shoulder. "Get on."

There was a fourth slab, empty. There was no death in the guard's mind, so Schwartz climbed on. He knew what was coming.

The guard's steely rod touched each of his limbs. They tingled and left him, so that he was nothing but a head, floating on nothingness.

He turned it.

"Pola," he cried. "You're Pola, aren't you? The girl who--"

She was nodding. He hadn't recognized her Touch as such. He had never been aware of it that time two months ago. At that time his mental progression had reached only the stage of sensitivity to "atmosphere." In the brilliance of hindsight, he remembered that well.

But from the contents he could still learn much. The one past the girl was Dr. Shekt; the one furthest of all was Dr. Bel Arvardan. He could filch their names, sense their despair, taste the last dregs of horror and fright in the young girl's mind.

For a moment he pitied them, and then he remembered who they were and what they were. And he hardened his heart.

Let them die!

The other three had been there for the better part of an hour. The room in which they were left was evidently one used for assemblies of several hundred. The prisoners were lost and lonely in its size. Nor was there anything to say. Arvardan's throat bummed

dryly and he turned his head from side to side with a futile restlessness. It was the only part of his body that he could move.

Shekt's eyes were closed and his lips were colorless and pinched.

Arvardan whispered fiercely, "Shekt. Shekt, I say!"

"What?. . . What?" A feeble whisper at best.

"What are you doing? Going to sleep? Think, man, think!"

"Why? What is there to think of?"

"Who is this Joseph Schwartz?"

Pola's voice sounded, thin and weary. "Don't you remember, Bel? That time in the department store, when I first met you--so long ago?"

Arvardan wrenched wildly and found he could lift his head two aching inches. A bit of Pola's face was just visible.

"Pola! Pola!" If he could have moved toward her--as for two months he might have and hadn't. She was looking at him, smiling so wanly that it might be a statue's smile, and he said, "We'll win out yet. You'll see."

But she was shaking her head--and his neck gave way, its tendons in panging agony.

"Shekt," he said again. "Listen to me. How did you meet this Schwartz? Why was he a patient of yours?"

"The Synapsifier. He came as a volunteer."

"And was treated?"

"Yes."

Arvardan revolved that in his mind. "What made him come to you?"

"I don't know."

"But then--Maybe he is an Imperial agent."

(Schwartz followed his thought well and smiled to himself. He said nothing, and he meant to keep on saying nothing.)

Shekt stirred his head. "An Imperial agent? You mean because the High Priest's Secretary says he is. Oh, nonsense. And what difference does it make? He's as helpless as we. . . .Listen, Arvardan, maybe, if we tell some sort of concerted story, they might wait. Eventually we might--"

The archaeologist laughed hollowly, and his throat burned at the friction. "We might live, you mean. With the Galaxy dead and civilization in ruins? Live? I might as well die!"

"I'm thinking of Pola," muttered Shekt.

"I am too," said the other. "Ask her. . . .Pola, shall we surrender? Shall we try to live?"

Pola's voice was firm. "I have chosen my side. I don't want to die, but if my side dies, I'll go with it."

Arvardan felt somehow triumphant. When he brought her to Sirius, they might call her an Earthgirl, but she was their equal, and he would, with a great and good pleasure, smash teeth into the throat of any--

And he remembered that he wasn't likely to bring her to Sirius--to bring anyone to Sirius. There wasn't likely to be a Sirius.

Then, as though to escape from the thought, to escape anywhere, he shouted, "You! Whatchername! Schwartz!"

Schwartz raised his head for a moment and allowed a glance to ooze out toward the other. He still said nothing.

"Who are you?" demanded Arvardan. "How did you get mixed up in this? What's your part in it?"

And at the question, all the injustice of everything descended on Schwartz. All the harmlessness of his past, all the infinite horror of the present burst in upon him, so that he said in a fury, "I? How did I get mixed up in it? Listen. I was once a nobody. An honest man, a hard-working tailor. I hurt nobody, I bothered nobody, I took care, of my family. And then, for no reason, for no reason--I came here."

"To Chica?" asked Arvardan, who did not quite follow.

"No, not to Chica!" shouted Schwartz in wild derision. "I came to this whole mad world. . . .Oh, what do I care if you believe me or not? My world is in the past. My world had land and food and two billion people, and it was the only world."

Arvardan fell silent before the verbal assault. He turned to Shekt. "Can you understand him?"

"Do you realize," said Shekt in feeble wonder, "that he has a vermiform appendix, which is three and a half inches long? Do you remember, Pola? And wisdom teeth. And hair on his face."

"Yes, yes," shouted Schwartz defiantly. "And I wish I had a tail I could show you. I'm from the past. I traveled through time. Only I don't know how, and I don't know why. Now leave me alone." He added suddenly, "They will soon be here for us. This wait is just to break us."

Arvardan said suddenly, "Do you know that? Who told you?"

Schwartz did not answer.

"Was it the Secretary? Stocky man with a pug nose?" Schwartz had no way of telling the physical appearance of those he Touched only by mind, but--secretary? There had been just a glimpse of a Touch, a powerful one of a man of power, and it seemed he had been a secretary.

"Balkis?" he asked in curiosity.

"What?" said Arvardan, but Shekt interrupted, "That's the name of the Secretary."

"Oh--What did he say?"

"He didn't say anything," said Schwartz. "I know. It's death for any of us, and there's no way out."

Arvardan lowered his voice. "He's mad, wouldn't you say?"

"I wonder. . . .His skull sutures, now. They were primitive, very primitive."

Arvardan was amazed. "You mean--Oh, come, it's impossible."

"I've always supposed so." For the moment Shekt's voice was a feeble imitation of normality, as though the presence of a scientific problem had switched his mind to that

detached and objective groove in which personal matters disappeared. "They've calculated the energy required to displace matter along the time axis and a value greater than infinity was arrived at, so the project has always been looked upon as impossible. But others have talked of the possibility of 'time faults,' analogous to geological faults, you know. Space ships have disappeared, for one thing, almost in fun view. There's the famous case of Hor Devallow in ancient times, who stepped into his house one day and never came out, and wasn't inside, either. . . .And then there's the planet, which you'll find in the Galactography books of the last century, which was visited by three expeditions that brought back fun descriptions--and then was never seen again.

"Then there are certain developments in nuclear chemistry that seem to deny the law of conservation of mass-energy. They've tried to explain that by postulating the escape of some mass along the time axis. Uranium nuclei, for instance, when mixed with copper and barium in minute but definite proportions, under the influence of light gamma irradiation, set up a resonating system--"

"Father," said Pola, "don't! There's no use--"

But Arvardan's interruption was peremptory. "Wait, now. Let me think. I'm the one who can settle this. Who better? Let me ask him a few questions. . . .Look, Schwartz."

Schwartz looked up again.

"Yours was the only world in the Galaxy?"

Schwartz nodded, then said dully, "Yes."

"But you only thought that. I mean you didn't have space travel, so you couldn't check up. There might have been many other inhabited worlds."

"I have no way of telling that."

"Yes, of course. A pity. What about atomic power?"

"We had an atomic bomb. Uranium--and plutonium--I guess that's what made this world radioactive. There must have been another war after all--after I left. . . .Atomic bombs." Somehow Schwartz was back in Chicago, back in his old world, before the bombs. And he wits sorry. Not for himself, but for that beautiful world. . . .

But Arvardan was muttering to himself. Then, " All right. You had a language, of course."

"Earth? Lots of them."

"How about you?"

"English--after I was a grown man."

"Well, say something in it."

For two months or more Schwartz had said nothing in English. But now, with lovingness, he said slowly, "I want to go home and be with my own people."

Arvardan spoke to Shekt. "18 that the language he used when he was Synapsified, Shekt?"

"I can't tell," said Shekt, in mystification. "Queer sounds then and queer sounds now. How can I relate them?"

"Well, never mind. . . .What's your word for 'mother' in your language, Schwartz?" Schwartz told him.

"Uh-huh. How about 'father'.. . 'brother'. . . 'one'--the numeral, that is... 'two'... 'three'... 'house'... 'man'... 'wife'..."

This went on and on, and when Arvardan paused for breath his expression was one of awed bewilderment.

"Shekt," he said, "either this man is genuine or I'm the victim of as wild a nightmare as can be conceived. He's speaking a language practically equivalent to the inscriptions found in the fifty-thousand-year-old strata on Sirius, Arcturus, Alpha Centauri, and twenty others. He speaks it. The language has only been deciphered in the last generation, and there aren't a dozen men in the Galaxy besides myself who can understand it."

"Are you sure of this?"

"Am I sure? Of course I'm sure. I'm an archaeologist. It's my business to know."

For an instant Schwartz felt his armor of aloofness cracking. For the first time he felt himself regaining the individuality he had lost. The secret was out; he was a man from the past, and they accepted it. It proved him sane, stilled forever that haunting doubt, and he was grateful. And yet he held aloof.

"I've got to have him." It was Arvardan again, burning in the holy flame of his profession. "Shekt, you have no idea what this means to archaeology. Shekt--it's a man from the past. Oh, Great Space!. . . Listen, we can make a deal. This is the proof Earth is looking for. They can have him. They can--"

Schwartz interrupted sardonically. "I know what you're thinking. You think that Earth will prove itself to be the source of civilization through me and that they will be grateful for it. I tell you, no! I've thought of it and I would have bartered for my own life. But they won't believe me--or you."

"There's absolute proof."

"They won't listen. Do you know why? Because they have certain fixed notions about the past. Any change would be blasphemy in their eyes, even if it were the truth. They don't want the truth; they want their traditions."

"Bel," said Pola, "I think he's right."

Arvardan ground his teeth. "We could try."

"We would fail," insisted Schwartz.

"How can you know?"

"I know!" And the words fell with such oracular insistence that Arvardan was silent before them.

It was Shekt who was looking at him now with a strange light in his tired eyes.

He asked softly, "Have you felt any bad effects as a result of the Synapsifier?"

Schwartz didn't know the word but caught the meaning. They had operated, and on his mind. How much he was learning!

He said, "No bad effects."

"But I see you learned our language rapidly. You speak it very well. In fact, you might be a native. Doesn't it surprise you?"

"I always had a very good memory," was the cold response.

"And so you feel no different now than before you were treated?"

"That's right."

Dr. Shekt's eyes were hard now, and he said, "Why do you bother? You know that I'm certain you know what I'm thinking."

Schwartz laughed shortly. "That I can read minds? Well. what of it?"

But Shekt had dropped him. He had turned his white, helpless face to Arvardan. "He can sense minds, Arvardan. How much I could do with him. And to be here--to be helpless. . . "

"What--what--what--" Arvardan popped wildly.

And even Pola's face somehow gained interest. "Can you really?" she asked Schwartz.

He nodded at her. She had taken care of him. and now they would kill her. Yet she was a traitor.

Shekt was saying, " Arvardan, you remember the bacteriologist I told you about, the one who died as a result of the effects of the Synapsifier? One of the first symptoms of mental breakdown was his claim that he could read minds. And he could. I found that out before he died, and it's been my secret. I've told no one--but it's possible, Arvardan, it's possible. You see, with the lowering of brain-cell resistance, the brain may be able to pick up the magnetic fields induced by the microcurrents of other's thoughts and reconvert it into similar vibrations in itself. It's the same principle as that of any ordinary recorder. It would be telepathy in every sense of the word--"

Schwartz maintained a stubborn and hostile silence as Arvardan turned slowly in his direction. "If this is so, Shekt, we might be able to use him." The archaeologist's mind was spinning wildly, working out impossibilities. "There may be a way out now. There must be a way out. For us and the Galaxy."

But Schwartz was cold to the tumult in the Mind Touch he sensed so clearly. He said, "You mean by my reading their minds? How would that help? Of course I can do more than read minds. How's that, for instance?"

It was a light push, but Arvardan yelped at the sudden pain of it..

"I did that," said Schwartz. "Want more?"

Arvardan gasped, "You can do that to the guards? To the Secretary? Why did you let them bring you here? Great Galaxy, Shekt, there'll be no trouble. Now, listen, Schwartz--"

"No," said Schwartz, "you listen. Why do I want to get out? Where will I be? Still on this dead world. I want to go home, and I can't go home. I want my people and my world, and I can't have them. And I want to die."

"But it's a question of all the Galaxy, Schwartz. You can't think of yourself."

"Can't I? Why not? Must I worry about your Galaxy now? I hope your Galaxy rots and dies. I know what Earth is planning to do, and I am glad. The young lady said before she had chosen her side. Well, I've chosen my side, and my side is Earth."

"What?"

"Why not? I'm an Earthman!"

17. CHANGE YOUR SIDE!

An hour had passed since Arvardan had first waded thickly out of unconsciousness to find himself slabbed like a side of beef awaiting the cleaver. And nothing had happened. Nothing but this feverish, inconclusive talk that unbearably passed the unbearable time.

None of it lacked purpose. He knew that much. To lie prone, helpless, without even the dignity of a guard, without even that much concession to a conceivable danger, was to become conscious of overwhelming weakness. A stubborn spirit could not survive it, and when the inquisitor did arrive there would be little defiance, or none, for him to be presented with.

Arvardan needed a break in the silence. He said, "I suppose this place is Spy-waved. We should have talked less."

"It isn't," came Schwartz's voice flatly. "There's nobody listening."

The archaeologist was ready with an automatic "How do you know?" but never said it.

For a power like that to exist! And not for him, but for a man of the past who called himself an Earthman and wanted to die!

Within optical sweep was only a patch of ceiling. Turning, he could see Shekt's angular profile; the other way, a blank wall. If he lifted his head he could make out, for a moment, Pola's pale, worn expression.

Occasionally there was the burning thought that he was a man of the Empire--of the Empire, by the Stars; a Galactic citizen--and that there was a particularly vile injustice in his imprisonment, a particularly deep impurity in the fact that he had allowed Earthmen to do this to him.

And that faded too.

They might have put him next to Pola. . . No, it was better this way. He was not an inspiring sight.

"Bel?" The word trembled into sound and was strangely sweet to Arvardan, coming as it did in this vortex of coming death.

"Yes, Pola?"

"Do you think they'll be much longer?"

"Maybe not, darling. . . .It's too bad. We wasted two months, didn't we?"

"My fault," she whispered. "My fault. We might have had these last few minutes, though. It's so--unnecessary."

Arvardan could not answer. His mind whirled in circles of thought, lost on a greased wheel. Was it his imagination, or did he feel the hard plastic on which he was so stiffly laid? How long would the paralysis last?

Schwartz must be made to help. He tried guarding his thoughts--knew it to be ineffective.

He said, "Schwartz--"

Schwartz lay there as helpless, and with an added, uncalculated refinement to his suffering. He was four minds in one.

By himself he might have maintained his own shrinking eagerness for the infinite peace and quiet of death, fought down the last remnants of that love of life which even as recently as two days previously--three?--had sent him reeling away from the farm. But how could he? With the poor, weak horror of death that hung like a pall over Shekt; with the strong chagrin and rebellion of Arvardan's hard, vital mind; with the deep and pathetic disappointment of the young girl.

He should have closed his own mind. What did he need to know of the sufferings of others? He had his own life to live, his own death to die.

But they battered at him, softly, incessantly--probing and sifting through the crannies.

And Arvardan said, "Schwartz," then, and Schwartz knew that they wanted him to save them. Why should he? Why should he?

"Schwartz," repeated Arvardan insinuatingly, "you can live a hero. You have nothing to die for here--not for those men out there."

But Schwartz was gathering the memories of his own youth, clutching them desperately to his wavering mind. It was a queer amalgamation of past and present that finally brought forth his indignation.

But he spoke calmly, restrainedly. "Yes, I can live a hero--and a traitor. They want to kill me, those men out there. You call them men, but that was with your tongue; your mind called them something I didn't get, but it was vile. And not because they were vile, but because they were Earthmen."

"That's a lie," hotly.

"That is not a lie," as hotly, "and everyone here knows that. They want to kill me, yes--but that is because they think I'm one of your kind of people, who can condemn an entire planet at a stroke and drench it with your contempt, choke it slowly with your insufferable superiority. Well, protect yourself against these worms and vermin who are somehow managing to threaten their Godlike overlords. Don't ask for the help of one of them."

"You talk like a Zealot," said Arvardan with amazement. "Why? Have you suffered? You were a member of a large and independent planet, you say. You were an Earthman when Earth was the sole repository of life. You're one of us, man; one of the rulers. Why associate yourself with a desperate remnant? This is not the planet you remember. My planet is more like the old Earth than is this diseased world."

Schwartz laughed. "I'm one of the rulers, you say? Well, we won't go into that. It isn't worth explaining. Let's take you instead. You're a fine sample of the product sent us by the Galaxy. You are tolerant and wonderfully bighearted, and admire yourself because you treat Dr. Shekt as an equal. But underneath--yet not so far underneath that I can't see it plainly in your mind--you are uncomfortable with him. You don't like the way he talks or the way he looks. In fact, you don't like him, even though he is offering to betray Earth. . .

.Yes, and you kissed a girl of Earth recently and look back upon it as a weakness. You're ashamed of it--"

"By the Stars, I'm not. . . .Pola," desperately, "don't believe him. Don't listen to him."

Pola spoke quietly. "Don't deny it, or make yourself unhappy about it, Bel. He's looking below the surface to the residue of your childhood. He would see the same if he looked into mine. He would see things similar if he could look into his own in as ungentlemanly a fashion as he probes ours."

Schwartz felt himself reddening.

Pola's voice did not rise in pitch or intensity as she addressed him directly.

"Schwartz, if you can sense minds, investigate mine. Tell me if I intend treason. Look at my father. See if it is not true that he could have avoided the Sixty easily enough if he had co-operated with the madmen who will ruin the Galaxy. What has he gained by his treason?. . . And look again, see if any of us wish to harm Earth or Earthmen.

"You say you have caught a glimpse of Balkis's mind. I don't know what chance you have had to poke through its dregs. But when he's back, when it's too late, sift it, strain his thoughts. Find out that he's a madman--Then, die!"

Schwartz was silent.

Arvardan broke in hurriedly, "All right. Schwartz, tackle my mind now. Go as deep as you want. I was born on Baronn in the Sirius Sector. I lived my life in an atmosphere of anti-Terrestrialism in the formative years, so I can't help what flaws and follies lie at the roots of my subconscious. But look on the surface and tell me if, in my adult years, I have not fought bigotry in myself. Not in others; that would be easy. But in myself, and as hard as I could.

"Schwartz, you don't know our history! You don't know of the thousands and tens of thousands of years in which Man spread through the Galaxy--of the wars and misery. You don't know of the first centuries of the Empire, when still there was merely a confusion of alternating despotism and chaos. It is only in the last two hundred 'years, now, that our Galactic government has become a representative one. Under it the various worlds are allowed their cultural autonomy--have been allowed to govern themselves--have been allowed voices in the common rule of all.

"At no time in history has Humanity been as free from war and poverty as now; at no time has Galactic economy been so wisely adjusted; at no time have prospects for the future been as bright. Would you destroy it and begin all over? And with what? A despotic theocracy with only the unhealthy elements of suspicion and hatred in it.

"Earth's grievance is legitimate and will be solved someday, if the Galaxy lives. But what they will do is no solution. Do you know what they intend doing?"

If Arvardan had had the ability that had come to Schwartz, he would have detected the struggle in Schwartz's mind. Intuitively, however, he knew the time had come to halt for a moment.

Schwartz was moved. All those worlds to die--to fester and dissolve in horrible disease. . . Was he an Earthman after all? Simply an Earthman? In his youth he had left

Europe and gone to America, but was he not the same man despite that? And if after him men had left a torn and wounded earth for the worlds beyond the sky, were they less Earthmen? Was not all the Galaxy his? Were not they all--all--descended from himself and his brothers?

He said heavily, "All right, I'm with you. How can I help?"

"How far out can you reach for minds?" asked Arvardan eagerly, with a hastening quickness as though afraid still of a last change of mind.

"I don't know. There are minds outside. Guards, I suppose. I think I can reach out into the street even, but the further I go, the less sharp it becomes."

"Naturally," said Arvardan. "But how about the Secretary? Could you identify his mind?"

"I don't know," mumbled Schwartz.

A pause. . . The minutes stretched by unbearably.

Schwartz said, "Your minds are in the way. Don't watch me. Think of something else."

They tried to. Another pause. Then, "No--I can't--I can't."

Arvardan said with a sudden intensity, "I can move a bit--Great Galaxy, I can wiggle my feet. . . Ouch!" Each motion was a savage twinge.

He said, "How hard can you hurt someone, Schwartz? Can you do it harder than the way you hurt me a while back I mean?"

"I've killed a man."

"You have? How did you do that?"

"I don't know. It just gets done. It's--it's--" Schwartz looked almost comically helpless in his effort to put the wordless into words.

"Well, can you handle more than one at a time?"

"I've never tried, but I don't think so. I can't read two minds at one time."

Pola interrupted. "You can't have him kill the Secretary, Bel. It won't work."

"Why not?"

"How will we get out? Even if we caught the Secretary alone and killed him, there would be hundreds waiting for us outside. Don't you see that?"

But Schwartz broke in, huskily, "I've got him."

"Whom?" It came from all three. Even Shekt was staring wildly at him.

"The Secretary. I think it's his Mind Touch."

"Don't let him go." Arvardan almost rolled over in his attempts at exhortation, and tumbled off the slab, thumping to the floor with one half-paralyzed leg working futilely to wedge underneath his body and lift.

Pola cried, "You're hurt!" and suddenly found the hinges of her arm uncreaking as she tried to lift her elbow.

"No, it's all right. Suck him dry, Schwartz. Get all the information you can."

Schwartz reached out until his head ached. He clutched and clawed with the tendrils of his own mind, blindly, clumsily--like an infant thrusting out fingers it can't quite

handle for an object it can't quite reach. Until now he had taken whatever he could find, but now he was looking--looking--

Painfully, he caught wisps. "Triumph! He's sure of the results. . . .Something about space bullets. He's started them. . . .No, not started. Something else. . . .He's going to start them."

Shekt groaned. "They're automatically guided missiles to carry the virus, Arvardan. Aimed at the various planets."

"But where are they kept, Schwartz?" insisted Arvardan. "Look, man, look--"

"There's a building I--can't--quite--see. . . .Five points--a star--a name; Sloo, maybe--"

Shekt broke in again. "That's it. By all the stars in the Galaxy, that's it. The Temple of Senloo. It's surrounded by radioactive pockets on all sides. No one would ever go there but the Ancients. Is it near the meeting of two large rivers, Schwartz?"

"I can't--Yes--yes--yes."

"When, Schwartz, when? When will they be set off?"

"I can't see the day, but soon--soon. His mind is bursting with that--It will be very soon." His own head seemed bursting with the effort.

Arvardan was dry and feverish as he raised himself finally to his hands and knees, though they wobbled and gave under him. "Is he coming?"

"Yes. He's at the door."

His voice sank and stopped as the door opened.

Balkis's voice was one of cold derision as he filled the room with success and triumph. "Dr. Arvardan! Had you not better return to your seat?"

Arvardan looked up at him, conscious of the cruel indignity of his own position, but there was no answer to make, and he made none. Slowly he allowed his aching limbs to lower him to the ground. He waited there, breathing heavily. If his limbs could return a bit more, if he could make a last lunge, if he could somehow seize the other's weapons.

That was no neuronc whip that dangled so gently from the smoothly gleaming Flexiplast belt that held the Secretary's robe in place. It was a full-size blaster that could shred a man to atoms in an instantaneous point of time.

The Secretary watched the four before him with a savage sense of satisfaction. The girl he tended to ignore, but otherwise it was a clean sweep. There was the Earthman traitor; there the Imperial agent; and there the mysterious creature they had been watching for two months. Were there any others?

To be sure, there was still Ennius, and the Empire. Their arms, in the person of these spies and traitors, were pinioned, but there remained an active brain somewhere--perhaps to send out other arms.

The Secretary stood easily, hands clasped in contemptuous disregard of any possible necessity of quickly reaching his weapon. He spoke quietly and gently. "Now it is necessary to make things absolutely clear. There is war between Earth and the Galaxy--undeclared as yet, but, nevertheless, war. You are our prisoners and will be treated as will

be necessary under the circumstances. Naturally the recognized punishment for spies and traitors is death--"

"Only in the case of legal and declared war," broke in Arvardan fiercely.

"Legal war?" questioned the Secretary with more than a trace of a sneer. "What is legal war? Earth has always been at war with the Galaxy, whether we made polite mention of the fact or not."

"Don't bother with him," said Pola to Arvardan softly. "Let him have his say and finish with it."

Arvardan smiled in her direction. A queer, spasmodic smile, for it was with a vast strain that he staggered to his feet and remained there, gasping.

Balkis laughed softly. With unhurried steps he shortened the distance between himself and the Sirian archaeologist to nothing. With an equally unhurried gesture he rested a soft hand upon the broad chest of the other and shoved.

With splintering arms that would not respond to Arvardan's demand for a warding motion, with stagnant trunk muscles that could not adjust the body's balance at more than snail speed, Arvardan toppled.

Pola gasped. Lashing her own rebellious flesh and bone, she descended from her particular bench slowly--so slowly.

Balkis let her crawl toward Arvardan.

"Your lover," he said. "Your strong Outsider lover. Run to him, girl! Why do you wait? Clasp your hero tightly and forget in his arms that he steams in the sweat and blood of a billion martyred Earthmen. And there he lies, bold and valiant--brought to Earth by the gentle push of an Earthman's hand."

Pola was on her knees beside him now, her fingers probing beneath the hair for blood or the deadly softness of crushed bone. Arvardan's eyes opened slowly and his lips formed a "Never mind!"

"He's a coward," said Pola, "who would fight a paralyzed man and boast his victory. Believe me, darling, few Earthmen are like that."

"I know it, or you would not be an Earthwoman."

The Secretary stiffened. "As I said, all lives here are forfeit, but, nevertheless, can be bought. Are you interested in the price?"

Pola said proudly, "In our case, you would be. That I know."

"Ssh, Pola." Arvardan had not yet recovered his breath entirely. "What are you proposing?"

"Oh," said Balkis, "you are willing to sell yourself? As I would be, for instance? I, a vile Earthman?"

"You know best what you are," retorted Arvardan. "As for the rest, I am not selling myself; I am buying her."

"I refuse to be bought," said Pola.

"Touching," grated the Secretary. "He stoops to our females, our Earthie-squaws--and can still play-act at sacrifice."

"What are you proposing?" demanded Arvardan.

"This. Obviously, word of our plans has leaked out. How it got to Dr. Shekt is not difficult to see, but how it got to the Empire is puzzling. We would like to know, therefore, just what the Empire does know. Not what you have learned, Arvardan, but what the Empire now knows."

"I am an archaeologist and not a spy," bit out Arvardan. "I don't know anything at all about what the Empire knows --but I hope they know a damned lot."

"So I imagine. Well, you may change your mind. Think, all of you."

Throughout, Schwartz had contributed nothing; nor had he raised his eyes.

The Secretary waited, then said, perhaps a trifle savagely, "Then I'll outline the price to you of your non-co-operation. It will not be simply death, since I am quite certain that all of you are prepared for that unpleasant and inevitable eventuality. Dr. Shekt and the girl, his daughter, who, unfortunately for herself, is implicated to a deadly extent, are citizens of Earth. Under the circumstances, it will be most appropriate to have both subjected to the Synapsifier. You understand, Dr. Shekt?"

The physicist's eyes were pools of pure horror.

"Yes, I see you do," said Balkis. "It is, of course, possible to allow the Synapsifier to damage brain tissue just sufficiently to allow the production of an acerebral imbecile. It is a most disgusting state: one in which you will have to be fed, or starve; be cleaned, or live in dung; be shut up, or remain a study in horror to all who see. It may be a lesson to others in the great day that is coming.

"As for you"--and the Secretary turned to Arvardan--"and your friend Schwartz, you are Imperial citizens, and therefore suitable for an interesting experiment. We have never tried our concentrated fever virus on you Galactic dogs. It would be interesting to show our calculations correct.

A small dose, you see, so that death is not quick. The disease might work its way to the inevitable over a period of a week, if we dilute the injection sufficiently. It will be very painful."

And now he paused and watched them through slitted eyes. "All that," he said, "is the alternative to a few well-chosen words at the present time. How much does the Empire know? Have they other agents active at the present moment? What are their plans, if any, for counteraction?"

Dr. Shekt muttered, "How do we know that you won't have us killed anyway, once you have what you want of us?"

"You have my assurance that you will die horribly if you refuse. You will have to gamble on the alternative. What do you say?"

"Can't we have time?"

"Isn't that what I'm giving you now? Ten minutes have passed since I entered, and I am still listening. . . .Well, have you anything to say? What, nothing? Time will not endure forever, you must realize. Arvardan, you still knot your muscles. You think perhaps you can reach me before I can draw my blaster. Well, what if you can? There are hundreds outside, and my plans will continue without me. Even your separate modes of punishment will continue without me.

"Or perhaps you, Schwartz. You killed our agent. It was you, was it not? Perhaps you think you can kill me?"

For the first time Schwartz looked at Balkis. He said coldly, "I can, but I won't."

"That is kind of you."

"Not at all. It is very cruel of me. You say yourself that there are things worse than simple death."

Arvardan found himself suddenly staring at Schwartz in a vast hope.

18. DUEL!

Schwartz's mind was whirling. In a queer, hectic way he felt at ease. There was a piece of him that seemed in absolute control of the situation, and more of him that could not believe that. Paralysis had been applied later to him than to the others. Even Dr. Shekt was sitting up, while he himself could just budge an arm and little more.

And, staring up at the leering mind of the Secretary, infinitely foul and infinitely evil, he began his duel.

He said, "I was on your side originally, for all that you were preparing to kill me. I thought I understood your feelings and your intentions. . . .But the minds of these others here are relatively innocent and pure, and yours is past description. It is not even for the Earthman you fight, but for your own personal power. I see in you not a vision of a free Earth, but of a re-enslaved Earth. I see in you not the disruption of the Imperial power, but its replacement by a personal dictatorship."

"You see all that, do you?" said Balkis. "Well, see what you wish. I don't need your information after all, you know--not so badly that I must endure insolence. We have advanced the hour of striking, it seems. Had you expected that? Amazing what pressure will do, even on those who swear that more speed is impossible. Did you see that, my dramatic mind reader?"

Schwartz said, "I didn't. I wasn't looking for it, and it passed my notice. . . .But I can look for it now. Two days--Less--Let's see--Tuesday--six in the morning--Chica time."

The blaster was in the Secretary's hand, finally. He advanced in abrupt strides and towered over Schwartz's drooping figure.

"How did you know that?"

Schwartz stiffened; somewhere mental tendrils bunched and grasped. Physically his jaw muscles clamped rigorously shut and his eyebrows curled low, but these were purely irrelevant--involuntary accompaniments to the real effort. Within his brain there was that which reached out and seized hard upon the Mind Touch of the other.

To Arvadan, for precious, wasting seconds, the scene was meaningless; the Secretary's sudden motionless silence was not significant.

Schwartz muttered gaspingly, "I've got him. . . .Take away his gun. I can't hold on--" It died away in a gurgle.

And then Arvadan understood. With a lurch he was on all fours. Then slowly, grindingly, he lifted himself once more, by main force, to an unsteady erectness. Pola tried to rise with him, could not quite make it. Shekt edged off his slab, sinking to his knees. Only Schwartz lay there, his face working.

The Secretary might have been struck by the Medusa sight. On his smooth and unfurrowed forehead perspiration gathered slowly, and his expressionless face hinted of no emotion. Only that right hand, holding the blaster, showed any signs of life. Watch closely, and you might see it jerk ever so gently; note the curious flexing pressure of it

upon the contact button: a gentle pressure, not enough to do harm, but returning, and returning--

"Hold him tight," gasped Arvardan with a ferocious joy. He steadied himself on the back of a chair and tried to gain his breath. "Let me get to him."

His feet dragged. He was in a nightmare, wading through molasses, swimming through tar; pulling with torn muscles, so slowly--so slowly.

He was not--could not be--conscious of the terrific duel that proceeded before him.

The Secretary had only one aim, and that was to put just the tiniest force into his thumb--three ounces, to be exact, since that was the contact pressure required for the blaster's operation. To do so his mind had only to instruct a quivering balanced tendon, already half contracted, to--to--

Schwartz had only one aim, and that was to restrain that pressure--but in all the inchoate mass of sensation presented to him by the other's Mind Touch, he could not know which particular area was alone concerned with that thumb. So it was that he bent his efforts to produce a stasis, a complete stasis--

The Secretary's Mind Touch heaved and billowed against restraint. It was a quick and fearfully intelligent mind that confronted Schwartz's untried control. For seconds it remained quiescent, waiting--then, in a terrific, tearing attempt, it would tug wildly at this muscle or that--

To Schwartz it was as if he had seized a wrestling hold which he must maintain at all costs, though his opponent threw him about in frenzies.

But none of this showed. Only the nervous clenching and unclenching of Schwartz's jaw; the quivering lips, bloodied by the biting teeth--and that occasional soft movement on the part of the Secretary's thumb, straining--straining.

Arvardan paused to rest. He did not want to. He had to. His outstretched finger just touched the fabric of the Secretary's tunic and he felt he could move no more. His agonized lungs could not pump the breath his dead limbs required. His eyes were blurred with the tears of effort, his mind with the haze of pain.

He gasped, "Just a few more minutes, Schwartz. Hold him, hold him--"

Slowly, slowly, Schwartz shook his head. "I can't--I can't--"

And indeed, to Schwartz all the world was slipping away into dull, unfocused chaos. The tendrils of his mind were becoming stiff and nonresilient.

The Secretary's thumb pressed once again upon the contact. It did not relax. The pressure grew by tiny stages.

Schwartz could feel the bulging of his own eyeballs, the writhing expansion of the veins in his forehead. He could sense the awful triumph that gathered in the mind of the other.

Then Arvardan lunged. His stiff and rebellious body toppled forward, hands outstretched and clawing.

The yielding, mind-held Secretary toppled with him. The blaster flew sideways, clanging along the hard floor.

The Secretary's mind wrenched free almost simultaneously, and Schwartz fell back, his own skull a tangled jungle of confusion.

Balkis struggled wildly beneath the clinging dead weight of Arvardan's body. He jerked a knee into the other's groin with a vicious strength while his clenched fist came down sideways on Arvardan's cheekbone. He lifted and thrust--and Arvardan rolled off in huddled agony.

The Secretary staggered to his feet, panting and disheveled, and stopped again.

Facing him was Shekt, half reclining. His right hand, shakingly supported by the left, was holding the blaster, and although it quivered, the business end pointed at the Secretary.

"You pack of fools," shrilled the Secretary, passion-choked, "what do you expect to gain? I have only to raise my voice--"

"And you, at least," responded Shekt weakly, "will die."

"You will accomplish nothing by killing me," said the Secretary bitterly, "and you know it. You will not save the Empire you would betray us to--and you would not save even yourselves. Give me that gun and you will go free."

He extended a hand, but Shekt laughed wistfully. "I am not mad enough to believe that."

"Perhaps not, but you are half paralyzed." And the Secretary broke sharply to the right. far faster than the physicist's feeble wrist could veer the blaster.

But now Balkis's mind, as he tensed for the final jump" was utterly and entirely on the blaster he was avoiding. Schwartz extended his mind once again in a final jab, and the Secretary tripped and slammed downward as if he had been clubbed.

Arvardan had risen painfully to his feet. His cheek was red and swollen and he hobbled when he walked. He said, "Can you move, Schwartz?"

"A little," came the tired response. Schwartz slid out of his seat.

"Anyone else coming this way, maybe?"

"Not that I can detect."

Arvardan smiled grimly down at Pola. His hand was resting on her soft brown hair and she was looking up at him with brimming eyes. Several times in the last two hours he had been sure that never, never would he feel her hair or see her eyes again.

"Maybe there will be a later after an, Pola?"

And she could only shake her head and say, "There's not enough time. We only have till six o'clock Tuesday."

"Not enough time? Well, let's see." Arvardan bent over the prone Ancient and pulled his head back, none too gently.

"Is he alive?" He felt futilely for a pulse with his still-numb finger tips and then placed a palm beneath the green robe. He said, "His heart's beating, anyway. . . .You've a dangerous power there, Schwartz. Why didn't you do this in the first place?"

"Because I wanted to see him held static." Schwartz clearly showed the effects of his ordeal. "I thought that if I could hold him, we could lead him out before; use him as decoy; hide behind his skirts."

Shekt said, in sudden animation, "We might. There's the Imperial garrison in Fort Dibburn not half a mile away. Once there, we're safe and can get word to Ennius."

"Once there! There must be a hundred guards outside, with hundreds more between here and there--And what can we do with a stiff green-robe? Carry him? Shove him along on little wheels?" Arvardan laughed humorlessly.

"Besides," said Schwartz gloomily, "I couldn't hold him very long. You saw--I failed."

Shekt said earnestly, "Because you're not used to it. Now listen, Schwartz, I've got a notion as to what it is you do with your mind. It's a receiving station for the electromagnetic fields of the brain. I think you can transmit also. Do you understand?"

Schwartz seemed painfully uncertain.

"You must understand, " insisted Shekt. "You'll have to concentrate on what you want him to do--and first we're going to give him his blaster back."

"What!" The outraged exclamation was neatly triple.

Shekt raised his voice. "He's got to lead us out of here. We can't get out otherwise, can we? And how can it look less suspicious than to allow him to be obviously armed?"

"But I couldn't hold him. I tell you I couldn't." Schwartz was flexing his arms, slapping them, trying to get back into the feel of normality. "I don't care what your theories are, Dr. Shekt. You don't know what goes on. It's a slippery, painful thing, and it's not easy."

"I know, but it's the chance we take. Try it now, Schwartz. Have him move his arm when he comes to." Shekt's voice was pleading.

The Secretary moaned as he lay there, and Schwartz felt the reviving Mind Touch. Silently, almost fearfully, he let it gather strength--then spoke to it. It was a speech that included no words; it was the silent speech you send to your arm when you want it to move, a speech so silent you are not yourself aware of it.

And Schwartz's arm did not move; it was the Secretary's that did. The Earthman from the past looked up with a wild smile, but the others had eyes only for Balkis--Balkis, that recumbent figure, with a lifting head, with eyes from which the glaze of unconsciousness was vanishing, and an arm which peculiarly and incongruously jerked outward at a ninety-degree angle.

Schwartz bent to his task.

The Secretary lifted himself up in angular fashion; nearly, but not quite, overbalancing himself. And then, in a queer and involuntary way, he danced.

It lacked rhythm; it lacked beauty; but to the three who watched the body, and to Schwartz, who watched body and mind, it was a thing of indescribable awe. For in those moments the Secretary's body was under the control of a mind not materially connected with it.

Slowly, cautiously, Shekt approached the robotlike Secretary and, not without a qualm, extended his hand. In the open palm thereof lay the blaster, butt first.

"Let him take it, Schwartz," said Shekt.

Balkis's hand reached out and grasped the weapon clumsily. For a moment there was a sharp, devouring glitter in his eyes, and then it all faded. Slowly, slowly, the blaster was put into its place in the belt, and the hand fell away.

Schwartz's laugh was high-pitched. "He almost got away, there." But his face was white as he spoke.

"Well? Can you hold him?"

"He's fighting like the devil. But it's not as bad as before."

"That's because you know what you're doing," said Shekt, with an encouragement he did not entirely feel. "Transmit, now. Don't try to hold him; just pretend you're doing it yourself."

Arvardan broke in. "Can you make him talk?"

There was a pause, then a low, rasping growl from the Secretary. Another pause; another rasp.

"That's all," panted Schwartz.

"But why won't it work?" asked Pola. She looked worried.

Shekt shrugged. "Some pretty delicate and complicated muscles are involved. It's not like yanking at the long limb muscles. Never mind, Schwartz. We may get by without."

The memory of the next two hours was something no two of those that took part in the queer odyssey could duplicate. Dr. Shekt, for instance, had acquired a queer rigidity in which all his fears were drowned in one breathless and helpless sympathy with the inwardly struggling Schwartz. Throughout he had eyes only for that round face as it slowly furrowed and twisted with effort. For the others he had hardly time for more than a moment's glance.

The guards immediately outside the door saluted sharply at the appearance of the Secretary, his green robe redolent of officialdom and power. The Secretary returned the salute in a fumbling, flat manner. They passed, unmolested.

It was only when they had left the great Hall that Arvardan became conscious of the madness of it all. The great, unimaginable danger to the Galaxy and the flimsy reed of safety that bridged, perhaps, the abyss. Yet even then, even then, Arvardan felt himself drowning in Pola's eyes. Whether it was the life that was being snatched from him, the future that was being destroyed about him, the eternal unavailability of the sweetness he had tasted--whatever it was, no one had ever seemed to him to be so completely and devastatingly desirable.

In aftertime she was the sum of his memories. Only the girl--

And upon Pola the sunny brightness of the morning burned down so that Arvardan's downturned face blurred before her. She smiled up at him and was conscious of that strong, hard arm on which her own rested so lightly. That was the memory that lingered afterward. Flat, firm muscle lightly covered by glossy-textured plastic cloth, smooth and cool under her wrist--

Schwartz was in a sweating agony. The curving drive that led away from the side entrance from which they had emerged was largely empty. For that he was hugely thankful.

Schwartz alone knew the full cost of failure. In the enemy Mind that he controlled he could sense the unbearable humiliation, the surpassing hatred, the utterly horrible resolves. He had to search that Mind for the information that guided him--the position of the official ground car, the proper route to take--And, in searching, he also experienced the galling bitterness of the determined revenge that would lash out should his control waver for but the tenth part of the second.

The secret fastnesses of the Mind in which he was forced to rummage remained his personal possession forever. In aftertimes there came the pale gray hours of many an innocent dawn during which once again he had guided the steps of a madman down the dangerous walks of an enemy stronghold.

Schwartz gasped at the words when they reached the ground car. He no longer dared relax sufficiently to utter connected sentences. He choked out quick phrases: "Can't--drive car--can't make--him--make drive--complicated--can't--"

Shekt soothed him with a soft, clucking sound. He dared not touch him, dared not speak in an ordinary way, dared not distract Schwartz's mind for a second.

He whispered, "Just get him into the back seat, Schwartz. I'll drive. I know how. From now on just keep him still. and I'll take the blaster away."

The Secretary's ground car was a special model. Because it was special, it was different. It attracted attention. Its green headlight turned to the right and left in rhythmic swings as the light dimmed and brightened in emerald flashes. Men paused to watch. Ground cars advancing in the opposite direction moved to the side in a respectful hurry.

Had the car been less noticed, had it been less obtrusive. the occasional passer-by might have had time to note the pale, unmoving Ancient in the back seat--might have wondered--might have scented danger--

But they noticed only the car, so that time passed. . . .

A soldier blocked the way at the gleaming chromium gates that rose sheerly in the expansive, overwhelming way that marked all Imperial structures in sharp contrast to the squatly massive and brooding architecture of Earth. His huge force gun shot out horizontally in a barring gesture, and the car halted.

Arvardan leaned out. "I'm a citizen of the Empire, soldier. I'd like to see your commanding officer."

"I'll have to see your identification, sir."

"That's been taken from me. I am Bel Arvardan of Baronn, Sirius. I am on the Procurator's business and I'm in a hurry."

The soldier lifted a wrist to his mouth and spoke softly into the transmitter. There was a pause while he waited for an answer, and then he lowered his rifle and stepped aside. Slowly the gate swung open.

19. THE DEADLINE THAT APPROACHED

The hours that followed saw turmoil within and without Fort Dibburn. More so, perhaps, in Chica itself.

It was at noon that the High Minister at Washenn inquired via Communi-wave after his Secretary, and a search for the latter failed. The High Minister was displeased; the minor officials at the Hall of Correction were perturbed.

Questioning followed, and the guards outside the assembly room were definite that the Secretary had left with the prisoners at ten-thirty in the morning. . . .No, he had left no instructions. They could not say where he was going; it was, of course, not their place to ask.

Another set of guards was equally uninformed and uninformative. A general air of anxiety mounted and swirled.

At 2 P.M. the first report arrived that the Secretary's ground car had been seen that morning--no one had seen if the Secretary was within--some thought he had been driving, but had only assumed it, it turned out--

By two-thirty it had been ascertained that the car had entered Fort Dibburn.

At not quite three, it was finally decided to put in a call to the commander of the fort. A lieutenant had answered.

It was impossible at that time, they learned, for information on the subject to be given. However, His Imperial Majesty's officers requested that order be maintained for the present. It was further requested that news of the absence of a member of the Society of Ancients be not generally distributed until further notice.

But that was enough to achieve the direct opposite of the Imperial desires.

Men engaged in treason cannot take chances when one of the prime members of a conspiracy is in the hands of the enemy forty-eight hours before trigger time. It can mean only discovery or betrayal, and these are but the reverse sides of a single coin. Either alternative would mean death.

So word went out--

And the population of Chica stirred--

The professional demagogues were on the street corners. The secret arsenals were broken open and the hands that reached withdrew with weapons. There was a twisting drift toward the fort, and at 6 P.M. a new message was sent to the commandant, this time by personal envoy.

Meanwhile, this activity was matched in a smaller way by events within the fort. It had begun dramatically when the young officer meeting the entering ground car reached out a hand for the Secretary's blaster.

"I'll take that," he said curtly.

Shekt said, "Let him take it, Schwartz."

The Secretary's hand lifted the blaster and stretched out; the blaster left it, was carried away--and Schwartz, with a heaving sob of breaking tension, let go.

Arvardan was ready. When the Secretary lashed out like an insane steel coil released from compression, the archaeologist pounced upon him, fists pumping down hard.

The officer snapped out orders. Soldiers were running up. When rough hands laid hold of Arvardan's shirt collar and dragged him up, the Secretary was limp upon the seat. Dark blood was flowing feebly from the corner of his mouth. Arvardan's own already bruised cheek was open and bleeding.

He straightened his hair shakily. Then, pointing a rigid finger, said firmly, "I accuse that man of conspiring to overthrow the Imperial Government. I must have an immediate interview with the commanding officer."

"We'll have to see about that, sir," said the officer civilly. "If you don't mind, you will have to follow me--all of you."

And there, for hours, it rested. Their quarters were private, and reasonably clean. For the first time in twelve hours they had a chance to eat, which they did, despite considerations, with dispatch and efficiency. They even had the opportunity of that further necessity of civilization, a bath.

Yet the room was guarded, and as the hours passed, Arvardan finally lost his temper and cried, "But we've simply exchanged prisons."

The dull, meaningless routine of an army camp drifted about them, ignoring them. Schwartz was sleeping and Arvardan's eyes went to him. Shekt shook his head.

"We can't," he said. "It's humanly impossible. The man is exhausted. Let him sleep."

"But there are only thirty-nine hours left."

"I know--but wait."

A cool and faintly sardonic voice sounded. "Which of you claims to be a citizen of the Empire?"

Arvardan sprang forward. "I am. I--"

And his voice failed as he recognized the speaker. The latter smiled rigidly. His left arm he held a bit stiffly as a remaining memento of their last meeting.

Pola's voice was faint behind him. "Bel, it's the officer--the one of the department store."

"The one whose arm he broke," came the sharp addition. "My name is Lieutenant Claudy and yes, you are the same man. So you are a member of the Sirian worlds, are you? And yet you consort with these. Galaxy, the depths a man can sink to! And you've still got the girl with you." He waited and then said slowly and deliberately, "The Earthie-squaw!"

Arvardan bristled, then subsided. He couldn't--not yet.

He forced humbleness into his voice. "May I see the colonel, Lieutenant?"

"The colonel, I am afraid, is not on duty now."

"You mean he's not in the city?"

"I didn't say that. He can be reached--if the matter is sufficiently urgent."

"It is. . . .May I see the officer of the day?"

"At the moment I am the officer of the day."

"Then call the colonel."

And slowly the lieutenant shook his head. "I could scarcely do so without being convinced of the gravity of the situation.'

Arvardan was shaking with impatience. "By the Galaxy, stop fencing with me! It's life and death."

"Really?" Lieutenant Claudy swung a little swagger stick with an air of affected dandyism. "You might crave an audience with me."

"All right. . . .Well, I'm waiting. . .

"I said--you might crave one."

"May I have an audience, Lieutenant?"

But there was no smile on the lieutenant's face. "I said, crave one--before the girl. Humbly."

Arvardan swallowed and drew back. Pola's hand was on his sleeve. "Please, Bel. You mustn't get him angry."

The archaeologist growled huskily, "Bel Arvardan of Sirius humbly craves audience with the officer of the day."

Lieutenant Claudy said, "That depends. "

He took a step toward Arvardan and quickly and viciously brought the flat of his palm down hard upon the bandage that dressed Arvardan's open cheek.

Arvardan gasped and stifled a shriek.

The lieutenant said, "You resented that once. Don't you this time?"

Arvardan said nothing.

The lieutenant said, "Audience granted."

Four soldiers fell in before and behind Arvardan. Lieutenant Claudy led the way.

Shekt and Pola were alone with the sleeping Schwartz, and Shekt said, "I don't hear him any more, do you?"

Pola shook her head. "I haven't either, for quite a while. But, Father, do you suppose he'll do anything to Bel?"

"How can he?" said the old man gently. "You forget that he's not really one of us. He's a citizen of the Empire and cannot be easily molested. . . .You are in love with him, I suppose?"

"Oh, terribly, Father. It's silly, I know. . .

"Of course it is." Shekt smiled bitterly. "He is honest. I do not say he isn't. But what can he do? Can he live here with us on this world? Can he take you home? Introduce an Earthgirl to his friends? His family?"

She was crying. "I know. But maybe there won't be any afterwards."

And Shekt was on his feet again, as though the last phrase had reminded him. He said again, "I don't hear him."

It was the Secretary he did not hear. Balkis had been placed in an adjoining room, where his caged-lion steps had been clearly and ominously audible. Except that now they weren't.

It was a little point, but in the single mind and body of the Secretary there had somehow become centered and symbolized all the sinister force of disease and destruction that were being loosed on the giant network of living stars. Shekt jarred Schwartz gently.

"Wake up," he said.

Schwartz stirred. "What is it?" He felt scarcely rested. His tiredness went in and in, so deep as to come out at the other side, projecting in jagged streaks.

"Where's Balkis?" urged Shekt.

"Oh--oh yes." Schwartz looked about wildly, then remembered that it was not with his eyes that he looked and saw most clearly. He sent out the tendrils of his mind and they circled, sensing tensely for the Mind they knew so well.

He found it, and avoided touching it. His long immersion in it had not increased his fondness for the clinging of its diseased wretchedness.

Schwartz muttered, "He's on another floor. He's talking to someone."

"To whom?"

"No one whose mind I've even Touched before. Wait--let me listen. Maybe the Secretary will--Yes, he calls him Colonel."

Shekt and Pola looked quickly at one another.

"It can't be treason, can it?" whispered Pola. "I mean, surely an officer of the Empire wouldn't deal with an Earthman against the Emperor, would he?"

"I don't know," said Shekt miserably. "I am ready to believe anything."

Lieutenant Claudy was smiling. He was behind a desk, with a blaster at his finger tips and the four soldiers behind him. He spoke with the authority that such a situation would lend one.

"I don't like Earthies," he said. "I never liked them. They're the scum of the Galaxy. They're diseased, superstitious, and lazy. They're degenerate and stupid. But, by the Stars, most of them know their place.

"In a way, I can understand them. That's the way they were born, and they can't help it. Of course I wouldn't endure what the Emperor endures from them--I mean their blasted customs and traditions--if I were the Emperor. But that's all right. Someday we'll learn--"

Arvardan exploded. "Now look here. I didn't come to listen--"

"You'll listen, because I'm not finished. I was about to say that what I can't understand is the workings of the mind of an Earthie-lover. When a man--a real man, supposedly--can get so low in filth as to crawl in among them and go nosing after their womenfolk, I have no respect for him. He's worse than they are--"

"Then to Space with you and your poor filthy excuse of a mind!" fiercely. "Do you know that there's treason against the Empire afoot? Do you know just how dangerous the situation is? Every minute you delay endangers everyone of the quadrillions in the Galaxy--"

"Oh, I don't know, Dr. Arvardan. It is Dr., isn't it? I mustn't forget your honors. You see, I've got a theory of my own. You're one of them. Maybe you were born in Sirius, but you've got a black Earthman's heart, and you're using your Galactic citizenship to advance their cause. You've kidnaped this official of theirs, this Ancient. (A good thing, by the way, in itself, and I wouldn't mind rattling his throat for him.) But the Earthmen are looking for him already. They've sent a message to the fort."

"They have? Already? Then why are we talking here? I must see the colonel if I have to--"

"You expect a riot, trouble of any sort? Perhaps you even planned one as the first step in an arranged revolt, eh?"

"Are you mad? Why would I want to do that?"

"Well, then, you wouldn't mind if we released the Ancient?"

"You cannot." Arvardan rose to his feet, and for a moment it looked as though he might hurl himself across the desk at the other.

But the blaster was in Lieutenant Claudy's hand. "Oh, can't we? Look here, now. I've gotten a little of my own back. I've slapped you and made you crawl before your Earthie pals. I've made you sit here while I told you to your face what a low worm you are. And now I would love an excuse to blast your arm off in exchange for what you did to mine. Now make another move."

Arvardan froze.

Lieutenant Claudy laughed and put his blaster away. "It's too bad I have to save you for the colonel. He's to see you at five-fifteen."

"You knew that--you knew that all the time." Frustration tore his throat into hoarse sandpaper.

"Certainly."

"If the time we have lost, Lieutenant Claudy, means that the issue is lost, then neither of us will have much time to live." He spoke with an iciness that distorted his voice into something horrible. "But you will die first, because I shall spend my last minutes smashing your face into splintered bone and mashed brain."

"I'll be waiting for you, Earthie-lover. Any time!"

The commanding officer of Fort Dibburn had grown stiff in the service of the Empire. In the profound peace of the last generations there was little in the way of "glory" that any army officer could earn, and the colonel, in common with others, earned none. But in the long, slow rise from military cadet he had seen service in every part of the Galaxy--so that even a garrison on the neurotic world of Earth was to him but an additional chore. He wanted only the peaceful routine of normal occupation. He asked nothing beyond this, and for it was willing to humble himself--even, when it was necessary, to apologize to an Earthgirl.

He seemed tired when Arvardan entered. His shirt collar was open and his tunic, with its blazing yellow "Spaceship and Sun" of Empire, hung loosely over the back of his chair. He cracked the knuckles of his right hand with an abstracted air as he stared solemnly at Arvardan.

"A very confusing story, all this," he said, "very. I recall you well, young man. You are Bel Arvandan of Baronn, and the principal of a previous moment of considerable embarrassment. Can't you keep out of trouble?"

"It is not only myself that is in trouble, Colonel, but all the rest of the Galaxy as well."

"Yes, I know," somewhat impatiently. "Or at least I know that that is what you claim. I am told that you no longer have papers of identification."

"They were taken from me, but I am known at Everest. The Procurator himself can identify me, and will, I hope, before evening falls."

"We'll see about that." The colonel crossed his arms and teetered backward on his chair. "Suppose you give me your side of the story."

"I have been made aware of a dangerous conspiracy on the part of a small group of Earthmen to overthrow the Imperial Government by force, which, if not made known at once to the proper authorities, may well succeed in destroying both the Government and much of the Empire itself."

"You go too far, young man, in this very rash and farfetched statement. That the men of Earth could stage annoying riots, lay siege to this fort, do considerable damage, I am quite prepared to admit--but I do not for a moment conceive them capable of as much as driving the Imperial forces from this planet, let alone destroying the Imperial Government. Yet I will listen to the details of this--uh--plot."

"Unfortunately, the seriousness of the matter is such that I feel it vital that the details be told to the Procurator himself in person. I request, therefore, to be put into communication with him now, if you don't mind."

"Umm. . . .Let us not act too hurriedly. Are you aware that the man you have brought in is Secretary to the High Minister of Earth, one of their Ancients and a very important man to them?"

"Perfectly!"

"And yet you say that he is a prime mover in this conspiracy you mention."

"He is."

"Your evidence?"

"You will understand me, I am sure, when I say that I cannot discuss that with anyone but the Procurator."

The colonel frowned and regarded his fingernails. "Do you doubt my competency in the case?"

"Not at all, sir. It is simply that only the Procurator has the authority to take the decisive action required in this case."

"What decisive action do you refer to?"

"A certain building on Earth must be bombed and totally destroyed within thirty hours, or the lives of most, or all, of the inhabitants of the Empire will be lost."

"What building?" asked the colonel wearily. Arvandan snapped back. "May I be connected with the Procurator, please?"

There was a pause of deadlock. The colonel said stiffly, "You realize that in forcibly kidnaping an Earthman you have rendered yourself liable to trial and punishment by the Terrestrial authorities? Ordinarily the government will protect its citizens as a matter of principle and insist upon a Galactic trial. However, affairs on Earth are delicate and I have strict instructions to risk no avoidable clash. Therefore, unless you answer my questions fully, I will be forced to turn you and your companions over to the local police."

"But that would be a death sentence. For yourself too. . . Colonel, I am a citizen of the Empire, and I demand an audience with the Pro--"

A buzzer on the colonel's desk interrupted him. The colonel turned to it, closing a contact. "Yes?"

"Sir," came the clear voice, "a body of natives have encircled the fort. It is believed they are armed."

"Has there been any violence?"

"No, sir."

There was no sign of emotion on the colonel's face. This, at least, was what he was trained for. "Artillery and aircraft are to be made ready--all men to battle stations. Withhold all fire except in self-defense. Understood?"

"Yes, sir. An Earthman under flag of truce wishes audience."

"Send him in. Also send the High Minister's Secretary here again."

And now the colonel glared coldly at the archaeologist. "I trust you are aware of the appalling nature of what you have caused."

"I demand to be present at the interview," cried Arvardan, nearly incoherent with fury, "and I further demand the reason for your allowing me to rot under guard here for hours while you closet yourself with a native traitor. I tell you that I am not ignorant that you interviewed him before speaking with me."

"Are you making any accusations, sir?" demanded the colonel, his own voice ascending the scale. "If so, make them plainly."

"I make no accusations. But I will remind you that you will be accountable for your actions hereafter, and that you may well be known in the future, if you have a future, as the destroyer, by your stubbornness, of your people."

"Silence! I am not accountable to you, at any rate. We will conduct affairs, henceforward, as I choose. Do you understand?"

20. THE DEADLINE THAT WAS REACHED

The Secretary passed through the door held open by a soldier. On his purpling, swollen lips there was a brief, cold smile. He bowed to the colonel and remained completely unaware, to all appearances, of the presence of Arvardan.

"Sir," said the colonel to the Earthman, "I have communicated to the High Minister the details of your presence here and the manner in which it came about. Your detention here is, of course, entirely--uh--unorthodox, and it is my purpose to set you free as soon as I can. However, I have here a gentleman who, as you probably know, has lodged against you a very serious accusation; one which, under the circumstances, we must investigate--"

"I understand, Colonel," said the Secretary calmly. "However, as I have already explained to you, this man has been on Earth, I believe, only a matter of two months or so, so that his knowledge of our internal politics is nonexistent. This is a flimsy basis, indeed, for any accusation."

Arvardan retorted in anger, "I am an archaeologist by profession, and one who has specialized of late on Earth and its customs. My knowledge of its politics is far from nonexistent. And in any case, I am not the only one who makes the accusation."

The Secretary did not look at the archaeologist either now or later. He spoke exclusively to the colonel. He said, "One of our local scientists is involved in this; one who, approaching the end of his normal sixty years, is suffering from delusions of persecution. Then, in addition, there is another man, one of unknown antecedents and a history of idiocy. All three could not raise a respectable accusation among them."

Arvardan jumped to his feet. "I demand to be heard--"

"Sit down," said the colonel coldly and unsympathetically. "You have refused to discuss the matter with me. Let the refusal stand. Bring in the man with the flag of truce."

It was another member of the Society of Ancients. Scarcely a flicker of the eyelid betrayed any emotion on his part at the sight of the Secretary. The colonel rose from his chair and said, "Do you speak for the men outside?"

"I do, sir."

"I assume, then, that this riotous and illegal assembly is based upon a demand for the return of your fellow countryman here?"

"Yes, sir. He must be immediately freed."

"Indeed! Nevertheless, the interest of law and order and the respect due His Imperial Majesty's representatives on this world require that the matter cannot possibly be discussed while men are gathered in armed rebellion against us. You must have your men disperse."

The Secretary spoke up pleasantly. "The colonel is perfectly correct, Brother Cori. Please calm the situation. I am perfectly safe here, and there is no danger--for anybody. Do you understand? For anybody. It is my word as an Ancient."

"Very well, Brother. I am thankful you are safe."

He was ushered out.

The colonel said curtly, "We will see that you leave here safely as soon as matters in the city have returned to normal. Thank you for your co-operation in this matter just concluded."

Arvardan was again on his feet. "I forbid it. You will let loose this would-be murderer of the human race while forbidding me an interview with the Procurator when that would be simply in accord with my rights as a Galactic citizen." Then, in a paroxysm of frustration, "Will you show more consideration to an Barthman dog than you will to me?"

The Secretary's voice sounded over that last near-incoherent rage. "Colonel, I will gladly remain until such time as my case is heard by the Procurator, if that is what this man wants. An accusation of treason is serious, and the suspicion of it--however farfetched--may be sufficient to ruin my usefulness to my people. I would really appreciate the opportunity to prove to the Procurator that none is more loyal to the Empire than myself."

The colonel said stiffly, "I admire your feelings, sir, and freely admit that were I in your place my attitude would be quite different. You are a credit to your race, sir. I will attempt contact with the Procurator."

Arvardan said nothing more until led back to his cell.

He avoided the glance of the others. For a long time he sat motionless, with a knuckle pinched between gnawing teeth.

Until Shekt said, "Well?"

Arvardan shook his head. "I just about ruined everything."

"What did you do?"

"Lost my temper; offended the colonel; got nowhere--I'm no diplomat, Shekt."

He felt riven with the sudden urge for self-defense. "What could I do?" he cried. "Balkis had already been to the colonel, so that I couldn't trust him. What if he'd been offered his life? What if he's been in on the plot all along? I know it's a wild thought, but I couldn't take the chance. It was too suspicious. I wanted to see Ennius himself."

The physicist was on his feet, withered hands clasped behind his back. "Well, then--is Ennius coming?"

"I suppose so. But it is only at Balkis's own request, and that I don't understand."

"Balkis's own request? Then Schwartz must be right."

"Yes? What has Schwartz been saying?"

The plump Earthman was sitting on his cot. He shrugged his shoulders when the eyes turned to him and spread out his hands in a helpless gesture. "I caught the Secretary's Mind Touch when they took him past our room just now. He's definitely had a long talk with this officer you talked to."

"I know."

"But there's no treason in that officer's mind."

"Well," miserably, "then I guessed wrong. I'll eat worms when Ennius comes. What about Balkis?"

"There's no worry or fear in his mind; only hate. And now it's mostly hate for us, for capturing him, for dragging him here. We've wounded his vanity horribly, and he intends to square it with us. I saw little daydream pictures in his mind. Of himself, singlehanded, preventing the entire Galaxy from doing anything to stop him even while we, with our knowledge, work against him. He's giving us the odds, the trumps, and then he'll smash us anyway and triumph over us."

"You mean that he will risk his plans, his dreams of Empire, just to vent a little spite at us? That's mad."

"I know," said Schwartz with finality. "He is mad."

"And he thinks he'll succeed?"

"That's right."

"Then we must have you, Schwartz. We'll need your mind. Listen to me--"

But Shekt was shaking his head. "No, Arvardan, we couldn't work that. I woke Schwartz when you left and we discussed the matter. His mental powers, which he can describe only dimly, are obviously not under perfect control. He can stun a man, or paralyze him, or even kill him. Better than that, he can control the larger voluntary muscles even against the subject's will, but no more than that. In the case of the Secretary, he couldn't make the man talk. The small muscles about the vocal cords being beyond him. He couldn't coordinate motion well enough to have the Secretary drive a car; he even balanced him while walking only with difficulty. Obviously, then, we couldn't control Ennius, for instance, to the point of having him issue an order, or write one. I've thought of that, you see. . . ." Shekt shook his head as his voice trailed away.

Arvardan felt the desolation of futility descend upon him. Then, with a sudden pang of anxiety, "Where's Pola?"

"She's sleeping in the alcove."

He would have longed to wake her--longed--Oh, longed a lot of things.

Arvardan looked at his watch. It was almost midnight, and there were only thirty hours left.

He slept for a while after that, then woke for a while, as it grew light again. No one approached, and a man's very soul grew haggard and pale.

Arvardan looked at his watch. It was almost midnight, and there were only six hours left.

He looked about him now in a dazed and hopeless way. They were all here now--even the Procurator, at last. Pola was next to him, her warm little fingers on his wrist and that look of fear and exhaustion on her face that more than anything else infuriated him against all the Galaxy.

Maybe they all deserved to die, the stupid, stupid--stupid--

He scarcely saw Shekt and Schwartz. They sat on his left. And there was Balkis, the damnable Balkis, with his lips still swollen, one cheek green, so that it must hurt like the

devil to talk--and Arvardan's own lips stretched into a furious, aching smile at the thought and his fists clenched and writhed. His own bandaged cheek ached less at the thought.

Facing all of them was Ennius, frowning, uncertain, almost ridiculous, dressed as he was in those heavy, shapeless, leadimpregnated clothes.

And he was stupid, too. Arvardan felt a thrill of hatred shoot through him at the thought of these Galactic trimmers who wanted only peace and ease. Where were the conquerors of three centuries back? Where? . . .

Six hours left--

Ennius had received the call from the Chica garrison some eighteen hours before and he had streaked half around the planet at the summons. The motives that led him to that were obscure but nonetheless forceful. Essentially, he told himself, there was nothing to the matter but a regrettable kidnaping of one of those green-robed curiosities of superstitious, hagridden Earth. That, and these wild and undocumented accusations. Nothing, certainly, that the colonel on the spot could not have handled.

And yet there was Shekt--Sekt was in this--And not as the accused, but as an accuser. It was confusing.

He sat now facing them, thinking, quite conscious that his decision in this case might hasten a rebellion, perhaps weaken his own position at court, ruin his chances at advancement--As for Arvardan's long speech just now about virus strains and unbridled epidemics, how seriously could he take it? After all, if he took action on the basis of it, how credible would the matter sound to his superiors?

And yet Arvardan was an archaeologist of note.

So he postponed the matter in his mind by saying to the Secretary, "Surely you have something to say in this matter?"

"Surprisingly little," said the Secretary with easy confidence. "I would like to ask what evidence exists for supporting the accusation?"

"Your Excellency," said Arvardan with snapping patience, "I have already told you that the man admitted it in every detail at the time of our imprisonment day before yesterday."

"Perhaps," said the Secretary, "you choose to credit that, Your Excellency, but it is simply an additional unsupported statement. Actually the only facts to which outsiders can bear witness to are that I was the one violently taken prisoner, not they; that it was my life that was in peril, not theirs. Now I would like my accuser to explain how he could find all this out in the nine weeks that he has been on the planet, when you, the Procurator, in years of service here, have found nothing to my disadvantage?"

"There is reason in what the Brother says," admitted Ennius heavily. "How do you know?"

Arvardan replied stiffly, "Prior to the accused's confession I was informed of the conspiracy by Dr. Shekt."

"Is that so, Dr. Shekt?" The Procurator's glance shifted to the physicist.

"That is so, Your Excellency."

"And how did you find out?"

Shekt said, "Dr. Arvardan was admirably thorough and accurate in his description of the use to which the Synapsifier was put and in his remarks concerning the dying statements of the bacteriologist, F. Smitko. This Smitko was a member of the conspiracy. His remarks were recorded and the recording is available."

"But, Dr. Shekt, the dying statements of a man known to be in delirium--if what Dr. Arvardan said is true--cannot be of very great weight. You have nothing else?"

Arvardan interrupted by striking his fist on the arm of his chair and roaring, "Is this a law court? Has someone been guilty of violating a traffic ordinance? We have no time to weigh evidence on an analytical balance or measure it with micrometers. I tell you we have till six in the morning, five and a half hours, in other words, to wipe out this enormous threat. . . . You knew Dr. Shekt previous to this time, Your Excellency. Have you known him to be a liar?"

The Secretary interposed instantly, "No one accused Dr. Shekt of deliberately lying, Your Excellency. It is only that the good doctor is aging and has, of late, been greatly concerned over his approaching sixtieth birthday. I am afraid that a combination of age and fear have induced slight paranoiac tendencies, common enough here on Earth. . . . Look at him! Does he seem to you quite normal?"

He did not, of course. He was drawn and tense, shattered by what had passed and what was to come.

Yet Shekt forced his voice into normal tones, even into calmness. He said, "I might say that for the last two months I have been under the continual watch of the Ancients; that my letters have been opened and my answers censored. But it is obvious that all such complaints would be attributed to the paranoia spoken of. However, I have here Joseph Schwartz, the man who volunteered as a subject for the Synapsifier one day when you were visiting me at the Institute."

"I remember." There was a feeble gratitude in Ennius's mind that the subject had, for the moment, veered. "Is that the man?"

"Yes."

"He looks none the worse for the experience."

"He is far the better. The exposure to the Synapsifier was uncommonly successful, since he had a photographic memory to begin with, a fact I did not know at the time. At any rate, he now has a mind which is sensitive to the thoughts of others."

Ennius leaned far forward in his chair and cried in a shocked amazement, "What? Are you telling me he reads minds?"

"That can be demonstrated, Your Excellency. But I think the Brother will confirm the statement."

The Secretary darted a quick look of hatred at Schwartz, boiling in its intensity and lightninglike in its passage across his face. He said, with but the most imperceptible quiver in his voice, "It is quite true, Your Excellency. This man they have here has certain hypnotic faculties, though whether that is due to the Synapsifier or not I don't know. I might add that this man's subjection to the Synapsifier was not recorded, a matter which you'll agree is highly suspicious."

"It was not recorded," said Shekt quietly, "in accordance with my standing orders from the High Minister." But the Secretary merely shrugged his shoulders at that.

Ennius said peremptorily, "Let us get on with the matter and avoid this petty bickering. . . .What about this Schwartz? What have his mind-reading powers, or hypnotic talents, or whatever they are, to do with the case?"

"Shekt intends to say," put in the Secretary, "that Schwartz can read my mind."

"Is that it? Well, and what is he thinking?" asked the Procurator, speaking to Schwartz for the first time.

"He's thinking," said Schwartz, "that we have no way of convincing you of the truth of our side of what you call the case."

"Quite true," scoffed the Secretary, "though that deduction scarcely calls for much mental power."

"And also," Schwartz went on, "that you are a poor fool, afraid to act, desiring only peace, hoping by your justice and impartiality to win over the men of Earth, and all the more a fool for so hoping."

The Secretary reddened. "I deny all that. It is an obvious attempt to prejudice you, Your Excellency."

But Ennius said, "I am not so easily prejudiced." And then, to Schwartz, "And what am I thinking?"

Schwartz replied, "That even if I could see clearly within a man's skull, I need not necessarily tell the truth about what I see."

The Procurator's eyebrows lifted in surprise. "You are correct, quite correct. Do you maintain the truth of the claims put forward by Drs. Arvardan and Shekt?"

"Every word of it?"

"So! Yet unless a second such as you can be found, one who is not involved in the matter, your evidence would not be valid in law even if we could obtain general belief in you as a telepath."

"But it is not a question of the law," cried Arvardan, "but of the safety of the Galaxy."

"Your Excellency"--the Secretary rose in his seat--"I have a request to make. I would like to have this Joseph Schwartz removed from the room."

"Why so?"

"This man, in addition to reading minds, has certain powers of mental force. I was captured by means of a paralysis induced by this Schwartz. It is my fear that he may attempt something of the sort now against me, or even against you, Your Excellency, that forces me to the request."

Arvardan rose to his feet, but the Secretary overshouted him to say, "No hearing can be fair if a man is present who might subtly influence the mind of the judge by means of admitted mental gifts."

Ennius made his decision quickly. An orderly entered, and Joseph Schwartz, offering no resistance, nor showing the slightest sign of perturbation on his moonlike face, was led away.

To Arvardan it was the final blow.

As for the Secretary, he rose now and for the moment stood there--a squat, grim figure in green; strong in his self-confidence.

He began, in serious, formal style, "Your Excellency, all of Dr. Arvardan's beliefs and statements rest upon the testimony of Dr. Shekt. In turn, Dr. Shekt's beliefs rest upon the dying delirium of one man. And all this, Your Excellency, all this, somehow never reached the surface until after Joseph Schwartz was submitted to the Synapsifier.

"Who, then, is Joseph Schwartz? Until Joseph Schwartz appeared on the scene, Dr. Shekt was a normal, untroubled man. You yourself, Your Excellency, spent an afternoon with him the day Schwartz was brought in for treatment. Was he abnormal then? Did he inform you of treason against the Empire? Of certain babblings on the part of a dying biochemist? Did he seem even troubled? Or suspicious? He says now that he was instructed by the High Minister to falsify the results of the Synapsifier tests, not to record the names of those treated. Did he tell you that then? Or only now, after that day on which Schwartz appeared?

"Again, who is Joseph Schwartz? He spoke no known language at the time he was brought in. So much we found out for ourselves later, when we first began to suspect the stability of Dr. Shekt's reason. He was brought in by a farmer who knew nothing of his identity, or, indeed, any facts about him at all. Nor have any since been discovered.

"Yet this man has strange mental powers. He can stun at a hundred yards by thought alone--kill at closer range. I myself have been paralyzed by him; my arms and legs were manipulated by him; my mind might have been manipulated by him if he had wished.

"I believe, certainly, that Schwartz did manipulate the minds of these others. They say I captured them, that I threatened them with death, that I confessed to treason and to aspiring to Empire--Yet ask of them one question, Your Excellency. Have they not been thoroughly exposed to the influence of Schwartz, that is, of a man capable of controlling their minds?

"Is not perhaps Schwartz a traitor? If not, who is Schwartz?"

The Secretary seated himself, calm, almost genial.

Arvardan felt as though his brain had mounted a cyclotron and was spinning outward now in faster and faster revolutions.

What answer could one make? That Schwartz was from the past? What evidence was there for that? That the man spoke a genuinely primitive speech? But only he himself--Arvardan--could testify to that. And he, Arvardan, might well have a manipulated mind. After all, how could he tell his mind had not been manipulated? Who was Schwartz? What had so convinced him of this great plan of Galactic conquest?

He thought again. From where came his conviction of the truth of the conspiracy? He was an archaeologist, given to doubting, but now--Had it been one man's word? One girl's kiss? Or Joseph Schwartz?

He couldn't think! He couldn't think!

"Well?" Ennius sounded impatient. "Have you anything to say, Dr. Shekt? Or you, Dr. Arvardan?"

But Pola's voice suddenly pierced the silence. "Why do you ask them? Can't you see that it's all a lie? Don't you see that he's tying us all up with his false tongue? Oh, we're all going to die, and I don't care any more--but we could stop it, we could stop it-- And instead we just sit here and--and--talk--" She burst into wild sobs.

The Secretary said, "So we are reduced to the screams of a hysterical girl. . . .Your Excellency, I have this proposition. My accusers say that all this, the alleged virus and whatever else they have in mind, is scheduled for a definite time--six in the morning, I believe. I offer to remain in your custody for a week. If what they say is true, word of an epidemic in the Galaxy ought to reach Earth within a few days. If such occurs, Imperial forces will still control Earth--"

"Earth is a fine exchange, indeed, for a Galaxy of humans," mumbled the white-faced Shekt.

"I value my own life, and that of my people. We are hostages for our innocence, and I am prepared at this instant to inform the Society of Ancients that I will remain here for a week of my own free will and prevent any disturbances that might otherwise occur."

He folded his arms.

Ennius looked up, his face troubled. "I find no fault in this man--"

Arvardan could stand it no more. With a quiet and deadly ferocity, he arose and strode quickly toward the Procurator. What he meditated was never known. Afterward he himself could not remember. At any rate, it made no difference. Ennius had a neuronic whip and used it.

For the third time since landing on Earth everything about Arvardan flamed up into pain, spun about, and vanished.

In the hours during which Arvardan was unconscious the six o'clock deadline was reached—

21. THE DEADLINE THAT PASSED

And passed!

Light--

Blurring light and misty shadows--melting and twisting, and then coming into focus.

A face--Eyes upon his--

"Pola!" Things were sharp and clear to Arvardan in a single, leaping bound. "What time is it?"

His fingers were hard upon her wrist, so that she winced involuntarily.

"It's past seven," she whispered. "Past the deadline."

He looked about wildly, starting from the cot on which he lay, disregarding the burning in his joints. Shekt, his lean figure huddled in a chair, raised his head to nod in brief mournfulness.

"It's all over, Arvardan."

"Then Ennius--"

"Ennius," said Shekt, "would not take the chance. Isn't that strange?" He laughed a queer, cracked, rasping laugh. "The three of us singlehandedly discover a vast plot against humanity, singlehandedly we capture the ringleader and bring him to justice. It's like a visicast, isn't it, with the great all-conquering heroes zooming to victory in the nick of time? That's where they usually end it. Only in our case the visicast went on and we found that nobody believed us. That doesn't happen in visicasts, does it? Things end happily there, don't they? It's funny--" The words turned into rough, dry sobs.

Arvardan looked away, sick. Pola's eyes were dark universes, moist and tear-filled. Somehow, for an instant, he was lost in them--they were universes, star-filled. And toward those stars little gleaming metallic cases were streaking, devouring the light-years as they penetrated hyperspace in calculated, deadly paths. Soon--perhaps already--they would approach, pierce atmospheres, fall apart into unseen deadly rains of virus--

Well, it was over. It could no longer be stopped. "Where is Schwartz?" he asked weakly. But Pola only shook her head. "They never brought him back."

The door opened, and Arvardan was not so far gone in the acceptance of death as to fail to look up with a momentary wash of hope upon his face.

But it was Ennius, and Arvardan's face hardened and turned away.

Ennius approached and looked momentarily at the father and daughter. But even now Shekt and Pola were primarily Earth creatures and could say nothing to the Procurator, even though they knew that short and violent as their future lives were to be, that of the Procurator would be even shorter and more violent.

Ennius tapped Arvardan on the shoulder. "Dr. Arvardan?"

"Your Excellency?" said Arvardan in a raw and bitter imitation of the other's intonation.

"It is after six o'clock." Ennius had not slept that night. With his official absolution of Balkis had come no absolute assurance that the accusers were completely mad--or under mental control. He had watched the soulless chronometer tick away the life of the Galaxy.

"Yes," said Arvardan. "It is after six and the stars still shine."

"But you still think you were right?"

"Your Excellency," said Arvardan, "in a matter of hours the first victims will die. They won't be noticed. Human beings die every day. In a week hundreds of thousands will have died. The percentage of recovery will be close to zero. No known remedies will be available. Several planets will send out emergency calls for epidemic relief. In two weeks scores of planets will have joined the call and States of Emergency will be declared in the nearer sectors. In a month the Galaxy will be a writhing mass of disease. In two months not twenty planets will remain untouched. In six months the Galaxy will be dead. . . And what will you do when those first reports come in?"

"Let me predict that as well. You will send out reports that the epidemics may have started on Earth. This will save no lives. You will declare war on the Ancients of Earth. This will save no lives. You will wipe the Earthman from the face of his planet. This will save no lives. . . Or else you will act as go-between for your friend Balkis and the Galactic Council, or the survivors thereof. You may then have the honor of handing the wretched remnants of the crumbs of the Empire to Balkis in return for antitoxin, which mayor may not reach sufficient worlds in sufficient quantities in sufficient time to save a single human being."

Ennius smiled without conviction. "Don't you think you're being ridiculously overdramatic?"

"Oh yes. I'm a dead man and you're a corpse. But let's be devilishly cool and Imperial about it, don't y'know?"

"If you resent the use of the neuronc whip--"

"Not at all," ironically. "I'm used to it. I hardly feel it any more."

"Then I am putting it to you as logically as I can. This has been a nasty mess. It would be difficult to report sensibly, yet as difficult to suppress without reason. Now the other accusers involved are Earthmen; your voice is the only one which would carry weight. Suppose you sign a statement to the effect that the accusation was made at a time when you were not in your--Well, we'll think of some phrase that will cover it without bringing in the notion of mental control."

"That would be simple. Say I was crazy, drunk, hypnotized, or drugged. Anything goes."

"Will you be reasonable? Now look, I tell you that you have been tampered with." He was whispering tensely. "You're a man of Sirius. Why have you fallen in love with an Earthgirl?"

"What?"

"Don't shout. I say--in your normal state, could you ever have gone native? Could you have considered that sort of thing?" He nodded his head just perceptibly in the direction of Pola.

For an instant Arvardan stared at him in surprise. Then, quickly, his hand shot out and seized the highest Imperial authority on Earth by the throat. Ennius's hands wrenched wildly and futilely at the other's grip.

Arvardan said, "That sort of thing, eh? Do you mean Miss Shekt? If you do, I want to hear the proper respect, eh? Ah, go away. You're dead anyway."

Ennius said gaspingly, "Dr. Arvardan, you will consider yourself under ar--"

The door opened again, and the colonel was upon them.

"Your Excellency, the Earth rabble has returned."

"What? Hasn't this Balkis spoken to his officials? He was going to arrange for a week's stay."

"He has spoken and he's still here. But so is the mob. We are ready to fire upon them, and it is my advice as military commander that we proceed to do that. Have you any suggestions, Your Excellency?"

"Hold your fire until I see Balkis. Have him sent in here." He turned. "Dr. Arvardan, I will deal with you later."

Balkis was brought in, smiling. He bowed formally to Ennius, who yielded him the barest nod in return.

"See here," said the Procurator brusquely, "I am informed your men are packing the approaches to Fort Dibburn. This was not part of our agreement. . . .Now, we do not wish to cause bloodshed, but our patience is not inexhaustible. Can you disperse them peaceably?"

"If I choose, Your Excellency."

"If you choose? You had better choose. And at once."

"Not at all, Your Excellency!" And now the Secretary smiled and flung out an arm. His voice was a wild taunt, too long withheld, now gladly released. "Fool! You waited too long and can die for that! Or live a slave, if you prefer--but remember that it will not be an easy life."

The wildness and fervor of the statement produced no shattering effect upon Ennius. Even here, at what was undoubtedly the profoundest blow of Ennius's career, the stolidity of the Imperial career diplomat did not desert him. It was only that the grayness and deep-eyed weariness about him deepened.

"Then I lost so much in my caution? The story of the virus--was true?" There was almost an abstract, indifferent wonder in his voice. "But Earth, yourself--you are all my hostages."

"Not at all," came the instant, victorious cry. "It is you and yours that are my hostages. The virus that now is spreading through the Universe has not left Earth immune. Enough already saturates the atmosphere of every garrison on the planet, including Everest itself. We of Earth are immune, but how do you feel. Procurator? Weak? Is your

throat dry? Your head feverish? It will not be long, you know. And it is only from us that you can obtain the antidote."

For a long moment Ennius said nothing, his face thin and suddenly incredibly haughty.

Then he turned to Arvandan and in cool, cultured tones said, "Dr. Arvandan, I find I must beg your pardon for having doubted your word. Dr. Shekt, Miss Shekt--my apologies."

Arvandan bared his teeth. "Thank you for your apologies. They will be of great help to everybody."

"Your sarcasm is deserved," said the Procurator. "If you will excuse me, I will return to Everest to die with my family. Any question of compromise with this--man is, of course, out of the question. My soldiers of the Imperial Procuracy of Earth will, I am sure, acquit themselves properly before their death, and not a few Earthmen will undoubtedly have time to light the way for us through the passages of death. . . .Good-by."

"Hold on. Hold on. Don't go." Slowly, slowly, Ennius looked up to the new voice.

Slowly, slowly, Joseph Schwartz, frowning a bit, swaying a bit with weariness, stepped across the threshold.

The Secretary tensed and sprang backward. With a sudden, wary suspicion, he faced the man from the past.

"No," he gritted, "you can't get the secret of the antidote out of me. Only certain men have it, and only certain others are trained to use it properly. All these are safely out of your reach for the time it takes the toxin to do its work."

"They are out of reach now," admitted Schwartz, "but not for the time it would take the toxin to do its work. You see, there is no toxin, and no virus to stamp out."

The statement did not quite penetrate. Arvandan felt a sudden choking thought enter his mind. Had he been tampered with? Had all this been a gigantic hoax, one that had taken in the Secretary as well as himself? If so, why?

But Ennius spoke. "Quickly, man. Your meaning."

"It's not complicated," said Schwartz. "When we were here last night I knew I could do nothing by simply sitting and listening. So I worked carefully on the Secretary's mind for a long time. . . .I dared not be detected. And then, finally, he asked that I be ordered out of the room. This was what I wanted, of course, and the rest was easy."

"I stunned my guard and left for the airstrip. The fort was on a twenty-four-hour alert. The aircraft were fueled, armed, and ready for flight. The pilots were waiting. I picked one out--and we flew to Senloo."

The Secretary might have wished to say something. His jaws writhed soundlessly.

It was Shekt who spoke. "But you could force no one to fly a plane, Schwartz. It was all you could do to make a man walk."

"Yes, when it's against his will. But from Dr. Arvandan's mind I knew how Sirians hated Earthmen--so I looked for a pilot who was born in the Sirius Sector and found Lieutenant Claudy."

"Lieutenant Claudy?" cried Arvandan.

"Yes--Oh, you know him. Yes, I see. It's quite clear in your mind."

"I'll bet. . . .Go ahead, Schwartz."

"This officer hated Earthmen with a hate that's difficult to understand, even for me, and I was inside his mind. He wanted to bomb them. He wanted to destroy them. It was only discipline that tied him fast and kept him from taking out his plane then and there.

"That kind of a mind is different. Just a little suggestion, a little push, and discipline was not enough to hold him. I don't even think he realized that I climbed into the plane with him."

"How did you find Senloo?" whispered Shekt.

"In my time," said Schwartz, "there was a city called St. Louis. It was at the junction of two great rivers. . . .We found Senloo. It was night, but there was a dark patch in a sea of radioactivity--and Dr. Shekt had said the Temple was an isolated oasis of normal soil. We dropped a flare--at least it was my mental suggestion--and there was a five-pointed building below us. It jibed with the picture I had received in the Secretary's mind. . . .Now there's only a hole, a hundred feet deep, where that building was. That happened at three in the morning. No virus was sent out and the universe is free."

It was an animal--like howl that emerged from the Secretary's lips--the unearthly screech of a demon. He seemed to gather for a leap, and then--collapsed.

A thin froth of saliva trickled slowly down his lower lip.

"I never touched him," said Schwartz softly. Then, staring thoughtfully at the fallen figure, "I was back before six, but I knew I would have to wait for the deadline to pass. Balkis would have to crow. I knew that from his mind, and it was from his own mouth, only, that I could convict him. . . .Now there he lies."

22. THE BEST IS YET TO BE

Thirty days had passed since Joseph Schwartz had lifted off an airport runway on a night dedicated to Galactic destruction. with alarm bells shrilling madly behind him and orders to re. turn burning the ether toward him.

He had not returned; not, at least, until he had destroyed the Temple of Senloo.

The heroism was finally made official now. In his pocket he had the ribbon of the Order of the Spaceship and Sun, First Class. Only two others in all the Galaxy had ever gotten it nonposthumously.

That was something for a retired tailor.

No one, of course, outside the most official of officialdom, knew exactly what he had done, but that didn't matter. Some. day, in the history books, it would all become part of a bright and indelible record.

He was walking through the quiet night now toward Dr. Shekt's house. The city was peaceful, as peaceful as the starry glitter above. In isolated places on Earth bands of Zealots still made trouble, but their leaders were dead or captive and the moderate Earthmen, themselves, could take care of the rest.

The first huge convoys of normal soil were already on their way. Ennius had again made his original proposal that Earth's population be moved to another planet, but that was out. Charity was not wanted. Let Earthmen have a chance to remake their own planet. Let them build once again the home of their fathers, the native world of man. Let them labor with their hands, removing the diseased soil and replacing it with healthy, seeing the green grow where all had been dead and making the desert blossom in beauty once again.

It was an enormous job; it could take a century--but what of that? Let the Galaxy lend machinery; let the Galaxy ship food; let the Galaxy supply soil. Of their incalculable resources, it would be a trifle--and it would be repaid.

And someday, once again, the Earthman would be a people among peoples, inhabiting a planet among planets, looking all humanity in the eye in dignity and equality.

Schwartz's heart pounded at the wonder of it as he walked up the steps to the front door. Next week he left with Arvardan for the great central worlds of the Galaxy. Who else of his generation had ever left Earth?

And momentarily he thought of the old Earth, his Earth. So long dead. So long dead.

And yet but three and a half months had passed. . .

He paused, his hand on the point of signaling at the door, as the words from within sounded in his mind. How clearly he heard thoughts now, like tiny bells.

It was Arvardan, of course, with more in his mind than words alone could ever handle. "Pola, I've waited and thought, and thought and waited. I won't any more. You're coming with me."

And Pola, with a mind as eager as his, yet with words of the purest reluctance, said, "I couldn't, Bel. It's quite impossible. My backwoods manners and bearing. . . I'd feel silly in those big worlds out there. And, besides, I'm only an Ear--"

"Don't say it. You're my wife, that's an. If anyone asks what and who you are, you're a native of Earth and a citizen of the Empire. If they want further details, you're my wife."

"Well, and after you make this address at Trantor to your archaeological society, what next?"

"What next? Well, first we take a year off and see every major world in the Galaxy. We won't skip one, even if we have to get on and off it by mail ship. You'll get yourself an eyeful of the Galaxy and the best honeymoon that government money can buy."

"And then. . . "

"And then it's back to Earth, and we'll volunteer for the labor battalions and spend the next forty years of our lives lugging dirt to replace the radioactive areas."

"Now why are you going to do that?"

"Because"--there was the suspicion of a deep breath at this point in Arvardan's Mind Touch--"I love you and it's what you want, and because I'm a patriotic Earthman and have the honorary naturalization papers to prove it. "

"All right. . . "

And at this point the conversation stopped. But, of course, the Mind Touches did not, and Schwartz, in full satisfaction, and a little embarrassment, backed away.

He could wait. Time enough to disturb them when things had settled down further.

He waited in the street, with the cold stars burning down--a whole Galaxy of them, seen and unseen.

And for himself, and the new Earth, and all those millions of planets far beyond, he repeated softly once more that ancient poem that he alone now, of so many quadrillions, knew:

"Grow old along with me!

The best is yet to be,

The last of life, for which the first was made. . . "

THE STARS, LIKE DUST

1951

ABOUT THE AUTHOR

Isaac Asimov, noted biochemist and professor and the Boston University School of Medicine, is not only recognized as one of the greatest science fiction writers of our time, but also has been praised for the excitement he brings to the writing of scientific fact.

In THE STARS, LIKE DUST, Dr. Asimov's probing imagination has created a fascinating tale set in a terrifying world of tomorrow--an adventure that could change from fiction to fact any day now. . .

1. THE BEDROOM MURMURED

The bedroom murmured to itself gently. It was almost below the limits of hearing--an irregular little sound, yet quite unmistakable, and quite deadly.

But it wasn't that which awakened Biron Farrill and dragged him out of a heavy, unrefreshing slumber. He turned his head restlessly from side to side in a futile struggle against the periodic burr-r-r on the end table.

He put out a clumsy hand without opening his eyes and closed contact.

"Hello," he mumbled.

Sound tumbled instantly out of the receiver. It was harsh and loud, but Biron lacked the ambition to reduce the volume.

It said, "May I speak to Biron Farrill?"

Biron said, fuzzily, "Speaking. What d'you want?"

"May I speak to Biron Farrill?" The voice was urgent.

Biron's eyes opened on the thick darkness. He became conscious of the dry unpleasantness of his tongue and the faint odor that remained in the room.

He said, "Speaking. Who is this?"

It went on, disregarding him, gathering tension, a loud voice in the night. "Is anyone there? I would like to speak to Biron Farrill."

Biron raised himself on one elbow and stared at the place where the visiphone sat. He jabbed at the vision control and the small screen was alive with light.

"Here I am," he said. He recognized the smooth, slightly asymmetric features of Sander Jonti. "Call me in the morning, Jonti."

He started to turn the instrument off once more, when Jonti said, "Hello, Hello. Is anyone there? Is this University Hall, Room 526? Hello."

Biron was suddenly aware that the tiny pilot light which would have indicated a live sending circuit was not on. He swore under his breath and pushed the switch. It stayed off.

Then Jonti gave up, and the screen went blank, and was merely a small square of featureless light.

Biron turned it off. He hunched his shoulder and tried to burrow into the pillow again. He was annoyed. In the first place, no one had the right to yell at him in the middle of the night. He looked quickly at the gently luminous figures just over the headboard.

Three-fifteen. House lights wouldn't go on for nearly four hours.

Besides, he didn't like having to wake to the complete darkness of his room. Four years' custom had not hardened him to the Earthman's habit of building structures of reinforced concrete, squat, thick, and windowless. It was a thousand-year-old tradition dating from the days when the primitive nuclear bomb had not yet been countered by the force-field defense.

But that was past. Atomic warfare had done its worst to Earth. Most of it was hopelessly radioactive and useless. There was nothing left to lose, and yet architecture mirrored the old fears, so that when Biron woke, it was to pure darkness.

Biron rose on his elbow again. That was strange. He waited. It wasn't the fatal murmur of the bedroom he had become aware of. It was something perhaps even less noticeable and certainly infinitely less deadly.

He missed the gentle movement of air that one took so for granted, that trace of continuous renewal. He tried to swallow easily and failed. The atmosphere seemed to become oppressive even as he realized the situation. The ventilating system had stopped working, and now he really had a grievance. He couldn't even use the visiphone to report the matter.

He tried again, to make sure. The milky square of light sprang out and threw a faint, pearly luster on the bed. It was receiving, but it wouldn't send. Well, it didn't matter.

Nothing would be done about it before day, anyway.

He yawned and groped for his slippers, rubbing his eyes with the heels of his palms.

No ventilation, eh? That would account for the queer smell. He frowned and sniffed sharply two or three times. No use. It was familiar, but he couldn't place it.

He made his way to the bathroom, and reached automatically for the light switch, although he didn't really need it to draw himself a glass of water. It closed, but uselessly.

He tried it several times, peevishly. Wasn't anything working? He shrugged, drank in the dark, and felt better. He yawned again on his way back to the bedroom where he tried the main switch. All the lights were out.

Biron sat on the bed, placed his large hands on his hard-muscled thighs and considered. Ordinarily, a thing like this would call for a terrific discussion with the service staff. No one expected hotel service in a college dormitory, but, by Space, there were certain minimum standards of efficiency one could demand. Not that it was of vital importance just now. Graduation was coming and he was through. In three days he'd be saying a last good-by to the room and to the University of Earth; to Earth itself, for that matter.

Still, he might report it anyway, without particular comment. He could go out and use the hall phone. They might bring in a self-powered light or even rig up a fan so he could sleep without psychosomatic choking sensations. If not, to Space with them! Two more nights.

In the light of the useless visiphone, he located a pair of shorts. Over them he slipped a one-piece jumper, and decided that that would be enough for the purpose. He retained his slippers. There was no danger of waking anybody even if he clumped down the corridors in spiked shoes, considering the thick, nearly soundproof partitions of this concrete pile, but he saw no point in changing.

He strode toward the door and pulled at the lever. It descended smoothly and he heard the click that meant the door release had been activated. Except that it wasn't. And although his biceps tightened into lumps, nothing was accomplished.

He stepped away. This was ridiculous. Had there been a general power failure? There couldn't have been. The clock was going. The visiphone was still receiving properly.

Wait! It could have been the boys, bless their erratic souls. It was done sometimes.

Infantile, of course, but he'd taken part in these foolish practical jokes himself. It wouldn't have been difficult, for instance, for one of his buddies to sneak in during the day and arrange matters. But, no, the ventilation and lights were working when he had gone to sleep.

Very well, then, during the night. The hall was an old, outmoded structure. It wouldn't have taken an engineering genius to hocus the lighting and ventilation circuits. Or to jam the door, either. And now they would wait for morning and see what would happen when good old Biron found he couldn't get out. They would probably let him out toward noon and laugh very hard.

"Ha, ha," said Biron grimly, under his breath. All right, if that's the way it was.

But he would have to do something about it; turn the tables some way.

He turned away and his toe kicked something which skidded metallically across the floor. He could barely make out its shadow moving through the dim visiphone light. He reached under the bed, patting the floor in a wide arc. He brought it out and held it close to the light. (They weren't so smart. They should have put the visiphone entirely out of commission, instead of just yanking out the sending circuit.) He found himself holding a small cylinder with a little hole in the blister on top.

He put it close to his nose and sniffed at it. That explained the smell in the room, anyway.

It was Hypnite. Of course, the boys would have had to use it to keep him from waking up while they were busy with the circuits.

Biron could reconstruct the proceedings step by step now. The door was jimmied open, a simple thing to do, and the only dangerous part, since he might have wakened then. The door might have been prepared during the day, for that matter, so that it would seem to close and not actually do so. He hadn't tested it. Anyway, once open, a can of Hypnite would be put just inside and the door would be closed again. The anesthetic would leak out slowly, building up to the one in ten thousand concentration necessary to put him definitely under.

Then they could enter--masked, of course. Space! A wet handkerchief would keep out the Hypnite for fifteen minutes and that would be all the time needed.

It explained the ventilation system situation. That had to be eliminated to keep the Hypnite from dispersing too quickly. That would have gone first, in fact. The visiphone elimination kept him from getting help; the door jamming kept him from getting out; and the absence of lights induced panic. Nice kids!

Biron snorted. It was socially impossible to be thin-skinned about this. A joke was a joke and all that. Right now, he would have liked to break the door down and have done with it. The well-trained muscles of his torso tensed at the thought, but it would be useless. The door had been built with atom blasts in mind. Damn that tradition!

But there had to be some way out. He couldn't let them get away with it. First, he would need a light, a real one, not the immovable and unsatisfactory glow of the visiphone.

That was no problem. He had a self-powered flashlight in the clothes closet.

For a moment, as he fingered the closet-door controls, he wondered if they had jammed that too. But it moved open naturally, and slid smoothly into its wall socket. Biron nodded to himself. It made sense. There was no reason, particularly, to jam the closet, and they didn't have too much time, anyway.

And then, with the flashlight in his hand, as he was turning away, the entire structure of his theory collapsed in a horrible instant. He stiffened, his abdomen ridging with tension, and held his breath, listening.

For the first time since awakening, he heard the murmuring of the bedroom. He heard the quiet, irregular chuckling conversation it was holding with itself, and recognized the nature of the sound at once.

It was impossible not to recognize it. The sound was "Earth's death rattle." It was the sound that had been invented one thousand years before.

To be exact, it was the sound of a radiation counter, ticking off the charged particles and the hard gamma waves that came its way, the soft clicking electronic surges melting into a low murmur. It was the sound of a counter, counting the only thing it could count--death!

Softly, on tiptoe, Biron backed away. From a distance of six feet he threw the white beam into the recesses of the closet. The counter was there, in the far corner, but seeing it told him nothing.

It had been there ever since his freshman days. Most freshmen from the Outer Worlds bought a counter during their first week on Earth. They were very conscious of Earth's radioactivity then, and felt the need of protection. Usually they were sold again to the next class, but Biron had never disposed of his. He was thankful for that now.

He turned to the desk, where he kept his wrist watch while sleeping. It was there. His hand was shaking a little as he held it up to the flashlight's beam. The watch strap was an interwoven flexible plastic of an almost liquidly smooth whiteness. And it was white. He held it away and tried it at different angles. It was white.

That strap had been another freshman purchase. Hard radiation turned it blue, and blue on Earth was the color of death. It was easy to wander into a path of radiating soil during the day if you were lost or careless. The government fenced off as many patches as it could, and of course no one ever approached the huge areas of death that began several miles outside the city. But the strap was insurance.

If it should ever turn a faint blue, you would show up at the hospital for treatment.

There was no argument about it. The compound of which it was made was precisely as sensitive to radiation as you were, and appropriate photoelectric instruments could be used to measure the intensity of the blueness so that the seriousness of the case might be determined quickly.

A bright royal blue was the finish. Just as the color would never change back, neither would you. There was no cure, no chance, no hope. You just waited anywhere from a day to a week, and all the hospital could do was to make final arrangements for cremation.

But at least it was still white, and some of the clamor in Biron's thoughts subsided.

There wasn't much radioactivity then. Could it be just another angle of the joke?

Biron considered and decided that it couldn't. Nobody would do that to anyone else. Not on Earth, anyway, where illegal handling of radioactive material was a capital offense. They took radioactivity seriously here on Earth. They had to. So nobody would do this without overpowering reason.

He stated the thought to himself carefully and explicitly, facing it boldly. The overpowering reason, for instance, of a desire to murder. But why? There could be no motive.

In his twenty-three years of life, he had never made a serious enemy. Not this serious. Not murder serious.

He clutched at his clipped hair. This was a ridiculous line of thought, but there was no escaping it. He stepped cautiously back to the closet. There had to be something there that was sending out radiation; something that had not been there four hours earlier. He saw it almost at once.

It was a little box not more than six inches in any direction. Biron recognized it and his lower lip trembled slightly. He had never seen one before, but he had heard of them. He lifted the counter and took it into the bedroom. The little murmur fell off, almost ceased. It started again when the thin mica partition, through which the radiation entered, pointed toward the box. There was no question in his mind. It was a radiation bomb.

The present radiations were not in themselves deadly; they were only a fuse. Somewhere inside the box a tiny atomic pile was constructed. Short-lived artificial isotopes heated it slowly, permeating it with the appropriate particles. When the threshold of heat and particle density was reached, the pile reacted. Not in an explosion, usually, although the heat of reaction would serve to fuse the box itself into a twist of metal, but in a tremendous burst of deadly radiation that would kill anything living within a radius of six feet to six miles, depending on the bomb's size.

There was no way of telling when the threshold would be reached. Perhaps not for hours, and perhaps the next moment. Biron remained standing helplessly, flashlight held loosely in his damp hands. Half an hour before, the visiphone had awakened him, and he had been at peace then. Now he knew he was going to die.

Biron didn't want to die, but he was penned in hopelessly, and there was no place to hide. He knew the geography of the room. It was at the end of a corridor, so that there was another room only on one side, and, of course, above and below. He could do nothing about the room above. The room on the same floor was on the bathroom side, and it adjoined via its own bathroom. He doubted that he could make himself heard.

That left the room below.

There were a couple of folding chairs in the room, spare seats to accommodate company.

He took one. It made a flat, slapping sound when it hit the floor. He turned it edgewise and the sound became harder and louder.

Between each blow, he waited; wondering if he could rouse the sleeper below and annoy him sufficiently to have him report the disturbance.

Abruptly, he caught a faint noise, and paused, the splintering chair raised above his head. The noise came again, like a faint shout. It was from the direction of the door.

He dropped the chair and yelled in return. He crushed his ear up against the crack where door joined wall, but the fit was good, and the sound even there was dim.

But he could make out his own name being called.

"Farrill! Farrill!" several times over, and something else. Maybe "Are you in there?" or "Are you all right?"

He roared back, "Get the door open." He shouted it three or four times. He was in a feverish sweat of impatience. The bomb might be on the point of letting loose even now.

He thought they heard him. At least, the muffled cry came back, "Watch out. Something, something, blaster." He knew what they meant and backed hurriedly away from the door.

There were a couple of sharp, cracking sounds, and he could actually feel the vibrations set up in the air of the room. Then there followed a splitting noise and the door was flung inward. Light poured in from the corridor.

Biron dashed out, arms flung wide. "Don't come in," he yelled. "For the love of Earth, don't come in. There's a radiation bomb in there."

He was facing two men. One was Jonti. The other was Esbak, the superintendent. He was only partly dressed.

"A radiation bomb?" he stuttered.

But Jonti said, "What size?" Jonti's blaster was still in his hand, and that alone jarred with the dandyish effect of his ensemble, even at this time of night.

Biron could only gesture with his hands.

"All right," said Jonti. He seemed quite cool about it, as he turned to the superintendent. "You'd better evacuate the rooms in this area, and if you have leadsheets anywhere on the university grounds, have them brought out here to line the corridor. And I wouldn't let anyone in there before morning."

He turned to Biron. "It probably has a twelve-to-eighteen-foot radius. How did it get there?"

"I don't know," said Biron. He wiped his forehead with the back of his hand. "If you don't mind, I've got to sit down somewhere." He threw a glance at his wrist, then realized his wrist watch was still in the room. He had a wild impulse to return after it.

There was action now. Students were being hustled out of their rooms.

"Come with me," said Jonti. "I think you had better sit down too. "

Biron said, "What brought you out to my room? Not that I'm not thankful, you understand."

"I called you. There was no answer, and I had to see you."

"To see me?" He spoke carefully, trying to control his irregular breathing. "Why?"

"To warn you that your life was in danger."

Biron laughed raggedly. "I found out."

"That was only the first attempt. They'll try again."

"Who are 'they'?"

"Not here, Farrill," said Jonti. "We need privacy for this. You're a marked man, and I may already have endangered myself as well."

2. THE NET ACROSS SPACE

The student lounge was empty; it was dark as well. At four-thirty in the morning it could scarcely have been otherwise. Yet Jonti hesitated a moment as he held the door open, listening for occupants.

"No," he said softly, "leave the lights out. We won't need them to talk."

"I've had enough of the dark for one night," muttered Biron.

"We'll leave the door ajar."

Biron lacked the will to argue. He dropped into the nearest chair and watched the rectangle of light through the closing door narrow down to a thin line. Now that it was all over, he was getting the shakes.

Jonti steadied the door and rested his little swagger stick upon the crack of light on the floor. "Watch it. It will tell us if anyone passes, or if the door moves."

Biron said, "Please, I'm not in a conspiratorial mood. If you don't mind, I'd appreciate your telling me whatever it is you want to tell me. You've saved my life, I know, and tomorrow I'll be properly thankful. Right now, I could do with a short drink and a long rest."

"I can imagine your feelings," Jonti said, "but the too-long rest you might have had has been avoided, momentarily. I would like to make it more than just momentarily. Do you know that I know your father?"

The question was an abrupt one, and Biron raised his eyebrows, a gesture lost in the dark. He said, "He has never mentioned knowing you."

"I would be surprised if he did. He doesn't know me by the name I use here. Have you heard from your father recently, by the way?"

"Why do you ask?"

"Because he is in great danger."

"What?"

Jonti's hand found the other's arm in the dimness and gripped it firmly. "Please! Keep your voice as it has been." Biron realized, for the first time that they had been whispering.

Jonti resumed, "I'll be more specific. Your father has been taken into custody. You understand the significance?"

"No, I certainly don't understand. Who has taken him into custody, and what are you getting at? Why are you bothering me?" Biron's temples were throbbing. The Hypnite and the near death had made it impossible to fence with the cool dandy sitting so close to him that his whispers were as plain as shouts.

"Surely," came the whisper, "you have some inkling of the work your father is doing?"

"If you know my father, you know he is Rancher of Widemos. That is his work."

Jonti said, "Well, there is no reason you should trust me, other than that I am risking my own life for you. But I already know all that you can tell me. As an example, I know that your father has been conspiring against the Tyranni."

"I deny that," said Biron tensely. "Your service to me this night does not give you the right to make such statements about my father."

"You are foolishly evasive, young man, and you are wasting my time. Don't you see that the situation is beyond verbal fencing? I'll say it outright. Your father is in the custody of the Tyranni. He may be dead by now."

"I don't believe you." Biron half rose.

"I am in a position to know."

"Let's break this off, Jonti. I am in no mood for mystery, and I resent this attempt of yours to--"

"Well, to what?" Jonti's voice lost some of its refined edge. "What do I gain by telling you this? May I remind you that this knowledge of mine, which you will not accept, made it plain to me that an attempt might be made to kill you. Judge by what has happened, Farrill."

Biron said, "Start again and tell it straight. I'll listen."

"Very well. I imagine, Farrill, that you know me to be a fellow countryman from the Nebular Kingdoms, although I've been passing myself off as a Vegan."

"I judged that might be a possibility by your accent. It didn't seem important."

"It's important, my friend. I came here because, like your father, I didn't like the Tyranni. They've been oppressing our people for fifty years. That's a long time."

"I'm not a politician."

Again Jonti's voice had an irritated edge to it. "Oh, I'm not one of their agents trying to get you into trouble. I'm telling you the truth. They caught me a year ago as they have caught your father now. But I managed to get away, and came to Earth where I thought I might be safe until I was ready to return. That's all I need to tell you about myself."

"It is more than I have asked for, sir." Biron could not force the unfriendliness out of his voice. Jonti affected him unfavorably with his too-precise mannerisms.

"I know that. But it is necessary to tell you so much at least, for it was in this manner that I met your father. He worked with me, or, rather, I with him. He knew me but not in his official capacity as the greatest nobleman on the planet of Nephelos. You understand me?"

Biron nodded uselessly in the darkness and said, "Yes."

"It is not necessary to go into that further. My sources of information have been maintained even here, and I know that he has been imprisoned. It is knowledge. If it were merely suspicion, this attempt on your life would have been sufficient proof."

"In what way?"

"If the Tyranni have the father, would they leave the son at large?"

"Are you trying to tell me that the Tyranni set that radiation bomb in my room? That's impossible."

"Why is it impossible? Can't you understand their position? The Tyranni rule fifty worlds; they are outnumbered hundreds to one. In such a position, simple force is insufficient. Devious methods, intrigue, assassination are their specialties. The net they weave across space is a wide one, and close-meshed. I can well believe that it extends across five hundred light-years to Earth."

Biron was still in the grip of his nightmare. In the distance there were the faint sounds of the lead shields being moved into place. In his room the counter must still be murmuring.

He said, "It doesn't make sense. I am going back to Nephelos this week. They would know that. Why should they kill me here? If they'd wait, they'd have me." He was relieved to find the flaw, eager to believe his own logic.

Jonti leaned closer and his spiced breath stirred the hairs on Biron's temple. "Your father is popular. His death--and once imprisoned by the Tyranni, his execution becomes a probability you must face--will be resented even by the cowed slave race the Tyranni are trying to breed. You could rally that resentment as the new Rancher of Widemos, and to execute you as well would double the danger for them. To make martyrs is not their purpose. But if you were to die in a faraway world, by accident, it would be convenient for them."

"I don't believe you," said Biron. It had become his only defense.

Jonti rose, adjusting his thin gloves. He said, "You go too far, Farrill. Your role would be more convincing if you pretended to no such complete ignorance. Your father has been shielding you from reality for your own protection, presumably, yet I doubt that you could remain completely uninfluenced by his beliefs. Your hate for the Tyranni cannot help being a reflection of his own. You cannot help being ready to fight them."

Biron shrugged.

Jonti said, "He may even recognize your new adulthood to the point of putting you to use. You are conveniently here on Earth and it is not unlikely you may be combining your education with a definite assignment. An assignment, perhaps, for the failure of which the Tyranni are ready to kill you."

"That's silly melodrama."

"Is it? Let it be so, then. If the truth will not persuade you now, events will later.

There will be other attempts on your life, and the next one will succeed. From this moment on, Farrill, you are a dead man."

Biron looked up. "Wait! What's your own private interest in the matter?"

"I am a patriot. I would like to see the Kingdoms free again, with governments of their own choosing."

"No. Your private interest. I cannot accept idealism only, because I won't believe it of you. I am sorry if that offends you." Biron's words pounded doggedly.

Jonti seated himself again. He said, "My lands have been confiscated. Before my exile it was not comfortable to be forced to take orders from those dwarfs. And since then it has become more imperative than ever to become once again the man my grandfather

had been before the Tyranni came. Is that enough of a practical reason for wanting a revolution? Your father would have been a leader of that revolution. Failing him, you!"

"I? I am twenty-three and know nothing of all this. You could find better men."

"Undoubtedly I could, but no one else is the son of your father. If your father is killed, you will be Rancher of Widemos, and as such you would be valuable to me if you were only twelve and an idiot besides. I need you for the same reason the Tyranni must be rid of you. And if my necessity is unconvincing to you, surely theirs cannot be. There was a radiation bomb in your room. It could only have been meant to kill you. Who else would want to kill you?"

Jonti waited patiently and picked up the other's whisper.

"No one," said Biron. "No one would want to kill me that I know of. Then it's true about my father!"

"It is true. View it as a casualty of war."

"You think that would make it better? They'll put up a monument to him someday, perhaps? One with a radiating inscription that you can see ten thousand miles out in space?"

His voice was becoming a bit ragged. "Is that supposed to make me happy?"

Jonti waited, but Biron said nothing more. Jonti said, "What do you intend doing?"

"I'm going home."

"You still don't understand your position, then."

"I said, I'm going home. What do you want me to do? If he's alive, I'll get him out of there. And if he's dead, I'll--I'll--"

"Quiet!" The older man's voice was coldly annoyed. "You rave like a child. You can't go to Nephelos. Don't you see that you can't? Am I talking to an infant or to a young man of sense?"

Biron muttered, "What do you suggest?"

"Do you know the Director of Rhodia?"

"The friend of the Tyranni? I know the man. I know who he is. Everyone in the Kingdoms knows who he is. Hinrik V, Director of Rhodia."

"Have you ever met him?"

"No."

"That is what I meant. If you haven't met him, you don't know him. He is an imbecile, Farrill. I mean it literally. But when the Ranchy of Widemos is confiscated by the Tyranni--and it will be, as my lands were--it will be awarded to Hinrik. There the Tyranni will feel them to be safe, and there you must go."

"Why?"

"Because Hinrik, at least, has influence with the Tyranni; as much influence as a lickspittle puppet may have. He may arrange to have you reinstated."

"I don't see why. He's more likely to turn me over to them."

"So he is. But you'll be on your guard against it, and there is a fighting chance you may avoid it. Remember, the title you carry is valuable and important, but it is not all-

sufficient. In this business of conspiracy, one must be practical above all. Men will rally about you out of sentiment and respect for your name, but to hold them, you will need money."

Biron considered. "I need time to decide."

"You have no time. Your time ran out when the radiation bomb was planted in your room.

Let us take action. I can give you a letter of introduction to Hinrik of Rhodia."

"You know him so well, then?"

Your suspicion never sleeps very soundly, does it? I once headed a mission to Hinrik's court on behalf of the Autarch of Lingane. His imbecile's mind will probably not remember me, but he will not dare to show he has forgotten. It will serve as introduction and you can improvise from there. I will have the letter for you in the morning. There is a ship leaving for Rhodia at noon. I have tickets for you. I am leaving myself, but by another route. Don't linger. You're all through here, aren't you?"

"There is the diploma presentation."

A scrap of parchment; Does it matter to you?"

"Not now."

"Do you have money?"

"Enough."

"Very well. Too much would be suspicious." He spoke sharply. "Farrill!"

Biron stirred out of what was nearly a stupor. "What?"

"Get back to the others. Tell no one you are leaving. Let the act speak."

Biron nodded dumbly. Far away in the recesses of his mind there was the thought that his mission remained unaccomplished and that in this way, too, he failed his dying father. He was racked with a futile bitterness. He might have been told more. He might have shared the dangers. He should not have been allowed to act in ignorance.

And now that he knew the truth, or at least more of it, concerning the extent of his father's role in conspiracy, there was an added importance to the document he was to have obtained from Earth's archives. But there was no time any longer. No time to get the document.

No time to wonder about it. No time to save his father. No time, perhaps, to live.

He said, "I'll do as you say, Jonti."

Sander Jonti looked briefly out over the university campus as he paused on the steps of the dormitory. Certainly there was no admiration in his glance.

As he stepped down the bricked walk that wound unsubtly through the pseudo-rustic atmosphere affected by all urban campuses since antiquity, he could see the lights of the city's single important street gleam just ahead. Past it, drowned in daytime, but visible now, was the eternal radioactive blue of the horizon, mute witness of prehistoric wars.

Jonti considered the sky for a moment. Over fifty years had passed since the Tyranni had come and put a sudden end to the separate lives of two dozen sprawling,

brawling political units in the depths beyond the Nebula. Now, suddenly and prematurely, the peace of strangulation lay upon them.

The storm that had caught them in one vast thunderclap had been something from which they had not yet recovered. It had left only a sort of twitching that futilely agitated a world here and there, now and then. To organize those twitchings, to align them into a single well-timed heave would be a difficult task, and a long one. Well, he had been rusticating here on Earth long enough. It was time to go back.

The others, back home, were probably trying to get in touch with him at his rooms right now.

He lengthened his stride a bit.

He caught the beam as he entered his room. It was a personal beam, for whose security there were as yet no fears and in whose privacy there was no chink. No formal receiver was required; no thing of metal and wires to catch the faint, drifting surges of electrons, with their whispered impulses swimming through hyperspace from a world half a thousand light-years away.

Space itself was polarized in his room, and prepared for reception. Its fabric was smoothed out of randomness. There was no way of detecting that polarization, except by receiving. And in that particular volume of space, only his own mind could act as receiver; since only the electrical characteristics of his own particular nerve-cell system could resonate to the vibrations of the carrier beam that bore the message.

The message was as private as the unique characteristics of his own brain waves, and in all the universe, with its quadrillions of human beings, the odds against a duplication sufficiently close to allow one man to pick up another's personal wave was a twenty-figured number to one.

Jonti's brain tickled to the call as it whined through the endless empty incomprehensibility of hyperspace.

". . . calling. . . calling. . . calling. . . "

Sending was not quite so simple a job as receiving. A mechanical contrivance was needed to set up the highly specific carrier wave that would carry back to the contact beyond the Nebula. That was contained in the ornamental button that he carried on his right shoulder.

It was automatically activated when he stepped into his volume of space polarization, and after that he had only to think purposefully and with concentration.

"Here I am!" No need for more specific identification.

The dull repetition of the calling signal halted and became words that took form within his mind. "We greet you, sir. Widemos has been executed. The news is, of course, not yet public."

"It does not surprise me. Was anyone else implicated?"

"No, sir. The Rancher made no statements at any time. A brave and loyal man."

"Yes. But it takes more than simply bravery and loyalty, or he would not have been caught. A little more cowardice might have been useful. No matter! I have spoken to his son, the new Rancher, who has already had his brush with death. He will be put to use."

"May one inquire in what manner, sir?"

"It is better to let events answer your question. Certainly I cannot foretell consequences at this early date. Tomorrow he will set off to see Hinrik of Rhodia. "

"Hinrik! The young man will run a fearful risk. Is he aware that--"

"I have told him as much as I can," responded Jonti sharply. "We cannot trust him too far until he has proved himself. Under the circumstances as they exist, we can only view him as a man to be risked, like any other man. He is expendable, quite expendable. Do not call me here again, as I am leaving Earth."

And, with a gesture of finality, Jonti broke the connection mentally.

Quietly and thoughtfully, he went over the events of the day and the night, weighing each event. Slowly, he smiled. Everything had been arranged perfectly, and the comedy might now play itself out.

Nothing had been left to chance.

3. CHANCE AND THE WRIST WATCH

The first hour of a space-ship's rise from planetary thralldom is the most prosaic. There is the confusion of departure, which is much the same in essence as that which must have accompanied the shoving off of the first hollowed-out tree trunk on some primeval river.

You have your accommodations; your luggage is taken care of; there is the first stiff moment of strangeness and meaningless hustle surrounding you. The shouted last-moment intimacies, the quieting, the muted clang of the air locks, followed by the slow soughing of air as the locks screw inward automatically, like gigantic drills, becoming airtight.

Then the portentous silence and the red signs flicking in every room: "Adjust acceleration suits. . . .Adjust acceleration suits. . . .Adjust acceleration suits."

The stewards scour the corridors, knocking shortly on each door and jerking it open.

"Beg pardon. Suits on."

You battle with the suits, cold, tight, uncomfortable, but cradled in a hydraulic system which absorbs the sickening pressures of the take-off.

There is the faraway rumble of the atom-driven motors, on low power for atmospheric maneuvering, followed instantly by the giving back against the slow-yielding oil of the suit cradle. You recede almost indefinitely back, then very slowly forward again as the acceleration decreases. If you survive nausea during this period, you are probably safe from space sickness for duration.

The view-room was not open to the passengers for the first three hours of the flight, and there was a long line waiting when the atmosphere had been left behind and the double doors were ready to separate. There were present not only the usual hundred-percent turnout of all Planetaries (those, in other words, who had never been in space before), but a fair proportion of the more experienced travelers as well.

The vision of Earth from space, after all, was one of the tourist "musts."

The view-room was a bubble on the ship's "skin," a bubble of curved two-foot-thick, steel-hard transparent plastic. The retractile iridium-steel lid which protected it against the scouring of the atmosphere and its dust particles had been sucked back. The lights were out and the gallery was full. The faces peering over the bars were clear in the Earth-shine.

For Earth was suspended there below, a gigantic and gleaming orange-and-blue-and-white-patched balloon. The hemisphere showing was almost entirely sunlit; the continents between the clouds, a desert orange, with thin, scattered lines of green. The seas were blue, standing out sharply against the black of space where they met the horizon.

And all around in the black, undusted sky were the stars.

They waited patiently, those who watched.

It was not the sunlit hemisphere they wanted. The polar cap, blinding bright, was shifting down into view as the ship maintained the slight, unnoticed sidewise acceleration that was lifting it out of the ecliptic. Slowly the shadow of night encroached upon the globe and the huge World-Island of Eurasia-Africa majestically took the stage, north side "down."

Its diseased, unliving soil hid its horror under a night-induced play of jewels. The radioactivity of the soil was a vast sea of iridescent blue, sparkling in strange festoons that spelled out the manner in which the nuclear bombs had once landed, a full generation before the force-field defense against nuclear explosions had been developed so that no other world could commit suicide in just that fashion again.

The eyes watched until, with the hours, Earth was a bright little half coin in the endless black.

Among the watchers was Biron Farrill. He sat by himself in the front row, arms upon the railing, eyes brooding and thoughtful. This was not the way he had expected to leave Earth. It was the wrong manner, the wrong ship, the wrong destination.

His tanned forearm rubbed against the stubble of his chin and he felt guilty about not having shaved that morning. He'd go back to his room after a while and correct that.

Meanwhile, he hesitated to leave. There were people here. In his room he would be alone.

Or was that just the reason he should leave?

He did not like the new feeling he had, that of being hunted; that of being friendless.

All friendship had dropped from him. It had shriveled from the very moment he had been awakened by the phone call less than twenty-four hours earlier.

Even in the dormitory he had become an embarrassment. Old Esbak had pounced upon him when he had returned after his talk with Jonti in the student lounge. Esbak was in turmoil; his voice overshrill.

"Mr. Farrill, I've been looking for you. It has been a most unfortunate incident. I can't understand it. Do you have any explanation?"

"No," he half shouted, "I don't. When can I get into my room and get my stuff out?"

"In the morning, I am sure. We've just managed to get the equipment up here to test the room. There is no longer any trace of radioactivity above normal background level. It was a very fortunate escape for you. It must have missed you only by minutes."

"Yes, yes, but if you don't mind, I would like to rest."

"Please use my room till morning and then we'll get you relocated for the few days remaining you. Umm, by the way, Mr. Farrill, if you don't mind, there is another matter."

He was being overly polite. Biron could almost hear the egg-shells give slightly beneath his finicky feet.

"What other matter?" asked Biron wearily.

"Do you know of anyone who might have been interested in--er--hazing you?"

"Hazing me like this? Of course not."

"What are your plans, then? The school authorities would, of course, be most unhappy to have publicity arise as a result of this incident."

How he kept referring to it as an "incident"! Biron said dryly, "I understand you. But don't worry. I'm not interested in investigations or in the police. I'm leaving Earth soon, and I'd just as soon not have my own plans disrupted. I'm not bringing any charges. After all, I'm still alive."

Esbak had been almost indecently relieved. It was all they wanted from him. No unpleasantness. It was just an incident to be forgotten.

He got into his old room again at seven in the morning. It was quiet and there was no murmuring in the closet. The bomb was no longer there, nor was the counter. They had probably been taken away by Esbak and thrown into the lake. It came under the head of destroying evidence, but that was the school's worry. He threw his belongings into suitcases and then called the desk for assignment to another room. The lights were working again, he noticed, and so, of course, was the visiphone. The one remnant of last night was the twisted door, its lock melted away.

They gave him another room. That established his intention to stay for anyone that might be listening. Then, using the hall phone, he had called an air cab. He did not think anyone saw him. Let the school puzzle out his disappearance however they pleased.

For a moment he had caught sight of Jonti at the space port. They met in the fashion of a glancing blow. Jonti said nothing; gave no sign of recognition, but after he had passed by, there were in Biron's hand a featureless little black globe that was a personal capsule and a ticket for passage to Rhodia.

He spent a moment upon the personal capsule. It was not sealed. He read the message later in his room. It was a simple introduction with minimum wordage.

Biron's thoughts rested for a while upon Sander Jonti, as he watched Earth shrivel with time there in the view-room. He had known the man very superficially until Jonti had whirled so devastatingly into his life, first to save it and then to set it upon a new and untried course. Biron had known his name; he had nodded when they passed; had exchanged polite formalities occasionally, but that was all. He had not liked the man, had not liked his coldness, his overdressed, overmannered personality. But all that had nothing to do with affairs now.

Biron rubbed his crew cut with a restless hand and sighed. He actually found himself hungering for Jonti's presence. The man was at least master of events. He had known what to do; he had known what Biron was to do; he had made Biron do it. And now Biron was alone and feeling very young, very helpless, very friendless, and almost frightened.

Through it all, he studiously avoided thinking of his father. It would not help.

"Mr. Malaine."

The name was repeated two or three times before Biron started at the respectful touch upon his shoulder and looked up.

The robot messenger said again, "Mr. Malaine," and for five seconds Biron stared blankly, until he remembered that that was his temporary name. It had been penciled lightly upon the ticket which Jonti had given him. A stateroom had been reserved in that name.

"Yes, what is it? I am Malaine." The messenger's voice hissed very faintly as the spool within whirled off its message. "I have been asked to inform you that your stateroom has been changed, and that your baggage has already been shifted. If you will see the purser, you will be given your new key. We trust that this will cause no inconvenience for you."

"What's all this?" Biron whirled in his seat, and several of the thinning group of passengers, still watching, looked up at the explosive sound. "What's the idea?"

Of course, it was no use arguing with a machine that had merely fulfilled its function. The messenger had bowed its metal head respectfully, its gently fixed imitation of a human smile of ingratiation unchanging, and had left.

Biron strode out of the view-room and accosted the ship's officer at the door with somewhat more energy than he had planned.

"Look here. I want to see the captain."

The officer showed no surprise. "Is it important, sir?"

"It sure as Space is. I've just had my stateroom shifted without my permission and I'd like to know the meaning of it."

Even at the time, Biron felt his anger to be out of proportion to the cause, but it represented an accumulation of resentment. He had nearly been killed; he had been forced to leave Earth like a skulking criminal; he was going he knew not where to do he knew not what; and now they were pushing him around aboard ship. It was the end.

Yet, through it all, he had the uncomfortable feeling that Jonti, in his shoes, would have acted differently, perhaps more wisely. Well, he wasn't Jonti.

The officer said, "I will call the purser."

"I want the captain," insisted Biron.

"If you wish, then." And after a short conversation through the small ship's communicator suspended from his lapel, he said urbanely, "You will be called for. Please Wait."

Captain Hirm Gordell was a rather short and thickset man, who rose politely and leaned over his desk to shake hands with Biron when the latter entered.

"Mr. Malaine," he said, "I am sorry we had to trouble you."

He had a rectangular face, iron-gray hair, a short, well-kept mustache of slightly darker hue, and a clipped smile.

"So am I," said Biron. "I had a stateroom reservation to which I was entitled and I feel that not even you, sir, had the right to change it without my permission."

"Granted, Mr. Malaine. But, you understand, it was rather an emergency. A last-minute arrival, an important man, insisted on being moved to a stateroom closer the gravitational center of the ship. He had a heart condition and it was important to keep ship's gravity as low as possible for him. We had no choice."

"All right, but why pick on me as the one to be shifted."

"It had to be someone. You were traveling alone; you are a young man who we felt would have no difficulty in taking a slightly higher gravity." His eyes traveled automatically up and down Biron's six-feet-two of hard musculature. "Besides, you will find your new room rather more elaborate than your old one. You have not lost by the exchange. No indeed."

The captain stepped from behind his desk. "May I show you your new quarters personally?"

Biron found it difficult to maintain his resentment. It seemed reasonable, this whole matter, and then again, not reasonable either.

The captain was saying as they left his quarters, "May I have your company at my table for tomorrow night's dinner? Our first Jump is scheduled for that time."

Biron heard himself saying, "Thank you. I will be honored."

Yet he thought the invitation strange. Granted that the captain was merely trying to soothe him, yet surely the method was stronger than necessary.

The captain's table was a long one, taking up an entire wall of the salon. Biron found himself near the center, taking an unsuitable precedence over others. Yet there was his place card before him. The steward had been quite firm; there was no mistake.

Biron was not particularly overmodest. As son of the Rancher of Widemos, there had never been any necessity for the development of any such characteristic. And yet as Biron Malaine, he was quite an ordinary citizen, and these things ought not to happen to ordinary citizens.

For one thing, the captain had been perfectly correct about his new stateroom. It was more elaborate. His original room had been what his ticket called for, a single, second class, while the replacement was a double room, first. There was a bathroom adjoining, private, of course, equipped with a stall shower and an air dryer.

It was near "officer's country," and the presence of uniforms was almost overpowering.

Lunch had been brought to his room on silver service. A barber made a sudden appearance just before dinner. All this was perhaps to be expected when one traveled on a luxury space liner, first class, but it was too good for Biron Malaine.

It was far too good, for by the time the barber had arrived, Biron had just returned from an afternoon walk that had taken him through the corridors in a purposely devious path.

There had been crewmen in his path wherever he had turned--polite, clinging. He shook them free somehow and reached 140 D, his first room, the one he had never slept in.

He stopped to light a cigarette and, in the interval spent thus, the only passenger in sight turned a corridor. Biron touched the signal light briefly and there was no answer.

Well, the old key had not been taken from him yet. An oversight, no doubt. He placed the thin oblong sliver of metal into its orifice and the unique pattern of leaden

opacity within the aluminum sheath activated the tiny phototube. The door opened and he took one step inside.

It was all he needed. He left and the door closed automatically behind him. He had learned one thing immediately. His old room was not occupied; neither by an important personage with a weak heart nor by anyone else. The bed and furnishings were too neat; no trunks, no toilet articles were in sight; the very air of occupancy was missing.

So the luxury they were surrounding him with served only to prevent his taking further action to get back his original room. They were bribing him to stay quietly out of the old room. Why? Was it the room they were interested in, or was it himself?

And now he sat at the captain's table with the questions unanswered and rose politely with the rest as the captain entered, strode up the steps of the dais on which the long table was set, and took his place.

Why had they moved him?

There was music in the ship, and the walls that separated the salon from the view-room had been retracted. The lights were low and tinged with orange-red. The worst of such space sickness as there might have been after the original acceleration or as the result of first exposure to the minor gravity variations between various parts of the ship had passed by now; the salon was full.

The captain leaned forward slightly and said to Biron, "Good evening, Mr. Malaine. How do you find your new room?"

"Almost too satisfactory, sir. A little rich for my way of life." He said it in a flat monotone, and it seemed to him that a faint dismay passed momentarily over the captain's face.

Over the dessert, the skin of the view-room's glass bubble slid smoothly back into its socket, and the lights dimmed to nearly nothing. Neither sun, earth, nor any planet was in view on that large, dark screen. They were facing the Milky Way, that longwise view of the Galactic Lens, and it made a luminous diagonal track among the hard, bright stars.

Automatically the tide of conversation ebbed. Chairs shifted so that all faced the stars. The dinner guests had become an audience, the music a faint whisper.

The voice over the amplifiers was clear and well balanced in the gathered question.

"Ladies, gentlemen! We are ready for our first Jump. Most of you, I suppose, know, at least theoretically, what a Jump is. Many of you, however--more than half, in point of fact--have never experienced one. It is to those last I would like to speak in particular.

"The Jump is exactly what the name implies. In the fabric of space-time itself, it is impossible to travel faster than the speed of light. That is a natural law, first discovered by one of the ancients, the traditional Einstein, perhaps, except that so many things are credited to him. Even at the speed of light, of course, it would take years, in resting time, to reach the stars.

"Therefore one leaves the space-time fabric to enter the little-known realm of hyperspace, where time and distance have no meaning. It is like traveling across a narrow

isthmus to pass from one ocean to another, rather than remaining at sea and circling a continent to accomplish the same distance.

"Great amounts of energy are required, of course, to enter this 'space within space' as some call it, and a great deal of ingenious calculation must be made to insure re-entry into ordinary space time at the proper point. The result of the expenditure of this energy and intelligence is that immense distances can be traversed in zero time. It is only the Jump which makes interstellar travel possible.

"The Jump we are about to make will take place in about ten minutes. You will be warned. There is never more than some momentary minor discomfort; therefore, I hope all of you will remain calm. Thank you."

The ship lights went out altogether, and there were only the stars left.

It seemed a long while before a crisp announcement filled the air momentarily: "The Jump will take place in exactly one minute." And then the same voice counted the seconds backwards: "Fifty. . . forty. . . thirty. . . twenty. . . ten. . . five. . . three. . . two. . . one. . . "

It was as though there had been a momentary discontinuity in existence, a bump which joggled only the deep inside of a man's bones.

In that immeasurable fraction of a second, one hundred light-years had passed, and the ship, which had been on the outskirts of the solar system, was now in the depths of interstellar space.

Someone near Biron said shakily, "Look at the stars!"

In a moment the whisper had taken life through the large room and hissed itself across the tables: "The stars! See!"

In that same immeasurable fraction of a second the star view had changed radically.

The center of the great Galaxy, which stretched thirty thousand light-years from tip to tip, was closer now, and the stars had thickened in number. They spread across the black velvet vacuum in a fine powder, back-dropping the occasional brightness of the nearby stars.

Biron, against his will, remembered the beginning of a poem he himself had once written at the sentimental age of nineteen, on the occasion of his first space flight; the one that had first taken him to the Earth he was now leaving. His lips moved silently: "The stars, like dust, encircle me In living mists of light; And all of space I seem to see In one vast burst of sight."

The lights went on then, and Biron's thoughts were snapped out of space as suddenly as they had entered it. He was in a space liner's salon again, with a dinner dragging to an end, and the hum of conversation rising to a prosaic level again.

He glanced at his wrist watch, half looked away, then, very slowly, brought the wrist watch into focus again. He stared at it for a long minute. It was the wrist watch he had left in his bedroom that night; it had withstood the killing radiation of the bomb, and he had collected it with the rest of his belongings the next morning. How many times had

he looked at it since then? How many times had he stared at it, taken mental note of the time and no note at all of the other piece of information it shouted at him?

For the plastic wristband was white, not blue. It was white!

Slowly the events of that night, all of them, fell into place. Strange how one fact could shake an the confusion out of them.

He rose abruptly, murmuring, "Pardon me!" under his breath. It was a breach of etiquette to leave before the captain, but that was a matter of small importance to him then.

He hastened to his room, striding up the ramps rapidly, rather than waiting for the non-gravity elevators. He locked the door behind him and looked quickly through the bathroom and the built-in closets. He had no real hope of catching anyone. What they had had to do, they must have done hours ago.

Carefully, he went through his baggage. They had done a thorough job. With scarcely any sign to show that they had come and gone, they had carefully withdrawn his identification papers, a packet of letters from his father, and even his capsular introduction to Hinrik of Rhodia.

That was why they had moved him. It was neither the old room nor the new that they were interested in; merely the process of moving. For nearly an hour they must have legitimately--legitimately, by Space!--concerned themselves with his baggage, and served their own purposes thereby.

Biron sank down upon the double bed and thought furiously, but it didn't help. The trap had been perfect. Everything had been planned. Had it not been for the completely unpredictable chance of his leaving his wrist watch in the bedroom that night, he would not even now have realized how close-meshed the Tyranni's net through space was.

There was a soft burr as his door signal sounded.

"Come in," he said.

It was the steward, who said respectfully, "The captain wishes to know if there is anything he can do for you. You seemed ill as you left the table."

"I'm all right," he said.

How they watched him! And in that moment he knew that there was no escape, and that the ship was carrying him politely, but surely, to his death.

4. FREE?

Sander Jonti met the other's eyes coldly. He said, "Gone, you say?"

Rizzett passed a hand over his ruddy face. "Something is gone. I don't know its identity. It might have been the document we're after, certainly. All we know about it is that it had been dated somewhere in the fifteenth to twenty-first century of Earth's primitive calendar, and that it is dangerous."

"Is there any definite reason to believe that the missing one is the document?"

"Only circumstantial reasoning. It was guarded closely by the Earth government."

"Discount that. An Earthman will treat any document relating to the pre-Galactic past with veneration. It's their ridiculous worship of tradition."

"But this one was stolen and yet they never announced the fact. Why do they guard an empty case?"

"I can imagine their doing that rather than finding themselves forced to admit that a holy relic has been stolen. Yet I cannot believe that young Farrill obtained it after all. I thought you had him under observation."

The other smiled. "He didn't get it."

"How do you know?"

Jonti's agent quickly exploded his land mine. "Because the document has been gone twenty years."

"What?"

"It has not been seen for twenty years."

"Then it can't be the right one. It was less than six months ago that the Rancher learned of its existence."

"Then somebody else beat him to it by nineteen and a half years."

Jonti considered. He said, "It does not matter. It cannot matter."

"Why so?"

"Because I have been here on Earth for months. Before I came, it was easy to believe that there might be information of value on the planet. But consider now. When Earth was the only inhabited planet in the Galaxy, it was a primitive place, militarily speaking. The only weapon they had ever invented worth mentioning was a crude and inefficient nuclear-reaction bomb for which they had not even developed the logical defense." He flung his arm outward in a delicate gesture to where the blue horizon gleamed its sickly radio. activity beyond the thick concrete of the room.

He went on. "All this is placed in sharp focus for me as a temporary resident here. It is ridiculous to assume that it is possible to learn anything from a society at that level of military technology. It is always very fashionable to assume that there are lost arts and lost sciences, and there are always these people who make a cult of primitivism and who make all sorts of ridiculous claims for the prehistoric civilizations on Earth."

Rizzett said, "Yet the Rancher was a wise man. He told us specifically that it was the most dangerous document he knew. You remember what he said. I can quote it. He said, 'The matter is death for the Tyranni, and death for us as well; but it would mean final life for the Galaxy.' "

"The Rancher, like all human beings, can be wrong."

"Consider, sir, that we have no idea as to the nature of the document. It could, for instance, be somebody's laboratory notes which had never been published. It might be something that could relate to a weapon the Earthmen had never recognized as a weapon; something which on the face of it might not be a weapon--"

"Nonsense. You are a military man and should know better. If there is one science into which man has probed continuously and successfully, it is that of military technology. No potential weapon would remain unrealized for ten thousand years. I think, Rizzett, we will return to Lingane."

Rizzett shrugged. He was not convinced.

Nor, a thousandfold, was Jonti. It had been stolen, and that was significant. It had been worth stealing! Anyone in the Galaxy might have it now.

Unwillingly the thought came to him that the Tyranni might have it. The Rancher had been most evasive on the matter. Even Jonti himself had not been trusted sufficiently. The Rancher had said it carried death; it could not be used without having it cut both ways.

Jonti's lips clamped shut. The fool and his idiotic hintings! And now the Tyranni had him.

What if a man like Aratap were now in the possession of such a secret as this might be? Aratap! The one man, now that the Rancher was gone, who remained unpredictable; the most dangerous Tyrannian of them all.

Simok Aratap was a small man; a little bandy-legged, narrow-eyed fellow. He had the stumpy, thick-limbed appearance of the average Tyrannian, yet though he faced an exceptionally large and well-muscled specimen of the subject worlds, he was completely self-possessed. He was the confident heir (in the second generation) of those who had left their windy, infertile worlds and sparked across the emptiness to capture and enchain the rich and populous planets of the Nebular Regions.

His father had headed a squadron of small, flitting ships that had struck and vanished, then struck again, and made scrap of the lumbering titanic ships that had opposed them.

The worlds of the Nebula had fought in the old fashion, but the Tyranni had learned a new one. Where the huge, glittering vessels of the opposed navies attempted single combat, they found themselves flailing at emptiness and wasting their stores of energy. Instead, the Tyranni, abandoning power alone, stressed speed and co-operation, so that the opposed Kingdoms toppled one after the other, singly; each waiting (half joyfully at the discomfiture of its neighbors), fallaciously secure behind its steel-shipped ramparts, until its own turn came.

But those wars were fifty years earlier. Now the Nebular Regions were satrapies that required merely the acts of occupation and taxation. Previously there had been worlds to gain, Aratap thought wearily, and now there was little left to do but to contend with single men.

He looked at the young man who faced him. He was quite a young man. A tall fellow with very good shoulders indeed; an absorbed, intent face with the hair of his head cut ridiculously short in what was undoubtedly a collegiate affectation. In an unofficial sense, Aratap was sorry for him. He was obviously frightened.

Biron did not recognize the feeling inside him as "fright." If he had been asked to put a name to the emotion, he would have described it as "tension." All his life he had known the Tyranni to be the overlords. His father, strong and vital though he was, unquestioned on his own estate, respectfully heard on others, was quiet and almost humble in the presence of the Tyranni.

They came occasionally to Widemos on polite visits, with questions as to the annual tribute they called taxation. The Rancher of Widemos was responsible for the collection and delivery of these funds on behalf of the planet Nephelos and, perfunctorily, the Tyranni would check his books.

The Rancher himself would assist them out of their small vessels. They would sit at the head of the table at mealtimes, and they would be served first. When they spoke, all other conversation stopped instantly.

As a child, he wondered that such small, ugly men should be so carefully handled, but he learned as he grew up that they were to his father what his father was to a cow hand. He even learned to speak softly to them himself, and to address them as "Excellency."

He had learned so well that now that he faced one of the overlords, one of the Tyranni, he could feel himself shiver with tension.

The ship which he had considered his prison became officially one on the day of landing upon Rhodia. They had signaled at his door and two husky crewmen had entered and stood on either side of him. The captain, who followed, had said in a flat voice, "Biron Farrill, I take you into custody by the power vested in me as captain of this vessel, and hold you for questioning by the Commissioner of the Great King."

The Commissioner was this small Tyrannian who sat before him now, seemingly abstracted and uninterested. The "Great King" was the Khan of the Tyranni, who still lived in the legendary stone palace on the Tyrannian's home planet.

Biron looked furtively about him. He was not physically constrained in any way, but four guards in the slate blue of the Tyrannian Outer Police flanked him, two and two. They were armed. A fifth, with a major's insignia, sat beside the Commissioner's desk.

The Commissioner spoke to him for the first time. "As you may know"--his voice was high--pitched, thin--"the old Rancher of Widemos, your father, has been executed for treason."

His faded eyes were fixed on Biron's. There seemed nothing beyond mildness in them.

Biron remained stolid. It bothered him that he could do nothing. It would have been so much more satisfying to howl at them, to flail madly at them, but that would not make his father less dead. He thought he knew the reason for this initial statement. It was intended to break him down, to make him give himself away. Well, it wouldn't.

He said evenly, "I am Biron Malaine of Earth. If you are questioning my identity, I would like to communicate with the Terrestrial Consul."

"Ah yes, but we are at a purely informal stage just now. You are Biron Malaine, you say, of Earth. And yet"--Aratap indicated the papers before him--"there are letters here which were written by Widemos to his son. There is a college registration receipt and tickets to commencement exercises made out to a Biron Farrill. They were found in your baggage."

Biron felt desperate but he did not let it show. "My baggage was searched illegally, so that I deny that those can be admitted as evidence."

"We are not in a court of law, Mr. Farrill or Malaine. How do you explain them?"

"If they were found in my baggage, they were placed there by someone else."

The Commissioner passed it by, and Biron felt amazed. His statements sounded so thin, so patently foolish. Yet the Commissioner did not remark upon them, but only tapped the black capsule with his forefinger. "And this introduction to the Director of Rhodia? Also not yours?"

"No, that is mine." Biron had planned that. The introduction did not mention his name.

He said, "There is a plot to assassinate the Director--"

He stopped, appalled. It sounded so completely unconvincing when he finally put the beginning of his carefully prepared speech into actual sound. Surely the Commissioner was smiling cynically at him?

But Aratap was not. He merely sighed a little and with quick, practiced gestures removed contact lenses from his eyes and placed them carefully in a glass of saline solution that stood on the desk before him. His naked eyeballs were a little watery.

He said, "And you know of it? Even back on Earth, five hundred light-years away? Our own police here on Rhodia have not heard of it."

"The police are here. The plot is being developed on Earth."

"I see. And are you their agent? Or are you going to warn Hinrik against them?"

"The latter, of course."

"Indeed? And why do you intend to warn him?"

"For the substantial reward which I expect to get."

Aratap smiled. "That, at least, rings true and lends a certain truthful gloss to your previous statements. What are the details of the plot you speak of?"

"That is for the Director only."

A momentary hesitation, then a shrug. "Very well. The Tyranni are not interested and do not concern themselves with local politics. We will arrange an interview between yourself and the Director and that will be our contribution to his safety. My men will hold you until your baggage can be collected, and then you will be free to go. Remove him."

The last was to the armed men, who left with Biron. Aratap replaced his contact lenses, an action which removed 'instantly that look of vague incompetence their absence had seemed to induce.

He said to the major, who had remained, "We will keep an eye, I think, on this young Farrill."

The officer nodded shortly. "Good! For a moment I thought you might have been taken in. To me, his story was quite incoherent."

"It was. It's just that which makes him maneuverable for the while. All young fools who get their notions of interstellar intrigue from the video spy thrillers are easily handled. lie is, of course, the son of the ex-Rancher."

And now the major hesitated. "Are you sure? It's a vague and unsatisfactory accusation we have against him."

"You mean that it might be arranged evidence after all? For what purpose?"

"It could mean that he is a decoy, sacrificed to divert our attention from a real Biron Farrill elsewhere."

"No. Improbably theatrical, that. Besides, we have a photocube."

"What? Of the boy?"

"Of the Rancher's son. Would you like to see it?"

"I certainly would."

Aratap lifted the paperweight upon his desk. It was a simple glass cube, three inches on each side, black and opaque. He said, "I meant to confront him with it if it had seemed best. It is a cute process, this one, Major. I don't know if you're acquainted with it. It's been developed recently among the inner worlds. Outwardly, it seems an ordinary photocube, but when it is turned upside down, there's an automatic molecular re-arrangement which renders it totally opaque. It is a pleasant conceit."

He turned the cube right side up. The opacity shimmered for a moment, then cleared slowly like a black fog wisping and feathering before the wind. Aratap watched it calmly, hands folded across his chest.

And then it was water-clear, and a young face smiled brightly out of it, accurate and alive, trapped and solidified in mid-breath forever.

"An item," said Aratap, "in the ex-Rancher's possessions. What do you think?"

"It is the young man, without question."

"Yes." The Tyrannian official regarded the photocube thoughtfully. "You know, using this same process, I don't see why six photographs could not be taken in the same cube. It has six faces, and by resting the cube on each of them in turn, a series of new molecular orientations might be induced. Six connected photographs, flowing one into another as you turned, a static phenomenon turned dynamic and taking on new breadth and vision. Major, it would be a new art form." A mounting enthusiasm had crept into his voice.

But the silent major looked faintly scornful, and Aratap left his artistic reflections to say, abruptly, "Then you will watch Farrill?"

"Certainly."

"Watch Hinrik as well."

"Hinrik?"

"Of course. It is the whole purpose of freeing the boy. I want some questions answered. Why is Farrill seeing Hinrik? What is the connection between them? The dead Rancher did not play a lone hand, There was--there must have been--a well-organized conspiracy behind them. And we have not yet located the workings of that conspiracy."

"But surely Hinrik could" not be involved. He lacks the intelligence, even if he had the courage."

"Granted. But it is just because he is half an idiot that he may serve them as a tool.

If so, he represents a weakness in our scheme of things. We obviously cannot afford to neglect the possibility."

He gestured absently; the major saluted, turned on his heel, and left.

Aratap sighed, thoughtfully turned the photocube in his hand, and watched the blackness wash back like a tide of ink.

Life was simpler in his father's time. To smash a planet had a cruel grandeur about it; while this careful maneuvering of an ignorant young man was simply cruel.

And yet necessary.

5. UNEASY LIES THE HEAD

The directorship of Rhodia is not ancient, when compared with Earth, as a habitat for Homo sapiens. It is not ancient even when compared with the Centaurian or Sirian worlds. The planets of Arcturus, for instance, had been settled for two hundred years when the first space ships circled the Horsehead Nebula to find the nest of hundreds of oxygen-water planets behind. They clustered thickly and it was a real find, for although planets infest space, few can satisfy the chemical necessities of the human organism.

There are between one and two hundred billion radiant stars in the Galaxy. Among them are some five hundred billion planets. Of these, some have gravities more than 120 per cent that of Earth, or less than 60 per cent, and are therefore unbearable in the long run. Some are too hot, some too cold. Some have poisonous atmospheres. Planetary atmospheres consisting largely or entirely of neon, methane, ammonia, chlorine--even silicon tetrafluoride--have been recorded. Some planets lack water, one with oceans of almost pure sulphur dioxide having been described. Others lack carbon.

Any one of these failings is sufficient, so that not one world in a hundred thousand can be lived on. Yet this still leaves an estimated four million habitable worlds.

The exact number of these which are actually occupied is disputable. According to the Galactic Almanac, admittedly dependent on imperfect records, Rhodia was the 1098th world settled by man.

Ironically enough, Tyrann, eventually Rhodia's conqueror, was the 1099th.

The pattern of history in the Trans-Nebular Region was distressingly similar to that elsewhere during the period of development and expansion. Planet republics were set up in rapid succession, each government confined to its own world. With expanding economy, neighboring planets were colonized and integrated with the home society. Small "empires" were established and these inevitably clashed.

Hegemony over sizable regions was established by first one, then another of these governments, depending upon the fluctuations of the fortunes of war and of leadership.

Only Rhodia maintained a lengthy stability, under the able dynasty of the Hinriads. It was perhaps well on the road to establishing finally a universal Trans-Nebular Empire in a stolid century or two, when the Tyranni came and did the job in ten years.

Ironical that it should be the men of Tyrann. Until then, during the seven hundred years of its existence, Tyrann had done little better than maintain a precarious autonomy, thanks largely to the undesirability of its barren landscape, which, because of a planetary water dearth, was largely desert.

But even after the Tyranni came, the Directorship of Rhodia continued. It had even grown. The Hinriads were popular with the people, so their existence served as a means of easy control. The Tyranni did not care who got the cheers as long as they themselves received the taxes.

To be sure, the Directors were no longer the Hinriads of old. The Directorship had always been elective within the family so that the ablest might be chosen. Adoptions into the family had been encouraged for the same purpose.

But now the Tyranni could influence the elections for other reasons, and twenty years earlier, for instance, Hinrik (fifth of that name) had been chosen Director. To the Tyranni, it had seemed a useful choice.

Hinrik had been a handsome man at the time of his election, and he still made an impressive appearance when he addressed the Rhodian Council. His hair had grayed smoothly, and his thick mustache remained, startlingly enough, as black as his daughter's eyes.

At the moment he faced his daughter, and she was furious. She lacked only two inches of his height, and the Director lacked less than an inch of six feet. She was a smoldering girl, dark of hair and of eyes, and, at the moment, loweringly dark of complexion.

She said again, "I can't do it! I won't do it!"

Hinrik said, "But, Arta, Arta, this is unreasonable. What am I to do? What can I do? In my position, what choice have I?"

"If Mother were alive, she would find a way out." And she stamped her foot. Her full name was Artemisia, a royal name that had been borne by at least one female of the Hinriads in every generation.

"Yes, yes, no doubt. Bless my soul! What a way your mother had with her! There are times when you seem all of her and none of me. But surely, Arta, you haven't given him a chance. Have you observed his--ah--better points?"

"Which are those?"

"The ones which. . . " He gestured vaguely, thought a while and gave it up. He approached her and would have put a consoling hand upon her shoulder, but she squirmed away from him, her scarlet gown shimmering in the air.

"I have spent an evening with him," she said bitterly, "and he tried to kiss me. It was disgusting!"

"But everyone kisses, dear. It's not as though this were your grandmother's time--of respected memory. Kisses are nothing--less than nothing. Young blood, Arta, young blood!"

"Young blood, my foot. The only time that horrible little man has had young blood in him these fifteen years has been immediately after a transfusion. He's four inches shorter than I am, Father. How can I be seen in public with a pygmy?"

"He's an important man. Very important!"

"That doesn't add a single inch to his height. He is bowlegged, as they all are, and his breath smells."

"His breath smells?" Artemisia wrinkled her nose at her father. "That's right; it smells. It has an unpleasant odor. I didn't like it and I let him know it."

Hinrik dropped his jaw wordlessly for a moment, then said in a hoarse half whisper, "You let him know it? You implied that a high official of the Royal Court of Tyrann could have an unpleasant personal characteristic?"

"He did! I have a nose, you know! So when he got too close, I just held it and pushed.

A figure of man to admire, that one is. He went flat on his back, with his legs sticking up."

She gestured with her fingers in illustration, but it was lost on Hinrik, who, with a moan, hunched his shoulders and put his hands over his face.

He peered miserably from between two fingers. "What will happen now? How can you act so?"

"It didn't do me any good. Do you know what he said? Do you know what he said? It was the last straw. It was absolutely the limit. I made up my mind then that I couldn't stand that man if he were ten feet tall."

"But--but--what did he say?"

"He said--straight out of a video, Father--he said, 'Ha! A spirited wench! I like her all the better for that!' and two servants helped him stagger to his feet. But he didn't try to breathe in my face again."

Hinrik doubled into a chair, leaned forward and regarded Artemisia earnestly. "You could go through the motions of marrying him, couldn't you? You needn't be in earnest. Why not merely, for the sake of political expediency--"

"How do you mean, not in earnest, Father? Shall I cross the fingers of my left hand while signing the contract with my right?"

Hinrik looked confused. "No, of course not. What good would that do? How would crossing fingers alter the validity of the contract? Really, Arta, I'm surprised at your stupidity."

Artemisia sighed. "What do you mean, then?"

"Mean by what? You see, you've disrupted things. I can't keep my mind on matters properly when you argue with me. What was I saying?"

"I was merely to pretend I was getting married, or something. Remember?"

"Oh yes. I mean, you needn't take it too seriously, you see."

"I can have lovers, I suppose."

Hinrik stiffened and frowned. "Arta! I brought you up to be a modest, self-respecting girl. So did your mother. How can you say such things? It's shameful."

"But isn't that what you mean? "

"I can say it. I am a man, a mature man. A girl like you ought not to repeat it."

"Well, I have repeated it and it's out in the open. I don't mind lovers. I'll probably have to have them if I'm forced to marry for reasons of state, but there are limits." She placed her hands upon her hips, and the cape-like sleeves of her gown slithered away from her tanned and dimpled shoulders. "What will I do between lovers? He'll still be my husband and I just can't bear that particular thought."

"But he's an old man, my dear. Life with him would be short."

"Not short enough, thank you. Five minutes ago he had young blood. Remember?"

Hinrik spread his hands wide and let them drop. "Arta, the man is a Tyrannian, and a powerful one. He is in good odor at the Khan's court."

"The Khan might think it's a good odor. He probably would. He probably stinks himself."

Hinrik's mouth was an O of horror. Automatically, he looked over his shoulder. Then he said hoarsely, "Don't ever say anything like that again."

"I will if I feel like it. Besides, the man has had three wives already." She forestalled him. "Not the Khan, the man you want me to marry."

"But they're dead," Hinrik explained earnestly. "Arta, they're not alive. Don't think that. How can you imagine I would let my daughter marry a bigamist? We'll have him produce documents. He married them consecutively, not simultaneously, and they're dead now, entirely dead, all of them."

"It's no wonder."

"Oh, bless my soul, what shall I do?" He made a last effort at dignity. "Arta, it is the price of being a Hinriad and a Director's daughter."

"I didn't ask to be a Hinriad and a Director's daughter."

"That has nothing to do with it. It is just that the history of all the Galaxy, Arta, shows that there are occasions when reasons of state, the safety of planets, the best interests of peoples require that, uh--"

"That some poor girl prostitute herself."

"Oh, this vulgarity! Someday, you'll see--someday you'll say something of the sort in public."

"Well, that's what it is, and I won't do it. I'd rather die. I'd rather do anything. And I will."

The Director got to his feet and held out his arms to her. His lips trembled and he said nothing. She ran to him in a sudden agony of tears and clung desperately to him. "I can't, Daddy. I can't. Don't make me."

He patted her awkwardly. "But if you don't, what will happen? If the Tyranni are displeased, they will remove me, imprison me, maybe even exec--" He gagged on the word. "These are very unhappy times, Arta--very unhappy. The Rancher of Widemos was condemned last week and I believe he has been executed. You remember him, Arta? He was at court half a year ago. A big man, with a round head and deep-set eyes. You were frightened of him at first. "

"I remember."

"Well, he is probably dead. And who knows? Myself next, perhaps. Your poor, harmless old father next. It is a bad time. He was at our court and that's very suspicious."

She suddenly held herself out at arm's length. "Why should it be suspicious? You weren't involved with him, were you?"

"I? Indeed not. But if we openly insult the Khan of Tyrann by refusing an alliance with one of his favorites, they may choose to think even that."

Hinrik's hand wringing was interrupted by the muted buzz of the extension. He started uneasily.

"I'll take it in my own room. You just rest. You'll feel better after a nap. You'll see, you'll see. It's just that you're a little on edge now."

Artemisia looked after him and frowned. Her face was intensely thoughtful, and for minutes only the gentle tide of her breasts betrayed life.

There was the sound of stumbling feet at the door, and she turned.

"What is it?" The tone was sharper than she had intended.

It was Hinrik, his face sallow with fear. "Major Andros was calling."

"Of the Outer Police?" Hinrik could only nod.

Artemisia cried, "Surely, he's not--" She paused reluctantly at the threshold of putting the horrible thought into words, but waited in vain for enlightenment.

"There is a young man who wants an audience. I don't know him. Why should he come here? He's from Earth." He was gasping for breath and staggered as he spoke, as though his mind were on a turntable and he had to follow it in its gyrations.

The girl ran to him and seized his elbow. She said sharply, "Sit down, Father. Tell me what has happened." She took him and some of the panic drained out of his face.

"I don't know exactly," he whispered. "There's a young man coming here with details concerning a plot on my life. On my life. And they tell me I ought to listen to him."

He smiled foolishly. "I'm loved by the people. No one would want to kill me. Would they? Would they?"

He was watching her eagerly, and relaxed when she said, "Of course no one would want to kill you."

Then he was tense again. "Do you think it might be they?"

"Who?"

He leaned over to whisper. "The Tyranni. The Rancher of Widemos was here yesterday, and they killed him." His voice ascended the scale. "And now they're sending someone over to kill me."

Artemisia gripped his shoulder with such force that his mind turned to the present pain.

She said, "Father! Sit quietly! Not a word! Listen to me. No one will kill you. Do you hear me? No one will kill you. It was six months ago that the Rancher was here. Do you remember? Wasn't it six months ago? Think!"

"So long?" whispered the Director. "Yes, yes, it must have been so."

"Now you stay here and rest. You're overwrought. I'll see the young man myself and then I'll bring him to you if it's safe;"

"Will you, Arta? Will you? He won't hurt a woman. Surely he wouldn't hurt a woman."

She bent suddenly and kissed his cheek.

"Be careful," he murmured, and closed his eyes wearily.

6. THAT WEARS A CROWN

Biron Farrill waited uneasily in one of the outer buildings on the Palace Grounds. For the first time in his life he experienced the deflating sensation of being a provincial.

Widemos Hall, where he had grown up, had been beautiful in his eyes, and now his memory endowed it with merely barbaric glitter. Its curved lines, its filigree work, its curiously wrought turrets, its elaborate "false windows"--He winced at the thought of them.

But this--this was different.

The Palace Grounds of Rhodia were no mere lump of ostentation built by the petty lords of a cattle kingdom; nor were they the childlike expression of a fading and dying world.

They were the culmination, in stone, of the Hinriad dynasty.

The buildings were strong and quiet. Their lines were straight and vertical, lengthening toward the center of each structure, yet avoiding anything as effeminate as a spire effect. They held a bluntness about them, yet lifted into a climax that affected the onlooker without revealing their method of doing so at a casual glance. They were reserved, self-contained, proud.

And as each building was, so was the group as a whole, the huge Palace Central becoming a crescendo. One by one, even the few artificialities remaining in the masculine Rhodian style had dropped away. The very "false windows," so valued as decoration and so useless in a building of artificial light and ventilation, were done away with. And that, somehow, without loss.

It was only line and plane, a geometrical abstraction that led the eye upward to the sky.

The Tyrannian major stopped briefly at his side as he left the inner room.

"You will be received now," he said.

Biron nodded, and after a while a larger man in a uniform of scarlet and tan clicked heels before him. It struck Biron with sudden force that those who had the real power did not need the outward show and could be satisfied with slate blue. He recalled the splendid formality of a Rancher's life and bit his lip at the thought of its futility.

"Biron Malaine?" asked the Rhodian guard, and Biron rose to follow.

There was a little gleaming monorail carriage that was suspended delicately by diamagnetic forces upon a single ruddy shaft of metal. Biron had never seen one before. He paused before entering.

The little carriage, big enough for five or six at the most, swayed with the wind, a graceful teardrop returning the gleam of Rhodia's splendid sun. The single rail was slender, scarcely more than a cable, and ran the length of the carriage's underside without touching.

Biron bent and saw blue sky all the length between them. For a moment, as he watched, a lifting gust of wind raised it, so that it hovered a full inch above the rail, as though impatient for flight and tearing at the invisible force field that held it. Then it fluttered back to the rail, closer and still closer, but never touching.

"Get in," said the guard behind him impatiently, and Biron climbed two steps into the carriage.

The steps remained long enough for the guard to follow, then lifted quietly and smoothly into place, forming no break in the carriage's even exterior.

Biron became aware that the outer opacity of the carriage was an illusion. Once within, he found himself sitting in a transparent bubble. At the motion of a small control, the carriage lifted upward. It climbed the heights easily, buffeting the atmosphere which whistled past. For one moment, Biron caught the panorama of the Palace Grounds from the apex of the arc.

The structures became a gorgeous whole (could they --have been originally conceived other than as an air view?), laced by the shining copper threads, along one or two of which the graceful carriage bubbles skimmed.

He felt himself pressed forward, and the carriage came to a dancing halt. The entire run had lasted less than two minutes.

A door stood open before him. He entered and it closed behind him. There was no one in the room, which was small and bare. For the moment, no one was pushing him, but he felt no comfort because of it. He was under no illusions. Ever since that damned night, others had forced his moves.

Jonti had placed him on the ship. The Tyrannian Commissioner had placed him here. And each move had increased the measure of his desperation.

It was obvious to Biron that the Tyrannian had not been fooled. It had been too easy to get away from him. The Commissioner might have called the Terrestrial Consul. He might have hyper-waved Earth, or taken his retinal patterns. These things were routine; they could not have been omitted accidentally.

He remembered Jonti's analysis of affairs. Some of it might still be valid. The Tyranni would not kill him outright to create another martyr. But Hinrik was their puppet, and he was as capable as they of ordering an execution. And then he would have been killed by one of his own, and the Tyranni would merely be disdainful onlookers.

Biron clenched his fists tightly. He was tall and strong, but he was unarmed. The men who would come for him would have blasters and neuronics whips. He found himself backing against the wall.

He whirled quickly at the small sound of the opening door to his left. The man who entered was armed and uniformed but there was a girl with him. He relaxed a bit. It was only a girl with him. At another time he might have observed the girl closely, since she was worth observation and approval, but at the moment she was only a girl.

They approached together, stopping some six feet away. He kept his eye on the guard's blaster.

The girl said to the guard, "I'll speak to him first, Lieutenant."

There was a little vertical line between her eyes as she turned to him. She said, "Are you the man who has this story of an assassination plot against the Director?"

Biron said, "I was told I would see the Director."

"That is impossible. If you have anything to say, say it to me. If your information is truthful and useful, you will be well treated."

"May I ask you who you are? How do I know you are authorized to speak for the Director?"

The girl seemed annoyed. "I am his daughter. Please answer my questions. Are you from outside the System?"

"I am from Earth." Biron paused, then added, "Your Grace."

The addition pleased her. "Where is that?"

"It is a small planet of the Sirian Sector, Your Grace."

"And what is your name?"

"Biron Malaine, Your Grace."

She stared at him thoughtfully. "From Earth? Can you pilot a space ship?"

Biron almost smiled. She was testing him. She knew very well that space navigation was one of the forbidden sciences in the Tyranni-controlled worlds.

He said, "Yes, Your Grace." He could prove that when the performance test came, if they let him live that long. Space navigation was not a forbidden science on Earth, and in four years one could learn much.

She said, "Very well. And your story?"

He made his decision suddenly. To the guard alone, he would not have dared. But this was a girl, and if she were not lying, if she really were the Director's daughter, she might be a persuasive factor on his behalf.

He said, "There is no assassination plot, Your Grace."

The girl was startled. She turned impatiently to her companion. "Would you take over, Lieutenant? Get the truth out of him."

Biron took a step forward and met the cold thrust of the guard's blaster. He said urgently, "Wait, Your Grace. Listen to me! It was the only way to see the Director. Don't you understand?"

He raised his voice and sent it after her retreating form. "Will you tell His Excellency, at least, that I am Biron Farrill and claim my sanctuary right?"

It was a feeble straw at which to clutch. The old feudal customs had been losing their force with the generations even before the Tyranni came. Now they were archaisms. But there was nothing else. Nothing.

She turned, and her eyebrows were arched. "Are you claiming now to be of the aristocratic order? A moment ago your name was Malaine."

A new voice sounded unexpectedly. "So it was, but it is the second name which is correct. You are Biron Farrill indeed, my good sir. Of course you are. The resemblance is unmistakable."

A small, smiling man stood in the doorway. His eyes, widely spaced and brilliant, were taking in all of Biron with an amused sharpness. He cocked his narrow face upward at Biron's height and said to the girl, "Don't you recognize him, too, Artemisia?"

Artemisia hurried to him, her voice troubled. "Uncle Oil, What are you doing here?"

"Taking care of my interests, Artemisia. Remember that if there were an assassination, I would be the closest of the Hinriads to the possible succession." Gillbret oth Hinriad winked elaborately, then added, "Oh, get the lieutenant out of here. There isn't any danger."

She ignored that and said, "Have you been sounding the communicator again?"

"But yes. Would you deprive me of an amusement? It is pleasant to eavesdrop on them."

"Not if they catch you."

"The danger is part of the game, my dear. The amusing part. After all, the Tyranni do not hesitate to sound the .Palace. We can't do much without their knowing. Well, turnabout, you know. Aren't you going to introduce me?"

"No, I'm not," she said shortly. "This is none of your business."

"Then I'll introduce you. When I heard his name, I stopped listening and came in." He moved past Artemisia, stepped up to Biron, inspected him with an impersonal smile, and said, "This, is Biron Farrill."

"I have said so myself," said Biron. More than half his attention was upon the lieutenant, who still held his blaster in firing position.

"But you have not added that you are the son of the Rancher of Widemos."

"I would have but for your interruption. In any case, you've got the story now."

Obviously, I had to get away from the Tyranni, and that without giving them my real name."

Biron waited. This was it, he felt. If the next move was not an immediate arrest, there was still a trifling chance.

Artemisia said, "I see. This is a matter for the Director. You are sure there is no plot of any sort, then."

"None, Your Grace."

"Good. Uncle Gil, will you remain with Mr. Farrill? Lieutenant, will you come with me?"

Biron felt weak. He would have liked to sit down, but no suggestion to that effect was made by Gillbret, who still inspected him with an almost clinical interest.

"The Rancher's son! Amusing!"

Biron brought his attention downward. He was tired of cautious monosyllables and careful phrases. He said abruptly, "Yes, the Rancher's son. It is a congenital situation. Can I help you in any other way?"

Gillbret showed no offense. His thin face merely creased further as his smile widened.

He said, "You might satisfy my curiosity. You really came for Sanctuary? Here?"

"I'd rather discuss that with the Director, sir."

"Oh, get off it, young man. You'll find that very little business can be done with the Director. Why do you suppose you had to deal with his daughter just now? That's an amusing thought, if you'll consider it."

"Do you find everything amusing?"

"Why not? As an attitude toward life, it's an amusing one. It's the only adjective that will fit. Observe the universe, young man. If you can't force amusement out of it, you might as well cut your throat, since there's damned little good in it. I haven't introduced myself, by the way. I'm the Director's cousin."

Biron said coldly, "Congratulations!"

Gillbret shrugged. "You're right. It's not impressive. And I'm likely to remain just that indefinitely since there is no assassination to be expected after all."

"Unless you whip one up for yourself."

"My dear sir, your sense of humor! You'll have to get used to the fact that nobody takes me seriously. My remark was only an expression of cynicism. You don't suppose the Directorship is worth anything these days, do you? Surely you cannot believe that Hinrik was always like this? He was never a great brain, but with every year he becomes more impossible.

I forget! You haven't seen him yet. But you will! I hear him coming. When he speaks to you, remember that he is the ruler of the largest of the Trans-Nebular Kingdoms. It will be an amusing thought."

Hinrik bore his dignity with the ease of experience. He acknowledged Biron's painstakingly ceremonious bow with the proper degree of condescension. He said, with a trace of abruptness, "And your business with us, sir?"

Artemisia was standing at her father's side, and Biron noticed, with some surprise, that she was quite pretty. He said, "Your Excellency, I have come on behalf of my father's good name. You must know his execution was unjust."

Hinrik looked away. "I knew your father slightly. He was in Rhodia once or twice." He paused, and his voice quavered a bit. "You are very like him. Very. But he was tried, you know. At least I imagine he was. And according to law. Really, I don't know the details."

"Exactly, Your Excellency. But I would like to learn those details. I am sure that my father was no traitor."

Hinrik broke in hurriedly. "As his son, of course, it is understandable that you should defend your father, but, really, it is difficult to discuss such matters of state now. Highly irregular, in fact. Why don't you see Aratap?"

"I do not know him, Excellency."

"Aratap! The Commissioner! The Tyrannian Commissioner"

"I have seen him and he sent me here. Surely, you understand that I dare not let the Tyranni--"

But Hinrik had grown stiff. His hand had wandered to his lips, as though to keep them from trembling, and his words were consequently muffled. "Aratap sent you here, you say?"

"I found it necessary to tell him--"

"Don't repeat what you told him. I know," said Hinrik. "I can do nothing for you, Rancher--uh--Mr. Farrill. It is not in my jurisdiction alone. The Executive Council--stop pulling at me, Arta. How can I pay attention to matters when you distract me?--must be consulted. Gillbret! Will you see that Mr. Farrill is taken care of? I will see what can be done. Yes, I will consult the Executive Council. The forms of law, you know. Very important.

Very important."

He turned on his heel, mumbling.

Artemisia lingered for a moment and touched Biron's sleeve. "A moment. Was it true, your statement that you could pilot a spaceship?"

"Quite true," said Biron. He smiled at her, and after a moment's hesitation, she dimpled briefly in return.

"Gillbret," she said, "I want to speak to you later."

She hurried off. Biron looked after her till Gillbret tweaked at his sleeve.

"I presume you are hungry, perhaps thirsty, would like a wash?" asked Gillbret. "The ordinary amenities of life continue, I take it?"

"Thank you, yes," said Biron. The tension had almost entirely washed out of him. For a moment he was relaxed and felt wonderful. She was pretty. Very pretty.

But Hinrik was not relaxed; In his own chambers his thoughts whirled at a feverish pace. Try as he might, he could not wriggle out of the inevitable conclusion. It was a trap!

Aratap had sent him and it was a trap!

He buried his head in his hands to quiet and deaden the pounding, and then he knew what he had to do.

7. MUSICIAN OF THE MIND

Night settles in time on all habitable planets. Not always, perhaps, at respectable intervals, since recorded periods of rotation vary from fifteen to fifty-two hours. That fact requires the most strenuous psychological adjustment from those traveling from planet to planet.

On many planets such adjustments are made, and the waking-sleeping periods are tailored to fit. On many more the almost universal use of conditioned atmospheres and artificial lighting make the day-night question secondary except in so far as it modifies agriculture. On a few planets (those of the extremes) arbitrary divisions are made which ignore the trivial facts of light and dark.

But always, whatever the social conventions, the coming of night has a deep and abiding psychological significance, dating back to man's pre-human arboreal existence. Night will always be a time of fear and insecurity, and the heart will sink with the sun.

Inside Palace Central there was no sensory mechanism by which one could tell the coming of night, yet Biron felt that coming through some indefinite instinct hidden in the unknown corridors of the human brain. He knew that outdoors the night's blackness was scarcely relieved by the futile sparks of the stars. He knew that, if it were the right time of year, the jagged "hole in space" known as the Horsehead Nebula (so familiar to all the Trans-Nebular Kingdoms) inked out half the stars that might otherwise have been visible.

And he was depressed again. He had not seen Artemisia since the little talk with the Director, and he found himself resenting that. He had looked forward to dinner; he might have spoken to her. Instead, he had eaten alone, with two guards lounging discontentedly just outside the door. Even Gillbret had left him, presumably to eat a less lonely meal in the company one would expect in a palace of the Hinriads.

So that when Gillbret returned and said, "Artemisia and I have been discussing you," he obtained a prompt and interested reaction.

It merely amused him and he said so. "First I want to show you my laboratory," he had said then. He gestured and the two guards moved off.

"What kind of a laboratory?" asked Biron with a definite loss of interest.

"I build gadgets," was the vague response.

It was not a laboratory to the eye. It was more nearly a library, with an ornate desk in the corner.

Biron looked it over slowly. "And you build gadgets here? What kind of gadgets?"

"Well, special sounding devices to spy out the Tyrannian spy beams in a brand-new way.

Nothing they can detect. That's how I found out about you, when the first word came through from Aratap. And I have other amusing trinkets. My visisonor, for instance. Do you like music?"

"Some kinds."

"Good. I invented an instrument, only I don't know if you can properly call it music."

A shelf of book films slid out and aside at a touch. "This is not really much of a hiding place, but nobody takes me seriously, so they don't look. Amusing, don't you think? But I forget, you're the unamused one."

It was a clumsy, boxlike affair, with that singular lack of gloss and polish that marks the homemade object. One side of it was studded with little gleaming knobs. He put it down with that side upward.

"It isn't pretty," Gillbret said, "but who in Time cares? Put the lights out. No, no!

No switches or contacts. Just wish the lights were out. Wish hard! Decide you want them out."

And the lights dimmed, with the exception of the faint pearly luster of the ceiling that made them two ghostly faces in the dark. Gillbret laughed lightly at Biron's exclamation.

"Just one of the tricks of my visisonor. It's keyed to the mind like personal capsules are. Do you know what I mean?"

"No, I don't, if you want a plain answer."

"Well," he said, "look at it this way. The electric field of your brain cells sets up an induced one in the instrument. Mathematically, it's fairly simple, but as far as I know, no one has ever jammed all the necessary circuits into a box this size before. Usually, it takes a five-story generating plant to do it. It works the other way too. I can close circuits here and impress them directly upon your brain, so that you'll see and hear without any intervention of eyes and ears. Watch!"

There was nothing to watch, at first. And then something fuzzy scratched faintly at the corner of Biron's eyes. It became a faint blue-violet ball hovering in mid-air. It followed him as he turned away, remained unchanged when he closed his eyes. And a clear, musical tone accompanied it, was part of it, was it.

It was growing and expanding and Biron became disturbingly aware that it existed inside his skull. It wasn't really a color, but rather a colored sound, though without noise.

It was tactile, yet without feeling.

It spun and took on an iridescence while the musical tone rose in pitch till it hovered above him like falling silk. Then it exploded so that gouts of color splattered at him in touches that burned momentarily and left no pain.

Bubbles of rain-drenched green rose again with a quiet, soft moaning. Biron thrust at them in confusion and became aware that he could not see his hands nor feel them move. There was nothing, only the little bubbles filling his mind to the exclusion of all else.

He cried out soundlessly and the fantasy ceased. Gillbret was standing before him once again in a lighted room, laughing. Biron felt an acute dizziness and wiped shakily at a chilled, moist forehead. He sat down abruptly.

"What happened?" he demanded, in as stiff a tone as he could manage.

Gillbret said, "I don't know. I stayed out of it. You don't understand? It was something your brain had lacked previous experience with. Your brain was sensing directly and it had no method of interpretation for such a phenomenon. So as long as you concentrated on the sensation, your brain could only attempt, futilely, to force the effect into the old, familiar pathways. It attempts separately and simultaneously to interpret it as sight and sound and touch. Were you conscious of an odor, by the way? Sometimes it seemed to me that I smelled the stuff. With dogs I imagine the sensation would be forced almost entirely into odor. I'd like to try it on animals someday.

"On the other hand, if you ignore it, make no attack upon it, it fades away. It's what I do, when I want to observe its effects on others, and it isn't difficult."

He placed a little veined hand upon the instrument, fingering the knobs aimlessly.

"Sometimes I think that if one could really study this thing, one could compose symphonies in a new medium; do things one could never do with simple sound or sight. I lack the capacity for it, I'm afraid."

Biron said abruptly, "I'd like to ask you a question."

"By all means."

"Why don't you put your scientific ability to worth-while use instead of--"

"Wasting it on useless toys? I don't know. It may not be entirely useless. This is against the law, you know."

"What is?"

"The visisonor. Also my spy devices. If the Tyranni knew, it could easily mean a death sentence."

"Surely, you're joking."

"Not at all. It is obvious that you were brought up on a cattle ranch. The young people cannot remember what it was like in the old days, I see." Suddenly his head was to one side and his eyes were narrowed to slits. He asked, "Are you opposed to Tyrannian rule? Speak freely. I tell you frankly that I am. I tell you also that your father was."

Biron said calmly, "Yes, I am."

"Why?"

"They are strangers, outlanders. What right have they to rule in Nephelos or in Rhodia?"

"Have you always thought that?" Biron did not answer.

Gillbret sniffed. "In other words, you decided they were strangers and outlanders only after they executed your father, which, after all, was their simple right. Oh, look, don't fire up. Consider it reasonably. Believe me, I'm on your side. But think! Your father was Rancher. What rights did his herdsmen have? If one of them had stolen cattle for his own use or to sell to others, what would have been his punishment? Imprisonment as a thief. If he had plotted the death of your father, for whatever reason, for perhaps a worthy reason in his own eyes, what would have been the result? Execution, undoubtedly. And what right has your father to make laws and visit punishment upon his fellow human beings? He was their Tyranni.

"Your father, in his own eyes and in mine, was a patriot. But what of that? To the Tyranni, he was a traitor, and they removed him. Can you ignore the necessity of self-defense?"

The Hinriads have been a bloody lot in their time. Read your history, young man. All governments kill as part of the nature of things., "So find a better reason to hate the Tyranni. Don't think it is enough to replace one set of rulers by another; that the simple change brings freedom."

Biron pounded a fist into his cupped palm. "All this objective philosophy is fine. It is very soothing to the man who lives apart. But what if it had been your father who was murdered?"

"Well, wasn't it? My father was Director before Hinrik, and he was killed. Oh, not outright, but subtly. They broke his spirit, as they are breaking Hinrik's now. They wouldn't have me as Director when my father died; I was just a little too unpredictable. Hinrik was tall, handsome, and, above all, pliant. Yet not pliant enough, apparently. They hound him continuously, grind him into a pitiful puppet, make sure he cannot even itch without permission. You've seen him. He's deteriorating by the month now. His continual state of fear is pathetically psychopathic. But that--all that--is not why I want to destroy Tyrannian rule."

"No?" said Biron. "You have invented an entirely new reason?"

"An entirely old one, rather. The Tyranni are destroying the right of twenty billion human beings to take part in the development of the race. You've been to school. You've learned the economic cycle. A new planet is settled"--he was ticking the points off on his fingers--"and its first care is to feed itself. It becomes an agricultural world, a herding world. It begins to dig in the ground for crude ore to export, and sends its agricultural surplus abroad to buy luxuries and machinery. That is the second step. Then, as population increases and foreign investments grow, an industrial civilization begins to bud, which is the third step. Eventually, the world becomes mechanized, importing food, exporting machinery, investing in the development of more primitive worlds, and so on. The fourth step.

"Always the mechanized worlds are the most thickly populated, the most powerful, militarily--since war is a function of machines--and they are usually surrounded by a fringe of agricultural, dependent worlds.

"But what has happened to us? We were at the third step, with a growing industry. And now? That growth has been stopped, frozen, forced to recede. It would interfere with Tyrannian control of our industrial necessities. It is a short-term investment on their part, because eventually we'll become unprofitable as we become impoverished. But meanwhile, they skim the cream.

"Besides, if we industrialized ourselves, we might develop weapons of war. So industrialization is stopped; scientific research is forbidden. And eventually the people become so used to that, they lack the realization even that anything is missing. So that you are surprised when I tell you that I could be executed for building a visonor.

"Of course, someday we will beat the Tyranni. It is fairly inevitable. They can't rule forever. No one can. They'll grow soft and lazy. They will intermarry and lose much of their separate traditions. They will become corrupt. But it may take centuries, because history doesn't hurry. And when those centuries have passed, we will still all be agricultural worlds with no industrial or scientific heritage to speak of, while our neighbors on all sides, those not under Tyrannian control, will be strong and urbanized. The Kingdoms will be semicolonial areas forever. They will never catch up, and we will be merely observers in the great drama of human advance."

Biron said, "What you say is not completely unfamiliar."

"Naturally, if you were educated on Earth. Earth occupies a very peculiar position in social development."

"Indeed?"

"Consider! All the Galaxy has been in a continuous state of expansion since the first discovery of interstellar travel. We have always been a growing society, therefore, an immature society. It is obvious that human society reached maturity in only one place and at only one time and that this was on Earth immediately prior to its catastrophe. There we had a society which had temporarily lost all possibility for geographical expansion and was therefore faced with such problems as over-population, depletion of resources, and so on; problems that have never faced any other portion of the Galaxy.

"They were forced to study the social sciences intensively. We have lost much or all of that and it is a pity. Now here's an amusing thing. When Hinrik was a young man, he was a great Primitivist. He had a library on things Earthly that was unparalleled in the Galaxy.

Since he became Director, that's gone by the board along with everything else. But in a way, I've inherited it. Their literature, such scraps as survive, is fascinating. It has a peculiarly introspective flavor to it that we don't have in our extraverted Galactic civilization. It is most amusing."

Biron said, "You relieve me. You have been serious for so long that I began to wonder if you had lost your sense of humor."

Gillbret shrugged. "I am relaxing and it is wonderful. First time in months, I think.

Do you know what it is to play a part? To split your personality deliberately for twenty-four hours a day? Even when with friends? Even when alone, so that you will never forget inadvertently? To be a dilettante? To be eternally amused? To be of no account? To be so effete and faintly ridiculous that you have convinced all who know you of your own worthlessness? And so that your life may be safe even though it means it has become barely worth living. But, even so, once in a while I can fight them."

He looked up, and his voice was earnest, almost pleading. "You can pilot a ship. I cannot. Isn't that strange? You talk about my scientific ability, yet I cannot pilot a simple one-man space gig. But you can, and it follows then that you must leave Rhodia."

There was no mistaking the pleading, but Biron frowned coldly. "Why?"

Gillbret continued, speaking rapidly: "As I said, Artemisia and I have discussed you and arranged this. When you leave here, proceed directly to her room, where she is

waiting for you. I have drawn a diagram for you, so that you won't have to ask your way through the corridors." He was forcing a small sheet of metallene upon Biron. "If anyone does stop you, say that you have been summoned by the Director, and proceed. There will be no trouble if you show no uncertainty--"

"Hold on!" said Biron. He was not going to do it again. Jonti had chevied him to Rhodia and, consequently, succeeded in bringing him before the Tyranni. The Tyrannian Commissioner had then chevied him to Palace Central before he could feel his own secret way there and, consequently, subjected him, nakedly unprepared, to the whims of an unsteady puppet. But that was all! His moves, henceforward, might be severely limited, but, by Space and Time, they would be his own. He felt very stubborn about it.

He said, "I'm here on what is important business to me, sir. I'm not leaving."

"What! Don't be a young idiot." For a moment the old Gillbret was showing through. "Do you think you will accomplish anything here? Do you think you will get out of the Palace alive if you let the morning sun rise? Why, Hinrik will call in the Tyranni and you will be imprisoned within twenty-four hours. He is only waiting this while because it takes him so long to make up his mind to do anything. He is my cousin. I know him, I tell you."

Biron said, "And if so, what is that to you? Why should you be so concerned about me?"

He was not going to be chevied. He would never again be another man's fleeing marionette.

But Gillbret was standing, staring at him. "I want you to take me with you. I'm concerned about myself. I cannot endure life under the Tyranni any longer. It is only that neither Artemisia nor I can handle a ship or we would have left long ago. It's our lives too."

Biron felt a certain weakening of his resolve. "The Director's daughter? What has she to do with this?"

"I believe that she is the most desperate of us. There is a special death for women.

What should be ahead of a Director's daughter who is young, personable, and unmarried, but to become young, personable, and married? And who, in these days, should be the delightful groom?

Why, an old, lecherous Tyrannian court functionary who has buried three wives and wishes to revive the fires of his youth in the arms of a girl."

"Surely the Director would never allow such a thing!"

"The Director will allow anything. Nobody waits upon his permission."

Biron thought of Artemisia as he had last seen her. Her hair had been combed back from her forehead and allowed to fall in simple straightness, with a single inward wave at shoulder level. Clear, fair skin, black eyes, red lips! Tall, young, smiling! Probably the description of a hundred million girls throughout the Galaxy. It would be ridiculous to let that sway him.

Yet he said, "Is there a ship ready?"

Gillbret's face wrinkled under the impact of a sudden smile. But, before he could say a word, there came a pounding at the door. It was no gentle interruption of the photo.. beam, no tender of the weapon of authority.

It was repeated, and Gillbret said, "You'd better open the door."

Biron did so, and two uniforms were in the room. The foremost saluted Gillbret with abrupt efficiency, then turned to Biron. "Biron Farrill, in the name of the Resident Commissioner of Tyrann and of the Director of Rhodia, I place you under arrest."

"On what charge?" demanded Biron.

"On that of high treason."

A look of infinite loss twisted Gillbret's face momentarily. He looked away. "Hinrik was quick this once; quicker than I had ever expected. An amusing thought!"

He was the old Gillbret, smiling and indifferent, eyebrows a little raised, as though inspecting a distasteful fact with a faint tinge of regret.

"Please follow me," said the guard, and Biron was aware of the neuronc whip resting easily in the other's hand.

8. A LADY'S SKIRTS

Biron's throat was growing dry. He could have beaten either of the guards in fair fight. He knew that, and he itched for the chance. He might even have made a satisfactory showing against both together. But they had the whips, and he couldn't have lifted an arm without having them demonstrate the fact. Inside his mind he surrendered. There was no other way.

But Gillbret said, "Let him take his cloak, men."

Biron, startled, looked quickly toward the little man and retracted that same surrender. He knew he had no cloak.

The guard whose weapon was out clicked his heels as a gesture of respect. He motioned his whip at Biron. "You heard milord. Get your cloak and snap it up!"

Biron stepped back as slowly as he dared. He retreated to the bookcase and squatted, groping behind the chair for his nonexistent cloak. And as his fingers clawed at the empty space behind the chair, he waited tensely for Gillbret.

The visisonor was just a queer knobbed object to the guards. It would mean nothing to them that Gillbret fingered and stroked the knobs gently. Biron watched the muzzle of the whip intensely and allowed it to fill his mind. Certainly nothing else he saw or heard (thought he saw or heard) must enter.

But how much longer?

The armed guard said, "Is your cloak behind that chair? Stand up!" He took an impatient step forward, and then stopped. His eyes narrowed in deep amazement and he looked sharply to his left.

That was it! Biron straightened and threw himself forward and down. He clasped the guard's knees and jerked. The guard was down with a jarring thud, and Biron's large fist closed over the other's hand, grasping for the neuronc whip it contained.

The other guard had his weapon out, but for the moment it was useless. With his free hand, he was brushing wildly at the space before his eyes.

Gillbret's high-pitched laugh sounded. "Anything bothering you, Farrill?"

"Don't see a thing," he grunted, and then, "except this whip I've got now."

"All right, then leave. They can't do anything to stop you. Their minds are full of sights and sounds that don't exist." Gillbret skipped out of the way of the writhing tangle of bodies.

Biron wrenched his arms free and heaved upward. He brought his arm down solidly just below the other's ribs. The guard's face twisted in agony and his body doubled convulsively.

Biron rose, whip in hand.

"Careful," cried Gillbret.

But Biron did not turn quickly enough. The second guard was upon him, bearing him down again. It was a blind attack. What it was that the guard thought he was

grasping, it was impossible to tell. That he knew nothing of Biron at the moment was certain. His breath rasped in Biron's ear and there was a continuous incoherent gurgle bubbling in his throat.

Biron twisted in an attempt to bring his captured weapon into play and was frighteningly aware of the blank and empty eyes that must be aware of some horror invisible to anyone else.

Biron braced his legs and shifted weight in an effort to break loose, quite uselessly.

Three times he felt the guard's whip flung hard against his hip, and flinched at the contact.

And then the guard's gurgle dissolved into words. He yelled, "I'll get you all!" and the very pale, almost invisible shimmer of the ionized air in the path of the whip's energy beam made its appearance. It swept wide through the air, and the path of the beam intersected Biron's foot.

It was as though he had stepped into a bath of boiling lead. Or as if a granite block had toppled upon it. Or as if it had been crunched off by a shark. Actually, nothing had happened to it physically. It was only that the nerve endings that governed the sensation of pain had been universally and maximally stimulated, Boiling lead could have done no more.

Biron's yell tore his throat raw, and he collapsed. It did not even occur to him that the fight was over. Nothing mattered but the ballooning pain.

Yet, though Biron did not know it, the guard's grip had relaxed, and minutes later, when the young man could force his eyes open and blink away the tears, he found the guard backed against the wall, pushing feebly at nothing with both hands and giggling to himself.

The first guard was still on his back, arms and legs spread-eagled now. He was conscious, but silent. His eyes were following something in an erratic path, and his body quivered a little.

There was froth on his lips.

Biron forced himself to his feet. He limped badly as he made his way to the wall. He used the butt of the whip and the guard slumped. Then back to the first, who made no defense either, his eyes moving silently to the very moment of unconsciousness.

Biron sat down again, nursing his foot. He stripped shoe and stocking from it, and stared in surprise at the unbroken skin. He chafed it and grunted at the burning sensation. He looked up at Gillbret, who had put down his visisonor and was now rubbing one lean cheek with the back of his hand.

"Thank you," said Biron, "for the help of your instrument."

Gillbret shrugged. He said, "There'll be more here soon. Get to Artemisia's room. Please! Quickly!"

Biron realized the sense of that. His foot had subsided to a quiet quiver of pain, but it felt swollen and puffy. He put on a stocking and tucked the shoe under his elbow. He already had one whip, and he relieved the second guard of the other. He stuffed it precariously within his belt.

He turned at the door and asked, with a sense of crawling revulsion, "What did you make them see, sir?"

"I don't know. I can't control it. I just gave them all the power I could and the rest depended on their own complexes. Please don't stand there talking. Do you have the map to Artemisia's room?"

Biron nodded and set off down the corridor. It was quite empty. He could not walk quickly, since trying to do so made his walk a hobble.

He looked at his watch, then remembered that he had somehow never had the time to adjust it to Rhodian local chronometry. It still ran on Standard Interstellar Time as used aboard ship, where one hundred minutes made an hour and a thousand a day. So the figure 876 which gleamed pinkly on the cool metal face of the watch meant nothing now.

Still, it had to be well into the night, or into the planetary sleeping period, at any rate (supposing that the two did not coincide), as otherwise the halls would not be so empty and the bas-reliefs on the wall would not phosphoresce unwatched. He touched one idly as he passed, a coronation scene, and found it to be two-dimensional. Yet it gave the perfect illusion of standing out from the wall.

It was sufficiently unusual for him to stop momentarily in order to examine the effect. Then he remembered and hurried on.

The emptiness of the corridor struck him as another sign of the decadence of Rhodia.

He had grown very conscious of all these symbols of decline now that he had become a rebel. As the center of an independent power, the Palace would always have had its sentries and its quiet wardens of the night.

He consulted Gillbret's crude map and turned to the right, moving up a wide, curving ramp. There might have been processions here once, but nothing of that would be left now.

He leaned against the proper door and touched the photo-signal. The door moved ajar a bit, then opened wide.

"Come in, young man."

It was Artemisia. Biron slipped inside, and the door closed swiftly and silently. He looked at the girl and said nothing. He was gloomily conscious of the fact that his shirt was torn at the shoulder so that one sleeve flapped loosely, that his clothes were grimy and his face welted. He remembered the shoe he was still carrying, dropped it and wiggled his foot into it.

Then he said, "Mind if. I sit down?"

She followed him to the chair, and stood before him, a little annoyed. "What happened?"

What's wrong with your foot?"

"I hurt it," he said shortly. "Are you ready to leave?"

She brightened. "You'll take us, then?"

But Biron was in no mood to be sweet about it. His foot still twinged and he cradled it. He said, "Look, get me out to a ship. I'm leaving this damn planet. If you want to come along, I'll take you."

She frowned. "You might be more pleasant about it. Were you in a fight?"

"Yes, I was. With your father's guards, who wanted to arrest me for treason. So much for my Sanctuary Right."

"Oh! I'm sorry."

"I'm sorry too. It's no wonder the Tyranni can lord it over fifty worlds with a handful of men. We help them. Men like your father would do anything to keep in power; they would forget the basic duties of a simple gentleman--Oh, never mind!"

"I said I was sorry, Lord Rancher." She used the title with a cold pride. "Please don't set yourself up as judge of my father. You don't know all the facts."

"I'm not interested in discussing it. We'll have to leave in a hurry, before more of your father's precious guards come. Well, I don't mean to hurt your feelings. It's all right."

Biron's surliness canceled out any meaning to his apology, but, damn it, he had never been hit by a neuronc whip before and it wasn't fun. And, by Space, they had owed him Sanctuary. At least that much.

Artemisia felt angry. Not at her father, of course, but at the stupid young man. He was so young. Practically a child, she decided, scarcely older than herself, if that.

The communicator sounded and she said sharply, "Please wait a minute and we'll go."

It was Gillbret's voice, sounding faintly. "Arta? All right at your end?"

"He's here," she whispered back.

"All right. Don't say anything. Just listen. Don't leave your room. Keep him there."

There's going to be a search of the Palace, which there's no way of stopping. I'll try to think of something, but, meanwhile, don't move." He waited for no reply. Contact was broken.

"So that's that," said Biron. He had heard also. "Shall I stay and get you into trouble, or shall I go out and give myself up? There's no reason to expect Sanctuary anywhere On Rhodia, I suppose."

She faced him in a rage, crying in a choked whisper, "Oh, shut up, you big, ugly fool."

They glared at each other. Biron's feelings were hurt. In a way, he was trying to help her too. There was no reason for her to be insulting.

She said, "I'm sorry," and looked away.

"That's all right," he said coldly, without meaning it. "You're entitled to your opinion."

"You don't have to say the things you do about my father. You don't know what being Director is like. He's working for his people, whatever you may think."

"Oh, sure. He has to sell me to the Tyranni for the sake of the people. That makes sense."

"In a way, it does. He has to show them he's loyal. Otherwise, they might depose him and take over the direct rule of Rhodia. Would that be better?"

"If a nobleman can't find Sanctuary--"

"Oh, you think only of yourself. That's what's wrong with you."

"I don't think it's particularly selfish not to want to die. At least for nothing."

"I've got some fighting to do before I go. My father fought them." He knew he was beginning to sound melodramatic, but she affected him that way.

She said, "And what good did it do your father?"

"None, I suppose. He was killed."

Artemisia felt unhappy. "I keep saying I'm sorry, and this time I really mean it. I'm all upset." Then, in defense, "I'm in trouble, too, you know."

Biron remembered. "I know. All right, let's start all over." He tried to smile. His foot was feeling better anyway.

She said, in an attempt at lightness, "You're not really ugly."

Biron felt foolish. "Oh well--"

Then he stopped, and Artemisia's hand flew to her mouth. Abruptly, their heads turned to the door.

There was the sudden, soft sound of many ordered feet on the semi-elastic plastic mosaic that floored the corridor outside. Most passed by, but there was a faint, disciplined heel-clicking just outside the door, and the night signal purred.

Gillbret had to work quickly. First, he had to hide his visisonor. For the first time he wished he had a better hiding place. Damn Hinrik for making up his mind so quickly this once, for not waiting till morning. He had to get away; he might never have another chance.

Then he called the captain of the guard. He couldn't very well neglect a little matter of two unconscious guards and an escaped prisoner.

The captain of the guard was grim about it. He had the two unconscious men cleared out, and then faced Gillbret.

"My lord, I am not quite clear from your message exactly what happened," he said.

"Just what you see," said Gillbret. "They came to make their arrest, and the young man did not submit. He is gone, Space knows where."

"That is of little moment, my lord," said the captain. "The Palace is honored tonight with the presence of a personage, so it is well guarded despite the hour. He cannot get out and we will draw the net through the interior. But how did he escape? My men were armed. He was not."

"He fought like a tiger. From that chair, behind which I hid--"

"I am sorry, my lord, that you did not think to aid my men against an accused traitor."

Gillbret looked scornful. "What an amusing thought, Captain. When your men, with doubled advantage in numbers and weapons, need help from myself, it is time you recruited yourself other men."

"Very well! We will search the Palace, find him, and see if he can repeat the performance."

"I shall accompany you, Captain."

It was the captain's turn to raise his eyebrows. He said, "I would not advise it, my lord. There would be some danger."

It was the kind of remark that one did not make to a Hinriad. Gillbret knew that, but he only smiled and let the wrinkles fill his lean face. "I know that," he said, "but occasionally I find even danger amusing."

It took five minutes for the company of guards to assemble. Gillbret, alone in his room during that time, called Artemisia.

Biron and Artemisia had frozen at the purring of the little signal. It sounded a second time and then there was the cautious rap upon the door, and Gillbret's voice was heard.

"Do let me try, Captain," it said. Then, more loudly, "Artemisia!"

Biron grinned his relief and took a step forward, but the girl put a sudden hand upon his mouth. She called out, "One moment, Uncle Oil," and pointed desperately toward the wall.

Biron could only stare stupidly. The wall was quite blank. Artemisia made a face and stepped quickly past him. Her hand on the wall caused a portion of it to slide noiselessly aside, revealing a dressing room. Her lips motioned a "Get inside!" and her hands were fumbling at the ornamental pin at her right shoulder. The unclasping of that pin broke the tiny force field that held an invisible seam tightly closed down the length of the dress. She stepped out of it.

Biron turned around after stepping across what had been the wall, and its closing endured just long enough for him to see her throwing a white-furred dressing gown across her shoulders. The scarlet dress lay crumpled upon the chair.

He looked about him and wondered if they would search Artemisia's room. He would be quite helpless if a search took place. There was no way out of the dressing room but the way he had entered, and there was nothing in it that could serve as a still more confined hiding place.

Along one wall there hung a row of gowns, and the air shimmered very faintly before it. His hand passed easily through the shimmer, with only a faint tingling where it crossed his wrist, but then it was meant to repel only dust so that the space behind it could be kept aseptically clean.

He might hide behind the skirts. It was what he was doing, really. He had manhandled two guards, with Gillbret's help, to get here, but, now that he was here, he was hiding behind a lady's skirts. A lady's skirts, in fact.

Incongruously, he found himself wishing he had turned a bit sooner before the wall had closed behind him. She had quite a remarkable figure. It was ridiculous of him to have been so childishly nasty awhile back. Of course she was not to blame for the faults of her father.

And now he could only wait, staring at the blank wall; waiting for the sound of feet within the room, for the wall to pull back once more, for the muzzles facing him again, this time without a visisonor to help him.

He waited, holding a neuronc whip in each hand.

9. AND AN OVERLORD'S TROUSERS

"What's the matter?" Artemisia did not have to feign uneasiness. She spoke to Gillbret, who, with the captain of the guard, was at the door. Half a dozen uniformed men hovered discreetly in the background. Then, quickly, "Has anything happened to Father?"

"No, no," Gillbret reassured her, "nothing has happened that need concern you at all.

Were you asleep?"

"Just about," she replied, "and my girls have been about their own affairs for hours.

There was no one to answer but myself and you nearly frightened me to death."

She turned to the captain suddenly, with a stiffening attitude. "What is wanted of me, Captain? Quickly, please. This is not the time of day for a proper audience."

Gillbret broke in before the other could more than open his mouth. "A most amusing thing, Arta. The young man, whatsisname--you know--has dashed off, breaking two heads on his way. We're hunting him on even terms now. One platoon of soldiers to one fugitive. And here I am myself, hot on the trail, delighting our good captain with my zeal and courage."

Artemisia managed to look completely bewildered.

Under his breath the captain muttered a monosyllabic imprecation. His lips scarcely moved. He said then, "If you please, my lord, you are not quite plain, and we are delaying matters insufferably. My Lady, the man who calls himself the son of the ex-Rancher of Widemos has been arrested for treason. He has managed to escape and is now at large. We must search the Palace for him, room by room."

Artemisia stepped back, frowning. "Including my room?"

"If Your Ladyship permits."

"Ah, but I do not. I would certainly know if there was a strange man in my room. And the suggestion that I might be having dealings with such a man, or any strange man, at this time of night is highly improper. Please observe due respect for my position, Captain."

It worked quite well. The captain could only bow and say, "No such implication was intended, my lady. Your pardon for annoying you at this time of night. Your statement that you have not seen the fugitive is, of course, sufficient. Under the circumstances, it was necessary to assure ourselves of your safety. He is a dangerous man."

"Surely not so. dangerous that he cannot be handled by you and your company."

Gillbret's high-pitched voice interposed again. "Captain, come--come. While you exchange courtly sentiments with my niece, our man has had time to rifle the armory. I would suggest that you leave a guard at the Lady Artemisia's door, so that what remains

of her sleep will not be further disturbed. Unless, my dear"--and he twinkled his fingers at Artemisia--"you would care to join us."

"I shall satisfy myself," said Artemisia coldly, "in locking my door and retiring, thank you."

"Pick a large one," cried Gillbret. "Take that one. A fine uniform our guards have, Artemisia. You can recognize a guard as far as you can see him by his uniform alone."

"My lord," said the captain impatiently, "there is no time. You delay matters."

At a gesture from him, a guard fell out of the platoon, saluted Artemisia through the closing door, then the captain. The sound of ordered footsteps fell away in both directions.

Artemisia waited, then slid the door quietly open an inch or two. The guard was there, legs apart, back rigid, right hand armed, left hand at his alarm button. He was the guard suggested by Gillbret, a tall one. As tall as Biron of Widemos, though without his breadth of shoulders.

It occurred to her, at that moment, that Biron, though young and, therefore, rather unreasonable in some of his viewpoints, was at least large and well muscled, which was convenient. It had been foolish of her to snap at him. Quite pleasant looking too.

She closed the door, and stepped toward the dressing room.

Biron tensed as the door slid away again. He held his breath and his fingers stiffened.

Artemisia stared at his whips. "Be careful!"

He puffed out his breath in relief and stuffed each into a pocket. They were very uncomfortable there, but he had no proper holsters. He said, "That was just in" case it was somebody looking for me."

"Come out. And speak in a whisper."

She was still in her night robe, woven out of a smooth fabric with which Biron was unfamiliar, adorned with little tufts of silvery fur, and clinging to the body through some faint static attraction inherent in the material, so that neither buttons, clasps, loops, or seam fields were necessary. Nor, as a consequence, did it do more than merely faintly dim the outlines of Artemisia's figure.

Biron felt his ears reddening, and liked the sensation very much.

Artemisia waited, then made a little whirling gesture with her forefinger and said, "Do you mind?"

Biron looked up at her face. "What? Oh, I'm sorry."

He turned his back to her and remained stiffly attentive to the faint rustling of the change of outer garments. It did not occur to him to wonder why she did not use the dressing room, or why, better still, she had not changed before opening the door. There are depths in feminine psychology, which, without experience, defy analysis.

She was in black when he turned, a two-piece suit which did not reach below the knee.

It had that more substantial appearance that went with clothing meant for the outdoors rather than for the ballroom.

Biron said, automatically, "Are we leaving, then?"

She shook her head. "You'll have to do your part first. You'll need other clothes yourself. Get to one side of the door, and I'll have the guard in."

"What guard?"

She smiled briefly. "They left a guard at the door, at Uncle Oil's suggestion."

The door to the corridor ran smoothly along its runners an inch or two. The guard was still there, stiffly immobile.

"Guard," she whispered. "In here, quickly."

There was no reason for a common soldier to hesitate in his obedience to the Director's daughter. He entered the widening door, with a respectful, "At your service, my 1--" and then his knees buckled under the weight which came down upon his shoulders, while his words were cut off, without even an interrupting squawk, by the forearm which slammed against his larynx.

Artemisia closed the door hurriedly and watched with sensations that amounted almost to nausea. The life in the Palace of the Hinriads was mild almost to decadence, and she had never before seen a man's face congest with blood and his mouth yawn and puff futilely under the influence of asphyxia. She looked away.

Biron bared his teeth with effort as he tightened the circle of bone and muscle about the other's throat. For a minute the guard's weakening hands ripped futilely at Biron's arm, while his feet groped in aimless kicks. Biron heaved him clear of the floor without relaxing his grip.

And then the guard's hands fell to his sides, his legs hung loosely, and the convulsive and useless heavings of the chest began to subside. Biron lowered him gently to the floor. The guard sprawled out limply, as though he were a sack which had been emptied.

"Is he dead?" asked Artemisia, in a horrified whisper.

"I doubt it," said Biron. "It takes four or five minutes of it to kill a man. But he'll be out of things for a while. Do you have anything to tie him up with?"

She shook her head. For the moment, she felt quite helpless.

Biron said, "You must have some Cellite stockings. They would do fine." He had already stripped the guard of weapons and outer clothing. "And I'd like to wash up too. In fact, I have to."

It was pleasant to step through the detergent mist in Artemisia's bathroom. It left him perhaps a trifle over-scented, but the open air would take care of the fragrance, he hoped. At least he was clean, and it had required merely the momentary passage through the fine, suspended droplets that shot past him forcefully in a warm air stream. No special drying chamber was required, since he stepped out dry as well as clean. They didn't have this on Widemos, or on Earth.

The guard's uniform was a bit tight, and Biron did not like the way the somewhat ugly, conical military cap fit over his brachycephalic head. He stared at his reflection with some dissatisfaction. "How do I look?"

"Quite like a soldier," she said.

He said, "You'll have to carry one of these whips. I can't handle three."

She took it between two fingers and dropped it into her bag, which was then suspended from her wide belt by another microforce, so that her hands remained free.

"We had better go now. Don't say a word if we meet anyone, but let me do the talking.

Your accent isn't right, and it would be impolite to talk in my presence unless you were directly addressed, anyway. Remember! You're a common soldier."

The guard on the floor was beginning to wriggle a bit and roll his eyes. His wrists and ankles were securely tied in a clump at the small of his back with stockings that had the tensile strength of more than an equal amount of steel. His tongue worked futilely at his gag.

He had been shoved out of the way, so that it was not necessary to step over him to get to the door.

"This way," breathed Artemisia.

At the first turning there was a footstep behind them, and a light hand came down on Biron's shoulder.

Biron stepped to one side quickly and turned, one hand catching the other's arm, while his other snatched at his whip.

But it was Gillbret who said, "Easy, man!"

Biron loosened his grip.

Gillbret rubbed his arm. "I've been waiting for you, but that's no reason to break my bones. Let me stare admiringly at you, Farrill. Your clothes seem to have shrunk on you, but not bad--not bad at all. Nobody would look twice at you in that getup. It's the advantage of a uniform. It's taken for granted that a soldier's uniform holds a soldier and nothing else."

"Uncle Gil," whispered Artemisia urgently, "don't talk so much. Where are the other guards?"

"Everyone objects to a few words," he said pettishly. "The other guards are working their way up the tower. They've decided that our friend is on none of the lower levels, so they've just left some men at the main exits and at the ramps, with the general alarm system in operation as well. We can get past it."

"Won't they miss you, sir?" asked Biron.

"Me? Hah. The captain was glad to see me go, for all his toe scraping. They won't look for me, I assure you."

They were speaking in whispers, but now even those died away. A guard stood at the bottom of the ramp, while two others flanked the large, carved double door that led to the open air.

Gillbret called out, "Any word of the escaped prisoner, men?"

"No, my lord," said the nearest. He clicked his heels together and saluted.

"Well, keep your eyes open," and they walked past them and out, one of the guards at the door carefully neutralizing that section of the alarm as they left.

It was nighttime outside. The sky was clear and starry, the ragged mass of the Dark Nebula blotting out the specks of light near the horizon. Palace Central was a dark mass behind them, and the Palace Field was less than half a mile away.

But after five minutes of walking along the quiet path, Gillbret grew restless.

"There's something wrong," he said.

Artemisia said, "Uncle Oil, you haven't forgotten to arrange to have the ship ready?"

"Of course not," he snapped at her, as nearly as one could snap in a whisper, "but why is the Field Tower lit up? It should be dark."

He pointed up through the trees, to where the tower was a honeycomb of white light.

Ordinarily, that would indicate business at the field: ships leaving for space or arriving from it.

Gillbret muttered, "Nothing was scheduled for tonight. That was definite."

They saw the answer at a distance, or Gillbret did. He stopped suddenly and spread his arms wide to hold back the others.

"That's all," he said, and giggled almost hysterically. "This time Hinrik has really messed things properly, the idiot. They're here! The Tyranni! Don't you understand? That's Aratap's private armored cruiser."

Biron saw it, gleaming faintly under the lights, standing out among the other undistinguished ships. It was smoother, thinner, more feline than the Rhodian vessels.

Gillbret said, "The captain said a 'personage' was being entertained today, and I paid no attention. There's nothing to do now. We can't fight Tyranni."

Biron felt something suddenly snap. "Why not?" he said savagely. "Why can't we fight them? They have no reason to suspect trouble, and we're armed. Let's take the Commissioner's own ship. Let's leave him with his trousers down."

He stepped forward, out of the relative obscurity of the trees and onto the bare field. The others followed. There was no reason to hide. They were two members of the royal family and an escorting soldier.

But it was the Tyranni they were fighting now.

Simok Aratap of Tyrann had been impressed the first time he had ever seen the Palace Grounds at Rhodia years earlier, but it had turned out to be only a shell that had impressed him. The interior was nothing but a musty relic. Two generations earlier Rhodia's legislative chambers had met on these grounds and most of the administrative offices had been quartered there. Palace Central had been the heartbeat of a dozen worlds.

But now the legislative chambers (still existing, for the Khan never interfered with local legalisms) met once a year to ratify the executive orders of the past twelve months. It was quite a formality. The Executive Council was still, nominally, in continuous session, but it consisted of a dozen men who remained on their estates nine weeks in ten. The various executive bureaus were still active, since one could not govern without them, whether the Director or the Khan ruled, but they were now scattered over the planet;

made less dependent upon the Director, more conscious of their new masters, the Tyranni.

Which left the Palace as majestic as it had always been in stone and metal, and that only. It housed the Directorial family, a scarcely adequate corps of servants, and an entirely inadequate corps of native guards.

Aratap felt uncomfortable in the shell and was unhappy. It was late, he was tired, his eyes burned so that he longed to remove his contact lenses, and, most of all, he was disappointed.

There was no pattern! He glanced occasionally at his military aide, but the major was listening to the Director with expressionless stolidity. As for Aratap himself, he paid little attention.

"Widemos's son! Indeed?" he would say, in abstraction. Then, later, "And so you arrested him? Quite right!"

But it meant little to him, since events lacked a design. Aratap had a neat and tidy mind which could not bear the thought of individual facts loosely clumped together with no decent arrangement.

Widemos had been a traitor, and Widemos's son had attempted a meeting with the Director of Rhodia. He had attempted it first in secret, and when that had failed, such was the urgency, he had attempted it openly with his ridiculous story of an assassination plot.

Surely that must have been the beginning of a pattern.

And now it fell apart. Hinrik was giving up the boy with indecent haste. He could not even wait the night, it seemed. And that did not fit at all. Or else Aratap had not yet learned all the facts.

He focused his attention on the Director again. Hinrik was beginning to repeat himself. Aratap felt a twinge of compassion. The man had been made into such a coward that even the Tyranni themselves grew impatient with him. And yet it was the only way. Only fear could insure absolute loyalty. That and nothing else.

Widemos had not been afraid, and despite the fact that his self-interest had been bound at every point with the maintenance of Tyrannian rule, he had rebelled. Hinrik was afraid and that made the difference, And because Hinrik was afraid, he sat there, lapsing into incoherence as he struggled to obtain some gesture of approval. The major would give none, of course, Aratap knew. The man had no imagination. He sighed and wished he had none either. Politics was a filthy business.

So he said, with some air of animation, "Quite so. I commend your, quick decision and your zeal in the service of the Khan. You may be sure he will hear of it."

Hinrik brightened visibly, his relief obvious.

Aratap said, "Have him brought in, then, and let us hear what our cockerel has to say." He suppressed a desire to yawn. He had absolutely no interest in what the "cockerel" had to say.

It was Hinrik's intention at this point to signal for the captain of the guard, but there was no necessity for that, as the captain stood in the doorway, unannounced.

"Excellency," he cried and strode in without waiting for permission.

Hinrik stared hard at his hand, still inches from the signal, as though wondering whether his intention had somehow developed sufficient force to substitute for the act.

He said uncertainly, "What is it, Captain?"

The captain said, "Excellency, the prisoner has escaped."

Aratap felt some of the weariness disappear. What was this? "The details, Captain!" he ordered, and straightened in his chair.

The captain gave them with a blunt economy of words.

He concluded, "I ask your permission, Excellency, to proclaim a general alarm. They are yet but minutes away."

"Yes, by all means," stuttered Hinrik, "by all means. A general alarm, indeed. Just the thing. Quickly! Quickly! Commissioner, I cannot understand how it could have happened.

Captain, put every man to work. There will be an investigation, Commissioner. If necessary, every man on the guards will be broken. Broken! Broken!"

He repeated the word in near hysteria but the captain remained standing. It was obvious that he had more to say.

Aratap said, "Why do you wait?"

"May I speak to Your Excellency in private?" said the captain abruptly.

Hinrik cast a quick, frightened look at the bland, unperturbed Commissioner. He mustered a feeble indignation. "There are no secrets from the soldiers of the Khan, our friends, our--"

"Say your say, Captain," interposed Aratap gently.

The captain brought his heels together sharply and said, "Since I am ordered to speak, Your Excellency, I regret to inform you that my Lady Artemisia and my Lord Gillbret accompanied the prisoner in his escape."

"He dared to kidnap them?" Hinrik was on his feet. "And my guards allowed it?"

"They were not kidnapped, Excellency. They accompanied him voluntarily."

"How do you know?" Aratap was delighted, and thoroughly awake. It formed a pattern now, after all. A better pattern than he could have anticipated.

The captain said, "We have the testimony of the guard they overpowered, and the guards who, unwittingly, allowed them to leave the building." He hesitated, then added grimly, "When I interviewed my Lady Artemisia at the door of her private chambers, she told me she had been on the point of sleep. It was only later that I realized that when she told me that, her face was elaborately made-up. When I returned, it was too late. I accept the blame for the mismanagement of this affair. After tonight I will request Your Excellency to accept my resignation, but first have I still your permission to sound the general alarm? Without your authority I could not interfere with members of the royal family."

But Hinrik was swaying on his feet and could only stare at him vacantly.

Aratap said, "Captain, you would do better to look to the health of your Director. I would suggest you call his physician."

"The general alarm!" repeated the captain.

"There will be no general alarm," said Aratap. "Do you understand me? No general alarm! No recapture of the prisoner! The incident is closed! Return your men to their quarters and ordinary duties and look to your Director. Come, Major."

The Tyrannian major spoke tensely once they had left the mass of Palace Central behind them.

"Aratap," he said, "I presume you know what you're doing. I kept my mouth shut in there on the basis of that presumption."

"Thank you, Major." Aratap liked the night air of a planet full of green and growing things. Tyrann was more beautiful in its way, but it was a terrible beauty of rocks and mountains. It was dry, dry!

He went on: "You cannot handle Hinrik, Major Andros. In your hands he would wilt and break. He is useful, but requires gentle treatment if he is to remain so."

The major brushed that aside. "I'm not referring to that. Why not the general alarm?"

Don't you want them?"

"Do you?" Aratap stopped. "Let us sit here for a moment, Andros. A bench on a pathway along a lawn. What more beautiful, and what place is safer from spy beams? Why do you want the young man, Major?"

"Why do I want any traitor and conspirator?"

"Why do you, indeed, if you only catch a few tools while leaving the source of the poison untouched? Whom would you have? A cub, a silly girl, a senile idiot?"

There was a faint splashing of an artificial waterfall nearby. A small one, but decorative. Now that was a real wonder to Aratap. Imagine water, spilling out, running to waste, pouring indefinitely down the rocks and along the ground. He had never educated himself out of a certain indignation over it.

"As it is," said the major, "we have nothing."

"We have a pattern. When the young man first arrived, we connected him with Hinrik, and that bothered us, because Hinrik is--what he is. But it was the best we could do. Now we see it was not Hinrik at all; that Hinrik was a misdirection. It was Hinrik's daughter and cousin he was after, and that makes more sense."

"Why didn't he call us sooner? He waited for the middle of the night."

"Because he is the tool of whoever is the first to reach him, and Gillbret, I am sure, suggested this night meeting as a sign of great zeal on his part."

"You mean we were called here on purpose? To witness their escape?"

"No, not for that reason. Ask yourself. Where do these people intend on going?"

The major shrugged.--"Rhodia is big."

"Yes, if it were the young Farrill alone who was concerned. But where on Rhodia would two members of the royal family go unrecognized? Particularly the girl."

"They would have to leave the planet, then? Yes, I agree."

"And from where? They can reach the Palace Field in a fifteen-minute walk. Now do you see the purpose of our being here?"

The major said, "Our ship?"

"Of course. A Tyrannian ship would seem ideal to them. Otherwise, they would have to choose among freighters. Farrill has been educated on Earth, and, I'm sure, can fly a cruiser."

"Now there's a point. Why do we allow the nobility to send out their sons in all directions? What business has a subject to know more about travel than will suffice him for local trade? We bring up soldiers against us."

"Nevertheless," said Aratap, with polite indifference, "at the moment Farrill has a foreign education, and let us take that into account objectively, without growing angry about it. The fact remains that I am certain they have taken our cruiser."

"I can't believe it."

"You have your wrist caller. Make contact with the ship, if you can."

The major tried, futilely.

Aratap said, "Try the Field Tower."

The major did so, and the small voice came out of the tiny receiver, in minute agitation: "But, Excellency, I don't understand--There is some mistake. Your pilot took off ten minutes ago."

Aratap was smiling. "You see? Work out the pattern and each little event becomes inevitable. And now do you see the consequences?"

The major did. He slapped his thigh, and laughed briefly. "Of course!" he said.

"Well," said Aratap, "they couldn't know, of course, but they have ruined themselves."

Had they been satisfied with the clumsiest Rhodian freighter on the field, they would surely have escaped and--what's the expression?--I would have been caught with my trousers down this night. As it is, my trousers are firmly belted, and nothing can save them. And when I pluck them back, in my own good time"--he emphasized the words with satisfaction--"I will have the rest of the conspiracy in my hands as well."

He sighed and found himself beginning to feel sleepy once more. "Well, we have been lucky, and now there is no hurry. Call Central Base, and have them send another ship after us."

10. MAYBE!

Biron Farrill's training in spationautics back on Earth had been largely academic. There had been the university courses in the various phases of spatial engineering, which, though half a semester was spent on the theory of the hyperatomic motor, offered little when it came to the actual manipulation of ships in space. The best and most skilled pilots learned their art in space and not in schoolrooms.

He had managed to take off without actual accident, though that was more luck than design. The Remorseless answered the controls far more quickly than Biron had anticipated. He had manipulated several ships on Earth out into space and back to the planet, but those had been aged and sedate models, maintained for the use of students. They had been gentle, and very, very tired, and had lifted with an effort and spiraled slowly upward through the atmosphere and into space.

The Remorseless, on the other hand, had lifted effortlessly, springing upward and whistling through the air, so that Biron had fallen backward out of his chair and all but dislocated his shoulder. Artemisia and Gillbret, who, with the greater caution of the inexperienced, had strapped themselves in, were bruised against the padded webbing. The Tyrannian prisoner had lain pressed against the wall, tearing heavily at his bonds and cursing in a monotone.

Biron had risen shakily to his feet, kicked the Tyrannian into a brooding silence, and made his way along the wall rail, hand over hand against the acceleration, back to his seat.

Forward blasts of power quivered the ship and reduced the rate of increasing velocity to a bearable quantity.

They were in the upper reaches of the Rhodian atmosphere by then. The sky was a deep violet and the hull of the ship was hot with air friction, so that warmth could be felt within.

It took hours thereafter to set the ship into an orbit about Rhodia. Biron could find no way of readily calculating the velocity necessary to overcome Rhodia's gravity. He had to work it by hit and miss, varying the velocity with puffs of power forward and backward, watching the massometer, which indicated their distance from the planet's surface by measuring the intensity of the gravitational field. Fortunately, the massometer was already calibrated for Rhodia's mass and radius. Without considerable experimentation, Biron could not have adjusted the calibration himself.

Eventually, the massometer held steady and over a period of two hours showed no appreciable drift. Biron allowed himself to relax, and the others climbed out of their belts.

Artemisia said, "You don't have a very light touch, my Lord Rancher."

"I'm flying, my lady," Biron replied curtly. "If you can do better, you're welcome to try, but only after I myself disembark."

"Quiet, quiet, quiet," said Gillbret. "The ship is too cramped for pettishness, and, in addition, since we are to be crushed into an inconvenient familiarity in this leaping prison pen, I suggest we discard the many 'lords' and 'ladies' which will otherwise encrust our conversation to an unbearable degree. I am Gillbret, you are Biron, she is Artemisia. I suggest we memorize those terms of address, or any variation we care to use. And as for piloting the ship, why not use the help of our Tyrannian friend here?"

The Tyrannian glared, and Biron said, "No. There is no way we could trust him. And my own piloting will improve as I get the hang of this ship. I haven't cracked you up yet, have I?"

His shoulder still hurt as a result of the first lurch and, as usual, pain made him peevish.

"Well," said Gillbret, "what do we do with him?"

"I don't like to kill him in cold blood," said Biron, "and that won't help us. It would just make the Tyranni doubly excited. Killing one of the master race is really the unforgivable sin."

"But what is the alternative?"

"We'll land him."

"All right. But where?"

"On Rhodia."

"What!"

"It's the one place they won't be looking for us. Besides which, we've got to go down pretty soon, anyway."

"Why?"

"Look, this is the Commissioner's ship, and he's been using it for hopping about the surface of the planet. It isn't provisioned for space voyages. Before we go anywhere, we'll have to take complete inventory aboard ship, and at least make sure that we have enough food and water."

Artemisia was nodding vigorously. "That's right. Good! I wouldn't have thought of that myself. That's very clever, Biron."

Biron made a deprecating gesture, but warmed with pleasure, nevertheless. It was the first time she had used his first name. She could be quite pleasant, when she tried.

Gillbret said, "But he'll radio our whereabouts instantly."

"I don't think so," said Biron. "In the first place, Rhodia has its desolate areas, I imagine. We don't have to drop him into the business section of a city, or into the middle of one of the Tyrannian garrisons. Besides, he may not be so anxious to contact his superiors as you might think. . . . Say, Private, what would happen to a soldier who allowed the Commissioner of the Khan to have his private cruiser stolen from him?"

The prisoner did not answer, but his lip line became, pale and thin.

Biron would not have wanted to be in the soldier's place. To be sure, he could scarcely be blamed. There was no reason why he should have suspected trouble resulting from mere politeness to members of the Rhodian royal family. Sticking to the letter of the Tyrannian military code, he had refused to allow them aboard ship without the permission

of his commanding officer. If the Director himself had demanded permission to enter, he insisted, he would have to deny it. But, in the meantime, they had closed in upon him, and by the time he realized he should have followed the military code still more closely and had his weapon ready, it was too late. A neuronc whip was practically touching his chest.

Nor had he given in tamely, even then. It had taken a whip blast at his chest to stop him. And, even so, he could face only court-martial and conviction. No one doubted that, least of all the soldier.

They had landed two days later at the outskirts of the city of Southwark. It had been chosen deliberately because it lay far from the main centers of Rhodian population. The Tyrannian soldier had been strapped into a repulsion unit and allowed to flutter downward some fifty miles from the nearest sizable town.

The landing, on an empty beach, was only mildly jerky, and Biron, as the one least likely to be recognized, made the necessary purchases. Such Rhodian currency as Gillbret had had the presence of mind to bring with him had scarcely sufficed for elementary needs, since much of it went for a little biwheel and tow cart, on which he could carry the supplies away piecemeal.

"You might have stretched the money farther," said Artemisia, "if you hadn't wasted so much of it on the Tyrannian mush you bought."

"I think there was nothing else to do," said Biron hotly. "It may be Tyrannian mush to you, but it's a well-balanced food, and will see us through better than anything else I could have gotten."

He was annoyed. It had been stevedore's work, getting all that out of the city and then aboard ship. And it had meant a considerable risk, buying it at one of the Tyrannian-run commissaries in the city. He had expected appreciation.

And there was no alternative anyway. The Tyrannian forces had evolved an entire technique of supply adapted strictly to the fact that they used tiny ships. They couldn't afford the huge storage spaces of other fleets which were stacked with the carcasses of whole animals, neatly hung in rows. They had had to develop a standard food concentrate containing what was necessary in the way of calories and food factors and let it go at that. It took up only one twentieth of the space that an equivalent supply of natural animal food would take, and it could be piled up in the low-temperature storeroom like packaged bricks.

"Well, it tastes awful," said Artemisia.

"Well, you'll get used to it," retorted Biron, mimicking her petulance, so that she flushed and turned away angrily.

What was bothering her, Biron knew, was simply the lack of space and all that accompanied the lack. It wasn't just a question of using a monotonous food stock because in that way more calories could be packed to the cubic inch. It was that there were no separate sleeping rooms, for instance. There were the engine rooms and the control room, which took up most of the ship's space. (After all, Biron thought, this is a warship, not a pleasure yacht.) Then there was the storeroom, and. one small cabin, with

two tiers of three bunks on either side. The plumbing was located in a little niche just outside the cabin.

It meant crowding; it meant a complete absence of privacy; and it meant that Artemisia would have to adjust herself to the fact that there were no women's clothes aboard, no mirrors, no washing facilities.

Well, she would have to get used to it. Biron felt that he had done enough for her, gone sufficiently out of his way. Why couldn't she be pleasant about it and smile once in a while? She had a nice smile, and he had to admit that she wasn't bad, except for her temper.

But oh, that temper!

Well, why waste his time thinking about her?

The water situation was the worst. Tyrann was a desert planet, in the first place, where water was at a premium and men knew its value, so none was included on board ship for washing purposes. Soldiers could wash themselves and their personal effects once they had landed on a planet. During trips a little grime and sweat would not hurt them. Even for drinking purposes, water was barely sufficient for the longer trips. After all, water could be neither concentrated nor dehydrated, but had to be carried in bulk; and the problem was aggravated by the fact that the water content of the food concentrates was quite low.

There were distilling devices to re-use water lost by the body, but Biron, when he realized their function, felt sick and arranged for the disposal of waste products without attempt at water recovery. Chemically, it was a sensible procedure, but one has to be educated into that sort of thing.

The second take-off was, comparatively, a model of smoothness, and Biron spent time playing with the controls afterward. The control board resembled only in the dimmest fashion those of the ships he had handled on Earth. It had been compressed and compacted frightfully.

As Biron puzzled out the action of a contact or the purpose of a dial, he wrote out minute directions on paper and pasted them appropriately on the board.

Gillbret entered the pilot room.

Biron looked over his shoulder. "Artemisia's in the cabin, I suppose?"

"There isn't anyplace else she could be and stay inside the ship."

Biron said, "When you see her, tell her I'll make up a bunk here in the pilot room.

I'd advise you to do the same, and let her have the cabin to herself." He muttered the addition, "Now there's one childish girl."

"You have your moments, too, Biron," said Gillbret. "You'll have to remember the sort of life she's used to."

"All right. I do remember it, and so what? What sort of life do you think I'm used to?"

I wasn't born in the mine fields of some asteroidal belt, you know. I was born on the biggest Ranch of Nephelos. But if you're caught in a situation, you've got to make the best of it.

Damn it, I can't stretch the hull of the ship. It will hold just so much food and water, and I can't do anything about the fact that there isn't any shower bath. She picks on me as if I personally manufactured this ship." It was a relief to shout at Gillbret. It was a relief to shout at anybody.

But the door opened again, and Artemisia stood there. She said, freezingly, "I would refrain, Mr. Farrill, from shouting, if I were you. You can be distinctly heard all over the ship."

"That," said Biron, "does not bother me. And if the ship bothers you, just remember that if your father hadn't tried to kill me off and marry you off, neither one of us would be here."

"Don't talk about my father."

"I'll talk about anyone I please."

Gillbret put his hands over his ears. "Please!"

It brought the argument to a momentary halt. Gillbret said, "Shall we discuss the matter of our destination now? It's obvious at this point that the sooner we're somewhere else and out of this ship, the more comfortable we'll be."

"I agree with you there, Oil," said Biron. "Just let's go somewhere where I don't have to listen to her clacking. Talk about women on space ships!"

Artemisia ignored him and addressed Gillbret exclusively. "Why don't we get out of the Nebular area altogether?"

"I don't know about you," said Biron at once, "but I've got to get my Ranch back and do a little something about my father's murder. I'll stay in the Kingdoms."

"I did not mean," said Artemisia, "that we were to leave forever; only till the worst of the search was over. I don't see what you intend doing about your Ranch, anyway. You can't get it back unless the Tyrannian Empire is broken to pieces, and I don't see you doing that."

"You never mind what I intend doing. It's my business."

"Might I make a suggestion?" asked Gillbret mildly.

He took silence for consent, and went on, "Then suppose I tell you where we ought to go, and exactly what we ought to do to help break the Empire to pieces, just as Arta said."

"Oh? How do you propose doing that?" said Biron.

Gillbret smiled. "My dear boy, you're taking a very amusing attitude. Don't you trust me? You look at me as though you think that any enterprise I might be interested in was bound to be a foolish one. I got you out of the Palace."

"I know that. I'm perfectly willing to listen to you."

"Do so, then. I've been waiting for over twenty years for my chance to get away from them. If I had been a private citizen, I could have done it long since; but through the curse of birth, I've been in the public eye. And yet. if it hadn't been for the fact that I was born a Hinriad, I would not have attended the coronation of the present Khan of Tyrann, and in that case I would never have stumbled on the secret which will someday destroy that same Khan."

"Go on," said Biron.

"The trip from Rhodia to Tyrann was by Tyrannian warship, of course, as was the trip back. A ship like this, I might say, but rather larger. The trip there was uneventful. The stay on Tyrann had its points of amusements, but, for our purposes now, was likewise uneventful. On the trip back, however, a meteor hit us."

"What?"

Gillbret held up a hand. "I know quite well it's an unlikely accident. The incidence of meteors in space--especially in interstellar space--is low enough to make the chances of collision with a ship completely insignificant, but it does happen, as you know. And it did happen in this case. Of course any meteor that does hit, even when it is the size of a pinhead, as most of them are, can penetrate the hull of any but the most heavily armored ship."

"I know," said Biron. "It's a question of their momentum, which is a product of their mass and velocity. The velocity more than makes up for their lack of mass." He recited it glumly, like a school lesson, and caught himself watching Artemisia furtively.

She had seated herself to listen to Gillbret, and she was so close to him that they were almost touching. It occurred to Biron that her profile was beautiful as she sat there, even if her hair was becoming a little bedraggled. She wasn't wearing her little jacket, and the fluffy whiteness of her blouse was still smooth and unwrinkled after forty-eight hours. He wondered how she managed that.

The trip, he decided, could be quite wonderful if she would only learn to behave herself. The trouble was that no one had ever controlled her properly, that was all. Certainly not her father. She'd become too used to having her own way. If she'd been born a commoner, she would be a very lovely creature.

He was just beginning to slip into a tiny daydream in which he controlled her properly and brought her to a state of proper appreciation of himself, when she turned her head and met his eye calmly. Biron looked away and fastened his attention instantly on Gillbret. He had missed a few sentences.

"I haven't the slightest idea why the ship's screen had failed. It was just one of those things to which no one will ever know the answer, but it had failed. Anyway, the meteor struck amidships. It was pebble-sized and piercing the hull slowed it just sufficiently so that it couldn't blaze its way out again through the other side. If it had done that, there would have been little harm to it, since the hull could have been temporarily patched in no time.

"As it was, however, it plunged into the control room, ricocheted off the far wall and slammed back and forth till it came to a halt. It couldn't have taken more than a fraction of a minute to come to a halt, but at an original velocity of a hundred miles a minute, it must have crisscrossed the room a hundred times. Both crewmen were cut to pieces, and I escaped only because I was in the cabin at the time.

"I heard the thin clang of the meteor when it originally penetrated the hull, then the click-clack of its bouncing, and the terrifying short screams of the two crewmen. When I jumped into the control room, there was only the blood everywhere and the torn flesh.

The things that happened next I remember only vaguely, although for years I lived it over step by step in my nightmares.

"The cold sound of escaping air led me to the meteor hole. I slapped a disk of metal over it and air pressure made a decent seal of it. I found the little battered space pebble on the floor. It was warm to the touch, but I hit it with a spanner and split it in two. The exposed interior frosted over instantly. It was still at the temperature of space.

"I tied a cord to the wrist of each corpse and then tied each cord to a towing magnet.

I dumped them through the air lock, heard the magnets clank against the hold, and knew that the hard-frozen bodies would follow the ship now wherever it went. You see, once we returned to Rhodia, I knew I would need the evidence of their bodies to show that it had been the meteor that had killed them and not I.

"But how was I to return? I was quite helpless. There was no way I could run the ship, and there was nothing I dared try there in the depths of interstellar space. I didn't even know how to use the sub-etheric communication system, so that I couldn't SOS. I could only let the ship travel on its own course."

"But you couldn't very well do that, could you?" Biron said. He wondered if Gillbret 'were inventing this, either out of simple romantic imaginings or for some severely practical reason of his own. "What about the Jumps through hyperspace? You must have managed those, or you wouldn't be here."

"A Tyrannian ship," said Gillbret, "once the controls are properly set, will make any number of Jumps quite automatically."

Biron stared his disbelief. Did Gillbret take him for a fool? "You're making that up," he said.

"I am not. It's one of the damned military advances which won their wars for them.

They didn't defeat fifty planetary systems, outnumbering Tyrann by hundreds of times in population and resources, just by playing mumblety-peg, you know. Sure they tackled us one at a time, and utilized our traitors very skillfully, but they had a definite military edge as well. Everyone knows that their tactics were superior to ours, and part of that was due to the automatic Jump. It meant a great increase in the maneuverability of their ships and made possible much more elaborate battle plans than any we could set up.

"I'll admit it's one of their best-kept secrets, this technique of theirs. I never learned it until I was trapped alone on the Bloodsucker--the Tyranni have the most annoying custom of naming their ships unpleasantly, though I suppose it's good psychology--and watched it happen. I watched it make the Jumps without a hand on the controls."

"And you mean to say that this ship can do that too?"

"I don't know. I wouldn't be surprised."

Biron turned to the control board. There were still dozens of contacts he had not determined the slightest use for. Well, later!

He turned to Gillbret again. "And the ship took you home?"

"No, it didn't. When that meteor wove its pattern through the control room, it didn't leave the board untouched. It would have been most amazing if it had. Dials were smashed, the casing battered and dented. There was no way of telling how the previous set of the controls had been altered, but it must have been somehow, because it never took me back to Rhodia.

"Eventually, of course, it began deceleration, and I knew the trip was theoretically over. I couldn't tell where I was, but I managed to maneuver the visiplat so that I could tell there was a planet close enough to show a disk in the ship telescope. It was blind luck, because the disk was increasing in size. The ship was heading for the planet.

"Oh, not directly. That would have been too impossible to hope for. If I had just drifted, the ship would have missed the planet by a million miles, at least, but at that distance I could use ordinary etheric radio. I knew how to do that. It was after this was allover that I began educating myself in electronics. I made up my mind that I would never be quite so helpless again. Being helpless is one of the things that isn't altogether amusing."

Biron prompted, "So you used the radio."

Gillbret went on: "Exactly, and they came and got me;"

"Who?"

"The men of the planet. It was inhabited."

"Well, the luck piles up. What planet was it?"

"I don't know."

"You mean they didn't tell you?"

"Amusing, isn't it? They didn't. But it was somewhere among the Nebular Kingdoms!"

"How did you know that?"

"Because they knew the ship I was in was a Tyrannian vessel. They knew that by sight, and almost blasted it before I could convince them I was the only one on board alive."

Biron put his large hands on his knees and kneaded them. "Now hold on and pull back. I don't get this. If they knew it was a Tyrannian vessel and intending blasting it, isn't that the best proof that the world was not in the Nebular Kingdoms? that it was anywhere but there?"

"No, by the Galaxy." Gillbret's eyes were shining, and his voice climbed in enthusiasm. "It was in the Kingdoms. They took me to the surface, and what a world it was!

There were men there from allover the Kingdoms. I could tell by the accents. And they had no fear of the Tyranni. The place was an arsenal. You couldn't tell from space. It might have been a rundown farming world, but the life of the planet was underground. Somewhere in the Kingdoms, my boy, somewhere there is that planet still, and it is not afraid of the Tyranni, and it is going to destroy the Tyranni as it would have destroyed the ship I was on then, if the crewmen had been still alive."

Biron felt his heart bound. For a moment he wanted to believe.

After all, maybe. Maybe!

11. AND MAYBE NOT!

And then again, maybe not!

Biron said, "How did you learn all this about its being an arsenal? How long did you stay? What did you see?"

Gillbret grew impatient. "It wasn't exactly what I saw at all. They didn't conduct me on any tours, or anything like that." He forced himself to relax. "Well, look, this is what happened. By the time they got me off the ship, I was in more or less of a bad state. I had been too frightened to eat much--it's a terrible thing, being marooned in space --and I must have looked worse than I really was.

"I identified myself, more or less, and they took me underground. With the ship, of course. I suppose they were more interested in the ship than in myself. It gave them a chance to study Tyrannian spatio-engineering. They took me to what must have been a hospital."

"But what did you see, Uncle?" asked Artemisia.

Biron interrupted, "Hasn't he ever told you this before?"

Artemisia said, "No."

And Gillbret added, "I've never told anyone till now. I was taken to a hospital, as I said. I passed research laboratories in that hospital that must have been better than anything we have on Rhodia. On the way to the hospital I passed factories in which some sort of metalwork was going on. The ships that had captured me were certainly like none I've ever heard about.

"It was all so apparent to me at the time that I have never questioned it in the years since. I think of it as my 'rebellion world,' and I know that someday swarms of ships will leave it to attack the Tyranni, and that the subject worlds will be called upon to rally round the rebel leaders. From year to year I've waited for it to happen. Each new year I've thought to myself: This may be the one. And, each time, I half hoped it wouldn't be, because I was longing to get away first, to join them so that I might be part of the great attack. I didn't want them to start without me."

He laughed shakily. "I suppose it would have amused most people to know what was going on in my mind. In my mind. Nobody thought much of me, you know."

Biron said, "All this happened over twenty years ago, and they haven't attacked?

There's been no sign of them? No strange ships have been reported? No incidents? And you still think--"

Gillbret fired at him, "Yes, I do. Twenty years isn't too long to organize a rebellion against a planet that rules fifty systems. I was there just at the beginning of the rebellion.

I know that too. Slowly, since then, they must have been honeycombing the planet with their underground preparations, developing newer ships and weapons, training more men, organizing the attack.

"It's only in the video thrillers that men spring to arms at a moment's notice; that a new weapon is needed one day, invented the next, mass-produced the third, and used the fourth.

These things take time, Biron, and the men of the rebellion world must know they will have to be completely ready before beginning. They won't be able to strike twice.

"And what do you call 'incidents'? Tyrannian ships have disappeared and never been found. Space is big, you might say, and they might simply be lost, but what if they were captured by the rebels? There was the case of the Tireless two years back. It reported a strange object close enough to stimulate the massometer, and then was never heard from again.

It could have been a meteor, I suppose, but was it?

"The search lasted months. They never found it. I think the rebels have it. The Tireless was a new ship, an experimental model. It would be just what they would want."

Biron said, "Once having landed there, why didn't you stay?"

"Don't you suppose I wanted to? I had no chance. I listened to them when they thought I was unconscious, and I learned a bit more then. They were just starting, out there, at that time. They couldn't afford to be found out then. They knew I was Gillbret oth Hinriad. There was enough identification on the ship, even if I hadn't told them myself, which I had. They knew that if I didn't return to Rhodia there would be a full-scale search that would not readily come to a halt.

"They couldn't risk such a search, so they had to see to it that I was returned to Rhodia. And that's where they took me."

"What!" cried Biron. "But that must have been an even greater risk. How did they do that?"

"I don't know." Gillbret passed his thin fingers through his graying hair, and his eyes seemed to be probing uselessly into the backward stretches of his memory. "They anesthetized me, I suppose. That part all blanks out. Past a certain point there is nothing. I can only remember that I opened my eyes and was back in the Bloodsucker; I was in space, just off Rhodia."

"The two dead crewmen were still attached by the tow magnets? They hadn't been removed on the rebellion world?" asked Biron.

"They were still there."

"Was there any evidence at all to indicate that you had been on the rebellion world?"

"None; except for what I remembered."

"How did you know you were off Rhodia?"

"I didn't. I knew I was near a planet; the massometer said so. I used the radio again, and this time it was Rhodian ships that came for me. I told my story to the Tyrannian Commissioner of that day, with appropriate modifications. I made no mention of the rebellion world, of course. And I said the meteor had hit just after the last Jump. I didn't want them to think I knew that a Tyrannian ship could make the Jumps automatically."

"Do you think the rebellion world found out that little fact? Did you tell them?"

"I didn't tell them. I had no chance. I wasn't there long enough. Conscious, that is.

But I don't know how long I was unconscious and what they managed to find out for themselves."

Biron stared at the visiplat. Judging from the rigidity of the picture it presented, the ship they were on might have been nailed in space. The Remorseless was traveling at the rate of ten thousand miles an hour, but what was that to the immense distances of space. The stars were hard, bright, and motionless. They had a hypnotic quality about them.

He said, "Then where are we going? I take it you still don't know where the rebellion world is?"

"I don't. But I have an idea who would. I am almost sure I know." Gillbret was eager about it.

"Who?"

"The Autarch of Lingane."

"Lingane?" Biron frowned. He had heard the name some time back, it seemed to him, but he had forgotten the connection. "Why he?"

"Lingane was the last Kingdom captured by the Tyranni. It is not, shall we say, as pacified as the rest. Doesn't that make sense?"

"As far as it goes. But how far is that?"

"If you want another reason, there is your father."

"My father?" For a moment Biron forgot that his father was dead. He saw him standing before his mind's eye, large and alive, but then he remembered and there was that same cold wrench inside him. "How does my father come into this?"

"He was at court six months ago. I gained certain notions as to what he wanted. Some of his talks with my cousin, Hinrik, I overheard."

"Oh, Uncle," said Artemisia impatiently.

"My dear?"

"You had no right to eavesdrop on Father's private discussions."

Gillbret shrugged. "Of course not, but it was amusing, and useful as well."

Biron interrupted, "Now, wait. You say it was six months ago that my father was at Rhodia?" He felt excitement mount.

"Yes."

"Tell me. While there, did he have access to the Director's collection of Primitivism?"

You told me once that the Director had a large library of matters concerning Earth.

"

"I imagine so. The library is quite famous and it is usually made available to distinguished visitors, if they're interested. They usually aren't, but your father was. Yes, I remember that very well. He spent nearly a day there."

That checked. It had been half a year ago that his father had first asked his help.

Biron said, "You yourself know the library well, I imagine."

"Of course."

"Is there anything in the library that would suggest that there exists a document on Earth of great military value?"

Gillbret was blank of face and, obviously, blank of mind.

Biron said, "Somewhere in the last centuries of prehistoric Earth there must have been such a document. I can only tell you that my father thought it to be the most valuable single item in the Galaxy, and the deadliest. I was to have gotten it for him, but I left Earth too soon, and in any case"--his voice faltered--"he died too soon."

But Gillbret was still blank. "I don't know what you're talking about."

"You don't understand. My father mentioned it to me first six months ago. He must have learned of it in the library on Rhodia. If you've been through it yourself, can't you tell me what it was he must have learned?"

But Gillbret could only shake his head.

Biron said, "Well, continue with your story."

Gillbret said, "They spoke of the Autarch of Lingane, your father and my cousin.

Despite your father's cautious phraseology, Biron, it was obvious that the Autarch was the fount and head of the conspiracy.

"And then"--he hesitated--"there was a mission from Lingane and the Autarch himself was at its head. I--I told him of the rebellion world."

"You said a while ago you told nobody," said Biron.

"Except the Autarch. I had to know the truth."

"What did he tell you?"

"Practically nothing. But then, he had to be cautious too. Could he trust me? I might have been working for the Tyranni. How could he know? But he didn't close the door altogether.

It's our only lead."

"Is it?" Biron said. "Then we'll go to Lingane. One place, I suppose, is like another."

Mention of his father had depressed him, and, for the moment, nothing mattered much. Let it be Lingane.

Let it be Lingane! That was easy to say. But how does one go about pointing the ship.

At a tiny speck of light thirty-five light-years away. Two hundred trillion miles. A two with fourteen zeros after it. At ten thousand miles an hour (current cruising speed of the Remorseless) it would take well over two million years to get there.

Biron leafed through the Standard Galactic Ephemeris with something like despair. Tens of thousands of stars were listed in detail, with their positions crammed into three figures.

There were hundreds of pages of these figures, symbolized by the Greek letters ρ (rho), θ (theta), and ϕ (phi)? was the distance from the Galactic Center in parsecs?, the angular separation, along the plane of the Galactic Lens from the Standard Galactic Baseline (the line, that is, which connects the Galactic Center and the sun of the planet,

Earth) ; f the angular separation from the Baseline in the plane perpendicular to that of the Galactic Lens, the two latter measurements being expressed in radians. Given those three figures, one could locate any star accurately in all the vast immensity of space.

That is, on a given date. In addition to the star's position on the standard day for which all the data were calculated, one had to know the star's proper motion, both speed and direction. It was a small correction. comparatively, but necessary. A million miles is virtually nothing compared with stellar distances, but it is a long way with a ship.

There was, of course, the question of the ship's own position. One could calculate the distance from Rhodia by the reading of the massometer, or, more correctly, the distance from Rhodia's sun, since this far out in space the sun's gravitational field drowned out that of any of its planets. The direction they were traveling with reference to the Galactic Baseline was more difficult to determine. Biron had to locate two known stars other than Rhodia's sun.

From their apparent positions and the known distance from Rhodia's sun, he could plot their actual position. It was roughly done but, he felt sure, accurately enough. Knowing his own position and that of Lingane's sun, he had only to adjust the controls for the proper direction and strength of the hyperatonic thrust.

Biron felt lonely and tense. Not frightened! He rejected the word. But tense, definitely. He was deliberately calculating the elements of the Jump for a time six hours later. He wanted plenty of time to check his figures. And perhaps there might be the chance for a nap. He had dragged the bed makings out of the cabin and it was ready for him now.

The other two were, presumably, sleeping in the cabin. He told himself that that was a good thing and that he wanted nobody around bothering him, yet when he heard the small sound of bare feet outside, he looked up with a certain eagerness.

"Hello," he said, "why aren't you sleeping?"

Artemisia stood in the doorway, hesitating. She said, in a small voice, "Do you mind if I come in? Will I be bothering you?"

"It depends on what you do."

"I'll try to do the right things."

She seemed too humble, Biron thought suspiciously, and then the reason for it came out.

"I'm awfully frightened," she said. "Aren't you?"

He wanted to say no, not at all, but it didn't come out that way. He smiled sheepishly, and said, "Sort of."

Oddly enough, that comforted her. She knelt down on the floor beside him and looked at the thick volumes opened before him and at the sheets of calculations.

"They had all these books here?"

"You bet. They couldn't pilot a ship without them."

"And you understand all that?"

"Not all that. I wish I did. I hope I understand enough. We'll have to Jump to Lingane, you know."

"Is that hard to do?"

"No, not if you know the figures, which are all here, and have the controls, which are all there, and if you have experience, which I haven't. For instance, it should be done in several Jumps, but I'm going to try it in one because there'll be less chance of trouble, even though it means a wasteful use of energy."

He shouldn't tell her; there was no point in telling her; it would be cowardly to frighten her; and she'd be hard to handle if she got really frightened, panicky frightened. He kept telling himself all that and it did no good. He wanted to share it with somebody. He wanted part of it off his own mind.

He said, "There are some things I should know that I don't. Things like the mass density between here and Lingane affect the course of the Jump, because that mass density is what controls the curvature of this part of the universe. The Ephemeris--that's this big book here--mentions the curvature corrections that must be made in certain standard Jumps, and from those you're supposed to be able to calculate your own particular corrections. But then if you happen to have a super giant within ten light-years, all bets are off. I'm not even sure if I used the computer correctly."

"But what would happen if you were wrong?"

"We could re-enter space too close to Lingane's sun."

She considered that, then said, "You have no idea how much better I feel."

"After what I've just said?"

"Of course. In my bunk I simply felt helpless and lost with so much emptiness in all directions. Now I know that we're going somewhere and that the emptiness is under our control."

Biron was pleased. How different she was. "I don't know about it's being under our control."

She stopped him. "It is. I know you can handle the ship."

And Biron decided that maybe he could at that.

Artemisia had tucked her long unclad legs under her and sat facing him. She had only her filmy underclothes for cover, but seemed unconscious of the fact, though Biron was definitely not.

She said, "You know, I had an awfully queer sensation in the bunk, almost as I were floating. That was one of the things that frightened me. Every time I'd turn, I'd give a queer little jump into the air and then flop back slowly as if there were springs in the air holding me back."

"You weren't sleeping in a top bunk, were you?"

"Yes, I was. The bottom ones give me claustrophobia, with another mattress six inches over your head."

Biron laughed. "Then that explains it. The ship's gravitational force is directed toward its base, and falls off as we move away from it. In the top bunk you were probably twenty or thirty pounds lighter than on the floor. Were you ever on a passenger liner? A really big one?"

"Once. When Father and I visited Tyrann last year."

"Well, on the liners they have the gravitation in all parts of the ship directed toward the outer hull, so that the long axis of the ship is always 'up,' no matter where you are. That's why the motors of one of those big babies are always lined up in a cylinder running right along the long axis. No gravity there."

"It must take an awful lot of power to keep an artificial gravity going."

"Enough to power a small town."

"There isn't any danger of our running short of fuel, is there?"

"Don't worry about that. Ships are fueled by the total conversion of mass to energy."

Fuel is the last thing we'll run out of. The outer hull will wear away first."

She was facing him. He noted that her face had been cleaned of its make-up and wondered how that had been done; probably with a handkerchief and as little of the drinking water as she could manage. She didn't suffer as a result, for her clear white skin was the more startlingly perfect against the black of her hair and eyes. Her eyes were very warm, thought Biron.

The silence had lasted a little too long. He said hurriedly, "You don't travel very much, do you? I mean, you were on a liner only once?"

She nodded. "Once too often. If we hadn't gone to Tyrann, that filthy chamberlain wouldn't have seen me and--I don't want to talk about that."

Biron let it go. He said, "Is that usual? I mean, not traveling."

"I'm afraid so. Father is always hopping around on state visits, opening agricultural expositions, dedicating buildings. He usually just makes some speech that Aratap writes for him. As for the rest of us, however, the more we stay in the Palace, the better the Tyranni like it. Poor Gillbret! The one and only time he left Rhodia was to attend the Khan's coronation as Father's representative. They've never let him get into a ship again."

Her eyes were downcast and, absently, she pleated the material of Biron's sleeve where it ended at the wrist. She said, "Biron."

"Yes--Arta?" He stumbled a bit, but it came out.

"Do you think Uncle Oil's story can be true?"

"Do you suppose it could be his imagination? He's been brooding about the Tyranni for years, and he's never been able to do anything, of course, except to rig up spy beams, which is only childish, and he knows it. He may have built himself a daydream and, over the years, gradually come to believe in it. I know him, you see."

"Could be, but let's follow it up a little. We can travel to Lingane, anyway."

They were closer to one another. He could have reached out and touched her, held her in his arms, kissed her.

And he did so.

It was a complete non sequitur. Nothing, it seemed to Biron, had led to it. One moment they were discussing Jumps and gravity and Gillbret, and the next she was soft and silky in his arms and soft silky on his lips.

His first impulse was to say he was sorry, to go through all the silly motions of apology, but when he drew away and would have spoken, she still made no attempt at escape but rested her head in the crook of his left arm. Her eyes remained closed.

So he said nothing at all but kissed her again, slowly and thoroughly. It was the best thing he could have done, and at the time he knew it.

Finally she said, a bit dreamily, "Aren't you hungry? I'll bring you some of the concentrate and warm it for you. Then, if you want to sleep, I can keep an eye on things for you. And--and I'd better put on more of my clothes."

She turned as she was about to go out the door. "The food concentrate tastes very nice after you get used to it. Thank you for getting it."

Somehow that, rather than the kisses, was the treaty of peace between them.

When Gillbret entered the control room, hours later, he showed no surprise at finding Biron and Artemisia lost in a foolish kind of conversation. He made no remarks about the fact that Biron's arm was about his niece's waist.

He said, "When are we Jumping, Biron?"

"In half an hour," said Biron.

The half hour passed; the controls were set; conversation languished and died.

At zero time Biron drew a deep breath and yanked a lever the full length of its arc, from left to right.

It was not as it had been on the liner. The Remorseless was smaller and the Jump was consequently less smooth. Biron staggered, and for a split second things wavered.

And then they were smooth and solid again.

The stars in the visiplat had changed. Biron rotated the ship, so that the star field lifted, each star moving in a stately arc. One star appeared finally, brilliantly white and more than a point. It was a tiny sphere, a burning speck of sand. Biron caught it, steadied the ship before it was lost again, and turned the telescope upon it, throwing in the spectroscopic attachment.

He turned again to the Ephemeris, and checked under the column headed "Spectral Characteristics." Then he got out of the pilot's chair and said, "It's still too far. I'll have to nudge up to it. But, anyway, that's Lingane right ahead."

It was the first Jump he had ever made, and it was successful.

12. THE AUTARCH COMES

The Autarch of Lingane pondered the matter, but his cool, well-trained features scarcely creased under the impact of thought.

"And you waited forty-eight hours to tell me," he said.

Rizzett said boldly, "There was no reason to tell you earlier. If we bombarded you with all matters, life would be a burden to you. We tell you now because we still make nothing of it. It is queer, and in our position we can afford nothing queer."

"Repeat this business. Let me hear it again."

The Autarch threw a leg upon the flaring window sill and looked outward thoughtfully.

The window itself represented perhaps the greatest single oddity of Linganian architecture. It was moderate in size and set at the end of a five-foot recess that narrowed gently toward it.

It was extremely clear, immensely thick, and precisely curved; not so much a window as a lens, funneling the light inward from all directions, so that, looking outward, one eyed a miniature panorama.

From any window in the Autarch's Manor a sweep of vision embracing half the horizon from zenith to nadir could be seen. At the edges there was increasing minuteness and distortion, but that itself lent a certain flavor to what one saw: the tiny flattened motions of the city; the creeping, curved orbits of the crescent-shaped stratospherics climbing from the airport. One grew so used to it that unhinging the window to allow the flat tameness of reality to enter would seem unnatural. When the position of the sun made the lenslike windows a focus for impossible heat and light, they were blanked out automatically, rather than opened, rendered opaque by a shift in the polarization characteristics of the glass.

And certainly the theory that a planet's architecture is the reflection of a planet's place in the Galaxy would seem to be borne out by the case of Lingane and its windows.

Like the windows, Lingane was small yet commanded a panoramic view. It was a "planet state" in a Galaxy, which, at the time, had passed beyond that stage of economic and political development. Where most political units were con. glomerations of stellar systems, Lingane remained what it had been for centuries--a single inhabited world. This did not prevent it from being wealthy. In fact, it was almost inconceivable that Lingane could be anything else.

It is difficult to tell in advance when a world is so located that many Jump routes may use it as a pivotal intermediate point; or even must use it in the interests of optimal economy. A great deal depends on the pattern of development of that region of space. There is the question of the distribution of the naturally habitable planets; the order in which they are colonized and developed; the types of economy they possess.

Lingane discovered its own values early, which was the great turning point of its history. Next to the actual possession of a strategic position, the capacity to appreciate and exploit that position is most important. Lingane had proceeded to occupy small planetoids with neither resources nor capacity for supporting an independent population, choosing them only because they would help maintain Lingane's trade monopoly. They built servicing stations on those rocks. All that ships would need, from hyperatomic replacements to new book reels, could be found there. The stations grew to huge trading posts. From all the Nebular Kingdoms fur, minerals, grain, beef, timber poured in; from the Inner Kingdoms, machinery, appliances, medicinals; finished products of all sorts formed a similar flood.

So that, like its windows, Lingane's minuteness looked out on all the Galaxy. It was a planet alone, but it did well.

The Autarch said, without turning from the window, "Start with the mail ship, Rizzett.

Where did it meet this cruiser in the first place?"

"Less than one hundred thousand miles off Lingane. The exact coordinates don't matter.

They've been watched ever since. The point is that, even then, the Tyrannian cruiser was in an orbit about the planet."

"As though it had no intention of landing, but, rather, was waiting for something?"

"Yes."

"No way of telling how long they'd been waiting?"

"Impossible, I'm afraid. They were sighted by no one else. We checked thoroughly."

"Very well," said the Autarch. "We'll abandon that for the moment. They stopped the mail ship, which is, of course, interference with the mails and a violation of our Articles of Association with Tyrann."

"I doubt that they were Tyranni. Their unsure actions are more those of outlaws, of prisoners in flight."

"You mean the men on the Tyrannian cruiser? It may be what they want us to believe, of course. ' At any rate, their only overt action was to ask that a message be delivered directly to me."

"Directly to the Autarch, that is right."

"Nothing else?"

"Nothing else."

"They at no time entered the mail ship?"

"All communications were by visiplat. The mail capsule was shot across two miles of empty space and caught by the ship's net."

"Was it vision communication or sound only?"

"Full vision. That's the point. The speaker was described by several as being a young man of 'aristocratic bearing,' whatever that means."

The Autarch's fist clenched slowly. "Really? And no photo-impression was taken of the face? That was a mistake."

"Unfortunately there was no reason for the mail captain to have anticipated the importance of doing so, If any importance exists! Does all this mean anything to you, sir?"

The Autarch did not answer the question. "And this is the message?"

"Exactly. A tremendous message of one word that we were supposed to bring directly to you; a thing we did not do, of course. It might have been a fission capsule, for instance. Men have been killed that way before."

"Yes, and Autarchs too," said the Autarch. "Just the word 'Gillbret.' One word, 'Gillbret.' "

The Autarch maintained his indifferent calm, but a certain lack of certainty was gathering, and he did not like to experience a lack of certainty. He liked nothing which made him aware of limitations. An Autarch should have no limitations, and on Lingane he had none that natural law did not impose.

There had not always been an Autarch. In its earlier days Lingane had been ruled by dynasties of merchant princes. The families who had first established the subplanetary service stations were the aristocrats of the state. They were not rich in land, hence could not compete in social position with the Ranchers and Grangers of the neighboring worlds. But they were rich in negotiable currency and so could buy and sell those same Ranchers and Grangers; and, by way of high finance, they sometimes did.

And Lingane suffered the usual fate of a planet ruled (or misruled) under such circumstances. The balance of power oscillated from one family to another. The various groups alternated in exile. Intrigues and palace revolutions were chronic, so that if the Directorship of Rhodia was the Sector's prime example of stability and orderly development, Lingane was the example of restlessness and disorder. "As fickle as Lingane," people said.

The outcome was inevitable, if one judges by hindsight. As the neighboring planet states consolidated into group states and became powerful, civil struggles on Lingane became increasingly expensive and dangerous to the planet. The general population was quite willing, finally, to barter anything for general calm. So they exchanged a plutocracy for an autocracy, and lost little liberty in the exchange. The power of several was concentrated in one, but that one, frequently enough, was deliberately friendly to the populace he sought to use as a make-weight against the never-reconciled merchants.

Under the Autarchy, Lingane increased its wealth and strength. Even the Tyranni, attacking thirty years earlier at the height of their power, had been fought to a standstill.

They had not been defeated, but they had been stopped. The shock, even of that, had been permanent. Not a planet had been conquered by the Tyranni since the year they had attacked Lingane.

Other planets of the Nebular Kingdoms were outright vassals of the Tyranni. Lingane, however, was an Associated State, theoretically the equal "ally" of Tyrann, with its rights guarded by the Articles of Association.

The Autarch was not fooled by the situation. The chauvinistic of the planet might allow themselves the luxury of considering themselves free, but the Autarch knew that the Tyrannian danger had been held at arm's length this past generation. Only that far. No farther.

And now it might be moving in quickly for the final, long-delayed bear hug. Certainly, he had given it the opportunity it was waiting for. The organization he had built up, ineffectual though it was, was sufficient grounds for punitive action of any type the Tyranni might care to undertake. Legally, Lingane would be in the wrong.

Was the cruiser the first reaching out for the final bear hug?

The Autarch said, "Has a guard been placed on that ship?"

"I said they were watched. Two of our freighters"--he smiled one-sidedly, "keep in massometer range."

"Well, what do you make of it?"

"I don't know. The only Gillbret I know whose name by itself would mean anything is Gillbret oth Hinriad of Rhodia. Have you had dealings with him?"

The Autarch said, "I saw him on my last visit to Rhodia."

"You told him nothing, of course."

"Of course."

Rizzett's eyes narrowed. "I thought there might have been a certain lack of caution on your part; that the Tyranni had been the recipients of an equal lack of caution on the part of this Gillbret--the Hinriads are notable weaklings these days--and that this now was a device to trap you into final self-betrayal."

"I doubt it. It comes at a queer time, this business. I have been away from Lingane for a year or more. I arrived last week and I shall leave in a matter of days again. A message such as this reaches me just when I am in a position to be reached."

"You don't think it is a coincidence?"

"I don't believe in coincidence. And there is one way in which all this would not be coincidence. I will therefore visit that ship. Alone."

"Impossible, sir." Rizzett was startled. He had a small, uneven scar just above his right temple and it suddenly showed red.

"You forbid me?" asked the Autarch dryly.

And he was Autarch, after all, since Rizzett's face fell, and he said, "As you please, sir."

Aboard the Remorseless, the wait was proving increasingly unpleasant. For two days they hadn't budged from their orbit.

Gillbret watched the controls with relentless concentration. His voice had an edge to it. "Wouldn't you say they were moving?"

Biron looked up briefly. He was shaving, and handling the Tyranni erosive spray with finicky care.

"No," he said, "they're not moving. Why should they? They're watching us, and they'll keep on watching us."

He concentrated upon the difficult area of the upper lip, and frowned impatiently as he felt the slightly sour taste of the spray upon his tongue. A Tyrannian could handle the spray with a grace that was almost poetic. It was undoubtedly the quickest and closest non-permanent shaving method in existence, in the hands of an expert. In essence, it was an extremely fine air-blown abrasive that scoured off the hairs without harming the skin.

Certainly the skin felt like nothing more than the gentle pressure of what might have been an air stream.

However, Biron felt queasy about it. There was the well-known legend, or story, or fact (whatever it was), about the incidence of face cancer being higher among the Tyranni than among other cultural groups, and some attributed this to the Tyranni shave spray. Biron wondered for the first time if it might not be better to have his face completely depilated.

It was done in some parts of the Galaxy, as a matter of course. He rejected the thought.

Depilation was permanent. The fashion might always shift to mustaches or cheek curls.

Biron was surveying his face in the mirror, wondering how he would look in sideburns down to the angle of the jaw, when Artemisia said from the doorway, "I thought you were going to sleep."

"I did," he said. "Then I woke up." He looked up at her and smiled.

She patted his cheek, then stroked it gently with her fingers. "It's smooth. You look about eighteen."

He carried her hand to his lips. "Don't let that fool you," he said., She said, "They're still watching?"

"Still watching. Isn't it annoying, these dull interludes that give you time to sit and worry?"

"I don't find this interlude dull."

"You're talking about other aspects of it now, Arta."

She said, "Why don't we cross them up and land on Lingane?"

"We've thought of it. I don't think we're ready for that kind of risk. We can afford to wait till the water supply gets a bit lower."

Gillbret said loudly, "I tell you they are moving."

Biron crossed over to the control panel and considered the massometer readings. He looked at Gillbret and said, "You may be right."

He pecked away at the calculator for a moment or two and stared at its dials.

"No, the two ships haven't moved relative to us, Gillbret. What's changed the massometer is that a third ship has joined them. As near as I can tell, it's five thousand miles off, about 46 degrees ? and 192 degrees f from the ship-planet line, if I've got the clockwise and counterclockwise conventions straight. If ' I haven't, the figures are, respectively, 314 and 168 degrees."

He paused to take another reading. "I think they're approaching. It's a small ship. Do you think you can get in touch with them, Gillbret?"

"I can try," said Gillbret.

"All right. No vision. Let's leave it at sound, till we get some notion of what's coming."

It was amazing to watch Gillbret at the controls of the etheric radio. He was obviously the possessor of a native talent. Contacting an isolated point in space with a tight radio beam remains, after all, a task in which the ship's control-panel information can participate only slightly. He had a notion of the distance of the ship which might be off by a hundred miles plus or minus. He had two angles, either or both of which might easily be wrong by five or six degrees in any direction.

This left a volume of about ten million cubic miles within which the ship might be.

The rest was left to the human operator, and a radio beam which was a probing finger not half a mile in cross section at the widest point of its receivable range. It was said that a skilled operator could tell by the feel of the controls how closely the beam missed the target. Scientifically, that theory was nonsense, of course, but it often seemed that no other explanation was possible.

In less than ten minutes the activity gauge of the radio was jumping and the Remorseless was both sending and receiving.

In another ten minutes Biron was able to lean back and say, "They're going to send a man aboard."

"Ought we to let them?" asked Artemisia.

"Why not? One man? We're armed."

"But if we let their ship get too close?"

"We're a Tyrannian cruiser, Arta. We've got three to five times their power, even if they were the best warship Lingane had. They're not allowed too much by their precious Articles of Association, and we've got five high-caliber blasters."

Artemisia said, "Do you know how to use the Tyrannian blasters? I didn't know you did."

Biron hated to turn the admiration off, but he said, "Unfortunately, I don't. At least, not yet. But then, the Linganian ship won't know that, you see."

Half an hour later the visiplat showed a visible ship. It was a stubby little craft, fitted with two sets of four fins, as though it were frequently called upon to double for stratospheric flight.

At its first appearance in the telescope, Gillbret shouted in delight. "That's the Autarch's yacht," he cried, and his face wrinkled into a grin. "It's his private yacht. I'm sure of it. I told you that the bare mention of my name was the surest way to get his attention."

There was the period of deceleration and adjustment of velocity on the part of the Linganian ship, until it hung motionless in the plate.

A thin voice came from the receiver. "Ready for boarding?"

"Ready!" clipped Biron. "One person only."

"One person," came the response.

It was like a snake uncoiling. The metal-mesh rope looped outward from the Lingularian ship, shooting at them harpoon-fashion. Its thickness expanded in the visiplat, and the magnetized cylinder that ended it approached and grew in size. As it grew closer, it edged toward the rim of the cone of vision, then veered off completely.

The sound of its contact was hollow and reverberant. The magnetized weight was anchored, and the line was a spider thread that did not sag in a normal weighted curve but retained whatever kinks and loops it had possessed at the moment of contact, these moving slowly forward as units under the influence of inertia.

Easily and carefully, the Lingularian ship edged away and the line straightened. It hung there then, taut and fine, thinning into space until it was an almost invisible thing, glancing with incredible daintiness in the light of Lingane's sun.

Biron threw in the telescopic attachment, which bloated the ship monstrously in the field of vision, so that one could see the origin of the half-mile length of connecting line and the little figure that was beginning to swing hand over hand along it.

It was not the usual form of boarding. Ordinarily, two ships would maneuver to near-contact, so that extensible air locks could meet and merge under intense magnetic fields.

A tunnel through space would connect the ships, and a man could travel from one to the other with no further protection than he needed to wear aboard ship. Naturally, this form of boarding required mutual trust.

By space line, one was dependent upon his space suit. The approaching Lingularian was bloated in his, a fat thing of air-extended metal mesh, the joints of which required no small muscular effort to work. Even at the distance at which he was, Biron could see his arms flex with a snap as the joint gave and came to rest in a new groove.

And the mutual velocities of the two ships had to be carefully adjusted. An inadvertent acceleration on the part of either would tear the line loose and send the traveler tumbling through space under the easy grip of the faraway sun and of the initial impulse of the snapping line--with nothing, neither friction nor obstruction, to stop him this side of eternity.

The approaching Lingularian moved on confidently and quickly. When he came closer it was easy to see that it was not a simple hand-over-hand procedure. Each time the forward hand flexed, pulling him on, he would let go and float onward some dozen feet before his other hand had reached forward for a new hold.

It was a brachiation through space. The spaceman was a gleaming metal gibbon.

Artemisia said, "What if he misses?"

"He looks too expert to do that," said Biron, "but if he does, he'd still shine in the sun. We'd pick him up again."

The Lingularian was close now. He had passed out of the field of the visiplat. In another five seconds there was the clatter of feet on the ship's hull.

Biron yanked the lever that lit the signals which outlined the ship's air lock. A moment later, in answer to an imperative series of raps, the outer door was opened.

There was a thump just beyond a blank section of the pilot-room's wall. The outer door closed, the section of wall slid away, and a man stepped through.

His suit frosted over instantly, blanking the thick glass of his helmet and turning him into a mound of white. Cold radiated from him. Biron elevated the heaters and the gush of air that entered was warm and dry. For a moment the frost on the suit held its own, then began to thin and dissolve into a dew.

The Linganian's blunt metal fingers were fumbling at the clasps of the helmet as though he were impatient with his snowy blindness. It lifted off as a unit, the thick, soft insulation inside rumpling his hair as it passed.

Gillbret said, "Your Excellency!" In glad triumph, he said, "Biron, it is the Autarch himself."

But Biron, in a voice that struggled vainly against stupefaction, could only say, "Jonti!"

13. THE AUTARCH REMAINS

The Autarch gently toed the suit to one side and appropriated the larger of the padded chairs.

He said, "I haven't had that sort of exercise in quite awhile. But they say it never leaves you once you've learned, and, apparently, it hasn't in my case. Hello, Farrill! My Lord Gillbret, good day. And this, if I remember, is the Director's daughter, the Lady Artemisia!"

He placed a long cigarette carefully between his lips and brought it to life with a single intake of breath. The scented tobacco filled the air with its pleasant odor. "I did not expect to see you quite so soon, Farrill," he said.

"Or at all, perhaps?" said Biron acidly.

"One never knows," agreed the Autarch. "Of course, with a message that read only 'Gillbret'; with the knowledge that Gillbret could not pilot a space ship; with the further knowledge that I had myself sent a young man to Rhodia who could pilot a space ship and who was quite capable of stealing a Tyrannian cruiser in his desperation to escape; and with the knowledge that one of the men on the cruiser was reported to be young and of aristocratic bearing, the conclusion was obvious. I am not surprised to see you."

"I think you are," said Biron. "I think you're as surprised as hell to see me. As an assassin, you should be. Do you think I am worse at deduction than you are?"

"I think only highly of you, Farrill."

The Autarch was completely unperturbed, and Biron felt awkward and stupid in his resentment. He turned furiously to the others. "This man is Sander Jonti--the Sander Jonti I've told you of. He may be the Autarch of Lingane besides, or fifty Autarchs. It makes no difference. To me he is Sander Jonti."

Artemisia said, "He is the man who--"

Gillbret put a thin and shaking hand to his brow. "Control yourself, Biron. Are you mad?"

"This is the man! I am not mad!" shouted Biron. He controlled himself with an effort.

"All right. There's no point yelling, I suppose. Get off my ship, Jonti. Now that's said quietly enough. Get off my ship."

"My dear Farrill. For what reason?"

Gillbret made incoherent sounds in his throat, but Biron pushed him aside roughly and faced the seated Autarch. "You made one mistake, Jonti. Just one. You couldn't tell in advance that when I got out of my dormitory room back on Earth I would leave my wrist watch inside.

You see, my wrist-watch strap happened to be a radiation indicator."

The Autarch blew a smoke ring and smiled pleasantly.

Biron said, "And that strap never turned blue, Jonti. There was no bomb in my room that night. There was only a deliberately planted dud! If you deny it, you are a liar, Jonti, or Autarch, or whatever you please to call yourself.

"What is more, you planted that dud. You knocked me out with Hypnite and arranged the rest of that night's comedy. It makes quite obvious sense, you know. If I had been left to myself, I would have slept through the night and would never have known that anything was out of the way. So who rang me on the visiphone until he was sure I had awakened? Awakened, that is, to discover the bomb, which had been deliberately placed near a counter so that I couldn't miss it. Who blasted my door in so that I might leave the room before I found out that the bomb was only a dud after all? You must have enjoyed yourself that night, Jonti."

Biron waited for effect, but the Autarch merely nodded in polite interest. Biron felt the fury mount. It was like punching pillows, whipping water, kicking air.

He said harshly, "My father was about to be executed. I would have learned of it soon enough. I would, have gone to Nephelos, or not gone. I would have followed my own good sense in the matter, confronted the Tyranni openly or not as I decided. I would have known my chances. I would have been prepared for eventualities.

"But you wanted me to go to Rhodia, to see Hinrik. But, ordinarily, you couldn't expect me to do what you wanted. I wasn't likely to go to you for advice. Unless, that is, you could stage an appropriate situation. You did!

"I thought I was being bombed and I could think of DO reason. You could. You seemed to have saved my life. You seemed to know everything; what I ought to do next, for instance. I was off balance, confused. I followed your advice."

Biron ran out of breath and waited for an answer. There was none. He shouted, "You did not explain that the ship on which I left Earth was a Rhodian ship and that you had seen to it that the captain had been informed of my true identity. You did not explain that you intended me to be in the hands of the Tyranni the instant I landed on Rhodia. Do you deny that?"

There was a long pause. Jonti stubbed out his cigarette.

Gillbret chafed one hand in the other. "Biron, you are being ridiculous. The Autarch wouldn't--"

Then Jonti looked up and said quietly, "But the Autarch would. I admit it all. You are quite right, Biron, and I congratulate you on your penetration. The bomb was a dud planted by myself, and I sent you to Rhodia with the intention of having you arrested by the Tyranni."

Biron's face cleared. Some of the futility of life vanished. He said, "Someday, Jonti, I will settle that matter. At the moment, it seems you are Autarch of Lingane with three ships waiting for you out there. That hampers me a bit more than I would like. However, the Remorseless is my ship. I am its pilot. Put on your suit and get out. The space line is still in place."

"It is not your ship. You are a pirate rather than a pilot."

"Possession is all the law here. You have five minutes to get into your suit."

"Please. Let's avoid dramatics. We need one another and I have no intention of leaving."

"I don't need you. I wouldn't need you if the Tyrannian home fleet were closing in right now and you could blast them out of space for me."

"Farrill," said Jonti, "you are talking and acting like an adolescent. I've let you have your say. May I have mine?"

"No. I see no reason to listen to you."

"Do you see one now?"

Artemisia screamed. Biron made one movement, then stopped. Red with frustration, he remained tense but helpless.

Jonti said, "I do take certain precautions. I am sorry to be so crude as to use a weapon as a threat. But I imagine it will help me force you to hear me."

The weapon he held was a pocket blaster. It was not designed to pain or stun. It killed!

He said, "For years I have been organizing Lingane against the Tyranni. Do you know what that means? It has not been easy. It has been almost impossible. The Inner Kingdoms will offer no help. We've known that from long experience. There is no salvation for the Nebular Kingdoms but what they work out for themselves. But to convince our native leaders of this is no friendly game. Your father was active in the matter and was killed. Not a friendly game at all. Remember that.

"And your father's capture was a crisis to us. It was life and horrible death to us.

He was in our inner circles and the Tyranni were obviously not far behind us. They had to be thrown off stride. To do so, I could scarcely temper my dealings with honor and integrity.

They fry no eggs.

"I couldn't come to you and say, 'Farrill, we've got to put the Tyranni on a false scent. You're the son of the Rancher and therefore suspicious. Get out there and be friendly with Hinrik of Rhodia so that the Tyranni may look in the wrong direction. Lead them away from Lingane. It may be dangerous; you may lose your life, but the ideals for which your father died come first."

"Maybe you would have done it, but I couldn't afford to experiment. I maneuvered you into doing it without your knowledge. It was hard, I'll grant you. Still, I had no choice. I thought you might not survive; I tell you that frankly. But you were expendable; and I tell you that frankly. As it turned out, you did survive, and I am pleased with that.

"And there was one more thing, a matter of a document--"

Biron said, "What document?"

"You jump quickly. I said your father was working for me. So I know what he knew. You were to obtain that document and you were a good choice, at first. You were on Earth legitimately. You were young and not likely to be suspected. I say, at first!

"But then, with your father arrested, you became dangerous. You would be an object of prime suspicion to the Tyranni; and we could not allow the document to fall into

your possession, since it would then almost inevitably fall into theirs. We had to get you off Earth before you could complete your mission. You see, it all hangs together."

"Then you have it now?" asked Biron.

The Autarch said, "No, I have not. A document which might have been, the right one has been missing from Earth for years. If it is the right one, I don't know who has it. May I put away the blaster now? It grows heavy."

Biron said, "Put it away."

The Autarch did so. He said, "What has your father told you about the document?"

"Nothing that you don't know, since he worked for you."

The Autarch smiled. "Quite so!" but the smile had little of real amusement in it.

"Are you quite through with your explanation now?"

"Quite through."

"Then," said Biron, "get off the ship."

Gillbret said, "Now wait, Biron. There's more than private pique to be considered here. There's Artemisia and myself, too, you know. We have something to say. As far as I'm concerned, what the Autarch says makes sense. I'll remind you that on Rhodia I saved your life, so I think my' views are to be considered."

"All right. You saved my life," shouted Biron. He pointed a finger towards the air lock. "Go with him, then. Go on. You get out of here too'. You wanted to find the Autarch.

There he is! I agreed to pilot you to him, and my responsibility is over. Don't try to tell me what to do."

He turned to Artemisia, some of his anger still brimming over. "And what about you?

You saved my life too. Everyone went around saving my life. Do you want to go with him too?"

She said calmly, "Don't put words into my mouth, Biron. If I wanted to go with him, I'd say so."

"Don't feel any obligations. You can leave any time."

She looked hurt and he turned away. As usual, some cooler part of himself knew that he was acting childish. He had been made to look foolish by Jonti and he was helpless in the face of the resentment he felt. And besides, why should they all take so calmly the thesis that it was perfectly right to have Biron Farrill thrown to the Tyranni, like a bone to the dogs, in order to keep them off Jonti's neck. Damn it, what did they think he was?

He thought of the dud bomb, the Rhodian liner, the Tyranni, the wild night on Rhodia, and he could feel the stinging of self-pity inside himself.

The Autarch said, "Well, Farrill?"

And Gillbret said, "Well, Biron?"

Biron turned to Artemisia. "What do you think?"

Artemisia said calmly, "I think he has three ships out there still, and is Autarch of Lingane, besides. I don't think you really have a choice."

The Autarch looked at her, and he nodded his admiration. "You are an intelligent girl, my lady. It is good that such a mind should be in such a pleasant exterior." For a measurable moment his eyes lingered.

Biron said, "What's the deal?"

"Lend me the use of your names and your abilities, and I will take you to what my Lord Gillbret called the rebellion world."

Biron said sourly, "You think there is one?"

And Gillbret said simultaneously, "Then it is yours."

The Autarch smiled. "I think there is a world such as my lord described, but it is not mine."

"It's not yours," said Gillbret despondently. "Does that matter, if I can find it?"

"How?" demanded Biron.

The Autarch said, "It is not so difficult as you might think. If we accept the story as it has been told us, we must believe that there exists a world in rebellion against the Tyranni. We must believe that it is located somewhere in the Nebular Sector and that in twenty years it has remained undiscovered by the Tyranni. If such a situation is to remain possible, there is only one place in the Sector where such a planet can exist."

"And where is that?"

"You do not find the solution obvious? Doesn't it seem inevitable that the world could exist only within the Nebula itself?"

"Inside the Nebula!"

Gillbret said, "Great Galaxy, of course."

And, at the moment, the solution did indeed seem obvious and inescapable.

Artemisia said timidly, "Can people live on worlds inside the Nebula?"

"Why not?" said the Autarch. "Don't mistake the Nebula. It is a dark mist in space, but it is not a poison gas. It is an incredibly attenuated mass of sodium, potassium, and calcium atoms that absorb and obscure the light of the stars within it, and, of course, those on the side directly opposite the observer. Otherwise, it is harmless, and, in the direct neighborhood of a star, virtually undetectable."

"I apologize if I seem pedantic, but I have spent the last several months at the University of Earth collecting astronomical data on the Nebula."

"Why there?" said Biron. "It is a matter of little importance, but I met you there and I am curious."

"There's no mystery to it. I left Lingane originally on my own business. The exact nature is of no importance. About six months ago I visited Rhodia. My agent, Widemos--your father, Biron--had been unsuccessful in his negotiations with the Director, whom we had hoped to swing to our side. I tried to improve matters and failed, since Hinrik, with apologies to the lady, is not the type of material for our sort of work."

"Hear, hear," muttered Biron.

The Autarch continued. "But I did meet Gillbret, as he may have told you. So I went to Earth, because Earth is the original home of humanity. It was from Earth that most

of the original explorations of the Galaxy set out. It is upon Earth that most of the records exist.

The Horsehead Nebula was explored quite thoroughly; at least, it was passed through a number of times. It was never settled, since the difficulties of traveling through a volume of space where stellar observations could not be made were too great. The explorations themselves, however, were all I needed.

"Now listen carefully. The Tyrannian ship upon which my Lord Gillbret was marooned was struck by a meteor after its first Jump. Assuming that the trip from Tyrann to Rhodia was along the usual trade route--and there is no reason to suppose anything else--the point in space at which the ship left its route is established. It would scarcely have traveled more than half a million miles in ordinary space between the first two Jumps. We can consider such a length as a point in space.

"It is possible to make another assumption. In damaging the control panels, it was quite possible that the meteor might have altered the direction of the Jumps, since that would require only an interference with the motion of the ship's gyroscope. This would be difficult but not impossible. To change the power of the hyperatomic thrusts, however, would require complete smashing of the engines, which, of course, were not touched by the meteor.

"With unchanged power of thrust, the length of the four remaining Jumps would not be changed, nor, for that matter, would their relative directions. It would be analogous to having a long, crooked wire bent at a single point in an unknown direction through an unknown angle. The final position of the ship would lie somewhere on the surface of an imaginary sphere, the center of which would be that point in space where the meteor struck, and the radius of which would be the vector sum of the remaining Jumps.

"I plotted such a sphere, and that surface intersects a thick extension of the Horsehead Nebula. Some six thousand square degrees of the sphere's surface, one fourth of the total surface, lies in the Nebula. It remains, therefore, only to find a star lying within the Nebula and within one million miles or so of the imaginary surface we are discussing. You will remember that when Gillbret's ship came to rest, it was within reach of a star.

"Now how many stars within the Nebula do you suppose we can find that close to the sphere's surface? Remember there are one hundred billion radiating stars in the Galaxy."

Biron found himself absorbed in the matter almost against his will. "Hundreds, I suppose."

"Five!" replied the Autarch. "Just five. Don't be fooled by the one hundred billion figure. The Galaxy is about seven trillion cubic light-years in volume, so that there are seventy cubic light-years per star on the average. It is a pity that I do not know which of those five have habitable planets. We might reduce the number of possibles to one.

Unfortunately, the early explorers had no time for detailed observations. They plotted the positions of the stars, the proper motions, and the spectral types."

"So that in one of those five stellar system," said Biron, "is located the rebellion world?"

"Only that conclusion would fit the facts we know."

"Assuming Oil's story can be accepted."

"I make that assumption."

"My story is true," interrupted Gillbret intensely. "I swear it."

"I am about to leave," said the Autarch, "to investigate each of the five worlds. My motives in doing so are obvious. As Autarch of Lingane I can take an equal part in their efforts."

"And with two Hinriads and a Widemos on your side, your bid for an equal part, and, presumably, a strong and secure position in the new, free worlds to come, would be so much the better," said Biron.

"Your cynicism doesn't frighten me, Farrill. The answer is obviously yes. If there is to be a successful rebellion, it would, again obviously, be desirable to have your fist on the winning side."

"Otherwise some successful privateer or rebel captain might be rewarded with the Autarchy of Lingane."

"Or the Ranchy of Widemos. Exactly."

"And if the rebellion is not successful?"

"There will be time to judge of that when we find what we look for."

Biron said slowly, "I'll go with you."

"Good! Then suppose we make arrangements for your transfer from this ship."

"Why that?"

"It would be better for you. This ship is a toy."

"It is a Tyrannian warship. We would be wrong in abandoning it."

"As a Tyrannian warship, it would be dangerously conspicuous."

"Not in the Nebula. I'm sorry, Jonti. I'm joining you out of expedience. I can be frank too. I want to find the rebellion world. But there's no friendship between us. I stay at my own controls."

"Biron," said Artemisia gently, "the ship is too small for the three of us."

"As it stands, yes, Arta. But it can be fitted with a trailer. Jonti knows that as well as I do. We'd have all the space we needed then, and still be masters at our own controls. And, for that matter, it would effectively disguise the nature of the ship."

The Autarch considered. "If there is to be neither friendship nor trust, Farrill, I must protect myself. You may have your own ship and a trailer to boot, outfitted as you may wish. But I must have some guarantee for your proper behavior. The Lady Artemisia, at least, must come with me."

"No!" said Biron.

The Autarch lifted his eyebrows. "No? Let the lady speak."

He turned toward Artemisia, and his nostrils flared slightly. "I dare say you would find the situation very comfortable, my lady."

"You, at least, would not find it comfortable, my lord. Be assured of that," she retorted. "I would spare you the discomfort and remain here."

"I think you might reconsider if--" began the Autarch, as two little wrinkles at the bridge of his nose marred the serenity of his expression.

"I think not," interrupted Biron. "The Lady Artemisia has made her choice."

"And you back her choice then, Farrill?" The Autarch was smiling again.

"Entirely! All three of us will remain on the Remorseless. There will be no compromise on that."

"You choose your company oddly."

"Do I?"

"I think so." The Autarch seemed idly absorbed in his fingernails. "You seem so annoyed with me because I deceived you and placed your life in danger. It is strange, then, is it not, that you should seem on such friendly terms with the daughter of a man such as Hinrik, who in deception is certainly my master."

"I know Hinrik. Your opinions of him change nothing."

"You know everything about Hinrik?"

"I know enough."

"Do you know that he killed your father?" The Autarch's finger stabbed toward Artemisia. "Do you know that the girl you are so deeply concerned to keep under your protection is the daughter of your father's murderer?"

14. THE AUTARCH LEAVES

The tableau remained unbroken for a moment. The Autarch had lit another cigarette. He was quite relaxed, his face untroubled. Gillbret had folded into the pilot's seat, his face screwed up as though he were going to burst into tears. The limp straps of the pilot's stress-absorbing outfit dangled about him and increased the lugubrious effect.

Biron, paper-white, fists clenched, faced the Autarch. Artemisia, her thin nostrils flaring, kept her eyes not on the Autarch, but on Biron only.

The radio signaled, the soft clickings crashing with the effect of cymbals in the small pilot room.

Gillbret jerked upright, then whirled on the seat.

The Autarch said lazily, "I'm afraid we've been more talkative than I'd anticipated. I told Rizzett to come get me if I had not returned in an hour."

The visual screen was alive now with Rizzett's grizzled head.

And then Gillbret said to the Autarch, "He would like to speak to you." He made room.

The Autarch rose from his chair and advanced so that his own head was within the zone of visual transmission.

He said, "I am perfectly safe, Rizzett."

The other's question was heard clearly: "Who are the crew members on the cruiser, sir?"

And suddenly Biron stood next to the Autarch. "I am Rancher of Widemos," he said proudly.

Rizzett smiled gladly and broadly. A hand appeared on the screen in sharp salute.

"Greetings, sir."

The Autarch interrupted. "I will be returning soon with a young lady. Prepare to maneuver for contact air locks." And he broke the visual connection between the two ships.

He turned to Biron, "I assured them it was you on board ship. There was some objection to my coming here alone otherwise. Your father was extremely popular with my men."

"Which is why you can use my name."

The Autarch shrugged.

Biron said, "It is all you can use. Your last statement to your officer was inaccurate."

"In what way?"

"Artemisia oth Hinriad stays with me."

"Still? After what I have told you?"

Biron said sharply, "You have told me nothing. You have made a bare statement, but I am not likely to take your unsupported word for anything. I tell you this without any attempt at tact. I hope you understand me."

"Is your knowledge of Hinrik such that my statement seems inherently implausible to you?"

Biron was staggered. Visibly and apparently, the remark had struck home. He made no answer.

Artemisia said, "I say it's not so. Do you have proof?"

"No direct proof, of course. I was not present at any conferences between your father and the Tyranni. But I can present certain known facts and allow you to make your own inferences. First, the old Rancher of Widemos visited Hinrik six months ago. I've said that already. I can add here that he was somewhat overenthusiastic in his efforts, or perhaps he overestimated Hinrik's discretion. At any rate, he talked more than he should have. My Lord Gillbret can verify that."

Gillbret nodded miserably. He turned to Artemisia, who had turned to him with moist and angry eyes. "I'm sorry, Arta, but it's true. I've told you this. It was from Widemos that I heard about the Autarch."

The Autarch said, "And it was fortunate for myself that my lord had developed such long mechanical ears with which to sate his lively curiosity concerning the Director's meetings of state. I was warned of the danger, quite unwittingly, by Gillbret when he first approached me. I left as soon as I could, but the damage, of course, had been done."

"Now, to our knowledge, it was Widemos's only slip, and Hinrik, certainly, has no enviable reputation as a man of any great independence and courage. Your father, Farrill, was arrested within half a year. If not through Hinrik, through this girl's father, then how?"

Biron said, "You did not warn him?"

"In our business we take our chances, Farrill, but he was warned. After that he made no contact, however indirect, with any of us, and destroyed whatever proof he had of connection with us. Some among us believed that he should leave the Sector, or, at the very least, go into hiding. He refused to do this."

"I think I can understand why. To alter his way of life would prove the truth of what the Tyranni must have learned, endanger the entire movement. He decided to risk his own life only. He remained in the open."

"For nearly half a year the Tyranni waited for a betraying gesture. They are patient, the Tyranni. None came, so that when they could wait no longer, they found nothing in their net but him."

"It's a lie," cried Artemisia. "It's all a lie. It's a smug, sanctimonious, lying story with no truth in it. If all you said were true, they would be watching you too. You would be in danger yourself. You wouldn't be sitting here, smiling and wasting time."

"My lady, I do not waste my time. I have already tried to do what I could toward discrediting your father as a source of information. I think I have succeeded somewhat. The Tyranni will wonder if they ought to listen further to a man whose daughter and cousin are obvious traitors. And then again, if they are still disposed to believe him, why, I am on the point of vanishing into the Nebula where they will not find me. I should think my actions tend to prove my story rather than otherwise."

Biron drew a deep breath and said, "Let us consider the interview at an end, Jonti. We have agreed to the extent that we will accompany you and that you will grant us needed supplies. That is enough. Granting that all you have just said is truth, it is still beside the point. The crimes of the Director of Rhodia are not inherited by his daughter. Artemisia oth Hinriad stays here with me, provided she herself agrees."

"I do," said Artemisia.

"Good. I think that covers everything. I warn you, by the way. You are armed; so am I.

Your ships are fighters, perhaps; mine is a Tyrannian cruiser."

"Don't be silly, Farrill. My intentions are quite friendly. You wish to keep the girl here? So be it. May I leave by contact air lock?"

Biron nodded. "We will trust you so far."

The two ships maneuvered ever closer, until the flexible airlock extensions pouted outward toward one another. Carefully, they edged about, trying for the perfect fit. Gillbret hung upon the radio.

"They'll be trying for contact again in two minutes," he said.

Three times already the magnetic field had been triggered, and each time the extending tubes had stretched toward one another and met off-center, gaping crescents of space between them.

"Two minutes," repeated Biron, and waited tensely.

The second hand moved and the magnetic field clicked into existence a fourth time, the lights dimming as the motors adjusted to the sudden drain of power. Again the airlock extensions reached out, hovered on the brink of instability, and then, with a noiseless jar, the vibration of which hummed its way into the pilot room, settled into place properly, clamps automatically locking in position. An air-tight seal had been formed.

Biron drew the back of his hand slowly across his forehead and some of the tension oozed out of him.

"There it is," he said.

The Autarch lifted his space suit. There was still a thin film of moisture under it.

"Thanks," he said pleasantly. "An officer of mine will be right back. You will arrange the details of the supplies necessary with him."

The Autarch left.

Biron said, "Take care of Jonti's officer for me for a while, will you, Oil. When he comes in, break the air-lock contact. All you'll have to do is remove the magnetic field. This is the photonic switch you'll flash."

He turned and stepped out of the pilot room. Right now he needed time for himself.

Time to think, mostly.

But there was the hurried footstep behind him, and the soft voice. He stopped.

"Biron," said Artemisia, "I want to speak to you. " He faced her. "Later, if you don't mind, Arta."

She was looking up at him intently. "No, now."

Her arms were poised as though she would have liked to embrace him but was not sure of her reception. She said, "You didn't believe what he said about my father?"

"It has no bearing," said Biron. "Biron," she began, and stopped. It was hard for her to say it. She tried again, "Biron, I know that part of what has been going on between us has been because we've been alone and together and in danger, but--" She stopped again.

Biron said, "If you're trying to say you're a Hinriad, Artá, there's no need. I know it. I won't hold you to anything afterward."

"No. Oh no." She caught his arm and placed her cheek against his hard shoulder. She was speaking rapidly. "That's not it at all. It doesn't matter about Hinriad and Widemos at all. I--I love you, Biron."

Her eyes went up, meeting his. "I think you love me too. I think you would admit it if you could forget that I am a Hinriad. Maybe you will now that I've said it first. You told the Autarch you would not hold my father's deeds against me. Don't hold his rank against me, either."

Her arms were around his neck now. Biron could feel the softness of her breasts against him and the warmth of her breath on his lips. Slowly his own hands went upward and gently grasped her forearms. As gently, he disengaged her arms and, still as gently, stepped back from her.

He said, "I am not quits with the Hinriads, my lady."

She was startled. "You told the Autarch that--"

He looked away. "Sorry, Artá. Don't go by what I told the Autarch."

She wanted to cry out that it wasn't true, that her father had not done this thing, that in any case--

But he turned into the cabin and left her standing in the corridor, her eyes filling with hurt and shame.

15. THE HOLE IN SPACE

Tedor Rizzett turned as Biron entered the pilot room again. His hair was gray, but his body was still vigorous and his face was broad, red, and smiling.

He covered the distance between himself and Biron in a stride and seized the young man's hand heartily.

"By the stars," he said, "I'd need no word from you to tell me that you are your father's son. It is the old Rancher alive again."

"I wish it were," said Biron, somberly.

Rizzett's smile faltered. "So do we all. Every one of us. I'm Tedor Rizzett, by the way. I'm a colonel in the regular Linganian forces, but we don't use titles in our own little game. We even say 'sir' to the Autarch. That reminds me!" He looked grave. "We don't have lords and ladies or even Ranchers on Lingane. I hope I won't offend if I forget to throw in the proper title sometimes."

Biron shrugged. "As you said, no titles in our little game. But what about the trailer? I'm to make arrangements with you, I take it."

For a flickering moment he looked across the room. Gillbret was seated, quietly listening. Artemisia had her back to him. Her slim, pale fingers wove an abstracted pattern on the photocontacts of the computer. Rizzett's voice brought him back.

The Linganian had cast an all-inclusive glance about the room. "First time I've ever seen a Tyrannian vessel from the inside. Don't care much for it. Now you've got the emergency air lock due stern, haven't you? It seems to me the power thrusters girdle the midsection."

"That's right."

"Good. Then there won't be any trouble. Some of the old model ships had power thrusters due stern, so that trailers had to be set off at an angle. This makes the gravity adjustment difficult and the maneuverability in atmospheres just about nil."

"How long will it take, Rizzett?"

"Not long. How big would you want it?"

"How big could you get it?"

"Super deluxe? Sure. If the Autarch says so, there's no higher priority. We can get one that's practically a space ship in itself. It would even have auxiliary motors."

"It would have living quarters, I suppose."

"For Miss Hinriad? It would be considerably better than you have here--" He stopped abruptly.

At the mention of her name, Artemisia had drifted past coldly and slowly, moving out of the pilot room. Biron's eyes followed her.

Rizzett said, "I shouldn't have said Miss Hinriad, I suppose."

"No, no. It's nothing. Pay no attention. You were saying?"

"Oh, about the rooms. At least two sizable ones, with a communicating shower. It's got the usual closet room and plumbing arrangements of the big liners. She would be comfortable."

"Good. We'll need food and water."

"Sure. Water tank will hold a two months' supply; a little less if you want to arrange for a swimming pool aboard ship. And you would have frozen whole meats. You're eating Tyrannian concentrate now, aren't you?"

Biron nodded and Rizzett grimaced.

"It tastes like chopped sawdust, doesn't it? What else?"

"A supply of clothes for the lady," said Biron.

Rizzett wrinkled his forehead. "Yes, of course. Well, that will be her job."

"No, sir, it won't. We'll supply you with all the necessary measurements and you can supply us with whatever we ask for in whatever the current styles happen to be."

Rizzett laughed shortly and shook his head. "Rancher, she won't like that. She wouldn't be satisfied with any clothes she didn't pick. Not even if they were the identical items she would have picked if she had been given the chance. This isn't a guess, now. I've had experience with the creatures."

Biron said, "I'm sure you're right, Rizzett. But that's the way it will have to be."

"All right, but I've warned you. It will be your argument. What else?"

"Little things. Little things. A supply of detergents. Oh yes, cosmetics, perfume--the things women need. We'll make the arrangements in time. Let's get the trailer started."

And now Gillbret was leaving without speaking. Biron's eyes followed him, too, and he felt his jaw muscles tighten. Hinriads! They were Hinriads! There was nothing he could do about it. They were Hinriads! Gillbret was one and she was another.

He said, "And, of course, there'll be clothes for Mr. Hinriad and myself. That won't be very important."

"Right. Mind if I use your radio? I'd better stay on this ship till the adjustments are made."

Biron waited while the initial orders went out. Then Rizzett turned on the seat and said, "I can't get used to seeing you here, moving, talking, alive. You're so like him. The Rancher used to speak about you every once in a while. You went to school on Earth, didn't you?"

"I did. I would have graduated a little over a week ago, if things hadn't been interrupted."

Rizzett looked uncomfortable. "Look, about your being sent to Rhodia the way you were.

You mustn't hold it against us. We didn't like it. I mean, this is strictly between us, but some of the boys didn't like it at all. The Autarch didn't consult us, of course. Naturally, he wouldn't. Frankly, it was a risk on his part. Some of us--I'm not mentioning names--even wondered if we shouldn't stop the liner you were on and pull you off. Naturally that would have been the worst thing we could possibly have done. Still, we

might have done it, except that in the last analysis, we knew that the Autarch must have known what he was doing."

"It's nice to be able to inspire that kind of confidence."

"We know him. There's no denying it. He's got it here." A finger slowly tapped his forehead. "Nobody knows exactly what makes him take a certain course sometimes. But it always seems the right one. At least he's outsmarted the Tyranni so far and others don't."

"Like my father, for instance."

"I wasn't thinking of him, exactly, but in a sense, you're right. Even the Rancher was caught. But then he was a different kind of man. His way of thinking was straight. He would never allow for crookedness. He would always underestimate the worthlessness of the next man.

But then again, that was what we liked best, somehow. He was the same to everyone, you know.

"I'm a commoner for all I'm a colonel. My father was a metalworker, you see. It didn't make any difference to him. And it wasn't that I was a colonel, either. If he met the engineer's 'prentice walking down the corridor, he'd step aside and say a pleasant word or two, and for the rest of the day, the 'prentice would feel like a master engineman. It was the way he had.

"Not that he was soft. If you needed disciplining, you got it, but no more than your share. What you got, you deserved, and you knew it. When he was through, he was through. He didn't keep throwing it at you at odd moments for a week or so. That was the Rancher.

"Now the Autarch, he's different. He's just brains. You can't get next to him, no matter who you are. For instance. He doesn't really have a sense of humor. I can't speak to him the way I'm speaking to you right now. Right now, I'm just talking. I'm relaxed. It's almost free association. With him, you say exactly what's on your mind with no spare words.

And you use formal phraseology, or he'll tell you you're slovenly. But then, the Autarch's the Autarch, and that's that."

Biron said, "I'll have to agree with you as far as the Autarch's brains are concerned.

Did you know that he had deduced my presence aboard this ship before he ever got on?"

"He did? We didn't know that. Now, there, that's what I mean. He was going to go aboard the Tyrannian cruiser alone. To us, it seemed suicide. We didn't like it. But we assumed he knew what he was doing, and he did. He could have told us you were probably aboard ship. He must have known it would be great news that the Rancher's son had escaped. But it's typical. He wouldn't."

Artemisia sat on one of the lower bunks in the cabin. She had to bend into an uncomfortable position to avoid having the frame of the second bunk pry into her first thoracic vertebra, but that was a small item to her at the moment.

Almost automatically, she kept passing the palms of her hands down the side of her dress. She felt frayed and dirty, and very tired.

She was tired of dabbing at her hands and face with damp napkins. She was tired of wearing the same clothes for a week. She was tired of hair which seemed dank and stringy by now.

And then she was almost on her feet again, ready to turn about sharply; she wasn't going to see him; she wouldn't look at him.

But it was only Gillbret. She sank down again. "Hello, Uncle Oil."

Gillbret sat down opposite her. For a moment his thin face seemed anxious and then it started wrinkling into a smile. "I think a week of this ship is very unamusing too. I was hoping you could cheer me up."

But she said, "Now, Uncle Oil, don't start using psychology on me. If you think you're going to cajole me into feeling a responsibility for you, you're wrong. I'm much more likely to hit you."

"If it will make you feel better--"

"I warn you again. If you hold out your arm for me to hit, I'll do it, and if you say 'Does that make you feel better?' I'll do it again."

"In any case, it's obvious you've quarreled with Biron. What about?"

"I don't see why there's any necessity for discussion. Just leave me alone." Then, after a pause, "He thinks Father did what the Autarch said he did. I hate him for that."

"Your father?"

"No! That stupid, childish, sanctimonious fool!"

"Presumably Biron. Good. You hate him. You couldn't put a knife edge between the kind of hate that has you sitting here like this and something that would seem to my own bachelor mind to be a rather ridiculous excess of love."

"Uncle oil," she said, "could he really have done it?"

"Biron? Done what?"

"No! Father. Could Father have done it? Could he have informed against the Rancher?"

Gillbret looked thoughtful and very sober. "I don't know." He looked at her out of the corner of his eyes. "You know, he did give Biron up to the Tyranni."

"Because he knew it was a trap," she said vehemently. "And it was. That horrible Autarch meant it as such. He said so. The Tyranni knew who Biron was and sent him to Father on purpose. Father did the only thing he could do. That should be obvious to anybody."

"Even if we accept that"--and again that sideways look --"he did try to argue you into a rather unamusing kind of marriage. If Hinrik could bring himself to do that--"

She interrupted. "He had no way out there, either."

"My dear, if you're going to excuse every act of subservience to the Tyranni as something he had to do, why, then, how do you know he didn't have to hint something about the Rancher to the Tyranni?"

"Because I'm sure he wouldn't. You don't know Father the way I do. He hates the Tyranni. He does. I know it. He wouldn't go out of his way to help them. I admit that he's

afraid of them and doesn't dare oppose them openly, but if he could avoid it somehow, he would never help them.", "How do you know he could avoid it?"

But she shook her head violently, so that her hair tumbled about and hid her eyes. It hid the tears a bit too.

Gillbret watched a moment, then spread his hands helplessly and left.

The trailer was joined to the Remorseless by a waspwaist corridor attached to the emergency air lock in the rear of the ship. It was several dozen times larger than the Tyranni vessel in capacity, almost humorously outsized.

The Autarch joined Biron in a last inspection. He said, "Do you find anything lacking?"

Biron said, "No. I think we'll be quite comfortable."

"Good. And by the way, Rizzett tells me the Lady Artemisia is not well, or at least that she looks unwell. If she requires medical attention, it might be wise to send her to my ship."

"She is quite well," said Biron curtly.

"If you say so. Would you be ready to leave in twelve hours?"

"In two hours, if you wish."

Biron passed through the connecting corridor (he had to stoop a little) into the Remorseless proper.

He said with a careful evenness of tone, "You've got a private suite back there, Artemisia. I won't bother you. I'll stay here most of the time."

And she replied coldly, "You don't bother me, Rancher. It doesn't matter to me where you are."

And then the ships blasted off, and after a single Jump they found themselves at the edge of the Nebula. They waited for a few hours while the final calculations were made on Jonti's ship. Inside the Nebula it would be almost blind navigation.

Biron stared glumly at the visiplatte. There was nothing there! One entire half of the celestial sphere was taken up with blackness, unrelieved by a spark of light. For the first time, Biron realized how warm and friendly the stars were, how they filled space.

"It's like dropping through a hole in space," he muttered to Gillbret.

And then they Jumped again, into the Nebula.

Almost simultaneously Simok Aratap, Commissioner of the Great Khan, at the head of ten armed cruisers, listened to his navigator and said, "That doesn't matter. Follow them anyway."

And not one light-year from the point at which the Remorseless entered the Nebula, ten Tyranni vessels did likewise.

16. HOUNDS!

Simok Aratap was a little uncomfortable in his uniform. Tyrannian uniforms were made of moderately coarse materials and fit only indifferently well. It was not soldier-like to complain of such inconveniences. In fact, it was part of the Tyrannian military tradition that a little discomfort on the part of the soldier was good for discipline.

But still Aratap could bring himself to rebel against that tradition to the extent of saying, ruefully, "The tight collar irritates my neck."

Major Andros, whose collar was as tight, and who had been seen in no other than military dress in the memory of man, said, "When alone, it would be quite within regulations to open it. Before any of the officers or men, any deviation from regulation dress would be disturbing influence."

Aratap sniffed. It was the second change induced by the quasi-military nature of the expedition. In addition to being forced into uniform, he had to listen to an increasingly self-assertive military aide. That had begun even before they left Rhodia.

Andros had put it to him baldly.

He had said, "Commissioner, we will need ten ships."

Aratap had looked up, definitely annoyed. At the moment he was getting ready to follow the young Widemos in a single vessel. He laid aside the capsules in which he was preparing his report for the Khan's Colonial Bureau, to be forwarded in the unhappy case that he did not return from the expedition.

"Ten ships, Major?"

"Yes, sir. Less will not do."

"Why not?"

"I intend to maintain a reasonable security. The young man is going somewhere. You say there is a well-developed conspiracy in existence. Presumably, the two fit together."

"And therefore?"

"And therefore we must be prepared for a possibly well-developed conspiracy. One that might be able to handle a single ship."

"Or ten. Or a hundred. Where does security cease?"

"One must make a decision. In cases of military action, it is my responsibility. I suggest ten."

Aratap's contact lenses gleamed unnaturally in the wall light as he raised his eyebrows. The military carried weight. Theoretically, in times of peace, the civilian made the decisions, but here again, military tradition was a difficult thing to set aside.

He said cautiously, "I will consider the matter."

"Thank you. If you do not choose to accept my recommendations, and my suggestions have only been advanced as such, I assure you"--the major's heels clicked

sharply, but the ceremonial deference was rather empty, and Aratap knew it--"that would be your privilege. You would leave me, however, no choice but to resign my commission."

It was up to Aratap to retrieve what he could from that position. He said, "It is not my intention to hamper you in any decision you may make on a purely military question, Major."

I wonder if you might be as amenable to my decisions in matters of purely political importance."

"What matters are these?"

"There is the problem of Hinrik. You objected yesterday to my suggestion that he accompany us."

The major said dryly, "I consider it unnecessary. With our forces in action, the presence of outlanders would be bad for morale."

Aratap sighed softly, just below the limits of hearing. Yet Andros was a competent man in his way. There would be no use in displaying impatience.

He said, "Again, I agree with you. I merely ask you to consider the political aspects of the situation. As you know, the execution of the old Rancher of Widemos was politically uncomfortable. It stirred up the Kingdoms unnecessarily. However necessary the execution was, it makes it desirable to refrain from having the death of the son attributed to us. As far as the people of Rhodia know, the young Widemos has kidnapped the daughter of the Director, the girl, by the way, being a popular and much publicized member of the Hinriads. It would be quite fitting, quite understandable, to have the Director head the punitive expedition.

"It would be a dramatic move, very gratifying to Rhodian patriotism. Naturally, he would ask for Tyrannian assistance, and receive it, but that can be played down. It would be easy, and necessary, to fix this expedition in the popular mind as a Rhodian one. If the inner workings of the conspiracy are uncovered, it will have been a Rhodian discovery. If the young Widemos is executed, it would be a Rhodian execution, as far as the other Kingdoms are concerned."

The major said, "It would still be a bad precedent to allow Rhodian vessels to accompany a Tyrannian military expedition. They would hamper us in a fight. In that way, the question becomes a military one."

"I did not say, my dear Major, that Hinrik would command a ship. Surely you know him better than to think him capable of commanding or even anxious to try. He will stay with us.

There will be no other Rhodian aboard ship."

"In that case, I waive my objection, Commissioner," said the major.

The Tyrannian fleet had maintained their position two light-years off Lingane for the better part of a week and the situation was becoming increasingly unstable.

Major Andros advocated an immediate landing on Lingane. "The Autarch of Lingane," he said, "has gone to considerable lengths to have us think him a friend of the

Khan, but I do not trust these men who travel abroad. They gain unsettling notions. It is strange that just as he returns, the young Widemos travels to meet him."

"He has not tried to hide either his travels or his return, Major. And we do not know that Widemos goes to meet him. He maintains an orbit about Lingane. Why does he not land?"

"Why does he maintain an orbit? Let us question what he does and not what he does not do."

"I can propose something which will fit the pattern."

"I would be glad to hear it."

Aratap placed a finger inside his collar and tried futilely to stretch it. He said, "Since the young man is waiting, we can presume he is waiting for something or somebody. It would be ridiculous to think that, having gone to Lingane by so direct and rapid a route--a single Jump, in fact that he is merely waiting out of indecision. I say, then, that he is waiting for a friend or friends to reach him. Thus reinforced, he will proceed elsewhere. The fact that he is not landing on Lingane directly would indicate that he does not consider such an action safe. That would indicate that Lingane in general--the Autarch in particular--is not concerned in the conspiracy, although individual Linganians may be."

"I don't know if we can always trust the obvious solution to be the correct one."

"My dear Major, this is not merely an obvious solution. It is a logical one. It fits a pattern,"

"Maybe it does. But just the same, if there are no further developments in twenty-four hours, I will have no choice but to order an advance Linganeward."

Aratap frowned at the door through which the major had left. It was disturbing to have to control at once the restless conquered and the short-sighted conquerors. Twenty-four hours.

Something might happen; otherwise he might have to find some way of stopping Andros.

The door signal sounded and Aratap looked up with irritation. Surely it could not be Andros returning. It wasn't. The tall, stooped form of Hinrik of Rhodia was in the doorway, behind him a glimpse of the guard who accompanied him everywhere on the ship. Theoretically, Hinrik had complete freedom of movement. Probably he himself thought he had. At least, he never paid any attention to the guard at his elbow.

Hinrik smiled mistily. "Am I disturbing you, Commissioner?"

"Not at all. Take a seat, Director." Aratap remained standing. Hinrik seemed not to notice that.

Hinrik said, "I have something of importance to discuss with you." He paused, and some of the intentness passed out of his eyes. He added in quite a different tone, "What a large, fine ship this is!"

"Thank you, Director." Aratap smiled tightly. The nine accompanying ships were typically minute in size, but the flagship on which they stood was an outsized model adapted from the designs of the defunct Rhodian navy. It was perhaps the first sign of the gradual softening of the Tyrannian military spirit that more and more of such ships were

being added to the navy. The fighting unit was still the tiny two-to-three-man cruiser, but increasing the top brass found reasons for requiring large ships for their own headquarters.

It did not bother Aratap. To some of the older soldiers such increasing softness seemed a degeneration; to himself it seemed increasing civilization. In the end--in centuries, perhaps--it might even happen that the Tyranni would melt away as a single people, fusing with the present conquered societies of the Nebular Kingdoms--and perhaps even that might be a good thing.

Naturally, he never expressed such an opinion aloud.

"I came to tell you something," said Hinrik. He puzzled over it awhile, then added, "I have sent a message home today to my people. I have told them I am well and that the criminal will be shortly seized and my daughter returned to safety."

"Good," said Aratap. It was not news to him. He himself had written the message, though it was not impossible that Hinrik by now had persuaded himself that he was the writer, or even that he actually headed the expedition. Aratap felt a twinge of pity. The man was disintegrating visibly.

Hinrik said, "My people, I believe, are quite disturbed over this daring raid upon the Palace by these well-organized bandits. I think they will be proud of their Director now that I have taken such rapid action in response, eh, Commissioner? They will see that there is still force among the Hinriads." He seemed filled with a feeble triumph.

"I think they will," said Aratap.

"Are we within range of the enemy yet?"

"No, Director, the enemy remains where he was, just off Lingane."

"Still? I remember what I came to tell you." He grew excited, so that the words tumbled out. "It is very important, Commissioner. I have something to tell you. There is treachery on board. I have discovered it. We must take quick action. Treachery--" He was whispering.

Aratap felt impatient. It was necessary to humor the poor idiot of course, but this was becoming a waste of time. At this rate he would become so obviously mad that he would be useless even as a puppet, which would be a pity.

He said, "No treachery, Director. Our men are stanch and true. Someone has been misleading you. You are tired."

"No, no." Hinrik put aside Aratap's arm which, for a moment, had rested upon his shoulder. "Where are we?"

"Why, here!"

"The ship, I mean. I have watched the visiplat. We are near no star. We are in deep space. Did you know that?"

"Why, certainly."

"Lingane is nowhere near. Did you know that?"

"It is two light-years off."

"Ah! Ah! Ah! Commissioner, no one is listening? Are you sure?" He leaned closely, while Aratap allowed his ear to be approached. "Then how do we know the enemy is near Lingane?"

He is too far to detect. We are being misinformed, and this signifies treachery."

Well, the man might be mad, but the point was a good one. Aratap said, "This is something fit for technical men, Director, and not for men of rank to concern themselves with.

I scarcely know myself."

"But as head of the expedition I should know. I am head, am I not?" He looked about carefully. "Actually, I have a feeling that Major Andros does not always carry out my orders.

Is he trustworthy? Of course, I rarely give him orders. It would seem strange to order a Tyrannian officer. But then, I must find my daughter. My daughter's name is Artemisia. She has been taken from me, and I am taking all this fleet to get her back. So you see, I must know. I mean, I must know how it is known the enemy is at Lingane. My daughter would be there too. Do you know my daughter? Her name is Artemisia."

His eyes looked up at the Tyranni Commissioner in appeal. Then he covered them with his hand and mumbled something that sounded like "I'm sorry."

Aratap felt his jaw muscles clench. It was difficult to remember that the man before him was a bereaved father and that even the idiot Director of Rhodia might have a father's feelings. He could not let the man suffer.

He said gently, "I will try to explain. You know there is such a thing as a massometer which will detect ships in space."

"Yes, yes."

"It is sensitive to gravitational effects. You know what I mean?"

"Oh yes. Everything has gravity." Hinrik was leaning toward Aratap, his hands gripping one another nervously.

"That's good enough. Now naturally the massometer can only be used when the ship is close, you know. Less than a million miles away or so. Also, it has to be a reasonable distance from any planet, because if it isn't, all you can detect is the planet, which is much bigger."

"And has much more gravity."

"Exactly," said Aratap, and Hinrik looked pleased.

Aratap went on. "We Tyranni have another device. It is a transmitter which radiates through hyperspace in all directions, and what it radiates is a particular type of distortion of the space fabric which is not electromagnetic in character. In other words, it isn't like light or radio or even sub-etheric radio. See?"

Hinrik didn't answer. He looked confused.

Aratap proceeded quickly. "Well, it's different. It doesn't matter how. We can detect that something which is radiated, so that we can always know where any Tyrannian ship is, even if it's halfway across the Galaxy, or on the other side of a star."

Hinrik nodded solemnly.

"Now," said Aratap, "if the young Widemos had escaped in an ordinary ship, it would have been very difficult to locate him. As it is, since he took a Tyrannian cruiser, we know where he is at all times, although he doesn't realize that. That is how we know he is near Lingane, you see. And, what's more, he can't get away, so that we will certainly rescue your daughter."

Hinrik smiled. "That is well done. I congratulate you, Commissioner. A very clever ruse."

Aratap did not delude himself. Hinrik understood very little of what he had said, but that did not matter. It had ended with the assurance of his daughter's rescue, and somewhere in his dim understanding there must be the realization that this, somehow, was made possible by Tyrannian science.

He told himself that he had not gone to this trouble entirely because the Rhodian appealed to his sense of the pathetic. He had to keep the man from breaking down altogether for obvious political reasons. Perhaps the return of his daughter would improve matters. He hoped so.

There was the door signal again and this time it was Major Andros who entered.

Hinrik's arm stiffened on the armrest of his chair and his face assumed a hunted expression.

He lifted himself and began, "Major Andro--"

But Andros was already speaking quickly, disregarding the Rhodian.

"Commissioner," he said, "the Remorseless has changed position."

"Surely he has not landed on Lingane," said Aratap sharply.

"No," said the major. "He has Jumped quite away from Lingane."

"Ah. Good. He has been joined by another ship, perhaps."

"By many ships, perhaps. We can detect only his, as you are quite aware."

"In any case, we follow again."

"The order has already been given. I would merely like to point out that his Jump has taken him to the edge of the Horsehead Nebula."

"What?"

"No major planetary system exists in the indicated direction. There is only one logical conclusion."

Aratap moistened his lips and left hurriedly for the pilot room, the major with him.

Hinrik remained standing in the middle of the suddenly empty room, looking at the door for a minute or so. Then, with a little shrug of the shoulders, he sat down again. His expression was blank, and for a long while he simply sat.

The navigator said, "The space coordinates of the Remorseless have been checked, sir."

"They are definitely inside the Nebula."

"That doesn't matter," said Aratap. "Follow them anyway."

He turned to Major Andros. "So you see the virtues of waiting. There is a good deal that is obvious now. Wherever else could the conspirators' headquarters be but in the Nebula itself? Where else could we have failed to locate them? A very pretty pattern."

And so the squadron entered the Nebula.

For the twentieth time Aratap glanced automatically at the visiplat. Actually, the glances were useless, since the visiplat remained quite black. There was no star in sight.

Andros said, "That's their third stop without landing. I don't understand it. What is their purpose? What are they after? Each stop of theirs is several days long. Yet they do not land."

"It may take them that long," said Aratap, "to calculate their next Jump. Visibility is nonexistent."

"You think so?"

"No. Their Jumps are too good. Each time they land very near a star. They couldn't do as well by massometer data alone, unless they actually knew the locations of the stars in advance."

"Then why don't they land?"

"I think," said Aratap, "they must be looking for habitable planets. Maybe they themselves do not know the location of the center of conspiracy. Or, at least, not entirely."

He smiled. "We need only follow."

The navigator clicked heels. "Sir!"

"Yes?" Aratap looked up.

"The enemy has landed on a planet."

Aratap signaled for Major Andros.

"Andros," said Aratap, as the major entered, "have you been told?"

"Yes. I've ordered a descent and pursuit."

"Wait. You may be again premature, as when you wanted to lunge toward Lingane. I think this ship only ought to go."

"Your reasoning?"

"If we need reinforcements, you will be there, in command of the cruisers. If it is indeed a powerful rebel center, they may think only one ship has stumbled upon them. I will get word to you somehow and you can retire to Tyrann."

"Retire!"

"And return with a full fleet."

Andros considered. "Very well. This is our least useful ship in any case. Too large."

The planet filled the visiplat as they spiraled down.

"The surface seems quite barren, sir," said the navigator.

"Have you determined the exact location of the Remorseless?"

"Yes, sir."

"Then land as closely as you can without being sighted."

They were entering the atmosphere now. The sky as they flashed along the day half of the planet was tinged with a brightening purple. Aratap watched the nearing surface. The long chase was almost over!

17. AND HARES!

To those who have not actually been in space, the investigation of a stellar system and the search for habitable planets may seem rather exciting, at the least, interesting. To the spaceman, it is the most boring of jobs.

Locating a star, which is a huge glowing mass of hydrogen fusing into helium, is almost too easy. It advertises itself. Even in the blackness of the Nebula, it is only a question of distance. Approach within five billion miles, and it will still advertise itself.

But a planet, a relatively small mass of rock, shining only by reflected light, is another matter. One could pass through a stellar system a hundred thousand times at all sorts of odd angles without ever coming close enough to a planet to see it for what it is, barring the oddest of coincidences.

Rather, one adopts a system. A position is taken up in space at a distance from the star being investigated of some ten thousand times the star's diameter. From Galactic statistics it is known that not one time in fifty thousand is a planet located farther from its primary than that. Furthermore, practically never is a habitable planet located farther from its primary than one thousand times its sun's diameter.

This means that from the position in space assumed by the ship, any habitable planet must be located within six degrees of the star. This represents an area only 1/3600th of the entire sky. That area can be handled in detail with relatively few observations.

The movement of the tele-camera can be so adjusted as to counteract the motion of the ship in its orbit. Under those conditions a time exposure will pinpoint the constellations in the star's neighborhood; provided, of course, that the blaze of the sun itself is blocked out, which is easily done. Planets, however, will have perceptible proper motions and therefore show up as tiny streaks on the film.

When no streaks appear, there is always the possibility that the planets are behind their primary. The maneuver is therefore repeated from another position in space and, usually, at a point closer to the star.

It is a very dull procedure indeed, and when it has been repeated three times for three different stars, each time with completely negative results, a certain depression of morale is bound to occur.

Gillbret's morale, for instance, had been suffering for quite a while. Longer and longer intervals took place between the moments when he found something "amusing."

They were readying for the Jump to the fourth star on the Autarch's list, and Biron said, "We hit a star each time, anyway. At least Jonti's figures are correct."

Gillbret said, "Statistics show that one out of three stars has a planetary system."

Biron nodded. It was a well-worn statistic. Every child was taught that in elementary Galactography.

Gillbret went on, "That means that the chances of finding three stars at random without a single planet--without one single planet--is two thirds cubed, which is eight twenty-sevenths, or less than one in three."

"So?"

"And we haven't found any. There must be a mistake."

"You saw the plates yourself. And, besides, what price statistics? For all we know, conditions are different inside a Nebula. Maybe the particle fog prevents planets from forming, or maybe the fog is the result of planets that didn't coalesce."

"You don't mean that?" said Gillbret, stricken.

"You're right. I'm just talking to hear myself. I don't know anything about cosmogony."

Why the hell are planets formed, anyway? Never heard of one that wasn't filled with trouble."

Biron looked haggard himself. He was still printing and pasting up little stickers on the control panels.

He said, "Anyway, we've got the blasters all worked out, range finders, power control--all that."

It was very difficult not to look at the visiplat. They'd be Jumping again soon, through that ink.

Biron said absently, "You know why they call it the Horsehead Nebula, Gil?"

"The first man to enter it was Horace Hedd. Are you going to tell me that's wrong?"

"It may be. They have a different explanation on Earth."

"Oh?"

"They claim it's called that because it looks like a horse's head."

"What's a horse?"

"It's an animal on Earth."

"It's an amusing thought, but the Nebula doesn't look like any animal to me, Biron."

"It depends on the angle you look at it. Now from Nephelos it looks like a man's arm with three fingers, but I looked at it once from the observatory at the University of Earth."

It does look a little like a horse's head. Maybe that is how the name started. Maybe there never was any Horace Hedd. Who knows?" Biron felt bored with the matter, already. He was still talking simply to hear himself talk.

There was a pause, a pause that lasted too long, because it gave Gillbret a chance to bring up a subject which Biron did not wish to discuss and could not force himself to stop thinking about.

Gillbret said, "Where's Arta?"

Biron looked at him quickly and said, "Somewhere in the trailer. I don't follow her about."

"The Autarch does. He might as well be living here."

"How lucky for her."

Gillbret's wrinkles became more pronounced and his small features seemed to screw together. "Oh, don't be a fool, Biron. Artemisia is a Hinriad. She can't take what you've been giving her."

Biron said, "Drop it."

"I won't. I've been spoiling to say this. Why are you doing this to her? Because Hinrik might have been responsible for your father's death? Hinrik is my cousin! You haven't changed toward me."

"All right," Biron said. "I haven't changed toward you. I speak to you as I always have. I speak to Artemisia as well."

"As you always have?"

Biron was silent.

Gillbret said, "You're throwing her at the Autarch. "

"It's her choice."

"It isn't. It's your choice. Listen, Biron"--Gillbret grew confidential; he put a hand on Biron's knee--"this isn't a thing I like to interfere with, you understand. It's just that she's the only good thing in the Hinriad family just ROW. Would you be amused if I said I loved her? I have no children of my own."

"I don't question your love."

"Then I advise you for her good. Stop the Autarch, Biron."

"I thought you trusted him, Oil."

"As the Autarch, yes. As an anti-Tyrannian leader, yes. But as a man for a woman, as a man for Artemisia, no."

"Tell her that."

"She wouldn't listen."

"Do you think she would listen if I told her?"

"If you told her properly."

For a moment Biron seemed to hesitate, his tongue dabbing slightly at dry lips. Then he turned away, saying harshly, "I don't want to talk about it."

Gillbret said sadly, "You'll regret this."

Biron said nothing. Why didn't Gillbret leave him alone? It had occurred to him many times that he might regret all this. It wasn't easy. But what could he do? There was no safe way of backing out.

He tried breathing through his mouth to get rid, somehow, of the choking sensation in his chest.

The outlook was different after the next Jump. Biron had set the controls in accordance with the instructions from the Autarch's pilot, and left the manuals to Gillbret.

He was going to sleep through this one. And then Gillbret was shaking his shoulder.

"Biron! Biron!"

Biron rolled over in his bunk and out, landing in a crouch, fists balled. "What is it?"

Gillbret stepped back hastily. "Now, take it easy. We've got an F-2 this time."

It sank in. Gillbret drew a deep breath and relaxed. "Don't ever wake me that way, Gillbret. An F-2, you say? I suppose you're referring to the new star."

"I surely am. It looks most amusing, I think."

In a way, it did. Approximately 95 per cent of habitable planets in the Galaxy circled stars of spectral types F or G; diameter from 750 to 1500 thousand miles, surface temperature from five to ten thousand centigrade. Earth's sun was G-0, Rhodia's F-8, Lingane's G-2, as was that of Nephelos. F-2 was a little warm, but not too warm.

The first three stars they had stopped at were of spectral type K, rather small and ruddy. Planets would probably not have been decent even if they had had any.

A good star is a good star! In the first day of photography, five planets were located, the nearest being one hundred and fifty million miles from the primary.

Tedor Rizzett brought the news personally. He visited the Remorseless as frequently as the Autarch, lighting the ship with his heartiness. He was whoofing and panting this time from the hand-over-hand exercises along the metal line.

He said, "I don't know how the Autarch does it. He never seems to mind. Comes from being younger, I guess." He added abruptly, "Five planets!"

Gillbret said, "For this star? You're sure?"

"It's definite. Four of them are J-type, though."

"And the fifth?"

"The fifth may be all right. Oxygen in the atmosphere, anyway."

Gillbret set up a thin sort of yell of triumph, but Biron said, "Four are J-type. Oh well, we only need one."

He realized it was a reasonable distribution. The large majority of sizable planets in the Galaxy possessed hydrogenated atmospheres. After all, stars are mostly hydrogen, and they are the source material of planetary building blocks. J-type planets had atmospheres of methane or ammonia, with molecular hydrogen in addition sometimes, and also considerable helium. Such atmospheres were usually deep and extremely dense. The planets themselves were almost invariably thirty thousand miles in diameter and up, with a mean temperature of rarely more than fifty below zero, centigrade. They were quite uninhabitable.

Back on Earth they used to tell him that these planets were called J-type because the J stood for Jupiter, the planet in Earth's solar system which was the best example of the type. Maybe they were right. Certainly, the other planet classification was the E-type and E did stand for Earth. E-types were usually small, comparatively, and their weaker gravity could not retain hydrogen or the hydrogen-containing gases, particularly since they were usually closer to the sun and warmer. Their atmospheres were thin and contained oxygen and nitrogen usually, with, occasionally, an admixture of chlorine, which would be bad.

"Any chlorine?" asked Biron. "How well have they gone over the atmosphere?"

Rizzett shrugged. "We can only judge the upper reaches from out in space. If there were any chlorine, it would concentrate toward ground level. We'll see."

He clapped a hand on Biron's large shoulder. "How about inviting me to a small drink in your room, boy?"

Gillbret looked after them uneasily. With the Autarch courting Artemisia, and his right-hand man becoming a drinking companion of Biron, the Remorseless was becoming more Langanian than not. He wondered if Biron knew what he was doing, then thought of the new planet and let the rest go.

Artemisia was in the pilot room when they penetrated the atmosphere. There was a little smile on her face and she seemed quite contented. Biron looked in her direction occasionally. He had said, "Good day, Artemisia," when she came in (she hardly ever did come in; he had been caught by surprise), but she hadn't answered.

She had merely said, "Uncle Oil," very brightly; then, "Is it true we're landing?"

And Oil had rubbed his hands. "It seems so, my dear. We may be getting out of the ship in a few hours, walking on solid surface. How's that for an amusing thought?"

"I hope it's the right planet. If it isn't, it won't be so amusing."

"There's still another star," said Oil, but his brow furrowed and contracted as he said so.

And then Artemisia turned to Biron and said, coolly, "Did you speak, Mr. Farrill?"

Biron, caught by surprise again, started and said, "No, not really."

"I beg your pardon, then. I thought you had."

She passed by him so closely that the plastic flair of her dress brushed his knee and her perfume momentarily surrounded him. His jaw muscles knotted.

Rizzett was still with them. One of the advantages of the trailer was that they could put up a guest overnight. He said, "They're getting details on the atmosphere now. Lots of oxygen, almost 30 per cent, and nitrogen and inert gases. It's quite normal. No chlorine."

Then he paused and said, "Hmm."

Gillbret said, "What's the matter?"

"No carbon dioxide. That's not so good."

"Why not?" demanded Artemisia from her vantage point near the visiplat, where she watched the distant surface of the planet blur past at two thousand miles an hour.

Biron said curtly, "No carbon dioxide--no plant life."

"Oh?" She looked at him, and smiled warmly.

Biron, against his will, smiled back, and somehow, with scarcely a visible change in her countenance, she was smiling through him, past him, obviously unaware of his existence; and he was left there, caught in a foolish smile. He let it fade.

It was just as well he avoided her. Certainly, when he was with her, he couldn't keep it up. When he could actually see her, the anesthetic of his will didn't work. It began hurting.

Gillbret was doleful. They were coasting now. In the thick lower reaches of the atmosphere, the Remorseless, with its aerodynamically undesirable addition of a trailer, was difficult to handle. Biron fought the bucking controls stubbornly.

He said, "Cheer up, Gil!"

He felt not exactly jubilant himself. Radio signals had brought no response as yet, and if this were not the rebellion world, there would be no point in waiting longer. His line of action was set!

Gillbret said, "It doesn't look like the rebellion world. It's rocky and dead, and not much water, either." He turned. "Did they try for carbon dioxide again, Rizzett?"

Rizzett's ruddy face was long. "Yes. Just a trace. About a thousandth of a per cent or so."

Biron said, "You can't tell. They might pick a world like this, just because it would look so hopeless."

"But I saw farms," said Gillbret.

"All right. How much do you suppose we can see of a planet this size by circling it a few times? You know damn well, Oil, that whoever they are, they can't have enough people to fill a whole planet. They may have picked themselves a valley somewhere where the carbon dioxide of the air has been built up, say, by volcanic action, and where there's plenty of nearby water. We could whiz within twenty miles of them and never know it. Naturally, they wouldn't be ready to answer radio calls without considerable investigation."

"You can't build up a concentration of carbon dioxide that easily," muttered Gillbret.

But he watched the visiplat intently.

Biron suddenly hoped that it was the wrong world. He decided that he could wait no longer. It would have to be settled, now!

It was a queer feeling.

The artificial lights had been turned off and sunlight was coming in unhindered at the ports. Actually, it was the less efficient method of lighting the ship, but there was a sudden desirable novelty to it. The ports were open, in fact, and a native atmosphere could be breathed.

Rizzett advised against it on the grounds that lack of carbon dioxide would upset the respiratory regulation of the body, but Biron thought it might be bearable for a short time.

Gillbret had come upon them, heads together. They looked up and leaned away from each other.

Gillbret laughed. Then he looked out of the open port, sighed, and said, "Rocks!"

Biron said mildly, "We're going to set up a radio transmitter at the top of the high ground. We'll get more range that way. At any rate, we ought to be able to contact all of this hemisphere. And if it's negative, we can try the other side of the planet."

"Is that what you and Rizzett were discussing?"

"Exactly. The Autarch and I will do the job. It's his suggestion, which is fortunate; since otherwise I would have had to make the same suggestion myself." He looked fleetingly at Rizzett as he spoke. Rizzett was expressionless.

Biron stood up. "I think it would be best if I unzipped my space-suit lining and wore that."

Rizzett was in agreement. It was sunny on this planet; there was little water vapor in the air and no clouds, but it was briskly cold.

The Autarch was at the main lock of the Remorseless. His overcoat was of thin foamite that weighed a fraction of an ounce, yet did a nearly perfect job of insulation. A small carbon-dioxide cylinder was strapped to his chest, adjusted to a slow leak that would maintain a perceptible CO2 vapor tension in his immediate vicinity.

He said, "Would you care to search me, Farrill?" He raised his hands and waited, his lean face quietly amused.

"No," said Biron. "Do you want to check me for weapons?"

"I wouldn't think of it."

The courtesies were as frigid as the weather.

Biron stepped out into the hard sunlight and tugged at the handle of the two-handed suitcase in which the radio equipment was stowed. The Autarch caught the other.

"Not too heavy," said Biron. He turned, and Artemisia was standing just within the ship, silent.

Her dress was a smooth, unfigured white which folded in a smooth drape that fled before the wind. The semitransparent sleeves whipped back against her arms, turning them to silver.

For a moment Biron melted dangerously. He wanted to return quickly; to run, leap into the ship, grasp her so that his fingers would leave bruises on her shoulders, feel his lips meet hers--

But he nodded briefly instead, and her returning smile, the light flutter of her fingers was for the Autarch.

Five minutes later he turned and there was still that glimmer of white at the open door, and then the rise in the ground cut off the view of the ship. The horizon was free of everything but broken and bare rock now.

Biron thought of what lay ahead, and wondered if he would ever see Artemisia again--and if she would care if he never returned.

18. OUT OF THE JAWS OF DEFEAT!

Artemesia watched them as they became tiny figures, trudging up the bare granite, then dipping below and out of sight. For a moment, just before they disappeared, one of them had turned.

She couldn't be sure which one, and, for a moment, her heart hardened.

He had not said a word on parting. Not one word. She turned away from the sun and rock toward the confined metal interior of the ship. She felt alone, terribly alone; she had never felt so alone in her life.

It was that, perhaps, that made her shiver, but it would have been an intolerable confession of weakness to admit that it wasn't simply the cold.

She said peevishly, "Uncle Gil! Why don't you close the ports? It's enough to freeze a person to death." The thermometer dial read plus seven centigrade with the ship's heaters on high.

"My dear Arta," said Gillbret mildly, "if you will persist in your ridiculous habit of wearing nothing but a little fog here and there, you must expect to be cold." But he closed certain contacts, and, with little clicks, the air lock slid shut, the ports sunk inward and molded themselves into the smooth, gleaming hull. As they did so, the thick glass polarized and became nontransparent. The lights of the ship went on and the shadows disappeared.

Artemesia sat down in the heavily padded pilot's seat and fingered the arms aimlessly.

His hands had often rested there, and the slight warmth that flooded her as she thought that (she told herself) was only the result of the heaters making themselves felt decently, now that the outer winds were excluded.

The long minutes passed, and it became impossible to sit quietly. She might have gone with him! She corrected the rebellious thought instantly as it passed through her mind, and changed the singular "him" to the plural "them."

She said, "Why do they have to set up a radio transmitter anyway, Uncle Gil?"

He looked up from the visiplat, the controls of which he was fingering delicately, and said, "Eh?"

"We've been trying to contact them from out in space," she said, "and we haven't reached anyone. What special good would a transmitter on the planet's surface do?"

Gillbret was troubled. "Why, we must keep trying, my dear. We must find the rebellion world." And, between his teeth, he added to himself, "We must!"

A moment passed, and he said, "I can't find them."

"Find whom?"

"Biron and the Autarch. The ridge cuts me off no matter how I arrange the external mirrors. See?"

She saw nothing but the sunny rock flashing past.

Then Gillbret brought the little gears to rest and said, "Anyway, that's the Autarch's ship."

Artemisia accorded it the briefest of glances. It lay deeper in the valley, perhaps a mile away. It glistened unbearably in the sun. It seemed to her, at the moment, to be the real enemy. It was, not the Tyranni. She wished suddenly, sharply, and very strongly that they had never gone to Lingane; that they had remained in space, the three of them only. Those had been funny days, so uncomfortable and yet so warm, somehow. And now she could only try to hurt him.

Something made her hurt him, though she would have liked--

Gillbret said, "Now what does he want?"

Artemisia looked up at him, seeing him through a watery mist, SO that she had to blink rapidly to put him into normal focus. "Who?"

"Rizzett. I think that's Rizzett. But he's certainly not coming this way."

Artemisia was at the visiplat. "Make it larger," she ordered.

"At this short distance?" objected Gillbret. "You won't see anything. It will be impossible to keep it centered."

"Larger, Uncle Gil."

Muttering, he threw in the telescopic attachment and searched the bloated nubbles of rock that resulted. They jumped faster than the eye could follow at the lightest touch on the controls. For one moment, Rizzett, a large, hazy figure, flashed past, and in that moment his identity was unmistakable. Gillbret backtracked wildly, caught him again, hung on for a moment, and Artemisia said, "He's armed. Did you see that?"

"No."

"He's got a long-range blasting rifle, I tell you!"

She was up, tearing away at the locker.

"Arta! What are you doing?"

She was unzipping the lining from another space suit. "I'm going out there. Rizzett's following them. Don't you understand? The Autarch hasn't gone out to set up a radio. It's a trap for Biron." She was gasping as she forced herself into the thick, coarse lining.

"Stop it! You're imagining things."

But she was staring at Gillbret without seeing him, her face pinched and white. She should have seen it before, the way Rizzett had been coddling that fool. That emotional fool!

Rizzett had praised his father, told him what a great man the Rancher of Widemos had been, and Biron had melted immediately. His every action was dictated by the thought of his father. How could a man let himself be so ruled by a monomania?

She said, "I don't know what controls the air lock. Open it."

"Arta, you're not leaving the ship. You don't know where they are."

"I'll find them. Open the air lock."

Gillbret shook his head.

But the space suit she had stripped had borne a holster. She said, "Uncle Oil, I'll use this. I swear I will."

And Gillbret found himself staring at the wicked muzzle of a neuronc whip. He forced a smile. "Don't now!"

"Open the lock!" she gasped.

He did and she was out, running into the wind, slipping across the rocks and up the ridge. The blood pounded in her ears. She had been as bad as he, dangling the Autarch before him for no purpose other than her silly pride. It seemed silly now, and the Autarch's personality sharpened in her mind, a man so studiously cold as to be bloodless and tasteless.

She quivered with repulsion.

She had topped the ridge, and there was nothing ahead of her. Stolidly she walked onward, holding the neuronc whip before her.

Biron and the Autarch had not exchanged a word during their walk, and now they came to a halt where the ground leveled off. The rock was fissured by the action of sun and wind through the millennia. Ahead of them there was an ancient fault, the farther lip of which had crumbled downward, leaving a sheer precipice of a hundred feet.

Biron approached cautiously and looked over it. It slanted outward past the drop, the ground riddled with craggy boulders which, with time and infrequent rains, had scattered out as far as he could see.

"It looks," he said, "like a hopeless world, Jonti."

The Autarch displayed none of Biron's curiosity in his surroundings. He did not approach the drop. He said, "This is the place we found before landing. It's ideal for our purposes."

It's ideal for your purposes, at least, thought Biron. He stepped away from the edge and sat down. He listened to the tiny hiss from his carbon-dioxide cylinder, and waited a moment.

Then he said, very quietly, "What will you tell them when you get back to your ship, Jonti? Or shall I guess?"

The Autarch paused in the act of opening the two-handed suitcase they had carried. He straightened and said, "What are you talking about?"

Biron felt the wind numb his face and rubbed his nose with his gloved hand. Yet he unbuttoned the foamite lining that wrapped him, so that it flapped wide as the gusts hit it.

He said, "I'm talking about your purpose in coming here."

"I would like to set up the radio rather than waste my time discussing the matter, Farrill."

"You won't set up a radio. Why should you? We tried reaching them from space, without a response. There's no reason to expect more of a transmitter on the surface. It's not a question of ionized radio-opaque layers in the upper atmosphere, either, because we tried the sub-ether as well and drew a blank. Nor are we particularly the radio experts in our party."

So why did you really come up here, Jonti?"

The Autarch sat down opposite Biron. A hand patted the suitcase idly. "If you are troubled by these doubts, why did you come?"

"To discover the truth. Your man; Rizzett, told me you were planning this trip, and advised me to join you. I believe that your instructions to him were to tell me that by joining you I might make certain you received no messages that I remained unaware of. It was a reasonable point, except that I don't think you will receive any message. But I allowed it to persuade me, and I've come with you."

"To discover truth?" said Jonti mockingly.

"Exactly that. I can guess truth already."

"Tell me then. Let me discover truth as well."

"You came to kill me. I am here alone with you, and there is a cliff before us over which it would be certain death to fall. There would be no signs of deliberate violence. There would be no blasted limbs or any thought of weapon play. It would make a nice, sad story to take back to your ship. I had slipped and fallen. You might bring back a party to gather me up and give me a decent burial. It would all be very touching and I would be out of your way."

"You believe this, and yet you came?"

"I expect it, so you won't catch me by surprise. We are unarmed and I doubt that you could force me over by muscular power alone." For a moment Biron's nostrils flared. He half flexed his right arm, slowly and hungrily.

But Jonti laughed. "Shall we concern ourselves with our radio transmitter, then, since your death is now impossible?"

"Not yet. I am not done. I want your admission that you were going to try to kill me."

"Oh? Do you insist that I play my proper role in this impromptu drama you have developed? How do you expect to force me to do so? Do you intend to beat a confession out of me? Now understand, Farrill, you are a young man and I am disposed to make allowances because of that and because of the convenience of your name and rank. However, I must admit you have until now been more trouble than help to me."

"So I have been. By keeping alive, despite you!"

"If you refer to the risks you ran on Rhodia, I have explained it; I will not explain it again."

Biron rose. "Your explanation was not accurate. It has a flaw in it which was obvious from the beginning."

"Really?"

"Really! Stand up and listen to me, or I'll drag you to your feet."

The Autarch's eyes narrowed to slits as he rose. "I would not advise you to attempt violence, youngster."

"Listen." Biron's voice was loud and his cloak still bellied open in the breeze, disregarded. "You said that you sent me to a possible death on Rhodia only to implicate the Director in an anti-Tyrannian plot."

"That remains true."

"That remains a lie. Your prime object was to have me killed. You informed the captain of the Rhodian ship of my identity at the very beginning. You had no real reason for believing that I would ever be allowed to reach Hinrik."

"If I had wanted to kill you, Farrill, I might have planted a real radiation bomb in your room."

"It would have been obviously more convenient to have the Tyranni maneuvered into doing the killing for you."

"I might have killed you in space when I first boarded the Remorseless."

"So you might. You came equipped with a blaster and you had it leveled at me at one point. You had expected me on board, but you hadn't told your crew that. When Rizzett called and saw me, it was no longer possible to blast me. You made a mistake then. You told me you had told your men I was probably on board, and awhile later Rizzett told me you had not. Don't you brief your men concerning your exact lies as you tell them, Jonti?"

Jonti's face had been white in the cold, but it seemed to whiten further. "I should kill you now for giving me the lie, certainly. But what held back my trigger finger before Rizzett got on the visiplat and saw you?"

"Politics, Jonti. Artemisia oth Hinriad was aboard, and for the moment she was a more important object than myself. I'll give you credit for a quick change of plans. To have killed me in her presence would have ruined a bigger game."

"I had fallen in love so rapidly, then?"

"Love! When the girl concerned is a Hinriad, why not? You lost no time. You tried first to have her transferred to your ship, and when that failed, you told me that Hinrik had betrayed my father." He was silent for a moment, then said, "So I lost her and left you the field undisputed. Now, I presume, she is no longer a factor. She is firmly on your side and you may proceed with your plan to kill me without any fear that by doing it you may lose your chance at the Hinriad succession."

Jonti sighed and said, "Farrill, it is cold, and getting colder. I believe the sun is heading downward. You are unutterably foolish and you weary me. Before we end this farrago of nonsense, will you tell me why I should be in the least interested in killing you anyway? That is, if your obvious paranoia needs any reason."

"There is the same reason that caused you to kill my father."

"What?"

"Did you think I believed you for an instant when you said Hinrik had been the traitor? He might have been, were it not for the fact that his reputation as a wretched weakling is so well established. Do you suppose that my father was a complete fool? Could he possibly have mistaken Hinrik for anything but what he was? If he had not known his reputation, would not five minutes in his presence have revealed him completely as a hopeless puppet? Would my father have blabbed foolishly to Hinrik anything that might have been used to support a charge of treason against him? No, Jonti. The man who betrayed my father must have been one who was trusted by him."

Jonti took a step backward and kicked the suitcase aside. He poised himself to withstand a charge and said, "I see your vile implication. My only explanation for it is that you are criminally insane."

Biron was trembling, and not with cold. "My father was popular with your men, Jonti.

Too popular. An Autarch cannot allow a competitor in the business of ruling. You saw to it that he did not remain a competitor. And it was your next job to see to it that I did not remain alive either to replace or to avenge him." His voice raised to a shout, which whipped away on the cold air. "Isn't this true?"

"No."

Jonti bent to the suitcase. "I can prove you are wrong!" He flung it open. "Radio equipment. Inspect it. Take a good look at it." He tossed the items to the ground at Biron's feet.

Biron stared at them. "How does that prove anything?"

Jonti rose. "It doesn't. But now take a good look at this."

He had a blaster in his hand, and his knuckles were white with tension. The coolness had left his voice. He said, "I am tired of you. But I won't have to be tired much longer."

Biron said tonelessly, "You hid a blaster in the suitcase with the equipment?"

"Did you think I wouldn't? You honestly came here expecting to be thrown off a cliff and you thought I would try to do it with my hands as though I were a stevedore or a coal miner? I am Autarch of Lingane"--his face worked and his left hand made a flat, cutting gesture before him--"and I am tired of the cant and fatuous idealism of the Ranchers of Widemos." He whispered then, "Move on. Toward the cliff." He stepped forward.

Biron, hands raised, eyes on the blaster, stepped back. "You killed my father, then."

"I killed your father!" said the Autarch. "I tell you this so you may know in the last few moments of your life that the same man who saw to it that your father was blasted to bits in a disintegration chamber will see to it that you will follow him--and keep the Hinriad girl for himself thereafter, along with all that goes with her. Think of that! I will give you an extra minute to think of that! But keep your hands steady, or I will blast you and risk any questions my men may care to ask." It was as though his cold veneer, having cracked, left nothing but a burning passion exposed.

"You tried to kill me before this, as I said."

"I did. Your guesses were in every way correct. Does that help you now? Back!"

"No," said Biron. He brought his hands down and said, "H you're going to shoot, do so."

The Autarch said, "You think I will not dare?"

"I've asked you to shoot."

"And I will." The Autarch aimed deliberately at Biron's head and at a distance of four feet closed contact on his blaster.

19. DEFEAT!

Tedor Rizzett circled the little piece of tableland warily. He was not yet ready to be seen, but to remain hidden was difficult in this world of bare rock. In the patch of tumbled, crystalline boulders he felt safer. He threaded his way through them. Occasionally he paused to pass the soft back of the spongy gloves he wore over his face. The dry cold was deceptive.

He saw them now from between two granite monoliths that met in a V. He rested his blaster in the crotch. The sun was on his back. He felt its feeble warmth soak through, and he was satisfied. If they happened to look in his direction, the sun would be in their eyes and he himself would be that much less visible.

Their voices were sharp in his ear. Radio communication was in operation and he smiled at that. So far, according to plan. His own presence, of course, was not according to plan, but it would be better so. The plan was a rather overconfident one and the victim was not a complete fool, after all. His own blaster might yet be needed to decide the issue.

He waited. Stolidly he watched the Autarch lift his blaster as Biron stood there, unflinching.

Artemisia did not see the blaster lift. She did not see the two figures on the flat rock surface. Five minutes earlier she had seen Rizzett silhouetted for a moment against the sky, and since then she had followed him.

Somehow, he was moving too fast for her. Things dimmed and wavered before her and twice she found herself stretched on the ground. She did not recall falling. The second time, she staggered to her feet with one wrist oozing blood where a sharp edge had scraped her.

Rizzett had gained again and she had to reel after him. When he vanished in the glistening boulder forest, she sobbed in despair. She leaned against a rock, completely weary.

Its beautiful flesh-pink tint, the glassy smoothness of its surface, the fact that it stood as an ancient reminder of a primeval volcanic age was lost upon her.

She could only try to fight the sensation of choking that pervaded her.

And then she saw him, dwarfed at the forked-rock formation, his back to her. She held the neuronc whip before her as she ran unevenly over the hard ground. He was sighting along the barrel of his rifle, intent upon the process, taking aim, getting ready.

She wouldn't make it in time.

She would have to distract his attention. She called, "Rizzett!" And again, "Rizzett, don't shoot!"

She stumbled again. The sun was blotting out, but consciousness lingered. It lingered long enough for her to feel the ground jar thuddingly against her, long enough

to press her finger upon the whip's contact; and long enough for her to know that she was well out of range, even if her aim was accurate, which it could not be.

She felt arms about her, lifting. She tried to see, but her eyelids would not open.

"Biron?" It was a weak whisper.

The answer was a rough blur of words, but it was Rizzett's voice. She tried to speak further, then abruptly gave up. She had failed!

Everything was blotted out.

The Autarch remained motionless for the space it would take a man to count to ten slowly. Biron faced him as motionlessly, watching the barrel of the blaster that had just been fired point-blank at him. The barrel sank slowly as he watched.

Biron said, "Your blaster seems not be in firing order. Examine it."

The Autarch's bloodless face turned alternately from Biron to his weapon. He had fired at a distance of four feet. It should have been allover. The congealed astonishment that held him broke suddenly and he disjointed the blaster in a quick movement.

The energy capsule was missing. Where it should have been, there was a useless cavity.

The Autarch whimpered with rage as he hurled the lump of dead metal aside. It turned over and over, a black blot against the sun, smashing into the rock with a faint ringing sound.

"Man to man!" said Biron. There was a trembling eagerness in his voice.

The Autarch took a step backward. He said nothing.

Biron took a slow step forward. "There are many ways I could kill you, but not all would be satisfying. If I blasted you, it would mean that a millionth of a second would separate your life from your death. You would have no consciousness of dying. That would be bad. I think that instead there would be considerable satisfaction in using the somewhat slower method of human muscular effort."

His thigh muscles tensed, but the lunge they prepared was never completed. The cry that interrupted was thin and high, packed with panic.

"Rizzett!" it came. "Rizzett, don't shoot!"

Biron whirled in time to see the motion behind the rocks a hundred yards away and the glint of sun on metal. And then the hurled weight of a human body was upon his back. He bent under it, dropping to his knees.

The Autarch had landed fairly, his knees clasped hard about the other's waist, his fist thudding at the nape of Biron's neck. Biron's breath whooshed out in a whistling grunt.

Biron fought off the gathering blackness long enough to throw himself to one side. The Autarch jumped free, gaining clear footing while Biron sprawled on his back.

He had just time to double his legs up against himself as the Autarch lunged down upon him again. The Autarch bounced off. They were up together this time, perspiration turning icy upon their cheeks.

They circled slowly. Biron tossed his carbon-dioxide cylinder to one side. The Autarch likewise unstrapped his, held it suspended a moment by its mesh-metal hose,

then stepped in rapidly and swung it. Biron dropped, and both heard and felt it whistle above his head.

He was up again, leaping on the other before the Autarch could regain his balance. One large fist clamped down on the other fist exploded in the Autarch's face. He let the Autarch drop and stepped back.

Biron said, "Stand up. I'll wait for you with more of the same. There's no hurry."

The Autarch touched his gloved hand to his face then stared sickly at the blood that smeared off upon it. His mouth twisted and his hand snaked out for the metal cylinder he had dropped. Biron's foot came heavily down upon it, and the Autarch yelled in agony.

Biron said, ".You're too close to the edge of the cliff, Jonti. Mustn't reach in that direction. Stand up. I'll throw you the other way now."

But Rizzett's voice rang out: "Wait!"

The Autarch screamed, "Shoot this man, Rizzett! Shoot him now! His arms first, then his legs, and we'll leave him."

Rizzett brought his weapon up slowly against his shoulder.

Biron said, "Who saw to it that your own blaster was unloaded, Jonti?"

"What?" The Autarch stared blankly.

"It was not I who had access to your blaster, Jonti. Who did have? Who is pointing a blaster at you right now, Jonti? Not at me, Jonti, but at you"

The Autarch turned to Rizzett and screamed, "Traitor!"

Rizzett said, in a low voice. "Not I, sir. That man is the traitor who betrayed the loyal Rancher of Widemos to his death."

"That is not I," cried the Autarch. "If he has told you I have, he lies."

"It is you yourself who have told us. I not only emptied your weapon, I also shorted your communicator switch, so that every word you said today was received by myself and by every member of the crew. We all know you for what you are."

"I am your Autarch."

"And also the greatest traitor alive."

For a moment the Autarch said nothing, but looked wildly from one to the other as they watched him with somber, angry faces. Then he wrenched to his feet, pulled together the parted seams of his self-control, and held them tightly by sheer nervous force.

His voice was almost cool as he said, "And if it were all true, what would it matter?

You have no choice but to let matters stand as they are. One last intranebular planet remains to be visited. It must be the rebellion world, and only I know the coordinates."

He retained dignity somehow. One hand hung uselessly from a broken wrist; his upper lip had swollen ludicrously, and blood was caking his cheek, but he radiated the hauteur of one born to rule.

"You'll tell us," said Biron.

"Don't delude yourself that I will under any circumstances. I have told you already that there is an average of seventy cubic light-years per star. If you work by trial and error, without me, the odds are two hundred and fifty quadrillion to one against your coming within a billion miles of any star. Any star!"

Something went click! in Biron's mind.

He said, "Take him back to the Remorseless!"

Rizzett said in a low voice, "The Lady Artemisia--"

And Biron interrupted, "Then it was she. Where is she?"

"It's all right. She's safe. She came out without a carbon-dioxide cylinder.

Naturally, as the CO₂ washed out of her blood stream, the automatic breathing mechanism of the body slowed. She was trying to run, didn't have the sense to breathe deeply voluntarily, and fainted."

Biron frowned. "Why was she trying to interfere with you, anyway? Making sure her boy friend didn't get hurt?"

Rizzett said, "Yes, she was! Only she thought I was the Autarch's man and was going to shoot you. I'll take back this rat now, and, Biron--"

"Yes?"

"Get back as soon as you can. He's still the Autarch, and the crew may need talking to. It's hard to break a lifetime habit of obedience. . . .She's behind that rock. Get to her before she freezes to death, will you? She won't leave."

Her face was almost buried in the hood that covered her head, and her body was formless in the thick, enveloping folds of the space-suit lining, but his steps quickened as he approached her.

He said, "How are you?"

She said, "Better, thank you. I am sorry if I caused any trouble."

They stood looking at each other, and the conversation seemed to have burned itself out in two lines.

Then Biron said, "I know we can't turn time backward, undo things that have been done, unsay things that have been said. But I do want you to understand."

"Why this stress on understanding?" Her eyes flashed. "I have done nothing but understand for weeks now. Will you tell me again about my father?"

"No. I knew your father was innocent. I suspected the Autarch almost from the start, but I had to find out definitely. I could only prove it, Arta, by forcing him to confess. I thought I could get him to confess by trapping him into attempting to kill me, and there was only one way of doing that."

He felt wretched. He went on, "It was a bad thing to do. As bad, almost, as what he did to my father. I don't expect you to forgive me."

She said, "I don't follow you." He said, "I knew he wanted you, Arta. Politically, you would be a perfect matrimonial object. The name of Hinriad would be more useful for his purposes than that of Widemos. So once he had you, he would need me no longer. I deliberately forced you on him, Arta. I acted as I did, hoping you would turn to him.

When you did, he thought he was ready to rid himself of me, and Rizzett and I laid our trap."

"And you loved me an the time?"

Biron said, "Can't you bring yourself to believe that, Arta?"

"And of course you were ready to sacrifice your love to the memory of your father and the honor of your family. How does the old doggerel go? You could not love me half so much, loved you not honor more!"

Biron said, miserably, "Please, Arta! I am not proud of myself but I could think of no other way."

"You might have told me your plan, made me your confederate rather than your tool."

"It was not your fight. If I had failed--and I might have --you would have remained out of it. If the Autarch had killed me and you were no longer on my side, you would be less hurt. You might even have married him, even been happy."

"Since you have won, it might be that I would be hurt at his loss."

"But you aren't."

"How do you know?"

Biron said desperately, "At least try to see my motives. Granted that I was foolish--criminally foolish--can't you understand? Can't you try not to hate me?"

She said softly, "I have tried not to love you and, as you see, I have failed."

"Then you forgive me."

"Why? Because I understand? No! If f were a matter of simply understanding, of seeing your motives, I would not forgive you your actions for anything I might have in life. If it were only that and nothing more! But I will forgive you, Biron, because I couldn't bear not to. How could I ask you to come back to me unless I forgave you?"

And she was in his arms, her weather-cold lips turning up to his. They were held apart by a double layer of thick garments. His gloved hands could not feel the body they embraced, but his lips were aware of her white, smooth face.

At last he said in concern, "The sun is getting lower. It's going to get colder."

But she said softly, "It's strange, then, that I seem to be getting warmer."

Together they walked back to the ship.

Biron faced them now with an appearance of easy confidence which he did not feel. The Linganian ship was large, and there were fifty in the crew. They sat now facing him. Fifty faces! Fifty Linganian faces bred from birth to unquestioning obedience to their Autarch.

Some had been convinced by Rizzett; others had been convinced by the arranged eavesdropping on the Autarch's statements to Biron earlier that day. But how many others were still uncertain or even definitely hostile?

So far Biron's talking had done little good. He leaned forward, let his voice grow confidential. "And what are you fighting for, men? What are you risking your lives for? A free Galaxy, I think. A Galaxy in which each world can decide what is best in its own way,

produce its own wealth for its own good, be slave to none and master of none. Am I right?"

There was a low murmur of what might have been agreement, but it lacked enthusiasm.

Biron went on, "And what is the Autarch fighting for? For himself. He is the Autarch of Lingane. If he won, he would be Autarch of the Nebular Kingdoms. You would replace a Khan by an Autarch. Where would be the benefit of that? Is that worth dying for?"

One in the audience cried out, "He would be one of us, not a filthy Tyranni."

Another shouted. "The Autarch was looking for the rebellion world to offer his services. Was that ambition?"

"Ambition should be made of sterner stuff, eh?" Biron shouted back, ironically. "But he would come to the rebellion world with an organization at his back. He could offer them all of Lingane; he could offer them, he thought, the prestige of an alliance with the Hinriads. In the end, he was pretty sure, the rebellion world would be his to do with what he pleased. Yes, this was ambition.

"And when the safety of the movement ran counter to his own plans, did he hesitate to risk your lives for the sake of his ambition? My father was a danger to him. My father was honest and a friend of liberty. But he was too popular, so he was betrayed. In that betrayal, the Autarch might have brought to ruins the entire cause and all of you with it. Which one of you is safe under a man who will deal with the Tyranni whenever it suits his purpose? Who can be safe serving a cowardly traitor?"

"Better," whispered Rizzett. "Stick to that. Give it to them."

Again the same voice called from the back rows. "The Autarch knows where the rebellion world is. Do you know?"

"We will discuss that later. Meanwhile, consider instead that under the Autarch we were all headed for complete ruin; that there is still time to save ourselves by turning from his guidance to a better and nobler way; that it is still possible from the jaws of defeat to snatch--"

"--only defeat, my dear young man," came a soft interrupting voice, and Biron turned in horror.

The fifty crewmen came babbling to their feet, and for a moment it seemed as though they might surge forward, but they had come to council unarmed; Rizzett had seen to that. And now a squad of Tyrannian guardsmen were filing through the various doors, weapons ready.

And Simok Aratap himself, a blaster in each hand, stood behind Biron and Rizzett.

20. WHERE?

Simok Aratap weighed carefully the personalities of each of the four who faced him and felt the stirring of a certain excitement within him. This would be the big gamble. The threads of the pattern were weaving toward a close. He was thankful that Major Andros was no longer with him; that the Tyrannian cruisers had gone as well.

He was left with his flagship, his crew and himself. They would be sufficient. He hated unwieldiness.

He spoke mildly, "Let me bring you up to date, my lady and gentlemen. The Autarch's ship has been boarded by a prize crew and is now being escorted back to Tyrann by Major Andros. The Autarch's men will be tried according to law and if convicted will receive the punishment for treason. They are routine conspirators and will be treated routinely. But what shall I do with you?"

Hinrik of Rhodia sat beside him, his face crumpled in utter misery. He said, "Consider that my daughter is a young girl. She was led into this unwillingly. Artemisia, tell them that you were "

"Your daughter," interposed Aratap, "will probably be released. She is, I believe, the matrimonial object of a highly placed Tyrannian nobleman. Obviously, that will be kept in mind."

Artemisia said, "I'll marry him, if you'll let the rest go."

Biron half rose, but Aratap waved him down. The Tyrannian Commissioner smiled and said, "My lady, please! I can strike bargains, I admit. However, I am not the Khan, but merely one of his servants. Therefore, any bargain I do make will have to be justified thoroughly at home. So what is it exactly that you offer?"

"My agreement to the marriage."

"That is not yours to offer. Your father has already agreed and that is sufficient. Do you have anything else?"

Aratap was waiting for the slow erosion of their wills to resist. The fact that he did not enjoy his role did not prevent him from filling it efficiently. The girl, for instance, might at this moment burst into tears and that would have a salutary effect on the young man.

They had obviously been lovers. He wondered if old Pohang would want her under the circumstances, and decided that he probably would. The bargain would still be all in the ancient's favor. For the moment he thought distantly that the girl was very attractive.

And she was maintaining equilibrium. She was not breaking down. Very good, thought Aratap. She was strong willed as well. Pohang would not have joy of his bargain after an.

He said to Hinrik, "Do you wish to plead for your cousin too?"

Hinrik's lips moved soundlessly.

Gillbret cried, "No one pleads for me. I don't want anything of any Tyranni. Go ahead."

Order me shot."

"You are hysterical," said Aratap. "You know that I cannot order you shot without trial."

"He is my cousin," whispered Hinrik.

"That will be considered too. You noblemen will some day have to learn that you cannot presume too far on your usefulness to us. I wonder if your cousin has learned that lesson yet."

He was satisfied with Gillbret's reactions. That fellow, at least, sincerely wanted death. The frustration of life was too much for him. Keep him alive, then, and that alone would break him.

He paused thoughtfully before Rizzett. This was one of the Autarch's men. At the thought he felt a faint embarrassment. At the start of the chase, he had dismissed the Autarch as a factor on the basis of what seemed iron logic. Well, it was healthy to miss occasionally.

It kept self-confidence balanced at a point safely short of arrogance.

He said, "You're the fool who served a traitor. You would have been better off with us."

Rizzett flushed.

Aratap went on, "If you ever had any military reputation, I am afraid this would destroy it. You are not a nobleman and considerations of state will play no part in your case.

Your trial will be public and it will become known that you were a tool of a tool. Too bad."

Rizzett said, "But you are about to suggest a bargain, I suppose?"

"A bargain?"

"Khan's evidence, for instance? You have only a shipload. Wouldn't you want to know the rest of the machinery of revolt?"

Aratap shook his head slightly. "No. We have the Autarch. He will do as a source of information. Even without it, we need only make war on Lingane. There would be little left of revolt thereafter, I'm sure. There will be no bargain of that sort."

And this brought him to the young man. Aratap had left him for last because he was the cleverest of the lot. But he was young, and young people were often not dangerous. They lacked patience.

Biron spoke first, saying, "How did you follow us? Was he working with you?"

"The Autarch? Not in this case. I believe the poor fellow was trying to play both sides of the game, with the usual success of the unskillful."

Hinrik interrupted, with an incongruously childish eagerness, "The Tyranni have an invention that follows ships through hyperspace."

Aratap turned sharply. "If Your Excellency will refrain from interrupting, I would be obliged," and Hinrik cringed.

It really didn't matter. None of these four would be dangerous hereafter, but he had no desire to decrease by even one any of the uncertainties in the young man's mind.

Biron said, "Now, look, let's have facts, or nothing. You don't have us here because you love us. Why aren't we on the way back to Tyrann with the others? It's that you don't know how to go about killing us. Two of us are Hinriads. I am a Widemos. Rizzett is a well-known officer of the Linganian fleet. And that fifth one you have, your own pet coward and traitor, is still Autarch of Lingane. You can't kill any of us without stinking up the Kingdoms from Tyrann to the edge of the Nebula itself. You've got to try to make some sort of bargain with us, because there's nothing else you can do."

Aratap said, "You are not altogether wrong. Let me weave a pattern for you. We followed you, no matter how. You may disregard, I think, the Director's overactive imagination. You paused near three stars without landing on any planet. You came to a fourth and found a planet to land on. There we landed with you, watched, waited. We thought there might be something to wait for and we were right. You quarreled with the Autarch and both of you broadcast without limitation. That had been arranged by you for your own purposes, I know, but it suited our purpose as well. We overheard."

"The Autarch said that only one last intra-nebular planet remained to be visited and that it must be the rebellion world. This is interesting, you see. A rebellion world. You know, my curiosity is aroused. Where would that fifth and last planet be located?"

He let the silence last. He took a seat and watched them dispassionately--first one, then another.

Biron said, "There is no rebellion world."

"You were looking for nothing, then?"

"We were looking for nothing."

"You are being ridiculous."

Biron shrugged wearily. "You are yourself ridiculous if you expect more of an answer."

Aratap said, "Observe that this rebellion world must be the center of the octopus. To find it is my only purpose in keeping you alive. You each have something to gain. My lady, I might free you of your marriage. My Lord Gillbret, we might establish a laboratory for you, let you work undisturbed. Yes, we know more of you than you think." (Aratap turned away hastily. The man's face was working. He might weep and that would be unpleasant.) "Colonel Rizzett, you will be saved the humiliation of court-martial and the certainty of conviction and the ridicule and loss of reputation that would go with it. You, Biron Farrill, would be Rancher of Widemos again. In your case, we might even reverse the conviction of your father."

"And bring him back to life?"

"And restore his honor."

"His honor," said Biron, "rests in the very actions that led to his conviction and death. It is beyond your power to add to or detract from it."

Aratap said, "One of you four will tell me where to find this world you seek. One of you will be sensible. He will gain, whichever one it is, what I have promised. The rest of you will be married, imprisoned, executed--whatever will be worst for you. I warn you, I can be sadistic if I must be."

He waited a moment. "Which one will it be? If you don't speak, the one next to you will. You will have lost everything and I will still have the information I want."

Biron said, "It's no use. You're setting this up so carefully, and yet it won't help you. There is no rebellion world."

"The Autarch says there is."

"Then ask the Autarch your question."

Aratap frowned. The young man was carrying the bluff forward past the point of reason.

He said, "My own inclination is to deal with one of you."

"Yet you have dealt with the Autarch in the past. Do so again. There is nothing you can sell to us that we are willing to buy from you." Biron looked about him. "Right?"

Artemisia crept closer to him and her hand folded slowly about his elbow. Rizzett nodded curtly and Gillbret muttered, "Right!" in a breathless manner.

"You have decided," said Aratap, and put his finger on the correct knob.

The Autarch's right wrist was immobilized in a light metal sheath, which was held magnetically tight to the metal band about his abdomen. The left side of his face was swollen and blue with bruise except for a ragged, force-healed scar that seamed it redly. He stood before them without moving after that first wrench which had freed his good arm from the grip of the armed guard at his side.

"What do you want?"

"I will tell you in a moment," said Aratap. "First, I want you to consider your audience. See whom we have here. There is the young man, for instance, whom you planned death for, yet who lived long enough to cripple you and destroy your plans, although you were an Autarch and he was an exile."

It was difficult to tell whether a flush had entered the Autarch's mangled face. There was no single muscle motion upon it.

Aratap did not look for one. He went on quietly, almost indifferently, "This is Gillbret oth Hinriad, who saved the young man's life and brought him to you. This is the Lady Artemisia, whom, I am told, you courted in your most charming manner and who betrayed you, nevertheless, for love of the youngster. This is Colonel Rizzett, your most trusted military aide, who also ended by betraying you. What do you owe these people, Autarch?"

The Autarch said again, "What do you want?"

"Information. Give it to me and you will be Autarch again. Your earlier dealings with us would be held in your favor at the Khan's court. Otherwise--"

"Otherwise?"

"Otherwise I will get it from these, you see. They will be saved and you will be executed. That is why I ask whether you owe them anything, that you should give them the opportunity of saving their lives by yourself being mistakenly stubborn."

The Autarch's face twisted painfully into a smile. "They cannot save their lives at my expense. They do not know the location of the world you seek. I do."

"I have not said what the information I want is, Autarch."

"There is only one thing you can want." His voice was hoarse--all but unrecognizable.

"If my decision is to speak, then my Autarchy will be as before, you say."

"More closely guarded, of course," amended Aratap politely.

Rizzett cried out, "Believe him, and you'll but add treason to treason and be killed for it in the end."

The guard stepped forward, but Biron anticipated him. He flung himself upon Rizzett, struggling backward with him.

"Don't be a fool," he muttered. "There's nothing you can do."

The Autarch said, "I don't care about my Autarchy, or myself, Rizzett." He turned to Aratap. "Will these be killed? That, at least, you must promise." His horribly discolored face twisted savagely. "That one, above all." His finger stabbed toward Biron.

"If that is your price, it is met."

"If I could be his executioner, I would relieve you of all further obligation to me."

If my finger could control the execution blast, it would be partial repayment. But if not that, at least I will tell you what he would have you not know. I give you rho, theta, and phi in parsecs and radians: 7352.43, 1.7836, 5.2112. Those three points will determine the position of the world in the Galaxy. You have them now."

"So I have," said Aratap, writing them down.

And Rizzett broke away, crying, "Traitor! Traitor!"

Biron, caught off balance, lost his grip on the Linganian and was thrown to one knee.

"Rizzett," he yelled futilely.

Rizzett, face distorted, struggled briefly with the guard. Other guards were swarming in, but Rizzett had the blaster now. With hands and knees he struggled against the Tyrannian soldiers. Hurling himself through the huddle of bodies, Biron joined the fight. He caught Rizzett's throat, choking him, pulling him back.

"Traitor," Rizzett gasped, struggling to maintain aim as the Autarch tried desperately to squirm aside. He fired! And then they disarmed him and threw him on his back.

But the Autarch's right shoulder and half his chest had been blasted away.

Grotesquely, the forearm dangled freely from its magnetized sheath. Fingers, wrist, and elbow ended in black ruin. For a long moment it seemed that the Autarch's eyes flickered as his body remained in crazy balance, and then they were glazed and he dropped and was a charred remnant upon the floor.

Artemisia choked and buried her face against Biron's chest. Biron forced himself to look once, firmly and without flinching, at the body of his father's murderer, then turned his eyes away. Hinrik, from a distant corner of the room, mumbled and giggled to himself.

Only Aratap was calm. He said, "Remove the body."

They did so, flaring the floor with a soft heat ray for a few moments to remove the blood. Only a few scattered char marks were left.

They helped Rizzett to his feet. He brushed at himself with both hands, then whirled fiercely toward Biron. "What were you doing? I almost missed the bastard."

Biron said wearily, "You fell into Aratap's trap, Rizzett. "

"Trap? I killed the bastard, didn't I?"

"That was the trap. You did him a favor."

Rizzett made no answer, and Aratap did not interfere. He listened with a certain pleasure. The young fellow's brains worked smoothly.

Biron said, "If Aratap overheard what he claimed to have overheard, he would have known that only Jonti had the information he wanted. Jonti said that, with emphasis, when he faced us after the fight. It was obvious that Aratap was questioning us only to rattle us, to get us to act brainlessly at the proper time. I was ready for the irrational impulse he counted upon. You were not."

"I had thought," interposed Aratap softly, "that you would have done the job."

"I," said Biron, "would have aimed at you." He turned to Rizzett again. "Don't you see that he didn't want the Autarch alive? The Tyranni are snakes. He wanted the Autarch's information; he didn't want to pay for it; he couldn't risk killing him. You did it for him."

"Correct," said Aratap, "and I have my information."

Somewhere there was the sudden clamor of bells.

Rizzett began, "All right. If I did him a favor, I did myself one at the same time."

"Not quite," said the Commissioner, "since our young friend has not carried the analysis far enough. You see, a new crime has been committed. Where the only crime is treason against Tyrann, your disposal would be a delicate matter politically. But now that the Autarch of Lingane has been murdered, you may be tried, convicted, and executed by Linganian law and Tyrann need play no part in it. This will be convenient for--"

And then he frowned and interrupted himself. He heard the clanging, and stepped to the door. He kicked the release.

"What is happening?"

A soldier saluted. "General alarm, sir. Storage compartments."

"Fire?"

"It is not yet known, sir."

Aratap thought to himself, Great Galaxy! and stepped back into the room. "Where is Gillbret?"

And it was the first anyone knew of the latter's absence.

Aratap said, "We'll find him."

They found him in the engine room, cowering amid the giant structures, and half dragged, half carried him back to the Commissioner's room.

The Commissioner said dryly, "There is no escape on a ship, my lord. It did you no good to sound the general alarm. The time of confusion is even then limited."

He went on, "I think it is enough. We have kept the cruiser you stole, Farrill, my own cruiser, on board ship. It will be used to explore the rebellion world. We will make for

the lamented Autarch's reference points as soon as the Jump can be calculated. This will be an adventure of a sort usually missing in this comfortable generation of ours."

There was the sudden thought in his mind of his father in command of a squadron, conquering worlds. He was glad Andros was gone. This adventure would be his alone.

They were separated after that. Artemisia was placed with her father, and Rizzett and Biron were marched off in separate directions. Gillbret struggled and screamed.

"I won't be left alone. I won't be in solitary."

Aratap sighed. This man's grandfather had been a great ruler, the history books said.

It was degrading to have to watch such a scene. He said, with distaste, "Put my lord with one of the others."

And Gillbret was put with Biron. There was no speech between them till the coming of space-ship "night," when the lights turned a dim purple. It was bright enough to allow them to be watched through the tele-viewing system by the guards, shift and shift about, yet dim enough to allow sleep.

But Gillbret did not sleep.

"Biron," he whispered. "Biron."

And Biron, roused from a dull semi-drowse, said, "What do you want?"

"Biron, I have done it. It is all right, Biron."

Biron said, "Try to sleep, Oil."

But Gillbret went on, "But I've done it, Biron. Aratap may be smart, but I'm smarter.

Isn't that amusing? You don't have to worry, Biron. Biron, don't worry. I've fixed it." He was shaking Biron again, feverishly.

Biron sat up. "What's the matter with you?"

"Nothing. Nothing. It's all right. But I fixed it." Gillbret was smiling. It was a sly smile, the smile of a little boy who has done something clever.

"What have you fixed?" Biron was on his feet. He seized the other by the shoulders and dragged him upright as well. "Answer me."

"They found me in the engine room." The words were jerked out. "They thought I was hiding. I wasn't. I sounded the general alarm for the storage room because I had to be alone for just a few minutes--a very few minutes. Biron, I shorted the hyperatomics."

"What?"

"It was easy. It took a minute. And they won't know. I did it cleverly. They won't know until they try to Jump, and then all the fuel will be energy in one chain reaction and the ship and us and Aratap and all knowledge of the rebellion world will be a thin expansion of iron vapor."

Biron was backing away, eyes wide. "You did that?"

"Yes." Gillbret buried his head in his hands and rocked to and fro. "We'll be dead.

Biron, I'm not afraid to die, but not alone. Not alone. I had to be with someone. I'm glad I'm with you. I want to be with someone when I die. But it won't hurt; it will be so quick. It won't hurt. It won't hurt."

Biron said, "Fool! Madman! We might still have won out but for this."

Gillbret didn't hear him. His ears were filled with his own moans. Biron could only dash to the door.

"Guard," he yelled. "Guard!" Were there hours or merely minutes left?

21. HERE?

The soldier came clattering down the corridor. "Get back in there." His voice was sour and sharp.

They stood facing one another. There were no doors to the small bottom-level rooms which doubled as prison cells, but a force field stretched from side to side, top to bottom.

Biron could feel it with his hand. There was a tiny resilience to it, like rubber stretched nearly to its extreme, and then it stopped giving, as though the first initial pressure turned it to steel.

It tingled Biron's hand, and he knew that though it would stop matter completely, it would be as transparent as space to the energy beam of a neuronic whip. And there was a whip in the guard's hand.

Biron said, "I've got to see Commissioner Aratap."

"Is that what you're making a noise about?" The guard was not in the best of humors.

The night watch was unpopular and he was losing at cards. "I'll mention it after lights-on."

"It won't wait." Biron felt desperate. "It's important. "

"It will have to wait. Will you get back, or do you want a bit of the whip?"

"Look," said Biron, "the man with me is Gillbret oth Hinriad. He is sick. He may be dying. If a Hinriad dies on a Tyrannian ship because you will not let me speak to the man in authority, you will not have a good time of it."

"What's wrong with him?"

"I don't know. Will you be quick or are you tired of life?"

The guard mumbled something and was off.

Biron watched him as far as he could see in the dim purple. He strained his ears in an attempt to catch the heightened throbbing of the engines as energy concentration climbed to a pre-Jump peak, but he heard nothing at all.

He strode to Gillbret, seized the man's hair, and pulled his head back gently. Eyes stared into his out of a contorted face. There was no recognition in them, only fear.

"Who are you?"

"It's only me--Biron. How do you feel?"

It took time for the words to penetrate. Gillbret said, blankly, "Biron?" Then, with a quiver of life, "Biron! Are they Jumping? Death won't hurt, Biron."

Biron let the head drop. No point in anger against Gillbret. On the information he had, or thought he had, it was a great gesture. All the more so, since it was breaking him.

But he was writhing in frustration. Why wouldn't they let him speak to Aratap? Why wouldn't they let him out? He found himself at a wall and beat upon it with his fists. If

there were a door, he could break it down; if there were bars, he could pull them apart or drag them out of their sockets, by the Galaxy.

But there was a force field, which nothing could damage. He yelled again.

There were footsteps once more. He rushed to the open-yet-not-open door. He could not look out to see who was coming down the corridor. He could only wait.

It was the guard again. "Get back from the field," he barked. "Step back with your hands in front of you." There was an officer with him.

Biron retreated. The other's neuronc whip was on him, unwaveringly. Biron said, "The man with you is not Aratap. I want to speak to the Commissioner."

The officer said, "If Gillbret oth Hinriad is ill, you don't want to see the Commissioner. You want to see a doctor."

The force field was down, with a dim blue spark showing as contact broke. The officer entered, and Biron could see the Medical Group insignia on his uniform.

Biron stepped in front of him. "All right. Now listen to me. This ship mustn't Jump.

The Commissioner is the only one who can see to that, and I must see him. Do you understand that? You're an officer. You can have him awakened."

The doctor put out an arm to brush Biron aside, and Biron batted it away. The doctor cried out sharply and called, "Guard, get this man out of here."

The guard stepped forward and Biron dived. They went thumping down together, and Biron clawed up along the guard's body, hand over hand, seizing first the shoulder and then the wrist of the arm that was trying to bring its whip down upon him.

For a moment they remained frozen, straining against one another, and then Biron caught motion at the corner of his eye. The medical officer was rushing past them to sound the alarm.

Biron's hand, the one not holding the other's whip wrist, shot out and seized the officer's ankle. The guard writhed nearly free, and the officer kicked out wildly at him, but, with the veins standing out on his neck and temples, Biron pulled desperately with each hand.

The officer went down; shouting hoarsely. The guard's whip clattered to the floor with a harsh sound.

Biron fell upon it, rolled with it, and came up on his knees and one hand. In his other was the whip.

"Not a sound," he gasped. "Not one sound. Drop anything else you've got."

The guard, staggering to his feet, his tunic ripped, glared hatred and tossed a short, metal-weighted, plastic club away from himself. The doctor was unarmed.

Biron picked up the club. He said, "Sorry. I have nothing to tie and gag you with and no time anyway."

The whip flashed dimly once, twice. First the guard and then the doctor stiffened in agonized immobility and dropped solidly, in one piece, legs and arms bent grotesquely out from their bodies as they lay, in the attitude they had last assumed before the whip struck.

Biron turned to Gillbret, who was watching with dull, soundless vacuity.

"Sorry," said Biron, "but you, too, Gillbret," and the whip flashed a third time. The vacuous expression was frozen solid as Gillbret lay there on his side. The force field was still down and Biron stepped out into the corridor. It was empty.

This was space-ship "night" and only the watch and the night details would be up. There would be no time to try to locate Aratap. It would have to be straight for the engine room. He set off. It would be toward the bow, of course.

A man in engineer's work clothes hurried past him.

"When's the next Jump?" called out Biron.

"About half an hour," the engineer returned over his shoulder.

"Engine room straight ahead?"

"And up the ramp." The man turned suddenly. "Who are you?"

Biron did not answer. The whip flared a fourth time. He stepped over the body and went on. Half an hour left.

He heard the noise of men as he sped up the ramp. The light ahead was white, not purple. He hesitated. Then he put the whip into his pocket. They would be busy. There would be no reason for them to suspect him.

He stepped in quickly. The men were pygmies scurrying about the huge matter-energy converters. The room glared with dials, a hundred thousand eyes staring their information out to all who would look. A ship this size, one almost in the class of a large passenger liner, was considerably different from the tiny Tyrannian cruiser he had been used to. There, the engines had been all but automatic. Here they were large enough to power a city, and required considerable supervision.

He was on a railed balcony that circled the engine room. In one corner there was a small room in which two men handled computers with flying fingers.

He hurried in that direction, while engineers passed him without looking at him, and stepped through the door.

The two at the computers looked at him.

"What's up?" one asked. "What are you doing up here? Get back to your post." He had a lieutenant's stripes.

Biron said, "Listen to me. The hyperatomics have been shorted. They've got to be repaired."

"Hold on," said the second man, "I've seen this man. He's one of the prisoners. Hold him, Lancy."

He jumped up and was making his way out the other door. Biron hurdled the desk and the computer, seized the belt of the controlman's tunic and pulled him backward.

"Correct," he said. "I'm one of the prisoners. I'm Biron of Widemos. But what I say is true. The hyperatomics are shorted. Have them inspected, if you don't believe me."

The lieutenant found himself staring at a neuronc whip. He said, carefully, "It can't be done, sir, without orders from Officer of the Day, or from the Commissioner. It would mean changing the Jump calculations and delaying us hours."

"Get the authority, then. Get the Commissioner."

"May I use the communicator?"

"Hurry."

The lieutenant's arm reached out for the flaring mouthpiece of the communicator, and halfway there plummeted down hard upon the row of knobs at one end of his desk. Bells clamored in every corner of the ship.

Biron's club was too late. It came down hard upon the lieutenant's wrist. The lieutenant snatched it away, nursing it and moaning over it, but the warning signals were sounding.

Guards were rocketing in upon the balcony through every entrance. Biron slammed out of the control room, looked in either direction, then hopped the railing.

He plummeted down, landing knees bent, and rolled. He rolled as rapidly as he could to prevent setting himself up as a target. He heard the soft hissing of a needle gun near his ear, and then he was in the shadow of one of the engines.

He stood up in a crouch, huddling beneath its curve. His right leg was a stabbing pain. Gravity was high so near the ship's hull and the drop had been a long one. He had sprained his knee badly. It meant that there would be no more chase. If he Won out, it was to be from where he stood.

He called out, "Hold your firer I am unarmed." First the club and then the whip he had taken from the guard went spinning out toward the center of the engine room. They lay there in stark impotence and plain view.

Biron shouted, "I have come to warn you. The hyperatomics are shorted. A Jump will mean the death of us all. I ask only that you check the motors. You will lose a few hours, perhaps, if I am wrong. You will save your lives, if I am right."

Someone called, "Go down there and get him."

Biron yelled, "Will you sell your lives rather than listen?"

He heard the cautious sound of many feet, and shrank backward. Then there was a sound above. A soldier was sliding down the engine toward him, hugging its faintly warm skin as though it were a bride. Biron waited. He could still use his arms.

And then the voice came from above, unnaturally loud, penetrating every corner of the huge room. It said, "Back to your places. Halt preparations for the Jump. Check the hyperatomics."

It was Aratap, speaking through the public-address system. The order then came, "Bring the young man to me."

Biron allowed himself to be taken. There were two soldiers on each side, holding him as though they expected him to explode. He tried to force himself to walk naturally, but he was limping badly.

Aratap was in semidress. His eyes seemed different: faded, peering, unfocused. It occurred to Biron that the man wore contact lenses.

Aratap said, "You have created quite a stir, Farrill."

"It was necessary to save the ship. Send these guards away. As long as the engines are being investigated, there's nothing more I intend doing."

"They will stay just awhile. At least, until I hear from my engine men."

They waited, silently, as the minutes dragged on, and then there was a flash of red upon the frosted-glass circle above the glowing lettering that read "Engine Room."

Aratap opened contact. "Make your report!"

The words that came were crisp and hurried: "Hyperatomics on the C Bank completely shorted. Repairs under way."

Aratap said, "Have Jump recalculated for plus six hours."

He turned to Biron and said coolly, "You were right."

He gestured. The guards saluted, turned on their heels, and left one by one with a smooth precision. Aratap said, "The details, please."

"Gillbret oth Hinriad during his stay in the engine room thought the shorting would be a good idea. The man is not responsible for his actions and must not be punished for it."

Aratap nodded. "He has not been considered responsible for years. That portion of the events will remain between you and me only. However, my interest and curiosity are aroused by your reasons for preventing the destruction of the ship. You are surely not afraid to die in a good cause?"

"There is no cause," said Biron. "There is no rebellion world. I have told you so already and I repeat it. Lingane was the center of revolt, and that has been checked. I was interested only in tracking down my father's murderer, the Lady Artemisia only in escaping an unwanted marriage. As for Gillbret, he is mad."

"Yet the Autarch believed in the existence of this mysterious planet. Surely he gave me the coordinates of something!"

"His belief is based on a madman's dream. Gillbret dreamed something twenty years ago.

Using that as a basis, the Autarch calculated five possible planets as the site of this dream world. It is all nonsense."

The commissioner said, "And yet something disturbs me."

"What?"

"You are working so hard to persuade me. Surely I will find all this out for myself once I have made the Jump. Consider that it is not impossible that in desperation one of you might endanger the ship and the other save it as a complicated method for convincing me that I need look no further for the rebellion world. I would say to myself: If there were really such a world, young Farrill would have let the ship vaporize, for he is a young man and romantically capable of dying what he would consider a hero's death. Since he has risked his life to prevent that happening, Gillbret is mad, there is no rebellion world, and I will return without searching further. Am I too complicated for you?"

"No. I understand you."

"And since you have saved our lives, you will receive appropriate consideration in the Khan's court. You will have saved your life and your cause. No, young sir, I am not quite so ready to believe the obvious. We will still make the Jump."

"I have no objections," said Biron.

"You are cool," said Aratap. "It is a pity you were not born one of us."

He meant it as a compliment. He went on, "We'll take you back to your cell now, and replace the force field. A simple precaution."

Biron nodded.

The guard that Biron had knocked out was no longer there when they returned to the prison room, but the doctor was. He was bending over the still-unconscious form of Gillbret.

Aratap said, "Is he still under?"

At his voice the doctor jumped up. "The effects of the whip have worn off, Commissioner, but the man is not young and has been under a strain. I don't know if he will recover."

Biron felt horror fill him. He dropped to his knees, disregarding the wrenching pain, and reached out a hand to touch Gillbret's shoulder gently.

"Gil," he whispered. He watched the damp, white face, anxiously.

"Out of the way, man." The medical officer was scowling at him. He removed his black doctor's wallet from an inner pocket.

"At least the hypodermics aren't broken," he grumbled. He leaned over Gillbret, the hypodermic, filled with its colorless fluid, poised. It sank deep, and the plunger pressed inward automatically. The doctor tossed it aside and they waited.

Gillbret's eyes flickered, then opened. For a while they stared unseeingly. When he spoke finally, his voice was a whisper. "I can't see, Biron. I can't see."

Biron leaned close again. "It's all right, Oil. Just rest."

"I don't want to." He tried to struggle upright. "Biron, when are they jumping?"

"Soon, soon!"

"Stay with me, then. I don't want to die alone." His fingers clutched feebly, and then relaxed. His head lolled backward.

The doctor stooped, then straightened. "We were too late. He's dead."

Tears stung at Biron's eyelids. "I'm sorry, Oil," he said, "but you didn't know. You didn't understand." They didn't hear him.

They were hard hours for Biron. Aratap had refused to allow him to attend the ceremonies involved in the burial of a body at space. Somewhere in the ship, he knew, Gillbret's body would be blasted in an atomic furnace and then exhausted into space, where its atoms might mingle forever with the thin wisps of interstellar matter.

Artemisia and Hinrik would be there. Would they understand? Would she understand that he had done only what he had to do?

The doctor had injected the cartilaginous extract that would hasten the healing of Biron's torn ligaments, and already the pain in his knee was barely noticeable, but then that was only physical pain, anyway. It could be ignored.

He felt the inner disturbance that meant the ship had Jumped and then the worst time came.

Earlier he had felt his own analysis to be correct. It had to be. But what if he were wrong? What if they were now at the very heart of rebellion? The information would go

streaking back to Tyrann and the armada would gather. And he himself would die knowing that he might have saved the rebellion, but had risked death to ruin it.

It was during that dark time that he thought of the document again. The document he had once failed to get.

Strange the way the notion of the document came and went. It would be mentioned, and then forgotten. There was a mad, intensive search for the rebellion world and yet no search at all for the mysterious vanished document.

Was the emphasis being misplaced?

It occurred to Biron then that Aratap was willing to come upon the rebellion world with a single ship. What was that confidence he had? Could he dare a planet with a ship?

The Autarch had said the document had vanished years before, but then who had it?

The Tyranni, perhaps. They might have a document the secret of which would allow one ship to destroy a world.

If that were true, what did it matter where the rebellion world was, or if it existed at all.

Time passed and then Aratap entered. Biron rose to his feet.

Aratap said, "We have reached the star in question. There is a star there. The coordinates given us by the Autarch were correct."

"Well?"

"But there is no need to inspect it for planets. The star, I am told by my astrogators, was a nova less than a million years ago. If it had planets then, they were destroyed. It is a white dwarf now. It can have no planets."

Biron stared. "Then--"

Aratap said, "So you are right. There is no rebellion world."

22. THERE!

All of Aratap's philosophy could not completely wipe out the feeling of regret within him. For a while he had not been himself, but his father over again. He, too, these last weeks had been leading a squadron of ships against the enemies of the Khan.

But these were degenerate days, and where there might have been a rebellion world, there was none. There were no enemies of the Khan after all; no worlds to gain. He remained only a Commissioner, still condemned to the soothing of little troubles. No more.

Yet regret was a useless emotion. It accomplished nothing.

He said, "So you are right. There is no rebellion world."

He sat down and motioned Biron into a seat as well. "I want to talk to you."

The young man was staring solemnly at him, and Aratap found himself gently amazed that they had met first less than a month ago. The boy was older now, far more than a month older, and he had lost his fear. Aratap thought to himself, I am growing completely decadent. How many of us are beginning to like individuals among our subjects? How many of us wish them well?

He said, "I am going to release the Director and his daughter. Naturally, it is the politically intelligent thing to do. In fact, it is politically inevitable. I think, though, that I will release them now and send them back on the Remorseless. Would you care to pilot them?"

Biron said, "Are you freeing me?"

"Yes."

"Why?"

"You saved my ship, and my life as well."

"I doubt that personal gratitude would influence your actions in matters of state."

Aratap was within a hair of laughing outright. He did like the boy. "Then I'll give you another reason. As long as I was tracking a giant conspiracy against the Khan, you were dangerous. When that giant conspiracy failed to materialize, when all I had was a Linganian cabal of which the leader is dead: you were no longer dangerous. In fact, it would be dangerous to try either you or the Linganian captives.

"The trials would be in Linganian courts and therefore not under our full control.

They would inevitably involve discussion of the so-called rebellion world. And though there is none, half the subjects of Tyrann would think there might be one after all, that where there was such a deal of drumming, there must be a drum. We would have given them a concept to rally round, a reason for revolt, a hope for the future. The Tyrannian realm would not be free of rebellion this side of a century."

"Then you free us all?"

"It will not be exactly freedom, since none of you is exactly loyal. We will deal with Lingane in our own way, and the next Autarch will find himself bound by closer ties to the

Khanate. It will be no longer an Associated State, and trials involving Linganians will not necessarily be tried in Linganian courts hereafter. Those involved in the conspiracy, including those in our hands now, will be exiled to worlds nearer Tyrann, where they will be fairly harmless. You yourself cannot return to Nephelos and need not expect to be restored to your Ranch. You will stay on Rhodia, along with Colonel Rizzett."

"Good enough, " said Biron, "but what of the Lady Artemisia's marriage?"

"You wish it stopped?"

"You must know that we would like to marry each other. You said once there might be some way of stopping the Tyrannian affair."

"At the time I said that I was trying to accomplish something. What is the old saying?"

'The lies of lovers and diplomats shall be forgiven them.' "

"But there is a way, Commissioner. It need only be pointed out to the Khan that when a powerful courtier would marry into an important subject family, it may be motives of ambition that lead him on. A subject revolt may be led by an ambitious Tyrannian as easily as by an ambitious Linganian."

Aratap did laugh this time. "You reason like one of us. But it wouldn't work. Would you want my advice?"

"What would it be?"

"Marry her yourself, quickly. A thing once done would be difficult to undo under the circumstances. We would find another woman for Pohang."

Biron hesitated. Then he put out a hand. "Thank you, sir."

Aratap took it. "I don't like Pohang particularly, anyway. Still, there is one thing further for you to remember. Don't let ambition mislead you. Though you marry the Director's daughter, you will never yourself be Director. You are not the type we want."

Aratap watched the shrinking Remorseless in the visiplatte and was glad the decision had been made. The young man was free; a message was already on its way to Tyrann through the sub-ether. Major Andros would undoubtedly swell into apoplexy, and there would not be wanting men at court to demand his recall as Commissioner.

If necessary, he would travel to Tyrann. Somehow he would see the Khan and make him listen. Given all the facts, the King of Kings would see plainly that no other course of action was possible, and thereafter he could defy any possible combination of enemies.

The Remorseless was only a gleaming dot now, scarcely distinguishable from the stars that were beginning to surround it now that they were emerging from the Nebula.

Rizzett watched the shrinking Tyrannian flagship in the visiplatte. He said, "So the man let us got You know, if the Tyranni were all like him, damned if I wouldn't join their fleet. It upsets me in a way. I have definite notions of what Tyranni are like, and he doesn't fit. Do you suppose he can hear what we say?"

Biron set the automatic controls and swiveled in the pilot's seat. "No. Of course not.

He can follow us through hyperspace as he did before, but I don't think he can put a spy beam on us. You remember that when he first captured us all he knew about us was what he overheard on the fourth planet. No more."

Artemisia stepped into the pilot room, her finger on her lips. "Not too loudly," she said. "I think he's sleeping now. It won't be long before we reach Rhodia, will it, Biron?"

"We can do it in one Jump, Arta. Aratap had it calculated for us."

Rizzett said, "I've got to wash my hands."

They watched him leave, and then she was in Biron's arms. He kissed her lightly on forehead and eyes, then found her lips as his arms tensed about her. The kiss came to a lingering and breathless end. She said, "I love you very much," and he said, "I love you more than I can say." The conversation that followed was both as unoriginal as that and as satisfying.

Biron said after a while, "Will he marry us before we land?"

Artemisia frowned a little. "I tried to explain that he's Director and captain of the ship and that there are no Tyranni here. I don't know though. He's quite upset. He's not himself at all, Biron. After he's rested, I'll try again."

Biron laughed softly. "Don't worry. He'll be persuaded."

Rizzett's footsteps were noisy as he returned. He said, "I wish we still had the trailer. There isn't room here to take a deep breath."

Biron said, "We'll be on Rhodia in a matter of hours. We'll be Jumping soon."

"I know." Rizzett scowled. "And we'll stay on Rhodia till we die. Not that I'm complaining overloud; I'm glad I'm alive. But it's a silly end to it all."

"There hasn't been any ending," said Biron softly.

Rizzett looked up. "You mean we can start allover? No, I don't think so. You can, perhaps, but not I. I'm too old and there's nothing left for me. Lingane will be dragged into line and I'll never see it again. That bothers me most of all, I think. I was born there and lived there all my life. I won't be but half a man anywhere else. You're young; you'll forget Nephelos."

"There's more to life than a home planet, Tedor. It's been our great shortcoming in the past centuries that we've been unable to recognize that fact. All planets are our home planets."

"Maybe. Maybe. If there had been a rebellion world, why, then, it might have been so."

"There is a rebellion world, Tedor."

Rizzett said sharply, "I'm in no mood for that, Biron."

"I'm not telling a lie. There is such a world and I know its location. I might have known it weeks ago, and so might anyone in our party. The facts were all there. They were knocking at my mind without being able to get in until that moment on the fourth planet when you and I had beat down Jonti. Do you remember him standing there, saying that we would never find the fifth planet without his help? Do you remember his words?"

"Exactly? No."

"I think I do. He said, 'There is an average of seventy cubic light-years per star. If you work by trial and error, without me, the odds are two hundred and fifty quadrillion to one against your coming within a billion miles of any star. Any star!' It was at that moment, I think, that the facts got into my mind. I could feel the click."

"Nothing clicks in my mind," said Rizzett. "Suppose you explain a bit."

Artemisia said, "I don't see what you can mean, Biron."

Biron said, "Don't you see that it is exactly those odds which Gillbret is supposed to have defeated? You remember his story. The meteor hit, deflected his ship's course, and at the end of its Jumps, it was actually within a stellar system. That could have happened only by a coincidence so incredible as to be not worth any belief."

"Then it was a madman's story and there is no rebellion world."

"Unless there is a condition under which the odds against landing within a stellar system are less incredible, and there is such a condition. In fact, there is one set of circumstances, and only one, under which he must have reached a system. It would have been inevitable."

"Well?"

"You remember the Autarch's reasoning. The engines of Gillbret's ship were not interfered with, so the power of the hyperatomic thrusts, or, in other words, the lengths of the Jumps, were not changed. Only their direction was changed in such a way that one of the five stars in an incredibly vast area of the Nebula was reached. It was an interpretation which, on the very face of it, was improbable."

"But the alternative?"

"Why, that neither power nor direction was altered. There is no real reason to suppose the direction of drive to have been interfered with. That was only assumption. What if the ship had simply followed its original course? It had been aimed at a stellar system, therefore it ended in a stellar system. The matter of odds doesn't enter."

"But the stellar system it was aimed at--"

"--was that of Rhodia. So he went to Rhodia. Is that so obvious that it's difficult to grasp?"

Artemisia said, "But then the rebellion world must be at home! That's impossible."

"Why impossible? It is somewhere in the Rhodian System. There are two ways of hiding an object. You can put it where no one can find it, as, for instance, within the Horsehead Nebula. Or else you can put it where no one would ever think of looking, right in front of their eyes in plain view."

"Consider what happened to Gillbret after landing on the rebellion world. He was returned to Rhodia alive. His theory was that this was in order to prevent a Tyrannian search for the ship which might come dangerously close to the world itself. But then why was he kept alive? If the ship had been returned with Gillbret dead, the same purpose would have been accomplished and there would have been no chance of Gillbret's talking, as, eventually, he did."

"Again, that can only be explained by supposing the rebellion world to be within the Rhodian System. Gillbret was a Hinriad, and where else would there be such respect for the life of a Hinriad but in Rhodia?"

Artemisia's hands clenched spasmodically. "But if what you say is true, Biron, then Father is in terrible danger."

"And has been for twenty years," agreed Biron, "but perhaps not in the manner you think. Gillbret once told me how difficult it was to pretend to be a dilettante and a good-for-nothing, to pretend so hard that one had to live the part even with friends and even when alone. Of course, with him, poor fellow, it was largely self-dramatization. He didn't really live the part. His real self came out easily enough with you, Arta. It showed to the Autarch. He even found it necessary to show it to me on fairly short acquaintance."

"But it is possible, I suppose, to really live such a life completely, if your reasons are sufficiently important. A man might live a lie even to his daughter, be willing to see her terribly married rather than risk a lifework that depended on complete Tyrannian trust, be willing to seem half a madman--"

Artemisia found her voice. She said huskily, "You can't mean what you're saying!"

"There is no other meaning possible, Arta. He has been Director over twenty years. In that time Rhodia has been continually strengthened by territory granted it by the Tyranni, because they felt it would be safe with him. For twenty years he has organized rebellion without interference from them, because he was so obviously harmless."

"You're guessing, Biron," said Rizzett, "and this kind of a guess is as dangerous as the ones we've made before."

Biron said, "This is no guess. I told Jonti in that last discussion of ours that he, not the Director, must have been the traitor who murdered my father, because my father would never have been foolish enough to trust the Director with any incriminating information. But the point is--and I knew it at the time--that this was just what my father did. Gillbret learned of Jonti's conspiratorial role through what he overheard in the discussions between my father and the Director. There is no other way in which he could have learned it."

"But a stick points both ways. We thought my father was working for Jonti and trying to enlist the support of the Director. Why is it not equally probable, or even more probable, that he was working for the Director and that his role within Jonti's organization was as an agent of the rebellion world attempting to prevent a premature explosion on Lingane that would ruin two decades of careful planning?"

"Why do you suppose it seemed so important to me to save Aratap's ship when Gillbret shorted the motors? It wasn't for myself. I didn't, at the time, think Aratap would free me, no matter what. It wasn't even so much for you, Arta. It was to save the Director. He was the important man among us. Poor Gillbret didn't Understand that."

Rizzett shook his head. "I'm sorry. I just can't make myself believe all that."

It was a new voice that spoke. "You may as well. It is true." The Director was standing just outside the door, tall and somber-eyed. It was his voice and yet not quite his voice. It was crisp and sure of itself.

Artemisia ran to him. "Father! Biron says--"

"I heard what Biron said." He was stroking her hair with long, gentle motions of the hand. "And it is true. I would even have let your marriage take place."

She stepped back from him, almost in embarrassment. "You sound so different. You sound almost as if--"

"As if I weren't your father." He said it sadly. "It will not be for long, Arta. When we are back on Rhodia, I will be as you knew me, and you must accept me so."

Rizzett stared at him, his usually ruddy complexion as gray as his hair. Biron was holding his breath.

Hinrik said, "Come here, Biron."

He placed a hand on Biron's shoulder. "There was a time, young man, when I was ready to sacrifice your life. The time may come again in the future. Until a certain day I can protect neither of you. I can be nothing but what I have always seemed. Do you understand that?"

Each nodded.

"Unfortunately," said Hinrik, "damage has been done. Twenty years ago I was not as hardened to my role as I am today. I should have ordered Gillbret killed, but I could not.

Because I did not, it is now known that there is a rebellion world and that I am its leader."

"Only we know that," said Biron.

Hinrik smiled bitterly. "You think that because you are young. Do you think Aratap is less intelligent than yourself? The reasoning by which you determined the location and leadership of the rebellion world is based on facts known to him, and he can reason as well as you. It is merely that he is older, more cautious; that he has grave responsibilities. He must be certain.

"Do you think he released you out of sentiment? I believe that you have been freed now for the same reason you were freed once before--simply that you might lead him farther along the path that leads to me."

Biron was pale. "Then I must leave Rhodia?"

"No. That would be fatal. There would seem no reason for you to leave, save the true one. Stay with me and they will remain uncertain. My plans are nearly completed. One more year, perhaps, or less."

"But Director, there are factors you may not be aware of. There is the matter of the document--"

"For which your father was searching?"

"Yes."

"Your father, my boy, did not know all there was to know. It is not safe to have anyone in possession of all the facts. The old Rancher discovered the existence of the document independently in the references to it in my library. I'll give him credit. He recognized its significance. But if he had consulted me, I would have told him it was no longer on Earth."

"That's exactly it, sir. I am certain the Tyranni have it."

"But of course not. I have it. I've had it for twenty years. It was what started the rebellion world, for it was only when I had it that I knew we could hold our winnings once we had won."

"It is a weapon, then?"

"It is the strongest weapon in the universe. It will destroy the Tyranni and us alike, but will save the Nebular Kingdoms. Without it, we could perhaps defeat the Tyranni, but we would only have exchanged one feudal despotism for another, and as the Tyranni are plotted against, we would be plotted against. We and they must both be delivered into the ashcan of outmoded political systems. The time for maturity has come as it once came on the planet Earth, and there will be a new kind of government, a kind that has never yet been tried in the Galaxy. There will be no Khans, no Autarchs, Directors, or Ranchers."

"In the name of Space," roared Rizzett suddenly, "what will there be?"

"People."

"People? How can they govern? There must be some one person to make decisions."

"There is a way. The blueprint I have, dealt with a small section of one planet, but it can be adapted to all the Galaxy."

The Director smiled. "Come, children, I may as well marry you. It can do little more harm now."

Biron's hand tightly enclosed Artemisia's and she was smiling at him. They felt the queer inward twinge as the Remorseless made its single precalculated Jump.

Biron said, "Before you start, sir, will you tell me something about the blueprint you mention, so that my curiosity will be satisfied and I can keep my mind on Arta?"

Artemisia laughed and said, "You had better do it, Father. I couldn't bear an abstracted groom."

Hinrik smiled. "I know the document by heart. Listen."

And with Rhodia's sun bright on the visiplat, Hinrik began with those words that were older--far older--than any of the planets in the Galaxy save one: "'We the people of the United States, in order to form a more perfect Union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America. . . .'"

PRELUDE TO FOUNDATION

1988

AUTHOR'S NOTE

When I wrote "Foundation," which appeared in the May 1942 issue of Astounding Science Fiction, I had no idea that I had begun a series of stories that would eventually grow into six volumes and a total of 650,000 words (so far). Nor did I have any idea that it would be unified with my series of short stories and novels involving robots and my novels involving the Galactic Empire for a grand total (so far) of fourteen volumes and a total of about 1,450,000 words.

You will see, if you study the publication dates of these books, that there was a twenty-five-year hiatus between 1957 and 1982, during which I did not add to this series. This was not because I had stopped writing. Indeed, I wrote full-speed throughout the quarter century, but I wrote other things. That I returned to the series in 1982 was not my own notion but was the result of a combination of pressures from readers and publishers that eventually became overwhelming.

In any case, the situation has become sufficiently complicated for me to feel that the readers might welcome a kind of guide to the series, since they were not written in the order in which (perhaps) they should be read.

The fourteen books, all published by Doubleday, offer a kind of history of the future, which is, perhaps, not completely consistent, since I did not plan consistency to begin with. The chronological order of the books, in terms of future history (and not of publication date), is as follows:

1. The Complete Robot (1982). This is a collection of thirty-one robot short stories published between 1940 and 1976 and includes every story in my earlier collection I, Robot (1950). Only one robot short story has been written since this collection appeared. That is "Robot Dreams," which has not yet appeared in any Doubleday collection.
2. The Caves of Steel (1954). This is the first of my robot novels.
3. The Naked Sun (1957). The second robot novel.
4. The Robots of Dawn (1983). The third robot novel.
5. Robots and Empire (1985). The fourth robot novel.
6. The Currents of Space (1952). This is the first of my Empire novels.
7. The Stars, Like Dust- (1951). The second Empire novel.
8. Pebble in the Sky (1950). The third Empire novel.
9. Prelude to Foundation (1988). This is the first Foundation novel (although it is the latest written, so far).

10. Foundation (1951). The second Foundation novel. Actually, it is a collection of four stories, originally published between 1942 and 1944, plus an introductory section written for the book in 1949.

11. foundation and Empire (1952). The third Foundation novel, made up of two stories, originally published in 1945.

12. Second foundation (1953). The fourth Foundation novel, made up of two stories, originally published in 1948 and 1949.

13. Foundations Edge (1982). The fifth Foundation novel.

14. Foundation and Earth (1983). The sixth Foundation novel.

Will I add additional books to the series? I might. There is room for a book between Robots and Empire (5) and The Currents of Space (6) and between Prelude to Foundation (9) and Foundation (10) and of course between others as well. And then I can follow Foundation and Earth (14) with additional volumes-as many as I like.

Naturally, there's got to be some limit, for I don't expect to live forever, but I do intend to hang on as long as possible.

MATHEMATICIAN

CLEON I- . . . The last Galactic Emperor of the Entun dynasty. He was born in the year 11,988 of the Galactic Era, the same year in which Hari Seldon was born. (It is thought that Seldon's birthdate, which some consider doubtful, may have been adjusted to match that of Cleon, whom Seldon, soon after his arrival on Trantor, is supposed to have encountered.)

Having succeeded to the Imperial throne in 12,010 at the age of twenty-two, Cleon I's reign represented a curious interval of quiet in those troubled times.

This is undoubtedly due to the skills of his Chief of Staff, Eto Demerzel, who so carefully obscured himself from public record that little is known about him.

Cleon himself . . .

ENCYCLOPEDIA GALACTICA

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1.

Suppressing a small yawn, Cleon said, "Demerzel, have you by any chance ever heard of a man named Hari Seldon?"

Cleon had been Emperor for just over ten years and there were times at state occasions when, dressed in the necessary robes and regalia, he could manage to look stately. He did so, for instance, in the holograph of himself that stood in the niche in the wall behind him. It was placed so that it clearly dominated the other niches holding the holographs of several of his ancestors.

The holograph was not a totally honest one, for though Cleon's hair was light brown in hologram and reality alike, it was a bit thicker in the holograph.

There was a certain asymmetry to his real face, for the left side of his upper lip raised itself a bit higher than the right side, and this was somehow not evident in the holograph. And if he had stood up and placed himself beside the holograph, he would have been seen to be 2 centimeters under the 1.83-meter height that the image portrayed--and perhaps a bit stouter.

Of course, the holograph was the official coronation portrait and he had been younger then. He still looked young and rather handsome, too, and when he was not in

the pitiless grip of official ceremony, there was a kind of vague good nature about his face.

Demerzel said, with the tone of respect that he carefully cultivated, "Hari Seldon? It is an unfamiliar name to me, Sire. Ought I to know of him?"

"The Minister of Science mentioned him to me last night. I thought you might."

Demerzel frowned slightly, but only very slightly, for one does not frown in the Imperial presence. "The Minister of Science, Sire, should have spoken of this man to me as Chief of Staff. If you are to be bombarded from every side--"

Cleon raised his hand and Demerzel stopped at once. "Please, Demerzel, one can't stand on formality at all times. When I passed the Minister at last night's reception and exchanged a few words with him, he bubbled over. I could not refuse to listen and I was glad I had, for it was interesting."

"In what way interesting, Sire?"

"Well, these are not the old days when science and mathematics were all the rage. That sort of thing seems to have died down somehow, perhaps because all the discoveries have been made, don't you think? Apparently, however, interesting things can still happen. At least I was told it was interesting."

"By the Minister of Science, Sire?"

"Yes. He said that this Hari Seldon had attended a convention of mathematicians held here in Trantor - they do this every ten years, for some reason---and he said that he had proved that one could foretell the future mathematically."

Demerzel permitted himself a small smile. "Either the Minister of Science, a man of little acumen, is mistaken or the mathematician is. Surely, the matter of foretelling the future is a children's dream of magic."

"Is it, Demerzel? People believe in such things."

"People believe in many things, Sire."

"But they believe in such things. Therefore, .it doesn't matter whether the forecast of the future is true or not. If a mathematician should predict a long and happy reign for me, a time of peace and prosperity for the Empire- Eh, would that not be well?"

"It would be pleasant to hear, certainly, but what would it accomplish, Sire?"

"But surely if people believe this, they would act on that belief. Many a prophecy, by the mere force of its being believed, is transmuted to fact. These are 'self-fulfilling prophecies.' Indeed, now that I think of it, it was you who once explained this to me."

Demerzel said, "I believe I did, Sire." His eyes were watching the Emperor carefully, as though to see how far he might go on his own. "Still, if that be so, one could have any person make the prophecy. "

"Not all persons would be equally believed, Demerzel. A mathematician, however, who could back his prophecy with mathematical formulas and terminology, might be understood by no one and yet believed by everyone."

Demerzel said, "As usual, Sire, you make good sense. We live in troubled times and it would be worthwhile to calm them in a way that would require neither money nor military effort-which, in recent history, have done little good and much harm."

"Exactly, Demerzel," said the Emperor with excitement. "Reel in this Hari Seldon. You tell me you have your strings stretching to every part of this turbulent world, even where my forces dare not go. Pull on one of those strings, then, and bring in this mathematician. Let me see him."

"I will do so, Sire," said Demerzel, who had already located Seldon and who made a mental note to commend the Minister of Science for a job well done.

2.

Hari Seldon did not make an impressive appearance at this time. Like the Emperor Cleon I, he was thirty-two years old, but he was only 1.73 meters tall. His face was smooth and cheerful, his hair dark brown, almost black, and his clothing had the unmistakable touch of provinciality about it.

To anyone in later times who knew of Hari Seldon only as a legendary demigod, it would seem almost sacrilegious for him not to have white hair, not to have an old lined face, a quiet smile radiating wisdom, not to be seated in a wheelchair. Even then, in advanced old age, his eyes had been cheerful, however.

There was that.

And his eyes were particularly cheerful now, for his paper had been given at the Decennial Convention. It had even aroused some interest in a distant sort of way and old Osterfith had nodded his head at him and had said, "Ingenious, young man. Most ingenious." Which, coming from Osterfith, was satisfactory. Most satisfactory.

But now there was a new-and quite unexpected-development and Seldon wasn't sure whether it should increase his cheer and intensify his satisfaction or not.

He stared at the tall young man in uniform-the Spaceship -and- Sun neatly placed on the left side of his tunic.

"Lieutenant Alban Wellis," said the officer of the Emperor's Guard before putting away his identification. "Will you come with me now, sir?"

Wellis was armed, of course. There were two other Guardsmen waiting outside his door. Seldon knew he had no choice, for all the other's careful politeness, but there was no reason he could not seek information. He said, "To see the Emperor?"

"To be brought to the Palace, sir. That's the extent of my instructions. "

"But why?"

"I was not told why, sir. And I have my strict instructions that you must come with me-one way or another."

"But this seems as though I am being arrested. I have done nothing to warrant that."

"Say, rather, that it seems you are being given an escort of honor -if you delay me no further."

Seldon delayed no further. He pressed his lips together, as though to block off further questions, nodded his head, and stepped forward. Even if he was going to meet

the Emperor and to receive Imperial commendation, he found no joy in it. He was for the Empire-that is, for the worlds of humanity in peace and union but he was not for the Emperor.

The lieutenant walked ahead, the other two behind. Seldon smiled at those he passed and managed to look unconcerned. Outside the hotel they climbed into an official ground-car. (Seldon ran his hand over the upholstery; he had never been in anything so ornate.)

They were in one of the wealthiest sections of Trantor. The dome was high enough here to give a sensation of being in the open and one could swear-even one such as Hari Seldon, who had been born and brought up on an open world-that they were in sunlight. You could see no sun and no shadows, but the air was light and fragrant.

And then it passed and the dome curved down and the walls narrowed in and soon they were moving along an enclosed tunnel, marked periodically with the Spaceship-and-Sun and so clearly reserved (Seldon thought) for official vehicles.

A door opened and the ground-car sped through. When the door closed behind them, they were in the open-the true, the real open. There were 250 square kilometers of the only stretch of open land on Trantor and on it stood the Imperial Palace.

Seldon would have liked a chance to wander through that open land-not because of the Palace, but because it also contained the Galactic University and, most intriguing of all, the Galactic Library.

And yet, in passing from the enclosed world of Trantor into the open patch of wood and parkland, he had passed into a world in which clouds dimmed the sky and a chill wind rued his shirt. He pressed the contact that closed the ground-car's window.

It was a dismal day outside.

3.

Seldon was not at all sure he would meet the Emperor. At best, he would meet some official in the fourth or fifth echelon who would claim to speak for the Emperor.

How many people ever did see the Emperor? In person, rather than on holovision? How many people saw the real, tangible Emperor, an Emperor who never left the Imperial grounds that he, Seldon, was now rolling over.

The number was vanishingly small. Twenty-five million inhabited worlds, each with its cargo of a billion human beings or more---and among all those quadrillions of human beings, how many had, or would ever, lay eyes on the living Emperor. A thousand?

And did anyone care? The Emperor was no more than a symbol of Empire, like the Spaceship-and-Sun but far less pervasive, far less real. It was his soldiers and his officials, crawling everywhere, that now represented an Empire that had become a dead weight upon its people-not the Emperor.

So it was that when Seldon was ushered into a moderately sized, lavishly furnished room and found a young-looking man sitting on the edge of a table in a windowed

alcove, one foot on the ground and one swinging over the edge, he found himself wondering that any official should be looking at him in so blandly good-natured a way. He had already experienced the fact, over and over, that government officials--and particularly those in the Imperial service looked grave at all times, as though bearing the weight of the entire Galaxy on their shoulders. And it seemed the lower in importance they were, the graver and more threatening their expression.

This, then, might be an official so high in the scale, with the sun of power so bright upon him, that he felt no need of countering it with clouds of frowning.

Seldon wasn't sure how impressed he ought to be, but he felt that it would be best to remain silent and let the other speak first.

The official said, "You are Hari Seldon, I believe. The mathematician. "

Seldon responded with a minimal "Yes, sir," and waited again.

The young man waved an arm. "It should be 'Sire,' but I hate ceremony. It's all I get and I weary of it. We are alone, so I will pamper myself and eschew ceremony. Sit down, professor."

Halfway through the speech, Seldon realized that he was speaking to the Emperor Cleon, First of that Name, and he felt the wind go out of him. There was a faint resemblance (now that he looked) to the official holograph that appeared constantly in the news, but in that holograph, Cleon was always dressed imposingly, seemed taller, nobler, frozen-faced.

And here he was, the original of the holograph, and somehow he appeared to be quite ordinary.

Seldon did not budge.

The Emperor frowned slightly and, with the habit of command present even in the attempt to abolish it, at least temporarily, said peremptorily, "I said, 'Sit down,' man. That chair. Quickly."

Seldon sat down, quite speechless. He could not even bring himself to say, "Yes, Sire."

Cleon smiled. "That's better. Now we can talk like two fellow human beings, which, after all, is what we are once ceremony is removed. Eh, my man?"

Seldon said cautiously, "If Your Imperial Majesty is content to say so, then it is so."

"Oh, come, why are you so cautious? I want to talk to you on equal terms. It is my pleasure to do so. Humor me."

"Yes, Sire."

"A simple 'Yes,' man. Is there no way I can reach you?"

Cleon stared at Seldon and Seldon thought it was a lively and interested stare. Finally the Emperor said, "You don't look like a mathematician."

At last, Seldon found himself able to smile. "I don't know what a mathematician is suppose to look like, Your Imp--"

Cleon raised a cautioning hand and Seldon choked off the honorific.

Cleon said, "White-haired, I suppose. Bearded, perhaps. Old, certainly."

"Yet even mathematicians must be young to begin with."

"But they are then without reputation. By the time they obtrude themselves on the notice of the Galaxy, they are as I have described."

"I am without reputation, I'm afraid."

"Yet you spoke at this convention they held here."

"A great many of us did. Some were younger than myself. Few of us were granted any attention whatever."

"Your talk apparently attracted the attention of some of my officials. I am given to understand that you believe it possible to predict the future."

Seldon suddenly felt weary. It seemed as though this misinterpretation of his theory was constantly going to occur. Perhaps he should not have presented his paper.

He said, "Not quite, actually. What I have done is much more limited than that. In many systems, the situation is such that under some conditions chaotic events take place. That means that, given a particular starting point, it is impossible to predict outcomes. This is true even in some quite simple systems, but the more complex a system, the more likely it is to become chaotic. It has always been assumed that anything as complicated as human society would quickly become chaotic and, therefore, unpredictable. What I have done, however, is to show that, in studying human society, it is possible to choose a starting point and to make appropriate assumptions that will suppress the chaos. That will make it possible to predict the future, not in full detail, of course, but in broad sweeps; not with certainty, but with calculable probabilities."

The Emperor, who had listened carefully, said, "But doesn't that mean that you have shown how to predict the future?"

"Again, not quite. I have showed that it is theoretically possible, but no more. To do more, we would actually have to choose a correct starting point, make correct assumptions, and then find ways of carrying through calculations in a finite time. Nothing in my mathematical argument tells us how to do any of this. And even if we could do it all, we would, at best, only assess probabilities. That is not the same as predicting the future; it is merely a guess at what is likely to happen. Every successful politician, businessman, or human being of any calling must make these estimates of the future and do it fairly well or he or she would not be successful."

"They do it without mathematics."

"True. They do it by intuition."

"With the proper mathematics, anyone would be able to assess the probabilities. It wouldn't take the rare human being who is successful because of a remarkable intuitive sense."

"True again, but I have merely shown that mathematical analysis is possible; I have not shown it to be practical."

"How can something be possible, yet not practical?"

"It is theoretically possible for me to visit each world of the Galaxy and greet each person on each world. However, it would take far longer to do this than I have years to live and, even if I was immortal, the rate at which new human beings are being born is

greater than the rate at which I could interview the old and, even more to the point, old human beings would die in great numbers before I could ever get to them."

"And is this sort of thing true of your mathematics of the future?"

Seldon hesitated, then went on. "It might be that the mathematics would take too long to work out, even if one had a computer the size of the Universe working at hyperspatial velocities. By the time any answer had been received, enough years would have elapsed to alter the situation so grossly as to make the answer meaningless."

"Why cannot the process be simplified?" Cleon asked sharply.

"Your Imperial Majesty"-Seldon felt the Emperor growing more formal as the answers grew less to his liking and responded with greater formality of his own, "consider the manner in which scientists have dealt with subatomic particles. There are enormous numbers of these, each moving or vibrating in random and unpredictable manner, but this chaos turns out to have an underlying order, so that we can work out a quantum mechanics that answers all the questions we know how to ask. In studying society, we place human beings in the place of subatomic particles, but now there is the added factor of the human mind. Particles move mindlessly; human beings do not. To take into account the various attitudes and impulses of mind adds so much complexity that there lacks time to take care of all of it."

"Could not mind, as well as mindless motion, have an underlying order?"

"Perhaps. My mathematical analysis implies that order must underlie everything, however disorderly it may appear to be, but it does not give any hint as to how this underlying order may be found. Consider-Twenty-five million worlds, each with its overall characteristics and culture, each being significantly different from all the rest, each containing a billion or more human beings who each have an individual mind, and all the worlds interacting in innumerable ways and combinations! However theoretically possible a psychohistorical analysis may be, it is not likely that it can be done in any practical sense."

"What do you mean 'psychohistorical'?"

"I refer to the theoretical assessment of probabilities concerning the future as 'psychohistory.' "

The Emperor rose to his feet suddenly, strode to the other end of the room, turned, strode back, and stopped before the still-sitting Seldon.

"Stand up!" he commanded.

Seldon rose and looked up at the somewhat taller Emperor. He strove to keep his gaze steady.

Cleon finally said, "This psychohistory of yours . . . if it could be made practical, it would be of great use, would it not?"

"Of enormous use, obviously. To know what the future holds, in even the most general and probabilistic way, would serve as a new and marvelous guide for our actions, one that humanity has never before had. But, of course-" He paused.

"Well?" said Cleon impatiently.

"Well, it would seem that, except for a few decision-makers, the results of psychohistorical analysis would have to remain unknown to the public."

"Unknown!" exclaimed Cleon with surprise.

"It's clear. Let me try to explain. If a psychohistorical analysis is made and the results are then given to the public, the various emotions and reactions of humanity would at once be distorted. The psychohistorical analysis, based on emotions and reactions that take place without knowledge of the future, become meaningless. Do you understand?"

The Emperor's eyes brightened and he laughed aloud. "Wonderful!" He clapped his hand on Seldon's shoulder and Seldon staggered slightly under the blow.

"Don't you see, man?" said Cleon. "Don't you see? There's your use. You don't need to predict the future. Just choose a future--a good future, a useful future--and make the kind of prediction that will alter human emotions and reactions in such a way that the future you predicted will be brought about. Better to make a good future than predict a bad one."

Seldon frowned. "I see what you mean, Sire, but that is equally impossible."

"Impossible?"

"Well, at any rate, impractical. Don't you see? If you can't start with human emotions and reactions and predict the future they will bring about, you can't do the reverse either. You can't start with a future and predict the human emotions and reactions that will bring it about."

Cleon looked frustrated. His lips tightened. "And your paper, then? . . . Is that what you call it, a paper? . . . Of what use is it?"

"It was merely a mathematical demonstration. It made a point of interest to mathematicians, but there was no thought in my mind of its being useful in any way."

"I find that disgusting," said Cleon angrily.

Seldon shrugged slightly. More than ever, he knew he should never have given the paper. What would become of him if the Emperor took it into his head that he had been made to play the fool? And indeed, Cleon did not look as though he was very far from believing that.

"Nevertheless," he said, "what if you were to make predictions of the future, mathematically justified or not; predictions that government officials, human beings whose expertise it is to know what the public is likely to do, will judge to be the kind that will bring about useful reactions?"

"Why would you need me to do that? The government officials could make those predictions themselves and spare the middleman."

"The government officials could not do so as effectively. Government officials do make statements of the sort now and then. They are not necessarily believed."

"Why would I be?"

"You are a mathematician. You would have calculated the future, not . . . not intuited it-if that is a word."

"But I would not have done so."

"Who would know that?" Cleon watched him out of narrowed eyes.

There was a pause. Seldon felt trapped. If given a direct order by the Emperor, would it be safe to refuse? If he refused, he might be imprisoned or executed. Not without trial, of course, but it is only with great difficulty that a trial can be made to go against the wishes of a heavy-handed officialdom, particularly one under the command of the Emperor of the vast Galactic Empire.

He said finally, "It wouldn't work."

"Why not?"

"If I were asked to predict vague generalities that could not possibly come to pass until long after this generation and, perhaps, the next were dead, we might get away with it, but, on the other hand, the public would pay little attention. They would not care about a glowing eventuality a century or two in the future. "

"To attain results," Seldon went on, "I would have to predict matters of sharper consequence, more immediate eventualities. Only to these would the public respond. Sooner or later, though and probably sooner one of the eventualities would not come to pass and my usefulness would be ended at once. With that, your popularity might be gone, too, and, worst of all, there would be no further support for the development of psychohistory so that there would be no chance for any good to come of it if future improvements in mathematical insights help to make it move closer to the realm of practicality."

Cleon threw himself into a chair and frowned at Seldon. "Is that all you mathematicians can do? Insist on impossibilities?"

Seldon said with desperate softness, "It is you, Sire, who insist on impossibilities."

"Let me test you, man. Suppose I asked you to use your mathematics to tell me whether I would some day be assassinated? What would you say?"

"My mathematical system would not give an answer to so specific a question, even if psychohistory worked at its best. All the quantum mechanics in the world cannot make it possible to predict the behavior of one lone electron, only the average behavior of many."

"You know your mathematics better than I do. Make an educated guess based on it. Will I someday be assassinated?"

Seldon said softly, "You lay a trap for me, Sire. Either tell me what answer you wish and I will give it to you or else give me free right to make what answer I wish without punishment."

"Speak as you will."

"Your word of honor?"

"Do you want it an writing?" Cleon was sarcastic.

"Your spoken word of honor will be sufficient," said Seldon, his heart sinking, for he was not certain it would be.

"You have my word of honor."

"Then I can tell you that in the past four centuries nearly half the Emperors have been assassinated, from which I conclude that the chances of your assassination are roughly one in two."

"Any fool can give that answer," said Cleon with contempt. "It takes no mathematician."

"Yet I have told you several times that my mathematics is useless for practical problems."

"Can't you even suppose that I learn the lessons that have been given me by my unfortunate predecessors?"

Seldon took a deep breath and plunged in. "No, Sire. All history shows that we do not learn from the lessons of the past. For instance, you have allowed me here in a private audience. What if it were in my mind to assassinate you? "

"-Which it isn't, Sire," he added hastily.

Cleon smiled without humor. "My man, you don't take into account our thoroughness-or advances in technology. We have studied your history, your complete record. When you arrived, you were scanned. Your expression and voiceprints were analyzed. We knew your emotional state in detail; we practically knew your thoughts. Had there been the slightest doubt of your harmlessness, you would not have been allowed near me. In fact, you would not now be alive."

A wave of nausea swept through Seldon, but he continued. "Outsiders have always found it difficult to get at Emperors, even with technology less advanced. However, almost every assassination has been a palace coup. It is those nearest the Emperor who are the greatest danger to him. Against that danger, the careful screening of outsiders is irrelevant. And as for your own officials, your own Guardsmen, your own intimates, you cannot treat them as you treat me."

Cleon said, "I know that, too, and at least as well as you do. The answer is that I treat those about me fairly and I give them no cause for resentment."

"A foolish-" began Seldon, who then stopped in confusion.

"Go on," said Cleon angrily. "I have given you permission to speak freely. How am I foolish?"

"The word slipped out, Sire. I meant 'irrelevant.' Your treatment of your intimates is irrelevant. You must be suspicious; it would be inhuman not to be. A careless word, such as the one I used, a careless gesture, a doubtful expression and you must withdraw a bit with narrowed eyes. And any touch of suspicion sets in motion a vicious cycle. The intimate will sense and resent the suspicion and will develop a changed behavior, try as he might to avoid it. You sense that and grow more suspicious and, in the end, either he is executed or you are assassinated. It is a process that has proved unavoidable for the Emperors of the past four centuries and it is but one sign of the increasing difficulty of conducting the affairs of the Empire."

"Then nothing I can do will avoid assassination."

"No, Sire," said Seldon, "but, on the other hand, you may prove fortunate."

Cleon's fingers were drumming on the arm of his chair. He said harshly, "You are useless, man, and so is your psychohistory. Leave me." And with those words, the Emperor looked away, suddenly seeming much older than his thirty-two years.

"I have said my mathematics would be useless to you, Sire. My profound apologies."

Seldon tried to bow but at some signal he did not see, two guards entered and took him away. Cleon's voice came after him from the royal chamber. "Return that man to the place from which he was brought earlier."

4.

Eto Demerzel emerged and glanced at the Emperor with a hint of proper deference. He said, "Sire, you have almost lost your temper."

Cleon looked up and, with an obvious effort, managed to smile. "Well, so I did. The man was very disappointing."

"And yet he promised no more than he offered."

"He offered nothing."

"And promised nothing, Sire."

"It was disappointing."

Demerzel said, "More than disappointing, perhaps. The man is a loose cannon, Sire."

"A loose what, Demerzel? You are always so full of strange expressions. What is a cannon?"

Demerzel said gravely, "It is simply an expression I heard in my youth, Sire. The Empire is full of strange expressions and some are unknown on Trantor, as those of Trantor are sometimes unknown elsewhere."

"Do you come to teach me the Empire is large? What do you mean by saying that the man is a loose cannon?"

"Only that he can do much harm without necessarily intending it. He does not know his own strength. Or importance."

"You deduce that, do you, Demerzel?"

"Yes, Sire. He is a provincial. He does not know Trantor or its ways. He has never been on our planet before and he cannot behave like a man of breeding, like a courtier. Yet he stood up to "And why not? I gave him permission to speak. I left off ceremony. I treated him as an equal."

"Not entirely, Sire. You don't have it within you to treat others as equals. You have the habit of command. And even if you tried to put a person at his ease, there would be few who could manage it. Most would be speechless or, worse, subservient and sycophantic. This man stood up to you."

"Well, you may admire that, Demerzel, but I didn't like him." Cleon looked thoughtfully discontented. "Did you notice that he made no effort to explain his mathematics to me? It was as though he knew I would not understand a word of it."

"Nor would you have, Sire. You are not a mathematician, nor a scientist of any kind, nor an artist. There are many fields of knowledge in which others know more than you. It is their task to use their knowledge to serve you. You are the Emperor, which is worth all their specializations put together."

"Is it? I would not mind being made to feel ignorant by an old man who had accumulated knowledge over many years. But this man, Seldon, is just my age. How does he know so much?"

"He has not had to learn the habit of command, the art of reaching a decision that will affect the lives of others."

"Sometimes, Demerzel, I wonder if you are laughing at me."

"Sire?" said Demerzel reproachfully.

"But never mind. Back to that loose cannon of yours. Why should you consider him dangerous? He seems a naive provincial to me."

"He is. But he has this mathematical development of his."

"He says it is useless."

"You thought it might be useful. I thought so, after you had explained it to me. Others might. The mathematician may come to think so himself, now that his mind has been focused on it. And who knows, he may yet work out some way of making use of it. If he does, then to foretell the future, however mistily, is to be in a position of great power. Even if he does not wish power for himself, a kind of self-denial that always seems to me to be unlikely, he might be used by others."

"I tried to use him. He would not."

"He had not given it thought. Perhaps now he will. And if he was not interested in being used by you, might he not be persuaded by-let us say-the Mayor of Wye?"

"Why should he be willing to help Wye and not us?"

"As he explained, it is hard to predict the emotions and behavior of individuals."

Cleon scowled and sat in thought. "Do you really think he might develop this psychohistory of his to the point where it is truly useful? He is so certain he cannot."

"He may, with time, decide he was wrong in denying the possibility."

Cleon said, "Then I suppose I ought to have kept him."

Demerzel said, "No, Sire. Your instinct was correct when you let him go. Imprisonment, however disguised, would cause resentment and despair, which would not help him either to develop his ideas further or make him eager to help us. Better to let him go as you have done, but to keep him forever on an invisible leash. In this way, we can see that he is not used by an enemy of yourself, Sire, and we can see that when the time comes and he has fully developed his science, we can pull on our leash and bring him in. Then we could be . . . more persuasive."

"But what if he it picked up by an enemy of mine or, better, of the Empire, for I am the Empire after all, or if, of his own accord, he wishes to serve an enemy-I don't consider that out of the question, you see."

"Nor should you. I will see to it that this doesn't happen, but if, against all striving, it does happen, it would be better if no one has him than if the wrong person does."

Cleon looked uneasy. "I'll leave that all in your hands, Demerzel, but I hope we're not too hasty. He could be, after all, nothing but the purveyor of a theoretical science that does not and cannot work."

"Quite possibly, Sire, but it would be safer to assume the man is -or might be- important. We lose only a little time and nothing more if we find that we have concerned ourselves with a nonentity. We may lose a Galaxy if we find we have ignored someone of great importance."

"Very well, then," said Cleon, "but I trust I won't have to know the details-if they prove unpleasant."

Demerzel said, "Let us hope that will not be the case."

5.

Seldon had had an evening, a night, and part of a morning to get over his meeting with the Emperor. At least, the changing quality of light within the walkways, moving corridors, squares, and parks of the Imperial Sector of Trantor made it seem that an evening, a night, and part of a morning had passed.

He sat now in a small park on a small plastic seat that molded itself neatly to his body and he was comfortable. Judging from the light, it seemed to be midmorning and the air was just cool enough to seem fresh without possessing even the smallest bite.

Was it like this all the time? He thought of the gray day outside when he went to see the Emperor. And he thought of all the gray days and cold days and hot days and rainy days and snowy days on Helicon, his home, and he wondered if one could miss them. Was it possible to sit in a park on Trantor, having ideal weather day after day, so that it felt as though you were surrounded by nothing at all -and coming to miss a howling wind or a biting cold or a breathless humidity?

Perhaps. But not on the first day or the second or the seventh. He would have only this one day and he would leave tomorrow. He meant to enjoy it while he could. He might, after all, never return to Trantor.

Still, he continued to feel uneasy at having spoken as independently as he had to a man who could, at will, order one's imprisonment or execution-or, at the very least, the economic and social death of loss of position and status.

Before going to bed, Seldon had looked up Cleon I in the encyclopedic portion of his hotel room computer. The Emperor had been highly praised as, no doubt, had all Emperors in their own lifetime, regardless of their deeds. Seldon had dismissed that, but he was interested in the fact that Cleon had been born in the Palace and had never left its

grounds. He had never been in Trantor itself, in any part of the multi-domed world. It was a matter of security, perhaps, but what it meant was that the Emperor was in prison, whether he admitted the matter to himself or not. It might be the most luxurious prison in the Galaxy, but it was a prison just the same.

And though the Emperor had seemed mild-mannered and had shown no sign of being a bloody-minded autocrat as so many of his predecessors had been, it was not good to have attracted his attention. Seldon welcomed the thought of leaving tomorrow for Helicon, even though it would be winter (and a rather nasty one, so far) back home.

He looked up at the bright diffuse light. Although it could never rain in here, the atmosphere was far from dry. A fountain played not far from him; the plants were green and had probably never felt drought. Occasionally, the shrubbery rustled as though a small animal or two was hidden there. He heard the hum of bees.

Really, though Trantor was spoken of throughout the Galaxy as an artificial world of metal and ceramic, in this small patch it felt positively rustic.

There were a few other persons taking advantage of the park all wearing light hats, some quite small. There was one rather pretty young woman not far away, but she was bent over a viewer and he could not see her face clearly. A man walked past, looked at him briefly and incuriously, then sat down in a seat facing him and buried himself in a sheaf of teleprints, crossing one leg, in its tight pink trouser leg, over the other.

There was a tendency to pastel shades among the men, oddly enough, while the women mostly wore white. Being a clean environment, it made sense to wear light colors. He looked down in amusement at his own Heliconian costume, which was predominantly dull brown. If he were to stay on Trantor as he was not he would need to purchase suitable clothing or he would become an object of curiosity or laughter or repulsion. The man with the teleprints had, for instance, looked up at him more curiously this time-no doubt intrigued by his Outworldish clothing.

Seldon was relieved that he did not smile. He could be philosophical over being a figure of fun, but, surely, he could not be expected to enjoy it.

Seldon watched the man rather unobtrusively, for he seemed to be engaged in some sort of internal debate. At the moment he looked as if he was about to speak, then seemed to think better of it, then seemed to wish to speak again. Seldon wondered what the outcome would be. He studied the man. He was tall, with broad shoulders and no sign of a paunch, darkish hair with a glint of blond, smooth-shaven, a grave expression, an air of strength though there were no bulging muscles, a face that was a touch rugged-pleasant, but with nothing "pretty" about it. By the time the man had lost the internal fight with himself (or won, perhaps) and leaned toward him, Seldon had decided he liked him.

The man said, "Pardon me, weren't you at the Decennial Convention? Mathematics?"

"Yes, I was," said Seldon agreeably.

"Ah, I thought I saw you there. It was-excuse me-that moment of recognition that led me to sit here. If I am intruding on your privacy-"

"Not at all. I'm just enjoying an idle moment."

"Let's see how close I can get. You're Professor Seldon."

"Seldon. Hari Seldon. Quite close. And you?"

"Chetter Hummin." The man seemed slightly embarrassed. "Rather a homespun name, I'm afraid."

"I've never come across any Chetters before," said Seldon. "Or Hummins. So that makes you somewhat unique, I should think. It might be viewed as being better than being mixed up with all the countless Haris there are. Or Seldons, for that matter."

Seldon moved his chair closer to Hummin, scraping it against the slightly elastic ceramoid tiles.

"Talk about homespun," he said, "What about this Outworldish clothing I'm wearing? It never occurred to me that I ought to get Trantorian garb."

"You could buy some," said Hummin, eyeing Seldon with suppressed disapproval.

"I'll be leaving tomorrow and, besides, I couldn't afford it. Mathematicians deal with large numbers sometimes, but never in their income. -I presume you're a mathematician, Hummin."

"No. Zero talent there."

"Oh." Seldon was disappointed. "You said you saw me at the Decennial Convention."

"I was there as an onlooker. I'm a journalist." He waved his teleprints, seemed suddenly aware that he was holding them and shoved them into his jacket pouch.

"I supply the material for the news holocasts." Then, thoughtfully, "Actually, I'm rather tired of it."

"The job?"

Hummin nodded. "I'm sick of gathering together all the nonsense from every world. I hate the downward spiral."

He glanced speculatively at Seldon. "Sometimes something interesting turns up, though. I've heard you were seen in the company of an Imperial Guard and making for the Palace gate. You weren't by any chance seen by the Emperor, were you?"

The smile vanished from Seldon's face. He said slowly, "If I was, it would scarcely be something I could talk about for publication."

"No no, not for publication. If you don't know this, Seldon, let me be the first to tell you-The first rule of the news game is that nothing is ever said about the Emperor or his personal entourage except what is officially given out. It's a mistake, of course, because rumors fly that are much worse than the truth, but that's the way it is."

"But if you can't report it, friend, why do you ask?"

"Private curiosity. Believe me, in my job I know a great deal more than ever gets on the air. -Let me guess. I didn't follow your paper, but I gathered that you were talking about the possibility of predicting the future."

Seldon shook his head and muttered, "It was a mistake."

"Pardon me?"

"Nothing."

"Well, prediction-accurate prediction-would interest the Emperor, or any man in government, so I'm guessing that Cleon, First of that Name, asked you about it and wouldn't you please give him a few predictions."

Seldon said stiffly, "I don't intend to discuss the matter."

Hummin shrugged slightly. "Eto Demerzel was there, I suppose. "

"Who?"

"You've never heard of Eto Demerzel?"

"Never. "

"Cleon's alter ego-Cleon's brain--Cleon's evil spirit. He's been called all those things-if we confine ourselves to the nonvituperative. He must have been there."

Seldon looked confused and Hummin said, "Well, you may not have seen him, but he was there. And if he thinks you can predict the future"

"I can't predict the future," said Seldon, shaking his head vigorously. "If you listened to my paper, you'll know that I only spoke of a theoretical possibility."

"Just the same, if he thinks you can predict the future, he will not let you go."

"He must have. Here I am."

"That means nothing. He knows where you are and he'll continue to know. And when he wants you, he'll get you, wherever you are. And if he decides you're useful, he'll squeeze the use out of you. And if he decides you're dangerous, he'll squeeze the life out of you."

Seldon stared. "What are you trying to do. Frighten me?"

"I'm trying to warn you."

"I don't believe what you're saying."

"Don't you? A while ago you said something was a mistake. Were you thinking that presenting the paper was a mistake and that it was getting you into the kind of trouble you don't want to be in?"

Seldon bit his lower lip uneasily. That was a guess that came entirely too close to the truth-and it was at this moment that Seldon felt the presence of intruders. They did not cast a shadow, for the light was too soft and widespread. It was a simply a movement that caught the corner of his eye-and then it stopped.

FLIGHT

TRANTOR - . . . The capital of the First Galactic Empire . . . Under Cleon 1, it had its "twilight glow." To all appearances, it was then at its peak. Its land surface of 200 million square kilometers was entirely domed (except for the Imperial Palace area) and underlaid with an endless city that extended beneath the continental shelves. The population was 40 billion and although the signs were plentiful (and clearly visible in hindsight) that there were gathering problems, those who lived on Trantor undoubtedly found it still the Eternal World of legend and did not expect it would ever .

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ENCYCLOPEDIA GALACTICA

6.

Seldon looked up. A young man was standing before him, looking down at him with an expression of amused contempt. Next to him was another young man--a bit younger, perhaps. Both were large and appeared to be strong. They were dressed in an extreme of Trantorian fashion, Seldon judged--boldly clashing colors, broad fringed belts, round hats with wide brims all about and the two ends of a bright pink ribbon extending from the brim to the back of the neck. In Seldon's eyes, it was amusing and he smiled.

The young man before him snapped, "What're you grinning at, misfit?"

Seldon ignored the manner of address and said gently, "Please pardon my smile. I was merely enjoying your costume."

"My costume? So? And what are you wearing? What's that awful offal you call clothes?" His hand went out and his finger flicked at the lapel of Seldon's jacket--disgracefully heavy and dull, Seldon himself thought, in comparison to the other's lighthearted colors.

Seldon said, "I'm afraid it's my Outworlder clothes. They're all I have."

He couldn't help notice that the few others who were sitting in the small park were rising to their feet and walking off. It was as though they were expecting trouble and had no desire to remain in the vicinity. Seldon wondered if his new friend, Hummin, was leaving too, but he felt it injudicious to take his eyes away from the young man who was confronting him. He teetered back on his chair slightly.

The young man said, "You an Outworlder?"

"That's right. Hence my clothes."

"Hence? What kind of word's that? Outworld word?"

"What I meant was, that was why my clothes seem peculiar to you. I'm a visitor here."

"From what planet?"

"Helicon."

The young man's eyebrows drew together. "Never heard of it."

"It's not a large planet."

"Why don't you go back there?"

"I intend to. I'm leaving tomorrow."

"Sooner! Now!"

The young man looked at his partner. Seldon followed the look and caught a glimpse of Hummin. He had not left, but the park was now empty except for himself, Hummin, and the two young men.

Seldon said, "I'd thought I'd spend today sight-seeing."

"No. You don't want to do that. You go home now."

Seldon smiled. "Sorry. I won't."

The young man said to his partner. "You like his clothes, Marbie?"

Marbie spoke for the first time. "No. Disgusting. Turns the stomach."

"Can't let him go around turning stomachs, Marbie. Not good for people's health."

"No, not by no means, Alem," said Marbie.

Alem grinned. "Well now. You heard what Marbie said."

And now Hummin spoke. He said, "Look, you two, Alem, Marbie, whatever your names are. You've had your fun. Why don't you go away?"

Alem, who had been leaning slightly toward Seldon, straightened and turned.

"Who are you?"

"That's not your business," snapped Hummin.

"You're Trantorian?" asked Alem.

"Also not your business."

Alem frowned and said, "You're dressed Trantorian. We're not interested in you, so don't go looking for problems."

"I intend to stay. That means there are two of us. Two against two doesn't sound like your kind of fight. Why don't you go away and get some friends so you can handle two people?"

Seldon said, "I really think you ought to get away if you can, Hummin. It's kind of you to try to protect me, but I don't want you harmed."

"These are not dangerous people, Seldon. Just half-credit lackeys. "

"Lackeys!" The word seemed to infuriate Alem, so that Seldon thought it must have a more insulting meaning on Trantor than it had on Helicon.

"Here, Marbie," said Alem with a growl. "You take care of that other motherlackey and I'll rip the clothes off this Seldon. He's the one we want."

Now- His hands came down sharply to seize Seldon's lapels and jerk him upright. Seldon pushed away, instinctively it would seem, and his chair tipped backward. He seized the hands stretched toward him, his foot went up, and his chair went down. Somehow Alem streaked overhead, turning as he did so, and came down hard on his

neck and back behind Seldon. Seldon twisted as his chair went down and was quickly on his feet, staring down at Alem, then looking sharply to one side for Marbie. Alem lay unmoving, his face twisted in agony. He had two badly sprained thumbs, excruciating pain in his groin, and a backbone that had been badly jarred.

Hummin's left arm had grabbed Marbie's neck from behind and his right arm had pulled the other's right arm backward at a vicious angle. Marbie's face was red as he labored uselessly for breath. A knife, glittering with a small laser inset, lay on the ground beside them.

Hummin eased his grip slightly and said, with an air of honest concern, "You've hurt that one badly."

Seldon said, "I'm afraid so. If he had fallen a little differently, he would have snapped his neck."

Hummin said, "What kind of a mathematician are you?"

"A Heliconian one." He stooped to pick up the knife and, after examining it, said, "Disgusting-and deadly."

Hummin said, "An ordinary blade would do the job without requiring a power source. -But let's let these two go. I doubt they want to continue any further."

He released Marbie, who rubbed first his shoulder then his neck. Gasping for air, he turned hate-filled eyes on the two men.

Hummin said sharply, "You two had better get out of here. Otherwise we'll have to give evidence against you for assault and attempted murder. This knife can surely be traced to you."

Seldon and Hummin watched while Marbie dragged Alem to his feet and then helped him stagger away, still bent in pain. They looked back once or twice, but Seldon and Hummin watched impassively.

Seldon held out his hand. "How do I thank you for coming to the aid of a stranger against two attackers? I doubt I would have been able to handle them both on my own."

Hummin raised his hand in a deprecatory manner. "I wasn't afraid of them."

They're just street-brawling lackeys. All I had to do was get my hands on them-and yours, too, of course."

"That's a pretty deadly grip you have," Seldon mused.

Hummin shrugged. "You too." Then, without changing his tone of voice, he said, "Come on, we'd better get out of here. We're wasting time." .

Seldon said, "Why do we have to get away? Are you afraid those two will come back?"

"Not in their lifetime. But some of those brave people who cleared out of the park so quickly in their eagerness to spare themselves a disagreeable sight may have alerted the police."

"Fine. We have the hoodlums' names. And we can describe them fairly well."

"Describe them? Why would the police want them?"

"They committed an assault-"

"Don't be foolish. We don't have a scratch. They're virtually hospital bait, especially Alem. We're the ones who will be charged."

"But that's impossible. Those people witnessed the fact that--"

"No people will be called. --Seldon, get this into your head. Those two came to find you-specifically you. They were told you were wearing Heliconian clothes and you must have been described precisely. Perhaps they were even shown a holograph. I suspect they were sent by the people who happen to control the police, so let's not wait any longer."

Hummin hurried off, his hand gripping Seldon's upper arm. Seldon found the grip impossible to shake and, feeling like a child in the hands of an impetuous nurse, followed.

They plunged into an arcade and, before Seldon's eyes grew accustomed to the dimmer light, they heard the burring sound of a ground-car's brakes.

"There they are," muttered Hummin. "Faster, Seldon." They hopped onto a moving corridor and lost themselves in the crowd.

7.

Seldon had tried to persuade Hummin to take him to his hotel room, but Hummin would have none of that.

"Are you mad?" he half-whispered. "They'll be waiting for you there."

"But all my belongings are waiting for me there too."

"They'll just have to wait."

And now they were in a small room in a pleasant apartment structure that might be anywhere for all that Seldon could tell. He looked about the one-room unit.

Most of it was taken up by a desk and chair, a bed, and a computer outlet. There were no dining facilities or washstand of any kind, though Hummin had directed him to a communal washroom down the hall. Someone had entered before Seldon was quite through. He had cast one brief and curious look at Seldon's clothes, rather than at Seldon himself, and had then looked away.

Seldon mentioned this to Hummin, who shook his head and said, "We'll have to get rid of your clothes. Too bad Helicon is so far out of fashion--"

Seldon said impatiently, "How much of this might just be your imagination, Hummin? You've got me half-convinced and yet it may be merely a kind of . . . of--"

"Are you groping for the word 'paranoia'?"

"All right, I am. This may be some strange paranoid notion of yours."

Hummin said, "Think about it, will you? I can't argue it out mathematically, but you've seen the Emperor. Don't deny it. He wanted something from you and you didn't give it to him. Don't deny that either. I suspect that details of the future are what he wants and you refused. Perhaps Demerzel thinks you're only pretending not to have the details that you're holding out for a higher price or that someone else is bidding for it too. Who knows? I told you that if Demerzel wants you, he'll get you wherever you are. I told you

that before those two splitheads ever appeared on the scene. I'm a journalist and a Trantorian. I know how these things go. At one point, Alem said, 'He's the one we want.' Do you remember that?"

"As it happens," said Seldon. "I do."

"To him I was only the 'other motherlackey' to be kept off, while he went about the real job of assaulting you."

Hummin sat down in the chair and pointed to the bed. "Stretch out, Seldon. Make yourself comfortable. Whoever sent those two, -it must have been Demerzel, in my opinion-can send others, so we'll have to get rid of those clothes of yours. I think any other Heliconian in this sector caught in his own world's garb is going to have trouble until he can prove he isn't you."

"Oh come on."

"I mean it. You'll have to take off the clothes and we'll have to atomize them-if we can get close enough to a disposal unit without being seen. And before we can do that I'll have to get you a Trantorian outfit. You're smaller than I am and I'll take that into account. It won't matter if it doesn't fit exactly-"

Seldon shook his head. "I don't have the credits to pay for it. Not on me. What credits I have-and they aren't much-am in my hotel safe."

"We'll worry about that another time. You'll have to stay here for an hour or two while I go out in search of the necessary clothing."

Seldon spread his hands and sighed resignedly. "All right. If it's that important, I'll stay."

"You won't try to get back to your hotel? Word of honor?"

"My word as a mathematician. But I'm really embarrassed by all the trouble you're taking for me. And expense too. After all, despite all this talk about Demerzel, they weren't really out to hurt me or carry me off. All I was threatened with was the removal of my clothes."

"Not all. They were also going to take you to the spaceport and put you on a hypership to Helicon."

"That was a silly threat-not to be taken seriously."

"Why not?"

"I'm going to Helicon. I told them so. I'm going tomorrow."

"And you still plan to go tomorrow?" asked Hummin.

"Certainly. Why not?"

"There are enormous reasons why not."

Seldon suddenly felt angry. "Come on, Hummin, I can't play this game any further. I'm finished here and I want to go home. My tickets are in the hotel room. Otherwise I'd try to exchange them for a trip today. I mean it."

"You can't go back to Helicon."

Seldon flushed. "Why not? Are they waiting for me there too?"

Hummin nodded. "Don't fire up, Seldon. They would be waiting for you there too. Listen to me. If you go to Helicon, you are as good as in Demerzel's hands. Helicon is

good, safe Imperial territory. Has Helicon ever rebelled, ever fallen into step behind the banner of an antiEmperor?"

"No, it hasn't---and for good reason. It's surrounded by larger worlds. It depends on the Imperial peace for security."

"Exactly! Imperial forces on Helicon can therefore count on the full cooperation of the local government. You would be under constant surveillance at all times. Any time Demerzel wants you, he will be able to have you. And, except for the fact that I am now warning you, you would have no knowledge of this and you would be working in the open, filled with a false security."

"That's ridiculous. If he wanted me in Helicon, why didn't he simply leave me to myself? I was going there tomorrow. Why would he send those two hoodlums simply to hasten the matter by a few hours and risk putting me on my guard?"

"Why should he think you would be put on your guard? He didn't know I'd be with you, immersing you in what you call my paranoia."

"Even without the question of warning me, why all the fuss to hurry me by a few hours?"

"Perhaps because he was afraid you would change your mind."

"And go where, if not home? If he could pick me up on Helicon, he could pick me up anywhere. He could pick me up on . . . on Anacreon, a good ten thousand parsecs away-if it should fall into my head to go there. What's distance to hyperspatial ships? Even if I find a world that's not quite as subservient to the Imperial forces as Helicon is, what world is in actual rebellion? The Empire is at peace. Even if some worlds are still resentful of injustices in the past, none are going to defy the Imperial armed forces to protect me. Moreover, anywhere but on Helicon I won't be a local citizen and there won't even be that matter of principle to help keep the Empire at bay."

Hummin listened patiently, nodding slightly, but looking as grave and as imperturbable as ever. He said, "You're right, as far as you go, but there's one world that is not really under the Emperor's control. That, I think, is what must be disturbing Demerzel."

Seldon thought a while, reviewing recent history and finding himself unable to choose a world on which the Imperial forces might be helpless. He said at last, "What world is that?"

Hummin said, "You're on it, which is what makes the matter so dangerous in Demerzel's eyes, I imagine. It is not so much that he is anxious to have you go to Helicon, as that he is anxious to have you leave Trantor before it occurs to you, for any reason-even if only tourist's mania-to stay."

The two men sat in silence until Seldon finally said sardonically, "Trantor! The capital of the Empire, with the home base of the fleet on a space station in orbit about it, with the best units of the army quartered here. If you believe that it is Trantor that is the safe world, you're progressing from paranoia to outright fantasy."

"No! You're an Outworlder, Seldon. You don't know what Trantor is like. It's forty billion people and there are few other worlds with even a tenth of its population. It is of

unimaginable technological and cultural complexity. Where we are now is the Imperial Sector-with the highest standard of living in the Galaxy and populated entirely by Imperial functionaries. Elsewhere on the planet, however, are over eight hundred other sectors, some of them with subcultures totally different from what we have here and most of them untouchable by Imperial forces."

"Why untouchable?"

"The Empire cannot seriously exert force against Trantor. To do so would be bound to shake some facet or other of the technology on which the whole planet depends. The technology is so interrelated that to snap one of the interconnections is to cripple the whole. Believe me, Seldon, we on Trantor observe what happens when there is an earthquake that manages to escape being damped out, a volcanic eruption that is not vented in time, a storm that is not defused, or just some human error that escapes notice. The planet totters and every effort must be made to restore the balance at once."

"I have never heard of such a thing."

A small smile flickered its way across Hummin's face. "Of course not. Do you want the Empire to advertise the weakness at its core? However, as a journalist, I know what happens even when the Outworlds don't, even when much of Trantor itself doesn't, even when the Imperial pressure is interested in concealing events. Believe me! The Emperor knows-and Eto Demerzel knows-even if you don't, that to disturb Trantor may destroy the Empire."

"Then are you suggesting I stay on Trantor for that reason?"

"Yes. I can take you to a place on Trantor where you will be absolutely safe from Demerzel. You won't have to change your name and you will be able to operate entirely in the open and he won't be able to touch you. That's why he wanted to force you off Trantor at once and if it hadn't been for the quirk of fate that brought us together and for your surprising ability to defend yourself, he would have succeeded in doing so."

"But how long will I have to remain on Trantor?"

"For as long as your safety requires it, Seldon. For the rest of your life, perhaps."

8.

Hari Seldon looked at the holograph of himself cast by Hummin's projector. It was more dramatic and useful than a mirror would have been. In fact, it seemed as though there were two of him in the room.

Seldon studied the sleeve of his new tunic. His Heliconian attitudes made him wish the colors were less vibrant, but he was thankful that, as it was, Hummin had chosen softer colors than were customary here on this world. (Seldon thought of the clothing worn by their two assailants and shuddered inwardly.)

He said, "And I suppose I must wear this hat."

"In the Imperial Sector, yes. To go bareheaded here is a sign of low breeding. Elsewhere, the rules are different."

Seldon sighed. The round hat was made of soft material and molded itself to his head when he put it on. The brim was evenly wide all around, but it was narrower than on the hats his attackers had worn. Seldon consoled himself by noticing that when he wore the hat the brim curved rather gracefully.

"It doesn't have a strap under the chin."

"Of course not. That's advanced fashion for young lanks."

"For young what?"

"A lank is someone who wears things for their shock value. I'm sure you have such people on Helicon."

Seldon snorted. "There are those who wear their hair shoulder-length on one side and shave the other." He laughed at the memory.

Hummin's mouth twisted slightly. "I imagine it looks uncommonly ugly."

"Worse. There are lefties and righties, apparently, and each finds the other version highly offensive. The two groups often engage in street brawls."

"Then I think you can stand the hat, especially without the strap."

Seldon said, "I'll get used to it."

"It will attract some attention. It's subdued for one thing and makes you look as if you're in mourning. And it doesn't quite fit. Then, too, you wear it with obvious discomfort. However, we won't be in the Imperial Sector long. --Seen enough?" And the holograph flickered out.

Seldon said, "How much did this cost you?"

"What's the difference?"

"It bothers me to be in your debt."

"Don't worry about it. This is my choice. But we've been here long enough. I will have been described, I'm quite certain. They'll track me down and they'll come here."

"In that case," said Seldon, "the credits you're spending are a minor matter. You're putting yourself into personal danger on my account. Personal danger!"

"I know that. But it's my free choice and I can take care of myself."

"But why-"

"We'll discuss the philosophy of it later. -I've atomized your clothes, by the way, and I don't think I was seen. There was an energy surge, of course, and that would be recorded. Someone might guess what happened from that-it's hard to obscure any action when probing eyes and mind are sharp enough. However, let us hope we'll be safely away before they put it all together."

9.

They traveled along walkways where the light was soft and yellow. Hummin's eyes moved this way and that, watchful, and he kept their pace at crowd speed, neither passing nor being passed. He kept up a mild but steady conversation on indifferent topics.

Seldon, edgy and unable to do the same, said, "There seems to be a great deal of walking here. There are endless lines in both directions and along the crossovers."

"Why not?" said Hummin. "Walking is still the best form of short-distance transportation. It's the most convenient, the cheapest, and the most healthful. Countless years of technological advance have not changed that. -Are you acrophobic, Seldon?"

Seldon looked over the railing on his right into a deep declivity that separated the two walking lanes-each in an opposite direction between the regularly spaced crossovers. He shuddered slightly. "If you mean fear of heights, not ordinarily. Still, looking down isn't pleasant. How far does it go down?"

"Forty or fifty levels at this point, I think. This sort of thing is common in the Imperial Sector and a few other highly developed regions. In most places, one walks at what might be considered ground level."

"I should imagine this would encourage suicide attempts."

"Not often. There are far easier methods. Besides, suicide is not a matter of social obloquy on Trantor. One can end one's life by various recognized methods in centers that exist for the purpose-if one is willing to go through some psychotherapy at first. There are, occasional accidents, for that matter, but that's not why I was asking about acrophobia. We're heading for a taxi rental where they know me as a journalist. I've done favors for them occasionally and sometimes they do favors for me in return. They'll forget to record me and won't notice that I have a companion. Of course, I'll have to pay a premium and, again of course, if Demerzel's people lean on them hard enough, they'll have to tell the truth and put it down to slovenly accounting, but that may take considerable time."

"Where does the acrophobia come in?"

"Well, we can get there a lot faster if we use a gravitic lift. Not many people use it and I must tell you that I'm not overjoyed at the idea myself, but if you think you can handle it, we had better."

"What's a gravitic lift?"

"It's experimental. The time may come when it will be widespread over Trantor, provided it becomes psychologically acceptable-or can be made so to enough people. Then, maybe, it will spread to other worlds too. It's an elevator shaft without an elevator cab, so to speak. We just step into empty space and drop slowly-or rise slowly-under the influence of antigravity. It's about the only application of antigravity that's been established so far, largely because it's the simplest possible application."

"What happens if the power blinks out while we're in transit?"

"Exactly what you would think. We fall and-unless we're quite near the bottom to begin with-we die. I haven't heard of it happening yet and, believe me, if it had happened I would know. We might not be able to give out the news for security reasons-that's the excuse they always advance for hiding bad news-but I would know. It's just up ahead. If you can't manage it, we won't do it, but the corridors are slow and tedious and many find them nauseating after a while."

Hummin turned down a crossover and into a large recess where a line of men and women were waiting, one or two with children.

Seldon said in a low voice, "I heard nothing of this back home. Of course, our own news media are terribly local, but you'd think there'd be some mention that this sort of thing exists."

Hummin said. "It's strictly experimental and is confined to the Imperial Sector. It uses more energy than it's worth, so the government is not really anxious to push it right now by giving it publicity. The old Emperor, Stanel VI, the one before Cleon who amazed everyone by dying in his bed, insisted on having it installed in a few places. He wanted his name associated with antigravity, they say, because he was concerned with his place in history, as old men of no great attainments frequently are. As I said, the technique may spread, but, on the other hand, it is possible that nothing much more than the gravitic lift will ever come of it."

"What do they want to come of it?" asked Seldon.

"Antigrav spaceflight. That, however, will require many breakthroughs and most physicists, as far as I know, are firmly convinced it is out of the question. -But, then, most thought that even gravitic lifts were out of the question."

The line ahead was rapidly growing shorter and Seldon found himself standing with Hummin at the edge of the floor with an open gap before him. The air ahead faintly glittered. Automatically, he reached out his hand and felt a light shock. It didn't hurt, but he snatched his hand back quickly.

Hummin grunted. "An elementary precaution to prevent anyone walking over the edge before activating the controls." He punched some numbers on the control board and the glitter vanished.

Seldon peered over the edge, down the deep shaft.

"You might find it better-or easier," said Hummin, "if we link arms and if you close your eyes. It won't take more than a few seconds."

He gave Seldon no choice, actually. He took his arm and once again there was no hanging back in that firm grip. Hummin stepped into nothingness and Seldon (who heard himself, to his own embarrassment, emit a small squeak) shuffled off with a lurch.

He closed his eyes tightly and experienced no sense of falling, no feeling of air movement. A few seconds passed and he was pulled forward. He tripped slightly, caught his balance, and found himself on solid ground.

He opened his eyes, "Did we make it?"

Hummin said dryly, "We're not dead," then walked away, his grip forcing Seldon to follow.

"I mean, did we get to the right level?"

"Of course."

"What would have happened if we were dropping down and someone else was moving upward?"

"There are two separate lanes. In one lane everyone drops at the same speed; in the other everyone rises at the same speed. The shaft clears only when there are no people within ten meters of each other. There is no chance of a collision if all works well."

"I didn't feel a thing."

"Why should you? There was no acceleration. After the first tenth of a second, you were at constant speed and the air in your immediate vicinity was moving down with you at the same speed."

"Marvelous."

"Absolutely. But uneconomic. And there seems no great pressure to increase the efficiency of the procedure and make it worthwhile. Everywhere one hears the same refrain. 'We can't do it. It can't be done.' It applies to everything."

Hummin shrugged in obvious anger and said, "But we're here at the taxi rental. Let's get on with it."

10.

Seldon tried to look inconspicuous at the air-taxi rental terminus, which he found difficult. To look ostentatiously inconspicuous-to slink about, to turn his face away from all who passed, to study one of the vehicles overintently - was surely the way to invite attention. The way to behave was merely to assume an innocent normality.

But what was normality? He felt uncomfortable in his clothes. There were no pockets, so he had no place to put his hands. The two pouches, which dangled from his belt on either side, distracted him by hitting against him as he moved, so that he was continually thinking someone had nudged him.

He tried looking at women as they passed. They had no pouches, at least none dangling, but they carried little boxlike affairs that they occasionally clipped to one hip or another by some device he could not make out. It was probably pseudomagnetic, he decided. Their clothes were not particularly revealing, he noted regretfully, and not one had any sign of décolletage, although some dresses seemed to be designed to emphasize the buttocks.

Meanwhile, Hummin had been very businesslike, having presented the necessary credits and returned with the superconductive ceramic tile that would activate a specific air-taxi.

Hummin said, "Get in, Seldon," gesturing to a small two-seated vehicle.

Seldon asked, "Did you have to sign your name, Hummin?"

"Of course not. They know me here and don't stand on ceremony. "

"What do they think you're doing?"

"They didn't ask and I volunteered no information." He inserted the tile and Seldon felt a slight vibration as the air-taxi came to life.

"We're headed for D-7," said Hummin, making conversation.

Seldon didn't know what D-7 was, but he assumed it meant some route or other. The air-taxi found its way past and around other ground-cars and finally moved onto a smooth upward-slanting track and gained speed. Then it lifted upward with a slight jolt. Seldon, who had been automatically strapped in by a webbed restraint, felt himself pushed down into his seat and then up against the webbing.

He said, "That didn't feel like antigravity."

"It wasn't," said Hummin. "That was a small jet reaction. Just enough to take us up to the tubes."

What appeared before them now looked like a cliff patterned with cave openings, much like a checkerboard. Hummin maneuvered toward the D-7 opening, avoiding other air-taxis that were heading for other tunnels.

"You could crash easily," said Seldon, clearing his throat.

"So I probably would if everything depended on my senses and reactions, but the taxi is computerized and the computer can overrule me without trouble. The same is true for the other taxis. -Here we go."

They slid into D-7 as if they had been sucked in and the bright light of the open plaza outside mellowed, turning a warmer yellow hue.

Hummin released the controls and sat back. He drew a deep breath and said, "Well, that's one stage successfully carried through. We might have been stopped at the station. In here, we're fairly safe."

The ride was smooth and the walls of the tunnel slipped by rapidly. There was almost no sound, just a steady velvety whirr as the taxi sped along.

"How fast are we going?" asked Seldon.

Hummin cast an eye briefly at the controls. "Three hundred and fifty kilometers per hour."

"Magnetic propulsion?"

"Yes. You have it on Helicon, I imagine."

"Yes. One line. I've never been on it myself, though I've always meant to. I don't think it's anything like this."

"I'm sure it isn't. Trantor has many thousands of kilometers of these tunnels honeycombing the land subsurface and a number that snake under the shallower extensions of the ocean. It's the chief method of long-distance travel."

"How long will it take us?"

"To reach our immediate destination? A little over five hours."

"Five hours!" Seldon was dismayed.

"Don't be disturbed. We pass rest areas every twenty minutes or so where we can stop, pull out of the tunnel, stretch our feet, cat, or relieve ourselves. I'd like to do that as few times as possible, of course. "

They continued on in silence for a while and then Seldon started when a blaze of light flared at their right for a few seconds and, in the flash, he thought he saw two air-taxis.

"That was a rest area," said Hummin in answer to the unspoken question.

Seldon said, "Am I really going to be safe wherever it is you are taking me?"

Hummin said, "Quite safe from any open movement on the part of the Imperial forces. Of course, when it comes to the individual operator-the spy, the agent, the hired assassin-one must always be careful. Naturally, I will supply you with a bodyguard."

Seldon felt uneasy. "The hired assassin? Are you serious? Would they really want to kill me?"

Hummin said, "I'm sure Demerzel doesn't. I suspect he wants to use you rather than kill you. Still, other enemies may turn up or there may be unfortunate concatenations of events. You can't go through life sleepwalking."

Seldon shook his head and turned his face away. To think, only forty-eight hours ago he had been just an insignificant, virtually unknown Outworld mathematician, content only to spend his remaining time on Trantor sight-seeing, gazing at the enormity of the great world with his provincial eye. And now, it was finally sinking in: He was a wanted man, hunted by Imperial forces. The enormity of the situation seized him and he shuddered.

"And what about you and what you're doing right now?"

Hummin said thoughtfully, "Well, they won't feel kindly toward me, I suppose. I might have my head laid open or my chest exploded by some mysterious and never-found assailant."

Hummin said it without a tremor in his voice or a change in his calm appearance, but Seldon winced.

Seldon said, "I rather thought you would assume that might be in store for you. You don't seem to be . . . bothered by it."

"I'm an old Trantorian. I know the planet as well as anybody can. I know many people and many of them are under obligation to me. I like to think that I am shrewd and not easy to outwit. In short, Seldon, I am quite confident that I can take care of myself."

"I'm glad you feel that way and I hope you're justified in thinking so, Hummin, but I can't get it through my head why you're taking this chance at all. What am I to you? Why should you take even the smallest risk for someone who is a stranger to you?"

Hummin checked the controls in a preoccupied manner and then he faced Seldon squarely, eyes steady and serious.

"I want to save you for the same reason that the Emperor wants to use you-for your predictive powers."

Seldon felt a deep pang of disappointment. This was not after all a question of being saved. He was merely the helpless and disputed prey of competing predators. He said angrily, "I will never live down that presentation at the Decennial Convention. I have ruined my life."

"No. Don't rush to conclusions, mathematician. The Emperor and his officers want you for one reason only, to make their own lives more secure. They are interested in your abilities only so far as they might be used to save the Emperor's rule, preserve that rule for his young son, maintain the positions, status, and power of his officials. I, on the other hand, want your powers for the good of the Galaxy."

"Is there a distinction?" spat Seldon acidly.

And Hummin replied with the stern beginning of a frown, "If you do not see the distinction, then that is to your shame. The human occupants of the Galaxy existed before this Emperor who now rules, before the dynasty he represents, before the Empire itself. Humanity is far older than the Empire. It may even be far older than the twenty-five million worlds of the Galaxy. There are legends of a time when humanity inhabited a single world."

"Legends!" said Seldon, shrugging his shoulders.

"Yes, legends, but I see no reason why that may not have been so in fact, twenty thousand years ago or more. I presume that humanity did not come into existence complete with knowledge of hyperspatial travel. Surely, there must have been a time when people could not travel at superluminal velocities and they must then have been imprisoned in a single planetary system. And if we look forward in time, the human beings of the worlds of the Galaxy will surely continue to exist after you and the Emperor are dead, after his whole line comes to an end, and after the institutions of the Empire itself unravel. In that case, it is not important to worry overmuch about individuals, about the Emperor and the young Prince Imperial. It is not important to worry even about the mechanics of Empire. What of the quadrillions of people that exist in the Galaxy? What of them?"

Seldon said, "Worlds and people would continue, I presume."

"Don't you feel any serious need of probing the possible conditions under which they would continue to exist. "

"One would assume they would exist much as they do now."

"One would assume. But could one know by this art of prediction that you speak of?"

"Psychohistory is what I call it. In theory, one could."

"And you feel no pressure to turn that theory into practice."

"I would love to, Hummin, but the desire to do so doesn't automatically manufacture the ability to do so. I told the Emperor that psychohistory could not be turned into a practical technique and I am forced to tell you the same thing."

"And you have no intention of even trying to find the technique?"

"No, I don't, any more than I would feel I ought to try to tackle a pile of pebbles the size of Trantor, count them one by one, and arrange them in order of decreasing mass. I would know it was not something I could accomplish in a lifetime and I would not be fool enough to make a pretense of trying."

"Would you try if you knew the truth about humanity's situation?"

"That's an impossible question. What is the truth about humanity's situation? Do you claim to know it?"

"Yes, I do. And in five words." Hummin's eyes faced forward again, turning briefly toward the blank changelessness of the tunnel as it pushed toward them, expanding until it passed and then dwindling as it slipped away. He then spoke those five words grimly.

He said, "The Galactic Empire is dying."

STREELING UNIVERSITY-. . . An institution of higher learning in the Streeling Sector of ancient Trantor . . . Despite all these claims to fame in the fields of the humanities and sciences alike, it is not for those that the University looms large in today's consciousness. It would probably have come as a coral surprise to the generations of scholars at the University to know that in later times Streeling University would be most remembered because a certain Hari Seldon, during the period of The Flight, had been in residence there for a short time.

ENCYCLOPEDIA GALACTICA

11.

Hari Seldon remained uncomfortably silent for a while after Hummin's quiet statement. He shrank within himself in sudden recognition of his own deficiencies.

He had invented a new science: psychohistory. He had extended the laws of probability in a very subtle manner to take into account new complexities and uncertainties and had ended up with elegant equations in innumerable unknowns. - Possibly an infinite number; he couldn't tell. But it was a mathematical game and nothing more.

He had psychohistory--or at least the basis of psychohistory but only as a mathematical curiosity. Where was the historical knowledge that could perhaps give some meaning to the empty equations?

He had none. He had never been interested in history. He knew the outline of Heliconian history. Courses in that small fragment of the human story had, of course, been compulsory in the Heliconian schools. But what was there beyond that? Surely what else he had picked up was merely the bare skeletons that everyone gathered half legend, the other half surely distorted.

Still, how could one say that the Galactic Empire was dying? It had existed for ten thousand years as an accepted Empire and even before that, Trantor, as the capital of the dominating kingdom, had held what was a virtual empire for two thousand years. The Empire had survived the early centuries when whole sections of the Galaxy would now and then refuse to accept the end of their local independence. It had survived the vicissitudes that went with the occasional rebellions, the dynastic wars, some serious periods of breakdown. Most worlds had scarcely been troubled by such things and Trantor itself had grown steadily until it was the worldwide human habitation that now called itself the Eternal World.

To be sure, in the last four centuries, turmoil had increased somehow and there had been a rash of Imperial assassinations and takeovers. But even that was calming down and right now the Galaxy was as quiet as it had ever been. Under Cleon I and before him under his father, Stanel VI, the worlds were prosperous-and Cleon himself was not considered a tyrant. Even those who disliked the Imperium as an institution rarely had anything truly bad to say about Cleon, much as they might inveigh against Eto Demerzel. Why, then, should Hummin say that the Galactic Empire was dying and with such conviction?

Hummin was a journalist. He probably knew Galactic history in some detail and he had to understand the current situation in great detail. Was it this that supplied him with the knowledge that lay behind his statement? In that case, just what was the knowledge? Several times Seldon was on the point of asking, of demanding an answer, but there was something in Hummin's solemn face that stopped him. And there was something in his own ingrained belief that the Galactic Empire was a given, an axiom, the foundation stone on which all argument rested that prevented him too. After all, if that was wrong, he didn't want to know. No, he couldn't believe that he was wrong. The Galactic Empire could no more come to an end than the Universe itself could. Or, if the Universe did end, then-and only then-would the Empire end.

Seldon closed his eyes, attempting to sleep but, of course, he could not. Would he have to study the history of the Universe in order to advance his theory of psychohistory? How could he? Twenty-five million worlds existed, each with its own endlessly complex history. How could he study all that? There were book-films in many volumes, he knew, that dealt with Galactic history. He had even skimmed one once for some now-forgotten reason and had found it too dull to view even halfway through.

The book-films had dealt with important worlds. With some, it dealt through all or almost all their history; with others, only as they gained importance for a time and only till they faded away. He remembered having looked up Helicon in the index and having found only one citation. He had punched the keys that would turn up that citation and found Helicon included in a listing of worlds which, on one occasion, had temporarily lined up behind a certain claimant to the Imperial throne who had failed to make good his claim. Helicon had escaped retribution on that occasion, probably because it was not even sufficiently important to be punished.

What good was such a history? Surely, psychohistory would have to take into account the actions and reactions and interactions of each world -each and every world. How could one study the history of twenty-five million worlds and consider all their possible interactions? It would surely be an impossible task and this was just one more reinforcement of the general conclusion that psychohistory was of theoretical interest but could never be put to any practical use.

Seldon felt a gentle push forward and decided that the air-taxi must be decelerating.

"What's up?" he asked.

"I think we've come far enough," said Hummin, "to risk a small stopover for a bite to eat, a glass of something or other, and a visit to a washroom."

And, in the course of the next fifteen minutes, during which the air-taxi slowed steadily, they came to a lighted recess. The taxi swerved inward and found a parking spot among five or six other vehicles.

12.

Hummin's practiced eye seemed to take in the recess, the other taxis, the diner, the walkways, and the men and women all at a glance. Seldon, trying to look inconspicuous and again not knowing how, watched him, trying not to do so too intently.

When they sat down at a small table and punched in their orders, Seldon, attempting to sound indifferent, said, "Everything okay?"

"Seems so," said Hummin.

"How can you tell?"

Hummin let his dark eyes rest on Seldon for a moment. "Instinct," he said.

"Years of news gathering. You look and know, 'No news here.'"

Seldon nodded and felt relieved. Hummin might have said it sardonically, but there must be a certain amount of truth to it.

His satisfaction did not last through the first bite of his sandwich. He looked up at Hummin with his mouth full and with a look of hurt surprise on his face.

Hummin said, "This is a wayside diner, my friend. Cheap, fast, and not very good. The food's homegrown and has an infusion of rather sharp yeast. Trantorian palates are used to it."

Seldon swallowed with difficulty. "But back in the hotel—"

"You were in the Imperial Sector, Seldon. Food is imported there and where microfood is used it is high-quality. It is also expensive. "

Seldon wondered whether to take another bite. "You mean that as long as I stay on Trantor—"

Hummin made a hushing motion with his lips. "Don't give anyone the impression that you're used to better. There are places on Trantor where to be identified as an aristocrat is worse than being identified as an Outworlder. The food won't be so bad everywhere, I assure you. These wayside places have a reputation for low quality. If you can stomach that sandwich, you'll be able to eat anywhere on Trantor. And it won't hurt you. It's not decayed or bad or anything like that. It just has a harsh, strong taste and, honestly, you may grow accustomed to it. I've met Trantorians who spit out honest food and say it lacks that homegrown tang."

"Do they grow much food on Trantor?" asked Seldon. A quick side glance showed him there was no one seated in the immediate vicinity and he spoke quietly.

"I've always heard it takes twenty surrounding worlds to supply the hundreds of freight ships required to feed Trantor every day."

"I know. And hundreds to carry off the load of wastes. And if you want to make the story really good, you say that the same freight ships carry food one way and waste the other. It's true that we import considerable quantities of food, but that's mostly luxury items. And we export considerable waste, carefully treated into inoffensiveness, as important organic fertilizer-every bit as important to other worlds as the food is to us. But that's only a small fraction of the whole."

"It is?"

"Yes. In addition to fish in the sea, there are gardens and truck farms everywhere. And fruit trees and poultry and rabbits and vast microorganism farms-usually called yeast farms, though the yeast makes up a minority of the growths. And our wastes are mostly used right here at home to maintain all that growth. In fact, in many ways Trantor is very much like an enormous and overgrown space settlement. Have you ever visited one of those?"

"Indeed I have."

"Space settlements are essentially enclosed cities, with everything artificially cycled, with artificial ventilation, artificial day and night, and so on. Trantor is different only in that even the largest space settlement has a population of only ten million and Trantor has four thousand times that. Of course, we have real gravity. And no space settlement can match us in our microfoods. We have yeast vats, fungal mats, and algae ponds vast beyond the imagination. And we are strong on artificial flavoring, added with no light hand. That's what gives the taste to what you're eating."

Seldon had gotten through most of his sandwich and found it not as offensive as the first bite had been. "And it won't affect me?"

"It does hit the intestinal flora and every once in a while it afflicts some poor Outworlder with diarrhea, but that's rare, and you harden even to that quickly. Still, drink your milkshake, which you probably won't like. It contains an antidiarrhetic that should keep you safe, even if you tend to be sensitive to such things."

Seldon said querulously, "Don't talk about it, Hummin. A person can be suggestible to such things."

"Finish the milkshake and forget the suggestibility."

They finished the rest of their meal in silence and soon were on their way again.

13.

They were now racing rapidly through the tunnel once more. Seldon decided to give voice to the question that had been nagging at him for the last hour or so.

"Why do you say the Galactic Empire is dying?"

Hummin turned to look at Seldon again. "As a journalist, I have statistics poured into me from all sides till they're squeezing out of my ears. And I'm allowed to publish very little of it. Trantor's population is decreasing. "

"Twenty-five years ago, it stood at almost forty-five billion. "

"Partly, this decrease is because of a decline in the birthrate. To be sure, Trantor never has had a high birthrate. If you'll look about you when you're traveling on Trantor, you won't encounter very many children, considering the enormous population. But just the same it's declining. Then too there is emigration. People are leaving Trantor in greater numbers than are arriving."

"Considering its large population," said Seldon, "that's not surprising."

"But it's unusual just the same because it hasn't happened before. Again, all over the Galaxy trade is stagnating. People think that because there are no rebellions at the moment and because things are quiet that all is well and that the difficulties of the past few centuries are over. However, political infighting, rebellions, and unrest are all signs of a certain vitality too. But now there's a general weariness. It's quiet, not because people are satisfied and prosperous, but because they're tired and have given up."

"Oh, I don't know," said Seldon dubiously.

"I do. And the antigrav phenomenon we've talked about is another case in point. We have a few gravitic lifts in operation, but new ones aren't being constructed. It's an unprofitable venture and there seems no interest in trying to make it profitable. The rate of technological advance has been slowing for centuries and is down to a crawl now. In some cases, it has stopped altogether. Isn't this something you've noticed? After all, you're a mathematician."

"I can't say I've given the matter any thought."

"No one does. It's accepted. Scientists are very good these days at saying that things are impossible, impractical, useless. They condemn any speculation at once. You, for instance-What do you think of psychohistory? It is theoretically interesting, but it is useless in any practical sense. Am I right?"

"Yes and no," said Seldon, annoyed. "It is useless in any practical sense, but not because my sense of adventure has decayed, I assure you. It really is useless."

"That, at least," said Hummin with a trace of sarcasm, "is your impression in this atmosphere of decay in which all the Empire lives."

"This atmosphere of decay," said Seldon angrily, "is your impression. Is it possible that you are wrong?"

Hummin stopped and for a moment appeared thoughtful. Then he said, "Yes, I might be wrong. I am speaking only from intuition, from guesses. What I need is a working technique of psychohistory. "

Seldon shrugged and did not take the bait. He said, "I don't have such a technique to give you. -But suppose you're right. Suppose the Empire is running down and will eventually stop and fall apart. The human species will still exist."

"Under what conditions, man? For nearly twelve thousand years, Trantor, under strong rulers, has largely kept the peace. There've been interruptions to that-rebellions, localized civil wars, tragedy in plenty-but, on the whole and over large areas, there has been peace. Why is Helicon so pro-Imperium? Your world, I mean. Because it is small and would be devoured by its neighbors were it not that the Empire keeps it secure."

"Are you predicting universal war and anarchy if the Empire fails?"

"Of course. I'm not fond of the Emperor or of the Imperial institutions in general, but I don't have any substitute for it. I don't know what else will keep the peace and I'm not ready to let go until I have something else in hand."

Seldon said, "You talk as though you are in control of the Galaxy. You are not ready to let go? You must have something else in hand? Who are you to talk so?"

"I'm speaking generally, figuratively," said Hummin. "I'm not worried about Chetter Hummin personally. It might be said that the Empire will last my time; it might even show signs of improvement in my time. Declines don't follow a straight-line path. It may be a thousand years before the final crash and you might well imagine I would be dead then and, certainly, I will leave no descendants. As far as women are concerned, I have nothing but the occasional casual attachment and I have no children and intend to have none. I have given no hostages to fortune. -I looked you up after your talk, Seldon. You have no children either."

"I have parents and two brothers, but no children." He smiled rather weakly. "I was very attached to a woman at one time, but it seemed to her that I was attached more to my mathematics."

"Were you?"

"It didn't seem so to me, but it seemed so to her. So she left."

"And you have had no one since?"

"No. I remember the pain too clearly as yet."

"Well then, it might seem we could both wait out the matter and leave it to other people, well after our time, to suffer. I might have been willing to accept that earlier, but no longer. For now I have a tool; I am in command."

"What's your tool?" asked Seldon, already knowing the answer.

"You!" said Hummin.

And because Seldon had known what Hummin would say, he wasted no time in being shocked or astonished. He simply shook his head and said, "You are quite wrong. I am no tool fit for use."

"Why not?"

Seldon sighed. "How often must I repeat it? Psychohistory is not a practical study. The difficulty is fundamental. All the space and time of the Universe would not suffice to work out the necessary problems."

"Are you certain of that?"

"Unfortunately, yes."

"There's no question of your working out the entire future of the Galactic Empire, you know. You needn't trace out in detail the workings of every human being or even of every world. There are merely terrain questions you must answer: Will the Galactic Empire crash and, if so, when? What will be the condition of humanity afterward? Can anything be done to prevent the crash or to ameliorate conditions afterward? These are comparatively simple questions, it seems to me."

Seldon shook his head and smiled sadly. "The history of mathematics is full of simple questions that had only the most complicated of answers-or none at all."

"Is there nothing to be done? I can see that the Empire is falling, but I can't prove it. All my conclusions are subjective and I cannot show that I am not mistaken. Because the view is a seriously unsettling one, people would prefer not to believe my subjective conclusion and nothing will be done to prevent the Fall or even to cushion it. You could prove the coming Fall or, for that matter, disprove it."

"But that is exactly what I cannot do. I can't find your proof where none exists. I can't make a mathematical system practical when it isn't. I can't find you two even numbers that will yield an odd number as a sum, no matter how vitally your all the Galaxy -may need that odd number."

Hummin said, "Well then, you're part of the decay. You're ready to accept failure."

"What choice have I?"

"Can't you try? However useless the effort may seem to you to be, have you anything better to do with your life? Have you some worthier goal? Have you a purpose that will justify you in your own eyes to some greater extent?"

Seldon's eyes blinked rapidly. "Millions of worlds. Billions of cultures. Quadrillions of people. Decillions of interrelationships. -And you want me to reduce it to order."

"No, I want you to try. For the sake of those millions of worlds, billions of cultures, and quadrillions of people. Not for the Emperor. Not for Demerzel. For humanity."

"I will fail," said Seldon.

"Then we will be no worse off. Will you try?"

And against his will and not knowing why, Seldon heard himself say, "I will try." And the course of his life was set.

14.

The journey came to its end and the air-taxi moved into a much larger lot than the one at which they had eaten. (Seldon still remembered the taste of the sandwich and made a wry face.)

Hummin turned in his taxi and came back, placing his credit slip in a small pocket on the inner surface of his shirt. He said, "You're completely safe here from anything outright and open. This is the Streeling Sector."

"Streeling?"

"It's named for someone who first opened up the area to settlement, I imagine. Most of the sectors are named for someone or other, which means that most of the names are ugly and some are hard to pronounce. Just the same, if you try to have the inhabitants here change Streeling to Sweet-smell or something like that, you'll have a fight on your hands."

"Of course," said Seldon, sniffing loudly, "it isn't exactly Sweet-smell."

"Hardly anywhere in Trantor is, but you'll get used to it."

"I'm glad we're here," said Seldon. "Not that I like it, but I got quite tired sitting in the taxi. Getting around Trantor must be a horror. Back on Helicon, we can get from any

one place to any other by air, in far less time than it took us to travel less than two thousand kilometers here."

"We have air-jets too."

"But in that case—"

"I could arrange an air-taxi ride more or less anonymously. It would have been much more difficult with an air-jet. And regardless of how safe it is here, I'd feel better if Demerzel didn't know exactly where you were. —As a matter of fact, we're not done yet. We're going to take the Expressway for the final stage."

Seldon knew the expression. "One of those open monorails moving on an electromagnetic field, right?"

"Right."

"We don't have them on Helicon. Actually, we don't need them there. I rode on an Expressway the first day I was on Trantor. It took me from the airport to the hotel. It was rather a novelty, but if I were to use it all the time, I imagine the noise and crowds would become overpowering."

Hummin looked amused. "Did you get lost?"

"No, the signs were useful. There was trouble getting on and off, but I was helped. Everyone could tell I was an Outworlder by my clothes, I now realize. They seemed eager to help, though; I guess because it was amusing to watching me hesitate and stumble."

"As an expert in Expressway travel by now, you will neither hesitate nor stumble." Hummin said it pleasantly enough, though there was a slight twitch to the corners of his mouth. "Come on, then."

They sauntered leisurely along the walkway, which was lit to the extent one might expect of an overcast day and that brightened now and then as though the sun occasionally broke through the clouds. Automatically, Seldon looked upward to see if that were indeed the case, but the "sky" above was blankly luminous.

Hummin saw this and said, "This change in brightness seems too suit the human psyche. There are days when the street seems to be in bright sunlight and days when it is rather darker than it is now."

"But no rain or snow?"

"Or hail or sleet. No. Nor high humidity nor bitter cold. Trantor has its points, Seldon, even now."

There were people walking in both directions and there were a considerable number of young people and also some children accompanying the adults, despite what Hummin had said about the birthrate. All seemed reasonably prosperous and reputable. The two sexes were equally represented and the clothing was distinctly more subdued than it had been in the Imperial Sector. His own costume, as chosen by Hummin, fit right in. Very few were wearing hats and Seldon thankfully removed his own and swung it at his side.

There was no deep abyss separating the two sides of the walkway and as Hummin had predicted in the Imperial Sector, they were walking at what seemed to be ground level. There were no vehicles either and Seldon pointed this out to Hummin.

Hummin said, "There are quite a number of them in the Imperial Sector because they're used by officials. Elsewhere, private vehicles are rare and those that are used have separate tunnels reserved for them. Their use is not really necessary, since we have Expressways and, for shorter distances, moving corridors. For still shorter distances, we have walkways and we can use our legs."

Seldon heard occasional muted sighs and creaks and saw, some distance off, the endless passing of Expressway cars.

"There it is," he said, pointing.

"I know, but let us move on to a boarding station. There are more cars there and it is easier to get on."

Once they were safely ensconced in an Expressway car, Seldon turned to Hummin and said, "What amazes me is how quiet the Expressways are. I realize that they are mass-propelled by an electromagnetic field, but it seems quiet even for that." He listened to the occasional metallic groan as the car they were on shifted against its neighbors.

"Yes, it's a marvelous network," said Hummin, "but you don't see is at its peak. When I was younger, it was quieter than is now and there are those who say that there wasn't as much as a whisper fifty years ago though I suppose we might make allowance for the idealization of nostalgia."

"Why isn't it that way now?"

"Because it isn't maintained properly. I told you about decay."

Seldon frowned. "Surely, people don't sit around and say, 'We're decaying. Let's let the Expressways fall apart.' "

"No, they don't. It's not a purposeful thing. Bad spots are patched, decrepit coaches refurbished, magnets replaced. However, it's done in more slapdash fashion, more carelessly, and at greater intervals. There just aren't enough credits available."

"Where have the credits gone?"

"Into other things. We've had centuries of unrest. The navy is much larger and many times more expensive than it once was. The armed forces are much better-paid, in order to keep them quiet. Unrest, revolts, and minor blazes of civil war all take their toll."

"But it's been quiet under Cleon. And we've had fifty years of peace."

"Yes, but soldiers who are well-paid would resent having that pay reduced just because there is peace. Admirals resist mothballing ships and having themselves reduced in rank simply because there is less for them to do. So the credits still go-unproductively - to the armed forces and vital areas of the social good are allowed to deteriorate. That's what I call decay. Don't you? Don't you think that eventually you would fit that sort of view into your psychohistorical notions?"

Seldon stirred uneasily. Then he said, "Where are we going, by the way?"

"Streeling University."

"Ah, that's why the sector's name was familiar. I've heard of the University."

"I'm not surprised. Trantor has nearly a hundred thousand institutions of higher learning and Streeling is one of the thousand or so at the top of the heap."

"Will I be staying there?"

"For a while. University campuses are unbreathable sanctuaries, by and large. You will be safe there."

"But will I be welcome there?"

"Why not? It's hard to find a good mathematician these days. They might be able to use you. And you might be able to use them coo-tend for more than just a hiding place."

"You mean, it will be a place where I can develop my notions."

"You have promised," said Hummin gravely.

"I have promised to try," said Seldon and thought to himself that it was about like promising to try to make a rope out of sand.

15.

Conversation had run out after that and Seldon watched the structures of the Streeling Sector as they passed. Some were quite low, while some seemed to brush the "sky." Wide cross-passages broke the progression and frequent alleys could be seen.

At one point, it struck him that though the buildings rose upward they also swept downward and that perhaps they were deeper than they were high. As soon as the thought occurred to him, he was convinced it was true.

Occasionally, he saw patches of green in the background, farther back from the Expressway, and even small trees. He watched for quite a while and then became aware that the light was growing dimmer. He squinted about and turned to Hummin, who guessed the question.

"The afternoon is waning," he said, "and night is coming on."

Seldon's eyebrows raised and the corners of his mouth turned downward. "That's impressive. I have a picture of the entire planet darkening and then, some hours from now, lighting up again."

Hummin smiled his small, careful smile. "Not quite, Seldon. The planet is never turned off altogether-or turned on either. The shadow of twilight sweeps across the planet gradually, followed half a day later by the slow brightening of dawn.

In fact, the effect follows the actual day and night above the domes quite closely, so that in higher altitudes day and night change length with the seasons."

Seldon shook his head, "But why close in the planet and then mimic what would be in the open?"

"I presume because people like it better that way. Trantorians like the advantages of being enclosed, but they don't like to be reminded of it unduly, just the same. You know very little about Trantorian psychology, Seldon."

Seldon flushed slightly. He was only a Heliconian and he knew very little about the millions of worlds outside Helicon. His ignorance was not confined to Trantor. How, then, could he hope to come up with any practical applications for his theory of psychohistory? How could any number of people-all together-know enough? It reminded Seldon of a

puzzle that had been presented to him when he was young: Can you have a relatively small piece of platinum, with handholds affixed, that could not be lifted by the bare, unaided strength of any number of people, no matter how many?

The answer was yes. A cubic meter of platinum weighs 22,420 kilograms under standard gravitational pull. If it is assumed that each person could heave 120 kilograms up from the ground, then 188 people would suffice to lift the platinum. -But you could not squeeze 188 people around the cubic meter so that each one could get a grip on it. You could perhaps not squeeze more than 9 people around it. And levers or other such devices were not allowed. It had to be "bare, unaided strength."

In the same way, it could be that there was no way of getting enough people to handle the total amount of knowledge required for psychohistory, even if the facts were stored in computers rather than in individual human brains. Only so many people could gather round the knowledge, so to speak, and communicate it.

Hummin said, "You seem to be in a brown study, Seldon."

"I'm considering my own ignorance."

"A useful task. Quadrillions could profitably join you. -But it's time to get off."

Seldon looked up. "How can you tell?"

"Just as you could tell when you were on the Expressway your first day on Trantor. I go by the signs."

Seldon caught one just as it went by: STREELING UNIVERSITY-3 MINUTES.

"We get off at the next boarding station. Watch your step."

Seldon followed Hummin off the coach, noting that the sky was deep purple now and that the walkways and corridors and buildings were all lighting up, suffused with a yellow glow.

It might have been the gathering of a Heliconian night. Had he been placed here blindfolded and had the blindfold been removed, he might have been convinced that he was in some particularly well-built-up inner region of one of Helicon's larger cities.

"How long do you suppose I will remain at Streeling University, Hummin?" he asked.

Hummin said in his usual calm fashion, "That would be hard to say, Seldon. Perhaps your whole life."

"What!'

"Perhaps not. But your life stopped being your own once you gave that paper on psychohistory. The Emperor and Demerzel recognized your importance at once. So did I. For all I know, so did many others. You see, that means you don't belong to yourself anymore."

VENABILI, DORS-- . . . Historian, born in Cinna . . . Her life might well have continued on its uneventful course were it not for the face chat, after she had spent two years on the faculty of Streeling University, she became involved with the young Hari Seldon during The Flight . . .

ENCYCLOPEDIA GALACTICA

16.

The room that Hari Seldon found himself in was larger than Hummin's room in the Imperial Sector. It was a bedroom with one comer serving as a washroom and with no sign of any cooking or dining facilities. There was no window, though set in the ceiling was a grilled ventilator chat made a steady sighing noise.

Seldon looked about a bit ruefully.

Hummin interpreted that look with his usual assured manner and said, "It's only for tonight, Seldon. Tomorrow morning someone will come to install you at the University and you will be more comfortable."

"Pardon me, Hummin, but how do you know that?"

"I will make arrangements. I know one or two people here"-he smiled briefly without humor-"and I have a favor or two I can ask repayment for. Now let's go into some details." He gazed steadily at Seldon and said, "Whatever you have left in your hotel room is lost. Does chat include anything irreplaceable?"

"Nothing really irreplaceable. I have some personal items I value for their association with my past life, but if they are gone, they are gone. There are, of course, some notes on my paper. Some calculations. The paper itself."

"Which is now public knowledge until such time as it is removed from circulation as dangerous-which it probably will be. Still, I'll be able to get my hands on a copy, I'm sure. In any case, you can reconstruct it, can't you?"

"I can. That's why I said there was nothing really irreplaceable. Also, I've lost nearly a thousand credits, some books, clothing, my tickets back to Helicon, things like that."

"All replaceable. -Now I will arrange for you to have a credit tile in my name, charged to me. That will take care of ordinary expenses. "

"That's unusually generous of you. I can't accept it."

"It's not generous at all, since I'm hoping to save the Empire in that fashion. You must accept it."

"But how much can you afford, Hummin? I'll be using it, at best, with an uneasy conscience."

"Whatever you need for survival or reasonable comfort I can afford, Seldon. Naturally, I wouldn't want you to try to buy the University gymnasium or hand out a million credits in largess."

"You needn't worry, but with my name on record-"

"It might as well be. It is absolutely forbidden for the Imperial government to exercise any security control over the University or its members. There is complete freedom. Anything can be discussed here, anything can be said here."

"What about violent crime?"

"Then the University authorities themselves handle it, with reason and care-and there are virtually no crimes of violence. The students and faculty appreciate their freedom and understand its terms. Too much rowdiness, the beginning of riot and bloodshed, and the government may feel it has a right to break the unwritten agreement and send in the troops. No one wants that, not even the government, so a delicate balance is maintained. In other words, Demerzel himself can not have you plucked out of the University without a great deal more cause than anyone in the University has given the government in at least a century and a half. On the other hand, if you are lured off the grounds by a student-agent-"

"Are there student-agents?"

"How can I say? There may be. Any ordinary individual can be threatened or maneuvered or simply bought-and may remain thereafter in the service of Demerzel or of someone else, for that matter. So I must emphasize this: You are safe in any reasonable sense, but no one is absolutely safe. You will have to be careful. But though I give you that warning, I don't want you to cower through life. On the whole, you will be far more secure here than you would have been if you had returned to Helicon or gone to any world of the Galaxy outside Trantor."

"I hope so," said Seldon drearily.

"I know so," said Hummin, "Or I would not feel it wise to leave you. "

"Leave me?" Seldon looked up sharply. "You can't do that. You know this world. I don't."

"You will be with others who know this world, who know this part of it, in fact, even better than I do. As for myself, I must go. I have been with you all this day and I dare not abandon my own life any longer. I must not attract too much attention to myself. Remember that I have my own insecurities, just as you have yours."

Seldon blushed. "You're right. I can't expect you to endanger yourself indefinitely on my behalf. I hope you are not already ruined."

Hummin said coolly, "Who can tell? We live in dangerous times. Just remember that if anyone can make the times safe-if not for ourselves, then for those who follow after us-it is you. Let that thought be your driving force, Seldon."

Sleep eluded Seldon. He tossed and turned in the dark, thinking. He had never felt quite so alone or quite so helpless as he did after Hummin had nodded, pressed his hand briefly, and left him behind. Now he was on a strange world-and in a strange part of that world. He was without the only person he could consider a friend (and that of less than a day's duration) and he had no idea of where he was going or what he would be doing, either tomorrow or at any time in the future.

None of that was conducive to sleep so, of course, at about the time he decided, hopelessly, that he would not sleep that night or, possibly, ever again, exhaustion overtook him . . .

When he woke up it was still dark-or not quite, for across the room he saw a red light flashing brightly and rapidly, accompanied by a harsh, intermittent buzz. Undoubtedly, it was that which had awakened him.

As he tried to remember where he was and to make some sort of sense out of the limited messages his senses were receiving, the flashing and buzzing ceased and he became aware of a peremptory rapping. Presumably, the rapping was at the door, but he didn't remember where the door was. Presumably, also, there was a contact that would flood the room with light, but he didn't remember where that was either.

He sat up in bed and felt along the wall to his left rather desperately while calling out, "One moment, please."

He found the necessary contact and the room suddenly bloomed with a soft light. He scrambled out of bed, blinking, still searching for the door, finding it, reaching out to open it, remembering caution at the last moment, and saying in a suddenly stern, no-nonsense voice, "Who's there?"

A rather gentle woman's voice said, "My dame is Dors Venabili and I have come to see Dr. Hari Seldon."

Even as that was said, a woman was standing just in front of the door, without that door ever having been opened. For a moment, Hari Seldon stared at her in surprise, then realized that he was wearing only a one-piece undergarment. He let out a strangled gasp and dashed for the bed and only then realized that he was staring at a holograph. It lacked the hard edge of reality and it became apparent the woman wasn't looking at him. She was merely showing herself for identification.

He paused, breathing hard, then said, raising his voice to be heard through the door, "If you'll wait, I'll be with you. Give me . . . maybe half an hour."

The woman-or the holograph, at any rate-said, "I'll wait," and disappeared.

There was no shower, so he sponged himself, making a rare mess on the tiled floor in the washroom corner. There was toothpaste but no toothbrush, so he used his finger. He had no choice but to put on the clothes he had been wearing the day before. He finally opened the door.

He realized, even as he did so, that she had not really identified herself. She had merely given a name and Hummin had not told him whom to expect, whether it was to be

this Dors Somebody or anyone else. He had felt secure because the holograph was that of a personable young woman, but for all he knew there might be half a dozen hostile young men with her.

He peered out cautiously, saw only the woman, then opened the door sufficiently to allow her to enter. He immediately closed and locked the door behind her.

"Pardon me," he said, "What time is it?"

"Nine," she said, "The day has long since begun."

As far as official time was concerned, Trantor held to Galactic Standard, since only so could sense be made out of interstellar commerce and governmental dealings. Each world, however, also had a local time system and Seldon had not yet come to the point where he felt at home with casual Trantorian references to the hour.

"Midmorning?" he said.

"Of course."

"There are no windows in this room," he said defensively.

Dors walked to his bed, reached out, and touched a small dark spot on the wall. Red numbers appeared on the ceiling just over his pillow. They read: 0903.

She smiled without superiority. "I'm sorry," she said. "But I rather assumed Chetter Hummin would have told you I'd be coming for you at nine. The trouble with him is he's so used to knowing, he sometimes forgets that others occasionally don't know. -And I shouldn't have used radio-holographic identification. I imagine you don't have it on Helicon and I'm afraid I must have alarmed you."

Seldon felt himself relax. She seemed natural and friendly and the casual reference to Hummin reassured him. He said, "You're quite wrong about Helicon, Miss-"

"Please call me Dors."

"You're still wrong about Helicon, Dors. We do have radioholography, but I've never been able to afford the equipment. Nor could anyone in my circle, so I haven't actually had the experience. But I understood what had happened soon enough."

He studied her. She was not very tall, average height for a woman, he judged. Her hair was a reddish-gold, though not very bright, and was arranged in shore curls about her head. (He had seen a number of women in Trantor with their hair so arranged. It was apparently a local fashion that would have been laughed at in Helicon.) She was not amazingly beautiful, but was quite pleasant to look at, this being helped by full lips that seemed to have a slight humorous curl to them. She was slim, well-built, and looked quite young. (Too young, he thought uneasily, to be of use perhaps.)

"Do I pass inspection?" she asked. (She seemed to have Hummin's trick of guessing his thoughts, Seldon thought, or perhaps he himself lacked the trick of hiding them.)

He said, "I'm sorry. I seem to have been staring, but I've only been trying to evaluate you. I'm in a strange place. I know no one and have no friends."

"Please, Dr. Seldon, count me as a friend. Mr. Hummin has asked me to take care of you."

Seldon smiled ruefully. "You may be a little young for the job."

"You'll find I am not."

"Well, I'll try to be as little trouble as possible. Could you please repeat your name?"

"Dors Venabili." She spelled the last name and emphasized the stress on the second syllable. "As I said, please call me Dors and if you don't object too strenuously I will call you Hari. We're quite informal here at the University and there is an almost self-conscious effort to show no signs of status, either inherited or professional."

"Please, by all means, call me Hari."

"Good. I shall remain informal then. For instance, the instinct for formality, if there is such a thing, would cause me to ask permission to sit down. Informally, however, I shall just sit." She then sat down on the one chair in the room.

Seldon cleared his throat. "Clearly, I'm not at all in possession of my ordinary faculties. I should have asked you to sit." He sat down on the edge of his crumpled bed and wished he had thought to straighten it out somewhat-but he had been caught by surprise.

She said pleasantly, "This is how it's going to work, Hari. First, we'll go to breakfast at one of the University cafes. Then I'll get you a room in one of the domiciles-, a better room than this. You'll have a window. Hummin has instructed me to get you a credit tile in his name, but it will take me a day or two to extort one out of the University bureaucracy. Until that's done, I'll be responsible for your expenses and you can pay me back later. - And we can use you. Chetter Hummin told me you're a mathematician and for some reason there's a serious lack of good ones at the University."

"Did Hummin tell you that I was a good mathematician?"

"As a matter of fact, he did. He said you were a remarkable man-,,

"Well." Seldon looked down at his fingernails. "I would like to be considered so, but Hummin knew me for less than a day and, before that, he had heard me present a paper, the quality of which he has no way of judging. I think he was just being polite."

"I don't think so," said Dors. "He is a remarkable person himself and has had a great deal of experience with people. I'll go by his judgment. In any case, I imagine you'll have a chance to prove yourself. You can program computers, I suppose."

"Of course."

"I'm talking about teaching computers, you understand, and I'm asking if you can devise programs to teach various phases of contemporary mathematics."

"Yes, that's part of my profession. I'm assistant professor of mathematics at the University of Helicon."

She said, "Yes, I know. Hummin told me that. It means, of course, that everyone will know you are a non-Trantorian, but that will present no serious problems. We're mainly Trantorian here at the University, but there's a substantial minority of Outworlders from any number of different worlds and that's accepted. I won't say that you'll never hear a planetary slur but actually the Outworlders are more likely to use them than the Trantorians. I'm an Outworlder myself, by the way."

"Oh?" He hesitated and then decided it would be only polite to ask. "What world are you from?"

"I'm from Cinna. Have you ever heard of it?"

He'd be caught out if he was polite enough to lie, Seldon decided, so he said, "No."

"I'm not surprised. It's probably of even less account than Helicon is. Anyway, to get back to the programming of mathematical teaching computers, I suppose that that can be done either proficiently or poorly."

"Absolutely."

"And you would do it proficiently."

"I would like to think so."

"There you are, then. The University will pay you for that, so lee's go out and eat. Did you sleep well, by the way?"

"Surprisingly, I did."

"And are you hungry?"

"Yes, but-" He hesitated.

She said cheerfully, "But you're worried about the quality of the food, is that it? Well, don't be. Being an Outworlder myself, I can understand your feelings about the strong infusion of microfood into everything, but the University menus aren't bad. In the faculty dining room, at least. The students suffer a bit, but that serves to harden them."

She rose and turned to the door, but stopped when Seldon could not keep himself from saying, "Are you a member of the faculty?"

She turned and smiled at him impishly. "Don't I look old enough? I got my doctorate two years ago at Cinna and I've been here ever since. In two weeks, I'll be thirty."

"Sorry," said Seldon, smiling in his turn, "but you can't expect to look twenty-four and not raise doubts as to your academic status."

"Aren't you nice?" said Dors and Seldon felt a certain pleasure wash over him.

After all, he thought, you can't exchange pleasantries with an attractive woman and feel entirely like a stranger.

18.

Dors was right. Breakfast was by no means bad. There was something that was unmistakably eggy and the meat was pleasantly smoked. The chocolate drink (Trantor was strong on chocolate and Seldon did not mind that) was probably synthetic, but it was tasty and the breakfast rolls were good.

He felt it only right to say as much. "This has been a very pleasant breakfast. Food. Surroundings. Everything."

"I'm delighted you think so," said Dors.

Seldon looked about. There were a bank of windows in one wall and while actual sunlight did not enter (he wondered if, after a while, he would learn to be satisfied with diffuse daylight and would cease to look for patches of sunlight in a room), the place was light enough. In face, it was quite bright, for the local weather computer had apparently decided it was time for a sharp, clear day.

The cables were arranged for four apiece and most were occupied by the full number, but Dors and Seldon remained alone at theirs. Dors had called over some of the men and women and had introduced them. All had been police, but none had joined them. Undoubtedly, Dors intended that to be so, but Seldon did not see how she managed to arrange it.

He said, "You haven't introduced me to any mathematicians, Dors."

"I haven't seen any that I know. Most mathematicians start the day early and have classes by eight. My own feeling is that any student so foolhardy as to take mathematics wants to get that part of the course over with as soon as possible."

"I take it you're not a mathematician yourself."

"Anything but," said Dors with a short laugh. "Anything. History is my field. I've already published some studies on the rise of Trantor-I mean the primitive kingdom, not this world. I suppose that will end up as my field of specialization-Royal Trantor."

"Wonderful," said Seldon.

"Wonderful?" Dors looked at him quizzically. "Are you interested in Royal Trantor too?"

"In a way, yes. That and other things like that. I've never really studied history and I should have."

"Should you? If you had studied history, you'd scarcely have had time to study mathematics and mathematicians are very much needed especially at this University. We're full to here with historians," she said, raising her hand to her eyebrows, "and economists and political scientists, but we're short on science and mathematics. Chetter Hummin pointed that out to me once. He called it the decline of science and seemed to think it was a general phenomenon."

Seldon said, "Of course, when I say I should have studied history, I don't mean that I should have made it a life work. I meant I should have studied enough to help me in my mathematics. My field of specialization is the mathematical analysis of social structure."

"Sounds horrible."

"In a way, it is. It's very complicated and without my knowing a great deal more about how societies evolved it's hopeless. My picture is too static, you see."

"I can't see because I know nothing about it. Chetter told me you were developing something called psychohistory and that it was important. Have I got it right? Psychohistory?"

"That's right. I should have called it 'psychsociology,' but it seemed to me that was too ugly a word. Or perhaps I knew instinctively that a knowledge of history was necessary and then didn't pay sufficient attention to my thoughts."

"Psychohistory does sound better, but I don't know what it is."

"I scarcely do myself." He brooded a few minutes, looking at the woman on the other side of the table and feeling that she might make this exile of his seem a little less like an exile. He thought of the other woman he had known a few years ago, but blocked it off with a determined effort. If he ever found another companion, it would have to be one who understood scholarship and what it demanded of a person.

To get his mind onto a new track, he said, "Chetter Hummin told me that the University is in no way troubled by the government. "

"He's right."

Seldon shook his head. "That seems rather unbelievably forbearing of the Imperial government. The educational institutions on Helicon are by no means so independent of governmental pressures."

"Nor on Cinna. Nor on any Outworld, except perhaps for one or two of the largest. Trantor is another matter."

"Yes, but why?"

"Because it's the center of the Empire. The universities here have enormous prestige. Professionals are turned out by any university anywhere, but the administrators of the Empire-the high officials, the countless millions of people who represent the tentacles of Empire reaching into every corner of the Galaxy-are educated right here on Trantor."

"I've never seen the statistics-" began Seldon.

"Take my word for it. It is important that the officials of the Empire have some common ground, some special feeling for the Empire. And they can't all be native Trantorians or else the Outworlds would grow restless. For that reason, Trantor must attract millions of Outworlders for education here. It doesn't matter where they come from or what their home accent or culture may be, as long as they pick up the Trantorian patina and identify themselves with a Trantorian educational background. That's what holds the Empire together. The Outworlds are also less restive when a noticeable portion of the administrators who represent the Imperial government are their own people by birth and upbringing."

Seldon felt embarrassed again. This was something he had never given any thought to. He wondered if anyone could be a truly great mathematician if mathematics was all he knew. He said, "Is this common knowledge?"

"I suppose it isn't," said Dors after some thought. "There's so much knowledge to be had that specialists cling to their specialties as a shield against having to know anything about anything else. They avoid being drowned."

"Yet you know it."

"But that's my specialty. I'm a historian who deals with the rise of Royal Trantor and this administrative technique was one of the ways in which Trantor spread its influence and managed the transition from Royal Trantor to Imperial Trantor."

Seldon said, almost as though muttering to himself, "How harmful overspecialization is. It cuts knowledge at a million points and leaves it bleeding."

Dors shrugged. "What can one do? -But you see, if Trantor is going to attract Outworlders to Trantorian universities, it has to give them something in return for uprooting themselves and going to a strange world with an incredibly artificial structure and unusual ways. I've been here two years and I'm still not used to it. I may never get used to it. But then, of course, I don't intend to be an administrator, so I'm not forcing myself to be a Trantorian.

"And what Trantor offers in exchange is not only the promise of a position with high status, considerable power, and money, of course, but also freedom. While students are having their -education, they are free to denounce the government, demonstrate against it peacefully, work out their own theories and points of view. They enjoy that and many come here so that they can experience the sensation of liberty."

"I imagine," said Seldon, "that it helps relieve pressure as well. They work off all their resentments, enjoy all the smug self-satisfaction a young revolutionary would have, and by the time they take their place in the Imperial hierarchy, they are ready to settle down into conformity and obedience."

Dors nodded. "You may be right. In any case, the government, for all these reasons, carefully preserves the freedom of the universities. It's not a matter of their being forbearing at all-only clever."

"And if you're not going to be an administrator, Dors, what are you going to be?"

"A historian. I'll teach, put book-films of my own into the programming."

"Not much status, perhaps."

"Not much money, Hari, which is more important. As for status, that's the sort of push and pull I'd just as soon avoid. I've seen many people with status, but I'm still looking for a happy one. Status won't sit still under you; you have to continually fight to keep from sinking. Even Emperors manage to come to bad ends most of the time. Someday I may just go back to Cinna and be a professor."

"And a Trantorian education will give you status."

Don laughed. "I suppose so, but on Cinna who would care? It's a dull world, full of farms and with lots of cattle, both four-legged and two-legged."

"Won't you find it dull after Trantor?"

"Yes, that's what I'm counting on. And if it gets too dull, I can always wangle a grant to go here or there to do a little historical research. That's the advantage of my field."

"A mathematician, on the other hand," said Seldon with a trace of bitterness at something that had never before bothered him, "is expected to sit at his computer and think. And speaking of computers--- He hesitated. Breakfast was done and it seemed to him more than likely she had some duties of her own to attend to.

But she did not seem to be in any great hurry to leave. "Yes? Speaking of computers?"

"Would I be able to get permission to use the history library?"

Now it was she who hesitated. "I think that can be arranged. If you work on mathematics programming, you'll probably be viewed as a quasimember of the faculty and I could ask for you to be given permission. Only- "Only?"

"I don't want to hurt your feelings, but you're a mathematician and you say you know nothing about history. Would you know how to make use of a history library?"

Seldon smiled. "I suppose you use computers very much like those in a mathematics library."

"We do, but the programming for each specialty has quirks of its own. You don't know the standard reference book-films, the quick methods of winnowing and skipping. You may be able to find a hyperbolic interval in the dark . . ."

"You mean hyperbolic integral," interrupted Seldon softly.

Dors ignored him. "But you probably won't know how to get the terms of the Treaty of Poldark in less than a day and a half."

"I suppose I could learn."

"If . . . if . . ." She looked a little troubled. "If you want to, I can make a suggestion. I give a week's course-one hour each day, no credit-on library use. It's for undergraduates. Would you feel it beneath your dignity to sit in on such a course-with undergraduates, I mean? It starts in three weeks."

"You could give me private lessons." Seldon felt a little surprised at the suggestive tone that had entered his voice.

She did not miss it. "I dare say I could, but I think you'd be better off with more formal instruction. We'll be using the library, you understand, and at the end of the week you will be asked to locate information on particular items of historical interest. You will be competing with the other students all through and that will help you learn. Private tutoring will be far less efficient, I assure you. However, I understand the difficulty of competing with undergraduates. If you don't do as well as they, you may feel humiliated. You must remember, though, that they have already studied elementary history and you, perhaps, may not have."

"I haven't. No 'may' about it. But I won't be afraid to compete and I won't mind any humiliation that may come along-if I manage to learn the tricks of the historical reference trade."

It was clear to Seldon that he was beginning to like this young woman and that he was gladly seizing on the chance to be educated by her. He was also aware of the fact that he had reached a turning point in his mind. He had promised Hummin to attempt to work out a practical psychohistory, but that had been a promise of the mind and not the emotions. Now he was determined to seize psychohistory by the throat if he had to-in order to make it practical. That, perhaps, was the influence of Dors Venabili. Or had Hummin counted on that? Hummin, Seldon decided, might well be a most formidable person.

Cleon I had finished dinner, which, unfortunately, had been a formal state affair. It meant he had to spend time talking to various officials-not one of whom he knew or recognized-in set phrases designed to give each one his stroke and so activate his loyalty to the crown. It also meant that his food reached him but lukewarm and had cooled still further before he could eat it.

There had to be some way of avoiding chat. Bat first, perhaps, on his own or with one or two close intimates with whom he could relax and then attend a formal dinner at which he could merely be served an imported pear. He loved pears. But would that offend the guests who would take the Emperor's refusal to sac with them as a studied insult.

His wife, of course, was useless in this respect, for her presence would but further exacerbate his unhappiness. He had married her because she was a member of a powerful dissident family who could be expected to mute their dissidence as a result of the union, though Cleon devoutly hoped that she, at least, would not do so. He was perfectly content to have her live her own life in her own quarters except for the necessary efforts to initiate an heir, for, to tell the truth, he didn't like her. And now that an heir had come, he could ignore her completely.

He chewed at one of a handful of nuts he had pocketed from the table on leaving and said, "Demerzel!"

"Sire?"

Demerzel always appeared at once when Cleon called. Whether he hovered constantly in earshot at the door or he drew close because the instinct of subservience somehow alerted him to a possible call in a few minutes, he did appear and that, Cleon thought idly, was the important thing. Of course, there were those times when Demerzel had to be away on Imperial business. Cleon always hated those absences. They made him uneasy.

"What happened to that mathematician? I forget his name."

Demerzel, who surely knew the man the Emperor had in mind, but who perhaps wanted to study how much the Emperor remembered, said, "What mathematician is it that you have in mind, Sire?"

Cleon waved an impatient hand. "The fortune-teller. The one who came to see me."

"The one we sent for?"

"Well, sent for, then. He did come to see me. You were going to take care of the matter, as I recall. Have you?"

Demerzel cleared his throat. "Sire, I have cried to."

"Ah! That means you have failed, doesn't it?" In a way, Cleon felt pleased.

Demerzel was the only one of his Ministers who made no bones of failure. The others never admitted failure, and since failure was nevertheless common, it became difficult to correct. Perhaps Demerzel could afford to be more honest because he failed

so rarely. If it weren't for Demerzel, Cleon thought sadly, he might never know what honesty sounded like. Perhaps no Emperor ever knew and perhaps that was one of the reasons that the Empire--

He pulled his thoughts away and, suddenly nettled at the other's silence and wanting an admission, since he had just admired Demerzel's honesty in his mind, said sharply, "Well, you have failed, haven't you?"

Demerzel did not flinch. "Sire, I have failed in part. I felt that to have him here on Trantor where things are-difficult might present us with problems. It was easy to consider that he might be more conveniently placed on his home planet. He was planning to return to that home planet the next day, but there was always the chance of complications-of his deciding to remain on Trantor-so I arranged to have two young alley men place him on his plane that very day."

"Do you know alley men, Demerzel?" Cleon was amused.

"It is important, Sire, to be able to reach many kinds of people, for each type has its own variety of use-alley men not the least. As it happens, they did not succeed."

"And why was that?"

"Oddly enough, Seldon was able to fight them off."

"The mathematician could fight?"

"Apparently, mathematics and the martial arts are not necessarily mutually exclusive. I found out, not soon enough, that his world, Helicon, is noted for it-martial arts, not mathematics. The fact that I did not learn this earlier was indeed a failure, Sire, and I can only crave your pardon."

"But then, I suppose the mathematician left for his home planet the next day as he had planned."

"Unfortunately, the episode backfired. Taken aback by the event, he decided not to return to Helicon, but remained on Trantor. He may have been advised to this effect by a passerby who happened to be present on the occasion of the fight. That was another unlooked-for complication."

The Emperor Cleon frowned. "Then our mathematician-what is his name?"

"Seldon, Sire. Hari Seldon."

"Then this Seldon is out of reach."

"In a sense, Sire. We have traced his movements and he is now at Streeling University. While there, he is untouchable."

The Emperor scowled and reddened slightly. "I am annoyed at that word-'untouchable.' There should be nowhere in the Empire my hand cannot reach. Yet here, on my own world, you tell me someone can be untouchable. Insufferable!"

"Your hand can reach to the University, Sire. You can send in your army and pluck out this Seldon at any moment you desire. To do so, however, is . . . undesirable."

"Why don't you say 'impractical,' Demerzel. You sound like the mathematician speaking of his fortune-telling. It is possible, but impractical. I am an Emperor who finds everything possible, but very little practical. Remember, Demerzel, if reaching Seldon is not practical, reaching you is entirely so."

Eto Demerzel let this last comment pass. The 'man behind the throne' knew his importance to the Emperor, he had heard such threats before. He waited in silence while the Emperor glowered. Drumming his fingers against the arm of his chair, Cleon asked, "Well then, what good is this mathematician to us if he is at Streeling University?"

"It may perhaps be possible, Sire, to snatch use out of adversity. At the University, he may decide to work on his psychohistory."

"Even though he insists it's impractical?"

"He may be wrong and he may find out that he is wrong. And if he finds out that he is wrong, we would find some way of getting him out of the University. It is even possible he would join us voluntarily under those circumstances."

The Emperor remained lost in thought for a while, then said, "And what if someone else plucks him out before we do?"

"Who would want to do that, Sire?" asked Demerzel softly.

"The Mayor of Wye, for one," said Cleon, suddenly shouting. "He dreams still of taking over the Empire."

"Old age has drawn his fangs, Sire."

"Don't you believe it, Demerzel."

"And we have no reason for supposing he has any interest in Seldon or even knows of him, Sire."

"Come on, Demerzel. If we heard of the paper, so could Wye. If we see the possible importance of Seldon, so could Wye."

"If that should happen," said Demerzel, "or even if there should be a reasonable chance of its happening, then we would be justified in taking strong measures."

"How strong?"

Demerzel said cautiously, "It might be argued that rather than have Seldon in Wye's hands, we might prefer to have him in no one's hands. To have him cease to exist, Sire."

"To have him killed, you mean," said Cleon.

"If you wish to put it that way, Sire," said Demerzel.

20.

Hari Seldon sat back in his chair in the alcove that had been assigned to him through Dors Venabili's intervention. He was dissatisfied.

As a matter of fact, although that was the expression he used in his mind, he knew that it was a gross underestimation of his feelings. He was not simply dissatisfied, he was furious—all the more so because he wasn't sure what it was he was furious about. Was it about the histories? The writers and compilers of histories? The worlds and people that made the histories? Whatever the target of his fury, it didn't really matter. What counted was that his notes were useless, his new knowledge was useless, everything was useless.

He had been at the University now for almost six weeks. He had managed to find a computer outlet at the very start and with it had begun work-without instruction, but using the instincts he had developed over a number of years of mathematical labors. It had been slow and halting, but there was a certain pleasure in gradually determining the routes by which he could get his questions answered.

Then came the week of instruction with Dors, which had taught him several dozen shortcuts and had brought with it two sets of embarrassments. The first set included the sidelong glances he received from the undergraduates, who seemed contemptuously aware of his greater age and who were disposed to frown a bit at Dors's constant use of the honorific "Doctor" in addressing him.

"I don't want them to think," she said, "that you're some backward perpetual student taking remedial history."

"But surely you've established the point. Surely, a mere 'Seldon' is sufficient now."

"No," Dors said and smiled suddenly. "Besides, I like to call you 'Dr. Seldon.' I like the way you look uncomfortable each time."

"You have a peculiar sense of sadistic humor."

"Would you deprive me?"

For some reason, that made him laugh. Surely, the natural reaction would have been to deny sadism. Somehow he found it pleasant that she accepted the ball of conversation and fired it back. The thought led to a natural question. "Do you play tennis here at the University?"

"We have courts, but I don't play."

"Good. I'll teach you. And when I do, I'll call you Professor Venabili. "

"That's what you call me in class anyway."

"You'll be surprised how ridiculous it will sound on the tennis court. "

"I may get to like it."

"In that case, I will try to find what else you might get to like."

"I see you have a peculiar sense of salacious humor."

She had put that ball in that spot deliberately and he said, "Would you deprive me?"

She smiled and later did surprisingly well on the tennis court. "Are you sure you never played tennis?" he said, puffing, after one session.

"Positive," she said.

The other set of embarrassments was more private. He learned the necessary techniques of historical research and then burned-in private at his earlier attempts to make use of the computer's memory. It was simply an entirely different mind-set from that used in mathematics. It was equally logical, he supposed, since it could be used, consistently and without error, to move in whatever direction he wanted to, but it was a substantially different brand of logic from that to which he was accustomed. But with or without instructions, whether he stumbled or moved in swiftly, he simply didn't get any results.

His annoyance made itself felt on the tennis court. Dors quickly reached the stage where it was no longer necessary to lob easy balls at her to give her time to judge direction and distance. That made it easy to forget that she was just a beginner and he expressed his anger in his swing, firing the ball back at her as though it were a laser beam made solid.

She came trotting up to the net and said, "I can understand your wanting to kill me, since it must annoy you to watch me miss the shots so often. How is it, though, that you managed to miss my head by about three centimeters that time? I mean, you didn't even nick me. Can't you do better than that?"

Seldon, horrified, tried to explain, but only managed to sound incoherent.

She said, "Look. I'm not going to face any other returns of yours today, so why don't we shower and then get together for some tea and whatever and you can tell me just what you were trying to kill. If it wasn't my poor head and if you don't get the real victim off your chest, you'll be entirely too dangerous on the other side of the net for me to want to serve as a target."

Over tea he said, "Dors, I've scanned history after history; just scanned, browsed. I haven't had time for deep study yet. Even so, it's become obvious. All the book-films concentrate on the same few events."

"Crucial ones. History-making ones."

"That's just an excuse. They're copying each other. There are twenty-five million worlds out there and there's significant mention of perhaps twenty-five."

Dors said, "You're reading general Galactic histories only. Look up the special histories of some of the minor worlds. On every world, however small, the children are taught local histories before they ever find out there's a great big Galaxy outside. Don't you yourself know more about Helicon, right now, than you know about the rise of Trantor or of the Great Interstellar War?"

"That sort of knowledge is limited too," said Seldon gloomily. "I know Heliconian geography and the stories of its settlement and of the malfeasance and misfeasance of the planet Jennisek-that's our traditional enemy, though our teachers carefully told us that we ought to say 'traditional rival.' But I never learned anything about the contributions of Helicon to general Galactic history."

"Maybe there weren't any."

"Don't be silly. Of course there were. There may not have been great, huge space battles involving Helicon or crucial rebellions or peace treaties. There may not have been some Imperial competitor making his base on Helicon. But there must have been subtle influences. Surely, nothing can happen anywhere without affecting everywhere else. Yet there's nothing I can find' to help me. wee here, Dors. In mathematics, all can be found in the computer; everything we know or have found out in twenty thousand years. In history, that's not so. Historians pick and choose and every one of them picks and chooses the same thing."

"But, Hari," said Dors, "mathematics is an orderly thing of human invention. One thing follows from another. There are definitions and axioms, all of which are known. It is .

. . it is . . . all one piece. History is different. It is the unconscious working out of the deeds and thoughts of quadrillions of human beings. Historians must pick and choose."

"Exactly," said Seldon, "but I must know all of history if I am to work out the laws of psychohistory."

"In that case, you won't ever formulate the laws of psychohistory."

That was yesterday. Now Seldon sat in his chair in his alcove, having spent another day of utter failure, and he could hear Dors's voice saying, "In that case, you won't ever formulate the laws of psychohistory."

It was what he had thought to begin with and if it hadn't been for Hummin's conviction to the contrary and his odd ability to fire Seldon with his own blaze of conviction, Seldon would have continued to think so.

And yet neither could he quite let go. Might there not be some way out? He couldn't think of any.

UPPERSIDE

TRANTOR- . . . It is almost never pictured as a world seen from space. It has long since captured the general mind of humanity as a world of the interior and the image is that of the human hive that existed under the domes. Yet there was an exterior as well and there are holographs that still remain that were taken from space and show varying degrees of detail (see Figures 14 and 15). Note that the surface of the domes, the interface of the vast city and the overlying atmosphere, a surface referred to in its time as "Upperside," is . . .

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21.

Yet the following day found Hari Seldon back in the library. For one thing, there was his promise to Hummin. He had promised to try and he couldn't very well make it a halfhearted process. For another, he owed something to himself too. He resented having to admit failure. Not yet, at least. Not while he could plausibly tell himself he was following up leads.

So he stared at the list of reference book-films he had not yet checked through and tried to decide which of the unappetizing number had the slightest chance of being useful to him. He had about decided that the answer was "none of the above" and saw no way out but to look at samples of each when he was startled by a gentle tap against the alcove wall.

Seldon looked up and found the embarrassed face of Lisung Rands peering at him around the edge of the alcove opening. Seldon knew Randa, had been introduced to him by Dors, and had dined with him (and with others) on several occasions.

Randa, an instructor in psychology, was a little man, short and plump, with a round cheerful face and an almost perpetual smile. He had a sallow complexion and the narrowed eyes so characteristic of people on millions of worlds. Seldon knew that appearance well, for there were many of the great mathematicians who had borne it, and he had frequently seen their holograms. Yet on Helicon he had never seen one of these Easterners. (By tradition they were called that, though no one knew why; and the Easterners themselves were said to resent the term to some degree, but again no one knew why.)

"There's millions of us here on Trantor," Randa had said, smiling with no trace of self-consciousness, when Seldon, on first meeting him, had not been able to repress all trace of startled surprise. "You'll also find lot of Southerners-dark skins, tightly curled hair. Did you ever see one?"

"Not on Helicon," muttered Seldon.

"All Westerners on Helicon, eh? How dull! But it doesn't matter. Takes all kinds." (He left Seldon wondering at the fact that there were Easterners, Southerners, and Westerners, but no Northerners. He had tried finding an answer to why that might be in his reference searches and had not succeeded.)

And now Randa's good-natured face was looking at him with an almost ludicrous look of concern. He said, "Are you all right, Seldon?"

Seldon stared. "Yes, of course. Why shouldn't I be?"

"I'm just going by sounds, my friend. You were screaming."

"Screaming?" Seldon looked at him with offended disbelief.

"Not loud. Like this." Ranch gritted his teeth and emitted a strangled high-pitched sound from the back of his throat. "If I'm wrong, I apologize for this unwarranted intrusion on you. Please forgive me."

Seldon hung his head. "You're forgiven, Lisung. I do make that sound sometimes, I'm told. I assure you it's unconscious. I'm never aware of it."

"Are you aware why you make it?"

"Yes. Frustration. Frustration. "

Randa beckoned Seldon closer and lowered his voice further. "We're disturbing people. Let's come out to the lounge before we're thrown out."

In the lounge, over a pair of mild drinks, Randa said, "May I ask you, as a matter of professional interest, why you are feeling frustration?"

Seldon shrugged. "Why does one usually feel frustration? I'm tackling something in which I am making no progress."

"But you're a mathematician, Hari. Why should anything in the history library frustrate you?"

"What were you doing here?"

"Passing through as part of a shortcut to where I was going when I heard you . . . moaning. Now you see"--and he smiled--"it's no longer a shortcut, but a serious delay--one that I welcome, however."

"I wish I were just passing through the history library, but I'm trying to solve a mathematical problem that requires some knowledge of history and I'm afraid I'm not handling it well."

Randa stared at Seldon with an unusually solemn expression on his face, then he said, "Pardon me, but I must run the risk of offending you now. I've been computerizing you."

"Computerizing me.!" Seldon's eyes widened. He felt distinctly angry.

"I have offended you. But, you know, I had an uncle who was a mathematician. You might even have heard of him: Kiangtow Randa."

Seldon drew in his breath. "Are you a relative of that Randa?"

"Yes. He is my father's older brother and he was quite displeased with me for not following in his footsteps--he has no children of his own. I thought somehow that it might

please him that I had met a mathematician and I wanted to boast of you-if I could-so I checked what information the mathematics library might have."

"I see. And that's what you were really doing there. Well-fm sorry. I don't suppose you could do much boasting."

"You suppose wrong. I was impressed. I couldn't make heads or tails of the subject matter of your papers, but somehow the information seemed to be very favorable. And when I checked the news files, I found you were at the Decennial Convention earlier this year. So . . . what's 'psychohistory,' anyway? Obviously, the first two syllables stir my curiosity."

"I see you got that word out of it."

"Unless I'm totally misled, it seemed to me that you can work out the future course of history."

Seldon nodded wearily, "That, more or less, is what psychohistory is or, rather, what it is intended to be."

"But is it a serious study?" Randa was smiling. "You don't just throw sticks?"

"throw sticks?"

"That's just a reference to a game played by children on my home planet of Hopara. The game is supposed to tell the future and if you're a smart kid, you can make a good thing out of it. Tell a mother that her child will grow up beautiful and marry a rich man and it's good for a piece of cake or a half-credit piece on the spot. She isn't going to wait and see if it comes true; you are rewarded just for saying it."

"I see. No, I don't throw sticks. Psychohistory is just an abstract study. Strictly abstract. It has no practical application at all, except-"

"Now we're getting to it. Exceptions are what are interesting."

"Except that I would like to work out such an application. Perhaps if I knew more about history-"

"Ah, that is why you are reading history?"

"Yes, but it does me no good," said Seldon sadly. "There is too much history and there is too little of it that is told."

"And that's what's frustrating you?"

Seldon nodded.

Randa said, "But, Hari, you've only been here a matter of weeks."

"True, but already I can see--"

"You can't see anything in a few weeks. You may have to spend your whole lifetime making one little advance. It may take many generations of work by many mathematicians to make a real inroad on the problem."

"I know that, Lisung, but that doesn't make me feel better. I want to make some visible progress myself."

"Well, driving yourself to distraction won't help either. If it will make you feel better, I can give you an example of a subject much less complex than human history that people have been working for I don't know how long without making much progress. I

know because a group is working on it right here at the University and one of my good friends is involved. Talk about frustration! You don't know what frustration is!"

"What's the subject?" Seldon felt a small curiosity stirring within him.

"Meteorology."

"Meteorology!" Seldon felt revolted at the anticlimax.

"Don't make faces. Look. Every inhabited world has an atmosphere. Every world has its own atmospheric composition, its own temperature range, its own rotation and revolution rate, its own axial tipping, it's own land-water distribution. We've got twenty five million different problems and no one has succeeded in finding a generalization."

". . . that's because atmospheric behavior easily enters a chaotic phase. Everyone knows that."

"So my friend Jenarr Leggen says. You've met him."

Seldon considered. "Tall fellow? Long nose? Doesn't speak much?"

"That's the one. -And Trantor itself is a bigger puzzle than almost any world.

According to the records, it had a fairly normal weather pattern when it was first settled. Then, as the population grew and urbanization spread, more energy was used and more heat was discharged into the atmosphere. The ice cover contracted, the cloud layer thickened, and the weather got lousier. That encouraged the movement underground and set off a vicious cycle. The worse the weather got, the more eagerly the land was dug into and the domes built and the weather got still worse. Now the planet has become a world of almost incessant cloudiness and frequent rains--or snows when it's cold enough. The only thing is that no one can work it out properly. No one has worked out an analysis that can explain why the weather has deteriorated quire as it has or how one can reasonably predict the details of its day-today changes."

Seldon shrugged. "Is that sort of thing important?"

"To a meteorologist it is. Why can't they be as frustrated over their problems as you are over yours? Don't be a project chauvinist.'."

Seldon remembered the cloudiness and the dank chill on the way to the Emperor's Palace. He said, "So what's being done about it?"

"Well, there's a big project on the matter here at the University end Jenarr Leggen is part of it. They feel that if they can understand the weather change on Trantor, they will learn a great deal about the basic laws of general meteorology. Leggen wants that as much as you want your laws of psychohistory. So he has set up an incredible array of instruments of all kinds Upperside . . . you know, above the domes. It hasn't helped them so far. And if there's so much work being done for many generations on the atmosphere, without results, how can you complain that you haven't gotten anything out of human history in a few weeks?"

Randa was right, Seldon thought, and he himself was being unreasonable and wrong. And yet . . . and yet . . . Hummin would say that this failure in the scientific attack on problems was another sign of the degeneration of the times.

Perhaps he was right, also, except that he was speaking of a general degeneration and average effect. Seldon felt no degeneration of ability and mentality in himself. He

said with some interest then, "You mean that people climb up out of the domes and into the open air above?"

"Yes. Upperside. It's a funny thing, though. Most native Trantorians won't do it. They don't like to go Upperside. The idea gives them vertigo or something. Most of those working on the meteorology project are Outworlders."

Seldon looked out of the window and the lawns and small garden of the University campus, brilliantly lit without shadows or oppressive heat, and said thoughtfully, "I don't know that I can blame Trantorians for liking the comfort of being within, but I should think curiosity would drive come Upperside. It would drive me."

"Do you mean that you would like to see meteorology in action?"

"I think I would. How does one get Upperside?"

"Nothing to it. An elevator rakes you up, a door opens, and there you are. I've been up there. It's . . . novel."

"It would get my mind off psychohistory for a while." Seldon sighed. "I'd welcome that."

"On the other hand," said Randy, "my uncle used to say, 'All knowledge is one,' and he may be right. You may learn something from meteorology that will help you with your psychohistory. Isn't that possible?"

Seldon smiled weakly. "A great many things are possible." And to himself he added: But not practical.

22.

Dors seemed amused. "Meteorology?"

Seldon said, "Yes. There's work scheduled for tomorrow and I'll go up with them."

"Are you tired of history?"

Seldon nodded his head somberly. "Yes, I am. I'll welcome the change. Besides, Randy says it's another problem that's too massive for mathematics to handle and it will do me good to see that my situation isn't unique."

"I hope you're not agoraphobic."

Seldon smiled. "No, I'm not, but I see why you ask. Randy says that Trantorians are frequently agoraphobic and won't go Upperside. I imagine they feel uncomfortable without a protective enclosure. . . "

Dors nodded. "You can see where that would be natural, but there are also many Trantorians who are to be found among the planets of the Galaxy-tourists, administrators, soldiers. And agoraphobia isn't particularly rare in the Outworlds either."

"That may be, Dors, but I'm not agoraphobic. I am curious and I welcome the change, so I'll be joining them tomorrow."

Does hesitated. "I should go up with you, but I have a heavy schedule tomorrow. gill, if you're not agoraphobic, you'll have no trouble and you'll probably enjoy yourself. Oh, and stay close to the meteorologists. I've heard of people getting lost up there."

"I'll be careful. It's a long time since I've gotten truly lost anywhere."

23.

Jenarr Leggen had a dark look about him. It was not so much his complexion, which was fair enough. It was not even his eyebrows, which were thick and dark enough. It was, rather, that those eyebrows were hunched over deep-set eyes and a long and rather prominent nose. He had, as a result, a most unmertry look. His eyes did not smile and when he spoke, which wasn't often, he had a deep, strong voice, surprisingly resonant for his rather thin body.

He said, "You'll need warmer clothing than that, Seldon."

Seldon said, "Oh?" and looked about.

There were two men and two women who were making ready to go up with Leggen and Seldon And, as in Leggen's own case, their rather satiny Trantorian clothing was covered by thick sweaters that, not surprisingly, were brightly colored in bold designs. No two were even faintly alike, of course.

Seldon looked down at himself and said, "Sorry, I didn't know but I don't have any suitable outer garment."

"I can give you one. I think there's a spare here somewhere. -Yes, here it is. A little threadbare, but it's better than nothing."

"Wearing sweaters like these tan make you unpleasantly warm," said Seldon.

"Here they would," said Leggen. "Other conditions exist Upperside. Cold and windy. Too bad I don't have spare leggings and boots for you too. You'll want them later."

They were taking with them a tart of instruments, which they were testing one by one with what Seldon thought was unnecessary slowness.

"Your home planet cold?" asked Leggen.

Seldon said, "Parts of it, of course. The part of Helicon I come from is mild and often rainy."

"Too bad. You won't like the weather Upperside."

"I think I can manage to endure it for the time we'll be up there."

When they were ready, the group filed into an elevator that was marked: OFFICIAL USE ONLY.

"That's because it goes Upperside," said one of the young women, "and people aren't supposed to be up there without good reason."

Seldon had not met the young woman before, but he had heard her addressed as Clowzia. He didn't know if that was a first name, a last name, or a nickname.

The elevator seemed no different from others that Seldon had been on, either here on Trantor or at home in Helicon (barring, of course, the gravitic lift he and Hummin had used), but there was something about knowing that it was going to take him out of the confines of the planet and into emptiness above that made it feel like a spaceship.

Seldon smiled internally. A foolish fantasy.

The elevator quivered slightly, which remind Seldon of Hummin's forebodings of Galactic decay. Leggen, along with the other men and one of the women, seemed frozen and waiting, as though they had suspended thought as well as activity until they could get out, but Clowzia kept glancing at him as though she found him terribly impressive.

Seldon leaned close and whispered to her (he hesitated to disturb the others), "Are we going up very high?"

"High?" she repeated. She spoke in a normal voice, apparently not feeling that the others required silence. She seemed very young and it occurred to Seldon that she was probably an undergraduate. An apprentice, perhaps.

"We're taking a long time. Upperside must be many stories high in the air."

For a moment, she looked puzzled. Then, "Oh no. Not high at all. We started very deep. The University is at a low level. We use a great deal of energy and if we're quire deep, the energy costs are lower."

Leggen said, "All right. We're here. Leis get the equipment out."

The elevator stopped with a small shudder and the wide door slid open rapidly. The temperature dropped at once and Seldon thrust his hands into his pockets and was very glad he had a sweater on. A cold wind stirred his hair and it occurred to him that he would have found a hat useful and, even as he thought that, Leggen pulled something out of a fold in his sweater, snapped it open, and put it on his head. The others did the same. Only Clowzia hesitated. She paused just before she put hers on, then offered it to Seldon.

Seldon shook his head. "I can't take your hat, Clowzia."

"Go ahead. I have long hair and it's pretty thick. Yours is short and a little . . . thin."

Seldon would have liked to deny that firmly and at another time he would have. Now, however, he took the hat and mumbled, "Thank you. If your head gets cold, I'll give it back."

Maybe she wasn't so young. It was her round face, almost a baby face. And now that she had called attention to her hair, he could see that it was a charming russet shade. He had never seen hair quite like that on Helicon.

Outside it was cloudy, as it had been the time he was taken across open country to the Palace. It was considerably colder than it had been then, but he assumed that was because they were six weeks farther into winter. The clouds were thicker than they had been on the earlier occasion and the day was distinctly darker and threatening-or was it just closer to night? Surely, they wouldn't come up to do important work without leaving themselves an ample period of daylight to do it in. Or did they expect to take very little time? He would have liked to have asked, but it occurred to him that they might not like questions at this time. All of them seemed to be in states varying from excitement to anger.

Seldon inspected his surroundings. He was standing on something that he thought might be dull metal from the sound it made when he surreptitiously thumped his foot down on it. It was not bare metal, however. When he walked, he left footprints. The

surface was clearly covered by dust or fine sand or clay. Well, why not? There could scarcely be anyone coming up here to dust the place. He bent down to pinch up some of the matter out of curiosity.

Clowzia had come up to him. She noticed what he was doing and said, with the air of a housewife caught at an embarrassing negligence, "We do sweep hereabouts for the sake of the instruments. It's much worse most places Upperside, but it really doesn't matter. It makes for insulation, you know."

Seldon grunted and continued to look about. There was no chance of understanding the instruments that looked as though they were growing out of the thin soil (if one could call it that). He hadn't the faintest idea of what they were or what they measured.

Leggen was walking toward him. He was picking up his feet and putting them down gingerly and it occurred to Seldon that he was doing so to avoid jarring the instruments. He made a mental note to walk that way himself.

"You! Seldon!"

Seldon didn't quite like the tone of voice. He replied coolly, "Yes, Dr. Leggen?"

"..Well, Dr. Seldon, then." He said it impatiently. "That little fellow Randa told me you are a mathematician."

"That's Wit. . . "

"..A good one?.. "

"I'd like to think so, but it's a hard thing to guarantee."

"And you're interested in intractable problems?"

Seldon said feelingly, "I'm stuck with one."

"I'm stuck with another. You're free to look about. If you have any questions, our intern, Clowzia, will help out. You might be able to help us."

"I would be delighted to, but I know nothing about meteorology. . . "

"That's all right, Seldon. I just want you to get a feel for this thing and then I'd like to discuss my mathematics, such as it is."

"I'm at your service."

Leggen turned away, his long scowling face looking grim. Then he turned back.

"If you get cold-too cold-the elevator door is open. You just step in and touch the spot marked; UNIVERSITY BASE. It will take you down and the elevator will then return to us automatically. Clowzia will show you-if you forget."

"I won't forget."

This time he did leave and Seldon looked after him, feeling the cold wind knife through his sweater. Clowzia came back over to him, her face slightly reddened by that wind.

Seldon said, "Dr. Leggen seems annoyed. Or is that just his ordinary outlook on life?"

She giggled. "He does look annoyed most of the time, but right now he really is."

Seldon said very naturally, "Why?"

Clowzia looked over her shoulder, her long hair swirling. Then she said, "I'm not supposed to know, but I do just the same. Dr. Leggen had it all figured out that today, just at this time, there was going to be a break in the clouds and he'd been planning to make special measurements in sunlight. Only . . . well, look at the weather."

Seldon nodded.

"We have holovision receivers up here, so he knew it was cloudy worse than usual- and I guess he was hoping there would be something wrong with the instruments so that it would be their fault and not that of his theory. So far, though, they haven't found anything out of the way."

"And that's why he looks so unhappy."

"Well, he never looks happy. "

Seldon looked about, squinting. Despite the clouds, the light was harsh. He became aware that the surface under his feet was not quite horizontal. He was standing on a shallow dome and as he looked outward there were other domes in all directions, with different widths and heights.

"Upperside seems to be irregular," he said.

"Mostly, I think. That 's the way it worked out."

"Any reason for it?"

"Not really. The way I've heard it explained-I looked around and asked, just as you did, you know-was that originally the people on Trantor domed in places, shopping malls, sports arenas, things like that, then whole towns, so that (here were lots of domes here and there, with different heights and different widths. When they all came together, it was all uneven, but by that time, people decided that's the way it ought to be."

"You mean that something quite accidental came to be viewed as a tradition?"

" I suppose so-if you want to put it that way."

(If something quite accidental can easily become viewed as a tradition and he made unbreakable or nearly so, thought Seldon, would that be a law of psychohistory? It sounded trivial, but how many other laws, equally trivial, might there be? A million? A billion? Were there a relatively few general laws from which these trivial ones could be derived as corollaries? How could he say? For a while, lost in thought, he almost forgot the biting wind.)

Clowzia was aware of that wind, however, for she shuddered and said, "It's very nasty. It's much better under the dome."

"Are you a Trantorian?" asked Seldon.

"That's right."

Seldon remembered Ranch's dismissal of Trantorians as agoraphobic and said, "Do you mind being up here?"

"I hate it," said Clowzia, "but I want my degree and my specialty and status and Dr. Leggen says I can't get it without some field work. So here I am, hating it, especially when it's so cold. When it's this cold, by the way, you wouldn't dream that vegetation actually grows on these domes, would you?"

"It does?, " He looked at Clowzia sharply, suspecting some sort of practical joke designed to make him look foolish. She looked totally innocent, but how much of that was real and how much was just her baby face?

"Oh sure. Even here, when it's warmer. You notice the soil here? We keep it swept away because of our work, as I said, but in other places it accumulates here and there and is especially deep in the low places where the domes meet. Plants grow in it."

"But where does the soil come from?"

"When the dome covered just part of the planet, the wind deposited soil on them, little by little. Then, when Trantor was all covered and the living levels were dug deeper and deeper, some of the material dug up, if suitable, would be spread over the top."

"Surely, it would break down the domes."

"Oh no. The domes are very strong and they're supported almost everywhere. The idea was, according to a book-film I viewed, that they were going to grow crops Upperside, but it turned out to be much more practical to do it inside the dome. Yeast and algae could be cultivated within the domes too, taking the pressure off the usual crops, so it was decided to let Upperside go wild. There are animals on Upperside too- butterflies, bees, mice, rabbits. Lots of them."

"Won't the plant roots damage the domes?"

"In thousands of years they haven't. The domes are treated so that they repel the roots. Most of the growth is grass, but there are trees too. You'd be able to see for yourself if this were the warm season or if we were farther south or if you were up in a spaceship." She looked at him with a sidewise flick of her eyes, "Did you see Trantor when you were coming down from space?"

"No, Clowzia, I must confess I didn't. The hypership was never well placed for viewing. Have you ever seen Trantor from space?"

She smiled weakly. "I've never been in space."

Seldon looked about. Gray everywhere. "I can't make myself believe it," he said. "About vegetation Upperside, I mean."

"It's true, though. I've heard people say-Otherworlders, like yourself, who did see Trantor from space-that the planet looks green, like a lawn, because it's mostly grass and underbrush. There are trees too, actually. There's a copse not very far from here. I've seen it. They're evergreens and they're up to six meters high."

"Where?"

"You can't see it from here. It's on the other side of a dome. It's-" The call came out thinly. (Seldon realized they had been walking while they had been talking and had moved away from the immediate vicinity of the others.)

"Clowzia. Get back here. We need you."

Clowzia said, "Uh-oh. Coming. -Sorry, Dr. Seldon, I have to go." She ran off, managing to step lightly despite her lined boors.

Had she been playing with him? Had she been filling the gullible foreigner with a mess of lies for amusement's sake? Such things had been known to happen on every

world and in every time. An air of transparent honesty was no guide either; in fact, successful Wetellers would deliberately cultivate just such an air.

So could there really be six-meter trees Upperside? Without thinking much about it, he moved in the direction of the highest dome on the horizon. He swung his arms in an attempt to warm himself. And his feet were getting cold. Clowzia hadn't pointed. She might have, to give him a hint of the direction of the trees, but she didn't. Why didn't she? To be sure, she had been called away.

The domes were broad rather than high, which was a good thing, since otherwise the going would have been considerably more difficult. On the other hand, the gentle grade meant trudging a distance before he could top a dome and look down the other side.

Eventually, he could see the other side of the dome he had climbed. He looked back to make sure he could still see the meteorologists and their instruments. They were a good way off, in a distant valley, but he could see them clearly enough. Good. He saw no copse, no trees, but there was a depression that snaked about between two domes. Along each side of that crease, the soil was thicker and there were occasional green smears of what might be moss. If he followed the crease and if it got low enough and the soil was thick enough, there might be trees.

He looked back, trying to fix landmarks in his mind, but there were just the rise and fall of domes. It made him hesitate and Dors's warning against his being lost, which had seemed a rather unnecessary piece of advice then, made more sense now. Still, it seemed clear to him that the crease was a kind of road. If he followed it for some distance, he only had to turn about and follow it back to return to this spot.

He strode off purposefully, following the rounded crease downward. There was a soft rumbling noise above, but he didn't give it any thought. He had made up his mind that he wanted to see trees and that was all that occupied him at the moment.

The moss grew thicker and spread out like a carpet and here and there grassy tufts had sprung up. Despite the desolation Upperside, the moss was bright green and it occurred to Seldon that on a cloudy, overcast planet there was likely to be considerable rain. The crease continued to curve and there, just above another dome, was a dark smudge against the gray sky and he knew he had found the trees.

Then, as though his mind, having been liberated by the sight of those trees, could turn to other things, Seldon took note of the rumble he had heard before and had, without thinking, dismissed as the sound of machinery. Now he considered that possibility: Was it, indeed, the sound of machinery?

Why not? He was standing on one of the myriad domes that covered hundreds of millions of square kilometers of the worldcity. There must be machinery of all kinds hidden under those domes-ventilation motors, for one thing. Maybe it could be heard, where and when all the other sounds of the world-city were absent. Except that it did not seem to come from the ground. He looked up at the dreary featureless sky. Nothing. He continued to scan the sky, vertical creases appearing between his eyes and then, far off It

was a small dark spot, showing up against the gray. And whatever it was it seemed to be moving about as though getting its bearings before it was obscured by the clouds again.

Then, without knowing why, he thought, They're after me. And almost before he could work out a line of action, he had taken one. He ran desperately along the crease toward the trees and then, to reach them more quickly, he turned left and hurtled up and over a low dome, treading through brown and dying fernlike overgrowth, including thorny sprigs with bright red berries.

24.

Seldon panted, facing a tree, holding it closely, embracing it. He watched for the flying object to make its appearance again so that he could back about the tree and hide on the far side, like a squirrel.

The tree was cold, its bark was rough, it gave no comfort-but it offered cover. Of course, that might be insufficient, if he was being searched for with a heat-seeker, but, on the other hand, the cold trunk of a tree might blur even that.

Below him was hard-pecked soil. Even in this moment of hiding, of attempting to see his pursuer while remaining unseen, he could not help wondering how thick the soil might be, how long it had taken to accumulate, many domes in the warmer areas of Trantor tarried forests on their back, and whether the trees were always confined to the creases between domes, leaving the higher regions to moss, grass, and underbrush.

He saw it again. It was not a hypership, nor even an ordinary air jet. It was a jet-down. He could see the faint glow of the ion trails coming out at the vertices of a hexagon, neutralizing the gravitational pull and allowing the wings to keep it aloft like a large soaring bird. It was a vehicle that could hover and explore a planetary terrain.

It was only the clouds that had saved him. Even if they were using heat-seekers, that would only indicate there were people below. The jet down would have made a tentative dive below the banked ceiling before it could hope to know how many human beings there were and whether any of them might be the particular person the parties aboard were seeking.

The jet-down was closer now, but it couldn't hide from him either. The rumble of the engine gave it away and they couldn't run that off, not as long as they wished to continue their search. Seldon knew the jetdowns, for on Helicon or on any undomed world with skies that cleared now and then, they were common, with many in private hands.

Of what possible use would jet-downs be on Trantor, with all the human life of the world under domes, with low cloud ceilings all but perpetual-except for a few government vehicles designed for just this purpose, that of picking up a wanted person who had been lured above the domes?

Why not? Government forces could not enter the grounds of the University, but perhaps Seldon was no longer on the grounds. He was on top of the domes which might

be outside the jurisdiction of any local government. An Imperial vehicle might have every right to land on any part of the dome and question or remove any person found upon it. Hummin had not warned him of this, but perhaps he had merely not thought of doing so.

The jet-down was even closer now, nosing about like a blind beast sniffing out its prey. Would it occur to them to search this group of trees? Would they land and send out an armed soldier or two to beat through the copse?

And if so, what could he do? He was unarmed and all his quick twist agility would be useless against the agonizing pain of a neuronically whiplashed.

It was not attempting to land. Either they missed the significance of the trees.

Or--

A new thought suddenly hit him. What if this wasn't a pursuit vessel at all? What if it was part of the meteorological testing? Surely, meteorologists would want to test the upper reaches of the atmosphere. Was he a fool to hide from it?

The sky was getting darker. The clouds were getting thicker or, much more likely, night was falling.

And it was getting colder and would get colder still. Was he going to stay out here freezing because a perfectly harmless jetdown had made an appearance and had activated a sense of paranoia that he had never felt before? He had a strong impulse to leave the copse and get back to the meteorological station.

After all, how would the man Hummin feared so much Demerzel know that Seldon would, at this particular time, be Upperside and ready to be taken? For a moment, that seemed conclusive and, shivering with the cold, he moved out from behind the tree.

And then he scurried back as the vessel reappeared even closer than before. He hadn't seen it do anything that would seem to be meteorological. It did nothing that might be considered sampling, measuring, or testing. Would he see such things if they took place? He did not know the precise sort of instruments the jet-down carried or how they worked. If they were doing meteorological work, he might not be able to tell. -Still, could he take the chance of coming into the open?

After all, what if Demerzel did know of his presence Upperside, simply because an agent of his, working in the University, knew about it and had reported the matter. Listing Randa, that cheerful, smiling little Easterner, had suggested he go Upperside. He had suggested it quite forcefully and the subject had not arisen naturally out of the conversation; at least, not naturally enough. Was it possible that he was a government agent and had alerted Demerzel somehow?

Then there was Leggen, who had given him the sweater. The sweater was useful, but why hadn't Leggen told him he would need one earlier so he could get his own? Was there something special about the one he was wearing? It was uniformly purple, while all the others' indulged in the Trantorian fashion of bright patterns. Anyone looking down from a height would see a moving dull blotch in among others that were bright and know immediately whom they wanted.

And Clowzia? She was supposedly Upperside to learn meteorology and help the meteorologists. How was it possible that she could come to him, talk to him at ease, and

quietly walk him away from the others and isolate him so that he could easily be picked up? For that matter, what about Dors Venabili? She knew he was going Upperside. She did not stop it. She might have gone with him, but she was conveniently busy.

It was a conspiracy. Surely, it was a conspiracy.

He had convinced himself now and there was no further thought of getting out from the shelter of the trees. (His feet felt like lumps of ice and stamping them against the ground seemed to do no good.) Would the jet-down never leave?

And even as he thought that, the pitch of the engine's rumble heightened and the jet-down rose into the clouds and faded away.

Seldon listened eagerly, alert to the smallest sound, making sure it was finally gone. And then, even after he was sure it was gone, he wondered if that was just a device to flush him out of hiding. He remained where he was while the minutes slowly crawled on and night continued to fall.

And finally, when he felt that the true alternative to taking the chance of coming out in the open was that of freezing into insensibility, he stepped out and moved cautiously beyond the shelter of the trees.

It was dusky twilight, after all. They couldn't detect him except by a hear-seeker, but, if so, he would hear the jet-down return. He waited just beyond the trees, counting to himself, ready to hide in the copse again at the smallest sound-though what good that would do him once he was spotted, he couldn't imagine.

Seldon looked about. If he could find the meteorologists, they would surely have artificial light, but except for that, there would be nothing.

He could still just make out his surroundings, but in a matter of a quarter of an hour, half an hour at the outside, he would not. With no lights and a cloudy sky above, it would be dark-completely dark.

Desperate at the prospect of being enveloped in total darkness, Seldon realized that he would have to find his way back to the crease that had brought him there as quickly as possible and retrace his steps. Folding his arms tightly around himself for warmth, he set off in what he thought was the direction of the crease between the domes.

There might, of course, be more than one crease leading away from the copse, but he dimly made out some of the sprigs of berries he had seen coming in, which now looked almost black rather than bright red. He could not delay. He had to assume he was right. He moved up the crease as fast as he might, guided by failing sight and by the vegetation underfoot.

But he couldn't stay in the crease forever. He had come over what had seemed to him to be the tallest dome in sight and had found a crease that cut at right angles across his line of approach. By his reckoning, he should now turn right, then sharp left, and that would put him on the path toward the meteorologists' dome.

Seldon made the left turn and, lifting his head, he could just make out the curve of a dome against the fractionally lighter sky. That had to be it! Or was that only wishful thinking?

He had no choice but to assume it wasn't. Keeping his eye on the peak so that he could move in a reasonably straight line, he headed for it as quickly as he could. As he got closer, he could make out the line of dome against sky with less and less certainty as it loomed larger and larger. Soon, if he was correct, he would be going up a gentle slope and when that slope became level he would be able to look down the other side and see the lights of the meteorologists.

In the inky dark, he could not tell what lay in his path. Wishing there were at least a few sorts to shed some light, he wondered if this was how it felt to be blind. He waved his arms before him as if they were antennae.

It was growing colder by the minute and he paused occasionally to blow on his hands and hold them under his armpits. He wished earnestly he could do the same for his feet. By now, he thought, if it started to precipitate, it would be snow-or, worse yet, sleet.

On . . . on. There was nothing else to do.

Eventually, it seemed to him that he was moving downward. That was either wishful thinking or he had topped the dome.

He stopped. If he had topped the dome, he should be able to see the artificial light of the meteorological station. He would see the lights carried by the meteorologists themselves, sparkling or dancing like fireflies.

Seldon closed his eyes as though to accustom them to dark and then try again, but that was a foolish effort. It was no darker with his eyes closed than with them open and when he opened them it was no lighter than when he had had them closed.

Possibly Leggen and the others were gone, had taken their lights with them and had turned off any lights on the instruments. Or possibly Seldon had climbed the wrong dome. Or he had followed a curved path along the dome so that he was now facing in the wrong direction. Or he had followed the wrong crease and had moved away from the copse in the wrong direction altogether.

What should he do?

If he was facing the wrong direction, there was a chance that light would be visible right or left-and it wasn't. If he had followed the wrong crease, there was no possible way he could return to the copse and locate a different crease.

His only chance lay in the assumption that he was facing the right direction and that the meteorological station was more or less directly ahead of him, but that the meteorologists had gone and had left it in darkness.

Move forward, then. The chances of success might be small, but it was the only chance he had.

He estimated that it had taken him half an hour to move from the meteorological station to the top of the dome, having gone partway with Clowzia and sauntering with her rather than striding. He was moving at little better than a saunter now in the daunting darkness.

Seldon continued to slog forward. It would have been nice to know the time and he had a timeband, of course, but in the dark He stopped. He wore a Trantorian timeband, which gave Galactic Standard time (as all time bands did) and which also gave

Trantorian local time. Timebands were usually visible in the dark, phosphorescing so that one could tell time in the quiet dark of a bedchamber. A Heliconian timeband certainly would; why not a Trantorian one?

He looked at his timeband with reluctant apprehension and touched the contact that would draw upon the power source for light. The timeband gleamed feebly and told him the time was 1847. For it to be nighttime already, Seldon knew that it must be the winter season. -How far past the solstice was it? What was the degree of axial tipping? How long was the year? How far from the equator was he at this moment? There was no hint of an answer to any of these things, but what counted was that the spark of light was visible.

He was not blind! Somehow the feeble glow of his timeband gave him renewed hope.

His spirits rose. He would move on in the direction he was going. He would move for half an hour. If he encountered nothing, he would move on five minutes more-no further-just five minutes. If he still encountered nothing, he would stop and think. That, however, would be thirty-five minutes from now. Till then, he would concentrate only on walking and on willing himself to feel warmer (He wiggled his toes, vigorously. He could still feel them.)

Seldon trudged onward and the half hour passed. He paused, then hesitantly, he moved on for five more minutes.

Now he had to decide. There was nothing. He might be nowhere, far removed from any opening into the dome. He might, on the other hand, be standing three meters to the left-or right-or short-of the meteorological station. He might be two arms' lengths from the opening into the dome, which would not, however, be open.

Now what?

Was there any point in shouting? He was enveloped by utter silence but for the whistling of the wind. If there were birds, beasts, or insects in among the vegetation on the domes, they were not here during this season or at this time of night or at this particular place. The wind continued to chill him.

Perhaps he should have been shouting all due way. The sound might have carried a good distance in the cold air. But would there have been anyone to hear him?

Would they hear him inside the dome? Were there instruments to detect sound or movement from above? Might there not be sentinels just inside?

That seemed ridiculous. They would have heard his footsteps, wouldn't they?

Still- He called out. "Help! Help! Can someone hear me?"

His cry was strangled, half-embarrassed. It seemed silly shouting into vast black nothingness.

But then, he felt it was even sillier to hesitate in such a situation as this.

Panic was welling up in him. He took in a deep, cold breath and screamed for as long as he could. Another breath and another scream, changing pitch. And another.

Seldon paused, breathless, turning his head every which way, even though there was nothing to see. He could not even detect an echo. There was nothing left to do but wait for the dawn. But how long was the night at this season of the year?

And how cold would it get?

He felt a tiny cold touch sting his face. After a while, another.

It was sleeting invisibly in the pitch blackness. And there was no way to find shelter.

He thought: It would have been better if that jet-down had seen me and picked me up. I would be a prisoner at this moment, perhaps, but I'd be warm and comfortable, at least.

Or, if Hummin had never interfered, I might have been back in Helicon long ago.

Under surveillance, but warm and comfortable. Right now that was all he wanted-to be warm and comfortable.

But at the moment he could only wait. He huddled down, knowing that however long the night, he dared not sleep. He slipped off his shoes and rubbed his icy feet.

Quickly, he put his shoes back on.

He knew he would have to repeat this, as well as rubbing his hands and ears all night long to keep his circulation flowing. But most important to remember was that he must not let himself fall asleep. That would mean certain death.

And, having carefully thought all this out, his eyes closed and he nodded off to sleep with the sleet coming down.

LEGGEN, JENARR- . . . His contributions to meteorology, however, although considerable, pale before what has ever since been known as the Leggen Controversy. That his actions helped to place Hari Seldon in jeopardy is undisputable, but argument rages-and has always raged--as to whether those actions were the result of unintentional circumstance or part of a deliberate conspiracy. Passions have been raised on both sides and even the most elaborate studies have come to no definite conclusions. Nevertheless, the suspicions that were raised helped poison Leggen's career and private life in the years that followed . . .

ENCYCLOPEDIA GALACTICA

25.

It was not quite the end of daylight when Dors Venabili sought out Jenarr Leggen. He answered her rather anxious greeting with a grunt and a brief nod.

"Well," she said a trifle impatiently. "How was he?"

Leggen, who was entering data into his computer, said, "How was who?"

"My library student Hari. Dr. Hari Seldon. He went up with you. Was he any help to you?"

Leggen removed his hands from the keys of his computer and swivelled about.

"That Helicomman fellow? He was of no use at all. Showed no interest whatever. He kept looking at the scenery when there was no scenery to look at. A real oddball. Why did you want to send him up?"

"It wasn't my idea. He wanted to. I can't understand it. He was very interested. - Where is he now?"

Leggen shrugged. "How would I know? Somewhere around."

"Where did he go after he came down with you? Did he say?"

"He didn't come down with us. I told you he wasn't interested."

"Then when did he come down?"

"I don't know. I wasn't watching him. I had an enormous amount of work to do. There must have been a windstorm and some sort of downpour about two days ago and neither was expected. Nothing our instruments showed offered a good explanation for it or for the fact that some sunshine we were expecting today didn't appear. Now I'm trying to make sense of it and you're bothering me."

"You mean you didn't see him go down?"

"Look. He wasn't on my mind. The idiot wasn't correctly dressed and I could see that inside of half an hour he wasn't going to be able to take the cold. I gave him a

sweater, but that wasn't going to help much for his legs and feet. So I left the elevator open for him and I told him how to use it and explained that it would take him down and then return automatically. It was all very simple and I'm sure he did get cold and he did go down and the elevator did come back and then eventually we all went down."

"But you don't know exactly when he went down?"

"No, I don't. I told you. I was busy. He certainly wasn't up there when we left, though, and by that time twilight was coming on and it looked as though it might sleet. So he had to have gone down."

"Did anyone else see him go down?"

"I don't know. Clowzia may have. She was with him for a while. Why don't you ask her?"

Dors found Clowzia in her quarters, just emerging from a hot shower.

"It was cold up there," she said.

Dors said, "Were you with Hari Seldon Upperside?"

Clowzia said, eyebrows lifting, "Yes, for a while. He wanted to wander about and ask questions about the vegetation up there. He's a sharp fellow, Dors. Everything seemed to interest him, so I told him what I could till Leggen called me back. He was in one of his knock-your-head-off tempers. The weather wasn't working and he-

Dors interrupted. "Then you didn't see Hari go down in the elevator?"

"I didn't see him at all after Leggen called me over. -But he has to be down here. He wasn't up there when we left."

"But I can't find him anywhere."

Clowzia looked perturbed. "Really?-But he's got to be somewhere down here."

"No, he doesn't have to be somewhere down here," said Dors, her anxiety growing.

"What if he's still up there?"

"That's impossible. He wasn't. Naturally, we looked about for him before we left. Leggen had shown him how to go down. He wasn't properly dressed and it was rotten weather. Leggen told him if he got cold not to wait for us. He was getting cold. I know! So what else could he do but go down?"

"But no one saw him go down. -Did anything go wrong with him up there?"

"Nothing. Not while I was with him. He was perfectly fine except that he had to be cold, of course."

Dors, by now quite unsettled, said, "Since no one saw him go down, he might still be up there. Shouldn't we go up and look?"

Clowzia said nervously, "I told you we looked around before we went down. It was still quite light and he was nowhere in sight."

"Let's look anyway."

"But I can't take you up there. I'm just an intern and I don't have the combination for the Upperside dome opening. You'll have to ask Dr. Leggen."

Dors Venabili knew that Leggen would not willingly go Upperside now. He would have to be forced.

First, she checked the library and the dining areas again. Then she called Seldon's room. Finally, she went up there and signaled at the door. When Seldon did not respond, she had the floor manager open it. He wasn't there. She questioned some of those who, over the last few weeks, had come to know him. No one had seen him.

Well, then, she would make Leggen take her Upperside. By now, though, it was night. He would object strenuously and how long could she spend arguing if Hari Seldon was trapped up there on a freezing night with sleet turning to snow?

A thought occurred to her and she rushed to the small University computer, which kept track of the doings of the students, faculty, and service staff.

Her fingers flew over the keys and she soon had what she wanted.

There were three of them in another part of the campus. She signed out for a small glidecart to take her over and found the domicile she was looking for.

Surely, one of them would be available-or findable.

Fortune was with her. The first door at which she signaled was answered by a query light. She punched in her identification number, which included her department affiliation. The door opened and a plump middle-aged man stared out at her. He had obviously been washing up before dinner. His dark blond hair was askew and he was not wearing any upper garment.

He said, "Sorry. You catch me at a disadvantage. What can I do for you, Dr. Venabili?"

She said a bit breathlessly, "You're Rogen Benastra, the Chief Seismologist, aren't you?"

"Yes."

"This is an emergency. I must see the seismological records for Upperside for the last few hours."

Benastra stared at her. "Why? Nothing's happened. I'd know if it had. The seismograph would inform us."

"I'm not talking about a meteoric impact."

"Neither am I. We don't need a seismograph for that. I'm talking about gravel, pinpoint fractures. Nothing today."

"Not that either. Please. Take me to the seismograph and read it for me. This is life or death."

"I have a dinner appointment-"

"I said life or death and I mean it."

Benastra said, "I don't see-" but he faded out under Dors's glare. He wiped his face, left quick word on his message relay, and struggled into a shirt.

They half-ran (under Dors's pitiless urging) to the small squat Seismology Building. Dors, who knew nothing about seismology, said, "Down? We're going down?"

"Below the inhabited levels. Of course. The seismograph has to be fixed to bedrock and be removed from the constant clamor and vibration of the city levels."

"But how can you tell what's happening Upperside from down here?"

"The seismograph is wired to a set of pressure transducers located within the thickness of the dome. The impact of a speck of grit will send the indicator skittering off the screed. We can detect the flattening effect on the dome of a high wind. We can-"

"Yes, yes," said Dors impatiently. She was not here for a lecture on the virtues and refinements of the instruments. "Can you detect human footsteps?"

"..Human footsteps?" Benastra looked confused. "That's not likely Upperside."

"Of course it's likely. There were a group of meteorologists Upperside this afternoon."

"Oh. Well, footsteps would scarcely be noticeable."

"It would be noticeable if you looked hard enough and that's what I want you to do."

Benastra might have resented the firm note of command in her voice, but, if so, he said nothing. He touched a contact and the computer screen jumped to life.

At the extreme right center, there was a fat spot of light, from which a thin horizontal line stretched to the left limit of the screen. There was a tiny wriggle to it, a random non-repetitive seder of little hiccups and these moved steadily leftward. It was almost hypnotic in its effect on Dors.

Benastra said, "..That's as quiet as it can possibly be. Anything you see is the result of changing air pressure above, raindrops maybe, the distant whirr of machinery. There's nothing up there."

"All right, but what about a few hours ago? Check on the records at fifteen hundred today, for instance. Surely, you have some recordings."

Benastra gave the computer its necessary instructions and for a second or two there was wild chaos on the screen. Then it settled down and again the horizontal line appeared.

"I'll sensitize it to maximum," muttered Benastra. There were now pronounced hiccups and as they staggered leftward they changed in pattern markedly.

"What's that?" said Dors. "Tell me."

"Since you say there were people up there, Venabili, I would guess they were footsteps-the shifting of weight, the impact of shoes. I don't know that I would have guessed it if I hadn't known about the people up there. Its what we call a benign vibration, not associated with anything we know to be dangerous."

"..Can you tell how many people are present?"

"Certainly not by eye. You see, we're getting a resultant of all the impacts."

"..You say 'not by eye.' Can the resultant be analyzed into its components by the computer?"

"I doubt it. These are minimal effects and you have to allow for the inevitable noise. The results would be untrustworthy."

"Well then. Move the time forward till the footstep indications stop. Can you make it fast-forward, so to speak?"

"If I do-the kind of fast-forward you're speaking of-then it will all just blur into a straight line with a slight haze above and below. What I can do is move it forward in fifteen-minute stages and study it quickly before moving on."

"Good. Do that!"

Both watched the screen until Benastra said, "There's nothing there now. See?" There was again a fine with nothing but tiny uneven hiccups of noise.

"..When did the footsteps stop?"

"Two hours ago. A trifle more."

"And when they stopped were there fewer than there were earlier?"

Benastra looked mildly outraged. "I couldn't tell. I don't think the finest analysis could make a certain decision."

Dors pressed her lips together. Then she said, "Are you testing a transducer-is that what you called it-near the meteorological outlet?..

"Yes, that's where the instruments are and that's where the meteorologists would have been." Then, unbelievably, "Do you want the to try others in the vicinity? One at a time?"

"No. Stay on this one. But keep on going forward at fifteen minute intervals. One person may have been left behind and may have made his way back to the instruments."

Benastra shook his head and muttered something under his breath. The screen shifted again and Dors said sharply, "What's that?" She was pointing.

"I don't know. Noise."

"..No. Its periodic. Could it be a single person's footsteps?"

"Sure, but it could be a dozen other things too."

"It's coming along at about the time of footsteps, isn't it?" Then, after a while, she said, "Push it forward a little."

He did and when the screen settled down she said, "Aren't those unevennesses getting bigger?"

"Possibly. We can measure them."

"We don't have to. You can see they're getting bigger. The footsteps are approaching the transducer. Go forward again. See when they stop."

After a while Benastra said, "They stopped twenty or twenty-five minutes ago."

Then cautiously, "Whatever they are."

"They're footsteps," said Dors with mountain-moving conviction. "There's a man up there and while you and I have been fooling around here, he's collapsed and he's going to freeze and die. Now don't say, 'Whatever they are!' Just call Meteorology and get me Jenarr Leggen. Life or death, I tell you. Say so!"

Benastra, lips quivering, had passed the stage where he could possibly resist anything this strange and passionate woman demanded. It took no more than three minutes to get Leggen's hologram on the message platform. He had been pulled away

from his dinner table. There was a napkin in his hand and a suspicious greasiness under his lower lip.

His long face was set in a fearful scowl. "'Life or death?' What is this? Who are you?" Then his eye caught Dors, who had moved closer to Benastra so that her image would be seen on Jenarr's screen. He said, "You again. This is simple harassment."

Dors said, "It is not. I have consulted Rogen Benastra, who is Chief Seismologist at the University. After you and your party had left Upperside, the seismograph shows clear footsteps of one person still there. It's my student Hari Seldon, who went up there in your care and who is now, quite certainly, lying in a collapsed stupor and may not live long.

"You will, therefore, take me up there right now with whatever equipment may be necessary. If you do not do so immediately, I shall proceed to University security-to the President himself, if necessary. One way or another I'll get up there and if anything has happened to Hari because you delay one minute, I will see to it that you are hauled in for negligence, incompetence-whatever I can make stick-and will have you lose all status and be thrown out of academic life. And if he's dead, of course, that's manslaughter by negligence. Or worse, since I've now warned you he's dying."

Jenarr, furious, turned to Benastra. "Did you detect-"

But Dors cut in. "He told me what he detected and I've told you. I do not intend to allow you to bulldoze him into confusion. Are you coming? Now?"

"..Has it occurred to you that you may be mistaken?.. " said Jenarr, thin-lipped.

"Do you know what I can do to you if this is a mischievous false alarm? Loss of status works both ways."

"Murder doesn't," said Dors. "I'm ready to chance a trial for malicious mischief. Are you ready to chance a trial for murder?"

Jenarr reddened, perhaps more at the necessity of giving in than at the threat.

"I'll come, but I'll have no mercy on you, young woman, if your student eventually turns out to have been safe within the dome these past three hours."

27.

The three went up the elevator in an inimical silence. Leggen had eaten only part of his dinner and had left his wife at the dining area without adequate explanation. Benastra had eaten no dinner at all and had possibly disappointed some woman companion, also without adequate explanation. Dors Venabili had not eaten either and she seemed the most tense and unhappy of the three. She carried a thermal blanket and two photonic founts.

When they reached the entrance to Upperside, Leggen, jaw muscles tightening, entered his identification number and the door opened. A cold wind rushed at them and Benastra grunted. None of the three was adequately dressed, but the two men had no intention of remaining up there long.

Dors said tightly, "It's snowing."

Leggen said, "It's wet snow. The temperature's just about at the freezing point. It's not a killing frost."

"It depends on how long one remains in it, doesn't it?" said Dors. "And being soaked in melting snow won't help."

Leggen grunted. "Well, where is he?" He stared resentfully out into utter blackness, made even worse by the light from the entrance behind him.

Dors said, "Here, Dr. Benastra, hold this blanket for me. And you, Dr. Leggen, close the door behind you without locking it."

"There's no automatic lock on it. Do you think we're foolish?"

"Perhaps not, but you can lock it from the inside and leave anyone outside unable to get into the dome."

"If someone's outside, point him out. Show him to me," said Leggen.

"He could be anywhere." Dors lifted her arms with a photonic fount circling each wrist.

"We can't look everywhere," mumbled Benastra miserably.

The founts blazed into light, spraying in every direction. The snowflakes glittered like a vast mob of fireflies, making it even more difficult to see.

"The footsteps were getting steadily louder," said Dors. "Fie had to be approaching the transducer. Where would it be located?"

"I haven't any idea," snapped Leggen. "That's outside my field and my responsibility."

"Dr. Benastra?"

Benastra's reply was hesitant. "I don't really know. To tell you the truth, I've never been up here before. It was installed before my time. The computer knows, but we never thought to ask it that. -I'm cold and I don't see what use I am up here."

"You'll have to stay up here for a while," said Dom firmly. "Follow me. I'm going to circle the entrance in an outward spiral."

"We can't see much through the snow," said Leggen.

"I know that. If it wasn't snowing, we'd have seen him by now. I'm sure of it. As it is, it may take a few minutes. We can stand that." She was by no means as confident as her words made it appear.

She began to walk, swinging her arms, playing the light over as large a field as she could, straining her eyes for a dark blotch against the snow.

And, as it happened, it was Benastra who first said, "What's that?" and pointed.

Dom overlapped the two founts, making a bright cone of light in the indicated direction. She ran toward it, as did the other two.

They had found him, huddled and wet, about ten meters from the door, five from the nearest meteorological device. Dors felt for his heartbeat, but it was not necessary for, responding to her touch, Seldon stirred and whimpered.

"Give me the blanket, Dr. Benastra," said Dors in a voice that was faint with relief. She flapped it open and spread it out in the snow. "Lift him onto it carefully and I'll wrap him. Then we'll carry him down."

In the elevator, vapors were rising from the wrapped Seldon as the blanket warmed to blood temperature.

Dom said, "Once we have him in his room, Dr. Leggen, you get a doctor-a good one-and see that he comes at once. If Dr. Seldon gets through this without harm, I won't say anything, but only if he does. Remember-"

"You needn't lecture me," said Leggen coldly. "I regret this and I will do what I can, but my only fault was in allowing this man to come Upperside in the first place."

The blanket stirred and a low, weak voice made itself heard.

Benastra started, for Seldon's head was cradled in the crook of his elbow. He said, "He's trying to say something."

Dors said, "I know. He said, 'What's going on?' "

She couldn't help but laugh just a little. It seemed such a normal thing to say.

28.

The doctor was delighted.

"I've never seen a case of exposure," he explained. "One doesn't get exposed on Trantor."

"That may be," said Dors coldly, "and I'm happy you have the chance to experience this novelty, but does it mean that you do not know how to treat Dr. Seldon?"

The doctor, an elderly man with a bald head and a small gray mustache, bristled.

"Of course, I do. Exposure cases on the Outer Worlds are common enough--an everyday affair-and I've read a great deal about them."

Treatment consisted in part of an antiviral serum and the use of a microwave wrapping.

"This ought to take care of it," the doctor said. "On the Outer Worlds, they make use of much more elaborate equipment in hospitals, but we don't have that, of course, on Trantor. This is a treatment for mild cases and I'm sure it will do the job."

Dors thought later, as Seldon was recovering without particular injury, that it was perhaps because he was an Outworlder that he had survived so well. Dark, cold, even snow were not utterly strange to him. A Trantorian probably would have died in a similar case, not so much from physical trauma as from psychic shock.

She was not sure of this, of course, since she herself was not a Trantorian either. And, turning her mind away from these thoughts, she pulled up a chair near to Hari's bed and settled down to wait.

On the second morning Seldon stirred awake and looked up at Dors, who sat at his bedside, viewing a book-film and taking notes.

In a voice that was almost normal, Seldon said, "Still here, Dors?"

She put down the book-film. "I can't leave you alone, tart I? And I don't trust anyone else."

"It seems to me that every time I wake up, I see you. Have you been here all the time?"

"Sleeping or waking, yes."

"But your classes?"

"I have an assistant who has taken over for a while."

Dors leaned over and grasped Hari's hand. Noticing his embarrassment (he was, after all, in bed), she removed it.

"Hari, what happened? I was so frightened."

Seldon said, "I have a confession to make."

"..fit is it, Hart'?"

"I thought perhaps you were part of a conspiracy-"

"A conspiracy?" she said vehemently.

"I mean, m maneuver me Upperside where I'd be outside University jurisdiction and therefore subject to being picked up by Imperial forces."

"But Upperside isn't outside University jurisdiction. Sector jurisdiction on Trantor is from the planetary center to the sky."

"Ah, I didn't know that. But you didn't come with me because you said you had a busy schedule and, when I was getting paranoid, I thought you were deliberately abandoning me. Please forgive me. Obviously, it was you who got me down from there. Did anyone else care?"

". . . they were busy men," said Dors carefully. "They thought you had come down earlier. I mean, it was a legitimate thought."

"Clowzia thought so too?"

"The young intern? Yes, she did."

"Well, it may still have been a conspiracy. Without you, I mean."

"No, Hari, it is my fault. I had absolutely no right to let you go Upperside alone. It was my job to protect you. I can't stop blaming myself for what happened, for you getting lost."

"Now, wait a minute," said Seldon, suddenly irritated. "I didn't get lost. What do you think I am?"

"I'd like to know what you call it. You were nowhere around when the others left and you didn't get back to the entrance-or to the neighborhood of the entrance anyway-till well after dark."

"But that's not what happened. I didn't get lost just because I wandered away and couldn't find my way back. I told you I was suspecting a conspiracy and I had cause to do so. I'm not totally paranoid."

"Well then, what did happen?"

Seldon told her. He had no trouble remembering it in full detail; he had lived with it in nightmare for most of the preceding day.

Dors listened with a frown. "But that's impossible. A jet-down? Are you sure?"

"Of course I'm sure. Do you think I was hallucinating?"

"But the Imperial forces could not have been searching for you. They could not have arrested you Upperside without creating the same ferocious rumpus they would have if they had sent in a police force to arrest you on campus."

"Then how do you explain it?"

"I'm not sure," said Dors, "but it's possible that the consequences of my failure to go Upperside with you might have been worse than they were and that Hummin will be seriously angry with me."

"Then let's not tell him," said Seldon. "It ended well."

"We must tell him," said Dors grimly. "This may not be the end."

30.

That evening Jenarr Leggen came to visit. It was after dinner and he looked from Dors to Seldon several times, as though wondering what to say. Neither offered him help, but both waited patiently.

He had not impressed either of them as being a master of small talk.

Finally he said to Seldon, "I've come to see how you are."

"Perfectly well," said Seldon, "except that I'm a little sleepy. Dr. Venabili tells me that the treatment will keep me tired for a few days, presumably so I'm sure of getting needed rest." He smiled. "Frankly, I don't mind."

Leggen breathed in deeply, let it out, hesitated, and then, almost as though he was forcing the words out of himself, said, "I won't keep you long. I perfectly understand you need to rest. I do want to say, though, that I am sorry it all happened. I should not have assumed--so casually that you had gone down by yourself. Since you were a tyro, I should have felt more responsible for you. After all, I had agreed to let you come up. I hope you can find it in your heart to . . . forgive me. That's really all I wish to say."

Seldon yawned, purring his hand over his mouth. "Pardon me. -Since it seems to have turned out well, there need be no hard feelings. In some ways, it was not your fault. I should not have wandered away and, besides, what happened was "

Dors interrupted. "Now, Hari, please, no conversation. Just relax. Now, I want to talk to Dr. Leggen just a bit before he goes. In the first place, Dr. Leggen, I quite understand you are concerned about how repercussions from this affair will affect you. I told you there would be no follow-up if Dr. Seldon recovered without ill effects. That

seems to be taking place, so you may relax-for now. I would like to ask you about something else and I hope that this time I will have your free cooperation."

"I will try, Dr. Venabili," said Leggen stiffly.

"Did anything unusual happen during your stay Upperside?"

"You know it did. I lost Dr. Seldon, something for which I have just apologized."

"Obviously I'm not referring to that. Did anything else unusual happen?..

"No, nothing. Nothing at all."

Dors looked at Seldon and Seldon frowned. It seemed to him that Dors was trying to check on his story and get an independent account. Did she think he was imagining the search vessel? He would have liked to object heatedly, but she had raised a quieting hand at him, as though she was preventing that very eventuality. He subsided, partly because of this and partly because he really wanted to sleep. He hoped that Leggen would not stay long.

"Are you certain?" said Dors. "Were there no intrusions from outside?"

"No, of course not. Oh-"

"Yes, Dr. Leggen?"

"There was a jet-down."

"Did that strike you as peculiar?"

"No, of course not."

"Why not?"

"This sounds very much as though I'm being cross-examined, Dr. Venabili. I don't much like it."

"I can appreciate that, Dr. Leggen, but these questions have something to do with Dr. Seldon's misadventure. It may be that this whole affair is more complicated than I had thought."

"In what way?" A new edge entered his voice. "Do you intend to raise new questions, requiring new apologies? In that case, I tray find it necessary to withdraw."

"Not, perhaps, before you explain how it is you do not find a hovering jet-down a bit peculiar."

"Because, my dear woman, a number of meteorological stations on Trantor possess jet-downs for the direct study of clouds and the upper atmosphere. Our own meteorological station does not."

"Why not? It would be useful."

"Of course. But we're not competing and we're not keeping secrets. We will report on our findings; they will report on theirs. It makes sense, therefore, to have a scattering of differences and specializations. It would be foolish to duplicate efforts completely. The money and manpower we might spend on jet-downs can be spent on mesonic refractometers, while others will spend on the first and save on the latter. After all, there may be a great deal of competitiveness and ill feeling among the sectors, but science is one thing-- only thing-that holds us together. You know that, I presume," he added ironically.

"I do, but isn't it rather coincidental that someone should be sending a jet-down right to your station on the very day you were going to use the station?.. "

"No coincidence at all. We announced that we were going to make measurements on that day end, consequently, some other station thought, very properly, that they might make simultaneous nephelometric measurements--clouds, you know. The results, taken together, would make more sense and be more useful than either taken separately."

Seldon said suddenly in a rather blurred voice, "They were just measuring, then?" He yawned again.

"Yes" said Leggen. "What else could they possibly be doing?"

Dors blinked her eyes, as she sometimes did when she was trying to think rapidly. "That all makes sense. To which station did this particular jet-down belong?" Leggen shook his head. "Dr. Venabili, how can you possibly expect me to tell?"

"I thought that each meteorological jet-down might possibly have its station's markings on it."

"Surely, but I wasn't looking up and studying it, you know. I had my own work to do and I let them do theirs. When they report, I'll know whose jet-down it was."

"What if they don't report?"

"Then I would suppose their instruments failed. That happens sometimes." His right fist was clenched. "Is that all, then?"

"Wait a moment. Where do you suppose the jet-down might have come from?"

"It might be any station with jet-downs. On a day's notice--and they got more than that--one of those vessels can reach us handily from anyplace on the planet."

"But who most likely?"

"Hard to say: Hestelonia, Wye, Ziggoreth, North Damiano. I'd say one of these four was the most likely, but it might be any of forty others at least."

"Just one more question, then. Just one. Dr. Leggen, when you announced that your group would be Upperside, did you by any chance say that a mathematician, Dr. Hari Seldon, would be with you? A look of apparently deep and honest surprise crossed Leggen's face, a look that quickly turned contemptuous. "Why should I lie? Of what interest would that be to anyone?"

"Very well," said Dors. "The truth of the matter, then, is that Dr. Seldon saw the jet-down and it disturbed him. I am not certain why and apparently his memory is a bit fuzzy on the matter. He more or less ran away from the jet-down, got himself lost, didn't think of trying to return--or didn't dare to--till it was well into twilight, and didn't quite make it back in the dark. You can't be blamed for that, so let's forget the whole incident on both sides."

"Agreed," said Leggen. "Good-bye!" He turned on his heel and left.

When he was gone, Dors rose, pulled off Seldon's slippers gently, straightened him in his bed, and covered him. He was sleeping, of course.

Then she sat down and thought. How much of what Leggen had said was true and what might possibly exist under the cover of his words? She did not know.

MYCOGEN

MYCOGEN- . . . A sector of ancient Trantor Buried in the past of its own legends Mycogen made little impact on the planet. Self-satisfied and self-separated to a degree . . .

ENCYCLOPEDIA GALACTICA

31.

When Seldon woke, he found a new face looking at him solemnly. For a moment he frowned owlshly and then he said, "Hummin?"

Hummin smiled very slightly. "You remember me, then?"

"It was only for a day, nearly two months ago, but I remember. You were not arrested, then, or in any way "As you see, I am here, quite safe and whole, but--and he glanced at Dors, who stood to one side-'it was not very easy for me to come here."

Seldon said, "I'm glad to see you. -Do you mind, by the way?" He jerked his thumb in the direction of the bathroom.

Hummin said, "Take your time. Have breakfast."

Hummin didn't join him at breakfast. Neither did Dors. Nor did they speak. Hummin scanned a book-film with an attitude of easy absorption. Dors inspected her nails critically and then, taking out a microcomputer, began making notes with a stylus.

Seldon watched them thoughtfully and did not try to start a conversation. The silence now might be in response to some Trantorian reserve customary at a sickbed. To be sure, he now felt perfectly normal, but perhaps they did not realize that.

It was only when he was done with his last morsel and with the final drop of milk (which he was obviously getting used to, for it no longer tasted odd) that Hummin spoke.

He said, "How are you, Seldon?"

"Perfectly well, Hummin. Sufficiently well, certainly, for me to be up and about."

"I'm glad to hear it," said Hummin dryly. "Dons Venabili was much to blame in allowing this to happen."

Seldon frowned. "No. I insisted on going Upperside."

"I'm sure, but she should, at all costs, have gone with you."

"I told her I didn't want her to go with me."

Dors said, "That's not so, Hari. Don't defend me with gallant lies."

Seldon said angrily, "But don't forget that Dors also came Upperside after me, against strong resistance, and undoubtedly saved my life. That's not bending the truth at all. Have you added that to your evaluation, Hummin?"

Dors interrupted again, obviously embarrassed. "Please, Hari. Chetter Hummin is perfectly correct in feeling that I should either have kept you from going Upperside or have gone up with you. As for my subsequent actions, he has praised them."

"Nevertheless," said Hummin, "that is past and we can let it go. Let us talk about what happened Upperside, Seldon."

Seldon looked about and said guardedly, "Is it safe to do so?"

Hummin smiled slightly. "Dons has placed this room in a Distortion Field. I can be pretty sure that no Imperial agent at the University-if there is one-has the expense to penetrate it. You are a suspicious person, Seldon."

"Not by nature," said Seldon. "Listening to you in the park and afterward-You are a persuasive person, Hummin. By the time you were through, I was ready to fear that Eto Demerzel was lurking in every shadow."

"I sometimes think he might be," said Hummin gravely.

"If he was," said Seldon, "I wouldn't know it was he. What does he look like?"

"That scarcely matters. You wouldn't see him unless he wanted you to and by then it would all be over, I imagine-which is what we must prevent. Let's talk about that jet-down you saw."

Seldon said, "As I told you, Hummin, you filled me with fears of Demerzel. As soon as I saw the jet-down, I assumed he was after me, that I had foolishly stepped outside the protection of Streeling University by going Upperside, that I had been lured up there for the specific purpose of being picked up without difficulty."

Dors said, "On the other hand, Leggen-"

Seldon said quickly, "Was he here last night?"

"Yes, don't you remember?"

"Vaguely. I was dead tired. It's all a blur in my memory."

"Well, when he was here last night, Leggen said that the jetdown was merely a meteorological vessel from another station. Perfectly ordinary. Perfectly harmless."

"What?" Seldon was taken aback. "I don't believe that."

Hummin said, "Now the question is: Why don't you believe that? Was there anything about the jet-down that made you think it was dangerous? Something specific, that is, and not just a pervasive suspicion placed in your head by me."

Seldon thought back, biting his lower lip. He said, "Its actions. It seemed to push its forepart below the cloud deck, as though it were looking for something, then it would appear in another spot just the same way, then in another spot, and so on. It seemed to be searching Upperside methodically, section by section, and homing in on me."

Hummin said, "Perhaps you were personifying, Seldon. You may have been treating the jet-down as though it was a strange animal looking for you. It wasn't, of course. It was simply a jetdown and if it was a meteorological vessel, its actions were perfectly normal . . . and harmless."

Seldon said, "It didn't seem that way to me."

Hummin said, "I'm sure it didn't, but we don't actually know anything. Your conviction that you were in danger is simply an assumption. Leggen's decision that it was a meteorological vessel is also only an assumption."

Seldon said stubbornly, "I can't believe that it was an entirely innocent event."

"Well then," said Hummin, "suppose we assume the worst—that the vessel toot looking for you. How would whoever sent that vessel know you would be there to seek?"

Dors interjected, "I asked Dr. Leggen if he had, in his report of the forthcoming meteorological work, included the information that Hari would be with the group. There was no reason he should in the ordinary course of events and he denied that he had, with considerable surprise at the question. I believed him."

Hummin said thoughtfully, "Don't believe him too readily. Wouldn't he deny it, in any case? Now ask yourself why he allowed Seldon to come along in the first place. We know he objected initially, but he did relent, without much fight. And that, to me, seems rather out of character for Leggen."

Dors frowned and said, "I suppose that does make it a bit more likely that he did arrange the entire affair. Perhaps he permitted Hari's company only in order to put him in the position of being taken. He might have received orders to that effect. We might further argue that he encouraged his young intern, Clowzia, to engage Hari's attention and draw him away from the group, isolating him. That would account for Leggen's odd lack of concern over Hari's absence when it came time to go below. He would insist that Hari had left earlier, something he would have laid the groundwork for, since he had carefully showed him how to go down by himself. It would also account for his reluctance to go back up in search of him, since he would not want to waste time looking for someone he assumed would not be found."

Hummin, who had listened carefully, said, "You make an interesting case against him, but leis not accept that too readily either. After all, he did come Upperside with you in the end."

"Because footsteps had been detected. The Chief Seismologist had home witness to that."

"Well, did Leggen show shock and surprise when Seldon was found? I mean, beyond that of finding someone who had been brought into extreme peril through Leggen's own negligence. Did he act as though Seldon wasn't supposed to be there? Did he behave as though he were asking himself: How is it they didn't pick him up?"

Dors thought carefully, then said, "He was obviously shocked by the sight of Hari lying there, but I couldn't possibly tell if there was anything to his feelings beyond the very natural horror of the situation."

"No, I suppose you couldn't."

But now Seldon, who had been looking from one to the other as they spoke and who had been listening intently, said, "I don't think it was Leggen."

Hummin transferred his attention to Seldon. "Why do you say that?"

"For one thing, as you noted, he was clearly unwilling to have me come along. It took a whole day of argument and I think he agreed only because he had the impression

that I was a clever mathematician who could help him out with meteorological theory. I was anxious to go up there and, if he had been under orders to see to it that I was taken Upperside, there would have been no need to be so reluctant about it."

"Is it reasonable to suppose he wanted you only for your mathematics? Did he discuss the mathematics with you? Did he make an attempt to explain his theory to you?"

"No," said Seldon, "he didn't. He did say something about going into it later on, though. The trouble was, he was totally involved with his instruments. I gathered he had expected sunshine that hadn't showed up and he was counting on his instruments having been at fault, but they were apparently working perfectly, which frustrated him. I think this was an unexpected development that both soured his temper and turned his attention away from me. As for Clowzia, the young woman who preoccupied me for a few minutes, I do not get the feeling, as I look back on it, that she deliberately led me away from the scene. The initiative was mine. I was curious about the vegetation on Upperside and it was I who drew her away, rather than vice versa. Far from Leggen encouraging her action, he called her back while I was still in sight and I moved farther away and out of sight entirely on my own."

"And yet," said Hummin, who seemed intent on objecting to every suggestion that was made, "if that ship was looking for you, those on board must have known you'd be there. How would they know-if not from Leggett?"

"The man I suspect," said Seldon, "is a young psychologist named Listing Ranch"

"Randa?" said Dors. "I can't believe that. I know him. He simply would not be working for the Emperor. He's anti-Imperialist to the core."

"He might pretend to be," said Seldon. "In fact, he would have to be openly, violently, and extremely anti-Imperialist if he was trying to mask the fact that he is an Imperial agent."

"But that's exactly what he's not like," said Dors. "He is not violent and extreme in anything. He's quiet and good-natured and his views are always expressed mildly, almost timidly. I'm convinced they're genuine."

"And yet, Dors," said Seldon earnestly, "it was he who first told me of the meteorological project, it was he who urged me to go Upperside, and it was he who persuaded Leggen to allow me to join him, rather exaggerating my mathematical prowess in the process. One must wonder why he was so anxious to get me up there, why he should labor so hard."

"For your good, perhaps. He was interested in you, Hari, and must have thought that meteorology might have been useful in psychohistory. Isn't that possible?"

Hummin said quietly, "Let's consider another point. There was a considerable lapse of time between the moment when Randa told you about the meteorology project and the moment you actually went Upperside. If Randa is innocent of anything underhanded, he would have no particular reason to keep quiet about it. If he is a friendly and gregarious person-

"He is," said Dors.

"-then he might very likely tell a number of friends about it. In that case, we couldn't really tell who the informer might be. In fact, just to make another point, suppose Randa is anti-Imperialist. That would not necessarily mean he is not an agent. We would have to ask: Whom is he an agent for? On whose behalf does he work?"

Seldon was astonished. "Who else is there to work for but the Empire? Who else but Demerzel?"

Hummin raised his hand. "You are far from understanding the whole complexity of Trantorian politics, Seldon." He turned toward Dors. "Tell me again: Which were the four sectors that Dr. Leggen named as likely sources for a meteorological vessel?"

"Hestelonia, Wye, Ziggoreth, and North Damiano."

"And you did not ask the question in any leading way? You didn't ask if a particular sector might be the source?"

"No, definitely not. I simply asked if he could speculate as to the source of the jet-down."

"And you"-Hummin turned to Seldon "may perhaps have seen some marking, some insigne, on the jet-down?"

Seldon wanted to retort heatedly that the vessel could hardly be seen through the clouds, that it emerged only briefly, that he himself was not looking for markings, but only for escape-but he held back. Surely, Hummin knew all that.

Instead, he said simply, "I'm afraid not."

Dors said, "If the jet-down was on a kidnapping mission, might not the insigne have been masked?"

"That is the rational assumption," said Hummin, "and it may well have been, but in this Galaxy rationality does not always triumph. However, since Seldon seems to have taken no note of any details concerning the vessel, we can only speculate. What I'm thinking is: Wye."

"Why?" echoed Seldon. "I presume they wanted to take me because whoever was on the ship wanted me for my knowledge of psychohistory."

"No, no." Hummin lifted his right forefinger as if lecturing a young student.

"W-y-e. It is the name of a sector on Trantor. A very special sector. It has been ruled by a line of Mayors for some three thousand years. It has been a continuous line, a single dynasty. There was a time, some five hundred years ago, when two Emperors and an Empress of the House of Wye sat on the Imperial throne. It was a comparatively short period and none of the Wye rulers were particularly distinguished or successful, but the Mayors of Wye have never forgotten this Imperial past. "

"They have not been actively disloyal to the ruling houses that have succeeded them, but neither have they been known to volunteer much on behalf of those houses. During the occasional periods of civil war, they maintained a kind of neutrality, making moves that seemed best calculated to prolong the civil war and make it seem necessary to turn to Wye as a compromise solution. That never worked out, but they never stopped trying either. "

"The present Mayor of Wye is particularly capable. He is old now, but his ambition hasn't cooled. If anything happens to Cleon -even a natural death-the Mayor will have a chance at the succession over Cleon's own too-young son. The Galactic public will always be a little more partial toward a claimant with an Imperial past. "

"Therefore, if the Mayor of Wye has heard of you, you might serve as a useful scientific prophet on behalf of his house. There would be a traditional motive for Wye to try to arrange some convenient end for Cleon, use you to predict the inevitable succession of Wye and the coming of peace and prosperity for a thousand years after. Of course, once the Mayor of Wye is on the throne and has no further use for you, you might well follow Cleon to the grave."

Seldon broke the grim silence that followed by saying, "But we don't know that it is this Mayor of Wye who is after me."

"No, we don't. Or that anyone at all is after you, at the moment. The jet-down might, after all, have been an ordinary meteorological testing vessel as Leggen has suggested. Still, as the news concerning psychohistory and its potential spreads-and it surely must -...ore and more of the powerful and semipowerful on Trantor or, for that matter, elsewhere will want to make use of your services."

"What, then," said Dors, "shall we do?"

"That is the question, indeed." Hummin ruminated for a while, then said, "Perhaps it was a mistake to come here. For a professor, it is all too likely that the hiding place chosen would be a University. Streeling is one of many, but it is among the largest and most free, so it wouldn't be long before tendrils from here and there would begin feeling their soft, blind way toward this place. I think that as soon as possible-today, perhaps-Seldon should be moved to another and better hiding place. But-

"But?" said Seldon.

"But I don't know where."

Seldon said, "Call up a gazeteer on the computer screen and choose a place at random."

"Certainly not," said Hummin. "If we do that, we are as likely to find a place that is less secure than average, as one that is more secure. No, this must be reasoned out. - Somehow."

32.

The three remained huddled in Seldon's quarters till past lunch. During that time, Hari and Dors spoke occasionally and quietly on indifferent subjects, but Hummin maintained an almost complete silence. He sat uptight, ate little, and his grave countenance (which, Seldon thought, made him look older than his years) remained quiet and withdrawn.

Seldon imagined him to be reviewing the immense geography of Trantor in his mind, searching for a comer that would be ideal. Surely, it couldn't be easy.

Seldon's own Helicon was somewhat larger by a percent or two than Trantor was and had a smaller ocean. The Heliconian land surface was perhaps 10 percent larger than the Trantorian. But Helicon was sparsely populated, its surface only sprinkled with scattered cities; Trantor was all city. Where Helicon was divided into twenty administrative sectors; Trantor had over eight hundred and every one of those hundreds was itself a complex of subdivisions.

Finally Seldon said in some despair, "Perhaps it might be best, Hummin, m chose which candidate for my supposed abilities is most nearly benign, hand me over to that one, and count on him to defend me against the rest."

Hummin looked up and said in utmost seriousness, "That is not necessary. I know the candidate who is most nearly benign and he already has you."

Seldon smiled. "Do you place yourself on the same level with the Mayor of Wye and the Emperor of all the Galaxy?"

"In point of view of position, no. But as far as the desire to control you is concerned, I rival them. They, however, and anyone else I can think of want you in order to strengthen their own wealth and power, while I have no ambitions at all, except for the good of the Galaxy."

"I suspect," said Seldon dryly, "that each of your competitors-if asked-would insist that he too was thinking only of the good of the Galaxy."

"I am sure they would," said Hummin, "but so far, the only one of my competitors, as you call them, whom you have met is the Emperor and he was interested in having you advance fictionalized predictions that might stabilize his dynasty. I do not ask you for anything like that. I ask only that you perfect your psychohistorical technique so that mathematically valid predictions, even if only statistical in nature, can be made."

"True. So far, at least," said Seldon with a half-smile.

"Therefore, I might as well ask: How are you coming along with that task? Any progress?"

Seldon was uncertain whether to laugh or cage. After a pause, he did neither, but managed to speak calmly. "Progress? In less than two months? Hummin, this is something that might easily take me my whole life and the lives of the next dozen who follow me. -And even then end in failure."

"I'm not talking about anything as final as a solution or even as hopeful as the beginning of a solution. You've said flatly a number of times that a useful psychohistory is possible but impractical. All I am asking is whether there now seems any hope that it can be made practical.'

"Frankly, no."

Dors said, "Please excuse me. I am not a mathematician, so I hope this is not a foolish question. How can you know something is both possible and impractical? I've heard you say that, in theory, you might personally meet and greet all the people in the Empire, but that it is not a practical feat because you couldn't live long enough to do it. But how can you tell that psychohistory is something of this sort?"

Seldon looked at Dors with some incredulity. "Do you want that explained."

"Yes," she said, nodding her head vigorously so that her curled hair vibrated.

"As a matter of fact," said Hummin, "so would L"

"Without mathematics?" said Seldon with just a trace of a smile.

"Please," said Hummin.

"Well-" He retired into himself to choose a method of presentation. Then he said,-

If you want to understand some aspect of the Universe, it helps if you simplify it as much as possible and include only those properties and characteristics that are essential to understanding. If you want to determine how an object drops, you don't concern yourself with whether it is new or old, is red or green, or has an odor or not. You eliminate those things and thus do not needlessly complicate matters. The simplification you can call a model or a simulation and you can present it either as an actual representation on a computer screen or as a mathematical relationship. If you consider the primitive theory of non-relativistic gravitation "

Don said at once, "You promised there would be no mathematics. Don't try to slip it in by calling it 'primitive.' .. "

"No, no. I mean 'primitive' only in that it has been known as long as our records go back, that its discovery is shrouded in the mists of antiquity as is that of fire or the wheel. In any case, the equations for such gravitational theory contain within themselves a description of the motions of a planetary system, of a double star, of tides, and of many other things. Making use of such equations, we can even set up a pictorial simulation and have a planet circling a star or two stars circling each other on a two-dimensional screen or set up more complicated systems in a three-dimensional holograph. Such simplified simulations make it far easier to grasp a phenomenon than it would be if we had to study the phenomenon itself. In fact, without the gravitational equations, our knowledge of planetary motions and of celestial mechanics generally would be sparse indeed.

"Now, as you wish to know more and more about any phenomenon or as a phenomenon becomes more complex, you need more and more elaborate equations, more and more detailed programming, and you end with a computerized simulation that is harder and harder to grasp."

"Can't you form a simulation of the simulation?" asked Hummin. "You would go down another degree."

"In that case, you would have to eliminate some characteristic of the phenomenon which you want to include and your simulation becomes useless. The LPS-that is, 'the least possible simulation gains in complexity faster than the object being simulated does and eventually the simulation catches up with the phenomenon. Thus, it was established thousands of years ago that the Universe as a whole, in its full complexity, cannot be represented by any simulation smaller than itself.

"In other words, you can't get any picture of the Universe as a whole except by studying the entire Universe. It has been shown also that if one attempts to substitute simulations of a small part of the Universe, then another small part, then another small part, and so on, intending to put them all together to form a total picture of the Universe, one would find that there are an infinite number of such part simulations. It would

therefore take an infinite time to understand the Universe in full and that is just another way of saying that it is impossible to gain all the knowledge there is."

"I understand you so far," said Dors, sounding a little surprised.

"Well then, we know that some comparatively simple things are easy to simulate and as things grow more and more complex they become harder to simulate until finally they become impossible to simulate. But at what level of complexity does simulation cease to be possible? Well, what I have shown, making use of a mathematical technique first invented in this past century and barely usable even if one employs a large and very fast computer, our Galactic society falls short of that mark. It can be represented by a simulation simpler than itself. And I went on to show that this would result in the ability to predict future events in a statistical fashion-that is, by stating the probability for alternate sets of events, rather than flatly predicting that one set will take place."

"In that case," said Hummin, "since you can profitably simulate Galactic society, it's only a matter of doing so. Why is it impractical?"

"All I have proved is that it will not take an infinite time to understand Galactic society, but if it takes a billion years it will still be impractical. That will be essentially the same as infinite time to us."

"Is that how long it would take? A billion years?"

"I haven't been able to work out how long it would take, but I strongly suspect that it will take at least a billion years, which is why I suggested that number."

"But you don't really know."

"I've been trying to work it out."

"Without success?"

"Without success."

"The University library does not help?" Hummin cast a look at Dors as he asked the question.

Seldon shook his head slowly. "Not at all."

"Dors can't help?"

Dors sighed. "I know nothing about the subject, Chetter. I can only suggest ways of looking. If Hari looks and doesn't find, I am helpless."

Hummin rose to his feet. "In that case, there is no great use in staying here at the University and I must chink of somewhere else to place you."

Seldon reached out and touched his sleeve. "Still, I have an idea."

Hummin stared at him with a faint narrowing of eyes that might have belied surprise-or suspicion. "When did you get the idea? Just now?"

"No. It's been buzzing in my head for a few days before I went Upperside. That little experience eclipsed it for a while, but asking about the library reminded me of it."

Hummin seated himself again. "Tell me your idea-if it's not something that's totally marinated in mathematics."

"No mathematics at all. It's just that reading history in the library reminded me that Galactic society was less complicated in the past. Twelve thousand years ago, when the Empire was on the way to being established, the Galaxy contained only about ten million

inhabited worlds. Twenty thousand years ago, the pre-Imperial kingdoms included only about ten thousand worlds altogether. Still deeper in the past, who knows how society shrinks down? Perhaps even to a single world as in the legends you yourself once mentioned, Hummin."

Hummin said, "And you think you might be able to work out psychohistory if you dealt with a much simpler Galactic society?"

"Yes, it seems to me that I might be able to do so."

"Then too," said Dors with sudden enthusiasm, "suppose you work out psychohistory for a smaller society of the past and suppose you can make predictions from a study of the pre-Imperial situation as to what might happen a thousand years after the formation of the Empire-you could then check the actual situation at that time and see how near the mark you were."

Hummin said coldly, "Considering that you would know in advance the situation of the year 1,000 of the Galactic Era, it would scarcely be a fair test. You would be unconsciously swayed by your prior knowledge and you would be bound to choose values for your equation in such a way as to give you what you would know to be the solution."

"I don't think so," said Dors. "We don't know the situation in 1,000 G.E. very well and we would have to dig. After all, that was eleven millennia ago."

Seldon's face turned into a picture of dismay. "What do you mean we don't know the situation in 1,000 G.B. very well? There were computers then, weren't there, Dors?"

"Of course."

"And memory storage units and recordings of ear and eye? We should have all the records of 1,000 G.E. as we have of the present year of 12,020 G.E."

"In theory, yes, but in actual practice- Well, you know, Hari, it's what you keep saying. It's possible to have full records of 1,000 G.E., but it's not practical to expect to have it."

"Yes, but what I keep saying, Dors, refers to mathematical demonstrations. I don't see the applications to historical records."

Dors said defensively, "Records don't last forever, Hari. Memory banks can be destroyed or defaced as a result of conflict or can simply deteriorate with time. Any memory bit, any record that is not referred to for a long time, eventually drowns in accumulated noise. They say that fully one third of the records in the Imperial Library are simply gibberish, but, of course, custom will not allow those records to be removed. Other libraries are less tradition-bound. In the Streeling University library, we discard worthless items every ten years."

"Naturally, records frequently referred to and frequently duplicated on various worlds and in various libraries-governmental and private remain clear enough for thousands of years, so that many of the essential points of Galactic history remain known even if they took place in pre-Imperial times. However, the farther back you go, the less there is preserved."

"I can't believe that," said Seldon. "I should think that new copies would be made of any record in danger of withering. How could you let knowledge disappear?"

"Undesired knowledge is useless knowledge," said Dors. "Can you imagine all the time, effort, and energy expended in a continual refurbishing of unused data? And that wastage would grow steadily more extreme with time."

"Surely, you would have to allow for the fact that someone at some time might need the data being so carelessly disposed of."

"A particular item might be wanted once in a thousand years. To save it all just in case of such a need isn't cost-effective. Even in science. You spoke of the primitive equations of gravitation and say it is primitive because its discovery is lost in the mists of antiquity. Why should that be? Didn't you mathematicians and scientists save all data, all information, back and back to the misty primeval time when those equations were discovered?"

Seldon groaned and made no attempt to answer. He said, "Well, Hummin, so much for my idea. As we look back into the past and as society grows smaller, a useful psychohistory becomes more likely. But knowledge dwindles even more rapidly than size, so psychohistory becomes less likely-and the less outweighs the more. "

"To be sure, there is the Mycogen Sector," said Dors, musing.

Hummin looked up quickly. "So there is and that would be the perfect place to put Seldon. I should have thought of it myself."

"Mycogen Sector," repeated Hari, looking from one to the other. "What and where is Mycogen Sector?"

"Hari, please, I'll tell you later. Right now, I have preparations to make. You'll leave tonight."

33.

Dors had urged Seldon to sleep a bit. They would be leaving halfway between lights out and lights on, under cover of "night," while the rest of the University slept. She insisted he could still use a little rest.

"And have you sleep on the floor again?" Seldon asked.

She shrugged. "The bed will only hold one and if we both try to crowd into it, neither of us will get much sleep."

He looked at her hungrily for a moment and said, "Then I'll sleep on the floor this time."

"No, you won't. I wasn't the one who lay in a coma in the sleet."

As it happened, neither slept. Though they darkened the room and though the perpetual hum of Trantor was only a drowsy sound in the relatively quiet confines of the University, Seldon found that he had to talk.

He said, "I've been so much trouble to you, Dors, here at the University. I've even been keeping you from your work. Still, I'm sorry I'll have to leave you."

Dors said, "You won't leave me. I'm coming with you. Hummin is arranging a leave of absence for me."

Seldon said, dismayed, "I can't ask you to do that."

"You're not. Hummin 's asking it. I must guard you. After all, I faded in connection with Upperside and should make up for it."

"I told you. Please don't feel guilty about that. -Still, I must admit I would feel more comfortable with you at my side. If I could only be sure I wasn't interfering with your life . . ."

Dors said softly, "You're not, Hari. Please go to sleep."

Seldon lay silent for a while, then whispered, "Are you sure Hummin can really arrange everything, Dors?"

Dors said, "He's a remarkable man. He's got influence here at the University and everywhere else, I think. If he says he can arrange for an indefinite leave for me, I'm sure he can. He is a moat persuasive man."

I know," said Seldon. "Sometimes I wonder what he really wants of me."

..fit he says," said Dors. "He's a man of strong and idealistic ideas and dreams."

"You sound as though you know him well, Dors."

"Oh yes, I know him well."

"Intimately?"

Dors made an odd noise. "I'm not sure what you're implying, Hari, but, assuming the most insolent interpretation-No, I don't know him intimately. What business would that be of yours any-way?"

"I'm sorry.. said Seldon. "I just didn't want, inadvertently, to be invading someone else's-"

"Property? That's even more insulting. I think you had better go to sleep."

"I'm sorry again, Dors, but I can't sleep. Let me at least change the subject. You haven't explained what the Mycogen Sector is. Why will it be good for me to go there? What's it like?"

"It's a small sector with a population of only about two million if I remember correctly. The thing is that the Mycogenians cling rightly to a set of traditions about early history and are supposed to have very ancient records not available to anyone else. It's just possible they would be of more use to you in your attempted examination of pre-Imperial times than orthodox historians might be. All our talk about early history brought the sector to mind."

"Have you ever seen their records?"

"No. I don't know anyone who has."

"Can you be sure that the records really exist, then?"

"Actually, I can't say. The assumption among non-Mycogenians is that they're a bunch of madcaps, but that may be quite unfair. They certainly say they have records, so perhaps they do. In any case, we would be out of sight there. The Mycogenians keep strictly to themselves. -And now please do go to sleep."

And somehow Seldon finally did.

Hari Seldon and Dors Venabili left the University grounds at 0300. Seldon realized that Dors had to be the leader. She knew Trantor better than he did—two years better. She was obviously a close friend of Hummin (how close? the question kept nagging at him) and she understood his instructions.

Both she and Seldon were swathed in light swirling docks with tight-fitting hoods. The style had been a short-lived clothing fad at the University (and among young intellectuals, generally) some years back and though right now it might provoke laughter, it had the saving grace of covering them well and of making them unrecognizable—at least at a cursory glance.

Hummin had said, "There's a possibility that the event Upperside was completely innocent and that there are no agents after you, Seldon, but let's be prepared for the worst."

Seldon had asked anxiously, "Won't you come with us?"

"I would like to," said Hummin, "but I must limit my absence from work if I am not to become a target myself. You understand?"

Seldon sighed. He understood.

They entered an Expressway car and found a seat as far as possible from the few who had already boarded. (Seldon wondered why anyone should be on the Expressways at three in the morning—and then thought that it was lucky some were or he and Dors would be entirely too conspicuous.)

Seldon fell to watching the endless panorama that passed in review as the equally endless line of coaches moved along the endless monorail on an endless electromagnetic field.

The Expressway passed row upon row of dwelling units, few of them very tall, but some, for all he knew, very deep. Still, if tens of millions of square kilometers formed an urbanized total, even forty billion people would not require very tall structures or very closely packed ones. They did pass open areas, in most of which crops seemed to be growing—but some of which were clearly park-like. And there were numerous structures whose nature he couldn't guess. Factories? Office buildings? Who knew? One large featureless cylinder struck him as though it might be a water tank. After all, Trantor had to have a fresh water supply. Did they sluice rain from Upperside, filter and treat it, then store it? It seemed inevitable that they should.

Seldon did not have very long to study the view, however.

Dors muttered, "This is about where we should be getting off." She stood up and her strong fingers gripped his arm.

They were off the Expressway now, standing on solid flooring while Dors studied the directional signs.

The signs were unobtrusive and there were many of them. Seldon's heart sank. Most of them were in pictographs and initials, which were undoubtedly understandable to native Trantorians, but which were alien to him.

"This way," said Dors.

"Which way? How do you know?"

"See that? Two wings and an arrow."

"Two wings? Oh." He had thought of it as an upside-down "w," wide and shallow, but he could see where it might be the stylized wings of a bird.

"Why don't they use words?" he said sullenly.

"Because words vary from world to world. What an 'air-jet' is here could be a 'soar' on Cinna or a 'swoop' on other worlds. The two wings and an arrow are a Galactic symbol for an air vessel and the symbol is understood everywhere. -Don't you use them on Helicon?"

"Not much. Helicon is a fairly homogeneous world, culturally speaking, and we tend to cling to our private ways firmly because we're overshadowed by our neighbors."

"See?" said Dors. "There's where your psychohistory might come in. You could show that even with different dialects the use of set symbols, Galaxy-wide, is a unifying force."

"That won't help." He was following her through empty dim alley ways and part of his mind wondered what the crime rate might be on Trantor and whether this was a high-crime area, "You can have a billion rules, each covering a single phenomenon, and you can derive no generalizations from that. That's what one means when one says that a system might be interpreted only by a model as complex as itself. -Dors, are we heading for an air-jet?"

She stopped and turned to look at him with an amused frown. "If we're following the symbols for air-jets, do you suppose we're trying to reach a golf course? -Are you afraid of air-jets in the way so many Trantorianians are?"

"No, no. We fly freely on Helicon and I make use of air-jets frequently. It's just that when Hummin took me to the University, he avoided commercial air travel because he thought we would leave too clear a trail."

"That's because they knew where you were to begin with, Hari, and were after you already. Right now, it may be that they don't know where you are and we're using an obscure port and a private airjet."

"And who'll be doing the flying?"

"A friend of Hummin's, I presume."

"Can he be trusted, do you suppose?"

"If he's a friend of Hummin's, he surely can."

"You certainly think highly of Hummin," said Seldon with a twinge of discontent.

"With reason," said Dors with no attempt at coyness. "He's the best."

Seldon's discontent did not dwindle.

"There's the air-jet," she said.

It was a small one with oddly shaped wings. Standing beside it was a small man, dressed in the usual glaring Trantorian colors.

Dors said, "We're psycho."

The pilot said, "And I'm history."

They followed him into the air-jet and Seldon said, "Whose idea were the passwords?"'

"Hummin's," said Dors.

Seldon snorted. "Somehow I didn't think Hummin would have a sense of humor. He's so solemn."

Dors smiled.

SUNMASTER

SUNMASTER FOURTEEN- . . . A leader of the Mycogen Sector of ancient Trantor . . . As is true of all the leaders of this ingrown sector, little is known of him.

That he plays any role at all in history is due entirely to his interrelationship with Hari Seldon in the course of The Flight . . .

ENCYCLOPEDIA GALACTICA

35.

There were just two seats behind the compact pilot compartment and when Seldon sat down on padding that gave slowly beneath him meshed fabric came forward to encircle his legs, waist, and chest and a hood came down over his forehead and ears. He felt imprisoned and when he turned to his left with difficulty---and only slightly---he could see that Dors was similarly enclosed.

The pilot took his own seat and checked the controls. Then he said, "I'm Endor Levanian, at your service. You're enmeshed because there will be a considerable acceleration at liftoff. Once we're in the open and flying, you'll be released. You needn't tell me your names. It's none of my business."

He turned in his seat and smiled at them out of a gnome-like face that wrinkled as his lips spread outward. "Any psychological difficulties, youngsters?"

Dors said lightly, "I'm an Outworlder and I'm used to flying."

"That is also true for myself," said Seldon with a bit of hauteur.

"Excellent, youngsters. Of course, this isn't your ordinary air-jet and you may not have done any night flying, but I'll count on you to bear up. "

He was enmeshed too, but Seldon could see that his arms were entirely free.

A dull hum sounded inside the jet, growing in intensity and rising in pitch. Without actually becoming unpleasant, it threatened to do so and Seldon made a gesture as though to shake his head and get the sound out of his ears, but the attempt to do so merely seemed to stiffen the hold of the head-mesh.

The jet then sprang (it was the only verb Seldon could find to describe the event) into the air and he found himself pushed hard against the back and bottom of his seat.

Through the windshield in front of the pilot, Seldon saw, with a twinge of horror, the flat rise of a wall---and then a round opening appear in that wall. It was similar to the hole into which the sir-taxi had plunged the day he and Hummin had left the Imperial Sector, but though this one was large enough for the body of the jet, it certainly did not leave room for the wings.

Seldon's head turned as far to the right as he could manage and did so just in time to see the wing on his side wither and collapse.

The jet plunged into the opening and was seized by the electromagnetic field and hurtled along a lighted runnel. The acceleration was constant and there were occasional clicking noises that Seldon imagined might be the passing of individual magnets.

And then, in less than ten minutes, the jet was spewed out into the atmosphere, headlong into the sudden pervasive darkness of night.

The jet decelerated as it passed beyond the electromagnetic field and Seldon felt himself flung against the mesh and plastered there for a few breathless moments.

Then the pressure ceased and the mesh disappeared altogether.

"How are you, youngsters?" came the cheerful voice of the pilot.

"I'm not sure," said Seldon. He turned to Dors. "Are you all right?"

"Certainly," she answered. "I think Mr. Levanian was putting us through his paces to see if we were really Outworlders. Is that so, Mr. Levanian?"

"Some people like excitement," said Levanian. "Do you?"

"Within limits," said Dors.

Then Seldon added approvingly, "As any reasonable person would admit."

Seldon went on. "It might have seemed less humorous to you, sir, if you had ripped the wings off the jet."

"Impossible, sir. I told you this is not your ordinary air-jet. The wings are thoroughly computerized. They change their length, width, curvature, and overall shape to match the speed of the jet, the speed and direction of the wind, the temperature, and half a dozen other variables. The wings wouldn't tear off unless the jet itself was subjected to stresses that would splinter it."

There was a spatter against Seldon's window. He said, "It's raining."

"It often is," said the pilot.

Seldon peered out the window. On Helicon or on any other world, there would have been lights visible-the illuminated works of man. Only on Trantor would it be dark. - Well, not entirely. At one point he saw the flash of a beacon light. Perhaps the higher reaches of Upperside had warning lights.

As usual, Dors took note of Seldon's uneasiness. Parting his hand, she said, "I'm sure the pilot knows what he's doing, Hari."

"I'll try to be sure of it, too, Dors, but I wish he'd share some of that knowledge with us," Seldon said in a voice loud enough to be overheard.

"I don't mind sharing," said the pilot. "To begin with, we're heading up and we'll be above the cloud deck in a few minutes. Then there won't be any rain and we'll even see the stars."

He had timed the remark beautifully, for a few stars began to glitter through the feathery cloud remnants and then all the rest sprang into brightness as the pilot flicked off the lights inside the cabin. Only the dim illumination of his own instrument panel remained to compete and outside the window the sky sparkled brightly.

Dors said, "That's the first time in over two years that I've seen the stars. Aren't they marvelous? They're so bright--and there are so many of them."

The pilot said, "Trantor is nearer the center of the Galaxy than most of the Outworlds."

Since Helicon was in a sparse corner of the Galaxy and its star field was dim and unimpressive, Seldon found himself speechless.

Dors said, "How quiet this flight has become."

"..So it is," said Seldon. "What powers the jet, Mr. Levanian?"

"A microfusion motor and a thin stream of hot gas."

"I didn't know we had working microfusion air-jets. They talk about it, but--"

"..there are a few small ones like this. So far they exist only on Trantor and are used entirely by high government officials."

Seldon said, "The fees for such travel must come high."

"Very high, sir."

"How much is Mr. Hummin being charged, then?"

"There's no charge for this flight. Mr. Hummin is a good friend of the company who owns these jets."

Seldon grunted. Then he asked, "Why aren't there more of these microfusion air-jets?"

"Too expensive for one thing, sir. Those that exist fulfill all the demand."

"You could create more demand with larger jets."

"Maybe so, but the company has never managed to make microfusion engines strong enough for large air-jets."

Seldon thought of Hummin's complaint that technological innovation had declined to a low level. "Decadent," he murmured.

"..What," said Dors.

"Nothing," said Seldon. "I was just thinking of something Hummin once said to me."

He looked out at the stars and said, "Are we moving westward, Mr. Caveman?"

"Yes, we are. How did you know?"

"Because I thought that we would see the dawn by now if we were heading east to meet it."

But dawn, pursuing the planet, finally caught up with them and sunlight - real - sunlight brightened the cabin walls. It didn't last long, however, for the jet curved downward and into the clouds. Blue and gold vanished and were replaced by dingy gray and both Seldon and Dors emitted disappointed cries at being deprived of even a few more moments of true sunlight.

When they sank beneath the clouds, Upperside was immediately below them and its surface--at least at this spot--was a rolling mixture of wooded grottos and intervening grassland. It was the sort of thing Clowzia had told Seldon existed on Upperside.

Again there was little time for observation, however. An opening appeared below them, rimmed by lettering that spelled MYCOGEN. They plunged in.

They landed at a jetport that seemed deserted to Seldon's wondering eyes. The pilot, having completed his task, shook hands with both Hari and Dors and took his jet up into the air with a rush, plunging it into an opening that appeared for his benefit.

There seemed, then, nothing to do but wait. There were benches that could seat perhaps a hundred people, but Seldon and Dors Venabib were the only two people around. The port was rectangular, surrounded by walls in which there must be many tunnels that could open to receive or deliver jets, but there were no jets present after their own had departed and none arrived while they waited.

There were no people arriving or any indications of habitation; the very life hum of Trantor was muted.

Seldon felt this aloneness to be oppressive. He turned to Dors and said, "What is it that we must do here? Have you any idea?"

Dors shook her head. "Hummin told me we would be met by Sunmaster Fourteen. I don't know anything beyond that."

"Sunmaster Fourteen? What would that be?"

"A human being, I presume. From the name I can't be certain whether it would be a man or a woman."

"An odd name."

"Oddity is in the mind of the receiver. I am sometimes taken to be a man by those who have never met me."

"What fools they must be," said Seldon, smiling.

"Not at all. Judging from my name, they are justified. I'm told it is a popular masculine name on various worlds."

"I've never encountered it before."

"That's because you aren't much of a Galactic traveler. The name 'Hari' is common enough everywhere, although I once knew a woman named 'Hare,' pronounced like your name but spelled with an 'e.' In Mycogen, as I recall, particular names are confined to families--and numbered."

"But Sunmaster seems so unrestrained a name."

"What's a little braggadocio? Back on Cinna, 'Dons' is from an Old local expression meaning 'spring gift.'"

"Because you were born in the spring?"

"No. I first saw the light of day at the height of Cinna's summer, but the name struck my people as pleasant regardless of its traditional--and largely forgotten--meaning."

"In that case, perhaps Sunmaster--"

And a deep, severe voice said, "That is my name, tribesman."

Seldon, startled, looked to his left. An open ground-car had somehow drawn close. It was boxy and archaic, looking almost like a delivery wagon. In it, at the controls, was a tall old man who looked vigorous despite his age. With stately majesty, he got out of the ground-car.

He wore a long white gown with voluminous sleeves, pinched in at the wrists. Beneath the gown were soft sandals from which the big toe protruded, while his head, beautifully shaped, was completely hairless. He regarded the two calmly with his deep blue eyes.

He said, "I greet you, tribesman."

Seldon said with automatic politeness, "Greetings, sir." Then, honestly puzzled, he asked, "How did you get in?"

"Through the entrance, which closed behind me. You paid little heed."

"I suppose we didn't. But then we didn't know what to expect. Nor do we now."

"Tribesman Chetter Hummin informed the Brethren that there would be members from two of the tribes arriving. He asked that you be cared for."

"Then you know Hummin."

"We do. He has been of service to us. And because he, a worthy tribesman, has been of service to us, so must we be now to him. There are few who come to Mycogen and few who leave. I am to make you secure, give you houseroom, see that you are undisturbed. You will be safe here."

Dors bent her head. "We are grateful, Sunmaster Fourteen."

Sunmaster turned to look at her with an air of dispassionate contempt. "I am not unaware of the customs of the tribes," he said. "I know that among them a woman may well speak before being spoken to. I am therefore not offended. I would ask her to have a care among others of the Brethren who may be of lesser knowledge in the matter."

"Oh really?" said Dors, who was clearly offended, even if Sunmaster was not.

"In truth," agreed Sunmaster. "Nor is it needful to use my numerical identifier when I alone of my cohort am with you. 'Sunmaster' will be sufficient. -Now I will ask you to come with me so that we may leave this place which is of too tribal a nature to comfort me."

"Comfort is for all of us," said Seldon, perhaps a little more loudly than was necessary, "and we will not budge from this place unless we are assured that we will not be forcibly bent to your liking against our own natures. It is our custom that a woman may speak whenever she has something to say. If you have agreed to keep us secure, that security must be psychological as well as physical."

Sunmaster gazed at Seldon levelly and said, "You are bold, young tribesman. Your name?"

"I am Hari Seldon of Helicon. My companion is Dors Venabili of Cinna."

Sunmaster bowed slightly as Seldon pronounced his own name, did not move at the mention of Dors's name. He said, "I have sworn to Tribesman Hummin that we will keep you safe, so I will do what I can to protect your woman companion in this. If she wishes to exercise her impudence, I will do my best to see that she is held guiltless. -Yet in one respect you must conform."

And he pointed, with infinite scorn, first to Seldon's head and then to Dors's.

"What do you mean?" said Seldon.

"Your cephalic hair."

"What about it?"

"It must not be seen."

"Do you mean we're to shave our heads like you? Certainly not."

"My head is not shaven, Tribesman Seldon. I was depilated when I entered puberty, as are all the Brethren and their women."

"If we're talking about depilation, then more than ever the answer is no-never."

"Tribesman, we ask neither shaving nor depilation. We ask only that your hair be covered when you are among us."

"How?"

"I have brought skincaps that will mold themselves to your skulls, together with strips that will hide the superoptical patches the eyebrows. You will wear them while with us. And of course, Tribesman Seldon, you will shave daily-or oftener if that becomes necessary."

"But why must we do this?"

"Because to us, hair on the head is repulsive and obscene."

"Surely, you and all your people know that it is customary for others, in all the worlds of the Galaxy, to retain their cephalic hair."

"We know. And those among us, like myself, who must deal with tribesmen now and then, must witness this hair. We manage, but it is unfair to ask the Brethren generally to suffer the sight."

Seldon said, "Very well, then, Sunmaster-but tell me. Since you are born with cephalic hair, as all of us are and as you all retain it visibly till puberty, why is it so necessary to remove it? Is it just a matter of custom or is there some rationale behind it?"

And the old Mycogenian said proudly, "By depilation, we demonstrate to the youngster that he or she has become an adult and through depilation adults will always remember who they are and never forget that all others are but tribesmen."

He waited for no response (and, in truth, Seldon could think of none) but brought out from some hidden compartment in his robe a handful of thin bits of plastic of varying color, stared keenly at the two faces before him, holding first one strip, then another, against each face.

"The colors must match reasonably," he said. "No one will be fooled into thinking you are not wearing a skincap, but it must not be repulsively obvious."

Finally, Sunmaster gave a particular strip to Seldon and showed him how it could be pulled out into a cap.

"Please put it on, Tribesman Seldon" he said. "You will find the process clumsy at first, but you will grow accustomed to it."

Seldon put it on, but the first two times it slipped off when he tried to pull it backward over his hair.

"Begin just above your eyebrows," said Sunmaster. His fingers seemed to twitch, as though eager to help.

Seldon said, suppressing a smile, "Would you do it for me?"

And Sunmaster drew back, saying, almost in agitation, "I couldn't. I would be touching your hair."

Seldon managed to hook it on and followed Sunmaster's advice, in pulling it here and there until all his hair was covered. The eyebrow patches fitted on easily.

Dors, who had watched carefully, put hers on without trouble.

"How does it come off?" asked Seldon.

"You have but to find an end and it will peel off without trouble. You will find it easier both to put on and take off if you cut your hair shorter."

"I'd rather struggle a bit," said Seldon. Then, turning to Dors, he said in a low voice, "You're still pretty, Dors, but it does tend to remove some of the character from your face."

"The character is there underneath just the same," she answered. "And I dare say you'll grow accustomed to the hairless me."

In a still lower whisper, Seldon said, "I don't want to stay here long enough to get accustomed to this."

Sunmaster, who ignored, with visible haughtiness, the mumblings among mere tribesmen, said, "If you will enter my ground-car, I will now take you into Mycogen."

37.

"Frankly," whispered Dors, "I can scarcely believe I'm on Trantor."

"I take it, then, you've never seen anything like this before?" said Seldon.

"I've only been on Trantor for two years and I've spent much of my time at the University, so I'm not exactly a world traveler. Still, I've been here and there and I've heard of this and that, but I've never seen or heard of anything like this. The sameness."

Sunmaster drove along methodically and without undue haste. There were other wagon-like vehicles in the roadway, all with hairless men at the controls, their bald pates gleaming in the light.

On either side there were three-story structures, unornamented, all lines meeting at right angles, everything gray in color.

"Dreary," mouthed Dors. "So dreary."

"Egalitarian," whispered Seldon. "I suspect no Brother can lay claim to precedence of any obvious kind over any other."

There were many pedestrians on the walkways as they passed. There were no signs of any moving corridors and no sound of any nearby Expressway.

Don said, "I'm guessing the grays are women."

"It's hard to tell," said Seldon. "The gowns hide everything and one hairless head is like another."

"The grays are always in pairs or with a white. The whines tart walk alone and Sunmaster is a white."

"You may be right." Seldon raised his voice. "Sunmaster, I am curious"

"If you are, then ask what you wish, although I am by no means required to answer."

"..We seem to be passing through a residential area. There are no signs of business establishments, industrial areas-"

"We are a farming community entirely. Where are you from that you do not know this?"

"You know I am an Outworlder," Seldon said stiffly. "I have been on Trantor for only two months."

"Even so."

"But if you are a farming community, Sunmaster, how is it that we have passed no farms either?"

"On lower levels," said Sunmaster briefly.

"Is Mycogen on this level entirely residential, then?"

"And on a few others. We are what you see. Every Brother and his family lives in equivalent quarters; every cohort in its own equivalent community; all have the same ground-can and all Brothers drive their own. There are no servants and none are at ease through the labor of others. None may glory over another."

Seldon lifted his shielded eyebrows at Dors and said, "But some of the people wear white, while some wear gray."

"That is because some of the people are Brothers and some are Sisters."

"And we?"

"You are a tribesman and a guest. You and your"-he paused and then said-"companion will not be bound by all aspects of Mycogenian life."

Nevertheless, you will wear a white gown and your companion will wear a gray one and you will live in special guest quarters like our own."

"Equality for all seems a pleasant ideal, but what happens as your numbers increase? Is the pie, then, cut into smaller pieces?"

"There is no increase in numbers. That would necessitate an increase in area, which the surrounding tribesmen would not allow, or a change for the worse in our way of life."

"..But if-.. " began Seldon.

Sunmaster cut him off. "It is enough, Tribesman Seldon. As I warned you, I am not compelled to answer. Our task, which we have promised our friend Tribesman Hummin, is to keep you secure as long as you do not violate our way of life. That we will do, but there it ends. Curiosity is permitted, but it wears out our patience quickly if persisted in."

Something about his tone allowed no more to be said and Seldon chafed. Hummin, for all his help, had clearly mis-stressed the matter.

It was not security that Seldon sought. At least, not security alone. He needed information too and without that he could not and would not stay here.

Seldon looked with some distress at their quarters. It had a small but individual kitchen and a small but individual bathroom. There were two narrow beds, two clothes closets, a table, and two chairs. In short there was everything that was necessary for two people who were willing to live under cramped conditions.

"We had an individual kitchen and bathroom at Cinna," said Dors with an air of resignation.

"Not I," said Seldon. "Helicon may be a small world, but I lived in a modern city. Community kitchens and bathrooms. -What a waste this is. You might expect it in a hotel, where one is compelled to make a temporary stay, but if the whole sector is like this, imagine the enormous number and duplications of kitchens and bathrooms."

"Part of the egalitarianism, I suppose," said Dors. "No fighting for favored stalls or for faster service. The same for everyone."

"No privacy either. Not that I mind terribly, Dors, but you might and I don't want to give the appearance of taking advantage. We ought to make it clear to them that we must have separate rooms--adjoining but separate."

Dors said, "I'm sure it won't work. Space is at a premium and I think they are amazed by their own generosity in giving us this much. We'll just make do, Hari. We're each old enough to manage. I'm not a blushing maiden and you'll never convince me that you're a callow youth."

"You wouldn't be here, were it not for me."

"What of it? It's an adventure."

"All right, then. Which bed will you take? Why don't you take the one nearer the bathroom?" He sat down on the other. "There's something else that bothers me. As long as we're here, we're tribespeople, you and I, as is even Hummin. We're of the other tribes, not their own cohorts, and most things are none of our business. -But most things are my business. That's what I've come here for. I want to know some of the things they know."

"Or think they know," said Dors with a historian's skepticism. "I understand they have legends that are supposed to date back to primordial times, but I can't believe they can be taken seriously."

"We can't know that until we find out what those legends are. Are there no outside records of them?"

"Not that I know of. These people are terribly ingrown. They're almost psychotic in their inward clinging. That Hummin can break down their barriers somewhat and even get them to take us in is remarkable-really remarkable."

Seldon brooded. "There has to be an opening somewhere. Sunmaster was surprised--angry, in fact--that I didn't know Mycogen was an agricultural community. That seems to be something they don't want kept a secret."

"The point is, it isn't a secret. 'Mycogen' is supposed to be from archaic words meaning 'yeast producer.' At least, that's what I've been told. I'm not a paleolinguist. In

any case, they culture all varieties of microfood-yeast, of course, along with algae, bacteria, multicellular fungi, and so on."

"That 's not uncommon," said Seldon. "Most worlds have this microculture. We have some even on Helicon."

"Not like Mycogen. It's their specialty. They use methods as archaic as the name of their section-secret fertilizing formulas, secret environmental influences. Who knows what? All is secret."

"Ingrown.. "

"..With a vengeance. What it amounts to is that they produce protein and subtle flavoring, so that their microfood isn't like any other in the world. They keep the volume comparatively low and the price is sky-high. I've never tasted any and I'm sure you haven't, but it sells in great quantities to the Imperial bureaucracy and to the upper classes on other worlds. Mycogen depends on such sales for its economic health, so they want everyone to know that they are the source of this valuable food. That, at least, is no secret.'."

"Mycogen must be rich, then."

"They're not poor, but I suspect that it's not wealth they're after. It's protection. The Imperial government protects them because, without them, there wouldn't be these microfoods that add the subtlest flavors, the tangiest spices, to every dish. That means that Mycogen can maintain its odd way of life and be haughty toward its neighbors, who probably find them insupportable."

Dors looked about. "They live an austere life. There's no holovision, I notice, and no book-films."

"I noticed one in the closet up on the shelf." Seldon reached for it, stared at the label, and then said in clear disgust, "A cookbook."

Dors held out her hand for it and manipulated the keys. It took a while, for the arrangement was not quite orthodox, but she finally managed to light the screen and inspect the pages. She said, "There are a few recipes, but for the most part this seems to consist of philosophical essays on gastronomy."

She shut it off and turned it round and about. "It seems to be a single unit. I don't see how one would eject the microcard and insert another. A one-book scanner. Now that's a waste."

"Maybe they think this one book-film is all anyone needs." He reached toward the end table that was between the two beds and picked up another object. "This could be a speaker, except that there's no screen."

"Perhaps they consider the voice sufficient."

"How does it work, I wonder?" Seldon lifted it and looked at it from different sides. "Did you ever see anything like this?"

"In a museum once-if this is the same thing. Mycogen seems to keep itself deliberately archaic. I suppose they consider that another way of separating themselves from the so-called tribesmen that surround them in overwhelming numbers. Their

archaism and odd customs make them indigestible, so to speak. There's a kind of perverse logic to all that."

Seldon, still playing with the device, said, "Whoops! It went on. Or something went on. But I don't hear anything."

Dors frowned and picked up a small felt-lined cylinder that remained behind on the end table. She put it to her ear. "There's a voice coming out of this," she said. "Here, try it." She handed it to him.

Seldon did so and said, "Ouch! It clips on." He listened and said, "Yes, it hurt my ear. You can hear me, I take it. -Yes, this is our room. No, I don't know its number. Dors, have you any idea of the number?"

Dors said, "There's a number on the speaker. Maybe that will do."

"Maybe," said Seldon doubtfully. Then he said into the speaker, "The number on this device is 6LT-3648A. Will that do? -Well, where do I find out how to use this device properly and how to use the kitchen, for that matter? -What do you mean, 'It all works the usual way?' That doesn't do me any good. wee here, I'm a . . . a tribesman, an honored guest. I don't know the usual way. -Yes, I'm sorry about my accent and I'm glad you can recognize a tribesman when you hear one. -My name is Hari Seldon."

There was a pause and Seldon looked up at Dors with a longsuffering expression on his face. "He has to look me up. And I suppose he'll tell me he can't find me. -Oh, you have me? Good! In that case, can you give me the information? -Yes. -Yes. -Yes. -And how can I call someone outside Mycogen? -Oh, then what about contacting Sunmaster Fourteen, for instance? -Well, his assistant then, his aide, whatever? -Uh-huh. -Thank you."

He put the speaker down, unhooked the hearing device from his ear with a little difficulty, turned the whole thing off, and said, "They'll arrange to have someone show us anything we need to know, but he can't promise when that might be. You can't call outside Mycogen-not on this thing anyway--so we couldn't get Hummin if we needed him. And if I want Sunmaster Fourteen, I've got to go through a tremendous rigmarole. This may be an egalitarian society, but there seem to be exceptions that I bet no one will openly admit."

He looked at his watch. "In any case, Dors, I'm not going to view a cookbook and still less am I going to view learned essays. My watch is still telling University time, so I don't know if it's officially bedtime and at the moment I don't care. We've been awake most of the night and I would like to sleep."

"That's all right with me. I'm tired too."

"Thanks. And whenever a new day starts after we've caught up on our sleep, I'm going to ask for a tour of their microfood plantations."

Dors looked startled. "Are you interested?"

"Not really, but if that's the one thing they're proud of, they should be willing to talk about it and once I get them into a talking mood then, by exerting all my charm, I may get them to talk about their legends too. Personally, I think that's a clever strategy."

"I hope so," said Dors dubiously, "but I think that the Mycogenians will not be so easily trapped."

"We'll see," said Seldon grimly. "I mean to get those legends."

39.

The next morning found Hari using the calling device again. He was angry because, for one thing, he was hungry.

His attempt to reach Sunmaster Fourteen was deflected by someone who insisted that Sunmaster could not be disturbed.

"Why not?" Seldon had asked waspishly.

"Obviously, there is no need to answer that question," came back a cold voice.

"We were not brought here to be prisoners," said Seldon with equal coldness.

"Nor to starve."

"I'm sure you have a kitchen and ample supplies of food."

"Yes, we do," said Seldon. "And I do not know how to use the kitchen devices, nor do I know how to prepare the food. Do you eat it raw, fry it, boil it, roast it . . . ?.. "

"I can't believe you are ignorant in such matters."

Dors, who had been pacing up and down during this colloquy, reached for the device and Seldon fended her off, whispering, "He'll break the connection if a woman tries to speak to him."

Then, into the device, he said more firmly than ever, "What you believe or don't believe doesn't matter to me in the least. You send someone here-someone who can do something about our situation-or when I reach Sunmaster Fourteen, as I will eventually, you will pay for this."

Nevertheless, it was two hours before someone arrived (by which time Seldon was in a state of savagery and Dors had grown rather desperate in her attempt to soothe him).

The newcomer was a young man whose bald pate was slightly freckled and who probably would have been a redhead otherwise. He was bearing several pots and he seethed about to explain them when he suddenly looked uneasy and turned his back on Seldon in alarm. "Tribesman," he said, obviously agitated. "Your skincap is not well adjusted."

Seldon, whose impatience had reached the breaking point, said, "That doesn't bother me."

Dors, however, said, "Let me adjust it, Hari. It's just a bit too high here on the left side."

Seldon then growled, "You can turn now, young man. What is your name?"

"I am Graycloud Five," said the Mycogenian uncertainly as he turned and looked cautiously at Seldon. "I am a novitiate. I have brought a meal for you." He hesitated.

"From my own kitchen, where my woman prepared it, tribesman."

He put the pots down on the table and Seldon raised one lid and sniffed the contents suspiciously. He looked up at Dors in surprise. "You know, it doesn't smell bad."

Dors nodded. "You're right. I can smell it too."

Graycloud said, "It's not as hot as it ought to be. It cooled off in transport. You must have crockery and cutlery in your kitchen."

Dors got what was needed, and after they had eaten, largely and a bit greedily, Seldon felt civilized once more.

Dors, who realized that the young man would feel unhappy at being alone with a woman and even unhappier if she spoke to him, found that, by default, it fell to her to carry the pots and dishes into the kitchen and wash them—once she deciphered the controls of the washing device.

Meanwhile, Seldon asked the local time and said, somewhat abashed, "You mean it's the middle of the night?"

"Indeed, tribesman," said Graycloud. "That's why it took a while to satisfy your need."

Seldon understood suddenly why Sunmaster could not be disturbed and thought of Graycloud's woman having to be awakened to prepare him a meal and felt his conscience gnaw at him. "I'm sorry," he said. "We are only tribespeople and we didn't know how to use the kitchen or how to prepare the food. In the morning, could you have someone arrive to instruct us properly?"

"The best I can do, tribesmen," said Graycloud placatingly, "is to have two Sisters sent in. I ask your pardon for inconveniencing you with feminine presence, but it is they who know these things."

Dors, who had emerged from the kitchen, said (before remembering her place in the masculine Mycogenian society), "That's fine, Graycloud. We'd love to meet the Sisters."

Graycloud looked at her uneasily and fleetingly, but said nothing.

Seldon, convinced that the young Mycogenian would, on principle, refuse to have heard what a woman said to him, repeated the remark. "That's fine, Graycloud. We'd love to meet the Sisters."

His expression cleared at once. "I will have them here as soon as it is day."

When Graycloud had left, Seldon said with some satisfaction, "The Sisters are likely to be exactly what we need."

"Indeed? And in what way, Hari?" asked Dors.

"Well, surely if we treat them as though they are human beings, they will be grateful enough to speak of their legends."

"If they know them," said Dors skeptically. "Somehow I have no faith that the Mycogenians bother to educate their women very well."

The Sisters arrived some six hours later after Seldon and Dors had slept some more, hoping to readjust their biological clocks.

The Sisters entered the apartment shyly, almost on tiptoe. Their gowns (which, it turned out, were termed "kirtles" in the Mycogenian dialect) were soft velvety gray, each uniquely decorated by a subtle pattern of fine, darker gray webbing. The kirtles were not entirely unattractive, but they were certainly most efficient at covering up any human feature.

And, of course, their heads were bald and their faces were devoid of any ornamentation. They darted speculative glances at the touch of blue at the corners of Dors's eyes and at the slight red stain at the corners of her lips.

For a few moments, Seldon wondered how one could be certain that the Sisters were truly Sisters.

The answer came at once with the Sisters' politely formal greetings. Both twittered and chirped. Seldon, remembering the grave tones of Sunmaster and the nervous baritone of Graycloud, suspected that women, in default of obvious sexual identification, were forced to cultivate distinctive voices and social mannerisms.

"-I'm Raindrop Forty-Three," twittered one, "and this is my younger sister."

"Raindrop Forty-Five," chirped the other. "We're very strong on 'Raindrops' in our cohort." She giggled.

"I am pleased to meet you both," said Dors gravely, "but now I must know how to address you. I can't just say 'Raindrop,' can I?"

"No," said Raindrop Forty-Three. "You must use the full name if we are both here."

Seldon said, "How about just Forty-Three and Forty-Five, ladies?"

They both stole a quick glance at him, but said not a word.

Dors said softly, "I'll deal with them, Hari."

Seldon stepped back. Presumably, they were single young women and, very likely, they were not supposed to speak to men. The older one seemed the graver of the two and was perhaps the more puritanical. It was hard to tell from a few words and a quick glance, but he had the feeling and was willing to go by that.

Dors said, "The thing is, Sisters, that we tribespeople don't know how to use the kitchen."

"You mean you can't cook?" Raindrop Forty-Three looked shocked and censorious.

Raindrop Forty-Five smothered a laugh. (Seldon decided that his initial estimate of the two was correct.)

Dors said, "I once had a kitchen of my own, but it wasn't like this one and I don't know what the foods are or how to prepare them."

"It's really quite simple," said Raindrop Forty-Five. "We can show you."

"We'll make you a good nourishing lunch," said Raindrop FortyThree. "We'll make it for . . . both of you." She hesitated before adding the final words. It clearly took an effort to acknowledge the existence of a man.

"If you don't mind," said Dors, "I would Eke to be in the kitchen with you and I would appreciate it if you'd explain everything exactly. After all, Sisters, I can't expect you to come here three times a day to cook for us."

"We will show you everything," said Raindrop Forty-Three, nodding her head stiffly. "It may be difficult for a tribeswoman to learn, however. You wouldn't have the . . . feeling for it."

"I shall try," said Dors with a pleasant smile.

They disappeared into the kitchen. Seldon stared after them and tried to work out the strategy he intended to use.

MICROFARM

MYCOGEN- . . . The microfarms of Mycogen are legendary, though they survive today only in such oft-used similes as "rich as the microfarms of Mycogen" or "tasty as Mycogenian yeast." Such encomiums tend to intensify with time, to be sure, but Hari Seldon visited those microfarms in the course of The Flight and there are references in his memoirs that would tend to support the popular opinion . . .

ENCYCLOPEDIA GALACTICA

41.

"That was good." said Seldon explosively. "It was considerably better than the food Graycloud brought-"

Dors said reasonably, "You have to remember that Graycloud's woman had to prepare it on short notice in the middle of the night." She paused and said, "I wish they would say 'wife.' They make 'woman' sound like such an appendage, like 'my house' or my robe.' It is absolutely demeaning."

"I know. It's infuriating. But they might well make 'wife' sound like an appendage as well. It's the way they live and the Sisters don't seem to mind. You and I aren't going to change it by lecturing. Anyway, did you see how the Sisters did it?"

"Yes, I did and they made everything seem very simple. I doubted I could remember everything they did, but they insisted I wouldn't have to. I could get away with mere heating. I gathered the bread had some sort of microderivative added to it in the baking that both raised the dough and lent it that crunchy consistency and warm flavor. Just a hint of pepper, didn't you think?"

"I couldn't tell, but whatever it was, I didn't get enough. And the soup. Did you recognize any of the vegetables?"

"No."

"And what was the sliced meat? Could you tell?"

"I don't think it was sliced meat, actually. We did have a lamb dish back on Cinna that it reminded me of."

"It was certainly not lamb."

"I said that I doubted it was meat at all. -I don't think anyone outside Mycogen eats like this either. Not even the Emperor, I'm sure. Whatever the Mycogenians sell is, I'm willing to bet, near the bottom of the line. They save the best for themselves. We had better not stay here too long, Hari. If we get used to eating like this, we'll never be able to acclimatize ourselves to the miserable stuff they have outside." She laughed.

Seldon laughed too. He took another sip at the fruit juice, which tasted far more tantalizing than any fruit juice he had ever sipped before, and said, "listen, when Hummin took me to the University, we stopped at a roadside diner and had some food that was heavily yeasted. It tasted like-No, never mind what it tasted like, but I wouldn't have thought it conceivable, then, that microfood could taste like this. I wish the Sisters were still here. It would have been polite to thank them."

"I think they were quite aware of how we would feel. I remarked on the wonderful smell while everything was warming and they said, quite complacently, that it would taste even better."

"The older one said that, I imagine."

"Yes. The younger one giggled. -And they'll be back. They're going to bring me a kirtle, so that I can go out to see the shops with them. And they made it clear I would have to wash my face if I was to be seen in public. They will show me where to buy some good-quality kirtles of my own and where I can buy ready-made meals of all kinds. All I'll have to do is heat them up. They explained that decent Sisters wouldn't do that, but would start from scratch. In fact, some of the meal they prepared for us was simply heated and they apologized for that.

They managed to imply, though, that tribespeople couldn't be expected to appreciate true artistry in cooking, so that simply heating prepared food would do for us. -They seem to take it for granted, by the way, that I will be doing all the shopping and cooking."

"As we say at home, 'When in Trantor, do as the Trantorians do.' "

"Yes, I was sure that would be your attitude in this case."

"I'm only human," said Seldon.

"The usual excuse," said Dors with a small smile.

Seldon leaned back with a satisfactory well-filled feeling and said, "You've been on Trantor for two years, Dors, so you might understand a few things that I don't. Is it your opinion that this odd social system the Mycogenians have is part of a supernaturalistic view they have?"

"Supernaturalistic?"

"Yes. Would you have heard that this was so?"

"What do you mean by 'supernaturalistic'?"

"The obvious. A belief in entities that are independent of natural law, that are not bound by the conservation of energy, for instance, or by the existence of a constant of action."

"I see. You're asking if Mycogen is a religious community."

It was Seldon's turn. "Religious?"

"Yes. It's an archaic term, but we historians use it-our study is riddled with archaic terms. 'Religious' is not precisely equivalent to 'supernaturalistic,' though it contains richly supernaturalistic elements. I can't answer your specific question, however, because I've never made any special investigation of Mycogen. Still, from what little I've seen of the

place and from my knowledge of religions in history, I wouldn't be surprised if the Mycogenian society was religious in character."

"In that case, would it surprise you if Mycogenian legends were also religious in character?"

"No, it wouldn't."

"And therefore not based on historical matter?"

"That wouldn't necessarily follow. The core of the legends might still be authentically historic, allowing for distortion and supernaturalistic intermixture."

"Ah," said Seldon and seemed to retire into his thoughts.

Finally Dors broke the silence that followed and said, "It's not so uncommon, you know. There is a considerable religious element on many worlds. It's grown stronger in the last few centuries as the Empire has grown more turbulent. On my world of Cinna, at least a quarter of the population is tritheistic."

Seldon was again painfully and regretfully conscious of his ignorance of history. He said, "Were there times in past history when religion was more prominent than it is today?"

"Certainly. In addition, there are new varieties springing up constantly. The Mycogenian religion, whatever it might be, could be relatively new and may be restricted to Mycogen itself. I couldn't really tell without considerable study."

"But now we get to the point of it, Dors. Is it your opinion that women are more apt to be religious than men are?"

Dors Venabili raised her eyebrows. "I'm not sure if we can assume anything as simple as that." She thought a bit. "I suspect that those elements of a population that have a smaller stake in the material natural world are more apt to find solace in what you call supernaturalism-the poor, the disinherited, the downtrodden. Insofar as supernaturalism overlaps religion, they may also be more religious. There are obviously many exceptions in both directions. Many of the downtrodden may lack religion; many of the rich, powerful, and satisfied may possess it."

"But in Mycogen," said Seldon, "where the women seem to be treated as subhuman-would I be right in assuming they would be more religious than the men, more involved in the legends that the society has been preserving?"

"I wouldn't risk my life on it, Hari, but I'd be willing to risk a week's income on it."

"Good," said Seldon thoughtfully.

Dors smiled at him. "There's a bit of your psychohistory, Hari. Rule number 47,854: The downtrodden are more religious than the satisfied."

Seldon shook his head. "Don't joke about psychohistory, Dors. You know I'm not looking for tiny rules but for vast generalizations and for means of manipulation. I don't want comparative religiosity as the result of a hundred specific rules. I want something from which I can, after manipulation through some system of mathematicized logic, say, 'Aha, this group of people will tend to be more religious than that group, provided that the following criteria are met, and that, therefore, when humanity meets with these stimuli, it will react with these responses.'"

"How horrible," said Dors. "You are picturing human beings as simple mechanical devices. Press this button and you will get that twitch."

"No, because there will be many buttons pushing simultaneously to varying degrees and eliciting so many responses of different sorts that overall the predictions of the furore will be statistical in nature, so that the individual human being will remain a free agent."

"How can you know this?"

"I can't," said Seldon. "At least, I don't know it. I feel it to be so. It is what I consider to be the way things ought to be. If I can find the axioms, the fundamental Laws of Humanics, so to speak, and the necessary mathematical treatment, then I will have my psychohistory. I have proved that, in theory, this is possible-

"But impractical, right?"

"I keep saying so."

A small smile curved Dors's lips, "Is that what you are doing, Hari, looking for some sort of solution to this problem?"

"I don't know. I swear to you I don't know. But Chetter Hummin is so anxious to find a solution and, for some reason, I am anxious to please him. He is so persuasive a man."

"Yes, I know."

Seldon let that comment pass, although a small frown flitted across his face.

Seldon continued. "Hummin insists the Empire is decaying, that it will collapse, that psychohistory is the only hope for saving it-or cushioning it or ameliorating it-and that without it humanity will be destroyed or, at the very least, go through prolonged misery. He seems to place the responsibility for preventing that on me. Now, the Empire will certainly last my time, but if I'm to live at ease, I must lift that responsibility from my shoulders. I must convince myself-and even convince Hummin-that psychohistory is not a practical way out of that, despite theory, it cannot be developed. So I must follow up as many leads as I can and show that each one must fail."

"Leads? Like going back in history to a time when human society was smaller than it is now?"

"Much smaller. And far less complex."

"And showing that a solution is still impractical?"

"Yes."

"But who is going to describe the early world for you? If the Mycogenians have some coherent picture of the primordial Galaxy, Sunmaster certainly won't reveal it to a tribesman. No Mycogenian will. This is an ingrown society-how many times have we already said it?-and its members are suspicious of tribesmen to the point of paranoia. They'll tell us nothing."

"I will have to think of a way to persuade some Mycogenians to talk. Those Sisters, for instance."

"They won't even bear you, male that you are, any more than Sunmaster hears me. And even if they do talk to you, what would they know but a few catch phrases?"

"I must start somewhere."

Dors said, "Well, let me think. Hummin says I must protect you and I interpret that as meaning I must help you when I can. What do I know about religion? That's nowhere near my specialty, you know. I have always dealt with economic forces, rather than philosophic forces, but you can't split history into neat little non-overlapping divisions. For instance, religions tend to accumulate wealth when successful and that eventually tends to distort the economic development of a society. There, incidentally, is one of the numerous rules of human history that you'll have to derive from your basic Laws of Humanics or whatever you called them. But . . . "

And here, Dors's voice faded away as she lapsed into thought. Seldon watched her cautiously and Dors's eyes glazed as though she was looking deep within herself.

Finally she said, "This is not an invariable rule, but it seems to me that on many occasions, a religion has a book-or books-of significance; books that give their ritual, their view of history, their sacred poetry, and who knows what else. Usually, those books are open to all and are a means of proselytization. Sometimes they are secret."

"Do you think Mycogen has books of that sort?"

"To be truthful," said Dors thoughtfully, "I have never heard of any. I might have if they existed openly-which means they either don't exist or are kept secret. In either case, it seems to me you are not going to see them."

"At least it's a starting point," said Seldon grimly.

42.

The Sisters returned about two hours after Hari and Dors had finished lunch. They were smiling, both of them, and Raindrop FortyThree, the graver one, held up a gray kirtle for Dors's inspection.

"It is very attractive," said Dors, smiling widely and nodding her head with a certain sincerity. "I like the clever embroidery here."

"It is nothing," twittered Raindrop Forty-Five. "It is one of my old things and it won't fit very well, for you are taller than I am. But it will do for a while and we will take you out to the very best kirtlery to get a few that will fit you and your tastes perfectly. You will see."

Raindrop Forty-Three, smiling a little nervously but saying nothing and keeping her eyes fixed on the ground, handed a white kirtle to Dors. It was folded neatly. Dors did not attempt to unfold it, but passed it on to Seldon. "From the color I should say it's yours, Hari."

"Presumably," said Seldon, "but give it back. She did not give it to me."

"Oh, Hari," mouthed Dors, shaking her head slightly.

"No," said Seldon firmly. "She did not give it to me. Give it back to her and I'll wait for her to give it to me."

Dors hesitated, then made a halfhearted attempt to pass the kirtle back to Raindrop Forty-Three.

The Sister put her hands behind her back and moved away, all life seeming to drain from her face. Raindrop Forty-Five stole a glance at Seldon, a very quick one, then took a quick step toward Raindrop Forty-Three and put her arms about her.

Dors said, "Come, Hari, I'm sure that Sisters are not permitted to talk to men who are not related to them. What's the use of making her miserable? She can't help it."

"I don't believe it," said Seldon harshly. "If there is such a rule, it applies only to Brothers. I doubt very much that she's ever met a tribesman before."

Dors said to Raindrop Forty-Three in a soft voice, "Have you ever met a tribesman before, Sister, or a tribeswoman?"

A long hesitation and then a slow negative shake of the head.

Seldon threw out his arms. "Well, there you are. If there is a rule of silence, it applies only to the Brothers. Would they have sent these young women-these Sisters-to deal with us if there was any rule against speaking to tribesmen?"

"It might be, Hari, that they were meant to speak only to me and I to you."

"Nonsense. I don't believe it and I won't believe it. I am not merely a tribesman, I am an honored guest in Mycogen, asked to be treated as such by Chetter Hummin and escorted here by Sunmaster Fourteen himself. I will not be treated as though I do not exist. I will be in communication with Sunmaster Fourteen and I will complain bitterly."

Raindrop Forty-Five began to sob and Raindrop Forty-Three, retaining her comparative impassivity, nevertheless flushed faintly.

Dors made as though to appeal to Seldon once again, but he stopped her with a brief and angry outward thrust of his right arm and then stared Toweringly at Raindrop Forty-Three.

And finally she spoke and did not twitter. Rather, her voice trembled hoarsely, as though she had to force it to sound in the direction of a male being and was doing so against all her instincts and desires.

"You must not complain of us, tribesman. That would be unjust. You force me to break the custom of our people. What do you want of me?"

Seldon smiled disarmingly at once and held out his hand. "The garment you brought me. The kirtle."

Silently, she stretched out her arm and deposited the kirtle in his hand.

He bowed slightly and said in a soft warm voice, "Thank you, Sister." He then cast a very brief look in Dors's direction, as though to say: You see? But Dors looked away angrily.

The kirtle was featureless, Seldon saw as he unfolded it (embroidery and decorativeness were for women, apparently), but it came with a tasseled belt that probably had some particular way of being worn. No doubt he could work it out.

He said, "I'll step into the bathroom and put this thing on. It won't take but a minute, I suppose."

He stepped into the small chamber and found the door would not close behind him because Dors was forcing her way in as well. Only when the two of them were in the bathroom together did the door close.

"What were you doing?" Dors hissed angrily. "You were an absolute brute, Hari. Why did you treat the poor woman that way? "

Seldon said impatiently, "I had to make her talk to me. I'm counting on her for information. You know that. I'm sorry I had to be cruel, but how else could I have broken down her inhibitions?" And he motioned her out.

When he emerged, he found Dors in her kirtle too.

Dors, despite the bald head the skincap gave her and the inherent dowdiness of the kirtle, managed to look quite attractive. The stitching on the robe somehow suggested a figure without revealing it in the least. Her belt was wider than his own and was a slightly different shade of gray from her kirtle. What's more, it was held in front by two glittering blue stone snaps. (Women did manage to beautify themselves even under the greatest difficulty, Seldon thought.)

Looking over at Hari, Dors said, "You look quite the Mycogenian now. The two of us are fit to be taken to the stores by the Sisters."

"Yes," said Seldon, "but afterward I want Raindrop Forty-Three to take me on a tour of the microfarms."

Raindrop Forty-Three's eyes widened and she took a rapid step backward.

"I'd like to see them," said Seldon calmly.

Raindrop Forty-Three looked quickly at Dors. "Tribeswoman-"

Seldon said, "Perhaps you know nothing of the farms, Sister."

That seemed to touch a nerve. She lifted her chin haughtily as she still carefully addressed Dors. "I have worked on the microfarms. All Brothers and Sisters do at some point in their lives."

"Well then, take me on the tour," said Seldon, "and let's not go through the argument again. I am not a Brother to whom you are forbidden to speak and with whom you may have no dealings. I am a tribesman and an honored guest. I wear this skincap and this kirtle so as not to attract undue attention, but I am a scholar and while I am here I must learn. I cannot sit in this room and stare at the wall. I want to see the one thing you have that the rest of the Galaxy does not have . . . your microfarms. I should think you'd be proud to show them."

"We are proud," said Raindrop Forty-Three, finally facing Seldon as she spoke, "and I will show you and don't think you will learn any of our secrets if that is what you are after. I will show you the microfarms tomorrow morning. It will take time to arrange a tour."

Seldon said, "I will wait till tomorrow morning. But do you promise? Do I have your word of honor?"

Raindrop Forty-Three said with clear contempt, "I am a Sister and I will do as I say. I will keep my word, even to a tribesman."

Her voice grew icy at the last words, while her eyes widened and seemed to glitter. Seldon wondered what was passing through her mind and felt uneasy.

43.

Seldon passed a restless night. To begin with, Dors had announced that she must accompany him on the tour of the microfarm and he had objected strenuously.

"The whole purpose," he said, "is to make her talk freely, to present her with an unusual environment-alone with a male, even if a tribesman. Having broken custom so far, it will be easier to break it further. If you're along, she will talk to you and I will only get the leavings."

"And if something happens to you in my absence, as it did Upperside?"

"Nothing will happen. Please! If you want to help me, stay away. If not, I will have nothing further to do with you. I mean it, Dors. This is important to me. Much as I've grown fond of you, you cannot come ahead of this."

She agreed with enormous reluctance and said only, "Promise me you'll at least be nice to her, then."

And Seldon said, "Is it me you must protect or her? I assure you that I didn't treat her harshly for pleasure and I won't do so in the future."

The memory of this argument with Dors-their first helped keep him awake a large part of the night; that, together with the nagging thought that the two Sisters might not arrive in the morning, despite Raindrop Forty-Three's promise.

They did arrive, however, not long after Seldon had completed a spare breakfast (he was determined not to grow fat through overindulgence) and had put on a kirtle that fitted him precisely. He had carefully organized the belt so that it hung perfectly.

Raindrop Forty-Three, still with a touch of ice in her eye, said, "if you are ready, Tribesman Seldon, my sister will remain with Tribeswoman Venabili." Her voice was neither twittery nor hoarse. It was as though she had steadied herself through the night, practicing, in her mind, how to speak to one who was a male but not a Brother.

Seldon wondered if she had lost sleep and said, "I am quite ready."

Together, half an hour later, Raindrop Forty-Three and Hari Seldon were descending level upon level. Though it was daytime by the clock, the light was dusky and dimmer than it had been elsewhere on Trantor.

There was no obvious reason for this. Surely, the artificial daylight that slowly progressed around the Trantorian sphere could include the Mycogen Sector.

The Mycogenians must want it that way, Seldon thought, clinging to some primitive habit. Slowly Seldon's eyes adjusted to the dim surroundings.

Seldon tried to meet the eyes of passersby, whether Brothers or Sisters, calmly. He assumed he and Raindrop Forty-Three would be taken as a Brother and his woman and that they would be given no notice as long as he did nothing to attract attention.

Unfortunately, it seemed as if Raindrop Forty-Three wanted to be noticed. She talked to him in few words and in low tones out of a clenched mouth. It was clear that the company of an unauthorized male, even though only she knew this fact, raved her self-confidence. Seldon was quite sure that if he asked her to relax, he would merely make her that much more uneasy. (Seldon wondered what she would do if she met someone who knew her. He felt more relaxed once they reached the lower levels, where human beings were fewer.)

The descent was not by elevators either, but by moving staired ramps that existed in pairs, one going up and one going down. Raindrop FortyThree referred to them as "escalators." Seldon wasn't sure he had caught the word correctly, never having heard it before.

As they sank to lower and lower levels, Seldon's apprehension grew. Most worlds possessed microfarms and most worlds produced their own varieties of microproducts. Seldon, back on Helicon, had occasionally shopped for seasonings in the microfarms and was always aware of an unpleasant stomach-turning stench.

The people who worked at the microfarms didn't seem to mind. Even when casual visitors wrinkled their noses, they seemed to acclimate themselves to it.

Seldon, however, was always peculiarly susceptible to the smell. He suffered and he expected to suffer now. He tried soothing himself with the thought that he was nobly sacrificing his comfort to his need for information, but that didn't keep his stomach from turning itself into knots in apprehension.

After he had lost track of the number of levels they had descended, with the air still seeming reasonably fresh, he asked, "When do we get to the microfarm levels?"

"We're there now."

Seldon breathed deeply. "It doesn't smell as though we are."

"Smell? What do you mean?" Raindrop Forty-Three was Offended enough to speak quite loudly.

"There was always a putrid odor associated with microfarms, in my experience. You know, from the fertilizer that bacteria, yeast, fungi, and saprophytes generally need."

"In your experience?" Her voice lowered again. "Where was that?"

"On my home world."

The Sister twisted her face into wild repugnance. "And your people wallow in gabelle?"

Seldon had never heard the word before, but from the look and the intonation, he knew what it meant.

He said, "It doesn't smell like that, you understand, once it is ready for consumption."

"Ours doesn't smell like that at any time. Our biotechnicians have worked out perfect strains. The algae grow in the purest light and the most carefully balanced electrolyte solutions. The saprophytes are fed on beautifully combined organics. The formulas and recipes are something no tribespeople will ever know. -Come on, here we are. Sniff all you want. You'll find nothing offensive. That is one reason why our food is in

demand throughout the Galaxy and why the Emperor, we are told, eats nothing else, though it is far too good for a tribesman if you ask me, even if he calls himself Emperor."

She said it with an anger that seemed directly aimed at Seldon. Then, as though afraid he might miss that, she added, "Or even if he calls himself an honored guest."

They stepped out into a narrow corridor, on each side of which were large thick glass tanks in which roiled cloudy green water full of swirling, growing algae, moving about through the force of the gas bubbles that streamed up through it. They would be rich in carbon dioxide, he decided.

Rich, rosy light shone down into the tanks, light that was much brighter than that in the corridors. He commented thoughtfully on that.

"Of course," she said. "These algae work best at the red end of the spectrum."

"I presume," said Seldon, "that everything is automated."

She shrugged, but did not respond.

"I don't see quantities of Brothers and Sisters in evidence," Seldon said, persisting.

"Nevertheless, there is work to be done and they do it, even if you don't see them at work. The details are not for you. Don't waste your time by asking about it."

"Wait. Don't be angry with me. I don't expect to be told state secrets. Come on, dear." (The word slipped out.)

He took her arm as she seemed on the point of hurrying away. She remained in place, but he felt her shudder slightly and he released her in embarrassment.

He said, "It's just that it seems automated."

"Make what you wish of the seeming. Nevertheless, there is room here for human brains and human judgment. Every Brother and Sister has occasion to work here at some time. Some make a profession of it."

She was speaking more freely now but, to his continuing embarrassment, he noticed her left hand move stealthily toward her right arm and gently rub the spot where he had touched her, as though he had stung her.

"It goes on for kilometers and kilometers," she said, "but if we turn here there'll be a portion of the fungal section you can see."

They moved along. Seldon noted how clean everything was. The glass sparkled. The tiled floor seemed moist, though when he seized a moment to bend and touch it, it wasn't. Nor was it slippery -unless his sandals (with his big toe protruding in approved Mycogenian fashion) had non-slip soles.

Raindrop Forty-Three was right in one respect. Here and there a Brother or a Sister worked silently, studying gauges, adjusting controls, sometimes engaged in something as unskilled as polishing equipment-always absorbed in whatever they were doing.

Seldon was careful not to ask what they were doing, since he did not want to cause the Sister humiliation in having to answer that she did not know or anger in her having to remind him there were things he must not know.

They passed through a lightly swinging door and Seldon suddenly noticed the faintest touch of the odor he remembered. He looked at Raindrop Forty-Three, but she seemed unconscious of it and soon he too became used to it.

The character of the light changed suddenly. The rosiness was gone and the brightness too. All seemed to be in a twilight except where equipment was spotlighted and wherever there was a spot light there seemed to be a Brother or a Sister. Some wore lighted headbands that gleamed with a pearly glow and, in the middle distance, Seldon could see, here and there, small sparks of light moving erratically.

As they walked, he cast a quick eye on her profile. It was all he could really judge by. At all other times, he could not cease being conscious of her bulging bald head, her bare eyes, her colorless face. They drowned her individuality and seemed to make her invisible. Here in profile, however, he could see something.

Nose, chin, full lips, regularity, beauty. The dim light somehow smoothed out and softened the great upper desert.

He thought with surprise: She could be very beautiful if she grew her hair and arranged it nicely. And then he thought that she couldn't grow her hair. She would be bald her whole life. Why? Why did they have to do that to her? Sunmaster said it was so that a Mycogenian would know himself (or herself) for a Mycogenian all his (or her) life. Why was that so important that the curse of hairlessness had to be accepted as a badge or mark of identity?

And then, because he was used to arguing both sides in his mind, he thought:

Custom is second nature. Be accustomed to a bald head, sufficiently accustomed, and hair on it would seem monstrous, would evoke nausea. He himself had shaved his face every morning, removing all the facial hair, uncomfortable at the merest stubble, and yet he did not think of his face as bald or as being in any way unnatural. Of course, he could grow his facial hair at any time he wished-but he didn't wish to do so.

He knew that there were worlds on which the men did not shave; in some, they did not even clip or shape the facial hair but let it grow wild. What would they say if they could see his own bald face, his own hairless chin, cheek, and lips?

And meanwhile, he walked with Raindrop Forty-Three-endlessly, it seemed-and every once in a while she guided him by the elbow and it seemed to him that she had grown accustomed to that, for she did not withdraw her hand hastily. Sometimes it remained for nearly a minute.

She said, "Here! Come here!"

"What is that?" asked Seldon.

They were standing before a small tray filled with little spheres, each about two centimeters in diameter. A Brother who was tending the area and who had just placed the tray where it was looked up in mild inquiry.

Raindrop Forty-Three said to Seldon in a low voice, "Ask for a few."

Seldon realized she could not speak to a Brother until spoken to and said uncertainly, "May we have a few, B-brother?"

"Have a handful, Brother," said the other heartily.

Seldon plucked out one of the spheres and was on the point of handing it to Raindrop Forty-Three when he noticed that she had accepted the invitation as applying to herself and reached in for two handfuls.

The sphere felt glossy, smooth. Seldon said to Raindrop FortyThree as they moved away from the vat and from the Brother who was in attendance, "Are these supposed to be eaten?" He lifted the sphere cautiously to his nose.

"They don't smell," she said sharply.

"What are they? "

"Dainties. Raw dainties. For the outside market they're flavored in different ways, but here in Mycogen we eat them unflavored -- the only way."

She put one in her mouth and said, "I never have enough."

Seldon put his sphere into his mouth and felt it dissolve and disappear rapidly. His mouth, for a moment, ran liquid and then it slid, almost of its own accord, down his throat. He stood for a moment, amazed. It was slightly sweet and, for that matter, had an even fainter bitter aftertaste, but the train sensation eluded him.

"May I have another?" he said.

"Have half a dozen," said Raindrop Forty-Three, holding out her hand. "They never have quite the same taste twice and have practically no calories. Just taste."

She was right. He tried to have the dainty linger in his mouth; he tried licking it carefully; tried biting off apiece. However, the most careful lick destroyed it. When a bit was crunched off apiece, the rest of it disappeared at once. And each taste was undefinable and not quite like the one before.

"The only trouble is," said the Sister happily, "that every once in a while you have a very unusual one and you never forget it, but you never have it again either. I had one when I was nine-" Her expression suddenly lost its excitement and she said, "It's a good thing. It teaches you the evanescence of things of the world."

It was a signal, Seldon thought. They had wandered about aimlessly long enough. She had grown used to him and was talking to him. And now the conversation had to come to its point. Now!

44.

Seldon said, "I come from a world which lies out in the open, Sister, as all worlds do but Trantor. Rain comes or doesn't come, the rivers trickle or are in flood, temperature is high or low. That means harvests are good or bad. Here, however, the environment is truly controlled. Harvests have no choice but to be good. How fortunate Mycogen is."

He waited. There were different possible answers and his course of action would depend on which answer came.

She was speaking quite freely now and seemed to have no inhibitions concerning his masculinity, so this long tour had served its purpose. Raindrop Forty-Three said, "The environment is not that easy to control. There are, occasionally, viral infections and there are sometimes unexpected and undesirable mutations.

There are times when whole vast batches wither or are worthless."

"You astonish me. And what happens then?"

"There is usually no recourse but to destroy the spoiled batches, even those that are merely suspected of spoilage. Trays and tanks must be totally sterilized, sometimes disposed of altogether."

"It amounts to surgery, then," said Seldon. "You cut out the diseased tissue."

"Yes."

"And what do you do to prevent such things from happening?"

"What can we do? We test constantly for any mutations that may spring up, any new viruses that may appear, any accidental contamination or alteration of the environment. It rarely happens that we detect anything wrong, but if we do, we take drastic action. The result is that bad years are very few and even bad years affect only fractional bits here and there. The worst year we've ever had fell short of the average by only 12 percent-though that was enough to produce hardship. The trouble is that even the most careful forethought and the most cleverly designed computer programs can't always predict what is essentially unpredictable."

(Seldon felt an involuntary shudder go through him. It was as though she was speaking of psychohistory-but she was only speaking of the microfarm produce of a tiny fraction of humanity, while he himself was considering all the mighty Galactic Empire in every one of all its activities.)

Unavoidably disheartened, he said, "Surely, it's not all unpredictable. There are forces that guide and that care for us all."

The Sister stiffened. She turned around toward him, seeming to study him with her penetrating eyes.

But all she said was "What?"

Seldon felt uneasy. "It seems to me that in speaking of viruses and mutations, we're talking about the natural, about phenomena that are subject to natural law. That leaves out of account the supernatural, doesn't it? It leaves out that which is not subject to natural law and can, therefore, control natural law."

She continued to stare at him, as though he had suddenly begun speaking some distant, unknown dialect of Galactic Standard. Again she said, in half a whisper this time, "Wharf"

He continued, stumbling over unfamiliar words that half-embarrassed him. "You must appeal to some great essence, some great spirit, some . . . I don't know what to call it."

Raindrop Forty-Three said in a voice that rose into higher registers but remained low, "I thought so. I thought that was what you meant, but I couldn't believe it. You're accusing us of having religion. Why didn't you say so? Why didn't you use the word?"

She waited for an answer and Seldon, a little confused at the onslaught, said, "Because that's not a word I use. I call it 'supernaturalism.' "

"Call it what you will. It's religion and we don't have it. Religion is for the tribesmen, for the swarming sc-"

The Sister paused to swallow as though she had come near to choking and Seldon was certain the word she had choked over was.

She was in control again. Speaking slowly and somewhat below her normal soprano, she said, "We are not a religious people. Our kingdom is of this Galaxy and always has been. If you have a religion Seldon felt trapped. Somehow he had not counted on this. He raised a hand defensively. "Not really. I'm a mathematician and my kingdom is also of this Galaxy. It's just that I thought, from the rigidity of your customs, that your kingdom-

"Don't think it, tribesman. If our customs are rigid, it is because we are mere millions surrounded by billions. Somehow we must mark ourselves off so that we precious few are not lost among your swarms and hordes. We must be marked off by our hairlessness, our clothing, our behavior, our way of life. We must know who we are and we must be sure that you tribesmen know who we are. We labor in our farms so that we can make ourselves valuable in your eyes and thus make certain that you leave us alone. That's all we ask of you . . . to leave us alone."

"I have no intention of harming you or any of your people. I seek only knowledge, here as everywhere."

"So you insult us by asking about our religion, as though we have ever called on a mysterious, insubstantial spirit to do for us what we cannot do for ourselves."

"There are many people, many worlds who believe in supernaturalism in one form or another . . . religion, if you like the word better. We may disagree with them in one way or another, but we are as likely to be wrong in our disbelief as they in their belief. In any case, there is no disgrace in such belief and my questions were not intended as insults."

But she was not reconciled. "Religion!" she said angrily. "We have no need of it."

Seldon's spirits, having sunk steadily in the course of this exchange, reached bottom. This whole thing, this expedition with Raindrop Forty-Three, had come to nothing.

But she went on to say, "We have something far better. We have history. "

And Seldon's feelings rebounded at once and he smiled.

HAND-ON-THIGH STORY-. . . An occasion cited by Hari Seldon as the first turning point in his search for a method to develop psychohistory. Unfortunately, his published writings give no indication as to what that "story" was and speculations concerning it (there have been many) are futile. It remains one of the many intriguing mysteries concerning Seldon's career.

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45.

Raindrop Forty-Three stared at Seldon, wild-eyed and breathing heavily.

"I can't stay here," she said.

Seldon looked about. "No one is bothering us. Even the Brother from whom we got the dainties said nothing about us. He seemed to take us as a perfectly normal pair."

"That's because there is nothing unusual about us-when the light is dim, when you keep your voice low so the tribesman accent is less noticeable, and when I seem calm. But now-" Her voice was growing hoarse.

"What of now?"

"I am nervous and tense. I am . . . in a perspiration."

"Who is to notice? Relax. Calm down."

"I can't relax here. I can't calm down while I may be noticed."

"Where are we to go, then?"

"There are little sheds for resting. I have worked here. I know about them."

She was walking rapidly now and Seldon followed. Up a small ramp, which he would not have noticed in the twilight without her, there was a line of doors, well spread apart.

"The one at the end," she muttered. "If it's free."

It was unoccupied. A small glowing rectangle said NOT IN USE and the door was ajar.

Raindrop Forty-Three looked about rapidly, motioned Seldon in, then stepped inside herself. She closed the door and, as she did so, a small ceiling light brightened the interior.

Seldon said, "Is there any way the sign on the door can indicate this shed is in use?"

"That happened automatically when the door closed and the light went on," said the Sister.

Seldon could feel air softly circulating with a small sighing sound, but where on Trantor was that ever-present sound and feel not apparent?

The room was not large, but it had a cot with a firm, efficient mattress, and what were obviously clean sheets. There was a chair and table, a small refrigerator, and something that looked like an enclosed hot plate, probably a tiny food-heater.

Raindrop Forty-Three sat down on the chair, sitting stiffly upright, visibly attempting to force herself into relaxation.

Seldon, uncertain as to what he ought to do, remained standing till she gestured-a bit impatiently-for him to sit on the cot. He did so.

Raindrop Forty-Three said softly, as though talking to herself, "If it is ever known that I have been here with a man-even if only a tribesman-I shall indeed be an outcast."

Seldon rose quickly. "Then let's not stay here."

"Sit down. I can't go out when I'm in this mood. You've been asking about religion. What are you after?"

It seemed to Seldon that she had changed completely. Gone was the passivity, the subservience. There was none of the shyness, the backwardness in the presence of a male. She was glaring at him through narrowed eyes.

"I told you. Knowledge. I'm a scholar. It is my profession and my desire to know, I want to understand people in particular, so I want to learn history. For many worlds, the ancient historical records-the truly ancient historical records-have decayed into myths and legends, often becoming part of a set of religious beliefs or of supernaturalism. But if Mycogen does not have a religion, then-"

"I said we have history. "

Seldon said, "Twice you've said you have history. How old?"

"It goes back twenty thousand years."

"Truly? Let us speak frankly. Is it real history or is it something that has degenerated into legend?"

"It is real history, of course."

Seldon was on the point of asking how she could tell, but thought better of it. Was there really a chance that history might reach back twenty thousand years and be authentic? He was not a historian himself, so he would have to check with Dors.

But it seemed so likely to him that on every world the earliest histories were medleys of self-serving heroisms and minidramas that were meant as morality plays and were not to be taken literally. It was surely true of Helicon, yet you would find scarcely a Heliconian who would not swear by all the tales told and insist it was all true history. They would support, as such, even that perfectly ridiculous tale of the first exploration of Helicon and the encounters with large and dangerous flying reptiles-even though nothing like flying reptiles had been found to be native to any world explored and settled by human beings.

He said instead, "How does this history begin?"

There was a faraway look in the Sister's eyes, a look that did not focus on Seldon or on anything in the room. She said, "It begins with a world-our world."

One world."

"One world?" (Seldon remembered that Hummin had spoken of legends of a single, original world of humanity.)

"One world. There were others later, but ours was the first. One world, with space, with open air, with room for everyone, with fertile fields, with friendly homes, with warm people. For thousands of years we lived there and then we had to leave and skulk in one place or another until some of us found a corner of Trantor where we learned to grow food that brought us a little freedom. And here in Mycogen, we now have our own ways-- and our own dreams."

"And your histories give the full details concerning the original world? The one world?"

"Oh yes, it is all in a book and we all have it. Every one of us. We carry it at all times so that there is never a moment when any one of us cannot open it and read it and remember who we are and who we were and resolve that someday we will have our world back."

"Do you know where this world is and who lives on it now?"

Raindrop Forty-Three hesitated, then shook her head fiercely. "We do not, but someday we will find it."

"And you have this book in your possession now?"

"Of course."

"May I see that book?"

Now a slow smile crossed the face of the Sister. She said, "So that's what you want. I knew you wanted something when you asked to be guided through the microfarms by me alone." She seemed a little embarrassed. "I didn't think it was the Book."

"It is all I want," said Seldon earnestly. "I really did not have my mind on anything else. If you brought me here because you thought--"

She did not allow him to finish. "But here we are. Do you or don't you want the Book?"

"Are you offering to let me see it?"

"On one condition."

Seldon paused, weighing the possibility of serious trouble if he had overcome the Sister's inhibitions to a greater extent than he had ever intended. "What condition?" he said.

Raindrop Forty-Three's tongue emerged lightly and licked quickly at her lips. Then she said with a distinct tremor in her voice, "That you remove your skincap."

46.

Hari Seldon stared blankly at Raindrop Forty-Three. There was a perceptible moment in which he did not know what she was talking about. He had forgotten he was wearing a skincap.

Then he put his hand to his head and, for the first time, consciously felt the skincap he was wearing. It was smooth, but he felt the tiny resilience of the hair beneath. Not much. His hair, after all, was fine and without much body.

He said, still feeling it, "Why?"

She said, "Because I want you to. Because that's the condition if you want to see the Book."

He said, "Well, if you really want me to." His hand probed for the edge, so that he could peel it off.

But she said, "No, let me do it. I'll do it." She was looking at him hungrily.

Seldon dropped his hands to his lap. "Go ahead, then."

The Sister rose quickly and sat down next to him on the cot. Slowly, carefully, she detached the skincap from his head just in front of his ear. Again she licked her lips and she was panting as she loosened the skincap about his forehead and turned it up. Then it came away and was gone and Seldon's hair, released, seemed to stir a bit in glad freedom.

He said, troubled, "Keeping my hair under the skincap has probably made my scalp sweat. If so, my hair will be rather damp."

He raised his hand, as though to check the matter, but she caught it and held it back. "I want to do that," she said. "It's part of the condition."

Her fingers, slowly and hesitantly, touched his hair and then withdrew. She touched it again and, very gently, stroked it.

"It's dry," she said. "It feels . . . good."

"Have you ever felt cephalic hair before?"

"Only on children sometimes. This . . . is different." She was stroking again.

"In what way?" Seldon, even amid his embarrassment, found it possible to be curious.

"I can't say. It's just . . . different."

After a while he said, "Have you had enough?"

"No. Don't rush me. Can you make it lie anyway you want it to?"

"Not really. It has a natural way of falling, but I need a comb for that and I don't have one with me."

"A comb?"

"An object with prongs . . . uh, like a fork . . . but the prongs are more numerous and somewhat softer."

"Can you use your fingers?" She was running hers through his hair.

He said, "After a fashion. It doesn't work very well."

"Its bristly behind."

"The hair is shorter there."

Raindrop Forty-Three seemed to recall something. "The eyebrows," she said.

"Isn't that what they're called?" She stripped off the shields, then ran her fingers through the gentle arc of hair, against the grain.

"That's nice," she said, then laughed in a high-pitched way that was almost like her younger sister's giggle. "They're cute."

Seldon said a little impatiently, "Is there anything else that's part of the condition?"

In the rather dim light, Raindrop Forty-Three looked as though she might be considering an affirmative, but said nothing. Instead, she suddenly withdrew her hands and lifted them to her nose. Seldon wondered what she might be smelling.

"How odd," she said. "May I . . . may I do it again another time?"

Seldon said uneasily, "If you will let me have the Book long enough to study it, then perhaps."

Raindrop Forty-Three reached into her kirtle through a slit that Seldon had not noticed before and, from some hidden inner pocket, removed a book bound in some tough, flexible material. He took it, trying to control his excitement.

While Seldon readjusted his skincap to cover his hair, Raindrop Forty-Three raised her hands to her nose again and then, gently and quickly, licked one finger.

47.

"Felt your hair?" said Dors Venabili. She looked at Seldon's hair as though she was of a mind to feel it herself.

Seldon moved away slightly. "Please don't. The woman made it seem like a perversion."

"I suppose it was-from her standpoint. Did you derive no pleasure from it yourself?"

"Pleasure? It gave me gooseflesh. When she finally stopped, I was able to breathe again. I kept thinking: What other conditions will she make?"

Dors laughed. "Were you afraid that she would force sex upon you? Or hopeful?"

"I assure you I didn't dare think. I just wanted the Book."

They were in their room now and Dors turned on her field distorter to make sure they would not be overheard.

The Mycogenian night was about to begin. Seldon had removed his skincap and kirtle and had bathed, paying particular attention to his hair, which he had foamed and rinsed twice. He was now sitting on his cot, wearing a light nightgown that had been hanging in the closet.

Dors said, eyes dancing, "Did she know you have hair on your chest?"

"I was hoping earnestly she wouldn't think of that."

"Poor Hari. It was all perfectly natural, you know. I would probably have had similar trouble if I was alone with a Brother. Worse, I'm sure, since he would believe-Mycogenian society being what it is-that as a woman I would be bound to obey his orders without delay or demur."

"No, Dors. You may think it was perfectly natural, but you didn't experience it.

The poor woman was in a high state of sexual excitement. She engaged all her senses . . . smelled her fingers, licked them. If she could have heard hair grow, she would have listened avidly."

"But that's what I mean by 'natural.' Anything you make forbidden gains sexual attractiveness. Would you be particularly interested in women's breasts if you lived in a society in which they were displayed at all times?"

"I think I might."

"Wouldn't you be more interested if they were always hidden, as in most societies they are? -Listen, let me tell you something that happened to me. I was at a lake resort back home on Cinna . . . I presume you have resorts on Helicon, beaches, that sort of thing?"

"Of course," said Seldon, slightly annoyed. "What do you think Helicon is, a world of rocks and mountains, with only well water to drink?"

"No offense, Hari. I just want to make sure you'll get the point of the story.

On our beaches at Cinna, we're pretty lighthearted about what we wear . . . or don't wear."

"Nude beaches?"

"Not actually, though I suppose if someone removed all of his or her clothing it wouldn't be much remarked on. The custom is to wear a decent minimum, but I must admit that what we consider decent leaves very little to the imagination."

Seldon said, "We have somewhat higher standards of decency on Helicon."

"Yes, I could tell that by your careful treatment of me, but to each its own. In any case, I was sitting at the small beach by the lake and a young man approached to whom I had spoken earlier in the day. He was a decent fellow I found nothing particularly wrong with. He sat on the arm of my chair and placed his right hand on my left thigh, which was bare, of course, in order to steady himself.

"After we had spoken for a minute and a half or so, he said, impishly. 'Here I am. You know me hardly at all and yet it seems perfectly natural to me that I place my hand on your thigh. What's more, it seems perfectly natural to you, since you don't seem to mind that it remains there.'

"It was only then that I actually noticed that his hand was on my thigh. Bare skin in public somehow loses some of its sexual quality. As I said, its the hiding from view that is crucial.

"And the young man felt this too, for he went on to say, 'Yet if I were to meet you under more formal conditions and you were wearing a gown, you wouldn't dream of letting me lift your gown and place my hand on your thigh on the precise spot it now occupies.'

"I laughed and we continued to talk of this and that. Of course, the young man, now that my attention had been called to the position of his hand, felt it no longer appropriate to keep it there and removed it.

"That night I dressed for dinner with more than usual care and appeared in clothing that was considerably more formal than was required or than other women in the

dining room were wearing. I found the young man in question. He was sitting at one of the tables. I approached, greeted him, and said, 'Here I am in a gown, but under it my left thigh is bare. I give you permission. Just lift the gown and place your hand on my left thigh where you had it earlier.'

"He tried. I'll give him credit for that, but everyone was staring. I wouldn't have stopped him and I'm sure no one else would have stopped him either, but he couldn't bring himself to do it. It was no more public then than it had been earlier and the same people were present in both cases. It was clear that I had taken the initiative and that I had no objections, but he could not bring himself to violate the proprieties. The conditions, which had been hand-on-thigh in the afternoon, were not hand-on-thigh in the evening and that meant more than anything logic could say."

Seldon said, "I would have put my hand on your thigh."

"Are you sure?"

"Positive."

"Even though your standards of decency on the beach are higher than ours are?"

"Yes."

Dors sat down on her own cot, then lay down with her hands behind her head. "So that you're not particularly disturbed that I'm wearing a nightgown with very little underneath it."

"I'm not particularly shocked. As for being disturbed, that depends on the definition of the word. I'm certainly aware of how you're dressed."

"Well, if we're going to be cooped up here for a period of time, we'll have to learn to ignore such things."

"Or take advantage of them," said Seldon, grinning. "And I like your hair. After seeing you bald all day, I like your hair."

"Well, don't touch it. I haven't washed it yet." She half-closed her eyes. "It's interesting. You've detached the informal and formal level of respectability."

What you're saying is that Helicon is more respectable at the informal level than Cinna is and less respectable at the formal level. Is that right?"

"Actually, I'm just talking about the young man who placed his hand on your thigh and myself. How representative we are as Cinnians and Heliconians, respectively, I can't say. I can easily imagine some perfectly proper individuals on both worlds--and some madcaps too."

"We're talking about social pressures. I'm not exactly a Galactic traveler, but I've had to involve myself in a great deal of social history. On the planet of Derowd, there was a time when premarital sex was absolutely free. Multiple sex was allowed for the unmarried and public sex was frowned upon only when traffic was blocked: And yet, after marriage, monogamy was absolute and unbroken. The theory was that by working off all one's fantasies first, one could settle down to the serious business of life."

"Did it work?"

"About three hundred years ago that stopped, but some of my colleagues say it stopped through external pressure from other worlds who were losing too much tourist business to Derowd. There is such a thing as overall Galactic social pressure too."

"Or perhaps economic pressure, in this case."

"Perhaps. And being at the University, by the way, I get a chance to study social pressures, even without being a Galactic traveler. I meet people from scores of places inside and outside of Trantor and one of the pet amusements in the social science departments is the comparison of social pressures.

"Here in Mycogen, for instance, I have the impression that sex is strictly controlled and is permitted under only the most stringent rules, all the more tightly enforced because it is never discussed. In the Streeling Sector, sex is never discussed either, but it isn't condemned. In the Jennat Sector, where I spent a week once doing research, sex is discussed endlessly, but only for the purpose of condemning it. I don't suppose there are any two sectors in Trantor -or any two worlds outside Trantor -- in which attitudes toward sex are completely duplicated."

Seldon said, "You know what you make it sound like? It would appear., Dors said, "I'll tell you how it appears. All this talk of sex makes one thing clear to me. I'm simply not going to let you out of my sight anymore."

"What?"

"Twice I let you go, the first time through my own misjudgment and the second because you bullied me into it. Both times it was clearly a mistake. You know what happened to you the first time."

Seldon said indignantly, "Yes, but nothing happened to me the second time."

"You nearly got into a lot of trouble. Suppose you had been caught indulging in sexual escapades with a Sister?"

"It wasn't a sexual-"

"You yourself said she was in a high state of sexual excitement."

"But-"

"It was wrong. Please get it through your head, Hari. From now on, you go nowhere without me."

"Look," said Seldon freezingly, "my object was to find out about Mycogenian history and as a result of the so-called sexual escapade with a Sister, I have a book-the Book."

"The Book! True, there's the Book. Let's see it."

Seldon produced it and Dors thoughtfully hefted it.

She said, "It might not do us any good, Hari. This doesn't look as though it will fit any projector I've ever encountered. That means you'll have to get a Mycogenian projector and they'll want to know why you want it. They'll then find out you have this Book and they'll take it away from you."

Seldon smiled. "If your assumptions were correct, Dors, your conclusions would be inescapable, but it happens that this is not the kind of book you think it is. It's not meant

to be projected. The material is printed on various pages and the pages are turned. Raindrop FortyThree explained that much to me."

"A print-book!" It was hard to tell whether Dors was shocked or amused. "That's from the Stone Age."

"It's certainly pre-Empire," said Seldon, "but not entirely so. Have you ever seen a print-book?"

"Considering that I'm a historian? Of course, Hari."

"Ah, but like this one?"

He handed over the Book and Dors, smiling, opened it-then turned to another page-then flipped the pages. "Its blank," she said.

"It appears to be blank. The Mycogenians are stubbornly primitivistic, but not entirely so. They will keep to the essence of the primitive, but have no objection to using modern technology to modify it for convenience's sake. Who knows?"

"Maybe so, Hari, but I don't understand what you're saying."

"The pages aren't blank, they're covered with microprint. Here, give it back. If I press this little nubbin on the inner edge of the cover- Look!"

The page to which the book lay open was suddenly covered with lines of print that rolled slowly upward.

Seldon said, "You can adjust the rate of upward movement to match your reading speed by slightly twisting the nubbin one way or the other. When the lines of print reach their upward limit when you reach the bottom line, that is-they snap downward and turn off. You turn to the next page and continue."

"Where does the energy come from that does all this?"

"It has an enclosed microfusion battery that lasts the life of the book."

"Then when it runs down-"

"You discard the book, which you may be required to do even before it runs down, given wear and tear, and get another copy. You never replace the battery."

Dors took the Book a second time and looked at it from all sides. She said, "I must admit I never heard of a book like this."

"Nor I. The Galaxy, generally, has moved into visual technology so rapidly, it skipped over this possibility."

"This is visual."

"Yes, but not with the orthodox effects. This type of book has its advantages. It holds far more than an ordinary visual book does."

Dors said, "Where's the turn-on? -Ah, let me see if I can work it." She had opened to a page at random and set the lines of print marching upward. Then she said, "I'm afraid this won't do you any good, Hari. It's pre-Galactic. I don't mean the book. I mean the print . . . the language."

"Can you read it, Dors? As a historian-"

"As a historian, I'm used to dealing with archaic language-but within limits. This is far too ancient for me. I can make out a few words here and there, but not enough to be useful."

"Good," said Seldon. "If it's really ancient, it will be useful."

"Not if you can't read it."

"I can read it," said Seldon. "It's bilingual. You don't suppose that Raindrop Forty-Three can read the ancient script, do you?"

"If she's educated properly, why not?"

"Because I suspect that women in Mycogen are not educated past household duties. Some of the more learned men can read this, but everyone else would need a translation to Galactic." He pushed another nubbin. "And this supplies it."

The lines of print changed to Galactic Standard.

"Delightful," said Dors in admiration.

"We could learn from these Mycogenians, but we don't."

"We haven't known about it."

"I can't believe that. I know about it now. And you know about it. There must be outsiders coming into Mycogen now and then, for commercial or political reasons, or there wouldn't be skincaps so ready for use. So every once in a while someone must have caught a glimpse of this sort of print-book and seen how it works, but it's probably dismissed as something curious but not worth further study, simply because it's Mycogenian."

"But is it worth study?"

"Of course. Everything is. Or should be. Hummin would probably point to this lack of concern about these books as a sign of degeneration in the Empire."

He lifted the Book and said with a gush of excitement, "But I am curious and I will read this and it may push me in the direction of psychohistory."

"I hope so," said Dors, "but if you take my advice, you'll sleep first and approach it fresh in the morning. You won't learn much if you nod over it."

Seldon hesitated, then said, "How maternal you are!"

"I'm watching over you."

"But I have a mother alive on Helicon. I would rather you were my friend."

"As for that, I have been your friend since first I met you."

She smiled at him and Seldon hesitated as though he were not certain as to the appropriate rejoinder. Finally he said, "Then I'll take your advice---as a friend-mind sleep before reading."

He made as though to put the Book on a small table between the two cots, hesitated, turned, and put it under his pillow. Dors Venabili laughed softly. "I think you're afraid I will wake during the night and read parts of the Book before you have a chance to. Is that it?"

"Well," said Seldon, trying not to look ashamed, "that may be it. Even friendship only goes so far and this is my book and it's my psychohistory."

"I agree," said Dors, "and I promise you that we won't quarrel over that. By the way, you were about to say something earlier when I interrupted you. Remember?"

Seldon thought briefly. "No."

In the dark, he thought only of the Book. He gave no thought to the hand-on-thigh story. In fact, he had already quite forgotten it, consciously at least.

48.

Venabili woke up and could tell by her timeband that the night period was only half over. Not hearing Hari's snore, she could tell that his cot was empty. If he had not left the apartment, then he was in the bathroom.

She tapped lightly on the door and said softly, "Hari?"

He said, "Come in," in an abstracted way and she did.

The toilet lid was down and Seldon, seated upon it, held the Book open on his lap. He said, quite unnecessarily, "I'm reading."

"Yes, I see that. But why?"

"I couldn't sleep. I'm sorry."

"But why read in here?"

"If I had turned on the room light, I would have woken you up."

"Are you sure the Book can't be illuminated?"

"Pretty sure. When Raindrop Forty-Three described its workings, she never mentioned illumination. Besides, I suppose that would use up so much energy that the battery wouldn't last the life of the Book." He sounded dissatisfied.

Dors said, "You can step out, then. I want to use this place, as long as I'm here."

When she emerged, she found him sitting cross-legged on his cot, still reading, with the room well lighted.

She said, "You don't look happy. Does the Book disappoint you?.. "

He looked up at her, blinking. "Yes, it does. I've sampled it here and there. Its all I've had time to do. The thing is a virtual encyclopedia and the index is almost entirely a listing of people and places that are of little use for my purposes. It has nothing to do with the Galactic Empire or the pre-Imperial Kingdoms either. It deals almost entirely with a single world and, as nearly as I can make out from what I have read, it is an endless dissertation on internal politics."

"Perhaps you underestimate its age. It may deal with a period when there was indeed only one world . . . one inhabited world."

"Yes, I know," said Seldon a little impatiently. "That's actually what I want-provided I can be sure its history, not legend. I wonder. I don't want to believe it just because I want to believe it."

Dors said, "Well, this matter of a single-world origin is much in the air these days. Human beings are a single species spread all over the Galaxy, so they must have originated somewhere. At least that's the popular view at present. You can't have independent origins producing the same species on different worlds."

"But I've never seen the inevitability of that argument," said Seldon. "If human beings arose on a number of worlds as a number of different species, why couldn't they have interbred into some single intermediate species?"

"Because species can't interbreed. That's what makes them species."

Seldon thought about it a moment, then dismissed it with a shrug. "Well, I'll leave it to the biologists."

"They're precisely the ones who are keenest on the Earth hypothesis."

"Earth? Is that what they call the supposed world of origin?"

"That's a popular name for it, though there's no way of telling what it was called, assuming there was one. And no one has any clue to what its location might be."

"Earth!" said Seldon, curling his lips. "It sounds like a belch to me. In any case, if the book deals with the original world, I didn't come across it. How do you spell the word?"

She told him and he checked the Book quickly. "There you are. The name is not listed in the index, either by that spelling or any reasonable alternative."

"Really?"

"And they do mention other worlds in passing. Names aren't given and there seems no interest in those other worlds except insofar as they directly impinge on the local world they speak of . . . at least as far as I can see from what I've read. In one place, they talked about 'The Fifty.' I don't know what they meant. Fifty leaders? Fifty cities? It seemed to me to be fifty worlds."

"Did they give a name to their own world, this world that seems to preoccupy them entirely?" asked Dors. "If they don't call it Earth, what do they call it?"

"As you'd expect, they call it 'the world' or 'the planet.' Sometimes they call it 'the Oldest' or 'the World of the Dawn,' which has a poetic significance, I presume, that isn't clear to me. I suppose one ought to read the Book entirely through and some matters will then grow to make more sense." He looked down at the Book in his hand with some distaste. "It would take a very long time, though, and I'm not sure that I'd end up any the wiser."

Dors sighed. "I'm sorry, Hari. You sound so disappointed."

"That's because I am disappointed. It's my fault, though. I should not have allowed myself to expect too much. -At one point, come to think of it, they referred to their world as 'Aurora.' "

"Aurora?" said Dors, lifting her eyebrows.

"It sounds like a proper name. It doesn't make any sense otherwise, as far as I can see. Does it mean anything to you, Dors?"

"Aurora." Dors thought about it with a slight frown on her face. "I can't say I've ever heard of a planet with that name in the course of the history of the Galactic Empire or during the period of its growth, for that matter, but I won't pretend to know the name of every one of the twenty-five million worlds. We could look it up in the University library-if we ever get back to Streeling. There's no use trying to find a library here in Mycogen."

Somehow I have a feeling that all their knowledge is in the Book. If anything isn't there, they aren't interested."

Seldon yawned and said, "I think you're right. In any case, there's no use reading any more and I doubt that I can keep my eyes open any longer. Is it all right if I put out the light?"

"I would welcome it, Hari. And let's sleep a little later in the morning."

Then, in the dark, Seldon said softly, "Of course, some of what they say is ridiculous. For instance, they refer to a life expectancy on their world of between three and four centuries."

"Centuries?"

"Yes, they count their ages by decades rather than by years. It gives you a queer feeling, because so much of what they say is perfectly matter-of-fact that when they come out with something that odd, you almost find yourself trapped into believing it."

"If you feel yourself beginning to believe that, then you should realize that many legends of primitive origins assume extended life spans for early leaders. If they're pictured as unbelievably heroic, you see, it seems natural that they have life spans to suit."

"Is that so?" said Seldon, yawning again.

"It is. And the cure for advanced gullibility is to go to sleep and consider matters again the next day."

And Seldon, pausing only long enough to think that an extended life span might well be a simple necessity for anyone trying to understand a Galaxy of people, slept.

49.

The next morning, feeling relaxed and refreshed and eager to begin his study of the Book again, Hari asked Dors, "How old would you say the Raindrop sisters are?"

"I don't know. Twenty . . . twenty-two?"

"Well, suppose they do live three or four centuries "Hari. That's ridiculous."

"I'm saying suppose. In mathematics, we say 'suppose' all the time and see if we can end up with something patently untrue or self-contradictory. An extended life span would almost surely mean an extended period of development. They might seem in their early twenties and actually be in their sixties."

"You can try asking them how old they are."

"We can assume they'd lie."

"Look up their birth certificates."

Seldon smiled wryly. "I'll bet you anything you like-a roll in the hay, if you're willing-that they'll claim they don't keep records or that, if they do, they will insist those records are closed to tribespeople."

"No bet," said Dors. "And if that's true, then it's useless trying to suppose anything about their age."

"Oh no. Think of it this way. If the Mycogenians are living extended life spans that are four or five times that of ordinary human beings, they can't very well give birth to very many children without expanding their population tremendously. You remember that Sunmaster said something about not having the population expand and bit off his remarks angrily at that time."

Dors said, "What are you getting at?"

"When I was with Raindrop Forty-Three, I saw no children."

"On the microfarms?"

'Yes.'

"Did you expect children there? I was with Raindrop Forty-Five in the shops and on the residential levels and I assure you I saw a number of children of all ages, including infants. Quite a few of them."

"Ah." Seldon looked chagrined. "Then that would mean they can't be enjoying extended life spans."

Dors said, "By your line of argument, I should say definitely not. Did you really think they did?"

"No, not really. But then you can't close your mind either and make assumptions without testing them one way or another."

"You can waste a lot of time that way too, if you stop to chew away at things that are ridiculous on the face of it."

"Some things that seem ridiculous on the face of it aren't. That's all. Which reminds me. You're the historian. In your work, have you ever come across objects or phenomena called 'robots'?"

"Ah! Now you're switching to another legend and a very popular one. There are any number of worlds that imagine the existence of machines in human form in prehistoric times. These are called 'robots.'"

"The tales of robots probably originate from one master legend, for the general theme is the same. Robots were devised, then grew in numbers and abilities to the status of the almost superhuman. They threatened humanity and were destroyed. In every case, the destruction took place before the actual reliable historic records available to us today existed. The usual feeling is that the story is a symbolic picture of the risks and dangers of exploring the Galaxy, when human beings expanded outward from the world or worlds that were their original homes. There must always have been the fear of encountering other-and superior-intelligences."

"Perhaps they did at least once and that gave rise to the legend."

"Except that on no human-occupied world has there been any record or trace of any pre-human or non-human intelligence."

"But why 'robots'? Does the word have meaning?"

"Not that I know of, but it's the equivalent of the familiar 'automata.' "

"Automata! Well, why don't they say so?"

"Because people do use archaic terms for flavor when they tell an ancient legend. Why do you ask all this, by the way?"

"Because in this ancient Mycogenian book, they talk of robots. And very favorably, by the way. -Listen, Dors, aren't you going out with Raindrop Forty-Five again this afternoon?"

"Supposedly-if she shows up."

"Would you ask her some questions and try to get the answers out of her?"

"I can try. What are the questions?"

"I would like to find out, as tactfully as possible, if there is some structure in Mycogen that is particularly significant, that is tied in with the past, that has a sort of mythic value, that can-"

Dors interrupted, trying not to smile. "I think that what you are trying to ask is whether Mycogen has a temple."

And, inevitably, Seldon looked blank and said, "What's a temple?"

"Another archaic term of uncertain origin. It means all the things you asked about-significance, past, myth. Very well, I'll ask. It's the sort of thing, however, that they might find difficult to speak of. To tribespeople, certainly."

"Nevertheless, do try."

SACRATORIUM

AURORA- . . . A mythical world, supposedly inhabited in primordial times, during the dawn of interstellar travel. It is thought by some to be the perhaps equally mythical "world of origin" of humanity and to be another name for "Earth." The people of the Mycogen (q.v.) Sector of ancient Trainor reportedly held themselves to be descended from the inhabitants of Aurora and made that tenet central to their system of beliefs, concerning which almost nothing else is known . . .

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50.

The two Raindrops arrived at midmorning. Raindrop Forty-Five seemed as cheerful as ever, but Raindrop Forty-Three paused just inside the door, looking drawn and circumspect. She kept her eyes down and did not so much as glance at Seldon.

Seldon looked uncertain and gestured to Dors, who said in a cheerful businesslike tone of voice, "One moment, Sisters. I must give instructions to my man or he won't know what to do with himself today."

They moved into the bathroom and Dors whispered, "Is something wrong?"

"Yes. Raindrop Forty-Three is obviously shattered. Please tell her that I will return the Book as soon as possible."

Dors favored Seldon with a long surprised look. "Hari," she said, "you're a sweet, caring person, but you haven't the good sense of an amoeba. If I so much as mention the Book to the poor woman, she'll be certain that you told me all about what happened yesterday and then she'll really be shattered. The only hope is to treat her exactly as I would ordinarily."

Seldon nodded his head and said dispiritedly, "I suppose you're right."

Dors returned in time for dinner and found Seldon on his cot, still leafing through the Book, but with intensified impatience.

He looked up with a scowl and said, "If we're going to be staying here any length of time, we're going to need a communication device of some sort between us. I had no idea when you'd get back and I was a little concerned."

"Well, here I am," she said, removing her skincap gingerly and looking at it with more than a little distaste. "I'm really pleased at your concern. I rather thought you'd be so lost in the Book, you wouldn't even realize I was gone."

Seldon snorted.

Dors said, "As for communications devices, I doubt that they are easy to come by in Mycogen. It would mean easing communication with tribespeople outside and I

suspect the leaders of Mycogen are bound and determined to cut down on any possible interaction with the great beyond."

"Yes," said Seldon, tossing the Book to one side, "I would expect that from what I see in the Book. Did you find out about the whatever you called it . . . the temple?"

"Yes," she said, removing her eyebrow patches. "It exists. There are a number of them over the area of the sector, but there's a central building that seems to be the important one. -Would you believe that one woman noticed my eyelashes and told me that I shouldn't let myself be seen in public? I have a feeling she intended to report me for indecent exposure."

"Never mind that," said Seldon impatiently. "Do you know where the central temple is located?"

"I have directions, but Raindrop Forty-Five warned me that women were not allowed inside except on special occasions, none of which are coming up soon. It's called the Sacratorium."

"The what."

"The Sacratorium."

"What an ugly word. What does it mean?"

Dors shook her head. "It's new to me. And neither Raindrop knew what it meant either. To them, Sacratorium isn't what the building is called, it's what it is. Asking them why they called it that probably sounded like asking them why a wall is called a wall."

"Is there anything about it they do know?"

"Of course, Hari. They know what it's for. It's a place that's devoted to something other than the life here in Mycogen. It's devoted to another world, a former and better one."

"The world they once lived on, you mean?"

"Exactly. Raindrop Forty-Five all but said so, but not quite. She couldn't bring herself to say the word."

"Aurora?"

"That's the word, but I suspect that if you were to say it out loud to a group of Mycogenians, they would be shocked and horrified. Raindrop Forty-Five, when she said, 'The Sacratorium is dedicated to-', stopped at that point and carefully wrote out the letters one by one with her finger on the palm of her hand. And she blushed, as though she was doing something obscene."

"Strange," said Seldon. "If the Book is an accurate guide, Aurora is their dearest memory, their chief point of unification, the center about which everything in Mycogen revolves. Why should its mention be considered obscene?"

-Are you sure you didn't misinterpret what the Sister meant?"

"I'm positive. And perhaps it's no mystery. Too much talk about it would get to tribespeople. The best way of keeping it secret unto themselves is to make its very mention taboo."

. . . taboo?"

"A specialized anthropological term. It's a reference to serious and effective social pressure forbidding some sort of action. The fact that women are not allowed in the Sacratorium probably has the force of a taboo. I'm sure that a Sister would be horrified if it was suggested that she invade its precincts."

"Are the directions you have good enough for me to get to the Sacratorium on my own?"

"In the first place, Hari, you're not going alone. I'm going with you. I thought we had discussed the matter and that I had made it clear that I cannot protect you at long distance-not from sleet storms and not from feral women. In the second place, it's impractical to think of walking there. Mycogen may be a small sector, as sectors go, but it simply isn't that small."

"An Expressway, then."

"There are no Expressways passing through Mycogenian territory. It would make contact between Mycogenians and tribespeople too easy. Still, there are public conveyances of the kind that are found on less developed planets. In fact, that's what Mycogen is, a piece of an undeveloped planet, embedded like a splinter in the body of Trantor, which is otherwise a patchwork of developed societies. -And Hari, finish with the Book as soon as possible. It's apparent that Rainbow FortyThree is in trouble as long as you have it and so will we be if they find out."

"Do you mean a tribesperson reading it is taboo?"

"I'm sure of it."

"Well, it would be no great loss to give it back. I should say that 95 percent of it is incredibly dull; endless in-fighting among political groups, endless justification of policies whose wisdom I cannot possibly judge, endless homilies on ethical matters which, even when enlightened, and they usually aren't, are couched with such infuriating self-righteousness as to almost enforce violation."

"You sound as though I would be doing you a great favor if I took the thing away from you."

"Except that there's always the other 5 percent that discusses the never-to-be-mentioned Aurora. I keep thinking that there may be something there and that it may be helpful to me. That's why I wanted to know about the Sacratorium. "

"Do you hope to find support for the Book's concept of Aurora in the Sacratorium?"

"In a way. And I'm also terribly caught up in what the Book has to say about automata, or robots, to use their term. I find myself attracted to the concept."

"Surely, you don't take it seriously?"

"Almost. If you accept some passages of the Book literally, then there is an implication that some robots were in human shape."

"Naturally. If you're going to construct a simulacrum of a human being, you will make it look like a human being."

"Yes, simulacrum means 'likeness,' but a likeness can be crude indeed. An artist can draw a stick figure and you might know he is representing a human being and

recognize it. A circle for the head, a stalk for the body, and four bent lines for arms and legs and you have it. But I mean robots that really look like a human being, in every detail."

"Ridiculous, Hari. Imagine the time it would take to fashion the metal of the body into perfect proportions, with the smooth curve of underlying muscles."

"Who said 'metal,' Dors? The impression I got is that such robots were organic or pseudo-organic, that they were covered with skin, that you could not easily draw a distinction between them and human beings in any way."

"Does the Book say that?"

"Not in so many words. The inference, however-"

"Is your inference, Hari. You can't take it seriously."

"Let me try. I find four things that I can deduce from what the Book says about robots-and I followed up every reference the index gave. First, as I say, they-or some of them-exactly resembled human beings; second, they had very extended life spans-if you want to call it that."

"Better say 'effectiveness,' " said Dors, "or you'll begin thinking of them as human altogether."

"Third," said Seldon, ignoring her, "that some--or, at any rate, at least one--continues to live on to this day."

"Hart', that's one of the most widespread legends we have. The ancient hero does not die but remains in suspended animation, ready to return to save his people at some time of great need. Really, Hari."

"Fourth," said Seldon, still not rising to the bait, "there are some lines that seem to indicate that the central temple-or the Sacratorium, if that's what it is, though I haven't found that word in the Book, actually contains a robot." He paused, then said, "Do you see?"

Dors said, "No. What should I see?"

"If we combine the four points, perhaps a robot that looks exactly like a human being and that is still alive, having been alive for, say, the last twenty thousand years, is in the Sacratorium."

"Come on, Hari, you can't believe that."

"I don't actually believe it, but I can't entirely let go either. What if it's true? What if- its only one chance out of a million, I admit it's true? Don't you see how useful he could be to me? He could remember the Galaxy as it was long before any reliable historical records existed. He might help make psychohistory possible."

"Even if it was true, do you suppose the Mycogenians would let you see and interview the robot?"

"I don't intend to ask permission. I can at least go to the Sacratorium and see if there's something to interview first."

"Not now. Tomorrow at the earliest. And if you don't think better of it by morning, we go."

"You told me yourself they don't allow women-"

"They allow women to look at it from outside, I'm sure, and I suspect that is all we'll get to do."

And there she was adamant.

Hari Seldon was perfectly willing to let Dors take the lead. She had been out in the main roadways of Mycogen and was more at home with them than he was.

Dors Venabili, brows knitted, was less delighted with the prospect. She said, "We can easily get lost, you know."

"Not with that booklet," said Seldon.

She looked up at him impatiently. "Fix your mind on Mycogen, Hari. What I should have is a computomap, something I can ask questions of. This Mycogenian version is just a piece of folded plastic. I can't tell this thing where I am. I can't tell it by word of mouth and I can't even tell it by pushing the necessary contacts. It can't tell me anything either way. It's a print thing."

"Then read what it says."

"That's what I'm trying to do, but it's written for people who are familiar with the system to begin with. We'll have to ask."

"No, Dors. That would be a last resort. I don't want to attract attention. I would rather we take our chances and try to find our own way, even if it means making one or two wrong turns."

Dors leafed through the booklet with great attention and then said grudgingly, "Well, it gives the Sacratatorium important mention. I suppose that's only natural. I presume everyone in Mycogen would want to get there at one time or another." Then, after additional concentration, she said, "I'll tell you what. There's no way of taking a conveyance from here to there."

"What?"

"Don't get excited. Apparently, there's a way of getting from here to another conveyance that will take us there. We'll have to change from one to another."

Seldon relaxed. "Well, of course. You can't take an Expressway to half the places on Trantor without changing."

Dors cast an impatient glance at Seldon. "I know that too. It's just that I'm used to having these things tell me so. When they expect you to find out for yourself, the simplest things can escape you for a while."

"All right, dear. Don't snap. If you know the way now, lead. I will follow humbly."

And follow her he did, until they came to an intersection, where they stopped. Three white-kirtled males and a pair of gray-kirtled females were at the same intersection. Seldon tried a universal and general smile in their direction, but they responded with a blank stare and looked away.

And then the conveyance came. It was an outmoded version of what Seldon, back on Helicon, would have called a gravi-bus. There were some twenty upholstered benches inside, each capable of holding four people. Each bench had its own doors on both sides of the bus. When it stopped, passengers emerged on either side. (For a moment, Seldon was concerned for those who got out on the traffic side of the gravi-bus, but then he

noticed that every vehicle approaching from either direction stopped as it neared the bus. None passed it while it was not moving.)

Dors pushed Seldon impatiently and he moved on to a bench where two adjoining seats were available. Dors followed after. (The men always got on and got off first, he noticed.)

.11.11 try. . .

"For instance," she said and pointed to a smooth boxed-off area on the back of the bench directly before each of them. As soon as the conveyance had begun to move, words lit up, naming the next stop and the notable structures or crossways that were nearby.

"Now, that will probably tell us when we're approaching the changeover we want. At least the sector isn't completely barbaric."

"Good," said Seldon. Then, after a while, leaning toward Dors, he whispered, "No one is looking at us. It seems that artificial boundaries are set up to preserve individual privacy in any crowded place. Have you noticed that?"

"I've always taken it for granted. If that's going to be a rule of your psychohistory, no one will be very impressed by it."

As Dors had guessed, the direction plaque in front of them eventually announced the approach to the changeover for the direct line to the Sacratorium.

They exited and again had to wait. Some buses ahead had already left this intersection, but another gravi-bus was already approaching. They were on a well-traveled route, which was not surprising; the Sacratorium was bound to be the center and heartbeat of the sector.

They got on the gravi-bus and Seldon whispered, "We're not paying. . . According to the map, public transportation is a free service."

Seldon thrust out his lower lip. "How civilized. I suppose that nothing is all of a piece, not backwardness, not barbarism, nothing."

But Dors nudged him and whispered, "Your rule is broken. We're being watched. The man on your right."

52.

Seldon's eyes shifted briefly. The man to his right was rather thin and seemed quite old. He had dark brown eyes and a swarthy complexion, and Seldon was sure that he would have had black hair if he had not been depilated.

He faced front again, thinking. This Brother was rather atypical. The few Brothers he had paid any attention to had been rather tall, light-skinned, and with blue or gray eyes. Of course, he had not seen enough of them to make a general rule.

Then there was a light touch on the right sleeve of his kirtle. Seldon turned hesitantly and found himself looking at a card on which was written lightly, CAREFUL,

TRIBESMAN! Seldon started and put a hand to his skincap automatically. The man next to him silently mouthed, "Hair."

Seldon's hand found it, a tiny exposure of bristles at his temple. He must have disturbed the skincap at some point or another. Quickly and as unobtrusively as possible, he tugged the skincap, then made sure that it was snug under the pretence of stroking his head.

He turned to his neighbor on his right, nodded slightly, and mouthed, "Thank you."

His neighbor smiled and said in a normal speaking voice, "Going to the Sacratorium?"

Seldon nodded. "Yes, I am."

"Easy guess. So am I. Shall we get off together?" His smile was friendly.

"I'm with my-my-"

"With your woman. Of course. All three together, then?"

Seldon was not sure how to react. A quick look in the other direction showed him that Dors's eyes were turned straight ahead. She was showing no interest in masculine conversation-an attitude appropriate for a Sister. However, Seldon felt a soft pat on his left knee, which he took (with perhaps little justification) to mean: "It's all right."

In any case, his natural sense of courtesy was on that side and he said, "Yes, certainly."

There was no further conversation until the direction plaque told them they were arriving at the Sacratorium and Seldon's Mycogenian friend was rising to get off.

The gravi-bus made a wide turn about the perimeter of a large area of the Sacratorium grounds and there was a general exodus when it came to a halt, the men sliding in front of the women to exit first. The women followed.

The Mycogenian's voice crackled a bit with age, but it was cheerful. He said, "It's a little early for lunch my . . . friends, but take my word for it that things will be crowded in not too long a time. Would you be willing to buy something simple now and eat it outside? I am very familiar with this area and I know a good place."

Seldon wondered if this was a device to maneuver innocent tribespeople into something or other disreputable or costly, yet decided to chance it.

"You're very kind," he said. "Since we are not at all familiar with the place, we will be glad to let you take the lead."

They bought lunch-sandwiches and a beverage that looked like milk at an open-air stand. Since it was a beautiful day and they were visitors, the old Mycogenian said, they would go to the Sacratorium grounds and eat out of doors, the better to become acquainted with their surroundings.

During their walk, carrying their lunch, Seldon noted that, on a very small scale, the Sacratorium resembled the Imperial Palace and that the grounds around it resembled, on a minute scale, the Imperial grounds. He could scarcely believe that the Mycogenian people admired the Imperial institution or, indeed, did anything but hate and despise it, yet the cultural attraction was apparently not to be withstood.

"It's beautiful," said the Mycogenian with obvious pride.

"Quite," said Seldon. "How it glistens in the daylight."

"The grounds around it," he said, "are constructed in imitation of the government grounds on our Dawn World . . . in miniature, to be sure."

"Did you ever see the grounds of the Imperial Palace?" asked Seldon cautiously.

The Mycogenian caught the implication and seemed in no way put out by it. "They Copied the Dawn World as best they could too."

Seldon doubted that in the extreme, but he said nothing.

They came to a semicircular seat of white stonite, sparkling in the light as the Sacratorium did.

"Good," said the Mycogenian, his dark eyes gleaming with pleasure. "No one's taken my place. I call it mine only because it's my favorite seat. It affords a beautiful view of the side wall of the Sacratorium past the trees. Please sit down. It's not cold, I assure you. And your companion. She is welcome to sit too. She is a tribeswoman, I know, and has different customs. She . . . she may speak if she wishes."

Dors gave him a hard look and sat down.

Seldon, recognizing the fact that they might remain with this old Mycogenian a while, thrust out his hand and said, "I am Hari and my female companion is Dors. We don't use numbers, I'm afraid."

"To each his . . . or her . . . own," said the other expansively. "I am Mycelium Seventy-Two. We are a large cohort."

"Mycelium?" said Seldon a bit hesitantly.

"You seem surprised," said Mycelium. "I take it, then, you've only met members of our Elder families. Names like Cloud and Sunshine and Starlight-all astronomical."

"I must admit-" began Seldon.

"Well, meet one of the lower classes. We take our names from the ground and from the micro-organisms we grow. Perfectly respectable."

"I'm quite certain," said Seldon, "and thank you again for helping me with my . . . problem in the gravi-bus."

"Listen," said Mycelium Seventy-Two, "I saved you a lot of trouble. If a Sister had seen you before I did, she would undoubtedly have screamed and the nearest Brothers would have hustled you off the bus maybe not even waiting for it to stop moving."

Dors leaned forward so as to see across Seldon. "How is it you did not act in this way yourself?"

"I? I have no animosity against tribespeople. I'm a scholar."

"A scholar?"

"First one in my cohort. I studied at the Sacratorium School and did very well. I'm learned in all the ancient arts and I have a license to enter the tribal library, where they keep book-films and books by tribespeople. I can view any book-film or read any book I wish to. We even have a computerized reference library and I can handle that too. That sort of thing broadens your mind. I don't mind a little hair showing. I've seen pictures of men with hair many a time. And women too." He glanced quickly at Dors.

They ate in silence for a while and then Seldon said, "I notice that every Brother who enters or leaves the Sacratorium is wearing a red sash."

"Oh yes," said Mycelium Seventy-Two. "Over the left shoulder and around the right side of the waist-usually very fancily embroidered."

"Why is that?"

"It's called an 'obiah.' It symbolizes the joy felt at entering the Sacratorium and the blood one would spill to preserve it."

"Blood?" said Dors, frowning.

"Just a symbol. I never actually heard of anyone spilling blood over the Sacratorium. For that matter, there isn't that much joy. it's mostly wailing and mourning and prostrating one's self over the Lost World." His voice dropped and became soft.

"Very silly."

Dors said, "You're not a . . . a believer?"

"I'm a scholar," said Mycelium with obvious pride. His face wrinkled as he grinned and took on an even more pronounced appearance of age. Seldon found himself wondering how old the man was. Several centuries? -No, they'd disposed of that. It couldn't be and yet "How old are you?" Seldon asked suddenly, involuntarily.

Mycelium Seventy-Two showed no signs of taking offense at the question, nor did he display any hesitation at answering, "Sixty-seven."

Seldon had to know. "I was told that your people believe that in very early times everyone lived for several centuries."

Mycelium Seventy-Two looked at Seldon quizzically. "Now how did you find that out? Someone must have been talking out of turn . . . but its true. There is that belief. Only the unsophisticated believe it, but the Elders encourage it because it shows our superiority. Actually, our life expectancy is higher than elsewhere because we eat more nutritionally, but living even one century is rare."

"I take it you don't consider Mycogenians superior," said Seldon.

Mycelium Seventy-Two said, "There's nothing wrong with Mycogenians. They're certainly not inferior. Still, I think that all men are equal. -Even women," he added, looking across at Dors.

"I don't suppose," said Seldon, "that many of your people would agree with that."

"Or many of your people," said Mycelium Seventy-Two with a faint resentment. "I believe it, though. A scholar has to. I've viewed and even read all the great literature of the tribespeople. I understand your culture. I've written articles on it. I can sit here just as comfortably with you as though you were . . . tit."

Dors said a little sharply, "You sound proud of understanding tribespeople's ways. Have you ever traveled outside Mycogen?"

Mycelium Seventy-Two seemed to move away a little. "No."

"Why not? You would get to know us better."

"I wouldn't feel right. I'd have to wear a wig. I'd be ashamed."

Dors said, "Why a wig? You could stay bald."

"No," said Mycelium Seventy-Two, "I wouldn't be that kind of fool. I'd be mistreated by all the hairy ones."

"Mistreated? Why?" said Dors. "We have a great many naturally bald people everywhere on Trantor and on every other world too."

"My father is quite bald," said Seldon with a sigh, "and I presume that in the decades to come I will be bald too. My hair isn't all that thick now."

"That's not bald," said Mycelium Seventy-Two. "You keep hair around the edges and over your eyes. I mean bald-no hair at all."

"Anywhere on your body?" said Dors, interested.

And now Mycelium Seventy-Two looked offended and said nothing.

Seldon, anxious to get the conversation back on track, said, "Tell me, Mycelium Seventy-Two, can tribespeople enter the Sacratorium as spectators?"

Mycelium Seventy-Two shook his head vigorously. "Never. It's for the Sons of the Dawn only."

Dors said, "Only the Sons?"

Mycelium Seventy-Two looked shocked for a moment, then said forgivingly, "Well, you're tribespeople. Daughters of the Dawn enter only on certain days and times. That's just the way it is. I don't say I approve. If it was up to me, I'd say, 'Go in. Enjoy if you can.' Sooner others than me, in fact."

"Don't you ever go in?"

"When I was young, my parents took me, but--he shook his head--"it was just people staring at the Book and reading from it and sighing and weeping for the old days. It's very depressing. You can't talk to each other. You can't laugh. You can't even look at each other. Your mind has to be totally on the Lost World. Totally." He waved a hand in rejection. "Not for me. I'm a scholar and I want the whole world open to me."

"Good," said Seldon, seeing an opening. "We feel that way too. We are scholars also, Dors and myself."

"I know," said Mycelium Seventy-Two.

"You know? How do you know?"

"You'd have to be. The only tribespeople allowed in Mycogen are Imperial officials and diplomats, important traders, and scholars -and to me you have the look of scholars. That's what interested me in you. Scholars together." He smiled delightedly.

"So we are. I am a mathematician. Dors is a historian. And you?"

"I specialize in . . . culture. I've read all the great works of literature of the tribespeople: Lissauer, Mentone, Novigor--"

"And we have read the great works of your people. I've read the Book, for instance. -About the Lost World."

Mycelium Seventy-Two's eyes opened wide in surprise. His olive complexion seemed to fade a little. "You have? How? Where?"

"At our University we have copies that we can read if we have permission."

"Copies of the Book?"

'Yes.'

"I wonder if the Elders know this?"

Seldon said, "And I've read about robots."

"Robots?"

"Yes. That is why I would like to be able to enter the Sacratorium. I would like to see the robot." (Dors kicked lightly at Seldon's ankle, but he ignored her.)

Mycelium Seventy-Two said uneasily, "I don't believe in such things. Scholarly people don't." But he looked about as though he was afraid of being overheard.

Seldon said, "I've read that a robot still exists in the Sacratorium."

Mycelium Seventy-Two said, "I don't want to talk about such nonsense."

Seldon persisted. "Where would it be if it was in the Sacratorium?"

"Even if one was there, I couldn't tell you. I haven't been in there since I was a child."

"Would you know if there was a special place, a hidden place?"

"There's the Elders' aerie. Only Elders go there, but there's nothing there."

"Have you ever been there?"

"No, of course not."

"Then how do you know?"

"I don't know that there's no pomegranate tree there. I don't know that there's no laser-organ there. I don't know that there's no item of a million different kinds there. Does my lack of knowledge of their absence show they are all present?"

For the moment, Seldon had nothing to say.

A ghost of a smile broke through Mycelium Seventy-Two's look of concern. He said, "That's scholars' reasoning. I'm not an easy man to tackle, you see. Just the same, I wouldn't advise you to try to get up into the Elders' aerie. I don't think you'd like what would happen if they found a tribesman inside. -Well. Best of the Dawn to you." And he rose suddenly-without warning-and hurried away.

Seldon looked after him, rather surprised. "What made him rush off like that?"

"I think," said Dors, "it's because someone is approaching."

And someone was. A tall man in an elaborate white kirtle, crossed by an even more elaborate and subtly glittering red sash, glided solemnly toward them. He had the unmistakable look of a man with authority and the even more unmistakable look of one who is not pleased.

53.

Hari Seldon rose as the new Mycogenian approached. He hadn't the slightest idea whether that was the appropriate polite behavior, but he had the distinct feeling it would do no harm. Dors Venabili rose with him and carefully kept her eyes lowered.

The other stood before them. He too was an old man, but more subtly aged than Mycelium Seventy-Two. Age seemed to lend distinction to his still-handsome face.

His bald head was beautifully round and his eyes were a startling blue, contrasting sharply with the bright all-but glowing red of his sash.

The newcomer said, "I see you are tribespeople." His voice was more high-pitched than Seldon had expected, but he spoke slowly, as though conscious of the weight of authority in every word he uttered.

"So we are," said Seldon politely but firmly. He saw no reason not to defer to the other's position, but he did not intend to abandon his own.

"Your names?"

"I am Hari Seldon of Helicon. My companion is Dors Venabili of Cinna. And yours, man of Mycogen?"

The eyes narrowed in displeasure, but he too could recognize an air of authority when he felt it.

"I am Skystrip Two," he said, lifting his head higher, "an Elder of the Sacratorium. And your position, tribesman?"

"We, " said Seldon, emphasizing the pronoun, "are scholars of Streeling University. I am a mathematician and my companion is a historian and we are here to study the ways of Mycogen."

"By whose authority?"

"By that of Sunmaster Fourteen, who greeted us on our arrival."

Skystrip Two fell silent for a moment and then a small smile appeared on his face and he took on an air that was almost benign. He said, "The High Elder. I know him well."

"And so you should," said Seldon blandly. "Is there anything else, Elder?"

"Yes." The Elder strove to regain the high ground. "Who was the man who was with you and who hurried away when I approached?"

Seldon shook his head, "We never saw him before, Elder, and know nothing about him. We encountered him purely by accident and asked about the Sacratorium."

"What did you ask him?"

"Two questions, Elder. We asked if that building was the Sacratorium and if tribespeople were allowed to enter it. He answered in the affirmative to the first question and in the negative to the second."

"Quite so. And what is your interest in the Sacratorium?"

"Sir, we are here to study the ways of Mycogen and is not the Sacratorium the heart and brain of Mycogen?"

"It is entirely ours and reserved for us."

"Even if an Elder-the High Elder-would arrange for permission in view of our scholarly function?"

"Have you indeed the High Elder's permission?"

Seldon hesitated the slightest moment while Dors's eyes lifted briefly to look at him sideways. He decided he could not carry off a lie of this magnitude.

"No," he said, "not yet."

"Or ever," said the Elder. "You are here in Mycogen by authority, but even the highest authority cannot exert total control over the public. We value our Sacratorium and

the populace can easily grow excited over the presence of a tribesperson anywhere in Mycogen but, most particularly, in the vicinity of the Sacratorium. It would take one excitable person to raise a cry of 'Invasion!' and a peaceful crowd such as this one would be turned into one that would be thirsting to tear you apart. I mean that quite literally. For your own good, even if the High Elder has shown you kindness, leave. Now!"

"But the Sacratorium-" said Seldon stubbornly, though Dors was pulling gently at his kirtle.

"What is there in the Sacratorium that can possibly interest you?" said the Elder.

"You see it now. There is nothing for you to see in the interior."

"There is the robot," said Seldon.

The Elder stared at Seldon in shocked surprise and then, bending to bring his lips close to Seldon's ear, whispered harshly, "Leave now or I will raise the cry of 'Invasion!' myself. Nor, were it not for the High Elder, would I give you even this one chance to leave."

And Dors, with surprising strength, nearly pulled Seldon off his feet as she stepped hastily away, dragging him along until he caught his balance and stepped quickly after her.

54.

It was over breakfast the next morning, not sooner, that Dors took up the subject--and in a way that Seldon found most wounding.

She said, "Well, that was a pretty fiasco yesterday."

Seldon, who had honestly thought he had gotten away with it without comment, looked sullen. "What made it a fiasco?"

"Driven out is what we were. And for what? What did we gain?"

"Only the knowledge that there is a robot in there."

"Mycelium Seventy-Two said there wasn't."

"Of course he said that. He's a scholar-or thinks he is--end what he doesn't know about the Sacratorium would probably fill that library he goes to. You saw the Elder's reaction."

"I certainly did."

"He would not have reacted like that if there was no robot inside. He was horrified we knew."

"That's just your guess, Hari. And even if there was, we couldn't get in."

"We could certainly try. After breakfast, we go out and buy a sash for me, one of those obiahs. I put it on, keep my eyes devoutly downward, and walk right in."

"Skincap and all? They'll spot you in a microsecond."

"No, they won't. We'll go into the library where all the tribespeople data is kept. I'd like to see it anyway. From the library, which is a Sacratorium annex, I gather, there will probably be an entrance into the Sacratorium "Where you will be picked up at once."

"Not at all. You heard what Mycelium Seventy-Two had to say. Everyone keeps his eyes down and meditates on their great Lost World, Aurora. No one looks at anyone else. It would probably be a grievous breach of discipline to do so. Then I'll find the Elders' aerie-"

"Just like that?"

"At one point, Mycelium Seventy-Two said he would advise me not to try to get up into the Elders' aerie. Up. It must be somewhere in that tower of the Sacratorium, the central tower."

Dors shook her head. "I don't recall the man's exact words and I don't think you do either. That's a terribly weak foundation to wait." She stopped suddenly and frowned.

"Well?" said Seldon.

"There is an archaic word 'aerie' that means 'a dwelling place on high.' "

"Ah! There you are. You see, we've learned some vital things as the result of what you call a fiasco. And if I can find a living robot that's twenty thousand years old and if it can tell me- "Suppose that such a thing exists, which passes belief, and that you find it, which is not very likely, how long do you think you will be able to talk to it before your presence is discovered?"

"I don't know, but if I can prove it exists and if I can find it, then I'll think of some way to talk to it. It's too late for me to back out now under any circumstances. Hummin should have left me alone when I thought there was no way of achieving psychohistory. Now that it seems there may be, I won't let anything stop me---short of being killed."

"The Mycogenians may oblige, Hari, and you can't run that risk."

"Yes, I can. I'm going to try."

"No, Hari. I must look after you and I can't let you."

"You must let me. Finding a way to work out psychohistory is more important than my safety. My safety is only important because I may work out psychohistory. Prevent me from doing so and your task loses its meaning. -Think about it."

Hari felt himself infused with a renewed sense of purpose. Psychohistory-his nebulous theory that he had, such a short while ago, despaired ever of proving-loomed larger, more real. Now he had to believe that it was possible; he could feel it in his gut. The pieces seemed to be falling together and although he couldn't see the whole pattern yet, he was sure the Sacratorium would yield another piece to the puzzle.

"Then I'll go in with you so I can pull you out, you idiot, when the time comes."

"Women can't enter."

"What makes me a woman? Only this gray kirtle. You can't see my breasts under it. I don't have a woman's style hairdo with the skincap on. I have the same washed, unmarked face a man has. The men here don't have stubble. All I need is a white kirtle and a sash and I can enter. Any Sister could do it if she wasn't held back by a taboo. I am not held back by one."

"You're held back by me. I won't let you. It's too dangerous."

"No more dangerous for me than for you."

"But I must take the risk."

"Then so must I. Why is your imperative greater than mine?"

"Because-" Seldon paused in thought.

"Just tell yourself this," said Dors, her voice hard as rock. "I won't let you go there without me. If you try, I will knock you unconscious and tie you up. If you don't like that, then give up any thought of going alone."

Seldon hesitated and muttered darkly. He gave up the argument, at least for now.

55.

The sky was almost cloudless, but it was a pale blue, as though wrapped in a high thin mist. That, thought Seldon, was a good touch, but suddenly he missed the sun itself. No one on Trantor saw the planet's sun unless he or she went Upperside and even then only when the natural cloud layer broke.

Did native Trantorians miss the sun? Did they give it any thought? When one of them visited another world where a natural sun was in view, did he or she stare, half-blinded, at it with awe?

Why, he wondered, did so many people spend their lives not trying to find answers to questions-not even thinking of questions to begin with? Was there anything more exciting in life than seeking answers?

His glance shifted to ground level. The wide roadway was lined with low buildings, most of them shops. Numerous individual ground-cars moved in both directions, each hugging the right side. They seemed like a collection of antiques, but they were electrically driven and quite soundless. Seldon wondered if "antique" was always a word to sneer at. Could it be that silence made up for slowness? Was there any particular hurry to life, after all?

There were a number of children on the walkways and Seldon's lips pressed together in annoyance. Clearly, an extended life span for the Mycogenians was impossible unless they were willing to indulge in infanticide. The children of both sexes (though it was hard to tell the boys from the girls) wore kirtles that came only a few inches below the knee, making the wild activity of childhood easier.

The children also still had hair, reduced to an inch in length at most, but even so the older ones among them had hoods attached to their kirtles and wore them raised, hiding the top of the head altogether. It was as though they were getting old enough to make the hair seem a trifle obscene--or old enough to be wishing to hide it, in longing for the day of rite of passage when they were depilated.

A thought occurred to Seldon. He said, "Dors, when you've been out shopping, who paid, you or the Raindrop women?"

"I did of course. The Raindrops never produced a credit tile. But why should they? What was being bought was for us, not for them."

"But you have a Trantorian credit tile-a tribeswoman credit tile."

"Of course, Hari, but there was no problem. The people of Mycogen may keep their own culture and ways of thought and habits of life as they wish. They can destroy their cephalic hair and wear kirtles. Nevertheless, they must use the world's credits. If they don't, that would choke off commerce and no sensible person would want to do that. The credits nerve, Hari." She held up her hand as though she was holding an invisible credit tile.

"And they accepted your credit tile?"

"Never a peep out of them. And never a word about my skincap. Credits sanitize everything."

"Well, that's good. So I can buy-"

"No, I'll do the buying. Credits may sanitize everything, but they more easily sanitize a tribeswoman. They're so used to paying women little or no attention that they automatically pay me the same. -And here's the clothing store I've been using."

"I'll wait out here. Get me a nice red sash-one that looks impressive."

"Don't pretend you've forgotten our decision. I'll get two. And another white kirtle also . . . to my measurements."

"Won't they think it odd that a woman would be buying a white kirtle?"

"Of course not. They'll assume I'm buying it for a male companion who happens to be my size. Actually, I don't think they'll bother with any assumptions at all as long as my credit tile is good."

Seldon waited, half-expecting someone to come up and greet him as a tribesman or denounce him as one-more likely-but no one did. Those who passed him did so without a glance and even those who glanced in his direction moved on seemingly untouched. He was especially nervous about the gray kirtles -- the women-walking by in pairs or, even worse, with a man. They were downtrodden, unnoticed, snubbed. How better to gain a brief notoriety than by shrieking at the sight of a tribesman? But even the women moved on.

They're not expecting to see a tribesman, Seldon thought, so they don't see one. That, he decided, augured well for their forthcoming invasion of the Sacrotorium. How much less would anyone expect to see tribespeople there and how much more effectively would they therefore fail to see them! He was in fairly good humor when Dors emerged.

"You have everything?"

"Absolutely."

"Then let's go back to the room, so you can change."

The white kirtle did not fit her quite as well as the gray one did. Obviously, she could not have tried it on or even the densest shopkeeper would have been struck with alarm.

"How do I look, Hari?" she asked.

"Exactly like a boy," said Seldon. "Now let's try the sash . . . or obiah. I had better get used to calling it that."

Dors, without her skincap, was shaking out her hair gratefully. She said sharply, "Don't put it on now. We're not going to parade through Mycogen with the sash on. The last thing we want to do is call attention to ourselves."

"No, no. I just want to see how it goes on."

"Well, not that one. This one is better quality and more elaborate."

"You're right, Dors. I've got to gather in what attention there is. I don't want them to detect you as a woman."

"I'm not thinking of that, Hari. I just want you to look pretty."

"A thousand thanks, but that's impossible, I suspect. Now, let's see, how does this work?"

Together, Hari and Dors practiced putting their obiahs on and taking them off, over and over again, until they could do it in one fluid motion. Dors taught Hari how to do it, as she had seen a man doing it the day before at the Sacratorium.

When Hari praised her for her acute observations, she blushed and said, "Its really nothing, Hari, just something I noticed."

Hari replied, "Then you're a genius for noticing."

Finally satisfied, they stood well apart, each surveying the other. Hari's obiah glittered, a bright red dragon-like design standing out against a paler field of similar hue. Dors's was a little less bold, had a simple thin line down the center, and was very light in color. "There," she said, "just enough to show good taste." She took it off.

"Now," said Seldon, "we fold it up and it goes into one of the inner pockets. I have my credit tile-Hummin's, really-and the key to this place in this one and here, on the other side, the Book."

"The Book? Should you be carrying it around?"

"I must. I'm guessing that anyone going to the Sacratorium ought to have a copy of the Book with him. They may intone passages or have readings. If necessary, we'll share the Book and maybe no one will notice. Ready?"

"I'll never be ready, but I'm going with you."

"It will be a tedious trip. Will you check my skincap and make sure no hair shows this time? And don't scratch your head."

"I won't. You look all right."

"So do you."

"You also look nervous."

And Seldon said wryly, "Guess why!"

Dors reached out impulsively and squeezed Hari's hand, then drew back as if surprised at herself. Looking down, she straightened her white kirtle. Hari, himself a trifle surprised and peculiarly pleased, cleared his throat and said, "Okay, let's go."

ROBOT- . . . A term used in the ancient legends of several worlds for what are more usually called "automata." Robots are described as generally human in shape and made of metal, although some are supposed to have been pseudoorganic in nature. Hari Seldon, in the course of The Flight, is popularly supposed to have seen an actual robot, but that story is of dubious origin. Nowhere in Seldon's voluminous writings does he mention robots at all, although . . .

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56.

They were not noticed.

Hari Seldon and Dors Venabili repeated the trip of the day before and this time no one gave them a second look. Hardly anyone even gave them a first look. On several occasions, they had to tuck their knees to one side to allow someone sitting on an inner seat to get past them and out. When someone got in, they quickly realized they had to move over if there was an inner empty seat.

This time they quickly grew tired of the smell of kitties that were not freshly laundered because they were not so easily diverted by what went on outside.

But eventually they were there.

"That's the library," said Seldon in a low voice.

"I suppose so," said Dors. "At least that's the building that Mycelium SeventyTwo pointed out yesterday."

They sauntered toward it leisurely.

"Take a deep breath," said Seldon. "This is the first hurdle."

The door ahead was open, the light within subdued. There were five broad stone steps leading upward. They stepped onto the lowermost one and waited several moments before they realized that their weight did not cause the steps to move upward. Dors grimaced very slightly and gestured Seldon upward.

Together they walked up the stairs, feeling embarrassed on behalf of Mycogen for its backwardness. Then, through a door, where, at a desk immediately inside was a man bent over the simplest and clumsiest computer Seldon had ever seen.

The man did not look up at them. No need, Seldon supposed. White kirtle, bald head-all Mycogenians looked so nearly the same that one's eyes slid off them and that was to the tribespeople's advantage at the moment.

The man, who still seemed to be studying something on the desk, said, "Scholars?"

"Scholars," said Seldon.

The man jerked his head toward a door. "Go in. Enjoy."

They moved inward and, as nearly as they could see, they were the only ones in this section of the library. Either the library was not a popular resort or the scholars were few or-most likely both.

Seldon whispered, "I thought surely we would have to present some sort of license or permission form and I would have to plead having forgotten it."

"He probably welcomes our presence under any terms. Did you ever see a place like this? If a place, like a person, could be dead, we would be inside a corpse."

Most of the books in this section were print-books like the Book in Seldon's inner pocket. Dors drifted along the shelves, studying them. She said, "Old books, for the most part. Part classic. Part worthless."

"Outside books? Non-Mycogen, I mean?"

"Oh yes. If they have their own books, they must be kept in another section. This one is for outside research for poor little self-styled scholars like yesterday's. -This is the reference department and here's an Imperial Encyclopedia . . . must be fifty years old if a day . . . and a computer."

She reached for the keys and Seldon stopped her. "Wait. Something could go wrong and we'll be delayed."

He pointed to a discreet sign above a free-standing set of shelves that glowed with the letters TO THE SACK TORIUM. The second A in SACRATORIUM was dead, possibly recently or possibly because no one cared. (The Empire, thought Seldon, was in decay. All parts of it. Mycogen too.)

He looked about. The poor library, so necessary to Mycogenian pride, perhaps so useful to the Elders who could use it to find crumbs to shore up their own beliefs and present them as being those of sophisticated tribespeople, seemed to be completely empty. No one had entered after them.

Seldon said, "Let's step in here, out of eyeshot of the man at the door, and put on our sashes."

And then, at the door, aware suddenly there would be no turning back if they passed this second hurdle, he said, "Dors, don't come in with me."

She frowned. "Why not?"

"It's not safe and I don't want you to be at risk."

"I am here to protect you," she said with soft firmness.

"What kind of protection can you be? I can protect myself, though you may not think it. And I'd be handicapped by having to protect you. Don't you see that?"

"You mustn't be concerned about me, Hari," said Dors. "Concern is my part." She tapped her sash where it crossed in the space between her obscured breasts.

"Because Hummin asked you to?"

"Because those are my orders."

She seized Seldon's arms just above his elbow and, as always, he was surprised by her firm grip. She said, "I'm against this, Hari, but if you feel you must go in, then I must go in too."

"All right, then. But if anything happens and you can wriggle out of it, run. Don't worry about me."

"You're wasting your breath, Hari. And you're insulting me."

Seldon touched the entrance panel and the portal slid open. Together, almost in unison, they walked through.

57.

A large room, all the larger because it was empty of anything resembling furniture. No chairs, no benches, no seats of any kind. No stage, no drapery, no decorations.

No lights, merely a uniform illumination of mild, unfocused light. The walls were not entirely blank. Periodically, arranged in spaced fashion at various heights and in no easy repetitive order, there were small, primitive, two-dimensional television screens, all of which were operating. From where Dors and Seldon stood, there was not even the illusion of a third dimension, not a breath of true holovision.

There were people present. Not many and nowhere together. They stood singly and, like the television monitors, in no easy repetitive order. All were white-kirtled, all slashed.

For the most part, there was silence. No one talked in the usual sense. Some moved their lips, murmuring softly. Those who walked did so stealthily, eyes downcast. The atmosphere was absolutely funereal.

Seldon leaned toward Dors, who instantly put a finger to her lips, then pointed to one of the television monitors. The screen showed an idyllic garden bursting with blooms, the camera panning over it slowly.

They walked toward the monitor in a fashion that imitated the others—slow steps, putting each foot down softly.

When they were within half a meter of the screen, a soft insinuating voice made itself heard: "The garden of Antennin, as reproduced from ancient guidebooks and photographs, located in the outskirts of Eos. Note the—"

Dors said in a whisper Seldon had trouble catching over the sound of the set, "It turns on when someone is close and it will turn off if we step away. If we're close enough, we can talk under cover, but don't look at me and stop speaking if anyone approaches."

Seldon, his head bent, his hands clasped before him (he had noted that this was a preferred posture), said, "Any moment I expect someone to start wailing."

"Someone might. They're mourning their Lost World," said Dors.

"I hope they change the films every once in a while. It would be deadly to always see the same ones."

"They're all different," said Dors, her eyes sliding this way and that. "They may change periodically. I don't know."

"Wait!" said Seldon just a hair's breadth too loud. He lowered his voice and said, "Come this way."

Dors frowned, failing to make out the words, but Seldon gestured slightly with his head. Again the stealthy walk, but Seldon's footsteps increased in length as he felt the need for greater speed and Dors, catching up, pulled sharply-if very briefly-at his kirtle. He slowed.

"Robots here," he said under the cover of the sound as it came on.

The picture showed the corner of a dwelling place with a rolling lawn and a line of hedges in the foreground and three of what could only be described as robots. They were metallic, apparently, and vaguely human in shape.

The recording said, "This is a view, recently constructed, of the establishment of the famous Wendome estate of the third century. The robot you see near the center was, according to tradition, named Bendar and served twenty-two years, according to the ancient records, before being replaced."

Dors said, "'Recently constructed,' so they must change views."

"Unless they've been saying 'recently constructed' for the last thousand years."

Another Mycogenian stepped into the sound pattern of the scene and said in a low voice, though not as low as the whisperings of Seldon and Dors, "Greetings, Brothers."

He did not look at Seldon and Dors as he spoke and after one involuntary and startled glance, Seldon kept his head averted. Dors had ignored it all.

Seldon hesitated. Mycelium Seventy-Two had said that there was no talking in the Sacrotorium. Perhaps he had exaggerated. Then too he had not been in the Sacrotorium since he was a child.

Desperately, Seldon decided he must speak. He said in a whisper, "And to you, Brother, greetings."

He had no idea whether that was the correct formula of reply or if there was a formula, but the Mycogenian seemed to find nothing amiss in it.

"To you in Aurora," he said.

"And to you," said Seldon and because it seemed to him that the other expected more, he added, "in Aurora," and there was an impalpable release of tension.

Seldon felt his forehead growing moist.

The Mycogenian said, "Beautiful! I haven't seen this before."

"Skillfully done," said Seldon. Then, in a burst of daring, he added, "A loss never to be forgotten."

The other seemed startled, then said, "Indeed, indeed," and moved away.

Dors hissed, "Take no chances. Don't say what you don't have to."

"It seemed natural. Anyway, this is recent. But those are disappointing robots. They are what I would expect automata to be. I want to see the organic ones-the humanoids."

"If they existed," said Dors with some hesitation, "it seems to me they wouldn't be used for gardening jobs."

"True," said Seldon. "We must find the Elders' aerie."

"If that exists. It seems to me there is nothing in this hollow cave but a hollow cave."

"Let's look."

They paced along the wall, passing from screen to screen, trying to wait at each for irregular intervals until Dors clutched Seldon's arms. Between two screens were lines marking out a faint rectangle.

"A door," Dors said. Then she weakened the assertion by adding, "Do you think?"

Seldon looked about surreptitiously. It was in the highest degree convenient that, in keeping with the mourning atmosphere, every face, when not fixed on a television monitor, was bent in sad concentration on the floor.

Seldon said, "How do you suppose it would open?"

"An entrance patch."

"I can't make out any."

"It's just not marked out, but there's a slight discoloration there. Do you see it? How many palms? How many times?"

"I'll try. Keep an eye out and kick me if anyone looks in this direction."

He held his breath casually, touched the discolored spot to no avail, and then placed his palm full upon it and pressed. The door opened silently-not a creak, not a scrape. Seldon stepped through as rapidly as he could and Dors followed him. The door closed behind them.

"The question is," said Dors, "did anyone see us?"

Seldon said, "Elders must go through this door frequently."

"Yes, but will anyone think we are Elders?"

Seldon waited, then said, "If we were observed and if anyone thought something was wrong, this door would have been flung open again within fifteen seconds of our entering."

"Possibly," said Dors dryly, "or possibly there is nothing to be seen or done on this side of the door and no one cares if we enter."

"That remains to be seen," muttered Seldon.

The rather narrow room they had entered was somewhat dark, but as they stepped farther into it, the light brightened. There were chairs, wide and comfortable, small tables, several davenport, a deep and tall refrigerator, cupboards.

"If this is the Elders' aerie," said Seldon, "the Elders seem to do themselves comfortably, despite the austerity of the Sacratorium itself."

"As would be expected," said Dors. "Asceticism among a ruling class except for public show-is very rare. Put that down in your notebook for psychohistorical aphorisms." She looked about. "And there is no robot."

Seldon said, "A aerie is a high position, remember, and this ceiling is not. There must be upper storeys and that must be the way." He pointed to a well-carpeted stairway.

He did not advance toward it, however, but looked about vaguely. Dors guessed what he was seeking. She said, "Forget about elevators. There's a cult of primitivism in Mycogen. Surely, you haven't forgotten that, have you?"

There would be no elevators and, what's more, if we place our weight at the foot of the stairs, I am quite certain it will not begin moving upward. We're going to have to climb it. Several flights, perhaps."

"Climb it?"

"It must, in the nature of things, lead to the aerie-if it leads anywhere. Do you want to see the aerie or don't you?"

Together they stepped toward the staircase and began the climb. They went up three flights and, as they did, the light level decreased perceptibly and in steady increments. Seldon took a deep breath and whispered, "I consider myself to be in pretty good shape, but I hate this."

"You're not used to this precise type of physical exertion." She showed no signs of physical distress whatever.

At the top of the third flight the stairs ended and before them was another door.

"And if it's locked?" said Seldon, more to himself than to Dors. "Do we try to break it down?"

But Dors said, "Why should it be locked when the lower door was not? If this is the Elders' aerie, I imagine there's a taboo on anyone but Elders coming here and a taboo is much stronger than any lock."

"As far as those who accept the taboo are concerned," said Seldon, but he made no move toward the door.

"There's still time to turn back, since you hesitate," said Dors. "In fact, I would advise you to turn back."

"I only hesitate because I don't know what we'll find inside. If it's empty-" And then he added in a rather louder voice, "Then it's empty," and he strode forward and pushed against the entry panel.

The door retracted with silent speed and Seldon took a step back at the surprising flood of light from within.

And there, facing him, eyes alive with light, arms half-upraised, one foot slightly advanced before the other, gleaming with a faintly yellow metallic shine, was a human figure. For a few moments, it seemed to be wearing a tight-fitting tunic, but on closer inspection it became apparent that the tunic was part of the structure of the object.

"It's the robot," said Seldon in awe, "but it's metallic."

"Worse than that," said Dors, who had stepped quickly to one side and then to the other. "Its eyes don't follow me. Its arms don't as much as tremble. It's not alive-if one can speak of robots as being alive."

And a man-unmistakably a man-stepped out from behind the robot and said, "Perhaps not. But I am alive."

And almost automatically, Dors stepped forward and took her place between Seldon and the man who had suddenly appeared.

Seldon pushed Dors to one side, perhaps a shade more roughly than he intended.

"I don't need protection. This is our old friend Sunmaster Fourteen."

The man who faced them, wearing a double sash that was perhaps his right as High Elder, said, "And you are Tribesman Seldon."

"Of course," said Seldon.

"And this, despite her masculine dress, is Tribeswoman Venabili."

Dors said nothing.

Sunmaster Fourteen said, "You are right, of course, tribesman. You are in no danger of physical harm from me. Please sit down. Both of you. Since you are not a Sister, tribeswoman, you need not retire. There is a seat for you which, if you value such a distinction, you will be the first woman ever to have used."

"I do not value such a distinction," said Dors, spacing her words for emphasis.

Sunmaster Fourteen nodded. "That is as you wish. I too will sit down, for I must ask you questions and I do not care to do it standing."

They were sitting now in a corner of the room. Seldon's eyes wandered to the metal robot.

Sunmaster Fourteen said, "It is a robot."

"I know," said Seldon briefly.

"I know you do," said Sunmaster Fourteen with similar curtness. "But now that we have settled that matter, why are you here?"

Seldon gazed steadily at Sunmaster Fourteen and said, "To see the robot."

"Do you know that no one but an Elder is allowed in the aerie?"

"I did not know that, but I suspected it."

"Do you know that no tribesperson is allowed in the Sacratorium?"

"I was told that."

"And you ignored the fact, is that it?"

"As I said, we wanted to see the robot."

"Do you know that no woman, even a Sister, is allowed in the Sacratorium except at certain stated-and rare-occasions?"

"I was told that."

"And do you know that no woman is at any time-or for any reason allowed to dress in masculine garb? That holds, within the borders of Mycogen, for tribeswomen as well as for Sisters."

"I was not told that, but I am not surprised."

"Good. I want you to understand all this. Now, why did you want to see the robot?"

Seldon said with a shrug, "Curiosity. I had never seen a robot or even known that such a thing existed."

"And how did you come to know that it did exist and, specifically, that it existed here?"

Seldon was silent, then said, "I do not wish to answer that question."

"Is that why you were brought to Mycogen by Tribesman Hummin? To investigate robots?"

"No. Tribesman Hummin brought us here that we might be secure. However, we are scholars, Dr. Venabili and I. Knowledge is our province and to gain knowledge is our purpose. Mycogen is little understood outside its borders and we wish to know more about your ways and your methods of thought. It is a natural desire and, it seems to us, a harmless-even praiseworthy-one."

"Ah, but we do not wish the outer tribes and worlds to know about us. That is our natural desire and we are the judge of what is harmless to us and what harmful. So I ask you again, tribesman: How did you know that a robot existed in Mycogen and that it existed in this room?"

"General rumor," said Seldon at length.

"Do you insist on that?"

"General rumor. I insist on it."

Sunmaster Fourteen's keen blue eyes seemed to sharpen and he said without raising his voice, "Tribesman Seldon, we have long cooperated with Tribesman Hummin. For a tribesman, he has seemed a decent and trustworthy individual. For a tribesman! When he brought you two to us and commended you to our protection, we granted it. But Tribesman Hummin, whatever his virtues, is still a tribesman and we had misgivings. We were not at all sure what your--or his--real purpose might be."

"Our purpose was knowledge," said Seldon. "Academic knowledge. Tribeswoman Venabili is a historian and I too have an interest in history. Why should we not be interested in Mycogenian history?"

"For one thing, because we do not wish you to be. -In any case, two of our trusted Sisters were sent to you. They were to cooperate with you, try to find out what it was you wanted, and-what is the expression you tribesmen use?-play along with you. Yet not in such a way that you would be too aware as to what was happening." Sunmaster Fourteen smiled, but it was a grim smile. "

"Raindrop Forty-Five," Sunmaster Fourteen went on, "went shopping with Tribeswoman Venabili, but there seemed nothing out of the way in what happened on those trips. Naturally, we had a full report. Raindrop Forty-Three showed you, Tribesman Seldon, our microfarms. You might have been suspicious of her willingness to accompany you alone, something that is utterly out of the question for us, but you reasoned that what applied to Brothers did not apply to tribesmen and you flattered yourself that that flimsy bit of reasoning won her over. She complied with your desire, though at considerable cost to her peace of mind. And, eventually, you asked for the Book. To have handed it over too easily might have roused your suspicion, so she pretended to a perverse desire only you could satisfy. Her self-sacrifice will not be forgotten. -I take it, tribesman, you still have the Book and I suspect you have it with you now. May I have it?"

Seldon sat in bitter silence.

Sunmaster Fourteen's wrinkled hand remained obtrusively outstretched and he said, "How much better it would be than to wrest it from you by force."

And Seldon handed it over. Sunmaster Fourteen leafed through its pages briefly, as though to reassure himself it was unharmed.

He said with a small sigh, "It will have to be carefully destroyed in the approved manner. Sad'. -But once you had this Book, we were, of course, not surprised when you made your way out to the Sacratorium. You were watched at all times, for you cannot think that any Brother or Sister, not totally absorbed, would not recognize you for tribespeople at a glance. We know a skincap when we see one and there are less than seventy of them in Mycogen . . . almost all belonging to tribesmen on official business who remain entirely in secular governmental buildings during the time they are here. So you were not only seen but unmistakably identified, over and over.

"The elderly Brother who met you was careful to tell you about the library as well as about the Sacratorium, but he was also careful to tell you what you were forbidden to do, for we did not wish to entrap you. Skystrip Two also warned you . . . and quite forcibly. Nevertheless, you did not turn away.

"The shop at which you bought the white kirtle and the two sashes informed us at once and from that we knew well what you intended. The library was kept empty, the librarian was warned to keep his eyes to himself, the Sacratorium was kept under-utilized. The one Brother who inadvertently spoke to you almost gave it away, but hastened off when he realized with whom he was dealing. And then you came up here.

"You see, then, that it was your intention to come up here and that we in no way lured you here. You came as a result of your own action, your own desire, and what I want to ask you-yet once again-is: Why?"

It was Dors who answered this time, her voice firm, her eyes hard. "We will tell you yet once again, Mycogenian. We are scholars, who consider knowledge sacred and it is only knowledge that we seek. You did not lure us here, but you did not stop us either, as you might have done before ever we approached this building.

You smoothed our way and made it easy for us and even that might be considered a lure. And what harm have we done? We have in no way disturbed the building, or this room, or you, or that."

She pointed to the robot. "It is a dead lump of metal that you hide here and we now know that it is dead and that is all the knowledge we sought. We thought it would be more significant and we are disappointed, but now that we know it is merely what it is, we will leave-and, if you wish, we will leave Mycogen as well."

Sunmaster Fourteen listened with no trace of expression on his face, but when she was done, he addressed Seldon, saying, "This robot, as you see it, is a symbol, a symbol of all we have lost and of all we no longer have, of all that, through thousands of years, we have not forgotten and what we intend someday to return to. Because it is all that remains to us that is both material and authentic, it is dear to us-yet to your woman it is only 'a dead lump of metal.'

Do you associate yourself with that judgment, Tribesman Seldon?"

Seldon said, "We are members of societies that do not tie ourselves to a past that is thousands of years old, making no contact at all with what has existed between that past and ourselves. We live in the present, which we recognize as the product of all the past and not of one long-gone moment of time that we hug to our chests. We realize, intellectually, what the robot may mean to you and we are willing to let it continue to mean that to you. But we can only see it with our own eyes, as you can only see it with yours. To us, it is a dead lump of metal."

"And now," said Dors, "we will leave."

"You will not," said Sunmaster Fourteen. "By coming here, you have committed a crime. It is a crime only in our eyes, as you will hasten to point out"-his lips curved in a wintry smile "but this is our territory and, within it, we make the definitions. And this crime, as we define it, is punishable by death."

"And you are going to shoot us down?" said Dors haughtily.

Sunmaster Fourteen's expression was one of contempt and he continued to speak only to Seldon. "What do you think we are, Tribesman Seldon? Our culture is as old as yours, as complex, as civilized, as humane. I am not armed. You will be tried and, since you are manifestly guilty, executed according to law, quickly and painlessly.

"If you were to try to leave now, I would not stop you, but there are many Brothers below, many more than there appeared to be when you entered the Sacrotorium and, in their rage at your action, they may lay rough and forceful hands on you. It has happened in our history that tribespeople have even died so and it is not a pleasant death-certainly not a painless one."

"We were warned of this," said Dors, "by Skystrip Two. So much for your complex, civilized, and humane culture."

"People can be moved to violence at moments of emotion, Tribesman Seldon," said Sunmaster Fourteen calmly, "whatever their humanity in moments of calm. This is true in every culture, as your woman, who is said to be a historian, must surely know."

Seldon said, "Let us remain reasonable, Sunmaster Fourteen. You may be the law in Mycogen over local affairs, but you are not the law over us and you know it. We are both non-Mycogenian citizens of the Empire and it is the Emperor and his designated legal officers who must remain in charge of any capital offense."

Sunmaster Fourteen said, "That may be so in statutes and on papers and on holovision screens, but we are not talking theory now. The High Elder has long had the power to punish crimes of sacrilege without interference from the Imperial throne."

"If the criminals are your own people," said Seldon "It would be quite different if they were outsiders."

"I doubt it in this case. Tribesman Hummin brought you here as fugitives and we are not so yeast-headed in Mycogen that we don't strongly suspect that you are fugitives from the Emperor's laws. Why should he object if we do his work for him?"

"Because," said Seldon, "he would. Even if we were fugitives from the Imperial authorities and even if he wanted us only to punish us, he would still want us. To allow you to kill, by whatever means and for whatever reason, non-Mycogenians without due

Imperial process would be to defy his authority and no Emperor could allow such a precedent. No matter how eager he might be to see that the microfood trade not be interrupted, he would still feel it necessary to re-establish the Imperial prerogative. Do you wish, in your eagerness to kill us, to have a division of Imperial soldiery loot your farms and your dwellings, desecrate your Sacrorium, and take liberties with the Sisters: Consider."

Sunmaster Fourteen smiled once again, but displayed no softness. "Actually, I have considered and there is an alternative. After we condemn you, we could delay your execution to allow you to appeal to the Emperor for a review of your case. The Emperor might be grateful at this evidence of our ready submission to his authority and grateful too to lay his hands on you two-for some reason of his own-and Mycogen might profit. Is that what you want, then? To appeal to the Emperor in due course and to be delivered to him?"

Seldon and Dors looked at each other briefly and were silent.

Sunmaster Fourteen said, "I feel you would rather be delivered to the Emperor than die, but why do I get the impression that the preference is only by a slight margin?"

"Actually," said a new voice, "I think neither alternative is acceptable and that we must search for a third."

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It was Dors who identified the newcomer first, perhaps because it was she who expected him.

"Hummin," she said, "thank goodness you found us. I got in touch with you the moment I realized I was not going to deflect Hari from"-she held up her hands in a wide gesture "this."

Hummin's smile was a small one that did not alter the natural gravity of his face. There was a subtle weariness about him.

"My dear," he said, "I was engaged in other things. I cannot always pull away at a moment's notice. And when I got here, I had, like you two, to supply myself with a kirde and sash, to say nothing of a skincap, and make my way out here. Had I been here earlier, I might have stopped this, but I believe I'm not too late."

Sunmaster Fourteen had recovered from what had seemed to be a painful shock. He said in a voice that lacked its customary severe depth, "How did you get in here, Tribesman Hummin?"

"It was not easy, High Elder, but as Tribeswoman Venabili likes to say, I am a very persuasive person. Some of the citizens here remember who I was and what I have done for Mycogen in the past, that I am even an honorary Brother. Have you forgotten, Sunmaster Fourteen?"

The Elder replied, "I have not forgotten, but even the most favorable memory can not survive certain actions. A tribesman here and a tribeswoman. There is no greater

crime. All you have done is not great enough to balance that. My people are not unmindful. We will make it up to you some other way. But these two must die or be handed over to the Emperor."

"I am also here," said Hummin calmly. "Is that not a crime as well?"

"For you," said Sunmaster Fourteen, "for you personally, as a kind of honorary Brother, I can . . . overlook it . . . once. Not these two. "

"Because you expect a reward from the Emperor? Some favor? Some concession? Have you already been in touch with him or with his Chief of Staff, Eto Demerzel, more likely?"

"That is not a subject for discussion."

"Which is itself an admission. Come on, I don't ask what the Emperor promised, but it cannot be much. He does not have much to give in these degenerate days. Let me make you an offer. Have these two told you they are scholars?"

"They have."

"And they are. They are not lying. The tribeswoman is a historian and the tribesman is a mathematician. The two together are trying to combine their talents to make a mathematics of history and they call the combined subject 'psychohistory. "

Sunmaster Fourteen said, "I know nothing about this psychohistory, nor do I care to know. Neither it nor any other facet of your tribal learning interests me."

"Nevertheless," said Hummin, "I suggest that you listen to me."

It took Hummin some fifteen minutes, speaking concisely, to describe the possibility of organizing the natural laws of society (something he always mentioned with audible quotation marks in the tone of his voice) in such a way as to make it possible to anticipate the future with a substantial degree of probability.

And when he was done, Sunmaster Fourteen, who had listened expressionlessly, said, "A highly unlikely piece of speculation, I should say."

Seldon, with a rueful expression, seemed about to speak, undoubtedly to agree, but Hummin's hand, resting lightly on the other's knee, tightened unmistakably.

Hummin said, "Possibly, High Elder, but the Emperor doesn't think so. And by the Emperor, who is himself an amiable enough personage, I really mean Demerzel, concerning whose ambitions you need no instruction. They would like very much to have these two scholars, which is why I've brought them here for safekeeping. I had little expectation that you would do Demerzel's work for him by delivering the scholars to him."

"They have committed a crime that-"

"Yes, we know, High Elder, but it is only a crime because you choose to call it so. No real harm has been done."

"It has been done to our belief, to our deepest felt-"

"But imagine what harm will be done if psychohistory falls into the hands of Demerzel. Yes, I grant that nothing may come of it, but suppose for a moment that something does and that the Imperial government has the use of it-can foretell what is to come-can take measures with that foreknowledge which no one else would have-can take

measures, in fact, designed to bring about an alternate future more to the Imperial liking."

"Well?"

"Is there any doubt, High Elder, that the alternate future more to the Imperial liking would be one of tightened centralization? For centuries now, as you very well know, the Empire has been undergoing a steady decentralization. Many worlds now acknowledge only lip service to the Emperor and virtually rule themselves. Even here on Trantor, there is decentralization. Mycogen, as only one example, is free of Imperial interference for the most part. You rule its High Elder and there is no Imperial officer at your side overseeing your actions and decisions. How long do you think that will last with men like Demerzel adjusting the future to their liking?"

"Still the flimsiest of speculation," said Sunmaster Fourteen, "but not a disturbing one, I admit."

"On the other hand, if these scholars can complete their task, an unlikely if, you might say, but an if-then they are sure to remember that you spared them when you might have chosen not to. And it would then be conceivable that they would learn to arrange a future, for instance, that would allow Mycogen to be given a world of its own, a world that could be terra-formed into a close replica of the Lost World. And even if these two forget your kindness, I will be here to remind them."

"Well-" said Sunmaster Fourteen.

"Come on," said Hummin, "it is not hard to decide what must be going through your mind. Of all tribespeople, you must trust Demerzel the least. And though the chance of psychohistory might be small (if I was not being honest with you, I would not admit that) it is not zero; and if it will bring about a restoration of the Lost World, what can you want more than that? What would you not risk for even a tiny chance of that? Come now-I promise you and my promises are not lightly given. Release these two and choose a tiny chance of your heart's desire over no chance at all."

There was silence and then Sunmaster Fourteen sighed. "I don't know how it is, Tribesman Hummin, but on every occasion that we meet, you persuade me into something I do not really want to do."

"Have I ever misled you, High Elder?"

"You have never offered me so small a chance?"

"And so high a possible reward. The one balances the other."

And Sunmaster Fourteen nodded his head. "You are right. Take these two and take them out of Mycogen and never let me see them again unless there comes a time when-But surely it will not be in my lifetime."

"Perhaps not, High Elder. But your people have been waiting patiently for nearly twenty thousand years. Would you then object to waiting another-perhaps-two hundred?"

"I would not willingly wait one moment, but my people will wait as long as they must."

And standing up, he said, "I will clear the path. Take them and go"

They were finally back in a tunnel. Hummin and Seldon had traveled through one when they went from the Imperial Sector to Streeling University in the air-taxi.

Now they were in another tunnel, going from Mycogen to . . . Seldon did not know where. He hesitated to ask. Hummin's face seemed as if it was carved out of granite and it didn't welcome conversation.

Hummin sat in the front of the four-seater, with no one to his right. Seldon and Dors shared the backseat.

Seldon chanced a smile at Dors, who looked glum. "It's nice to be in real clothes again, isn't it?"

"I will never," said Dors with enormous sincerity, "wear or look at anything that resembles a kirtle. And I will never, under any circumstances, wear a skincap. In fact, I'm going to feel odd if I ever see a normally bald man."

And it was Dors who finally asked the question that Seldon had been reluctant to advance. "Chetter," she said rather petulantly, "why won't you tell us where we're going?"

Hummin hitched himself into a sideways position and he looked back at Dors and Seldon gravely. "Somewhere," he said, "where it may be difficult for you to get into trouble-although I'm not sure such a place exists."

Dors was at once crestfallen. "Actually, Chetter, it's my fault. At Streeling, I let Hari go Upperside without accompanying him. In Mycogen, I at least accompanied him, but I suppose I ought not to have let him enter the Sacratorium at all."

"I was determined," said Seldon warmly. "It was in no way Dors's fault."

Hummin made no effort to apportion blame. He simply said, "I gather you wanted to see the robot. Was there a reason for that? Can you tell me?"

Seldon could feel himself redden. "I was wrong in that respect, Hummin. I did not see what I expected to see or what I hoped to see. If I had known the content of the aerie, I would never have bothered going there. Call it a complete fiasco."

"But then, Seldon, what was it you hoped to see? Please tell me. Take your time if you wish. This is a long trip and I am willing to listen."

"The thing is, Hummin, that I had the idea that there were humaniform robots, that they were long-lived, that at least one might still be alive, and that it might be in the aerie. There was a robot there, but it was metallic, it was dead, and it was merely a symbol. Had I but known-

"Yes. Did we all but know, there would be no need for questions or for research of any kind. Where did you get your information about humaniform robots? Since no Mycogenian would have discussed that with you, I can think of only one source. The Mycogenian Book-a powered print-book in ancient Auroran and modern Galactic. Am I right?"

"Yes."

"And how did you get a copy?"

Seldon paused, then muttered, "Its somewhat embarrassing."

"I am not easily embarrassed, Seldon."

Seldon told him and Hummin allowed a very small smile to twitch across his face.

Hummin said, "Didn't it occur to you that what occurred had to be a charade? No Sister would do a thing like that-except under instruction and with a great deal of persuading."

Seldon frowned and said with asperity, "That was not at all obvious. People are perverted now and then. And its easy for you to grin. I didn't have the information you had and neither did Dors. If you did not wish me to fall into traps, you might have warned me of those that existed."

"I agree. I withdraw my remark. In any case, you don't have the Book any longer, I'm sure."

"No. Sunmaster Fourteen took it from me."

"How much of it did you read?"

"Only a small fraction. I didn't have time. It's a huge book and I must tell you, Hummin, it is dreadfully dull."

"Yes, I know that, for I think I have read more of it than you have. It is not only dull, it is totally unreliable. It is a one-sided, official Mycogenian view of history that is more intent on presenting that view than a reasoned objectivity. It is even deliberately unclear in spots so that outsiders-even if they were to read the Book-would never know entirely what they read. What was it, for instance, that you thought you read about robots that interested you?"

"I've already told you. They speak of humaniform robots, robots that could not be distinguished from human beings in outward appearance."

"How many of these would exist?" asked Hummin.

"They don't say. -At least, I didn't come across a passage in which they gave numbers. There may have been only a handful, but one of them, the Book refers to as 'Renegade.' It seems to have an unpleasant significance, but I couldn't make out what."

"You didn't tell me anything about that," interposed Dors. "If you had, I would have told you that it's not a proper name. It's another archaic word and it means, roughly, what 'traitor' would mean in Galactic. The older word has a greater aura of fear about it. A traitor, somehow, sneaks to his treason, but a renegade flaunts it. "

Hummin said, "I'll leave the fine points of archaic language to you, Dors, but, in any case, if the Renegade actually existed and if it was a humaniform robot, then, clearly, as a traitor and enemy, it would not be preserved and venerated in the Elders' aerie."

Seldon said, "I didn't know the meaning of 'Renegade,' but, as I said, I did get the impression that it was an enemy. I thought it might have been defeated and preserved as a reminder of the Mycogenian triumph."

"Was there any indication in the Book that the Renegade was defeated?"

"No, but I might have missed that portion-"

"Not likely. Any Mycogenian victory would be announced in the Book unmistakably and referred to over and over again."

"There was another point the Book made about the Renegade," said Seldon, hesitating, "but I can't be at all sure I understood it."

Hummin said, "As I told you . . . They are deliberately obscure at times."

"Nevertheless, they seemed to say that the Renegade could somehow tap human emotions . . . influence them-"

"Any politician can," said Hummin with a shrug. "It's called charisma-when it works."

Seldon sighed. "Well, I wanted to believe. That was it. I would have given a great deal to find an ancient humanoid robot that was still alive and that I could question."

"For what purpose?" asked Hummin.

"To learn the details of the primordial Galactic society when it still consisted of only a handful of worlds. From so small a Galaxy psychohistory could be deduced more easily."

Hummin said, "Are you sure you could trust what you heard? After many thousands of years, would you be willing to rely on the robot's early memories? How much distortion would have entered into them?"

"That's right," said Dors suddenly. "It would be like the computerized records I told you of, Hari. Slowly, those robot memories would be discarded, lost, erased, distorted. You can only go back so far and the farther you go back, the less reliable the information becomes-no matter what you do."

Hummin nodded. "I've heard it referred to as a kind of uncertainty principle in information."

"But wouldn't it be possible," said Seldon thoughtfully, "that some information, for special reasons, would be preserved? Parts of the Mycogenian Book may well refer to events of twenty thousand years ago and yet be very largely as it had been originally. The more valued and the more carefully preserved particular information is, the more long-lasting and accurate it may be."

"The key word is 'particular.' What the Book may care to preserve may not be what you wish to have preserved and what a robot may remember best may be what you wish him to remember least."

Seldon said in despair, "In whatever direction I turn to seek a way of working out psychohistory, matters so arrange themselves as to make it impossible. Why bother trying?"

"It might seem hopeless now," said Hummin unemotionally, "but given the necessary genius, a route to psychohistory may be found that none of us would at this moment expect. Give yourself more time. -But we're coming to a rest area. Let us pull off and have dinner."

Over the lamb patties on rather tasteless bread (most unpalatable after the fare at Mycogen), Seldon said, "You seem to assume, Hummin, that I am the possessor of 'the necessary genius.' I may not be, you know."

Hummin said, "That's true. You may not be. However, I know of no alternate candidate for the post, so I must cling to you."

And Seldon sighed and said, "Well, I'll try, but I'm out of any spark of hope. Possible but not practical, I said to begin with, and I'm more convinced of that now than I ever was before."

AMARYL, YUGO- . . . A mathematician who, next to Hari Seldon himself, may be considered most responsible for working out the details of psychohistory. It was he who . . .

. . . Yet the conditions under which he began life are almost more dramatic than his mathematical accomplishments. Born into the hopeless poverty of the lower classes of Dahl, a sector of ancient Trantor, he might have passed his life in utter obscurity were it not for the fact that Seldon, quite by accident, encountered him in the course of . . .

ENCYCLOPEDIA GALACTICA

61.

The Emperor of all the Galaxy felt weary-physically weary. His lips ached from the gracious smile he had had to place on his face at careful intervals. His neck was stiff from having inclined his head this way and that in a feigned show of interest. His ears pained from having to listen. His whole body throbbed from having to rise and to sit and to turn and to hold out his hand and to nod.

It was merely a state function where one had to meet Mayors and Viceroys and Ministers and their wives or husbands from here and there in Trantor and (worse) from here and there in the Galaxy. There were nearly a thousand present, all in costumes that varied from the ornate to the downright outlandish, and he had had to listen to a babble of different accents made the worse by an effort to speak the Emperor's Galactic as spoken at the Galactic University. Worst of all, the Emperor had had to remember to avoid making commitments of substance, while freely applying the lotion of words without substance.

All had been recorded, sight and sound-very discreetly-and Eto Demerzel would go over it to see if Cleon, First of that Name, had behaved himself. That, of course, was only the way that the Emperor put it to himself. Demerzel would surely say that he was merely collecting data on any unintentional self-revelation on the part of the guests. And perhaps he was.

Fortunate Demerzel! The Emperor could not leave the Palace and its extensive grounds, while Demerzel could range the Galaxy if he wished. The Emperor was always on display, always accessible, always forced to deal with visitors, from the important to the merely intrusive. Demerzel remained anonymous and never allowed himself to be seen inside the Palace grounds. He remained merely a fearsome name and an invisible (and therefore the more frightening) presence.

The Emperor was the Inside Man with all the trappings and emoluments of power. Demerzel was the Outside Man, with nothing evident, not even a formal title, but with his fingers and mind probing everywhere and asking for no reward for his tireless labors but one-the reality of power.

It amused the Emperor-in a macabre sort of way-to consider that, at any moment, without warning, with a manufactured excuse or with none at all, he could have Demerzel arrested, imprisoned, exiled, tortured, or executed. After all, in these annoying centuries of constant unrest, the Emperor might have difficulty in exerting his will over the various planets of the Empire, even over the various sectors of Trantor-with their rabble of local executives and legislatures that he was forced to deal with in a maze of interlocking decrees, protocols, commitments, treaties, and general interstellar legalities-but at least his powers remained absolute over the Palace and its grounds.

And yet Cleon knew that his dreams of power were useless. Demerzel had served his father and Cleon could not remember a time when he did not turn to Demerzel for everything. It was Demerzel who knew it all, devised it all, did it all.

More than that, it was on Demerzel that anything that went wrong could be blamed. The Emperor himself remained above criticism and had nothing to fear except, of course, palace coups and assassination by his nearest and dearest. It was to prevent this, above all, that he depended upon Demerzel.

Emperor Cleon felt a tiny shudder at the thought of trying to do without Demerzel. There had been Emperors who had ruled personally, who had had a series of Chiefs of Staff of no talent, who had had incompetents serving in the post and had kept them-and somehow they had gotten along for a time and after a fashion.

But Cleon could not. He needed Demerzel. In fact, now that the thought of assassination had come to him-and, in view of the modern history of the Empire, it was inevitable that it had come to him-he could see that getting rid of Demerzel was quite impossible. It couldn't be done. No matter how cleverly he, Cleon, would attempt to arrange it, Demerzel (he was sure) would anticipate the move somehow, would know it was on its way, and would arrange, with far superior cleverness, a palace coup. Cleon would be dead before Demerzel could possibly be taken away in chains and there would simply be another Emperor that Demerzel would serve and dominate. Or would Demerzel tire of the game and make himself Emperor?

Never! The habit of anonymity was too strong in him. If Demerzel exposed himself to the world, then his powers, his wisdom, his luck (whatever it was) would surely desert him. Cleon was convinced of that. He felt it to be beyond dispute. So while he behaved himself, Cleon was safe. With no ambitions of his own, Demerzel would serve him faithfully.

And now here was Demerzel, dressed so severely and simply that it made Cleon uneasily conscious of the useless ornamentation of his robes of state, now thankfully removed with the aid of two valets. Naturally, it would not be until he was alone and in dishabille that Demerzel would glide into view.

"Demerzel," said the Emperor of all the Galaxy, "I am tired!"

"State functions are tiring, Sire," murmured Demerzel.

"Then must I have them every evening?"

"Not every evening, but they are essential. It gratifies others to see you and to be taken note of by you. It helps keep the Empire running smoothly."

"The Empire used to be kept running smoothly by power," said the Emperor somberly. "Now it must be kept running by a smile, a wave of the hand, a murmured word, and a medal or a plaque."

"If all that keeps the peace, Sire, there is much to be said for it. And your reign proceeds well."

"You know why-because I have you at my side. My only real gift is that I am aware of your importance." He looked at Demerzel slyly. "My son need not be my heir. He is not a talented boy. What if I make you my heir?"

Demerzel said freezingly, "Sire, that is unthinkable. I would not usurp the throne. I would not steal it from your rightful heir. Besides, if I have displeased you, punish me justly. Surely, nothing I have done or could possibly do deserves the punishment of being made Emperor."

Cleon laughed. "For that true assessment of the value of the Imperial throne, Demerzel, I abandon any thought of punishing you. Come now, let us talk about something. I would sleep, but I am not yet ready for the ceremonies with which they put me to bed. Let us talk."

"About what, Sire?"

"About anything. -About that mathematician and his psychohistory. I think about him every once in a while, you know. I thought of him at dinner tonight. I wondered: What if a psychohistorical analysis would predict a method for making it possible to be an Emperor without endless ceremony?"

"I somehow think, Sire, that even the cleverest psychohistorian could not manage that."

"Well, tell me the latest. Is he still hiding among those peculiar baldheads of Mycogen? You promised you would winkle him out of there."

"So I did, Sire, and I moved in that direction, but I regret that I must say that I failed."

"Failed?" The Emperor allowed himself to frown. "I don't like that. "

"Nor I, Sire. I planned to have the mathematician be encouraged to commit some blasphemous act-such acts are easy to commit in Mycogen, especially for an outsider-one that would call for severe punishment. The mathematician would then be forced to appeal to the Emperor and, as a result, we would get him. I planned it at the cost of insignificant concessions on our part-important to Mycogen, totally unimportant to us--and I meant to play no direct role in the arrangement. It was to be handled subtly."

"I dare say," said Cleon, "but it failed. Did the Mayor of Mycogen "He is called the High Elder, Sire."

"Do not quibble over titles. Did this High Elder refuse?"

"On the contrary, Sire, he agreed and the mathematician, Seldon, fell into the trap neatly."

"Well then?"

"He was allowed to leave unharmed."

"Why?" said Cleon indignantly.

"Of this I am not certain, Sire, but I suspect we were outbid."

"By whom? By the Mayor of Wye?"

"Possibly, Sire, but I doubt that. I have Wye under constant surveillance. If they had gained the mathematician, I would know it by now."

The Emperor was not merely frowning. He was clearly enraged. "Demerzel, this is bad. I am greatly displeased. A failure like this makes me wonder if you are perhaps not the man you once were. What measures shall we take against Mycogen for this clear defiance of the Emperor's wishes?"

Demerzel bowed low in recognition of the storm unleashed, but he said in steely tones, "It would be a mistake to move against Mycogen now, Sire. The disruption that would follow would play into the hands of Wye."

"But we must do something. "

"Perhaps not, Sire. It is not as bad as it may seem."

"How can it be not as bad as it seems?"

"You'll remember, Sire, that this mathematician was convinced that psychohistory was impractical."

"Of course I remember that, but that doesn't matter, does it? For our purposes?"

"Perhaps not. But if it were to become practical, it would serve our purposes to an infinitely great extent, Sire. And from what I have been able to find out, the mathematician is now attempting to make psychohistory practical. His blasphemous attempt in Mycogen was, I understand, part of an attempt at solving the problem of psychohistory. In that case, it may pay us, Sire, to leave him to himself. It will serve us better to pick him up when he is closer to his goal or has reached it."

"Not if Wye gets him first."

"That, I shall see to it, will not happen."

"In the same way that you succeeded in winking the mathematician out of Mycogen just now?"

"I will not make a mistake the next time, Sire," said Demerzel coldly.

The Emperor said, "Demerzel, you had better not. I will not tolerate another mistake in this respect." And then he added pettishly, "I think I shall not sleep tonight after all."

62.

Jirad Tisalver of the Dahl Sector was short. The top of his head came up only to Hari Seldon's nose. He did not seem to take that to heart, however. He had handsome,

even features, was given to smiling, and sported a thick black mustache and crisply curling black hair.

He lived, with his wife and a half-grown daughter, in an apartment of seven small rooms, kept meticulously clean, but almost bare of furnishings.

Tisilver said, "I apologize, Master Seldon and Mistress Venabili, that I cannot give you the luxury to which you must be accustomed, but Dahl is a poor sector and I am not even among the better-off among our people."

"The more reason," responded Seldon, "that we must apologize to you for placing the burden of our presence upon you."

"No burden, Master Seldon. Master Hummin has arranged to pay us generously for your use of our humble quarters and the credits would be welcome even if you were not-and you are. "

Seldon remembered Hummin's parting words when they finally arrived in Dahl.

"Seldon" he had said, "this is the third place I've arranged as sanctuary. The first two were notoriously beyond the reach of the Imperium, which might well have served to attract their attention; after all, they were logical places for you. This one is different. It is poor, unremarkable, and, as a matter of fact, unsafe in some ways. It is not a natural refuge for you, so that the Emperor and his Chief of Staff may not think to turn their eyes in this direction. Would you mind staying out of trouble this time, then?"

"I will try, Hummin," said Seldon, a little offended. "Please be aware that the trouble is not of my seeking. I am trying to learn what may well take me thirty lifetimes to learn if I am to have the slightest chance of organizing psychohistory."

"I understand," said Hummin. "Your efforts at learning brought you to Upperside in Streeling and to the Elders' aerie in Mycogen and to who can guess where in Dahl. As for you, Dr. Venabili, I know you've been trying to take care of Seldon, but you must try harder. Get it fixed in your head that he is the most important person on Trantor-or in the Galaxy, for that matter-and that he must be kept secure at any cost."

"I will continue to do my best," said Dors stiffly. "And as for your host family, they have their peculiarities, but they are essentially good people with whom I have dealt before. Try not to get them in trouble either."

But Tisilver, at least, did not seem to anticipate trouble of any kind from his new tenants and his expressed pleasure at the company he now had-quite apart from the rent credits he would be getting-seemed quite sincere.

He had never been outside Dahl and his appetite for tales of distant places was enormous. His wife too, bowing and smiling, would listen and their daughter, with a finger in her mouth, would allow one eye to peep from behind the door.

It was usually after dinner, when the entire family assembled, that Seldon and Dors were expected to talk of the outside world. The food was plentiful enough, but it was bland and often tough. So soon after the tangy food of Mycogen, it was all but inedible. The "table" was a long shelf against one wall and they ate standing up.

Gentle questioning by Seldon elicited the fact that this was the usual situation among Dahllites as a whole and was not due to unusual poverty. Of course, Mistress

Tisilver explained, there were those with high government jobs in Dahl who were prone to adopt all kinds of effete customs like chairs-she called them "body shelves"-but this was looked down upon by the solid middle class.

Much as they disapproved of unnecessary luxury, though, the Tisalvers loved hearing about it, listening with a virtual storm of tongue-clicking when told of mattresses lifted on legs, of ornate chests and wardrobes, and of a superfluity of tableware.

They listened also to a description of Mycogenian customs, while Jirad Tisilver stroked his own hair complacently and made it quite obvious that he would as soon think of emasculation as of depilation. Mistress Tisilver was furious at any mention of female subservience and flatly refused to believe that the Sisters accepted it tranquilly.

They seized most, however, on Seldon's casual reference to the Imperial grounds. When, upon questioning, it turned out that Seldon had actually seen and spoken to the Emperor, a blanket of awe enveloped the family. It took a while before they dared ask questions and Seldon found that he could not satisfy them. He had not, after all, seen much of the grounds and even less of the Palace interior.

That disappointed the Tisalvers and they were unremitting in their attempts to elicit more. And, having heard of Seldon's Imperial adventure, they found it hard to believe Dors's assertion that, for her part, she had never been anywhere in the Imperial grounds. Most of all, they rejected Seldon's casual comment that the Emperor had talked and behaved very much as any ordinary human being would. That seemed utterly impossible to the Tisalvers.

After three evenings of this, Seldon found himself tiring. He had, at first, welcomed the chance to do nothing for a while (during the day, at least) but view some of the history book-films that Dors recommended. The Tisalvers turned over their book-viewer to their guests during the day with good grace, though the little girl seemed unhappy and was sent over to a neighbor's apartment to use theirs for her homework.

"It doesn't help," Seldon said restlessly in the security of his room after he had piped in some music to discourage eavesdropping. "I can see your fascination with history, but it's all endless detail. It's a mountainous heap-no, a Galactic heap-of data in which I can't see the basic organization."

"I dare say," said Dors, "that there must have been a time when human beings saw no organization in the stars in the sky, but eventually they discovered the Galactic structure."

"And I'm sure that took generations, not weeks. There must have been a time when physics seemed a mass of unrelated observations before the central natural laws were discovered and that took generations. -And what of the Tisalvers?"

"What of them? I think they're being very nice."

"They're curious."

"Of course they are. Wouldn't you be if you were in their place?"

"But is it just curiosity? They seem to be ferociously interested in my meeting with the Emperor."

Dors seemed impatient. "Again . . . its only natural. Wouldn't you be if the situation was reversed?"

"It makes me nervous."

"Hummin brought us here."

"Yes, but he's not perfect. He brought me to the University and I was maneuvered Upperside. He brought us to Sunmaster Fourteen, who entrapped us. You know he did. Twice bitten, at least once shy. I'm tired of being questioned."

"Then turn the tables, Hari. Aren't you interested in Dahl?"

"Of course. What do you know about it to begin with?"

"Nothing. It's just one of more than eight hundred sectors and I've only been on Trantor a little over two years."

"Exactly. And there are twenty-five million other worlds and I've been on this problem only a little over two months. -I tell you. I want to go back to Helicon and take up a study of the mathematics of turbulence, which was my Ph.D. problem, and forget I ever saw -or thought I saw that turbulence gave an insight into human society."

But that evening he said to Tisalver, "But you know, Master Tisalver, you've never told me what you do, the nature of your work."

"Me?" Tisalver placed his fingers on his chest, which was covered by the simple white T-shirt with nothing underneath, which seemed to be the standard male uniform in Dahl. "Nothing much. I work at the local holovision station in programming. It's very dull, but it's a living."

"And it's respectable," said Mistress Tisalver. "It means he doesn't have to work in the heatsinks."

"The heatsinks?" said Dors, lifting her light eyebrows and managing to look fascinated.

"Oh well," said Tisalver, "that's what Dahl is best known for. It isn't much, but forty billion people on Trantor need energy and we supply a lot of it. We don't get appreciated, but I'd like to see some of the fancy sectors do without it."

Seldon looked confused. "Doesn't Trantor get its energy from solar power stations in orbit?"

"Some," said Tisalver, "and some from nuclear fusion stations out on the islands and some from microfusion motors and some from wind stations Upperside, but half" -- he raised a finger in emphasis and his face looked unusually grave "half comes from the heatsinks. There are heatsinks in lots of places, but none-none- as rich as those in Dahl. Are you serious that you don't know about the heatsinks? You sit there and stare at me."

Dors said quickly, "We are Outworlders, you know." (She had almost said 'tribespeople,' but had caught herself in time.) "Especially Dr. Seldon. He's only been on Trantor a couple of months."

"Really?" said Mistress Tisalver. She was a trifle shorter than her husband, was plump without quite being fat, had her dark hair drawn tightly back into a bun, and possessed rather beautiful dark eyes. Like her husband, she appeared to be in her thirties. (After a period in Mycogen, not actually long in duration but intense, it struck Dors as odd

to have a woman enter the conversation at will. How quickly modes and manners establish themselves, she thought, and made a mental note to mention that to Seldon -- one more item for his psychohistory.)

"Oh yes," she said. "Dr. Seldon is from Helicon."

Mistress Tisalver registered polite ignorance. "And where might that be?"

Dors said, "Why, it's-" She turned to Seldon. "Where is it, Hari?"

Seldon looked abashed. "To tell you the truth, I don't think I could locate it very easily on a Galactic model without looking up the coordinates. All I can say is that it's on the other side of the central black hole from Trantor and getting there by hypership is rather a chore."

Mistress Tisalver said, "I don't think Jirad and I will ever be on a hypership."

"Someday, Casilia," said Tisalver cheerfully, "maybe we will. But tell us about Helicon, Master Seldon."

Seldon shook his head. "To me that would be dull. It's just a world, like any other. Only Trantor is different from all the rest. There are no heatsinks on Helicon-or probably anywhere else except Trantor. Tell me about them."

("Only Trantor is different from all the rest." The sentence repeated itself in Seldon's mind and for a moment he grasped at it, and for some reason Dor's hand-on-thigh story suddenly recurred to him, but Tisalver was speaking and it passed out of Seldon's mind as quickly as it had entered.)

Tisalver said, "If you really want to know about heatsinks, I can show you." He turned to his wife. "Casilia, would you mind if tomorrow evening I take Master Seldon to the heatsinks."

"And me," said Dors quickly.

"And Mistress Venabili?"

Mistress Tisalver frowned and said sharply, "I don't think it would be a good idea. Our visitors would find it dull."

"I don't think so, Mistress Tisalver," said Seldon ingratiatingly. "We would very much like to see the heatsinks. We would be delighted if you would join us too . . . and your little daughter-if she wants to come."

"To the heatsinks?" said Mistress Tisalver, stiffening. "It's no place at all for a decent woman."

Seldon felt embarrassed at his gaffe. "I meant no harm, Mistress Tisalver."

"No offense," said Tisalver. "Casilia thinks it's beneath us and so it is, but as long as I don't work there, it's no distress merely to visit and show it to guests. But it is uncomfortable and I would never get Casilia to dress properly."

They got up from their crouching positions. Dahlite "chairs" were merely molded plastic seats on small wheels and they cramped Seldon's knees terribly and seemed to wiggle at his least body movement. The Tisalvers, however, had mastered the art of sitting firmly and rose without trouble and without needing to use their arms for help as Seldon had to. Dors also got up without trouble and Seldon once again marveled at her natural grace.

Before they parted to their separate rooms for the night, Seldon said to Dors, "Are you sure you know nothing about heatsinks? Mistress Tisalver makes them seem unpleasant."

"They can't be that unpleasant or Tisalver wouldn't suggest taking us on tour. Leis be content to be surprised."

63.

Tisalver said, "You'll need proper clothing." Mistress Tisalver sniffed markedly in the background.

Cautiously, Seldon, thinking of kirtles with vague distress, said, "What do you mean by proper clothing?"

"Something light, such as I wear. A T-shirt, very short sleeves, loose slacks, loose underpants, foot socks, open sandals. I have it all for you."

"Good. IL doesn't sound bad."

"As for Mistress Venabili, I have the same. I hope it fits."

The clothes Tisalver supplied each of them (which were his own) fit fine-if a bit snugly. When they were ready, they bade Mistress Tisalver good-bye and she, with a resigned if still disapproving air, watched them from the doorway as they set off.

It was early evening and there was an attractive twilight glow above. It was clear that Dahl's lights would soon be winking on. The temperature was mild and there were virtually no vehicles to be seen; everyone was walking. In the distance was the ever-present hum of an Expressway and the occasional glitter of its lights could be easily seen.

The Dahlites, Seldon noted, did not seem to be walking toward any particular destination. Rather, there seemed to be a promenade going on, a walking for pleasure. Perhaps, if Dahl was an impoverished sector, as Tisalver had implied, inexpensive entertainment was at a premium and what was as pleasant-and as inexpensive--as an evening stroll?

Seldon felt himself easing automatically into the gait of an aimless stroll himself and felt the warmth of friendliness all around him. People greeted each other as they passed and exchanged a few words. Black mustaches of different shape and thickness flashed everywhere and seemed a requisite for the Dahlite male, as ubiquitous as the bald heads of the Mycogenian Brothers.

It was an evening rite, a way of making sure that another day had passed safely and that one's friends were still well and happy. And, it soon became apparent, Dors caught every eye. In the twilight glow, the ruddiness of her hair had deepened, but it stood out against the sea of black-haired heads (except for the occasional gray) like a gold coin winking its way across a pile of coal.

"This is very pleasant," said Seldon.

"It is," said Tisalver. "Ordinarily, I'd be walking with my wife and she'd be in her element. There is no one for a kilometer around whom she doesn't know by name,

occupation, and interrelationships. I can't do that. Right now, half the people who greet me . . . I couldn't tell you their names. But, in any case, we mustn't creep along too slowly. We must get to the elevator. It's a busy world on the lower levels."

They were on the elevator going down when Dors said, "I presume, Master Tisilver, that the heatsinks are places where the internal heat of Trantor is being used to produce steam that will turn turbines and produce electricity."

"Oh no. Highly efficient large-scale thermopiles produce electricity directly. Don't ask me the details, please. I'm just a holovision programmer. In fact, don't ask anyone the details down there. The whole thing is one big black box. It works, but no one knows how."

"What if something goes wrong?"

"It doesn't usually, but if it does, some expert comes over from somewhere. Someone who understands computers. The whole thing is highly computerized, of course."

The elevator came to a halt and they stepped out. A blast of heat struck them.

"It's hot," said Seldon quite unnecessarily.

"Yes, it is," said Tisilver. "That's what makes Dahl so valuable as an energy source. The magma layer is nearer the surface here than it is anywhere else in the world. So you have to work in the heat."

"How about air-conditioning?" said Dors.

"There is air-conditioning, but it's a matter of expense. We ventilate and dehumidify and cool, but if we go too far, then we're using up too much energy and the whole process becomes too expensive."

Tisilver stopped at a door at which he signaled. It opened to a blast of cooler air and he muttered, "We ought to be able to get someone to help show us around and he'll control the remarks that Mistress Venabili will otherwise be the victim of . . . at least from the men."

"Remarks won't embarrass me," said Dors.

"They will embarrass me," said Tisilver.

A young man walked out of the office and introduced himself as Hano Lindor. He resembled Tisilver quite closely, but Seldon decided that until he got used to the almost universal shortness, swarthinness, black hair, and luxuriant mustaches, he would not be able to see individual differences easily.

Lindor said, "I'll be glad to show you around for what there is to see. It's not one of your spectaculars, you know." He addressed them all, but his eyes were fixed on Dors. He said, "It's not going to be comfortable. I suggest we remove our shirts."

"It's nice and cool in here," said Seldon.

"Of course, but that's because we're executives. Rank has its privileges. Out there we can't maintain air-conditioning at this level. That's why they get paid more than I do. In fact, those are the best-paying jobs in Dahl, which is the only reason we get people to work down here. Even so, it's getting harder to get heatsinkers all the time." He took a deep breath. "Okay, out into the soup."

He removed his own shirt and tucked it into his waistband. Tisilver did the same and Seldon followed suit.

Linder glanced at Dors and said, "For your own comfort, Mistress, but it's not compulsory."

"That's all right," said Dors and removed her shirt.

Her brassiere was white, unpadded, and showed considerable cleavage.

"Mistress," said Lindor, "That's not-" He thought a moment, then shrugged and said, "All right. We'll get by."

At first, Seldon was aware only of computers and machinery, huge pipes, flickering lights, and flashing screens.

The overall light was comparatively dim, though individual sections of machinery were illuminated. Seldon looked up into the almost-darkness. He said, "Why isn't it better lit?"

"It's lit well enough . . . where it should be," said Lindor. His voice was well modulated and he spoke quickly, but a little harshly. "Overall illumination is kept low for psychological reasons. Too bright is translated, in the mind, into heat. Complaints go up when we turn up the lights, even when the temperature is made to go down."

Dors said, "It seems to be well computerized. I should think the operations could be turned over to computers altogether. This sort of environment is made for artificial intelligence."

"Perfectly right," said Lindor, "but neither can we take a chance on any failures. We need people on the spot if anything goes wrong. A malfunctioning computer can raise problems up to two thousand kilometers away."

"So can human error. Isn't that so?" said Seldon.

"Oh yes, but with both people and computers on the job, computer error can be more quickly tracked down and corrected by people and, conversely, human error can be more quickly corrected by computers. What it amounts to is that nothing serious can happen unless human error and computer error take place simultaneously. And that hardly ever happens."

"Hardly ever, but not never, eh?" said Seldon.

"Almost never, but not never. Computers aren't what they used to be and neither are people."

"That's the way it always seems," said Seldon, laughing slightly.

"No, no. I'm not talking memory. I'm not talking good old days. I'm talking statistics."

At this, Seldon recalled Hummin talking of the degeneration of the times.

"See what I mean?" said Lindor, his voice dropping. "There's a bunch of people, at the C-3 level from the looks of them, drinking. Not one of them is at his or her post."

"What are they drinking?" asked Dors.

"Special fluids for replacing electrolyte loss. Fruit juice."

"You can't blame them, can you?" said Dors indignantly. "In this dry heat, you would have to drink."

"Do you know how long a skilled C-3 can spin out a drink? And there's nothing to be done about it either. If we give them five-minute breaks for drinks and stagger them so they don't all congregate in a group, you simply stir up a rebellion."

They were approaching the group now. There were men and women (Dahl seemed to be a more or less amphisexual society) and both sexes were shirtless. The women wore devices that might be called brassieres, but they were strictly functional. They served to lift the breasts in order to improve ventilation and limit perspiration, but covered nothing.

Dors said in an aside to Seldon, "That makes sense, Hari. I'm soaking wet there."

"Take off your brassiere, then," said Seldon. "I won't lift a finger to stop you."

"Somehow," said Dors, "I guessed you wouldn't." She left her brassiere where it was.

They were approaching the congregation of people-about a dozen of them.

Dors said, "If any of them make rude remarks, I shall survive."

"Thank you," said Lindor. "I cannot promise they won't. -But I'll have to introduce you. If they get the idea that you two are inspectors and in my company, they'll become unruly. Inspectors are supposed to poke around on their own without anyone from management overseeing them."

He held up his arms. "Heatsinkers, I have two introductions to make. We have visitors from outside-two Outworlders, two scholars. They've got worlds running short on energy and they've come here to see how we do it here in Dahl. They think they may learn something."

"They'll learn how to sweat!" shouted a heatsinker and there was raucous laughter.

"She's got a sweaty chest right now," shouted a woman, "covering up like that."

Dors shouted back, "I'd take it off, but mine can't compete with yours." The laughter turned good-natured.

But one young man stepped forward, staring at Seldon with intense deep-set eyes, his face set into a humorless mask. He said, "I know you. You're the mathematician."

He ran forward, inspecting Seldon's face with eager solemnity. Automatically, Dors stepped in front of Seldon and Lindor stepped in front of her, shouting, "Back, heatsinker. Mind your manners."

Seldon said, "Wait! Let him talk to me. Why is everyone piling in front of me?"

Lindor said in a low voice, "If any of them get close, you'll find they don't smell like hothouse flowers."

"I'll endure it," said Seldon brusquely. "Young man, what is it you want?"

"My name is Amaryl. Yugo Amaryl. I've seen you on holovision."

"You might have, but what about it?"

"I don't remember your name."

"You don't have to."

"You talked about something called psychohistory."

"You don't know how I wish I hadn't."

"What?"

"Nothing. What is it you want?"

"I want to talk to you. Just for a little while. Now."

Seldon looked at Lindor, who shook his head firmly. "Not while he's on his shift."

"When does your shift begin, Mr. Amaryl?" asked Seldon.

"Sixteen hundred."

"Can you see me tomorrow at fourteen hundred?"

"Sure. Where?"

Seldon turned to Tisalver. Would you permit me to see him in your place?"

Tisalver looked very unhappy. "Its not necessary. He's just a heatsinker."

Seldon said, "He recognized my face. He knows something about me. He can't be just an anything. I'll see him in my room." And then, as Tisalver's face didn't soften, he added, "My room, for which rent is being paid. And you'll be at work, out of the apartment."

Tisalver said in a low voice, "It's not me, Master Seldon. It's my wife, Casilia. She won't stand for it."

"I'll talk to her," said Seldon grimly. "She'll have to."

64.

Casilia Tisalver opened her eyes wide. "A heatsinker? Not in my apartment."

"Why not? Besides, he'll be coming to my room," said Seldon. "At fourteen hundred."

"I won't have it," said Mistress Tisalver. "This is what comes of going down to the heatsinks. Jirad was a fool."

"Not at all, Mistress Tisalver. We went at my request and I was fascinated. I must see this young man, since that is necessary to my scholarly work."

"I'm sorry if it is, but I won't have it."

Dors Venabili raised her hand. "Hari, let me take care of this. Mistress Tisalver, if Dr. Seldon must see someone in his room this afternoon, the additional person naturally means additional rent. We understand that. For today, then, the rent on Dr. Seldon's room will be doubled."

Mistress Tisalver thought about it. "Well, that's decent of you, but it's not only the credits. There's the neighbors to think of. A sweaty, smelly heatsinker-"

"I doubt that he'll be sweaty and smelly at fourteen hundred, Mistress Tisalver, but let me go on. Since Dr. Seldon must see him, then if he can't see him here, he'll have to see him elsewhere, but we can't run here and there. That would be too inconvenient. Therefore, what we will have to do is to get a room elsewhere. It won't be easy and we don't want to do it, but we will have to. So we will pay the rent through today and leave and of course we will have to explain to Master Hummin why we have had to change the arrangements that he so kindly made for us."

"Wait." Mistress Tisalver's face became a study of calculation. "We wouldn't like to disoblige Master Hummin . . . or you two. How long would this creature have to stay?"

"He's coming at fourteen hundred. He must be at work at sixteen hundred. He will be here for less than two hours, perhaps considerably less. We will meet him outside, the two of us, and bring him to Dr. Seldon's room. Any neighbors who see us will think he is an Outworlder friend of ours."

Mistress Tisalver nodded her head. "Then let it be as you say. Double rent for Master Seldon's room for today and the heatsinker will visit just this one time."

"Just this one time," said Dors.

But later, when Seldon and Dors were sitting in her room, Dors said, "Why do you have to see him, Hari? Is interviewing a heatsinker important to psychohistory too?"

Seldon thought he detected a small edge of sarcasm in her voice and he said tartly, "I don't have to base everything on this huge project of mine, in which I have very little faith anyway. I am also a human being with human curiosities."

"We were down in the heatsinks for hours and you saw what the working people there were like. They were obviously uneducated. They were low-level individuals--no play on words intended and yet here was one who recognized me. He must have seen me on holovision on the occasion of the Decennial Convention and he remembered the word 'psychohistory.' He strikes me as unusual--as out of place somehow --and I would like to talk to him."

"Because it pleases your vanity to have become known even to heatsinkers in Dahl?"

"Well . . . perhaps. But it also piques my curiosity."

"And how do you know he hasn't been briefed and intends to lead you into trouble as has happened before."

Seldon winced. "I won't let him run his fingers through my hair. In any case, we're more nearly prepared now, aren't we? And I'm sure you'll be with me. I mean, you let me go Upperside alone, you let me go with Raindrop Forty-Three to the microfarms alone, and you're not going to do that again, are you?"

"You can be absolutely sure I won't," said Dors.

"Well then, I'll talk to the young man and you can watch out for traps. I have every faith in you."

65.

Amaryl arrived a few minutes before 1400, looking warily about. His hair was neat and his thick mustache was combed and turned up slightly at the edges. His T-shirt was startlingly white. He did smell, but it was a fruity odor that undoubtedly came from the slightly overenthusiastic use of scent. He had a bag with him.

Seldon, who had been waiting outside for him, seized one elbow lightly, while Dors seized the other, and they moved rapidly into the elevator. Having reached the correct level, they passed through the apartment into Seldon's room.

Amaryl said in a low hangdog voice, "Nobody home, huh?"

"Everyone's busy," said Seldon neutrally. He indicated the only chair in the room, a pad directly on the floor.

"No," said Amaryl. "I don't need that. One of you two use it." He squatted on the floor with a graceful downward motion.

Dors imitated the movement, sitting on the edge of Seldon's floor-based mattress, but Seldon dropped down rather clumsily, having to make use of his hands and unable, quite, to find a comfortable position for his legs.

Seldon said, "Well, young man, why do you want to see me?"

"Because you're a mathematician. You're the first mathematician I ever saw-close up-so I could touch him, you know."

"Mathematicians feel like anyone else."

"Not to me, Dr . . . Dr. . . Seldon?"

"That's my name."

Amaryl looked pleased. "I finally remembered. -You see, I want to be a mathematician too."

"Very good. What's stopping you?"

Amaryl suddenly frowned. "Are you serious?"

"I presume something is stopping you. Yes, I'm serious."

"What's stopping me is I'm a Dahlite, a heatsinker on Dahl. I don't have the money to get an education and I can't get the credits to get an education. A real education, I mean. All they taught me was to read and cipher and use a computer and then I knew enough to be a heatsinker. But I wanted more. So I taught myself."

"In some ways, that's the best kind of teaching. How did you do that?"

"I knew a librarian. She was willing to help me. She was a very nice woman and she showed me how to use computers for learning mathematics. And she set up a software system that would connect me with other libraries. I'd come on my days off and on mornings after my shift. Sometimes she'd lock me in her private room so I wouldn't be bothered by people coming in or she would let me in when the library was closed. She didn't know mathematics herself, but she helped me all she could. She was oldish, a widow lady. Maybe she thought of me as a kind of son or something. She didn't have children of her own."

(Maybe, thought Seldon briefly, there was some other emotion involved too, but he put the thought away. None of his business.)

"I liked number theory," said Amaryl. "I worked some things out from what I learned from the computer and from the bookfilms it used to teach me mathematics. I came up with some new things that weren't in the book-films."

Seldon raised his eyebrows. "That's interesting. Like what?"

"I've brought some of them to you. I've never showed them to anyone. The people around me-" He shrugged. "They'd either laugh or be annoyed. Once I tried to tell a girl I knew, but she just said I was weird and wouldn't see me anymore. Is it all right for me to show them to you?"

"Quite all right. Believe me."

Seldon held out his hand and after a brief hesitation, Amaryl handed him the bag he was carrying. For a long time, Seldon looked over Amaryl's papers. The work was naive in the extreme, but he allowed no smile to cross his face. He followed the demonstrations, not one of which was new, of course-or even nearly new-or of any importance. But that didn't matter.

Seldon looked up. "Did you do all of this yourself?"

Amaryl, looking more than half-frightened, nodded his head.

Seldon extracted several sheets. "What made you think of this?" His finger ran down a line of mathematical reasoning.

Amaryl looked it over, frowned, and thought about it. Then he explained his line of thinking.

Seldon listened and said, "Did you ever read a book by Anat Bigell?"

"On number theory?"

"The title was Mathematical Deduction. It wasn't about number theory, particularly."

Amaryl shook his head. "I never heard of him. I'm sorry."

"He worked out this theorem of yours three hundred years ago.'

Amaryl looked stricken. "I didn't know that."

"I'm sure you didn't. You did it more cleverly, though. It's not rigorous, but-"

"What do you mean, 'rigorous'?"

"It doesn't matter." Seldon put the papers back together in a sheaf, restored it to the bag, and said, "Make several copies of all this. Take one copy, have it dated by an official computer, and place it under computerized seal. My friend here, Mistress Venabili, can get you into Streeling University without tuition on some sort of scholarship. You'll have to start at the beginning and take courses in other subjects than mathematics, but- By now Amaryl had caught his breath. "Into Streeling University? They won't take me."

"Why not? Dors, you can arrange it, can't you?"

"I'm sure I can."

"No, you can't," said Amaryl hotly. "They won't take me. I'm from Dahl."

"Well?.. "

"They won't take people from Dahl."

Seldon looked at Dors. "What's he talking about?"

Dors shook her head. "I really don't know."

Amaryl said, "You're an Outworlder, Mistress. How long have you been at Streeling?"

"A little over two years, Mr. Amaryl."

"Have you ever seen Dahllites there-short, curly black hair, big mustaches?"

"There are students with all kinds of appearances."

"But no Dahllites. Look again the next time you're there."

"Why not?" said Seldon.

"They don't like us. We look different. They don't like our mustaches."

"You can shave your-" but Seldon's voice died under the other's furious glance.

"Never. Why should I? My mustache is my manhood."

"You shave your beard. That's your manhood too."

"To my people it is the mustache."

Seldon looked at Dors again and murmured, "Bald heads, mustaches . . . madness."

"What?" said Amaryl angrily.

"Nothing. Tell me what else they don't like about Dahllites."

"They make up things not to like. They say we smell. They say we're dirty. They say we steal. They say we're violent. They say we're dumb. "

"Why do they say all this?"

"Because its easy to say it and it makes them feel good. Sure, if we work in the heatsinks, we get dirty and smelly. If we're poor and held down, some of us steal and get violent. But that isn't the way it is with all of us. How about those tall yellow-hairs in the Imperial Sector who think they own the Galaxy-no, they do own the Galaxy. Don't they ever get violent? Don't they steal sometimes?

If they did my job, they'd smell the way I do. If they had to live the way I have to, they'd get dirty too."

"Who denies that there are people of all kinds in all places?" said Seldon.

"No one argues the matter! They just take it for granted. Master Seldon, I've got to get away from Trantor. I have no chance on Trantor, no way of earning credits, no way of getting an education, no way of becoming a mathematician, no way of becoming any thing but what they say I am . . . a worthless nothing."

This last was said in frustration-and desperation.

Seldon tried to be reasonable. "The person I'm renting this room from is a Dahllite. He has a clean job. He's educated."

"Oh sure," said Amaryl passionately. "There are some. They let a few do it so that they can say it can be done. And those few can live nicely as long as they stay in Dahl. Let them go outside and they'll see how they're treated. And while they're in here they make themselves feel good by treating the rest of us like dirt. That makes them yellow-hairs in their own eyes. What did this nice person you're renting this room from say when you told him you were bringing in a heatsinker? What did he say I would be like? They're gone now . . . wouldn't be in the same place with me."

Seldon moistened his lips. "I won't forget you. I'll see to it that you'll get off Trantor and into my own University in Helicononce I'm back there myself."

"Do you promise that? Your word of honor? Even though I'm a Dahllite?"

"The fact that you're a Dahllite is unimportant to me. The fact that you are already a mathematician is! But I still can't quite grasp what you're telling me. I find it impossible to believe that there would be such unreasoning feeling against harmless people."

Amaryl said bitterly, "That's because you've never had any occasion to interest yourself in such things. It ran all pass right under your nose and you wouldn't smell a thing because it doesn't affect you. "

Dors said, "Mr. Amaryl, Dr. Seldon is a mathematician like you and his head can sometimes be in the clouds. You must understand that. I am a historian, however. I know that it isn't unusual to have one group of people look down upon another group. There are peculiar and almost ritualistic hatreds that have no rational justification and that can have their serious historical influence. It's too bad."

Amaryl said, "Saying something is 'too bad' is easy. You say you disapprove, which makes you a nice person, and then you can go about your own business and not be interested anymore. It's a lot worse than 'too bad.' It's against everything decent and natural. We're all of us the same, yellow-hairs and black-hairs, tall and short, Easterners, Westerners, Southerners, and Outworlders. We're all of us, you and I and even the Emperor, descended from the people of Earth, aren't we?"

"Descended from what" asked Seldon. He turned to look at Dors, his eyes wide.

"From the people of Earth!" shouted Amaryl. "The one planet on which human beings originated."

"One planet? Just one planet?"

"The only planet. Sure. Earth."

"When you say Earth, you mean Aurora, don't you?"

"Aurora? What's that? -I mean Earth. Have you never heard of Earth?"

"No," said Seldon. "Actually not."

"It's a mythical world," began Dors, "that-"

"It's not mythical. It was a real planet."

Seldon sighed. "I've heard this all before. Well, let's go through it again. Is there a Dahllite book that tells of Earth?"

"What?"

"Some computer software, then?"

"I don't know what you're talking about."

"Young man, where did you hear about Earth?"

"My dad told me. Everyone knows about it."

"Is there anyone who knows about it especially? Did they teach you about it in school?"

"They never said a word about it there."

"Then how do people know about it?"

Amaryl shrugged his shoulders with an air of being uselessly badgered over nothing. "Everyone just does. If you want stories about it, there's Mother Rittah. I haven't heard that she's died yet."

"Your mother? Wouldn't you know-"

"She's not my mother. That's just what they call her. Mother Rittah. She's an old woman. She lives in Billibotton. Or used to."

"Where's that?"

"Down in that direction," said Amaryl, gesturing vaguely.

"How do I get there?"

"Get there? You don't want to get there. You'd never come back."

"Why not?"

"Believe me. You don't want to go there."

"But I'd like to see Mother Rittah."

Amaryl shook his head. "Can you use a knife?"

"For what purpose? What kind of knife?"

"A cutting knife. Like this." Amaryl reached down to the belt that held his pants tight about his waist. A section of it came away and from one end there flashed out a knife blade, thin, gleaming, and deadly.

Dors's hand immediately came down hard upon his right wrist.

Amaryl laughed. "I wasn't planning to use it. I was just showing it to you." He put the knife back in his belt. "You need one in self-defense and if you don't have one or if you have one but don't know how to use it, you'll never get out of Billibotton alive. Anyway"-he suddenly grew very grave and intent-"are you really serious, Master Seldon, about helping me get to Helicon?"

"Entirely serious. That's a promise. Write down your name and where you can be reached by hypercomputer. You have a code, I suppose."

"My shift in the heatsinks has one. Will that do?"

"Yes."

"Well then," said Amaryl, looking up earnestly at Seldon, "this means I have my whole future riding on you, Master Seldon, so please don't go to Billibotton. I can't afford to lose you now." He turned beseeching eyes on Dors and said softly, "Mistress Venabili, if he'll listen to you, don't let him go. Please. "

BILLIBOTTON

DAHL- . . . Oddly enough, the best-known aspect of this sector is Billibotton, a semi-legendary place about which innumerable tales have grown up. In fact, a whole branch of literature now exists in which heroes and adventurers (and victims) must dare the dangers of passing through Billibotton. So stylized have these stories become that the one well-known and, presumably, authentic tale involving such a passage, that of Hari Seldon and Dors Venabili, has come to seem fantastic simply by association . . .

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66.

When Hari Seldon and Dors Venabili were alone, Dors asked thoughtfully, "Are you really planning to see this 'Mother' woman?"

"I'm thinking about it, Dors."

"You're an odd one, Hari. You seem to go steadily from bad to worse. You went Upperside, which seemed harmless enough, for a rational purpose when you were in Streeling. Then, in Mycogen, you broke into the Elders' aerie, a much more dangerous task, for a much more foolish purpose. And now in Dahl, you want to go to this place, which that young man seems to think is simple suicide, for something altogether nonsensical."

"I'm curious about this reference to Earth-and must know if there's anything to it."

Dors said, "It's a legend and not even an interesting one. It is routine. The names differ from planet to planet, but the content is the same. There is always the tale of an original world and a golden age. There is a longing for a supposedly simple and virtuous past that is almost universal among the people of a complex and vicious society. In one way or another, this is true of all societies, since everyone imagines his or her own society to be too complex and vicious, however simple it may be. Mark that down for your psychohistory."

"Just the same," said Seldon, "I have to consider the possibility that one world did once exist. Aurora . . . Earth . . . the name doesn't matter. In fact-"

He paused and finally Dors said, "Well?"

Seldon shook his head. "Do you remember the hand-on-thigh story you told me in Mycogen? It was right after I got the Book from Raindrop Forty-Three . . . Well, it popped into my head one evening recently when we were talking to the Tisalvers. I said something that reminded me, for an instant-"

"Reminded you of what?"

"I don't remember. It came into my head and went out again, but somehow every time I think of the single-world notion, it seems to me I have the tips of my fingers on something and then lose it."

Dors looked at Seldon in surprise. "I don't see what it could be. The hand-on-thigh story has nothing to do with Earth or Aurora."

"I know, but this . . . thing . . . that hovers just past the edge of my mind seems to be connected with this single world anyway and I have the feeling that I must find out more about it at any cost. That . . . and robots."

"Robots too? I thought the Elders' aerie put an end to that."

"Not at all. I've been thinking about them." He stared at Dors with a troubled look on his face for a long moment, then said, "But I'm not sure."

"Sure about what, Hari?"

But Seldon merely shook his head and said nothing more.

Dors frowned, then said, "Hari, let me tell you one thing. In sober history-and, believe me, I know what I'm talking about there is no mention of one world of origin. It's a popular belief, I admit. I don't mean just among the unsophisticated followers of folklore, like the Mycogenians and the Dahlite heatsinkers, but there are biologists who insist that there must have been one world of origin for reasons that are well outside my area of expertise and there are the more mystical historians who tend to speculate about it. And among the leisure-class intellectuals, I understand such speculations are becoming fashionable. Still, scholarly history knows nothing about it."

Seldon said, "All the more reason, perhaps, to go beyond scholarly history. All I want is a device that will simplify psychohistory for me and I don't care what the device is, whether it is a mathematical trick or a historical trick or something totally imaginary. If the young man we've just talked to had had a little more formal training, I'd have set him on the problem. His thinking is marked by considerable ingenuity and originality-

Dors said, "And you're really going to help him, then?"

"Absolutely. Just as soon as I'm in a position to."

"But ought you to make promises you're not sure you'll be able to keep?"

"I want to keep it. If you're that stiff about impossible promises, consider that Hummin told Sunmaster Fourteen that I'd use psychohistory to get the Mycogenians their world back. There's just about zero chance of that. Even if I work out psychohistory, who knows if it can be used for so narrow and specialized a purpose? There's a real case of promising what one can't deliver."

But Dors said with some heat, "Chetter Hummin was trying to save our lives, to keep us out of the hands of Demerzel and the Emperor. Don't forget that. And I think he really would like to help the Mycogenians."

"And I really would like to help Yugo Amaryl and I am far more likely to be able to help him than I am the Mycogenians, so if you justify the second, please don't criticize the first. What's more, Dors"-and his eyes flashed angrily-"I really would like to find Mother Rittah and I'm prepared to go alone."

"Never!" snapped Dors. "If you go, I go."

Mistress Tisalver returned with her daughter in tow an hour after Amaryl had left on this way to his shift. She said nothing at all to either Seldon or Dors, but gave a curt nod of her head when they greeted her and gazed sharply about the room as though to verify that the heatsinker had left no trace. She then sniffed the air sharply and looked at Seldon accusingly before marching through the common room into the family bedroom.

Tisalver himself arrived home later and when Seldon and Dors came to the dinner table, Tisalver took advantage of the fact that his wife was still ordering some last-minute details in connection with the dinner to say in a low voice, "Has that person been here?"

"And gone," said Seldon solemnly. "Your wife was out at the time."

Tisalver nodded and said, "Will you have to do this again?"

"I don't think so," said Seldon.

"Good."

Dinner passed largely in silence, but afterward, when the daughter had gone to her room for the dubious pleasures of computer practice, Seldon leaned back and said, "Tell me about Billibotton."

Tisalver looked astonished and his mouth moved without any sound issuing. Casilia, however, was less easily rendered speechless.

She said, "Is that where your new friend lives? Are you going to return the visit?"

"So far," said Seldon quietly, "I have just asked about Billibotton."

Casilia said sharply, "It is a slum. The dregs live there. No one goes there, except the filth that make their homes there."

"I understand a Mother Rittah lives there."

"I never heard of her," said Casilia, her mouth closing with a snap. It was quite clear that she had no intention of knowing anyone by name who lived in Billibotton.

Tisalver, casting an uneasy look at his wife, said, "I've heard of her. She's a crazy old woman who is supposed to tell fortunes."

"And does she live in Billibotton?"

"I don't know, Master Seldon. I've never seen her. She's mentioned sometimes in the news holocausts when she makes her predictions."

"Do they come true?"

Tisalver snorted. "Do predictions ever come true? Hers don't even make sense."

"Does she ever talk about Earth?"

"I don't know. I wouldn't be surprised."

"The mention of Earth doesn't puzzle you. Do you know about Earth?"

Now Tisalver looked surprised. "Certainly, Master Seldon. It's the world all people came from . . . supposedly."

"Supposedly? Don't you believe it?"

"Me? I'm educated. But many ignorant people believe it."

"Are there book-films about Earth?"

"Children's stories sometimes mention Earth. I remember, when I was a young boy, my favorite story began, 'Once, long ago, on Earth, when Earth was the only planet-' Remember, Casilia? You liked it too."

Casilia shrugged, unwilling to bend as yet.

"I'd like to see it sometime," said Seldon, "but I mean real bookfilms . . . uh . . . learned ones . . . or films . . . or printouts."

"I never heard of any, but the library-"

"I'll try that. -Are there any taboos about speaking of Earth?"

"What are taboos?"

"I mean, is it a strong custom that people mustn't talk of Earth or chat outsiders mustn't ask about it?"

Tisilver looked so honestly astonished that there seemed no point in waiting for an answer.

Dors put in, "Is there some rule about outsiders not going to Billibotton?"

Now Tisilver turned earnest. "No rule, but it's not a good idea for anyone to go there. I wouldn't."

Dors said, "Why not?"

"It's dangerous. Violent! Everyone is armed. -I mean, Dahl is an armed place anyway, but in Billibotton they use the weapons. Stay in this neighborhood. It's safe."

"So far," said Casilia darkly. "It would be better if we left altogether. Heatsinkers go anywhere these days." And there was another lowering look in Seldon's direction.

Seldon said, "What do you mean that Dahl is an armed place? There are strong Imperial regulations against weapons."

"I know that," said Tisilver, "and there are no stun guns here or percussives or Psychic Probes or anything like that. But there are knives." He looked embarrassed.

Dors said, "Do you carry a knife, Tisilver?"

"Me?" He looked genuinely horrified. "I am a man of peace and this is a safe neighborhood."

"We have a couple of them in the house," said Casilia, sniffing again. "We're not that certain this is a safe neighborhood."

"Does everyone carry knives?" asked Dors.

"Almost everyone, Mistress Venabili," said Tisilver. "It's customary. But that doesn't mean everyone uses them."

"But they use them in Billibotton, I suppose," said Dors.

"Sometimes. When they're excited, they have fights."

"And the government permits it? The Imperial government, I mean?"

"Sometimes they try to clean Billibotton up, but knives are too easy to hide and the custom is too strong. Besides, it's almost always Dahllites that get killed and I don't think the Imperial government gets too upset over that."

"What if it's an outsider who gets killed?"

"If it's reported, the Imperials could get excited. But what happens is that no one has seen anything and no one knows anything. The Imperials sometimes round up people

on general principles, but they can never prove anything. I suppose they decide it's the outsiders' fault for being there. -So don't go to Billibotton, even if you have a knife."

Seldon shook his head rather pettishly. "I wouldn't carry a knife. I don't know how to use one. Not skillfully."

"Then it's simple, Master Seldon. Stay out." Tisilver shook his head portentously. "Just stay out."

"I may not be able to do that either," said Seldon.

Dors glared at him, clearly annoyed, and said to Tisilver, "Where does one buy a knife? Or may we have one of yours?"

Casilia said quickly, "No one takes someone else's knife. You must buy your own."

Tisilver said, "There are knife stores all over. There aren't supposed to be. Theoretically they're illegal, you know. Any appliance store sells them, however. If you see a washing machine on display, that's a sure sign."

"And how does one get to Billibotton?" asked Seldon.

"By Expressway." Tisilver looked dubious as he looked at Dors's frowning expression.

Seldon said, "And once I reach the Expressway?"

"Get on the eastbound side and watch for the signs. But if you must go, Master Seldon"-Tisilver hesitated, then said-"you mustn't take Mistress Venabili. Women sometimes are treated . . . worse."

"She won't go," said Seldon.

"I'm afraid she will," said Dors with quiet determination.

68.

The appliance store dealer's mustache was clearly as lush as it had been in his younger days, but it was grizzled now, even though the hair on his head was still black. He touched the mustache out of sheer habit as he gazed at Dors and brushed it back on each side.

He said, "You're not a Dahlite."

"Yes, but I still want a knife."

He said, "It's against the law to sell knives."

Dors said, "I'm not a policewoman or a government agent of any sort. I'm going to Billibotton."

He stared at her thoughtfully. "Alone?"

"With my friend." She jerked her thumb over her shoulder in the direction of Seldon, who was waiting outside sullenly.

"You're buying it for him?" He stared at Seldon and it didn't take him long to decide. "He's an outsider too. Let him come in and buy it for himself"

"He's not a government agent either. And I'm buying it for myself."

The dealer shook his head. "Outsiders are crazy. But if you want to spend some credits, I'll take them from you. He reached under the counter, brought out a stub, turned it with a slight and expert motion, and the knife blade emerged.

"Is chat the largest you have?"

"Best woman's knife made."

"Show me a man's knife."

"You don't want one that's coo heavy. Do you know how to use one of these things?"

"I'll learn and I'm not worried about heavy. Show me a man's knife."

The dealer smiled. "Well, if you want to see one-" He moved farther down the counter and brought up a much fatter stub. He gave it a twist and what appeared to be a butcher's knife emerged. He handed it to her, handle first, still smiling.

She said, "Show me that twist of yours."

He showed her on a second knife, slowly twisting one way to make the blade appear, then the other way to make it disappear. "Twist and squeeze," he said.

"Do it again, sir."

The dealer obliged.

Dors said, "All right, close it and toss me the haft"

He did, in a slow upward loop.

She caught it, handed it back, and said, "Faster."

He raised his eyebrows and then, without warning, backhanded it to her left side. She made no attempt to bring over her right hand, but caught it with her left and the blade showed tumescently at once-then disappeared. The dealer's mouth fell open.

"And this is the largest you have?" she said.

"It is. If you try to use it, it will just tire you out."

"I'll breathe deeply. I'll take a second one too."

"For your friend?"

"No. For me."

"You plan on using two knives?"

"I've got two hands."

The dealer sighed. "Mistress, please stay out of Billibotton. You don't know what they do to women there."

"I can guess. How do I put these knives on my belt?"

"Not the one you've got on, Mistress. That's not a knife belt. I can sell you one, though."

"Will it hold two knives?"

"I might have a double belt somewhere. Not much call for them."

"I'm calling for them."

"I may not have it in your size."

"Then we'll cut it down or something."

"It will cost you a lot of credits."

"My credit tile will cover it."

When she emerged at last, Seldon said sourly, "You look ridiculous with that bulky belt."

"Really, Hari? Too ridiculous to go with you to Billibotton? Then let's both go back to the apartment."

"No. I'll go on by myself. I'll be safer by myself."

Dors said, "There is no use saying that, Hari. We both go back or we both go forward. Under no circumstances do we separate."

And somehow the firm look in her blue eyes, the set to her lips, and the manner in which her hands had dropped to the hafts at her belt, convinced Seldon she was serious.

"Very well," he said, "but if you survive and if I ever see Hummin again, my price for continuing to work on psychohistory much as I have grown fond of you-will be your removal. Do you understand?"

And suddenly Dors smiled. "Forget it. Don't practice your chivalry on me.

Nothing will remove me. Do you understand?"

69.

They got off the Expressway where the sign, flickering in the air, said: BILLIBOTTON. As perhaps an indication of what might be expected, the second I was smeared, a mere blob of fainter light.

They made their way out of the car and down to the walkway below. It was early afternoon and at first glance, Billibotton seemed much like the part of Dahl they had left.

The air, however, had a pungent aroma and the walkway was littered with crash. One could tell that auto-sweeps were not to be found in the neighborhood. And, although the walkway looked ordinary enough, the atmosphere was uncomfortable and as tense as a too-tightly coiled spring.

Perhaps it was the people. There seemed the normal number of pedestrians, but they were not like pedestrians elsewhere, Seldon thought. Ordinarily, in the press of business, pedestrians were self-absorbed and in the endless crowds on the endless thoroughfares of Trantor, people could only survive-psychologically-by ignoring each other. Eyes slid away. Brains were closed off. There was an artificial privacy with each person enclosed in a velvet fog of his or her own making. Or there was the ritualistic friendliness of an evening promenade in those neighborhoods that indulged in such things.

But here in Billibotton, there was neither friendliness nor neutral withdrawal. At least not where outsiders were concerned. Every person who passed, moving in either direction, turned to stare at Seldon and Dors. Every pair of eyes, as though attached by invisible cords to the two outsiders, followed them with ill will.

The clothing of the Billibottoners tended to be smudged, old, and sometimes corn. There was a patina of ill-washed poverty over them and Seldon felt uneasy at the slickness of his own new clothes.

He said, "Where in Billibotton does Mother Rittah live, do you suppose?"

"I don't know," said Dors. "You brought us here, so you do the supposing. I intend to confine myself to the task of protection and I think I'm going to find it necessary to do just that."

Seldon said, "I assumed it would only be necessary to ask the way of any passerby, but somehow I'm not encouraged to do so."

"I don't blame you. I don't think you'll find anyone springing w your assistance."

"On the other hand, there are such things as youngsters." He indicated one with a brief gesture of one hand. A boy who looked to be about twelve-in any case young enough to lack the universal adult male mustache had come to a full halt and was staring at them.

Dors said, "You're guessing that a boy that age has not yet developed the full Billibottonian dislike of outsiders."

"At any rate," said Seldon, "I'm guessing he is scarcely large enough to have developed the full Billibottonian penchant for violence. I suppose he might run away and shout insults from a distance if we approach him, but I doubt he'll attack us."

Seldon raised his voice. "Young man."

The boy took a step backward and continued to stare.

Seldon said, "Come here," and beckoned.

The boy said, "Wa' fox, guy?"

"So I can ask you directions. Come closer, so I don't have to shout."

The boy approached two steps closer. His face was smudged, but his eyes were bright and sharp. His sandals were of different make and there was a large patch on one leg of his trousers. I He said, "Wa' kind o' directions?"

"We're trying to find Mother Rittah."

The boy's eyes flickered. "Wa' for, guy?"

"I'm a scholar. Do you know what a scholar "Ya went to school?"

"Yes. Didn't you?"

The boy spat to one side in contempt. "Nah."

"I want advice from Mother Rittah-if you'll take me to her."

"Ya want your fortune? Ya come to Billibotton, guy, with your fancy clothes, so ! can tell ya your fortune. All bad."

"What's your name, young man?"

"What's it to ya?"

"So we can speak in a more friendly fashion. And so you can take me to Mother Rittah's place. Do you know where she lives?"

"Maybe yes, maybe no. My name's Raych. What's in it for me if I take ya?"

"What would you like, Raych?"

The boy's eyes halted at Dors's belt. Raych said, "The lady got a couple o' knives. Gimme one and I'll take ya to Mother Rittah."

"Those are grown people's knives, Raych. You're too young."

"Then I guess I'm too young to know where Mother Rittah lives." And he looked up slyly through the shaggy hair that curtained his eyes.

Seldon grew uneasy. It was possible they might attract a crowd. Several men had stopped already, but had then moved on when nothing of interest seemed to be taking place. If, however, the boy grew angry and lashed out at them in word or deed, people would undoubtedly gather.

He smiled and said, "Can you read, Raych?"

Raych spat again. "Nab! Who wants to read?"

"Can you use a computer?"

"A talking computer? Sure. Anyone can."

"I'll tell you what, then. You take me to the nearest computer store and I'll buy you a little computer all your own and software that will teach you to read. A few weeks and you'll be able to read."

It seemed to Seldon that the boy's eyes sparkled at the thought, but if so they hardened at once. "'Nab, Knife or nothin'."

"That's the point, Raych. You learn to read and don't tell anyone and you can surprise people. After a while you can bet them you can read. Bet them five credits. You can win a few extra credits that way and you can buy a knife of your own."

The boy hesitated. "Nab! No one will bet me. No one got credits."

"If you can read, you can get a job in a knife store and you can save your wages and get a knife at a discount. How about that?"

"When ya gonna buy the talking computer?"

"Right now. I'll give it to you when I see Mother Rittah."

"You got credits?"

"I have a credit tile."

"Let's see ya buy the computer."

The transaction was carried through, but when the boy reached for it, Seldon shook his head and put it inside his pouch. "You've got to get me to Mother Rittah first, Raych. Are you sure you know where to find her?"

Raych allowed a look of contempt to cross his face. "Sure I do. I'll take ya there, only ya better hand over the computer when we get there or I'll get some guys I know after you and the lady, so ya better watch out."

"You don't have to threaten us," said Seldon. "We'll take care of our end of the deal."

Raych led them quickly along the walkway, past curious stares. Seldon was silent during the walk and so was Dors. Dors was far less lost in her own thoughts, though, for she clearly remained conscious of the surrounding people at all times. She kept meeting, with a level glare, the eyes of those passersby that turned toward them. On occasion, when there were footsteps behind them, she turned to look grimly back.

And then Raych stopped and said, "In here. She ain't homeless, ya know."

They followed him into an apartment complex and Seldon, who had had the intention of following their route with a view to retracing his steps later, was quickly lost.

He said, "How do you know your way through these alleys, Raych?"

The boy shrugged. "I been loafin' through them since I was a kid," he said.

"Besides, the apartments are numbered-where they ain't broken offend there's arrows and things. You can't get lost if you know the tricks."

Raych knew the tricks, apparently, and they wandered deeper into the complex. Hanging over it all was an air of total decay: disregarded debris, inhabitants slinking past in clear resentment of the outsiders' invasion. Unruly youngsters ran along the alleys in pursuit of some game or other. Some of them yelled, "Hey, get out o' the way!" when their levitating ball narrowly missed Dors. And finally, Raych stopped before a dark scarred door on which the number 2782 glowed feebly.

"This is it," he said and held out his hand.

"First let's see who's inside," said Seldon softly. He pushed the signal button and nothing happened.

"It don't work," said Raych. "Ya gotta bang. Loud. She don't hear too good."

Seldon pounded his fist on the door and was rewarded with the sound of movement inside. A shrill voice called out, "Who wants Mother Rittah?"

Seldon shouted, "Two scholars!"

He tossed the small computer, with its small package of software attached, to Raych, who snatched it, grinned, and took off at a rapid run. Seldon then turned to face the opening door and Mother Rittah.

70.

Mother Rittah was well into her seventies, perhaps, but had the kind of face that, at first sight, seemed to belie that. Plump cheeks, a little mouth, a small round chin slightly doubled. She was very short-not quite 1.5 meters tall-and had a thick body.

But there were fine wrinkles about her eyes and when she smiled, as she smiled at the sight of them, others broke out over her face. And she moved with difficulty.

"Come in, come in," she said in a soft high-pitched voice and peered at them as though her eyesight was beginning to fail. "Outsiders . . . Outworlders even. Am I right? You don't seem to have the Trantor smell about you."

Seldon wished she hadn't mentioned smell. The apartment, overcrowded and littered with small possessions that seemed dim and dusty, reeked with food odors that were on the edge of rancidity. The air was so thick and clinging that he was sure his clothes would smell strongly of it when they left.

He said, "You are sight, Mother Rittah. I am Hari Seldon of Helicon. My friend is Dors Venabili of Cinna."

"So," she said, looking about for an unoccupied spot on the floor where she could invite them to sit, but finding none suitable.

Dors said, "We are willing to stand, Mother."

"What?" she looked up at Dors. "You must speak briskly, my child. My hearing is not what it was when I was your age."

"Why don't you get a hearing device?" said Seldon, raising his voice.

"It wouldn't help, Master Seldon. Something seems to be wrong with the nerve and I have no money for nerve rebuilding. -You have come to learn the future from old Mother Rittah?"

"Not quite," said Seldon. "I have come to learn the past."

"Excellent. It is such a strain to decide what people want to hear."

"It must be quite an art," said Dors, smiling.

"It seems easy, but one has to be properly convincing. I earn my fees."

"If you have a credit outlet," said Seldon. "We will pay any reasonable fees if you tell us about Earth-without cleverly designing what you tell us to suit what we want to hear. We wish to hear the truth."

The old woman, who had been shuffling about the room, making adjustments here and there, as though to make it all prettier and more suitable for important visitors, stopped short. "What do you want to know about Earth?"

"What is it, to begin with?"

The old woman turned and seemed to gaze off into space. When she spoke, her voice was low and steady.

"It is a world, a very old planet. It is forgotten and lost."

Dors said, "It is not part of history. We know that much."

"It comes before history, child," said Mother Rittah solemnly. "It existed in the dawn of the Galaxy and before the dawn. It was the only world with humanity." She nodded firmly.

Seldon said, "Was another name for Earth . . . Aurora?"

And now Mother Rittah's face misted into a frown. "Where did you hear that?"

"In my wanderings. I have heard of an old forgotten world named Aurora on which humanity lived in primordial peace."

"It's a lie." She wiped her mouth as though to get the taste of what she had just heard out of it. "That name you mention must never be mentioned except as the place of Evil. It was the beginning of Evil. Earth was alone till Evil came, along with its sister worlds. Evil nearly destroyed Earth, but Earth rallied and destroyed Evil with the help of heroes."

"Earth was before this Evil. Are you sure of that?"

"Long before. Earth was alone in the Galaxy for thousands of years, millions of years."

"Millions of years? Humanity existed on it for millions of years with no other people on any other world?"

"That's true. That's true. That's true."

"But how do you know all this? Is it all in a computer program? Or a printout? Do you have anything I can read?"

Mother Rittah shook her head. "I heard the old stories from my mother, who heard it from hers, and so on far back. I have no children, so I tell the stories to others, but it may come to an end. This is a time of disbelief."

Dors said, "Not really, Mother. There are people who speculate about prehistoric times and who study some of the tales of lost worlds."

Mother Rittah made a motion of her arm as though to wipe it away. "They look at it with cold eyes. Scholarly. They try to fit it in with their notions. I could tell you stories for a year of the great hero Ba-Lee, but you would have no time to listen and I have lost the strength to tell."

Seldon said, "Have you ever heard of robots?"

The old woman shuddered and her voice was almost a scream. "Why do you ask such things? Those were artificial human beings, evil in themselves and the work of the Evil worlds. They were destroyed and should never be mentioned."

"There was one special robot, wasn't there, that the Evil worlds hated?"

Mother Rittah tottered toward Seldon and peered into his eyes. He could feel her hot breath on his face. "Have you come to mock me? You know of these things and yet you ask? Why do you ask?"

"Because I wish to know."

"There was an artificial human being who helped Earth. He was DaNee, friend of Ba-Lee. He never died and lives somewhere, waiting for his time to return. None knows when that time will be, but someday he will come and restore the great old days and remove all cruelty, injustice, and misery. That is the promise." At this, she closed her eyes and smiled, as if remembering . . .

Seldon waited a while in silence, then sighed and said, "Thank you, Mother Rittah. You have been very helpful. What is your fee?"

"So pleasant to meet Outworlders," the old woman replied. "Ten credits. May I offer you some refreshment?"

"No, thank you," said Seldon earnestly. "Please take twenty. You need only tell us how to get back to the Expressway from here. -And, Mother Rittah, if you can arrange to have some of your tales of Earth put into a computer disc, I will pay you well."

"I would need so much strength. How well?"

"It would depend on how long the story is and how well it is told. I might pay a thousand credits."

Mother Rittah licked her lips. "A thousand credits? But how will I find you when the story is told?"

"I will give you the computer code number at which I can be reached."

After Seldon gave Mother Rittah the code number, he and Dors left, thankful for the comparatively clean odor of the alley outside. They walked briskly in the direction indicated by the old woman.

Dors said, "That wasn't a very long interview, Hari."

"I know. The surroundings were terribly unpleasant and I felt I had learned enough. Amazing how these folktales tend to magnify."

"What do you mean, 'magnify'?"

"Well, the Mycogenians fill their Aurora with human beings who lived for centuries and the Dahlites fill their Earth with a humanity that lived for millions of years. And both talk of a robot that lives forever. Still, it makes one think."

"As far as millions of years go, there's room for-Where are we going?"

"Mother Rittah said we go in this direction till we reach a rest area, then follow the sign for CENTRAL WALKWAY, bearing left, and keep on following the sign. Did we pass a rest area on the way in?., "We may be leaving by a route different from the one we came in. I don't remember a rest area, but I wasn't watching the route. I was keeping my eye on the people we passed and-"

Her voice died away. Up ahead the alley swelled outward on both sides.

Seldon remembered. They had passed that way. There had been a couple of ratty couch pads resting on the walkway floor on either side.

There was, however, no need for Dors to watch passersby going out as she had coming in. There were no passersby. But up ahead in the rest area they spotted a group of men, rather large-sized for Dahlites, mustaches bristling, bare upper arms muscular and glistening under the yellowish indoor light of the walkway.

Clearly, they were waiting for the Outworlders and, almost automatically, Seldon and Dors came to a halt. For a moment or two, the tableau held. Then Seldon looked behind him hastily. Two or three additional men had stepped into view.

Seldon said between his teeth, "We're trapped. I should not have let you come, Dors."

"On the contrary. This is why I'm here, but was it worth your seeing Mother Rittah?"

"If we get out of this, it was."

Seldon then said in a loud and firm voice, "May we pass?"

One of the men ahead stepped forward. He was fully Seldon's height of 1.73 meters, but broader in the shoulders and much more muscular. A bit flabby at the waist, though, Seldon noted.

"I'm Marron," he said with self-satisfied significance, as though the name ought to have meaning, "and I'm here to tell you we don't like Outworlders in our district. You want to come in, all right-but if you want to leave, you'll have to pay."

"Very well. How much?"

"All you've got. You rich Outworlders have credit tiles, right? Just hand them over."

"No."

"No point saying no. We'll just take them."

"You can't take them without killing me or hurting me and they won't work without my voiceprint. My normal voiceprint."

"That's not so, Master-see, I'm being polite-we can take them away from you without hurting you very much."

"How many of you big strong men will it take? Nine? No." Seldon counted rapidly.

"Ten."

"Just one. Me."

"With no help?"

' Just me."

"If the rest of you will clear away and give us room, I would like to see you cry it, Marron."

"You don't have a knife, Master. You want one?"

"No, use yours to make the fight even. I'll fight without one."

Marron looked about at the others and said, "Hey, this puny guy is a sport. He don't even sound scared. That's sort of nice. It would be a shame to hurt him.

-I tell you what, Master. I'll take the girl. If you want me to stop, hand over your credit tile and her tile and use your right voices to activate them. If you say no, then after I'm through with the girl . . . and that'll take some time"-he laughed-"I'll just have to hurt you."

"No," said Seldon. "Let the woman go. I've challenged you to a fight one to one, you with a knife, me without. If you want bigger odds, I'll fight two of you, but let the woman go."

"Stop, Hari!" cried out Dors. "If he wants me, let him come and get me. You stay right where you are, Hari, and don't move."

"You hear that?" said Marron, grinning broadly. "'You stay right where you are, Hari, and don't move.' I think the little lady wants me. You two, keep him still."

Each of Seldon's arms were caught in an iron grip and he felt the sharp point of a knife in his back.

"Don't move," said a harsh whisper in his ear, "and you can watch. The lady will probably like it. Marron's pretty good at this."

Dors called out again. "Don't move, Hari!" She corned to face Marron watchfully, her half-closed hands poised near her belt.

He closed in on her purposefully and she waited till he had come within arm's length, when suddenly her own arms flashed and Marron found himself facing two large knives.

For a moment, he leaned backward and then he laughed. "The little lady has two knives-knives like the big boys have. And I've only got one. But that's fair enough." His knife was swiftly out. "I hate to have to cut you, little lady, because it will be more fun for both of us if I don't. Maybe I can just knock them out of your hands, huh?"

Dors said, "I don't want to kill you. I'll do all I can to avoid doing so. Just the same, I call on all to witness, that if I do kill you, it is to protect my friend, as I am honor-bound to do."

Macron pretended to be terrified. "Oh, please don't kill me, little lady." Then he burst into laughter and was joined by the other Dahlites present.

Macron lunged with his knife, quite wide of the mark. He tried it again, then a third time, but Dors never budged. She made no attempt to fend off any motion that was not truly aimed at her.

Macron's expression darkened. He was trying to make her respond with panic, but he was only making himself seem ineffectual. The next lunge was directly at her and Dors's left-hand blade moved flashingly and caught his with a force that pushed his arm aside. Her right-hand blade flashed inward and made a diagonal slit in his T-shirt. A thin bloody line smeared the dark-haired skin beneath.

Macron looked down at himself in shock as the onlookers gasped in surprise. Seldon felt the grip on him weaken slightly as the two who held him were distracted by a duel not going quite as they had expected. He tensed himself.

Now Macron lunged again and this time his left hand shot outward to enclose Dors's right wrist. Again Dors's left-hand blade caught his knife and held it motionless, while her right hand twisted agilely and drew downward, even as Macron's left hand closed upon it. It closed on nothing but the blade and when he opened his hand there was a bloody line down the palm.

Dors sprang back and Macron, aware of the blood on his chest and hand, roared out chokingly, "Someone toss me another knife!"

There was hesitation and then one of the onlookers tossed his own knife underhanded. Macron reached for it, but Dors was quicker. Her right-hand blade struck the thrown knife and sent it flying backward, whirling as it went.

Seldon felt the grips on his arms weaken further. He lifted them suddenly, pushing up and forward, and was free. His two captors turned toward him with a sudden shout, but he quickly kned one in the groin and elbowed the other in the solar plexus and both went down.

He knelt to draw the knives of each and rose as double-armed as Dors. Unlike Dors, Seldon did not know how to handle the blades, but he knew the Dahrites would scarcely be aware of that Dor said, ' Just keep them off, Hari. Don't attack yet. -Macron, my next stroke will not be a scratch."

Macron, totally enraged, roared incoherently and charged blindly, attempting by sheer kinetic energy to overwhelm his opponent. Dors, dipping and sidestepping, ducked under his right arm, kicked her foot against his right ankle, and down he crashed, his knife flying.

She then knelt, placed one blade against the back of his neck and the other against his throat, and said, "Yield!"

With another yell, Macron struck out against her with one arm, pushed her to one side, then scrambled to his feet.

He had not yet stood up completely when she was upon him, one knife slashing downward and hacking away a section of his mustache. This time he yowled like a large animal in agony, clapping his hand to his face. When he drew it away, it was dripping blood.

Dors shouted, "It won't grow again, Macron. Some of the lip went with it. Attack once more and you're dead meat."

She waited, but Macron had had enough. He stumbled away, moaning, leaving a trail of blood.

Dors turned toward the others. The two that Seldon had knocked down were still lying there, unarmed and not anxious to get up. She bent down, cut their belts with one of her knives and then slit their trousers.

"This way, you'll have to hold your pants up when you walk," she said.

She stared at the seven men still on their feet, who were watching her with awestruck fascination. "And which of you threw the knife?"

There was silence.

She said, "It doesn't matter to me. Come one at a time or all together, but each time I slash, someone dies."

And with one accord, the seven turned and scurried away.

Dors lifted her eyebrows and said to Seldon "This time, at least, Hummin can't complain that I failed to protect you."

Seldon said, "I still can't believe what I saw. I didn't know you could do anything like that-or talk like that either."

Dors merely smiled. "You have your talents too. We make a good pair. Here, retract your knife blades and put them into your pouch. I think the news will spread with enormous speed and we can get out of Billibotton without fear of being stopped."

She was quite right.

UNDERCOVER

DAVAN- . . . In the unsettled times marking the final centuries of the First Galactic Empire, the typical sources of unrest arose from the fact that political and military leaders jockeyed for "supreme" power (a supremacy that grew more worthless with each decade). Only rarely was there anything that could be called a popular movement prior to the advent of psychohistory. In this connection, one intriguing example involves Davan, of whom little is actually known, but who may have met with Hari Seldon at one time when . . .

ENCYCLOPEDIA GALACTICA

72.

Both Hari Seldon and Dors Venabili had taken rather lingering baths, making use of the somewhat primitive facilities available to them in the Tisalver household. They had changed their clothing and were in Seldon's room when Jirad Tisalver returned in the evening. His signal at the door was (or seemed) rather timid. The buzz did not last long.

Seldon opened the door and said pleasantly, "Good evening, Master Tisalver. And Mistress."

She was standing right behind her husband, forehead puckered into a puzzled frown.

Tisalver said tentatively, as though he was unsure of the situation, "Are you and Mistress Venabili both well?" He nodded his head as though trying to elicit an affirmative by body language.

"Quite well. In and out of Billibotton without trouble and we're all washed and changed. There's no smell left." Seldon lifted his chin as he said it, smiling, tossing the sentence over Tisalver's shoulder to his wife.

She sniffed loudly, as though testing the matter.

Still tentatively, Tisalver said, "I understand there was a knife fight."

Seldon raised his eyebrows. "Is that the story?"

"You and the Mistress against a hundred thugs, we were cold, and you killed them all. Is that so?" There was the reluctant sound of deep respect in his voice.

"Absolutely not," Dors put in with sudden annoyance. "That's ridiculous. What do you think we are? Mass murderers? And do you think a hundred thugs would remain in place, waiting the considerable time it would take me-us-to kill them all? I mean, think about it."

"That's what they're saying," said Casilia Tisalver with shrill firmness. "We can't have that sort of thing in this house."

"In the first place," said Seldon, "it wasn't in this house. In the second, it wasn't a hundred men, it was ten. In the third, no one was killed. There was some altercation back and forth, after which they left and made way for us."

"They just made way. Do you expect me to believe that, Outworlders?" demanded Mistress Tisalver belligerently.

Seldon sighed. At the slightest stress, human beings seemed to divide themselves into antagonistic groups. He said, "Well, I grant you one of them was cut a little. Not seriously."

"And you weren't hurt at all?" said Tisalver. The admiration in his voice was more marked.

"Not a scratch," said Seldon. "Mistress Venabili handles two knives excellently well."

"I dare say," said Mistress Tisalver, her eyes dropping to Dors's belt, "and that's not what I want to have going on here."

Dors said sternly, "As long as no one attacks us here, that's what you won't have here."

"But on account of you," said Mistress Tisalver, "we have trash from the street standing at the doorway."

"My love," said Tisalver soothingly, "let us not anger-"

"Why?" spat his wife with contempt. "Are you afraid of her knives? I would like to see her use them here."

"I have no intention of using them here," said Dors with a sniff as loud as any that Mistress Tisalver had produced. "What is this trash from the street you're talking about?"

Tisalver said, "What my wife means is that an urchin from Billibotton-at least, judging by his appearance-wishes to see you and we are not accustomed to that sort of thing in this neighborhood. It undermines our standing." He sounded apologetic.

Seldon said, "Well, Master Tisalver, we'll go outside, find out what it's all about, and send him on his business as quickly-"

"No. Wait," said Dors, annoyed. "These are our rooms. We pay for them. We decide who visits us and who does not. If there is a young man outside from Billibotton, he is nonetheless a Dahlite. More important, he's a Trantorian. Still more important, he's a citizen of the Empire and a human being. Most important, by asking to see us, he becomes our guest. Therefore, we invite him in to see us."

Mistress Tisalver didn't move. Tisalver himself seemed uncertain.

Dors said, "Since you say I killed a hundred bullies in Billibotton, you surely do not think I am afraid of a boy or, for that matter, of you two." Her right hand dropped casually to her belt.

Tisalver said with sudden energy, "Mistress Venabili, we do not intend to offend you. Of course these rooms are yours and you can entertain whomever you wish here." He stepped back, pulling his indignant wife with him, undergoing a burst of resolution for which he might conceivably have to pay afterward.

Dors looked after them sternly.

Seldon smiled dryly. "How unlike you, Dors. I thought I was the one who quixotically got into trouble and that you were the calm and practical one whose only aim was to prevent trouble."

Dors shook her head. "I can't bear to hear a human being spoken of with contempt just because of his group identification-even by other human beings. It's these respectable people here who create those hooligans out there."

"And other respectable people," said Seldon, "who create these respectable people. These mutual animosities are as much a part of humanity-

"Then you'll have to deal with it in your psychohistory, won't you?"

"Most certainly-if there is ever a psychohistory with which to deal with anything at all. -Ah, here comes the urchin under discussion. And it's Raych, which somehow doesn't surprise me."

73.

Raych entered, looking about, clearly intimidated. The forefinger of his right hand reached for his upper lip as though wondering when he would begin to feel the first downy hairs there.

He turned to the clearly outraged Mistress Tisilver and bowed clumsily. "Thank ya, Missus. Ya got a lovely place."

Then, as the door slammed behind him, he turned to Seldon and Dors with an air of easy connoisseurship. "Nice place, guys."

"I'm glad you like it," said Seldon solemnly. "How did you know we were here?"

"Followed ya. How'd ya think? Hey, lady"-he turned to Dors ="you don't fight like no dame."

"Have you watched many dames fight?" asked Dors, amused.

Raych rubbed his nose, "No, never seen none whatever. They don't carry knives, except little ones to scare kids with. Never scared me."

"I'm sure they didn't. What do you do to make dames draw their knives?"

"Nothin'. You just kid around a little. You holler, 'Hey, lady, lemme-' "

He thought about it for a moment and said, "Nothin'."

Dors said, "Well, don't try that on me."

"Ya kiddin'? After what ya did to Marron? Hey, lady, where'd you learn to fight that way?"

"On my own world."

"Could ya teach me?"

"Is that what you came here to see me about?"

"Akchaly, no. I came to bring ya a kind of message."

"From someone who wants to fight me?"

"No one wants to fight ya, lady. Listen, lady, ya got a reputation now. Everybody knows ya. You just walk down anywhere in old Billibotton and all the guys will step aside

and let ya pass and grin and make sure they don't look cross-eyed at ya. Oh, lady, ya got it made. That's why he wants to see ya."

Seldon said, "Raych, just exactly who wants to see us?"

"Guy called Davan."

"And who is he?"

"Just a guy. He lives in Billibotton and don't carry no knife."

"And he stays alive, Raych?"

"He reads a lot and he helps the guys there when they get in trouble with the gov'ment. They kinda leave him alone. He don't need no knife."

"Why didn't he come himself, then?" said Dors. "Why did he send you?"

"He don't like this place. He says it makes him sick. He says all the people here, they lick the gov'ment' s-" He paused, looked dubiously at the two Outworlders, and said, "Anyway, he won't come here. He said they'd let me in cause I was only a kid." He grinned. "They almost didn't, did they? I mean that lady there who looked like she was smellin' somethin'?"

He stopped suddenly, abashed, and looked down at himself. "Ya don't get much chance to wash where I come from."

"It's all right," said Dors, smiling. "Where are we supposed to meet, then, if he won't come here? After all -if you don't mind- we don't feel like going to Billibotton."

"I told ya," said Raych indignantly. "Ya get free run of Billibotton, I swear. Besides, where he lives no one will bother ya."

"Where is it?" asked Seldon.

"I can take ya there. It ain't far."

"And why does he want to see us?" asked Dors.

"Dunno. But he says like this-" Raych half-closed his eyes in an effort to remember. "'Tell them I wanna see the man who talked to a Dahlite heatsinker like he was a human being and the woman who beat Marron with knives and didn't kill him when she mighta done so.' I think I got it right."

Seldon smiled. "I think you did. Is he ready for us now?"

"He's waiting."

"Then we'll come with you." He looked at Dors with a trace of doubt in his eyes.

She said, "All right. I'm willing. Perhaps it won't be a trap of some sort. Hope springs eternal-"

74.

There was a pleasant glow to the evening light when they emerged, a faint violet touch and a pinkish edge to the simulated sunset clouds that were scudding along. Dahl might have complaints of their treatment by the Imperial rulers of Trantor, but surely there was nothing wrong with the weather the computers spun out for them.

Dors said in a low voice, "We seem to be celebrities. No mistake about that."

Seldon brought his eyes down from the supposed sky and was immediately aware of a fair-sized crowd around the apartment house in which the Tisalvers lived. Everyone in the crowd stared at them intently. When it was clear that the two Outworlders had become aware of the attention, a low murmur ran through the crowd, which seemed to be on the point of breaking out into applause.

Dors said, "Now I can see where Mistress Tisalver would find this annoying. I should have been a little more sympathetic."

The crowd was, for the most part, poorly dressed and it was not hard to guess that many of the people were from Billibotton.

On impulse, Seldon smiled and raised one hand in a mild greeting that was met with applause. One voice, lost in the safe anonymity of the crowd called out, "Can the lady show us some knife tricks?"

When Dors called back, "No, I only draw in anger," there was instant laughter.

One man stepped forward. He was clearly not from Billibotton and bore no obvious mark of being a Dahlite. He had only a small mustache, for one thing, and it was brown, not black. He said, "Marlo Tanto of the 'Trantorian HV News.' Can we have you in focus for a bit for our nightly holocaust?"

"No," said Dors shortly. "No interviews."

The newsman did not budge. "I understand you were in a fight with a great many men in Billibotton-and won." He smiled. "That's news, that is."

"No," said Dors. "We met some men in Billibotton, talked to them, and then moved on. That's all there is to it and that's all you're going to get."

"What's your name? You don't sound like a Trantorian."

"I have no name."

"And your friend's name?"

"He has no name."

The newsman looked annoyed, "Look, lady. You're news and I'm just trying to do my job."

Raych pulled at Dors's sleeve. She leaned down and listened to his earnest whisper.

She nodded and straightened up again. "I don't think you're a newsman, Mr. Tanto. What I think you are is an Imperial agent trying to make trouble for Dahl. There was no fight and you're trying to manufacture news concerning one as a way of justifying an Imperial expedition into Billibotton. I wouldn't stay here if I were you. I don't think you're very popular with these people."

The crowd had begun to mutter at Dors's first words. They grew louder now and began to drift, slowly and in a menacing way, in the direction of Tanto. He looked nervously around and began to move away.

Dors raised her voice. "Let him go. Don't anyone touch him. Don't give him any excuse to report violence."

And they parted before him.

Raych said, "Aw, lady, you shoulda let them rough him up."

"Bloodthirsty boy," said Dors, "take us to this friend of yours."

75.

They met the man who called himself Davan in a room behind a dilapidated diner. Far behind. Raych led the way, once more showing himself as much at home in the burrows of Billibotton as a mole would be in tunnels underground in Helicon.

It was Dors Venabili whose caution first manifested itself. She stopped and said, "Come back, Raych. Exactly where are we going?"

"To Davan," said Raych, looking exasperated. "I told ya."

"But this is a deserted area. There's no one living here." Dors looked about with obvious distaste. The surroundings were lifeless and what light panels were there were did not glower did so only dimly.

"It's the way Davan likes it," said Raych. "He's always changing around, staying here, staying there. Ya know . . . changing around."

"Why?" demanded Dors.

"It's safer, lady."

"From whom?"

"From the gov'ment"

"Why would the government want Davan?"

"I dunno, lady. Tell ya what. I'll tell ya where he is and tell ya how to go and ya go on alone-if ya don't want me to take ya."

Seldon said, "No, Raych, I'm pretty sure we'll get lost without you. In fact, you had better wait till we're through so you can lead us back."

Raych said at once, "What's in it f' me? Ya expect me to hang around when I get hungry?"

"You hang around and get hungry, Raych, and I'll buy you a big dinner. Anything you like."

"Ya say that now. Mister. How do I know?"

Dors's hand flashed and it was holding a knife, blade exposed, "You're not calling us liars, are you, Raych?"

Raych's eyes opened wide. He did not seem frightened by the threat. He said, "Hey, I didn't see that. Do it again."

"I'll do it afterward-if you're still here. Otherwise"-Dors glared at him- "we'll track you down."

"Aw, lady, come on," said Raych. "Ya ain't gonna track me down. Ya ain't that kind. But I'll be here." He struck a pose. "Ya got my word."

And he led them onward in silence, though the sound of their shoes was hollow in the empty corridors.

Davan looked up when they entered, a wild look that softened when he saw Raych. He gestured quickly toward the two others questioningly.

Raych said, "These are the guys." And, grinning, he left.

Seldon said, "I am Hari Seldon. The young lady is Dors Venabili."

He regarded Davan curiously. Davan was swarthy and had the thick black mustache of the Dahlite male, but in addition he had a stubble of beard. He was the first Dahlite whom Seldon had seen who had not been meticulously shaven. Even the bullies of Billibotton had been smooth of cheek and chin.

Seldon said, "What is your name, sir?"

"Davan. Raych must have told you."

"Your second name."

"I am only Davan. Were you followed here, Master Seldon?"

"No, I'm sure we weren't. If we had, then by sound or sight, I expect Raych would have known. And if he had not, Mistress Venabili would have."

Dors smiled slightly. "You have faith in me, Hari."

"More all the time," he said thoughtfully.

Davan stirred uneasily. "Yet you've already been found."

"Found?"

"Yes, I have heard of this supposed newsman."

"Already?" Seldon looked faintly surprised. "But I suspect he really was a newsman . . . and harmless. We tatted him an Imperial agent at Raych's suggestion, which was a good idea. The surrounding crowd grew threatening and we got rid of him."

"No," said Davan, "he was what you called him. My people know the man and he does work for the Empire. -But then you do not do as I do. You do not use a false name and change your place of abode. You go under your own names, making no effort to remain undercover. You are Hari Seldon, the mathematician."

"Yes, I am," said Seldon. "Why should I invent a false name?"

"The Empire wants you, does it not?"

Seldon shrugged. "I stay in places where the Empire cannot reach out to take me."

"Not openly, but the Empire doesn't have to work openly. I would urge you to disappear . . . really disappear."

"Like you . . . as you say," said Seldon looking about with an edge of distaste.

The room was as dead as the corridors he had walked through. It was musty through and through and it was overwhelmingly depressing.

"Yes," said Davan. "You could be useful to us."

"In what way?"

"You talked to a young man named Yugo Amaryl."

"Yes, I did."

"Amaryl tells me that you can predict the future."

Seldon sighed heavily. He was tired of standing in this empty room. Davan was sitting on a cushion and there were other cushions available, but they did not look clean. Nor did he wish to lean against the mildew-streaked wall.

He said, "Either you misunderstood Amaryl or Amaryl misunderstood me. What I have done is to prove that it is possible to choose staffing conditions from which historical

forecasting does not descend into chaotic conditions, but can become predictable within limits. However, what those starting conditions might be I do not know, nor am I sure that those conditions can be found by any one person-or by any number of people-in a finite length of time. Do you understand me?"

'No.'

Seldon sighed again. "Then let me try once more. It is possible to predict the future, but it may be impossible to find out how to take advantage of that possibility. Do you understand?"

Davan looked at Seldon darkly, then at Dors. "Then you cant predict the future."

"Now you have the point, Master Davan."

'Just call me Davan. But you may be able to learn to predict the future someday.'

"That is conceivable."

"Then that's why the Empire wants you."

"No," Seldon raised his finger didactically. "It's my idea that that is why the Empire is not making an overwhelming effort to get me. They might like to have me if I can be picked up without trouble, but they know that right now I know nothing and that it is therefore not worth upsetting the delicate peace of Trantor by interfering with the local rights of this sector or that. That's the reason I can move about under my own name with reasonable security."

For a moment, Davan buried his head in his hands and muttered, "This is madness." Then he looked up wearily and said to Dors, "Are you Master Seldon's wife?"

Dors said calmly, "I am his friend and protector."

"How well do you know him?"

"We have been together for some months."

"No more?"

"No more."

"Would it be your opinion he is speaking the truth?"

"I know he is, but what reason would you have to crust me if you do not trust him? If Hari is, for some reason, lying to you, might I not be lying to you equally in order to support him?"

Davan looked from one to the other helplessly. Then he said, "Would you, in any case, help us?"

"Who are 'us' and in what way do you need help?"

Davan said, "You see the situation here in Dahl. We are oppressed. You must know that and, from your treatment of Yugo Amaryl, I cannot believe you lack sympathy for us."

"We are fully sympathetic."

"And you must know the source of the oppression."

"You are going to tell me that it's the Imperial government, I suppose, and I dare say it plays its part. On the other hand, I notice that there is a middle class in Dahl that despises the heatsinkers and a criminal class that terrorizes the rest of the sector."

Davan's lips tightened, but he remained unmoved. "Quite true. Quite true. But the Empire encourages it as a matter of principle. Dahl has the potential for making serious

trouble. If the heatsinkers should go on strike, Trantor would experience a severe energy shortage almost at once . . . with all that that implies. However, Dahl's own upper classes will spend money to hire the hoodlums of Billibotton--and of other places--to fight the heatsinkers and break the strike.

It has happened before. The Empire allows some Dahllites to prosper--comparatively--in order to convert them into Imperialist lackeys, while it refuses to enforce the arms-control laws effectively enough to weaken the criminal element "The Imperial government does this everywhere--and not in Dahl alone. They can't exert force to impose their will, as in the old days when they ruled with brutal directness. Nowadays, Trantor has grown so complex and so easily disturbed that the Imperial forces must keep their hands off--"

"A form of degeneration," said Seldon, remembering Hummin's complaints.

"What?" said Davan.

"Nothing," said Seldon. "Go on."

"The Imperial forces must keep their hands off, but they find that they can do much even so. Each sector is encouraged to be suspicious of its neighbors. Within each sector, economic and social classes are encouraged to wage a kind of war with each other. The result is that all over Trantor it is impossible for the people to take united action. Everywhere, the people would rather fight each other than make a common stand against the central tyranny and the Empire rules without having to exert force."

"And what," said Dors, "do you think can be done about it?"

"I've been trying for years to build a feeling of solidarity among the peoples of Trantor."

"I can only suppose," said Seldon dryly, "that you are finding this an impossibly difficult and largely thankless task."

"You suppose correctly," said Davan, "but the party is growing stronger. Many of our knifers are coming to the realization that knives are best when they are not used on each other. Those who attacked you in the corridors of Billibotton are examples of the unconverted. However, those who support you now, who are ready to defend you against the agent you thought was a newsman, are my people. I live here among them. It is not an attractive way of life, but I am safe here. We have adherents in neighboring sectors and we spread daily."

"But where do we come in?" asked Dors.

"For one thing," said Davan, "both of you are Outworlders, scholars. We need people like you among our leaders. Our greatest strength is drawn from the poor and the uneducated because they suffer the most, but they can lead the least. A person like one of you two is worth a hundred of them."

"That's an odd estimate from someone who wishes to rescue the oppressed," said Seldon.

"I don't mean as people," said Davan hastily. "I mean as far as leadership is concerned. The party must have among its leaders men and women of intellectual power."

"People like us, you mean, are needed to give your party a veneer of respectability."

Davan said, "You can always put something noble in a sneering fashion if you try. But you, Master Seldon, are more than respectable, more than intellectual. Even if you won't admit to being able to penetrate the mists of the future--"

"Please, Davan," said Seldon, "don't be poetic and don't use the conditional. It's not a matter of admitting. I can't foresee the future. Those are not mists that block the view but chrome steel barriers."

"Let me finish. Even if you can't actually predict with-what do you call it?-psychohistorical accuracy, you've studied history and you may have a certain intuitive feeling for consequences. Now, isn't that so?"

Seldon shook his head. "I may have a certain intuitive understanding for mathematical likelihood, but how far I can translate that into anything of historical significance is quite uncertain. Actually, I have not studied history. I wish I had. I feel the loss keenly."

Dors said evenly, "I am the historian, Davan, and I can say a few things if you wish."

"Please do," said Davan, making it half a courtesy, half a challenge.

"For one thing, there have been many revolutions in Galactic history that have overthrown tyrannies, sometimes on individual planets, sometimes in groups of them, occasionally in the Empire itself or in the pre-Imperial regional governments. Often, this has only meant a change in tyranny. In other words, one ruling class is replaced by another sometimes by one that is more efficient and therefore still more capable of maintaining itself-while the poor and downtrodden remain poor and downtrodden or become even worse off."

Davan, listening intently, said, "I'm aware of that. We all are. Perhaps we can learn from the past and know better what to avoid. Besides, the tyranny that now exists is actual. That which may exist in the future is merely potential. If we are always to draw back from change with the thought that the change may be for the worse, then there is no hope at all of ever escaping injustice."

Dors said, "A second point you must remember is that even if you have right on your side, even if justice thunders condemnation, it is usually the tyranny in existence that has the balance of force on its side. There is nothing your knife handlers can do in the way of rioting and demonstrating that will have any permanent effect as long as, in the extremity, there is an army equipped with kinetic, chemical, and neurological weapons that is willing to use them against your people. You can get all the downtrodden and even all the respectables on your side, but you must somehow win over the security forces and the Imperial army or at least seriously weaken their loyalty to the rulers."

Davan said, "Trantor is a multi-governmental world. Each sector has its own rulers and some of them are themselves anti-Imperial. If we can have a strong sector on our side, that would change the situation, would it not? We would then not be merely ragamuffins fighting with knives and stones."

"Does that mean you do have a strong sector on your side or merely that it is your ambition to have one?"

Davan was silent.

Dors said, "I shall assume that you are thinking of the Mayor of Wye. If the Mayor is in the mood to make use of popular discontent as a way of improving the chance of toppling the Emperor, doesn't it strike you that the end the Mayor would have in view would be that of succeeding to the Imperial throne? Why should the Mayor risk his present not-inconsiderable position for anything less?"

Merely for the blessings of justice and the decent treatment of people, concerning whom he can have little interest?"

"You mean," said Davan, "that any powerful leader who is willing to help us may then betray us."

"It is a situation that is all too common in Galactic history."

"If we are ready for that, might we not betray him?"

"You mean, make use of him and then, at some crucial moment, subvert the leader of his forces-or a leader, at any race-and have him assassinated?"

"Not perhaps exactly like that, but some way of getting rid of him might exist if that should prove necessary."

"Then we have a revolutionary movement in which the principal players must be ready to betray each other, with each simply waiting for the opportunity. It sounds like a recipe for chaos."

"You will not help us, then?" said Davan.

Seldon, who had been listening to the exchange between Davan and Dors with a puzzled frown on his face, said, "We can't put it that simply. We would like to help you. We are on your side. It seems to me that no sane man wants to uphold an Imperial system that maintains itself by fostering mutual hatred and suspicions. Even when it seems to work, it can only be described as metastable; that is, as too apt to fall into instability in one direction or another. But the question is: How can we help? If I had psychohistory, if I could tell what is most likely to happen, or if I could tell what action of a number of alternative possibilities is most likely to bring on an apparently happy consequence, then I would put my abilities at your disposal. -But I don't have it. I can help you best by trying to develop psychohistory."

"And how long will that take?"

Seldon shrugged. "I cannot say."

"How can you ask us to wait indefinitely?"

"What alternative do I have, since I am useless to you as I am? But I will say this: I have until very recently been quite convinced that the development of psychohistory was absolutely impossible. Now I am not so certain of that."

"You mean you have a solution in mind?"

"No, merely an intuitive feeling that a solution might be possible. I have not been able to pin down what has occurred to make me have that feeling. It may be an illusion, but I am trying. Let me continue to try. -Perhaps we will meet again."

"Or perhaps," said Davan, "if you return to where you are now staying, you will eventually find yourself in an Imperial trap. You may think that the Empire will leave you alone while you struggle with psychohistory, but I am certain the Emperor and his toady Demerzel are in no mood to wait forever, any more than I am."

"It will do them no good to hasten," said Seldon calmly, "since I am not on their side, as I am on yours. -Come, Dors."

They turned and left Davan, sitting alone in his squalid room, and found Raych waiting for them outside.

76.

Raych was eating, licking his fingers, and crumpling the bag in which the food-whatever it was-had been. A strong smell of onions pervaded the air-different somehow, yeast-based perhaps.

Dors, recreating a little from the odor, said, "Where did you get the food from, Raych?"

"Davan's guys. They brought it to me. Davan's okay."

"Then we don't have to buy you dinner, do we?" said Seldon, conscious of his own empty stomach.

"Ya owe me somethin'" said Raych, looking greedily in Dors's direction. "How about the lady's knife? One of 'em."

"No knife," said Dors. "You get us back safely and I'll give you five credits."

"Can't get no knife for five credits," grumbled Raych.

"You're not getting anything but five credits," said Dors.

"You're a lousy dame, lady," said Raych.

"I'm a lousy dame with a quick knife, Raych, so get moving."

"All right. Don't get all perspired." Raych waved his hand. "This way."

It was back through the empty corridors, but this time Dors, looking this way and that, stopped. "Hold on, Raych. We're being followed."

Raych looked exasperated. "Ya ain't supposed to hear 'em."

Seldon said, bending his head to one side, "I don't hear anything."

"I do," said Dors. "Now, Raych, I don't want any fooling around. You tell me right now what's going on or I'll rap your head so that you won't see straight for a week. I mean it."

Raych held up one arm defensively. "You try it, you lousy dame. You try it. -It's Davan's guys. They're just taking care of us, in case any knifere come along."

"Davan's guys?"

"Yeah. They're goin' along the service corridors."

Dors's right hand shot out and seized Raych by the scruff of his upper garment. She lifted and he dangled, shouting, "Hey, lady. Hey!"

Seldon said, "Dors! Don't be hard on him."

"I'll be harder still if I think he's lying. You're my charge, Hari, not he."

"I'm not lyin'," said Raych, struggling. "I'm not."

"I'm sure he isn't," said Seldon.

"Well, we'll see. Raych, tell them to come out where we can see them." She let him drop and dusted her hands.

"You're some kind of nut, lady," said Raych aggrievedly. Then he raised his voice.

"Yay, Davan! Come out here, some of ya guys!"

There was a wait and then, from an unlit opening along the corridor, two dark-mustached men came out, one with a scar running the length of his cheek. Each held the sheath of a knife in his hand, blade withdrawn.

"How many more of you are there?" asked Dors harshly.

"A few," said one of the newcomers. "Orders. We're guarding you. Davan wants you safe."

"Thank you. Try to be even quieter. Raych, keep on moving."

Raych said sulkily, "Ya toughed me up when I was telling the truth."

"You're right," said Dors. "At least, I think you're right . . . and I apologize."

"I'm not sure I should accept," said Raych, trying to stand tall. "But awright, just this once." He moved on.

When they reached the walkway, the unseen corps of guards vanished. At least, even Dors's keen ears could hear them no more. By now, though, they were moving into the respectable part of the sector.

Dors said thoughtfully, "I don't think we have clothes that would fit you, Raych."

Raych said, "Why do ya want clothes to fit me, Missus?" (Respectability seemed to invade Raych once they were out of the corridors.) "I got clothes."

"I thought you'd like to come into our place and take a bath."

Raych said, "What for? I'll wash one o' these days. And I'll put on my other shirt." He looked up at Dors shrewdly. "You're sorry ya roughed me up. Right? Ya tryin' to make up?"

Dors smiled. "Yes. Sort of."

Raych waved a hand in lordly fashion. "That's all right. Ya didn't hurt. Listen. You're strong for a lady. Ya lifted me up like I was nothin'."

"I was annoyed, Raych. I have to be concerned about Master Seldon."

"Ya sort of his bodyguard?" Raych looked at Seldon inquiringly. "Ya got a lady for a bodyguard?"

"I can't help it," said Seldon smiling wryly. "She insists. And she certainly knows her job."

Dors said, "Think again, Raych. Are you sure you won't have a bath? A nice warm bath."

Raych said, "I got no chance. Ya think that lady is gonna let me in the house again?"

Dors looked up and saw Casilia Tisilver outside the front door of the apartment complex, staring first at the Outworld woman and then at the slum-bred boy. It would have been impossible to tell in which case her expression was angrier.

Raych said, "Well, so long, Mister and Missus. I don't know if she'll let either of ya in the house." He placed his hands in his pocket and swaggered off in a fine affectation of carefree indifference.

Seldon said, "Good evening, Mistress Tisilver. It's rather late, isn't it?"

"It's very late," she replied. "There was a near riot today outside this very complex because of that newsman you pushed the street vermin at."

"We didn't push anyone on anyone," said Dors.

"I was there," said Mistress Tisilver intransigently. "I saw it."

She stepped aside to let them enter, but delayed long enough to make her reluctance quite plain.

"She acts as though that was the last straw," said Dors as she and Seldon made their way up to their rooms.

"So? What can she do about it?" asked Seldon.

"I wonder," said Dors.

RAYCH- . . . According to Hari Seldon, the original meeting with Raych was entirely accidental. He was simply a gutter urchin from whom Seldon had asked directions. But his life, from that moment on, continued to be intertwined with that of the great mathematician until .

ENCYCLOPEDIA GALACTICA

77.

The next morning, dressed from the waist down, having washed and shaved, Seldon knocked on the door that led to Dors's adjoining room and said in a moderate voice, "Open the door, Dors."

She did. The short reddish-gold curls of her hair were still wet and she too was dressed only from the waist down.

Seldon stepped back in embarrassed alarm. Dors looked down at the swell of her breasts indifferently and wrapped a towel around her head. "What is it?" she asked.

Seldon said, looking off to his right, "I was going to ask you about Wye."

Dors said very naturally, "About why in connection with what? And for goodness sake, don't make me talk to your ear. Surely, you're not a virgin."

Seldon said in a hurt tone, "I was merely trying to be polite. If you don't mind, I certainly don't. And it's not why about what. I'm asking about the Wye Sector."

"Why do you want to know? Or, if you prefer: Why Wye?"

"Look, Dors, I'm serious. Every once in a while, the Wye Sector is mentioned-the Mayor of Wye, actually. Hummin mentioned him, you did, Davan did. I don't know anything about either the sector or the Mayor."

"I'm not a native Trantorian either, Hari. I know very little, but you're welcome to what I do know. Wye is near the south pole quite large, very populous-"

"Very populous at the south pole?"

"We're not on Helicon, Hari. Or on Cinna either. This is Trantor. Everything is underground and underground at the poles or underground at the equator is pretty much the same. Of course, I imagine they keep their day-night arrangements rather extreme -- long days in their summer, long nights in their winter-almost as it would be on the surface. The extremes are just affectation; they're proud of being polar."

"But Upperside they must be cold, indeed."

"Oh yes. The Wye Upperside is snow and ice, but it doesn't lie as thickly there as you might think. If it did, it might crush the dome, but it doesn't and that is the basic reason for Wye's power."

She turned to her mirror, removed the towel from her head, and threw the dry-net over her hair, which, in a matter of five seconds, gave it a pleasant sheen. She said, "You have no idea how glad I am not to be wearing a skincap," as she put on the upper portion of her clothing.

"What has the ice layer to do with Wye's power?"

"Think about it. Forty billion people use a great deal of power and every calorie of it eventually degenerates into heat and has to be gotten rid of. It's piped to the poles, particularly to the south pole, which is the more developed of the two, and is discharged into space. It melts most of the ice in the process and I'm sure that accounts for Trantor's clouds and rains, no matter how much the meteorology boggins insist that things are more complicated than that."

"Does Wye make use of the power before discharging it?"

"They may, for all I know. I haven't the slightest idea, by the way, as to the technology involved in discharging the heat, but I'm talking about political power. If Dahl were to stop producing usable energy, that would certainly inconvenience Trantor, but there are other sectors that produce energy and can up their production and, of course, there is stored energy in one form or another. Eventually, Dahl would have to be dealt with, but there would be time. Wye, on the other hand- "

"Yes?"

"Well, Wye gets rid of at least 90 percent of all the heat developed on Trantor and there is no substitute. If Wye were to shut down its heat emission, the temperature would start going up all over Trantor."

"In Wye too."

"Ate, but since Wye is at the south pole, it can arrange an influx of cold air. It wouldn't do much good, but Wye would last longer than the rest of Trantor. The point is, then, that Wye is a very touchy problem for the Emperor and the Mayor of Wye is-or at least can be-extremely powerful."

"And what kind of a person is the present Mayor of Wye?"

"That I don't know. What I've occasionally heard would make it seem that he is very old and pretty much a recluse, but hard as a hypership hull and still cleverly maneuvering for power."

"Why, I wonder? If he's that old, he couldn't hold the power for long."

"Who knows, Hari? A lifelong obsession, I suppose. Or else it's the game . . . the maneuvering for power, without any real longing for the power itself. Probably if he had the power and took over Demerzel's place or even the Imperial throne itself, he would feel disappointed because the game would be over. Of course he might, if he was still alive, begin the subsequent game of keeping power, which might be just as difficult and just as satisfying."

Seldon shook his head. "It strikes me that no one could possibly want to be Emperor."

"No sane person would, I free, but the 'Imperial wish,' as it is frequently called, is like a disease that, when caught, drives out sanity. And the closer you get to high office, the more likely you are to catch the disease. With each ensuing promotion-

"The disease grows still more acute. Yes, I can see that. But it also seems to me that Trantor is so huge a world, so interlocking in its needs and so conflicting in its ambitions, that it makes up the major part of the inability of the Emperor to rule. Why doesn't he just leave Trantor and establish himself on some simpler world?"

Dors laughed. "You wouldn't ask that if you knew your history. Trantor is the Empire through thousands of years of custom. An Emperor who is not at the Imperial Palace is not the Emperor. He is a place, even more than a person."

Seldon sank into silence, his face rigid, and after a while Dors asked, "What's the matter, Hari?"

"I'm thinking," he said in a muffled voice. "Ever since you told me that hand-on-thigh story, I've had fugitive thoughts that-Now your remark about the Emperor being a place rather than a person seems to have struck a chord."

"What kind of chord?"

Seldon shook his head. "I'm still thinking. I may be all wrong." His glance at Dors sharpened, his eyes coming into focus. "In any case, we ought to go down and have breakfast. We're late and I don't think Mistress Tisilver is in a good enough humor to have it brought in for us."

"You optimist," said Dors. "My own feeling is that she's not in a good enough humor to want us to stay-breakfast or not. She wants us out of here."

"That may be, but we're paying her."

"Yes, but I suspect she hates us enough by now to scorn our credits."

"Perhaps her husband will feel a bit more affectionate concerning the rent."

"If he has a single word to say, Hari, the only person who would be more surprised than me to hear it would be Mistress Tisilver. -Very well, I'm ready."

And they moved down the stairs to the Tisilver portion of the apartment to find the lady in question waiting for them with less than breakfast-and with considerably more too.

78.

Casilia Tisilver stood ramrod straight with a tight smile on her round face and her dark eyes glinting. Her husband was leaning moodily against the wall. In the center of the room were two men who were standing stiffly upright, as though they had noticed the cushions on the floor but scorned them.

Both had the dark crisp hair and the chick black mustache to be expected of Dahllites. Both were thin and both were dressed in dark clothes so nearly alike that they were surely uniforms. There was thin white piping up and over the shoulders and down the sides of the tubular trouser legs. Each had, on the right side of his chest, a rather dim

Spaceship-and-Sun, the symbol of the Galactic Empire on every inhabited world of the Galaxy, with, in this case, a dark "D" in the center of the sun.

Seldon realized immediately that these were two members of the Dahlite security forces.

"What's all this?" said Seldon sternly.

One of the men stepped forward. "I am Sector Officer Lanel Russ. This is my partner, Gebore Astinwald."

Both presented glittering identification holo-tabs. Seldon didn't bother looking at them. "What is it you want?"

Russ said calmly, "Are you Hari Seldon of Helicon?"

"I am."

"And are you Dors Venabili of Cinna, Mistress?"

"I am," said Dors.

"I'm here to investigate a complaint that one Hari Seldon instigated a riot yesterday."

"I did no such thing," said Seldon.

"Our information is," said Russ, looking at the screen of a small computer pad, "that you accused a newsman of being an Imperial agent, thus instigating a riot against him."

Dors said, "It was I who said he was an Imperial agent, Officer. I had reason to think he was. It is surely no crime to express one's opinion. The Empire has freedom of speech."

"That does not cover an opinion deliberately advanced in order to instigate a riot."

"How can you say it was, Officer?"

At this point, Mistress Tisalver interposed in a shrill voice, "I can say it, Officer. She saw there was a crowd present, a crowd of gutter people who were just looking for trouble. She deliberately said he was an Imperial agent when she knew nothing of the sort and she shouted it to the crowd to stir them up. It was plain that she knew what she was doing."

"Casilia," said her husband pleadingly, but she cast one look at him and he said no more. Russ turned to Mistress Tisalver. "Did you lodge the complaint, Mistress?"

"Yes. These two have been living here for a few days and they've done nothing but make trouble. They've invited people of low reputation into my apartment, damaging my standing with my neighbors."

"Is it against the law, Officer," asked Seldon, "to invite clean, quiet citizens of Dahl into one's room? The two rooms upstairs are our rooms. We have rented them and they are paid for. Is it a crime to speak to Dahlites in Dahl, Officer?"

"No, it is not," said Russ. "That is not part of the complaint. What gave you reason, Mistress Venabili, to suppose the person you so accused was, in fact, an Imperial agent?"

Dors said, "He had a small brown mustache, from which I concluded he was not a Dahlite. I surmised he was an Imperial agent"

"You surmised? Your associate, Master Seldon, has no mustache at all. Do you surmise he is an Imperial agent?"

"In any case," said Seldon hastily, "there was no riot. We asked the crowd to take no action against the supposed newsman and I'm sure they didn't."

"You're sure, Master Seldon?" said Russ. "Our information is that you left immediately after making your accusation. How could you witness what happened after you left?"

"I couldn't," said Seldon, "but let me ask you-Is the man dead? Is the man hurt?"

"The man has been interviewed. He denies he is an Imperial agent and we have no information that he is. He also claims he was handled roughly."

"He may well be lying in both respects," said Seldon. "I would suggest a Psychic Probe."

"That cannot be done on the victim of a crime," said Russ. "The sector government is very firm on that. It might do if you two, as the criminals in this case, each underwent a Psychic Probe. Would you like us to do that?"

Seldon and Dors exchanged glances for a moment, then Seldon said, "No, of course not."

"Of course not," repeated Russ with just a tinge of sarcasm in his voice, "but you're ready enough to suggest it for someone else."

The other officer, Astinwald, who had so far not said a word, smiled at this.

Russ said, "We also have information that two days ago you engaged in a knife fight in Billibotton and badly hurt a Dahllite citizen named"-he struck a button on his computer pad and studied the new page on the screen-"Elgin Marron."

Doss said, "Does your information tell you how the fight started?"

"That is irrelevant at the moment, Mistress. Do you deny that the fight took place?"

"Of course we don't deny the fight took place," said Seldon hotly, "but we deny that we in any way instigated that. We were attacked. Mistress Venabili was seized by this Marron and it was clear he was attempting to rape her. What happened afterward was pure self-defense. Or does Dahl condone rape?"

Russ said with very little intonation in his voice, "You say you were attacked? By how many?"

"Ten men."

"And you alone-with a woman-defended yourself against ten men?"

"Mistress Venabili and I defended ourselves. Yes."

"How is it, then, that neither of you shows any damage whatever? Are either of you cut or bruised where it doesn't show right now?"

"No, Officer."

"How is it, then, that in the fight of one-plus a woman-against ten, you are in no way hurt, but that the complainant, Elgin Marron, has been hospitalized with wounds and will require a skin transplant on his upper lip?"

"We fought well," said Seldon grimly.

"Unbelievably well. What would you say if I told you that three men have testified that you and your friend attacked Marron, unprovoked?"

"I would say that it belies belief that we should. I'm sure that Marron has a record as a brawler and knifeman. I tell you that there were ten there. Obviously, six refused to swear to a lie. Do the other three explain why they did not come to the help of their friend if they witnessed him under unprovoked attack and in danger of his life? It must be clear to you that they are lying."

"Do you suggest a Psychic Probe for them?"

"Yes. And before you ask, I still refuse to consider one for us."

Russ said, "We have also received information that yesterday, after leaving the scene of the riot, you consulted with one Davan, a known subversive who is wanted by the security police. Is that true?"

"You'll have to prove that without help from us," said Seldon. "We're not answering any further questions."

Russ put away his pad. "I'm afraid I must ask you to come with us to headquarters for further interrogation."

"I don't think that's necessary, Officer," said Seldon. "We are Outworlders who have done nothing criminal. We have tried to avoid a newsman who was annoying us unduly, we tried to protect ourselves against rape and possible murder in a part of the sector known for criminal behavior, and we've spoken to various Dahllites. We see nothing there to warrant our further questioning. It would come under the heading of harassment."

"We make these decisions," said Russ. "Not you. Will you please come with us?"

"No, we will not," said Dors.

"Watch out!" cried out Mistress Tisalver. "She's got two knives."

Officer Russ sighed and said, "Thank you, Mistress, but I know she does." He turned to Dors. "Do you know it's a serious crime to carry a knife without a permit in this sector? Do you have a permit?"

"No, Officer, I don't."

"It was clearly with an illegal knife, then, that you assaulted Marron? Do you realize that that greatly increases the seriousness of the crime?"

"It was no crime, Officer," said Dors. "Understand that. Marron had a knife as well and no permit, I am certain."

"We have no evidence to that effect and while Marron has knife wounds, neither of you have any."

"Of course he had a knife, Officer. If you don't know that every man in Billibotton and most men elsewhere in Dahl carry knives for which they probably don't have permits, then you're the only man in Dahl who doesn't know. There are shops here wherever you turn that sell knives openly. Don't you know that?"

Russ said, "It doesn't matter what I know or don't know in this respect. Nor does it matter whether other people are breaking the law or how many of them do. All that matters at this moment is that Mistress Venabili is breaking the anti-knife law. I must ask

you to give up those knives to me right now, Mistress, and the two of you must then accompany me to headquarters."

Dors said, "In chat case, take my knives away from me."

Russ sighed. "You must not think, Mistress, that knives are all the weapons there are in Dahl or that I need engage you in a knife fight. Both my partner and I have blasters that will destroy you in a moment, before you can drop your hands to your knife hilt-however fast you are. We won't use a blaster, of course, because we are not here to kill you. However, each of us also has a neuronic whip, which we can use on you freely. I hope you won't ask for a demonstration. h won't kill you, do you permanent harm of any kind, or leave any marks-but the pain is excruciating. My partner is holding a neuronic whip on you right now. And here is mine. -Now, let us have your knives, Mistress Venabili."

There was a moment's pause and then Seldon said, "It's no use, Dors. Give him your knives."

And at that moment, a frantic pounding sounded at the door and they all heard a voice raised in high-pitched expostulation.

79.

Raych had not entirely left the neighborhood after he had walked them back to their apartment house.

He had eaten well while waiting for the interview with Davan to be done and later had slept a bit after finding a bathroom that more or less worked. He really had no place to go now that all that was done. He had a home of sorts and a mother who was not likely to be perturbed if he stayed away for a while. She never was.

He did not know who his father was and wondered sometimes if he really had one. He had been told he had to have one and the reasons for that had been explained to him crudely enough. Sometimes he wondered if he ought to believe so peculiar a story, but he did find the details titillating.

He thought of chat in connection with the lady. She was an old lady, of course, but she was pretty and she could fight like a man, better than a man. It filled him with vague notions.

And she had offered to let him take a bath. He could swim in the Billibotton pool sometimes when he had some credits he didn't need for anything else or when he could sneak in. Those were the only times he got wet all over, but it was chilly and he had to wait to get dry.

Taking a bath was different. There would be hot water, soap, towels, and warm air. He wasn't sure what it would feel like, except that it would be nice if she was there.

He was walkway-wise enough to know of places where he could park himself in an alley off a walkway that would be near a bathroom and still be near enough to where she was, yet where he probably wouldn't be found and made to run away.

He spent the night thinking strange thoughts. What if he did learn to read and write? Could he do something with that? He wasn't sure what, but maybe he could sell him. He had vague ideas of being paid money to do things he didn't know how to do now, but he didn't know what those things might be. He would have to be cold, but how do you get told?

If he stayed with the man and the lady, they might help. But why should they want him to stay with them?

He drowsed off, coming to later, not because the light was brightening, but because his sharp ears caught the heightening and deepening of sounds from the walkway as the activities of the day began.

He had learned to identify almost every variety of sound, because in the underground maze of Billibotton, if you wanted to survive with even a minimum of comfort, you had to be aware of things before you saw them. And there was something about the sound of a ground-car motor that he now heard that signaled danger to him. It had an official sound, a hostile sound.

He shook himself awake and stole quietly toward the walkway. He scarcely needed to see the Spaceship-and-Sun on the groundcar. Its lines were enough. He knew they had to be coming for the man and the lady because they had seen Davan. He did not pause to question his thoughts or to analyze them. He was off on a run, beating his way through the gathering life of the day.

He was back in less than fifteen minutes. The ground-car was still there and there were curious and cautious onlookers gazing at it from all sides and from a respectful distance. There would soon be more. He pounded his way up the stairs, trying to remember which door he should bang on. No time for the elevator.

He found the door-at least he thought he did--and he banged, shouting in a squeak, "Lady! Lady!"

He was too excited to remember her name, but he remembered part of the man's.

"Hari!" he shouted. "Let me in."

The door opened and he rushed in--tried to rush in. The rough hand of an officer seized his arm. "Hold it, kid. Where do you think you're going?"

"Leggo! I ain't done nothin'." He looked about. "Hey, lady, what're they Join'?"

"Arresting us," said Dors grimly.

"What for?" said Raych, panting and struggling. "Hey, leggo, you Sunbadger. Don't go with him, lady. You don't have to go with him. "

"You get out," said Russ, shaking the boy vehemently.

"No, I ain't, You ain't either, Sunbadger. My whole gang is coming. You ain't gettin' out, less'n you let these guys go."

"What whole gang?" said Russ, frowning.

"They're right outside now. Prob'ly takin' your ground-car apart. And they'll take yore apart."

Russ turned toward his partner, "Call headquarters. Have them send out a couple of trucks with Macros."

"No!" shrieked Raych, breaking loose and rushing at Astinwald. "Don't call!"

Russ leveled his neuronc whip and fired. Raych shrieked, grasped at his right shoulder, and fell down, wriggling madly. Russ had not yet turned back to Seldon, when the latter, seizing him by the wrist, pushed the neuronc whip up in the air and then around and behind, while stamping on his foot to keep him relatively motionless. Hari could feel the shoulder dislocate, even while Russ emitted a hoarse, agonized yell. Astinwald raised his blaster quickly, but Dors's left arm was around his shoulder and the knife in her right hand was at his throat.

"Don't move!" she said. "Move a millimeter, any part of you, and I cut you through your neck to the spine. -Drop the blaster. Drop it! And the neuronc whip."

Seldon picked up Raych, still moaning, and held him tightly. He turned to Tisilver and said, "There are people out there. Angry people. I'll have them in here and they'll break up everything you've got. They'll smash the walls. If you don't want that to happen, pick up those weapons and throw them into the next room. Take the weapons from the security officer on the door and do the same. Quickly! Get your wife to help. She'll think twice next time before sending in complaints against innocent people. -Dors, this one on the floor won't do anything for a while. Put the other one out of action, but don't kill him."

"Right," said Dors. Reversing her knife, she struck him hard on the skull with the haft. He went to his knees.

She made a face. "I hate doing that."

"They fired at Raych," said Seldon, trying to mask his own sick feeling at what had happened.

They left the apartment hurriedly and, once out on the walkway, found it choked with people, almost all men, who raised a shout when they saw them emerge. They pushed in close and the smell of poorly washed humanity was overpowering.

Someone shouted, "Where are the Sunbadgers?"

"Inside," called out Dors piercingly. "Leave them alone. They'll be helpless for a while, but they'll get reinforcements, so get out of here fast"

"What about you?" came from a dozen throats.

"We're getting out too. We won't be back."

"I'll take care of them," shrilled Raych, struggling out of Seldon's arms and standing on his feet. He was rubbing his right shoulder madly. "I can walk. Lemme past."

The crowd opened for him and he said, "Mister, lady, come with me. Fast!"

They were accompanied down the walkway by several dozen men and then Raych suddenly gestured at an opening and muttered, "In here, folks. I'll rake ya to a place no one will ever find ya. Even Davan prob'ly don't know it. Only thing is, we got to go through the sewer levels. No one will see us there, but it's sort of stinky . . . know what I mean?"

"I imagine we'll survive," muttered Seldon.

And down they went along a narrow spiraling ramp and up rose the mephitic odors to greet them.

Raych found them a hiding place. It had meant climbing up the metal rungs of a ladder and it had led them to a large loftlike room, the use of which Seldon could not imagine. It was filled with equipment, bulky and silent, the function of which also remained a mystery. The room was reasonably clean and free of dust and a steady draft of air wafted through that prevented the dust from settling and more important seemed to lessen the odor.

Raych seemed pleased. "Ain't this nice?" he demanded. He still rubbed his shoulder now and then and winced when he rubbed too hard.

"It could be worse," said Seldon. "Do you know what this place is used for, Raych?"

Raych shrugged or began to do so and winced. "I dunno," he said. Then he added with a touch of swagger, "Who cares?"

Dors, who had sat down on the floor after brushing it with her hand and then looking suspiciously at her palm, said, "If you want a guess, I think this is part of a complex that is involved in the detoxification and recycling of wastes. The stuff must surely end up as fertilizer."

"Then," said Seldon gloomily, "those who run the complex will be down here periodically and may come at any moment, for all we know."

"I been here before," said Raych. "I never saw no one here."

"I suppose Trantor is heavily automated wherever possible and if anything calls for automation it would be this treatment of wastes," said Dors. "We may be safe . . . for a while."

"Not for long. We'll get hungry and thirsty, Dors."

"I can get food and water for us," said Raych. "Ya got to know how to make out if you're an alley kid."

"Thank you, Raych," said Seldon absently, "but right now I'm not hungry." He sniffed. "I may never be hungry again."

"You will be," said Dors, "and even if you lose your appetite for a while, you'll get thirsty. At least elimination is no problem. We're practically living over what is clearly an open sewer."

There was silence for a while. The light was dim and Seldon wondered why the Trantorians didn't keep it dark altogether. But then it occurred to him that he had never encountered true darkness in any public area. It was probably a habit in an energy-rich society. Strange that a world of forty billion should be energy-rich, but with the internal heat of the planet to draw upon, to say nothing of solar energy and nuclear fusion plants in space, it was. In fact, come to think of it, there was no energy-poor planet in the Empire. Was there a time when technology had been so primitive that energy poverty was possible?

He leaned against a system of pipes through which -for all he knew- sewage ran. He drew away from the pipes as the thought occurred to him and he sat down next to Dors.

He said, "Is there any way we can get in touch with Chetter Hummin?"

Dors said, "As a matter of fact, I did send a message, though I hated to."

"You hated to?"

"My orders are to protect you. Each time I have to get in touch with him, it means I've failed."

Seldon regarded her out of narrowed eyes. "Do you have to be so compulsive, Dors? You can't protect me against the security officers of an entire sector."

"I suppose not. We can disable a few-"

"I know. We did. But they'll send out reinforcements . . . armored ground-cars . . . neuronic cannon . . . sleeping mist. I'm not sure what they have, but they're going to throw in their entire armory. I'm sure of it."

"You're probably right," said Dors, her mouth tightening.

"They won't find ya, lady," said Raych suddenly. His sharp eyes had moved from one to the other as they talked. "They never find Davan."

Dors smiled without joy and ruffled the boy's hair, then looked at the palm of her hand with a little dismay. She said, "I'm not sure if you ought to stay with us, Raych. I don't want them finding you."

"They won't find me and if I leave ya, who'll get ya food and water and who'll find ya new hidin' places, so the Sunbadgers'll never know where to look?"

"No, Raych, they'll find us. They don't really look too hard for Davan. He annoys them, but I suspect they don't take him seriously. Do you know what I mean?"

"You mean he's just a pain in the . . . the neck and they figure he ain't worth chasing all over the lot."

"Yes, that's what I mean. But you see, we hurt two of the officers very badly and they're not going to let us get away with that. If it takes their whole force-if they have to sweep through every hidden or unused corridor in the sector-they'll get us."

Raych said, "That makes me feel like . . . like natin'n. If I didn't run in there and get zapped, ya wouldn't have taken out them officers and ya wouldn't be in such trouble."

"No, sooner or later, we'd have-uh-taken them out. Who knows? We may have to take out a few more."

"Well, ya did it beautiful," said Raych. "If I hadn't been aching all over, I could've watched more and enjoyed it."

Seldon said, "It wouldn't do us any good to try to fight the entire security system. The question is: What will they do to us once they have us? A prison sentence, surely."

"Oh no. If necessary, we'll have to appeal to the Emperor," put in Dors.

"The Emperor?" said Raych, wide-eyed. "You know the Emperor?"

Seldon waved at the boy. "Any Galactic citizen can appeal to the Emperor. -That strikes me as the wrong thing to do, Dors. Ever since Hummin and I left the Imperial Sector, we've been evading the Emperor."

"Not to the extent of being thrown into a Dahlite prison. The Imperial appeal will serve as a delay-in any case, a diversion-and perhaps in the course of that delay, we can think of something else."

"There's Hummin."

"Yes, there is," said Dors uneasily, "but we can't consider him the do-it-all. For one thing, even if my message reached him and even if he was able to rush to Dahl, how would he find us here? And, even if he did, what could he do against the entire Dahlite security force?"

"In that case," said Seldon. "We're going to have to think of something we can do before they find us."

Raych said, "If ya follow me, I can keep ya ahead of them. I know every place there is around here."

"You can keep us ahead of one person, but there'll be a great many, moving down any number of corridors. We'll escape one group and bump into another."

They sat in uncomfortable silence for a good while, each confronting what seemed to be a hopeless situation. Then Dors Venabili stirred and said in a tense, low whisper, "They're here. I hear them."

For a while, they strained, listening, then Raych sprang to his feet and hissed, "They comin' that way. We gotta go this way."

Seldon, confused, heard nothing at all, but would have been content to trust the others' superior hearing, but even as Raych began moving hastily and quietly away from the direction of the approaching tread, a voice rang out echoing against the sewer walls. "Don't move. Don't move."

And Raych said, "That's Davan. How'd he know we were here?"

"Davan?" said Seldon. "Are you sure?"

"Sure I'm sure. He'll help."

81.

Davan asked, "What happened?"

Seldon felt minimally relieved. Surely, the addition of Davan could scarcely count against the full force of the Dahl Sector, but, then again, he commanded a number of people who might create enough confusion. He said, "You should know, Davan. I suspect that many of the crowd who were at Tisilver's place this morning were your people."

"Yes, a number were. The story is that you were being arrested and that you manhandled a squadron of Sunbadgers. But why were you being arrested?"

"Two," said Seldon, lifting two fingers. "Two Sunbadgers. And that's bad enough. Part of the reason we were being arrested was that we had gone to see you."

"That's not enough. The Sunbadgers don't bother with me much as a general thing." He added bitterly, "They underestimate me."

"Maybe," said Seldon, "out the woman from whom we rent our rooms reported us for having started a riot . . . over the newsman we ran into on our way to you. You know about that. With your people on the scene yesterday and again this morning and with two officers badly hurt, they may well decide to clean out these corridors-and that means you will suffer. I really am sorry. I had no intention or expectation of being the cause of any of this."

But Davan shook his head. "No, you don't know the Sunbadgers. That's not enough either. They don't want to clean us up. The sector would have to do something about us if they did. They're only too happy to let us rot in Billibotton and the other slums. No, they're after you. What have you done?"

Dors said impatiently, "We've done nothing and, in any case, what does it matter? If they're not after you and they are after us, they're going to come down here to flush us out. If you get in the way, you'll be in deep trouble."

"No, not me. I have friends-powerful friends," said Davan. "I told you that last night. And they can help you as well as me. When you refused to help us openly, I got in touch with them. They know who you are, Dr. Seldon. You're a famous man. They're in a position to talk to the Mayor of Dahl and see to it that you are left alone, whatever you have done. But you'll have to be taken away out of Dahl."

Seldon smiled. Relief flooded over him. He said, "You know someone powerful, do you, Davan? Someone who responds at once, who has the ability to talk the Dahl government out of taking drastic steps, and who can take us away? Good. I'm not surprised." He turned to Dors, smiling. "It's Mycogen all over again. How does Hummin do it?"

But Dors shook her head. "Too quick. -I don't understand."

Seldon said, "I believe he can do anything."

"I know him better than you do-and longer-and I don't believe that."

Seldon smiled, "Don't underestimate him." And then, as though anxious not to linger longer on that subject, he turned to Davan. "But how did you find us?"

Raych said you knew nothing about this place."

"He don't," shrilled Raych indignantly. "This place is all mine. I found it."

"I've never been here before," said Davan, looking about. "It's an interesting place. Raych is a corridor creature, perfectly at home in this maze."

"Yes, Davan, we gathered as much ourselves. But how did you find it?"

"A heat-seeker. I have a device that detects infra-red radiation, the particular thermal pattern that is given off at thirty-seven degrees Celsius. It will react to the presence of human beings and not to other heat sources. It reacted to you three."

Dors was frowning. "What good is that on Trantor, where there are human beings everywhere? They have them on other worlds, but-

Davan said, "But not on Trantor. I know. Except that they are useful in the slums, in the forgotten, decaying corridors and alleyways."

"And where did you get it?" asked Seldon.

Davan said, "It's enough that I have it. -But we've got to get you away, Master Seldon. Too many people want you and I want my powerful friend to have you."

"Where is he, this powerful friend of yours?"

"He's approaching. At least a new thirty-seven-degree source is registering and I don't see that it can be anyone else."

Through the door strode a newcomer, but Seldon's glad exclamation died on his lips. h was not Chetter Hummin.

WYE- . . . A sector of the world-city of Trantor . . . In the latter centuries of the Galactic Empire, Wye was the strongest and stablest portion of the world-city. Its rulers had long aspired to the Imperial throne, justifying that by their descent from early Emperors. Under Mannix IV, Wye was militarized and (Imperial authorities later claimed) was planning a planet-wide coup .

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82.

The man who entered was tall and muscular. He had a long blond mustache that curled up at the tips and a fringe of hair that went down the sides of his face and under his chin, leaving the point of his chin and his lower lip smoothly bare and seeming a little moist. His head was so closely cropped and his hair was so tight that, for one unpleasant moment, Seldon was reminded of Mycogen.

The newcomer wore what was unmistakably a uniform. It was red and white and about his waist was a wide belt decorated with silver studs.

His voice, when he spoke, was a rolling bass and its accent was not like any that Seldon had heard before. Most unfamiliar accents sounded uncouth in Seldon's experience, but this one seemed almost musical, perhaps because of the richness of the low tones.

"I am Sergeant Emmer Thalus," he rumbled in a slow succession of syllables. "I have come seeking Dr. Hari Seldon."

Seldon said, "I am he." In an aside to Dors, he muttered, "if Hummin couldn't come himself, he certainly sent a magnificent side of beef to represent him."

The sergeant favored Seldon with a stolid and slightly prolonged look. Then he said, "Yes. You have been described to me. Please come with me, Dr. Seldon."

Seldon said, "Lead the way."

The sergeant stepped backward. Seldon and Dors Venabili stepped forward.

The sergeant stopped and raised a large hand, palm toward Dors. "I have been instructed to take Dr. Hari Seldon with me. I have not been instructed to take anyone else."

For a moment, Seldon looked at him uncomprehendingly. Then his look of surprise gave way to anger. "It's quite impossible that you have been told that, Sergeant. Dr. Dors Venabili is my associate and my companion. She must come with me."

"That is not in accordance with my instructions, Doctor."

"I don't care about your instructions in any way, Sergeant Thalus. I do not budge without her."

"What's more," said Dors with clear irritation, "my instructions are to protect Dr. Seldon at all times. I cannot do that unless I am with him. Therefore, where he goes, I go."

The sergeant looked puzzled. "My instructions are strict that I see to it that no harm comes to you, Dr. Seldon. If you will not come voluntarily, I must carry you to my vehicle. I will try to do so gently."

He extended his two arms as though to seize Seldon by the waist and carry him off bodily.

Seldon skittered backward and out of reach. As he did so, the side of his right palm came down on the sergeant's right upper arm where the muscles were thinnest, so that he struck the bone.

The sergeant drew a sudden deep breath and seemed to shake himself a bit, but turned, face expressionless, and advanced again. Dors, watching, remained where he was, motionless, but Raych moved behind the sergeant. Seldon repeated his palm stroke a second time, then a third, but now Sergeant Thalus, anticipating the blow, lowered his shoulder to catch it on hard muscle.

Dors had drawn her knives.

"Sergeant," she said forcefully. "Turn in this direction, I want you to understand I may be forced to hurt you severely if you persist in attempting to carry Dr. Seldon off against his will."

The sergeant paused, seemed to take in the slowly waving knives solemnly, then said, "It is not in my instructions to refrain from harming anyone but Dr. Seldon."

His right hand moved with surprising speed toward the neuron whip in the holster at his hip. Dors moved as quickly forward, knives flashing.

Neither completed the movement.

Dashing forward, Raych had pushed at the sergeant's back with his left hand and withdrew the sergeant's weapon from its holster with his right. He moved away quickly, holding the neuron whip in both hands now and shouting, "Hands up, Sergeant, or you're gonna get it!"

The sergeant whirled and a nervous look crossed his reddening face. It was the only moment that its stolidity had weakened. "Put that down, sonny," he growled.

"You don't know how it works."

Raych howled, "I know about the safety. It's off and this thing can fire. And it will if you try to rush me."

The sergeant froze. He clearly knew how dangerous it was to have an excited twelve-year-old handling a powerful weapon.

Nor did Seldon feel much better. He said, "Careful, Raych. Don't shoot. Keep your finger off the contact."

"I ain't gonna let him rush me."

"He won't. -Sergeant, please don't move. Let's get something straight. You were told to take me away from here. Is that right?"

"That's right," said the sergeant, eyes somewhat protruding and firmly fixed on Raych (whose eyes were as firmly fixed on the sergeant).

"But you were not told to take anyone else. Is that right?"

"No, I was not, Doctor," said the sergeant firmly. Not even the threat of a neurononic whip was going to make him weasel. One could see that.

"Very well, but listen to me, Sergeant. Were you told not to take anyone else?"

"I just said- "No, no. Listen, Sergeant. There's a difference. Were your instructions simply 'Take Dr. Seldon!'? Was that the entire order, with no mention of anyone else, or were the orders more specific? Were your orders as follows: 'Take Dr. Seldon and don't take anyone else'?"

The sergeant turned that over in his head, then he said, "I was told to take you, Dr. Seldon."

"Then there was no mention of anyone else, one way or the other, was there?"

Pause. "No."

"You were not told to take Dr. Venabili, but you were not told not to take Dr. Venabili either. Is that right?"

Pause. "Yes."

"So you can either take her or not take her, whichever you please?" Long pause. "I suppose so."

"Now then, here's Raych, the young fellow who's got a neurononic whip pointing at you your neurononic whip, remember-and he is anxious to use it."

"Yay!" shouted Raych.

"Not yet, Raych," said Seldon. "And here is Dr. Venabili with two knives that she can use very expertly and there's myself, who can, if I get the chance, break your Adam's apple with one hand so that you'll never speak above a whisper again. Now then, do you want to take Dr. Venabili or don't you want to? Your orders allow you to do either."

And finally the sergeant said in a beaten voice, "I will take the woman."

"And the boy, Raych."

"And the boy."

"Good. Have I your word of honor-your word of honor as a soldier that you will do as you have just said . . . honestly?"

"You have my word of honor as a soldier," said the sergeant.

"Good. Raych, give back the whip. -Now. -Don't make me wait."

Raych, his face twisted into an unhappy grimace, looked at Dors, who hesitated and then slowly nodded her head. Her face was as unhappy as Raych's.

Raych held out the neurononic whip to the sergeant and said, "They're makin' me, ya big-" His last words were unintelligible.

Seldon said, "Put away your knives, Dors."

Dors shook her head, but put them away.

"Now, Sergeant?" said Seldon.

The sergeant looked at the neuronc whip, then at Seldon. He said, "You are an honorable man, Dr. Seldon, and my word of honor holds." With a military snap, he placed his neuronc whip in his holster.

Seldon turned to Davan and said, "Davan, please forget what you have seen here. We three are going voluntarily with Sergeant Thalus. You tell Yugo Amaryl when you see him that I will not forget him and that, once this is over and I am free to act, I will see that he gets into a University. And if there's anything reasonable I can ever do for your cause, Davan, I will. -Now, Sergeant, let's go "

83.

"Have you ever been in an air-jet before, Raych?" asked Hari Seldon.

Raych shook his head speechlessly. He was looking down at Upperside rushing beneath them with a mixture of fright and awe.

It struck Seldon again how much Trantor was a world of Expressways and tunnels. Even long trips were made underground by the general population. Air travel, however common it might be on the Outworlds, was a luxury on Trantor and an air-jet like this- How had Hummin managed it? Seldon wondered.

He looked out the window at the rise and fall of the domes, at the general green in this area of the planet, the occasional patches of what were little less than jungles, the arms of the sea they occasionally passed over, with its leaden waters taking on a sudden all-too-brief sparkle when the sun peeped out momentarily from the heavy cloud layer.

An hour or so into the flight, Dors, who was viewing a new historical novel without much in the way of apparent enjoyment, clicked it off and said, "I wish I knew where we were going."

"If you can't tell," said Seldon, "then I certainly can't. You've been on Trantor longer than I have."

"Yes, but only on the inside," said Dors. "Out here, with only Upperside below me, I'm as lost as an unborn infant would be."

"Oh well. -Presumably, Hummin knows what he's doing."

"I'm sure he does," replied Dors rather tartly, "but that may have nothing to do with the present situation. Why do you continue to assume any of this represents his initiative?"

Seldon's eyebrows lifted. "Now that you ask, I don't know. I just assumed it. Why shouldn't this be his?"

"Because whoever arranged it didn't specify that I be taken along with you. I simply don't see Hummin forgetting my existence. And because he didn't come himself, as he did at Streeling and at Mycogen."

"You can't always expect him to, Dors. He might well be occupied. The astonishing thing is not that he didn't come on this occasion but that he did come on the previous ones."

"Assuming he didn't come himself, would he send a conspicuous and lavish flying palace like this?" She gestured around her at the large luxurious jet.

"It might simply have been available. And he might have reasoned that no one would expect something as noticeable as this to be carrying fugitives who were desperately trying to avoid detection. The well-known double-double-cross."

"Too well-known, in my opinion. And would he send an idiot like Sergeant Thalut in his place?"

"The sergeant is no idiot. He's simply been trained to complete obedience. With proper instructions, he could be utterly reliable."

"There you are, Hari. We come back to that. Why didn't he get proper instructions? It's inconceivable to me that Chetter Hummin would tell him to carry you out of Dahl and not say a word about me. Inconceivable."

And to that Seldon had no answer and his spirits sank.

Another hour passed and Dors said, "It looks as if it's getting colder outside. The green of Upperside is turning brown and I believe the heaters have turned on."

"What does that signify?"

"Dahl is in the tropic zone so obviously we're going either north or south-and a considerable distance too. If I had some notion in which direction the nightline was I could tell which."

Eventually, they passed over a section of shoreline where there was a rim of ice hugging the domes where they were rimmed by the sea. And then, quite unexpectedly, the air-jet angled downward.

Raych screamed, "We're goin' to hit! We're goin' to smash up!"

Seldon's abdominal muscles tightened and he clutched the arms of his seat.

Dors seemed unaffected. She said, "The pilots up front don't seem alarmed. We'll be tunneling."

And, as she said so, the jet's wings swept backward and under it and, like a bullet, the air-jet entered a tunnel. Blackness swept back over them in an instant and a moment later the lighting system in the tunnel turned on. The walls of the tunnel snaked past the jet on either side.

"I don't suppose I'll ever be sure they know the tunnel isn't already occupied," muttered Seldon.

"I'm sure they had reassurance of a clear tunnel some dozens of kilometers earlier," said Dors. "At any rate, I presume this is the last stage of the journey and soon we'll know where we are."

She paused and then added, "And I further presume we won't like the knowledge when we have it."

The air-jet sped out of the tunnel and onto a long runway with a roof so high that it seemed closer to true daylight than anything Seldon had seen since he had left the Imperial Sector.

They came to a halt in a shorter time than Seldon would have expected, but at the price of an uncomfortable pressure forward. Raych, in particular, was crushed against the seat before him and was finding it difficult to breathe. Dors's hand on his shoulder pulled him back slightly.

Sergeant Thalus, impressive and erect, left the jet and moved to the rear, where he opened the door of the passenger compartment and helped the three out, one by one.

Seldon was last. He half-turned as he passed the sergeant, saying, "It was a pleasant trip, Sergeant."

A slow smile spread over the sergeant's large face and lifted his mustachioed upper lip. He touched the visor of his cap in what was half a salute and said, "Thank you again, Doctor."

They were then ushered into the backseat of a ground-car of lavish design and the sergeant himself pushed into the front seat and drove the vehicle with a surprisingly light touch.

They passed through wide roadways, flanked by tall, well-designed buildings, all glistening in broad daylight. As elsewhere on Trantor, they heard the distant drone of an Expressway. The walkways were crowded with what were, for the most part, well-dressed people. The surroundings were remarkably-almost excessively clean.

Seldon's sense of security sank further. Dors's misgivings concerning their destination now seemed justified after all. He leaned toward her and said, "Do you think we are back in the Imperial Sector?"

She said, "No, the buildings are more rococo in the Imperial Sector and there's less Imperial parkishness to this sector-if you know what I mean."

"Then where are we, Dors?"

"We'll have to ask, I'm afraid, Hari."

It was not a long trip and soon they rolled into a car-bay that flanked an imposing four-story structure. A frieze of imaginary animals ran along the top, decorated with strips of warm pink stone. It was an impressive facade with a rather pleasing design.

Seldon said, "That certainly looks rococo enough."

Dors shrugged uncertainly.

Raych whistled and said in a failing attempt to sound unimpressed, "Hey, look at that fancy place."

Sergeant Thalus gestured to Seldon clearly indicating that he was to follow. Seldon hung back and, also relying on the universal language of gesture, held out both arms, clearly including Dors and Raych.

The sergeant hesitated in a slightly hangdog fashion at the impressive pink doorway. His mustache almost seemed to droop.

Then he said gruffly, "All three of you, then. My word of honor holds. -Still, others may not feel obligated by my own obligation, you know."

Seldon nodded. "I hold you responsible for your own deeds only, Sergeant."

The sergeant was clearly moved and, for a moment, his face lightened as though he was considering the possibility of shaking Seldon's hand or expressing heartfelt his approval in some other way. He decided against it, however, and stepped onto the bottom step of the flight that led to the door. The stairs immediately began a stately upward movement.

Seldon and Dors stepped after him at once and kept their balance without much trouble. Raych, who was momentarily staggered in surprise, jumped onto the moving stairs after a short run, shoved both hands into his pockets, and whistled carelessly.

The door opened and two women stepped out, one on either side in symmetrical fashion. They were young and attractive. Their dresses, belted tightly about the waist and reaching nearly to their ankles, fell in crisp pleats and rustled when they walked. Both had brown hair that was coiled in thick plaits on either side of their heads. (Seldon found it attractive, but wondered how long it took them each morning to arrange it just so. He had not been aware of so elaborate a coiffure on the women they had passed in the streets.)

The two women stared at the newcomers with obvious contempt. Seldon was not surprised. After the day's events, he and Dors looked almost as disreputable as Raych.

Yet the women managed to bow decorously and then made a half-turn and gestured inward in perfect unison and with symmetry carefully maintained. (Did they rehearse these things?) It was clear that the three were to enter.

They stepped through an elaborate room, cluttered with furniture and decorative items whose use Seldon did not readily understand. The floor was light-colored, springy, and glowed with luminescence. Seldon noted with some embarrassment that their footwear left dusty marks upon it.

And then an inner door was flung open and yet another woman emerged. She was distinctly older than the first two (who sank slowly as she came in, crossing their legs symmetrically as they did so in a way that made Seldon marvel that they could keep their balance; it undoubtedly took a deal of practice).

Seldon wondered if he too was expected to display some ritualized form of respect, but since he hadn't the faintest notion of what this might consist of, he merely bowed his head slightly. Dors remained standing erect and, it seemed to Seldon, did so with disdain. Raych was staring open-mouthed in all directions and looked as though he didn't even see the woman who had just entered.

She was plump-nor fat, but comfortably padded. She wore her hair precisely as the young ladies did and her dress was in the same style, but much more richly ornamented-too much so to suit Seldon's aesthetic notions.

She was clearly middle-aged and there was a hint of gray in her hair, but the dimples in her cheeks gave her the appearance of having rather more than a dash of

youth. Her light brown eyes were merry and on the whole she looked more motherly than old.

She said, "How are you? All of you." (She showed no surprise at the presence of Dors and Raych, but included them easily in her greeting.) "I've been waiting for you for some time and almost had you on Uppeside at Streeling. You are Dr. Hari Seldon, whom I've been looking forward to meeting. You, I think, must be Dr. Dors Venabili, for you had been reported to be in his company. This young man I fear I do not know, but I am pleased to see him. But we must not spend our time talking, for I'm sure you would like to rest first."

"And bathe, Madam," said Dors rather forcefully, "Each of us could use a thorough shower."

"Yes, certainly," said the woman, "and a change in clothing. Especially the young man." She looked down at Raych without any of the look of contempt and disapproval that the two young women had shown.

She said, "What is your name, young man?"

"Raych," said Raych in a rather choked and embarrassed voice. He then added experimentally, "Missus."

"What an odd coincidence," said the woman, her eyes sparkling. "An omen, perhaps. My own name is Rashelle. Isn't that odd? -But come. We shall take care of you all. Then there will be plenty of time to have dinner and to talk."

"Wait, Madam," said Dors. "May I ask where we are?"

"Wye, dear. And please call me Rashelle, as you come to feel more friendly. I am always at ease with informality."

Dors stiffened. "Are you surprised that we ask? Isn't it natural that we should want to know where we are?"

Rashelle laughed in a pleasant, tinkling manner. "Really, Dr. Venabili, something must be done about the name of this place. I was not asking a question but making a statement. You asked where you were and I did not ask you why. I told you, Wye.' You are in the Wye Sector."

"In Wye?" said Seldon forcibly.

"Yes indeed, Dr. Seldon. We've wanted you from the day you addressed the Decennial Convention and we are so glad to have you now."

85.

Actually, it took a full day to rest and unstiffen, to wash and get clean, to obtain new clothes (satiny and rather loose, in the style of Wye), and to sleep a good deal.

It was during the second evening in Wye that there was the dinner that Madam Rashelle had promised.

The table was a large one-too large, considering that there were only four dining: Hari Seldon, Dors Venabili, Raych, and Rashelle. The walls and ceiling were softly

illuminated and the colors changed at a rate that caught the eye but not so rapidly as in any way to discommode the mind. The very tablecloth, which was not cloth (Seldon had not made up his mind what it might be), seemed to sparkle.

The servers were many and silent and when the door opened it seemed to Seldon that he caught a glimpse of soldiers, armed and at the ready, outside. The room was a velvet glove, but the iron fist was not far distant.

Rashelle was gracious and friendly and had clearly taken a particular liking to Raych, who, she insisted, was to sit next to her.

Raych-scrubbed, polished, and shining, all but unrecognizable in his new clothes, with his hair clipped, cleaned, and brushed -- scarcely dared to say a word. It was as though he felt his grammar no longer fit his appearance. He was pitifully ill at ease and he watched Dors carefully as she switched from utensil to utensil, trying to match her exactly in every respect.

The food was tasty but spicy-to the point where Seldon could not recognize the exact nature of the dishes.

Rashelle, her plump face made happy by her gentle smile and her fine teeth gleaming white, said, "You may think we have Mycogenian additives in the food, but we do not. It is all homegrown in Wye. There is no sector on the planet more self-sufficient than Wye. We labor hard to keep that so."

Seldon nodded gravely and said, "Everything you have given us is first-rate, Rashelle. We are much obliged to you."

And yet within himself he thought the food was not quite up to Mycogenian standards and he felt moreover, as he had earlier muttered to Dors, that he was celebrating his own defeat. Or Hummin's defeat, at any rate, and that seemed to him to be the same thing.

After all, he had been captured by Wye, the very possibility that had so concerned Hummin at the time of the incident Upperside.

Rashelle said, "Perhaps, in my role as hostess, I may be forgiven if I ask personal questions. Am I correct in assuming that you three do not represent a family; that you, Hari, and you, Dors, are not married and that Raych is not your son?"

"The three of us are not related in any way," said Seldon. "Raych was born on Trantor, I on Helicon, Dors on Cinna."

"And how did you all meet, then?"

Seldon explained briefly and with as little detail as he could manage. "There's nothing romantic or significant in the meetings," he added.

"Yet I am given to understand that you raised difficulties with my personal aide, Sergeant Thalys, when he wanted to take only you out of Dahl."

Seldon said gravely, "I had grown fond of Dors and Raych and did not wish to be separated from them."

Rashelle smiled and said, "You are a sentimental man, I see."

"Yes, I am. Sentimental. And puzzled too."

"Puzzled?"

"Why yes. And since you were so kind as to ask personal questions of us, may I ask one as well?"

"Of course, my dear Hari. Ask anything you please."

"When we first arrived, you said that Wye has wanted me from the day I addressed the Decennial Convention. For what reason might that be?"

"Surely, you are not so simple as not to know. We want you for your psychohistory."

"That much I do understand. But what makes you think that having me means you have psychohistory?"

"Surely, you have not been so careless as to lose it."

"Worse, Rashelle. I have never had it"

Rashelle's face dimpled. "But you said you had it in your talk. Not that I understood your talk. I am not a mathematician. I hate numbers. But I have in my employ mathematicians who have explained to me what it is you said."

"In that case, my dear Rashelle, you must listen more closely. I can well imagine they have told you that I have proven that psychohistorical predictions are conceivable, but surely they must also have told you that they are not practical."

"I can't believe that, Hari. The very next day, you were called into an audience with that pseudo-Emperor, Cleon."

"The pseudo-Emperor?" murmured Dors ironically.

"Why yes," said Rashelle as though she was answering a serious question.

"Pseudo-Emperor. He has no true claim to the throne."

"Rashelle," said Seldon, brushing that aside a bit impatiently, "I told Cleon exactly what I have just told you and he let me go."

Now Rashelle did not smile. A small edge crept into her voice. "Yes, he let you go the way the cat in the fable lets a mouse go. He has been pursuing you ever since-in Streeling, in Mycogen, in Dahl. He would pursue you here if he dared. But come now-our serious talk is too serious. Let us enjoy ourselves. Let us have music."

And at her words, there suddenly sounded a soft but joyous instrumental melody.

She leaned toward Raych and said softly, "My boy, if you are not at ease with the fork, use your spoon or your fingers. I won't mind."

Raych said, "Yes, mum," and swallowed hard, but Dors caught his eye and her lips silently mouthed: "Fork."

He remained with his fork.

Dors said, "The music is lovely, Madam"-she pointedly rejected the familiar form of address "but it must not be allowed to distract us. There is the thought in my mind that the pursuer in all those places might have been in the employ of the Wye Sector. Surely, you would not be so well acquainted with events if Wye were not the prime mover."

Rashelle laughed aloud. "Wye has its eyes and ears everywhere, of course, but we were not the pursuers. Had we been, you would have been picked up without fail-as you were in Dahl finally when, indeed, we were the pursuers. When, however, there is a pursuit that fails, a grasping hand that misses, you may be sure that it is Demerzel."

"Do you think so little of Demerzel?" murmured Dors.

"Yes. Does that surprise you? We have beaten him."

"You? Or the Wye Sector?"

"The sector, of course, but insofar as Wye is the victor, then I am the victor."

"How strange," said Dors. "There seems to be a prevalent opinion throughout Trantor that the inhabitants of Wye have nothing to do with victory, with defeat, or with anything else. It is felt that there is but one will and one fist in Wye and that is that of the Mayor. Surely, you-or any other Wyan-weigh nothing in comparison."

Rashelle smiled broadly. She paused to look at Raych benevolently and to pinch his cheek, then said, "If you believe that our Mayor is an autocrat and that there is but one will that sways Wye, then perhaps you are right. But, even so, I can still use the personal pronoun, for my will is of account."

"Why yours?" said Seldon. "Why not?" said Rashelle as the servers began clearing the table. "I am the Mayor of Wye."

86.

It was Raych who was the first to react to the statement. Quite forgetting the cloak of civility that sat upon him so uncomfortably, he laughed raucously and said, "Hey, lady, ya can't be Mayor. Mayors is guys."

Rashelle looked at him good-naturedly and said in a perfect imitation of his tone of voice, "Hey, kid, some Mayors is guys and some Mayors is dames. Put that under your lid and let it bubble."

Raych's eyes protruded and he seemed stunned. Finally he managed to say, "Hey, ya talk regular, lady."

"Sure thing. Regular as ya want," said Rashelle, still smiling.

Seldon cleared his throat and said, "That's quite an accent you have, Rashelle."

Rashelle tossed her head slightly. "I haven't had occasion to use it in many years, but one never forgets. I once had a friend, a good friend, who was a Dahlite-when I was very young." She sighed. "He didn't speak that way, of course-he was quite intelligent but he could do so if he wished and he taught me. It was exciting to talk so with him. It created a world that excluded our surroundings. It was wonderful. It was also impossible. My father made chat plain. And now along comes this young rascal, Raych, to remind me of those long-ago days. He has the accent, the eyes, the impudent cast of countenance, and in six years or so he will be a delight and terror to the young women. Won't you, Raych?"

Raych said, "I dunno, lady-uh, mum."

"I'm sure you will and you will come to look very much like my . . . old friend and it will be much more comfortable for me not to see you then. And now, dinner's over and it's time for you to go to your room, Raych. You can watch holovision for a while if you wish. I don't suppose you read."

Raych reddened. "I'm gonna read someday. Master Seldon says I'm gonna."

"Then I'm sure you will."

A young woman approached Raych, curtsying respectfully in Rashelle's direction. Seldon had not seen the signal that had summoned her.

Raych said, "Can't I stay with Master Seldon and Missus Venabili?"

"You'll see them later," said Rashelle gently, "but Master and Missus and I have to talk right now-so you must go."

Dors mouthed a firm "Go!" at Raych and with a grimace the boy slid out of his chair and followed the attendant.

Rashelle turned to Seldon and Dors once Raych was gone and said, "The boy will be safe, of course, and treated well. Please have no fears about that. And I will be safe too. As my woman approached just now, so will a dozen armed men-and much more rapidly-when summoned. I want you to understand that."

Seldon said evenly, "We are in no way thinking of attacking you, Rashelle-or must I now say, 'Madam Mayor'?"

"Still Rashelle. I am given to understand that you are a wrestler of sorts, Hari, and you, Dors, are very skillful with the knives we have removed from your room. I don't want you to rely uselessly on your skills, since I want Hari alive, unharmed, and friendly."

"It is quite well understood, Madam Mayor," said Dors, her lack of friendship uncompromised, "that the ruler of Wye, now and for the past forty years, is Mannix, Fourth of that Name, and that he is still alive and in full possession of his faculties. Who, then, are you really?"

"Exactly who I say I am, Dors. Mannix IV is my father. He is, as you say, still alive and in possession of his faculties. In the eyes of the Emperor and of all the Empire, he is Mayor of Wye, but he is weary of the strains of power and is willing, at last, to let them slip into my hands, which are just as willing to receive them. I am his only child and I was brought up all my life to rule. My father is therefore Mayor in law and name, but I am Mayor in fact. It is to me, now, that the armed forces of Wye have sworn allegiance and in Wye that is all that counts."

Seldon nodded. "Let it be as you say. But even so, whether it is Mayor Mannix IV or Mayor Rashelle-it is the First, I suppose there is no purpose in your holding me. I have told you that I don't have a workable psychohistory and I do not think that either I or anyone else will ever have one. I have cold chat to the Emperor. I am of no use either to you or to him."

Rashelle said, "How naive you are. Do you know the history of the Empire?"

Seldon shook his head. "I have recently come to wish that I knew it much better."

Dors said dryly, "I know Imperial history quite well, though the pre-Imperial age is my specialty, Madam Mayor. But what does it matter whether we do or do not?"

"If you know your history, you know that the House of Wye is ancient and honorable and is descended from the Dacian dynasty."

Dors said, "The Dacians ruled five thousand years ago. The number of their descendants in the hundred and fifty generations that have lived and died since then may

number half the population of the Galaxy-if all genealogical claims, however outrageous, are accepted."

"Our genealogical claims, Dr. Venabili"-Rashelle's tone of voice was, for the first time, cold and unfriendly and her eyes flashed like steel-"are not outrageous. They are fully documented. The House of Wye has maintained itself consistently in positions of power through all those generations and there have been occasions when we have held the Imperial throne and have ruled as Emperors."

"The history book-films," said Dors, "usually refer to the Wye rulers as 'anti-Emperors,' never recognized by the bulk of the Empire."

"It depends on who writes the history book-films. In the future, we wilt, for the throne which has been ours will be ours again."

"To accomplish that, you must bring about civil war."

"There won't be much risk of that," said Rashelle. She was smiling again. "That is what I must explain to you because I want Dr. Seldon's help in preventing such a catastrophe. My father, Mannix IV, has been a man of peace all his life.

He has been loyal to whomever it might be that ruled in the Imperial Palace and he has kept Wye a prosperous and strong pillar of the Trantorian economy for the good of all the Empire."

"I don't know that the Emperor has ever trusted him any the more for all that," said Dors.

"I'm sure that is so," said Rashelle calmly, "for the Emperors that have occupied the Palace in my father's time have known themselves to be usurpers of a usurping line. Usurpers cannot afford to trust the true rulers. And yet my father has kept the peace. He has, of course, developed and trained a magnificent security force to maintain the peace, prosperity, and stability of the sector and the Imperial authorities have allowed this because they wanted Wye peaceful, prosperous, stable-and loyal."

"But is it loyal?" said Dors.

"To the true Emperor, of course," said Rashelle, "and we have now reached the stage where our strength is such that we can take over the government quickly-in a lightning stroke, in fact-and before one can say 'civil war' there will be a true Emperor-or Empress, if you prefer-and Trantor will be as peaceful as before."

Dors shook her head. "May I enlighten you? As a historian?"

"I am always willing to listen." And she inclined her head ever so slightly toward Dors.

"Whatever size your security force may be, however well-trained and well equipped, they cannot possibly equal in size and strength the Imperial forces backed by twenty-five million worlds."

"Ah, but you have put your finger on the usurper's weakness, Dr. Venabili. There are twenty-five million worlds, with the Imperial forces scattered over them.

Those forces are thinned out over incalculable space, under uncounted officers, none of them particularly ready for any action outside their own Provinces, many ready for action in their own interest rather than in the Empire's. Our forces, on the other hand, are

all here, all on Trantor. We can act and conclude before the distant generals and admirals can get it through their heads that they are needed."

"But that response will come-and with irresistible force."

"Are you certain of that?" said Rashelle. "We will be in the Palace. Trantor will be ours and at peace. Why should the Imperial forces stir when, by minding their own business, each petty military leader can have his own world to rule, his own Province?"

"But is that what you want?" asked Seldon wonderingly. "Are you telling me that you look forward to ruling over an Empire that will break up into splinters?"

Rashelle said, "That is exactly right. I would rule over Trantor, over its outlying space settlements, over the few nearby planetary systems that are part of the Trantorian Province. I would much rather be Emperor of Trantor than Emperor of the Galaxy."

"You would be satisfied with Trantor only," said Dors in tones of the deepest disbelief.

"Why not?" said Rashelle, suddenly ablaze. She leaned forward eagerly, both hands pressed palms-down on the table. "That is what my father has been planning for forty years. He is only clinging to life now to witness its fulfillment. Why do we need millions of worlds, distant worlds that mean nothing to us, that weaken us, that draw our forces far away from us into meaningless cubic parsecs of space, that drown us in administrative chaos, that ruin us with their endless quarrels and problems when they are all distant nothings as far as we are concerned? Our own populous world-our own planetary city-is Galaxy enough for us. We have all we need to support ourselves. As for the rest of the Galaxy, let it splinter. Every petty militarist can have his own splinter. They needn't fight. There will be enough for all."

"But they will fight, just the same," said Dors. "Each will refuse to be satisfied with his Province. Each will fear that his neighbor is not satisfied with his Province. Each will feel insecure and will dream of Galactic rule as the only guarantee of safety. This is certain, Madam Empress of Nothing. There will be endless wars into which you and Trantor will be inevitably drawn-to the ruin of all."

Rashelle said with clear contempt, "So it might seem, if one could see no farther than you do, if one relied on the ordinary lessons of history."

"What is there to see farther?" retorted Dors. "What is one to rely on beyond the lessons of history?"

"What lies beyond?" said Rashelle. "Why, he."

And her arm shot outward, her index finger jabbing toward Seldon.

"Me?" said Seldon. "I have already told you that psychohistory-"

Rashelle said, "Do not repeat what you have already said, my good Dr. Seldon. We gain nothing by that. -Do you think, Dr. Venabili, that my father was never aware of the danger of endless civil war? Do you think he did not bend his powerful mind to thinking of some way to prevent that? He has been prepared at any time these last ten years to take over the Empire in a day. It needed only the assurance of security beyond victory."

"Which you can't have," said Dors.

"Which we had the moment we heard of Dr. Seldon's paper at the Decennial Convention. I saw at once that that was what we needed. My father was too old to see the significance at once. When I explained it, however, he saw it too and it was then that he formally transferred his power to me. So it is to you, Hari, that I owe my position and to you I will owe my greater position in the future."

"I keep telling you that it cannot-" began Seldon with deep annoyance.

"It is not important what can or cannot be done. What is important is what people will or will not believe can be done. They will believe you, Hari, when you tell them the psychohistoric prediction is that Trantor can rule itself and that the Provinces can become Kingdoms that will live together in peace."

"I will make no such prediction," said Seldon, "in the absence of true psychohistory. I won't play the charlatan. If you want something like that, you say it."

"Now, Hari. They won't believe me. It's you they will believe. The great mathematician. Why not oblige them?"

"As it happens," said Seldon "the Emperor also thought to use me as a source of self-serving prophecies. I refused to do it for him, so do you think I will agree to do it for you?"

Rashelle was silent for a while and when she spoke again her voice had lost its intense excitement and became almost coaxing.

"Hari," she said, "think a little of the difference between Cleon and myself. What Cleon undoubtedly wanted from you was propaganda to preserve his throne. It would be useless to give him that, for the throne can't be preserved. Don't you know that the Galactic Empire is in a state of decay, that it cannot endure for much longer? Trantor itself is slowly sliding into ruin because of the ever-increasing weight of administering twenty-five million worlds. What's ahead of us is breakup and civil war, no matter what you do for Cleon."

Seldon said, "I have heard something like this said. It may even be true, but what then?"

"Well then, help it break into fragments without any war. Help me take Trantor. Help me establish a firm government over a realm small enough to be ruled efficiently. Let me give freedom to the rest of the Galaxy, each portion to go its own way according to its own customs and cultures. The Galaxy will become a working whole again through the free agencies of trade, tourism, and communication and the fate of cracking into disaster under the present rule of force that barely holds it together will be averted. My ambition is moderate indeed; one world, not millions; peace, not war; freedom, not slavery. Think about it and help me."

Seldon said, "Why should the Galaxy believe me any more than they would believe you? They don't know me and which of our fleet commanders will be impressed by the mere word 'psychohistory'?"

"You won't be believed now, but I don't ask for action now. The House of Wye, having waited thousands of years, can wait thousands of days more. Cooperate with me and I will make your name famous. I will make the promise of psychohistory glow through

all the worlds and at the proper time, when I judge the movement to be the chosen moment, you will pronounce your prediction and we will strike. Then, in a twinkling of history, the Galaxy will exist under a New Order that will render it stable and happy for eons. Come now, Hari, can you refuse me?"

OVERTHROW

THALUS, EMMER- . . . A sergeant in the armed security forces of the Wye Sector of ancient Trantor . . .

. . . Aside from these totally unremarkable vital statistics, nothing is known of the man except that on one occasion he held the fate of the Galaxy in his fist.

ENCYCLOPEDIA GALACTICA

87.

Breakfast the next morning was served in an alcove near the rooms of the captured three and it was luxurious indeed. There certainly was a considerable variety to the food and more than enough of everything.

Seldon sat at the breakfast table with a mound of spicy sausages before him, totally ignoring Dors Venabili's gloomy predictions concerning stomachs and colic.

Raych said, "The dame . . . the Madam Mayor said when she came to see me last night-"

"She came to see you?" said Seldon.

"Yeah. She said she wanted to make sure I was comfortable. She said when she had a chance she would take me to a zoo."

"A zoo?" Seldon looked at Dors. "What kind of zoo can they have on Trantor? Cats and dogs?"

"There are some aboriginal animals," said Dors, "and I imagine they import some aboriginals from other worlds and there are also the shared animals that all the worlds have-other worlds having more than Trantor, of course. As a matter of fact, Wye has a famous zoo, probably the best on the planet after the Imperial Zoo itself."

Raych said, "She's a nice old lady."

"Not that old," said Dors, "but she's certainly feeding us well."

"There's that," admitted Seldon.

When breakfast was over, Raych left to go exploring.

Once they had retired to Dors's room, Seldon said with marked discontent, "I don't know how long we'll be left to ourselves. She's obviously plotted ways of preoccupying our time."

Dors said, "Actually, we have little to complain of at the moment. We're much more comfortable here than we were either in Mycogen or Dahl."

Seldon said, "Dors, you're not being won over by that woman, are you?"

"Me? By Rashelle? Of course not. How can you possibly think so?"

"Welt, you're comfortable. You're well-fed. It would be natural to relax and accept what fortune brings."

"Yes, very natural. And why not do that?"

"Look, you were telling me last night about what's going to happen if she wins out. I may not be much of a historian myself, but I am willing to take your word for it and, actually, it makes sense even to a non-historian. The Empire will shatter and its shards will be fighting each other for . . . for . . . indefinitely. She must be stopped."

"I agree," said Dors. "She must be. What I fail to see is how we can manage to do that little thing right at this moment." She looked at Seldon narrowly.

"Hari, you didn't sleep fast night, did you?"

"Did you?" It was apparent he had not.

Dors stared at him, a troubled look clouding her face. "Have you lain awake thinking of Galactic destruction because of what I said?"

"That and some ocher things. Is it possible to reach Chetter Hummin?" This last was said in a whisper.

Dors said, "I tried to reach him when we first had to flee arrest in Dahl. He didn't come. I'm sure he received the message, but he didn't come. It may be that, for any of a number of reasons, he just couldn't come to us, but when he can he will."

"Do you suppose something has happened to him?"

"No," said Dors patiently. "I don't think so."

"How can you know?"

"The word would somehow get to me. I'm sure of it. And the word hasn't gotten to me."

Seldon frowned and said, "I'm not as confident as you are about all this. In fact, I'm not confident at all. Even if Hummin came, what can he do in this case? He can't fight all of Wye. If they have, as Rashelle claims, the best-organized army on Trantor, what will he be able to do against it?"

"There's no point in discussing that. Do you suppose you can convince Rashelle-bang it into her head somehow-that you don't have psychohistory?"

"I'm sure she's aware that I don't have it and that I'm not going to get it for many years-if at all. But she'll say I have psychohistory and if she does that skillfully enough, people will believe her and eventually they will act on what she says my predictions and pronouncements are--even if I don't say a word."

"Surely, that will take time. She won't build you up overnight. Or in a week. To do it properly, it might take her a year."

Seldon was pacing the length of the room, turning sharply on his heel and striding back. "That might be so, but I don't know. There would be pressure on her to do things quickly. She doesn't strike me as the kind of woman who has cultivated the habit of patience. And her old father, Mannix IV, would be even more impatient. He must feel the nearness of death and if he's worked for this all his life, he would much prefer to see it done a week before his death rather than a week after. Besides-" Here he paused and looked around the empty room.

"Besides what?"

"Well, we must have our freedom. You see, I've solved the psychohistory problem."

Dors's eyes widened. "You have it! You've worked it out."

"Not worked it out in the full sense. That might take decades . . . centuries, for all I know. But I now know it's practical, not just theoretical. I know it can be done so I must have the time, the peace, the facilities to work at it.

The Empire must be held together till I-or possibly my successors-will learn how best to keep it so or how to minimize the disaster if it does split up despite us. It was the thought of having a beginning to my task and of not being able to work at it, that kept me up last night."

88.

It was their fifth day in Wye and in the morning Dors was helping Raych into a formal costume that neither was quite familiar with.

Raych looked at himself dubiously in the holomirror and saw a reflected image that faced him with precision, imitating all his motions but without any inversion of left and right. Raych had never used a holomirror before and had been unable to keep from trying to feel it, then laughing, almost with embarrassment, when his hand passed through it while the image's hand poked ineffectually at his real body.

He said at last, "I look funny."

He studied his tunic, which was made of a very pliant material, with a thin filigreed belt, then passed his hands up a stiff collar that rose like a cup past his ears on either side.

"My head looks like a ball inside a bowl."

Dors said, "But this is the sort of thing rich children wear in Wye. Everyone who sees you will admire you and envy you."

"With my hair all stuck down?"

"Certainly. You'll wear this round little hat."

"It'll make my head more like a ball."

"Then don't let anyone kick it. Now, remember what I told you. Keep your wits about you and don't act like a kid."

"But I am a kid," he said, looking up at her with a wide-eyed innocent expression.

"I'm surprised to hear you say that," said Dors. "I'm sure you think of yourself as a twelve-year-old adult."

Raych grinned. "Okay. I'll be a good spy."

"That's not what I'm telling you to be. Don't take chances. Don't sneak behind doors to listen. If you get caught at it, you're no good to anyone-especially not to yourself."

"Aw, c'mon, Missus, what do ya think I am? A kid or somethin'?"

"You just said you were, didn't you, Raych? You just listen to everything that's said without seeming to. And remember what you hear. And tell us. That's simple enough."

"Simple enough for you to say, Missus Venabili," said Raych with a grin, "and simple enough for me to do."

"And be careful."

Raych winked. "You bet."

A flunky (as coolly impolite as only an arrogant flunky can be) came to take Raych to where Rashelle was awaiting him.

Seldon looked after them and said thoughtfully, "He probably won't see the zoo, he'll be listening so carefully. I'm not sure it's right to thrust a boy into danger like that."

"Danger? I doubt it. Raych was brought up in the slums of Billibotton, remember. I suspect he has more alley smarts than you and I put together. Besides, Rashelle is fond of him and will interpret everything he does in his favor. -Poor woman."

"Are you actually sorry for her, Dors?"

"Do you mean that she's not worth sympathy because she's a Mayor's daughter and considers herself a Mayor in her own right and because she's intent on destroying the Empire? Perhaps you're right, but even so there are some aspects of her for which one might show some sympathy. For instance, she's had an unhappy love affair. That's pretty evident. Undoubtedly, her heart was broken-for a time, at least."

Seldon said, "Have you ever had an unhappy love affair, Dors?"

Dor considered for a moment or two, then said, "Not really. I'm too involved with my work to get a broken heart."

"I thought as much."

"Then why did you ask?"

"I might have been wrong."

"How about you?"

Seldon seemed uneasy. "As a matter of fact, yes. I have spared the time for a broken heart. Badly cracked, anyway."

"I thought as much."

"Then why did you ask?"

"Not because I thought I might be wrong, I promise you. I just wanted to see if you would lie. You didn't and I'm glad."

There was a pause and then Seldon said, "Five days have passed and nothing has happened."

"Except that we are being treated well, Hari."

"If animals could think, they'd think they were being treated well when they were only being fattened for the slaughter."

"I admit she's fattening the Empire for the slaughter."

"But when?"

"I presume when she's ready."

"She boasted she could complete the coup in a day and the impression I got was that she could do that on any day."

"Even if she could, she would want to make sure that she could cripple the Imperial reaction and that might take time."

"How much time? She plans to cripple the reaction by using me, but she is making no effort to do so. There is no sign that she's trying to build up my importance. Wherever I go in Wye I'm unrecognized. There are no Wyan crowds gathering to cheer me. There's nothing on the news holocasts."

Dors smiled. "One would almost suppose that your feelings are hurt at not being made famous. You're naive, Hari. Or not a historian, which is the same thing. I think you had better be more pleased that the study of psychohistory will be bound to make a historian of you than that it may save the Empire. If all human beings understood history, they might cease making the same stupid mistakes over and over."

"In what way am I naive?" asked Seldon lifting his head and staring down his nose at her.

"Don't be offended, Hari. I think it's one of your attractive features, actually."

"I know. It arouses your maternal instincts and you have been asked to take care of me. But in what way am I naive?"

"In thinking that Rashelle would cry to propagandize the population of the Empire, generally, into accepting you as seer. She would accomplish nothing in that way. Quadrillions of people are hard to move quickly. There is social and psychological inertia, as well as physical inertia. And, by coming out into the open, she would simply alert Demerzel."

"Then what is she doing?"

"My guess is that the information about you-suitably exaggerated and glorified-is going out to a crucial few. She is going to those Viceroys of sectors, those admirals of fleets, those people of influence she feels look kindly upon her-or grimly upon the Emperor. A hundred or so of those who might rally to her side will manage to confuse the Loyalists just long enough to allow Rashelle the First to set up her New Order firmly enough to beat off whatever resistance might develop. At least, I imagine that is how she reasons."

"And yet we haven't heard from Hummin."

"I'm sure he must be doing something just the same. This is too important to ignore."

"Has it occurred to you that he might be dead?"

"That's a possibility, but I don't think so. If he was, the news would reach me."

"Here?"

"Even here."

Seldon raised his eyebrows, but said nothing.

Raych came back in the late afternoon, happy and excited, with descriptions of monkeys and of Bakarian demoires and he dominated the conversation during dinner.

It was not until after dinner when they were in their own quarters that Dors said, "Now, tell me what happened with Madam Mayor, Raych. Tell me anything she did or said that you think we ought to know."

"One thing," said Raych, his face lighting up. "That's why she didn't show at dinner, I bet."

"What was it?"

"The zoo was closed except for us, you know. There were lots of us. Rashelle and me and all sorts of guys in uniforms and dames in fancy clothes and like that. Then this guy in a uniform-a different guy, who wasn't there to begin with-came in toward the end and he said something in a low voice and Rashelle corned to all the people and made with her hand like they shouldn't move and they didn't. And she went a little ways away with this new guy, so she could talk to him and no one could hear her. Except I kept paying no attention and kept looking at the different cages and sort of moved near to Rashelle so I could hear her. "

"She said, 'How dare they?' like she was real mad. And the guy in the uniform, he looked nervous-I just got quick looks because I was trying to make out like I was watching the animals-so mostly I just heard the words. He said somebody-I don't remember the name, but he was a general or somethin'. He said this general said the officers had sworn religious to Rashelle's old man-"

"Sworn allegiance," said Dors.

"Somethin' like that and they was nervous about havin' to do what a dame says. He said they wanted the old man or else, if he was kind of sick, he should pick some guy to be Mayor, not a dame."

"Not a dame? Are you sure?"

"That's what he said. He like whispered it. He was so nervous and Rashelle was so mad she could hardly speak. She said, 'I'll have his head. They wilt all swear allegiance to me tomorrow and whoever refuses will have cause to regret it before an hour has passed.' That's exactly what she said. She broke up the whole party and we all came back and she didn't say one word to me all the rime. Just sat there, looking kinda mean and angry."

Dors said, "Good. Don't you mention this to anyone, Raych."

"Course not. Is it what you wanted?"

"Very much what I wanted. You did well, Raych. Now, go to your room and forget the whole thing. Don't even think about it."

Once he was gone, Dors turned m Seldon and said, "This is very interesting. Daughters have succeeded fathers-or mothers, for that matter-and held Mayoralties or other high offices on any number of occasions. There have even been reigning Empresses, as you undoubtedly know, and I can't recall that there was ever in Imperial history any serious question of serving under one. It makes one wonder why such a thing should now, arise in Wye."

Seldon said, "Why not? We've only recently been in Mycogen, where women are held in a total lack of esteem and couldn't possibly hold positions of power, however minor."

"Yes, of course, but that's an exception. There are other places where women dominate. For the most part, though, government and power have been more or less

equisexual. If more men tend to hold high positions, it is usually because women tend to be more bound-biologically-to children."

"But what is the situation in Wye?"

"Equisexual, as far as I know. Rashelle didn't hesitate to assume Mayoral power and I imagine old Mannix didn't hesitate to grant it to her. And she was surprised and furious at encountering male dissent. She can't have expected it."

Seldon said, "You're clearly pleased ac this. Why?"

"Simply because it's so unnatural that it must be contrived and I imagine Hummin is doing the contriving."

Seldon said thoughtfully, "You think so?"

"I do," said Dors.

"You know," said Seldon, "so do I."

89.

It was their tenth day in Wye and in the morning Hari Seldon's door signal sounded and Raych's high-pitched voice outside was crying out, "Mister! Mister Seldom It's war!"

Seldon took a moment to swap from sleep to wakefulness and scrambled out of bed.

He was shivering slightly (the Wyans liked their domiciles on the chilly side, he had discovered quite early in his stay there) when he threw the door open.

Raych bounced in, excited and wide-eyed. "Mister Seldon, they have Mannix, the old Mayor'. They have-

"Who have, Raych?"

"The Imperials, Their jets came in last night all over. The news holocasts are telling all about it. It's on in Missus's room. She said to let ya sleep, but I figured ya would wanner know."

"And you were quite right." Seldom pausing only tong enough to throw on a bathrobe, burst into Dors's room. She was fully dressed and was watching the bolo-sec in the alcove.

Behind the clear, small image of a desk sat a man, with the Spaceship-and Sun sharply defined on the left-front of his tunic. On either side, two soldiers, also wearing the Spaceship-and-Sun, stood armed. The officer at the desk was saying, "-is under the peaceful control of his Imperial Majesty. Mayor Mannix is safe and well and is in full possession of his Mayoral powers under the guidance of friendly Imperial troops. He will be before you soon to urge calm on all Wyans and to ask any Wyan soldiers still in arms to lay them down."

There were other news holocasts by various newsmen with unemotional voices, all wearing Imperial armbands. The news was all the same: surrender by this or chat unit of the Wyan security forces after firing a few shots for the record-and sometimes after no resistance at all. This town center and that town center were occupied-and there were

repeated views of Wyan crowds somberly watching Imperial forces marching down the streets.

Dors said, "It was perfectly executed, Hari. Surprise was complete. There was no chance of resistance and none of consequence was offered."

Then Mayor Mannix IV appeared, as had been promised. He was standing upright and, perhaps for the sake of appearances, there were no Imperials in sight, though Seldon was reasonably certain that an adequate number were present just out of camera range.

Mannix was old, but his strength, though worn, was still apparent. His eyes did not meet the holo-camera and his words were spoken as though forced upon him-but, as had been promised, they counseled Wyans to remain calm, to offer no resistance, to keep Wye from harm, and to cooperate with the Emperor who, it was hoped, would survive long on the throne.

"No mention of Rashelle," said Seldon. "It's as though his daughter doesn't exist."

"No one has mentioned her," said Dors, "and this place, which is, after all, her residence-or one of them-hasn't been attacked. Even if she manages to slip away and take refuge in some neighboring sector, I doubt she will be safe anywhere on Trantor for long."

"Perhaps not," came a voice; "but I'll be safe here for a little while."

Rashelle entered. She was properly dressed, properly calm. She was even smiling, but it was no smile of joy; it was, rather, a cold baring of teeth.

The three stared at her in surprise for a moment and Seldon wondered if she had any of her servants with her or if they had promptly deserted her at the first sign of adversity. 406 Dors said a little coldly, "I see, Madam Mayor, that your hopes for a coup can not be maintained. Apparently, you have been forestalled."

"I have not been forestalled. I have been betrayed. My officers have been tampered with and-against all history and rationality -- they have refused to fight for a woman but only for their old master. And, traitors that they are, they then let their old master be seized so that he cannot lead them in resistance."

She looked about for a chair and sat down. "And now the Empire must continue to decay and die when I was prepared to offer it new life."

"I think," said Dors, "the Empire has avoided an indefinite period of useless fighting and destruction. Console yourself with that, Madam Mayor."

It was as though Rashelle did not hear her. "So many years of preparation destroyed in a night." She sat there beaten, defeated, and seemed to have aged twenty years.

Dors said, "It could scarcely have been done in a night. The suborning of your officers-if that took place-must have taken time."

"At that, Demerzel is a master and quite obviously I underestimated him. How he did it, I don't know-threats, bribes, smooth and specious argument. He is a master at the art of stealth and betrayal-I should have known."

She went on after a pause. "If this was outright force on his part, I would have had no trouble destroying anything he sent against us. Who would think that Wye would be betrayed, that an oath of allegiance would be so lightly thrown aside?"

Seldon said with automatic rationality, "But I imagine the oath was made not to you, but to your father."

"Nonsense," said Rashelle vigorously. "When my father gave me the Mayoral office, as he was legally entitled to do, he automatically passed on to me any oaths of allegiance made to him. There is ample precedence for this. It is customary to have the oath repeated to the new ruler, but that is a ceremony only and not a legal requirement. My officers know that, though they choose to forget. They use my womanhood as an excuse because they quake in fear of Imperial vengeance that would never have come had they been staunch or tremble with greed for promised rewards they will surely never get-if I know Demerzel."

She turned sharply toward Seldon. "He wants you, you know. Demerzel struck at us for you."

Seldon started. "Why me?"

"Don't be a fool. For the same reason I wanted you . . . to use you as a tool, of course." She sighed. "At least I am not utterly betrayed. There are still loyal soldiers to be found. -Sergeant!"

Sergeant Emmer Thalus entered with a soft cautious step that seemed incongruous, considering his size. His uniform was spruce, his long blond mustache fiercely curled.

"Madam Mayor," he said, drawing himself to attention with a snap.

He was still, in appearance, the side of beef that Hari had named him-a man still following orders blindly, totally oblivious to the new and changed state of affairs.

Rashelle smiled sadly at Raych. "And how are you, little Raych? I had meant to make something of you. It seems now I won't be able to."

"Hello, Missus . . . Madam," said Raych awkwardly.

"And to have made something of you too, Dr. Seldon" said Rashelle, "and there also I must crave pardon. I cannot."

"For me, Madam, you need have no regrets."

"But I do. I cannot very well let Demerzel have you. That would be one victory too many for him and at least I can stop that."

"I would not work for him, Madam, I assure you, any more than I would have worked for you."

"It is not a matter of work. It is a matter of being used. Farewell, Dr. Seldon."

-Sergeant, blast him."

The sergeant drew his blaster at once and Dors, with a loud cry, lunged forward-but Seldon reached out for her and caught her by the elbow. He hung on desperately.

"Stay back, Dors," he shouted, "or he'll kill you. He won't kill me. You too, Raych. Stand back. Don't move."

Seldon faced the sergeant. "You hesitate, Sergeant, because you know you cannot shoot I might have killed you ten days ago, but I did not. And you gave me your word of honor at that time that you would protect me."

"What are you waiting for?" snapped Rashelle. "I said shoot him down, Sergeant."

Seldon said nothing more. He stood there while the sergeant, eyes bulging, held his blaster steady and pointed at Seldon's head.

"You have your order!" shrieked Rashelle.

"I have your word," said Seldon quietly.

And Sergeant Thalus said in a choked tone, "Dishonored either way." His hand fell and his blaster clanged to the floor.

Rashelle cried out, "Then you too betray me'."

Before Seldon could move or Dors free herself from his grip, Rashelle seized the blaster, turned it on the sergeant, and closed contact.

Seldon had never seen anyone blasted before. Somehow, from the name of the weapon perhaps, he had expected a loud noise, an explosion of flesh and blood.

This Wyan blaster, at least, did nothing of the sort. What mangling it did to the organs inside the sergeant's chest Seldon could not tell but, without a change in expression, without a wince of pain, the sergeant crumbled and fell, dead beyond any doubt or any hope. And Rashelle turned the blaster on Seldon with a firmness that put to rest any hope for his own life beyond the next second.

It was Raych, however, who jumped into action the moment the sergeant fell. Racing between Seldon and Rashelle, he waved his hands wildly.

"Missus, Missus," he called. "Don't shoot."

For a moment, Rashelle looked confused. "Out of the way, Raych. I don't want to hurt you."

That moment of hesitation was all Dors needed. Breaking loose violently, she plunged toward Rashelle with a long low dive. Rashelle went down with a cry and the blaster hit the ground a second time. Raych retrieved it.

Seldon, with a deep and shuddering breath, said, "Raych, give that to me."

But Raych backed away. "Ya ain't gonna kill her, are ya, Mister Seldon? She was nice to me."

"I won't kill anyone, Raych," said Seldon. "She killed the sergeant and would have killed me, but she didn't shoot rather than hurt you and we'll let her live for that."

He was Seldon, who now sat down, the blaster held loosely in his hand, while Dors removed the neuronics whip from the dead sergeant's other holster.

A new voice rang out. "I'll take care of her now, Seldon."

Seldon looked up and in sudden joy said, "Hummin! Finally!"

"I'm sorry it took so long, Seldon. I had a lot to do. How are you, Dr. Venabili? I take it this is Mannix's daughter, Rashelle. But who is the boy?"

"Raych is a young Dahlite friend of ours," said Seldon.

Soldiers were entering and, at a small gesture from Hummin, they lifted Rashelle respectfully.

Dors, able to suspend her intent surveillance of the other woman, brushed at her clothes with her hands and smoothed her blouse. Seldon suddenly realized that he was still in his bathrobe.

Rashelle, shaking herself loose from the soldiers with contempt, pointed to Hummin and said to Seldon, "Who is this?"

Seldon said, "It is Chetter Hummin, a friend of mine and my protector on this planet."

"Your protector." Rashelle laughed madly. "You fool! You idiot! That man is Demerzel and if you look at your Venabili woman, you will see from her face that she is perfectly aware of that. You have been trapped all along, far worse than ever you were with me!"

90.

Hummin and Seldon sat at lunch that day, quite alone, a pall of quiet between them for the most part. It was toward the end of the meal that Seldon stirred and said in a lively voice, "Well, sir, how do I address you? I think of you as 'Chester Hummin' still, but even if I accept you in your other persona, I surely cannot address you as 'Eto Demerzel.' In that capacity, you have a title and I don't know the proper usage. Instruct me."

The other said gravely, "Call me 'Hummin'-if you don't mind. Or 'Chetter.' Yes, I am Eto Demerzel, but with respect to you I am Hummin. As a matter of fact, the two are not distinct. I told you that the Empire is decaying and failing. I believe that to be true in both my capacities. I told you that I wanted psychohistory as a way of preventing that decay and failure or of bringing about a renewal and reinvigoration if the decay and failure must run its course. I believe that in both my capacities too."

"But you had me in your grip-I presume you were in the vicinity when I had my meeting with His Imperial Majesty."

"With Cleon. Yes, of course."

"And you might have spoken to me, then, exactly as you later did as Hummin."

"And accomplished what? As Demerzel, I have enormous tasks. I have to handle Cleon, a well-meaning but not very capable ruler, and prevent him, insofar as I can, from making mistakes. I have to do my bit in governing Trantor and the Empire too. And, as you see, I had to spend a great deal of time in preventing Wye from doing harm."

"Yes, I know," murmured Seldon.

"It wasn't easy and I nearly lost out. I have spent years sparring carefully with Mannix, learning to understand his chinking and planning a countermove to his every move. I did not think, at any time, that while he was still alive he would pass on his powers to his daughter. I had not studied her and I was not prepared for her utter lack of caution. Unlike her father, she has been brought up to take power for granted and had no clear idea of its limitations. So she got you and forced me to act before I was quite ready."

"You almost lost me as a result. I faced the muzzle of a blaster twice. "

"I know," said Hummin, nodding. "And we might have lost you Upperside coo-another accident I could not foresee."

"But you haven't really answered my question. Why did you send me chasing all over the face of Trantor to escape from Demerzel when you yourself were Demerzel?"

"You told Cleon that psychohistory was a purely theoretical concept, a kind of mathematical game that made no practical sense. That might indeed have been so, but if I approached you officially, I was sure you would merely have maintained your belief. Yet I was attracted to the notion of psychohistory. I wondered whether it might not be, after all, just a game. You must understand that I didn't want merely to use you, I wanted a real and practical psychohistory.

"So I sent you, as you put it, chasing all over the face of Trantor with the dreaded Demerzel close on your heels at all times. That, I felt, would concentrate your mind powerfully. It would make psychohistory something exciting and much more than a mathematical game. You would try to work it out for the sincere idealist Hummin, where you would not for the Imperial flunky Demerzel. Also, you would get a glimpse of various sides of Trantor and that too would be helpful-certainly more helpful than living in an ivory tower on a far-off planet, surrounded entirely by fellow mathematicians. Was I right? Have you made progress?"

Seldon said, "In psychohistory? Yes, I did, Hummin. I thought you knew."

"How should I know?"

"I told Dors."

"But you hadn't told me. Nevertheless, you tell me so now. That is good news."

"Not entirely," said Seldon. "I have made only the barest beginning. But it is a beginning."

"Is it the kind of beginning that can be explained to a non-mathematician?"

"I think so. You see, Hummin, from the start I have seen psychohistory as a science that depends on the interaction of twenty-five million worlds, each with an average population of four thousand million. It's too much. There's no way of handling something that complex. If I was to succeed at all, if there was to be any way of finding a useful psychohistory, I would first have to find a simpler system.

"So I thought I would go back in time and deal with a single world, a world that was the only one occupied by humanity in the dim age before the colonization of the Galaxy. In Mycogen they spoke of an original world of Aurora and in Dahl I heard word of an original world of Earth. I thought they might be the same world under different names, but they were sufficiently different in one key point, at least, to make that impossible. And it didn't matter. So little was known of either one, and that little so obscured by myth and legend, that there was no hope of making use of psychohistory in connection with them."

He paused to sip at his cold juice, keeping his eyes firmly on Hummin's face.

Hummin said, "Well? What then?"

"Meanwhile, Dors had told me something I call the hand-on-thigh story. It was of no innate significance, merely a humorous and entirely trivial tale. As a result, though, Dors mentioned the different sex mores on various worlds and in various sectors of

Trantor. It occurred to me that she treated the different Trantorian sectors as though they were separate worlds. I thought, idly, that instead of twenty-five million different worlds, I had twenty-five million plus eight hundred to deal with. It seemed a trivial difference, so I forgot it and thought no more about it.

"But as I traveled from the Imperial Sector to Streeling to Mycogen to Dahl to Wye, I observed for myself how different each was. The thought of Trantor-not as a world but as a complex of worlds-grew stronger, but still I didn't see the crucial point.

"It was only when I listened to Rashelle--you see, it was good that I was finally captured by Wye and it was good that Rashelle's rashness drove her into the grandiose schemes that she imparted to me-When I listened to Rashelle, as I said, she told me that all she wanted was Trantor and some immediately adjacent worlds. It was an Empire in itself, she said, and dismissed the outer worlds as 'distant nothings.'

"It was then that, in a moment, I saw what I must have been harboring in my hidden thoughts for a considerable time. On the one hand, Trantor possessed an extraordinarily complex social system, being a populous world made up of eight hundred smaller worlds. It was in itself a system complex enough to make psychohistory meaningful and yet it was simple enough, compared to the Empire as a whole, to make psychohistory perhaps practical.

"And the Outer Worlds, the twenty-five million of them? They were 'distant nothings.' Of course, they affected Trantor and were affected by Trantor, but these were second-order effects. If I could make psychohistory work as a first approximation for Trantor alone, then the minor effects of the Outer Worlds could be added as later modifications. Do you see what I mean? I was searching for a single world on which to establish a practical science of psychohistory and I was searching for it in the far past, when all the time the single world I wanted was under my feet now, "

Hummin said with obvious relief and pleasure, "Wonderful!"

"But it's all left to do, Hummin. I must study Trantor in sufficient detail. I must devise the necessary mathematics to deal with it. If I am lucky and live out a full lifetime, I may have the answers before I die. If not, my successors will have to follow me. Conceivably, the Empire may have fallen and splintered before psychohistory becomes a useful technique."

"I will do everything I can to help you."

"I know it," said Seldon.

"You trust me, then, despite the fact I am Demerzel?"

"Entirely. Absolutely. But I do so because you are not Demerzel."

"But I am," insisted Hummin.

"But you are not. Your persona as Demerzel is as far removed from the truth as is your persona as Hummin."

"What do you mean?" Hummin's eyes grew wide and he backed away slightly from Seldon.

"I mean that you probably chose the name 'Hummin' out of a wry sense of what was fitting. 'Hummin' is a mispronunciation of 'human,' isn't it?"

Hummin made no response. He continued to stare at Seldon.

And finally Seldon said, "Because you're not human, are you, 'Hummin/Demerzel'? You're a robot."

SELDON, HARI- . . . h is customary to think of Hari Seldon only in connection with psychohistory, to see him only as mathematics and social change personified. There is no doubt that he himself encouraged this for at no time in his formal writings did he give any hint as to how he came to solve the various problems of psychohistory. His leaps of thought might have all been plucked from air, for all he tells us. Nor does he tell us of the blind alleys into which he crept or the wrong turnings he may have made .

. . . As for his private life, it is a blank. Concerning his parents and siblings, we know a handful of factors, no more. His only son, Raych Seldon, is known to have been adopted, but how that came about is not known. Concerning his wife, we only know that she existed. Clearly, Seldon wanted to be a cipher except where psychohistory was concerned. It is as though he felt-or wanted it to be felt-that he did not live, he merely psychohistorified.

ENCYCLOPEDIA GALACTICA

91.

Hummin sat calmly, not a muscle twitching, still looking at Hari Seldon and Seldon, for his part, waited. It was Hummin, he thought, who should speak next.

Hummin did, but said merely, "A robot? Me? -By robot, I presume you mean an artificial being such as the object you saw in the Sacratorium in Mycogen."

"Not quite like that," said Seldon.

"Not metal? Not burnished? Not a lifeless simulacrum?" Hummin said it without any evidence of amusement.

"No. To be of artificial life is not necessarily to be made of metal. I speak of a robot indistinguishable from a human being in appearance. "

"If indistinguishable, Hari, then how do you distinguish?"

"Not by appearance. "

"Explain."

"Hummin, in the course of my flight from yourself as Demerzel, I heard of two ancient worlds, as I told you-Aurora and Earth. Each seemed to be spoken of as a first world or an only world. In both cases, robots were spoken of, but with a difference."

Seldon was staring thoughtfully at the man across the table, wondering if, in any way, he would give some sign that he was less than a man-or more. He said, "Where Aurora was in question, one robot was spoken of as a renegade, a traitor, someone who deserted the cause. Where Earth was in question, one robot was spoken of as a hero, one who represented salvation. Was it too much to suppose that it was the same robot?"

"Was it?" murmured Hummin.

"This is what I thought, Hummin. I thought that Earth and Aurora were two separate worlds, co-existing in time. I don't know which one preceded the other. From the arrogance and the conscious sense of superiority of the Mycogenians, I might suppose that Aurora was the original world and that they despised the Earthmen who derived from them-or who degenerated from them.

"On the other hand, Mother Rittah, who spoke to me of Earth, was convinced that Earth was the original home of humanity and, certainly, the tiny and isolated position of the Mycogenians in a whole galaxy of quadrillions of people who lack the strange Mycogenian ethos might mean that Earth was indeed the original home and that Aurora was the aberrant offshoot. I cannot tell, but I pass on to you my thinking, so that you will understand my final conclusions."

Hummin nodded. "I see what you are doing. Please continue."

"The worlds were enemies. Mother Rittah certainly made it sound so. When I compare the Mycogenians, who seem to embody Aurora, and the Dahlites, who seem to embody Earth, I imagine that Aurora, whether first or second, was nevertheless the one that was more advanced, the one that could produce more elaborate robots, even ones indistinguishable from human beings in appearance. Such a robot was designed and devised in Aurora, then. But he was a renegade, so he deserted Aurora. To the Earthpeople he was a hero, so he must have joined Earth. Why he did this, what his motives were, I can't say."

Hummin said, "Surely, you mean why it did this, what its motives were."

"Perhaps, but with you sitting across from me," said Seldon, "I find it difficult to use the inanimate pronoun. Mother Rittah was convinced that the heroic robot-her heroic robot-still existed, that he would return when he was needed. It seemed to me that there was nothing impossible in the thought of an immortal robot or at least one who was immortal as long as the replacement of worn-out parts was not neglected."

"Even the brain?" asked Hummin.

"Even the brain. I don't really know anything about robots, but I imagine a new brain could be re-recorded from the old. -And Mother Rittah hinted of strange mental powers. -I thought: It must be so. I may, in some ways, be a romantic, but I am not so much a romantic as to think that one robot, by switching from one side to the other, can alter the course of history. A robot could not make Earth's victory sure, nor Aurora's defeat certain-unless there was something strange, something peculiar about the robot."

Hummin said, "Does it occur to you, Hari, that you are dealing with legends, legends that may have been distorted over the centuries and the millennia, even to the extent of building a veil of the supernatural over quire ordinary events?"

Can you make yourself believe in a robot that not only seems human, but that also lives forever and has mental powers? Are you not beginning to believe in the superhuman?"

"I know very well what legends are and I am not one to be taken in by them and made to believe in fairy tales. Still, when they are supported by certain odd events that I have seen-and even experienced myself-"

"Such as?"

"Hummin, I met you and trusted you from the start. Yes, you helped me against those two hoodlums when you didn't need to and that predisposed me in your favor, since I didn't realize at the time that they were your hirelings, doing what you had instructed them to do. -But never mind that."

"No," said Hummin, a hint of amusement-finally-in his voice.

"I trusted you. I was easily convinced not to go home to Helicon and to make myself a wanderer over the face of Trantor. I believed everything you told me without question. I placed myself entirely in your hands. Looking back on it now, I see myself as not myself. I am not a person to be so easily led, yet I was. More than that, I did not even think it strange that I was behaving so far out of character."

"You know yourself best, Hari,"

"It wasn't only me. How is it that Dors Venabili, a beautiful woman with a career of her own, should abandon that career in order to join me in my flight?

How is it that she should risk her life to save mine, seeming to take on, as a kind of holy duty, the task of protecting me and becoming single-minded in the process? Was it simply because you asked her to?"

"I did ask her to, Hari."

"Yet she does not strike me as the kind of person to make such a radical changeover in her life merely because someone asks her to. Nor could I believe it was because she had fallen madly in love with me at first sight and could not help herself. I somehow wish she had, but she seems quite the mistress of her emotional self, more-I am now speaking to you frankly-than I myself am with respect to her."

"She is a wonderful woman," said Hummin. "I don't blame you."

Seldon went on. "How is it, moreover, that Sunmaster Fourteen, a monster of arrogance and one who leads a people who are themselves stiff-necked in their own conceit, should be willing to take in tribespeople like Dors and myself and to treat us as well as the Mycogenians could and did? When we broke every rule, committed every sacrilege, how is it that you could still talk him into letting us go?

"How could you talk the Tisalvers, with their petty prejudices, into taking us in? How can you be at home everywhere in the world, be friends with everyone, influence each person, regardless of their individual peculiarities? For that matter, how do you manage to manipulate Cleon too? And if he is viewed as malleable and easily molded, then how were you able to handle his father, who by all accounts was a rough and arbitrary tyrant? How could you do all this?

"Most of all, how is it that Mannix IV of Wye could spend decades building an army without peer, one trained to be proficient in every detail, and yet have it fall apart when his daughter tries to make use of it? How could you persuade them to play the Renegade, all of them, as you have done?"

Hummin said, "Might this mean no more than that I am a tactful person used to dealing with people of different types, that I am in a position to have done favors for crucial people and am in a position to do additional favors in the future? Nothing I have done, it might seem, requires the supernatural."

"Nothing you have done? Not even the neutralization of the Wyan army?"

"They did not wish to serve a woman."

"They must have known for years that any time Mannix laid down his powers or any time he died, Rashelle would be their Mayor, yet they showed no signs of discontent-until you felt it necessary that they show it. Dors described you at one time as a very persuasive man. And so you are. More persuasive than any man could be. But you are not more persuasive than an immortal robot with strange mental powers might be. -Well, Hummin?"

Hummin said, "What is it you expect of me, Hari? Do you expect me to admit I'm a robot? That I only look like a human being? That I am immortal? That I am a mental marvel?!"

Seldon leaned toward Hummin as he sat there on the opposite side of the table.

"Yes, Hummin, I do. I expect you to tell me the truth and I strongly suspect that what you have just outlined is the truth. You, Hummin, are the robot that Mother Rittah referred to as DaNee, friend of Ba-Lee. You must admit it. You have no choice."

92.

It was as though they were sitting in a tiny Universe of their own. There, in the middle of Wye, with the Wyan army being disarmed by Imperial force, they sat quietly. There, in the midst of events that all of Trantor and perhaps all the Galaxy-was watching, there was this small bubble of utter isolation within which Seldon and Hummin were playing their game of attack and defense-Seldon trying hard to force a new reality, Hummin making no move to accept that new reality.

Seldon had no fear of interruption. He was certain that the bubble within which they sat had a boundary that could not be penetrated, that Hummin's-no, the robot's-powers would keep all at a distance till the game was over.

Hummin finally said, "You are an ingenious fellow, Hari, but I fail to see why I must admit that I am a robot and why I have no choice but to do so. Everything you say may be true as facts-your own behavior, Dors's behavior, Sunmaster's, Tisalver's, the Wyan generals'-all, all may have happened as you said, but that doesn't force your interpretation of the meaning of the events to be true.

Surely, everything that happened can have a natural explanation. You trusted me because you accepted what I said; Dors felt your safety might be important because she felt psychohistory to be crucial, herself being a historian; Sunmaster and Tisalver were beholden to me for favors you know nothing of, the Wyan generals resented being ruled by a woman, no more. Why must we flee to the supernatural?"

Seldon said, "See here, Hummin, do you really believe the Empire to be falling and do you really consider it important that it not be allowed to do so with no move made to save it or, at the least, cushion its Fall?"

"I really do." Somehow Seldon knew this statement was sincere. "And you really want me to work out the details of psychohistory and you feel that you yourself cannot do it?"

"I lack the capability."

"And you feel that only I can handle psychohistory-even if I sometimes doubt it myself?"

"Yes."

"And you must therefore feel that if you can possibly help me in any way, you must."

"I do."

"Personal feelings-selfish considerations-could play no part?"

A faint and brief smile passed over Hummin's grave face and for a moment Seldon sensed a vast and arid desert of weariness behind Hummin's quiet manner. "I have built a long career on paying no heed to personal feelings or to selfish considerations."

"Then I ask your help. I can work out psychohistory on the basis of Trantor alone, but I will run into difficulties. Those difficulties I may overcome, but how much easier it would be to do so if I knew certain key facts. For instance, was Earth or Aurora the first world of humanity or was it some other world altogether? What was the relationship between Earth and Aurora? Did either or both colonize the Galaxy? If one, why didn't the other? If both, how was the issue decided? Are there worlds descended from both or from only one? How did robots come to be abandoned? How did Trantor become the Imperial world, rather than another planet? What happened to Aurora and Earth in the meantime? There are a thousand questions I might ask right now and a hundred thousand that might arise as I go along. Would you allow me to remain ignorant, Hummin, and fail in my task when you could inform me and help me succeed?"

Hummin said, "If I were the robot, would I have room in my brain for all of twenty thousand years of history for millions of different worlds?"

"I don't know the capacity of robotic brains. I don't know the capacity of yours. But if you lack the capacity, then you must have that information which you cannot hold safely recorded in a place and in a way that would make it possible for you to call upon it. And if you have it and I need information, how can you deny and withhold it from me? And if you cannot withhold it from me, how can you deny that you are a robot-that robot the Renegade?"

Seldon sat back and took a deep breath. "So I ask you again: Are you that robot?"

If you want psychohistory, then you must admit it. If you still deny you are a robot and if you convince me you are not, then my chances at psychohistory become much, much smaller. It is up to you, then. Are you a robot? Are you Da-Nee?"

And Hummin said, as imperturbable as ever. "Your arguments are irrefutable. I am R. Daneel Olivaw. The 'R' stands for 'robot.' "

R. Daneel Olivaw still spoke quietly, but it seemed to Seldon that there was a subtle change in his voice, as though he spoke more easily now that he was no longer playing a part.

"In twenty thousand years," said Daneel, "no one has guessed I was a robot when it was not my intention to have him or her know. In part, that was because human beings abandoned robots so long ago that very few remember that they even existed at one time. And in part, it is because I do have the ability to detect and affect human emotion. The detection offers no trouble, but to affect emotion is difficult for me for reasons having to do with my robotic nature-although I can do it when I wish. I have the ability but must deal with my will not to use it. I try never to interfere except when I have no choice but to do so. And when I do interfere, it is rarely that I do more than strengthen, as little as I can, what is already there. If I can achieve my purposes without doing even so much, I avoid it.

"It was not necessary to tamper with Sunmaster Fourteen in order to have him accept you-I call it 'tampering,' you notice, because it is not a pleasant thing to do. I did not have to tamper with him because he did owe me for favors rendered and he is an honorable man, despite the peculiarities you found in him.

I did interfere the second time, when you had committed sacrilege in his eyes, but it took very little. He was not anxious to hand you over to the Imperial authorities, whom he does not like. I merely strengthened the dislike a trifle and he handed you over to my care, accepting the arguments I offered, which otherwise he might have considered specious.

"Nor did I tamper with you noticeably. You distrusted the Imperials too. Most human beings do these days, which is an important factor in the decay and deterioration of the Empire. What's more, you were proud of psychohistory as a concept, proud of having thought of it. You would not have minded having it prove to be a practical discipline. That would have further fed your pride."

Seldon frowned and said, "Pardon me, Master Robot, but I am not aware that I am quite such a monster of pride."

Daneel said mildly, "You are not a monster of pride at all. You are perfectly aware that is neither admirable nor useful to be driven by pride, so you try to subdue that drive, but you might as well disapprove of having yourself powered by your heartbeat. You cannot help either fact. Though you hide your pride from yourself for the sake of your own peace of mind, you cannot hide it from me. It is there, however carefully you mask it over. And I had but to strengthen it a touch and you were at once willing to take measures to hide from Demerzel, measures that a moment before you would have resisted. And you were eager to work at psychohistory with an intensity that a moment before you would have scorned.

"I saw no necessity to touch anything else and so you have reasoned out your robothood. Had I foreseen the possibility of that, I might have stopped it, but my

foresight and my abilities are not infinite. Nor am I sorry now that I failed, for your arguments are good ones and it is important that you know who I am and that I use what I am to help you.

"Emotions, my dear Seldon are a powerful engine of human action, far more powerful than human beings themselves realize, and you cannot know how much can be done with the merest touch and how reluctant I am to do it."

Seldon was breathing heavily, trying to see himself as a man driven by pride and not liking it. "Why reluctant?"

"Because it would be so easy to overdo. I had to stop Rashelle from converting the Empire into a feudal anarchy. I might have bent minds quickly and the result might well have been a bloody uprising. Men are men-and the Wyan generals are almost all men. It does not actually take much to rouse resentment and latent fear of women in any man. It may be a biological matter that I, as a robot, cannot fully understand.

"I had but to strengthen the feeling to produce a breakdown in her plans. If I had done it the merest millimeter too much, I would have lost what I wanted-a bloodless takeover. I wanted nothing more than to have them not resist when my soldiers arrived."

Daneel paused, as though trying to pick his words, then said, "I do not wish to go into the mathematics of my positronic brain. It is more than I can understand, though perhaps not more than you can if you give it enough thought. However, I am governed by the Three Laws of Robotics that are traditionally put into words-or once were, long ago. They are these:

"One. A robot may not injure a human being or, through inaction, allow a human being to come to harm.

" Two. A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law.

" Three. A robot must protect its own existence, as long as such protection does not conflict with the First or Second Law.

"But I had a . . . a friend twenty thousand years ago. Another robot. Not like myself. He could not be mistaken for a human being, but it was he who had the mental powers and it was through him that I gained mine.

"It seemed to him that there should be a still more general rule than any of the Three Laws. He called it the Zeroth Law, since zero comes before one. It is:

"Zero. A robot may not injure humanity or, through inaction, allow humanity to come to harm.

"Then the First Law must read:

" One. A robot may not injure a human being or, through inaction, allow a human being to come to harm, except where that would conflict with the Zeroth Law.

"And the other laws must be similarly modified. Do you understand?"

Daneel paused earnestly and Seldon said, "I understand."

Daneel went on. "The trouble is, Hari, that a human being is easy to identify. I can point to one. It is easy to see what will harm a human being and what won't-relatively easy, at least. But what is humanity? To what can we point when we speak of humanity?"

And how can we define harm to humanity? When will a course of action do more good than harm to humanity as a whole and how can one tell?

The robot who first advanced the Zeroth law died-became permanently inactive-because he was forced into an action that he felt would save humanity, yet which he could not be sure would save humanity. And as he became inactivated, he left the care of the Galaxy to me.

"Since then, I have cried. I have interfered as little as possible, relying on human beings themselves to judge what was for the good. They could gamble; I could not. They could miss their goals; I did not dare. They could do harm unwittingly; I would grow inactive if I did. The Zeroth Law makes no allowance for unwitting harm.

"But at times I am forced to take action. That I am still functioning shows that my actions have been moderate and discreet. However, as the Empire began to fail and to decline, I have had to interfere more frequently and for decades now I have had to play the role of Demerzel, trying to run the government in such a way as to stave off ruin-and yet I will function, you see.

"When you made your speech to the Decennial Convention, I realized at once that in psychohistory there was a tool that might make it possible to identify what was good and bad for humanity. With it, the decisions we would make would be less blind. I would even trust to human beings to make those decisions and again reserve myself only for the greatest emergencies. So I arranged quickly to have Cleon learn of your speech and call you in. Then, when I heard your denial of the worth of psychohistory, I was forced to think of some way to make you try anyway. Do you understand, Hari?"

More than a little daunted, Seldon said, "I understand, Hummin."

"To you, I must remain Hummin on those rare occasions when I will be able to see you. I will give you what information I have if it is something you need and in my persona as Demerzel I will protect you as much as I can. As Daneel, you must never speak of me."

"I wouldn't want to," said Seldon hurriedly. "Since I need your help, it would ruin matters to have your plans impeded."

"Yes, I know you wouldn't want to." Daneel smiled wearily. "After all, you are vain enough to want full credit for psychohistory. You would not want anyone to know-ever-that you needed the help of a robot."

Seldon flushed. "I am not-"

"But you are, even if you carefully hide it from yourself. And it is important, for I am strengthening that emotion within you minimally so that you will never be able to speak of me to others. It will not even occur to you that you might do so."

Seldon said, "I suspect Dors knows-"

"She knows of me. And she too cannot speak of me to others. Now that you both know of my nature, you can speak of me to each other freely, but not to anyone else."

Daneel rose. -Hari, I have my work to do now. Before long, you and Dors will be taken back to the Imperial Sector-

"The boy Raych must come with me. I cannot abandon him. And there is a young Dahlite named Yugo Amaryl-"

"I understand. Raych will be taken too and you can do with any friend as you will. You will all be taken care of appropriately. And you will work on psychohistory. You will have a staff. You will have the necessary computers and reference material. I will interfere as little as possible and if there is resistance to your views that does not actually reach the point of endangering the mission, then you will have to deal with it yourself."

"Wait, Hummin," said Seldon urgently. "What if, despite all your help and all my endeavors, it turns out that psychohistory cannot be made into a practical device after all? What if I fail?"

Daneel rose. "In that case, I have a second plan in hand. One I have been working on a long time on a separate world in a separate way. It too is very difficult and in some ways even more radical than psychohistory. It may fail too, but there is a greater chance of success if two roads are open than if either one alone was.

"Take my advice, Hari! If the time comes when you are able to set up some device that may act to prevent the worst from happening see if you can think of two devices, so that if one fails, the other will carry on. The Empire must be steadied or rebuilt on a new foundation. Let there be two such, rather than one, if that is possible."

He rose, "Now I must return to my ordinary work and you must turn to yours. You will be taken care of."

With one final nod, he rose and left.

Seldon looked after him and said softly, "First I must speak to Dors."

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Dors said, "The palace is cleared. Rashelle will not be physically harmed. And you'll return to the Imperial Sector, Hari."

"And you, Dors?" said Seldon in a low tight voice.

"I presume I will go back to the University," she said. "My work is being neglected, my classes abandoned."

"No, Dors, you have a greater task."

"What is that?"

"Psychohistory. I cannot tackle the project without you."

"Of course you can. I am a total illiterate in mathematics."

"And I in history-and we need both."

Dors laughed. "I suspect that, as a mathematician, you are one of a kind. I, as a historian, am merely adequate, certainly not outstanding. You will find any number of historians who will suit the needs of psychohistory better than I do."

"In that case, Dors, let me explain that psychohistory needs more than a mathematician and a historian. It also needs the will to tackle what will probably be a lifetime problem. Without you, Dors, I will not have that will."

"Of course you'll have it."

"Dors, if you're not with me, I don't intend to have it."

Dors looked at Seldon thoughtfully. "This is a fruitless discussion, Hari. Undoubtedly, Hummin will make the decision. If he sends me back to the University "He won't."

"How can you be sure?"

"Because I'll put it to him plainly. If he sends you back to the University, I'll go back to Helicon and the Empire can go ahead and destroy itself."

"You can't mean it."

"But I certainly do."

"Don't you realize that Hummin can arrange to have your feelings change so that you will work on psychohistory--even without me?"

Seldon shook his head. "Hummin will not make such an arbitrary decision. I've spoken to him. He dares not do much to the human mind because he is bound by what he calls the Laws of Robotics. To change my mind to the point where I will not want you with me, Dors, would mean a change of the kind he can not risk. On the other hand, if he leaves me alone and if you join me in the project, he will have what he wants-a true chance at psychohistory. Why should he not settle for that?"

Dors shook her head. "He may not agree for reasons of his own. "

"Why should he disagree? You were asked to protect me, Dors. Has Hummin canceled that request?"

"No."

"Then he wants you to continue your protection. And I want your protection."

"Against what? You now have Hummin's protection, both as Demerzel and as Daneel, and surely that is all you need."

"If I had the protection of every person and every force in the Galaxy, it would still be yours I would want."

"Then you don't want me for psychohistory. You want me for protection."

Seldon scowled. "No! Why are you twisting my words? Why are you forcing me to say what you must know? It is neither psychohistory nor protection I want you for. Those are excuses and I'll use any other I need. I want you-just you. And if you want the real reason, it is because you are you."

"You don't even know me."

"That doesn't matter. I don't care. -And yet I do know you in a way. Better than you think."

"Do you indeed?"

"Of course. You follow orders and you risk your life for without hesitation and with no apparent care for the consequences You learned how to play tennis so quickly. You learned how to use knives even more quickly and you handled yourself perfectly in the fight with Marron. Inhumanly -if I may say so. Your muscles are amazingly strong and your reaction time is amazingly fast. You can somehow tell when a room is being eavesdropped and you can be in touch with Hummin in some way that does not involve instrumentation."

Dors said, "And what do you think of all that?"

"It has occurred to me that Hummin, in his persona as R. Daneel Olivaw, has an impossible task. How can one robot try to guide the Empire? He must have helpers."

"That is obvious. Millions, I should imagine. I am a helper. You are a helper. Little Raych is a helper."

"You are a different kind of helper."

"In what way? Hari, say it. If you hear yourself say it, you will realize how crazy it is."

Seldon looked long at her and then said in a low voice, "I will not say it because . . . I don't care."

"You really don't? You wish to take me as I am?"

"I will take you as I must. You are Dors and, whatever else you are, in all the world I want nothing else."

Dors said softly, "Hari, I want what is good for you because of what I am, but I feel that if I wasn't what I am, I would still want what is good for you. And I don't think I am good for you."

"Good for me or bad, I don't care." Here Hari looked down as he paced a few steps, weighing what he would say next. "Dors, have you ever been kissed?"

"Of course, Hari. It's a social part of life and I live socially."

"No no! I mean, have you ever really kissed a man? You know, passionately?"

"Well yes, Hari, I have."

"Did you enjoy it?"

Dors hesitated. She said, "When I've kissed in that way, I enjoyed it more than I would have enjoyed disappointing a young man I liked, someone whose friendship meant something to me." At this point, Dors blushed and she turned her face away. "Please, Hari, this is difficult for me to explain."

But Hari, more determined now than ever, pressed further. "So you kissed for the wrong reasons, then, to avoid hurt feelings."

"Perhaps everyone does, in a sense."

Seldon mulled this over, then said suddenly, "Did you ever ask to be kissed?"

Dors paused, as though looking back on her life. "No."

"Or wish to be kissed again, once you had?"

"No."

"Have you ever slept with a man?" he asked softly, desperately.

"Of course. I told you. These things are a part of life."

Hari gripped her shoulders as if he was going to shake her. "But have you ever felt the desire, a need for that kind of closeness with just one special person?"

Dors, have you ever felt love."

Dors looked up slowly, almost sadly, and locked eyes with Seldon. "I'm sorry, Hari, but no."

Seldon released her, letting his arms fall dejectedly to his sides.

Then Dors placed her hand gently on his arm and said, "So you see, Hari. I'm not really what you want."

Seldon's head drooped and he stared at the floor. He weighed the matter and tried to think rationally. Then he gave up. He wanted what he wanted and he wanted it beyond thought and beyond rationality.

He looked up. "Dors, dear, even so, I don't care."

Seldon put his arms around her and brought his head close to hers slowly, as though waiting for her to pull away, all the while drawing her nearer.

Dors made no move and he kissed her-slowly, lingeringly, and then passionately-and her arms suddenly tightened around him.

When he stopped at last, she looked at him with eyes that mirrored her smile and she said:

"Kiss me again, Hari, -Please."

FOUNDATION

1951

THE STORY BEHIND THE "FOUNDATION" BY ISAAC ASIMOV

The date was August 1, 1941. World War II had been raging for two years. France had fallen, the Battle of Britain had been fought, and the Soviet Union had just been invaded by Nazi Germany. The bombing of Pearl Harbor was four months in the future.

But on that day, with Europe in flames, and the evil shadow of Adolf Hitler apparently falling over all the world, what was chiefly on my mind was a meeting toward which I was hastening.

I was 21 years old, a graduate student in chemistry at Columbia University, and I had been writing science fiction professionally for three years. In that time, I had sold five stories to John Campbell, editor of *Astounding*, and the fifth story, "Nightfall," was about to appear in the September 1941 issue of the magazine. I had an appointment to see Mr. Campbell to tell him the plot of a new story I was planning to write, and the catch was that I had no plot in mind, not the trace of one.

I therefore tried a device I sometimes use. I opened a book at random and set up free association, beginning with whatever I first saw. The book I had with me was a collection of the Gilbert and Sullivan plays. I happened to open it to the picture of the Fairy Queen of *Iolanthe* throwing herself at the feet of Private Willis. I thought of soldiers, of military empires, of the Roman Empire – of a Galactic Empire – aha!

Why shouldn't I write of the fall of the Galactic Empire and of the return of feudalism, written from the viewpoint of someone in the secure days of the Second Galactic Empire? After all, I had read Gibbon's *Decline and Fall of the Roman Empire* not once, but twice.

I was bubbling over by the time I got to Campbell's, and my enthusiasm must have been catching for Campbell blazed up as I had never seen him do. In the course of an hour we built up the notion of a vast series of connected stories that were to deal in intricate detail with the thousand-year period between the First and Second Galactic Empires. This was to be illuminated by the science of psychohistory, which Campbell and I thrashed out between us.

On August 11, 1941, therefore, I began the story of that interregnum and called it "Foundation." In it, I described how the psychohistorian, Hari Seldon, established a pair of Foundations at opposite ends of the Universe under such circumstances as to make sure that the forces of history would bring about the second Empire after one thousand years instead of the thirty thousand that would be required otherwise.

The story was submitted on September 8 and, to make sure that Campbell really meant what he said about a series, I ended "Foundation" on a cliff-hanger. Thus, it seemed to me, he would be *forced* to buy a second story.

However, when I started the second story (on October 24), I found that I had outsmarted myself. I quickly wrote myself into an impasse, and the Foundation series would have died an ignominious death had I not had a conversation with Fred Pohl on November 2 (on the Brooklyn Bridge, as it happened). I don't remember what Fred actually said, but, whatever it was, it pulled me out of the hole.

"Foundation" appeared in the May 1942 issue of *Astounding* and the succeeding story, "Bridle and Saddle," in the June 1942 issue.

After that there was only the routine trouble of writing the stories. Through the remainder of the decade, John Campbell kept my nose to the grindstone and made sure he got additional Foundation stories.

"The Big and the Little" was in the August 1944 *Astounding*, "The Wedge" in the October 1944 issue, and "Dead Hand" in the April 1945 issue. (These stories were written while I was working at the Navy Yard in Philadelphia.)

On January 26, 1945, I began "The Mule," my personal favorite among the Foundation stories, and the longest yet, for it was 50,000 words. It was printed as a two-part serial (the very first serial I was ever responsible for) in the November and December 1945 issues. By the time the second part appeared I was in the army.

After I got out of the army, I wrote "Now You See It—" which appeared in the January 1948 issue. By this time, though, I had grown tired of the Foundation stories so I tried to end them by setting up, and solving, the mystery of the location of the Second Foundation. Campbell would have none of that, however. He forced me to change the ending, and made me promise I would do one more Foundation story.

Well, Campbell was the kind of editor who could not be denied, so I wrote one more Foundation story, vowing to myself that it would be the last. I called it "—And Now You Don't," and it appeared as a three-part serial in the November 1949, December 1949, and January 1950 issues of *Astounding*.

By then, I was on the biochemistry faculty of Boston University School of Medicine, my first book had just been published, and I was determined to move on to new things. I had spent eight years on the Foundation, written nine stories with a total of about 220,000 words. My total earnings for the series came to \$3,641 and that seemed enough. The Foundation was over and done with, as far as I was concerned.

In 1950, however, hardcover science fiction was just coming into existence. I had no objection to earning a little more money by having the Foundation series reprinted in book form. I offered the series to Doubleday (which had already published a science-fiction novel by me, and which had contracted for another) and to Little-Brown, but both rejected it. In that year, though, a small publishing firm, Gnome Press, was beginning to be active, and it was prepared to do the Foundation series as three books.

The publisher of Gnome felt, however, that the series began too abruptly. He persuaded me to write a small Foundation story, one that would serve as an introductory

section to the first book (so that the first part of the Foundation series was the last written).

In 1951, the Gnome Press edition of *Foundation* was published, containing the introduction and the first four stories of the series. In 1952, *Foundation and Empire* appeared, with the fifth and sixth stories; and in 1953, *Second Foundation* appeared, with the seventh and eighth stories. The three books together came to be called *The Foundation Trilogy*.

The mere fact of the existence of the *Trilogy* pleased me, but Gnome Press did not have the financial clout or the publishing know-how to get the books distributed properly, so that few copies were sold and fewer still paid me royalties. (Nowadays, copies of first editions of those Gnome Press books sell at \$50 a copy and up—but I still get no royalties from them.)

Ace Books did put out paperback editions of *Foundation* and of *Foundation and Empire*, but they changed the titles, and used cut versions. Any money that was involved was paid to Gnome Press and I didn't see much of that. In the first decade of the existence of *The Foundation Trilogy* it may have earned something like \$1500 total.

And yet there was some foreign interest. In early 1961, Timothy Seldes, who was then my editor at Doubleday, told me that Doubleday had received a request for the Portuguese rights for the Foundation series and, since they weren't Doubleday books, he was passing them on to me. I sighed and said, "The heck with it, Tim. I don't get royalties on those books."

Seldes was horrified, and instantly set about getting the books away from Gnome Press so that Doubleday could publish them instead. He paid no attention to my loudly expressed fears that Doubleday "would lose its shirt on them." In August 1961 an agreement was reached and the Foundation books became Doubleday property. What's more, Avon Books, which had published a paperback version of *Second Foundation*, set about obtaining the rights to all three from Doubleday, and put out nice editions.

From that moment on, the Foundation books took off and began to earn increasing royalties. They have sold well and steadily, both in hardcover and softcover, for two decades so far. Increasingly, the letters I received from the readers spoke of them in high praise. They received more attention than all my other books put together.

Doubleday also published an omnibus volume, *The Foundation Trilogy*, for its Science Fiction Book Club. That omnibus volume has been continuously featured by the Book Club for over twenty years.

Matters reached a climax in 1966. The fans organizing the World Science Fiction Convention for that year (to be held in Cleveland) decided to award a Hugo for the best all-time series, where the series, to qualify, had to consist of at least three connected novels. It was the first time such a category had been set up, nor has it been repeated since. The Foundation series was nominated, and I felt that was going to have to be glory enough for me, since I was sure that Tolkien's "Lord of the Rings" would win.

It didn't. The Foundation series won, and the Hugo I received for it has been sitting on my bookcase in the living room ever since.

In among all this litany of success, both in money and in fame, there was one annoying side-effect. Readers couldn't help but notice that the books of the Foundation series covered only three hundred-plus years of the thousand-year hiatus between Empires. That meant the Foundation series "wasn't finished." I got innumerable letters from readers who asked me to finish it, from others who demanded I finish it, and still others who threatened dire vengeance if I didn't finish it. Worse yet, various editors at Doubleday over the years have pointed out that it might be wise to finish it.

It was flattering, of course, but irritating as well. Years had passed, then decades. Back in the 1940s, I had been in a Foundation-writing mood. Now I wasn't. Starting in the late 1950s, I had been in a more and more nonfiction-writing mood.

That didn't mean I was writing no fiction at all. In the 1960s and 1970s, in fact, I wrote two science-fiction novels and a mystery novel, to say nothing of well over a hundred short stories – but about eighty percent of what I wrote was nonfiction.

One of the most indefatigable nags in the matter of finishing the Foundation series was my good friend, the great science-fiction writer, Lester del Rey. He was constantly telling me I ought to finish the series and was just as constantly suggesting plot devices. He even told Larry Ashmead, then my editor at Doubleday, that if I refused to write more Foundation stories, he, Lester, would be willing to take on the task.

When Ashmead mentioned this to me in 1973, I began another Foundation novel out of sheer desperation. I called it "Lightning Rod" and managed to write fourteen pages before other tasks called me away. The fourteen pages were put away and additional years passed.

In January 1977, Cathleen Jordan, then my editor at Doubleday, suggested I do "an important book – a Foundation novel, perhaps." I said, "I'd rather do an autobiography," and I *did* – 640,000 words of it.

In January 1981, Doubleday apparently lost its temper. At least, Hugh O'Neill, then my editor there, said, "Betty Prashker wants to see you," and marched me into her office. She was then one of the senior editors, and a sweet and gentle person.

She wasted no time. "Isaac," she said, "you are going to write a novel for us and you are going to sign a contract to that effect."

"Betty," I said, "I am already working on a big science book for Doubleday and I have to revise the Biographical Encyclopedia for Doubleday and –"

"It can all wait," she said. "You are going to sign a contract to do a novel. What's more, we're going to give you a \$50,000 advance."

That was a stunner. I don't like large advances. They put me under too great an obligation. My average advance is something like \$3,000. Why not? It's all out of royalties.

I said, "That's way too much money, Betty."

"No, it isn't," she said.

"Doubleday will lose its shirt," I said.

"You keep telling us that all the time. It won't."

I said, desperately, "All right. Have the contract read that I don't get any money until I notify you in writing that I have begun the novel."

"Are you crazy?" she said. "You'll never start if that clause is in the contract. You get \$25,000 on signing the contract, and \$25,000 on delivering a completed manuscript."

"But suppose the novel is no good."

"Now you're being silly," she said, and she ended the conversation.

That night, Pat LoBrutto, the science-fiction editor at Doubleday called to express his pleasure. "And remember," he said, "that when we say 'novel' we mean 'science-fiction novel,' not anything else. And when we say 'science-fiction novel,' we mean 'Foundation novel' and not anything else."

On February 5, 1981, I signed the contract, and within the week, the Doubleday accounting system cranked out the check for \$25,000.

I moaned that I was not my own master anymore and Hugh O'Neill said, cheerfully, "That's right, and from now on, we're going to call every other week and say, 'Where's the manuscript?'" (But they didn't. They left me strictly alone, and never even asked for a progress report.)

Nearly four months passed while I took care of a vast number of things I had to do, but about the end of May, I picked up my own copy of *The Foundation Trilogy* and began reading.

I had to. For one thing, I hadn't read the *Trilogy* in thirty years and while I remembered the general plot, I did not remember the details. Besides, before beginning a new Foundation novel I had to immerse myself in the style and atmosphere of the series.

I read it with mounting uneasiness. I kept waiting for something to happen, and nothing ever did. All three volumes, all the nearly quarter of a million words, consisted of thoughts and of conversations. No action. No physical suspense.

What was all the fuss about, then? Why did everyone want more of that stuff? – To be sure, I couldn't help but notice that I was turning the pages eagerly, and that I was upset when I finished the book, and that I wanted more, but I was the *author*, for goodness' sake. You couldn't go by me.

I was on the edge of deciding it was all a terrible mistake and of insisting on giving back the money, when (quite by accident, I swear) I came across some sentences by science-fiction writer and critic, James Gunn, who, in connection with the Foundation series, said, "Action and romance have little to do with the success of the *Trilogy* – virtually all the action takes place offstage, and the romance is almost invisible – but the stories provide a detective-story fascination with the permutations and reversals of ideas."

Oh, well, if what was needed were "permutations and reversals of ideas," then that I could supply. Panic receded, and on June 10, 1981, I dug out the fourteen pages I had written more than eight years before and reread them. They sounded good to me. I didn't remember where I had been headed back then, but I had worked out what seemed to me to be a good ending now, and, starting page 15 on that day, I proceeded to work toward the new ending.

I found, to my infinite relief, that I had no trouble getting back into a "Foundation-mood," and, fresh from my rereading, I had Foundation history at my finger-tips.

There were differences, to be sure:

1) The original stories were written for a science-fiction magazine and were from 7,000 to 50,000 words long, and no more. Consequently, each book in the trilogy had at least two stories and lacked unity. I intended to make the new book a single story.

2) I had a particularly good chance for development since Hugh said, "Let the book find its own length, Isaac. We don't mind a long book." So I planned on 140,000 words, which was nearly three times the length of "The Mule," and this gave me plenty of elbow-room, and I could add all sorts of little touches.

3) The Foundation series had been written at a time when our knowledge of astronomy was primitive compared with what it is today. I could take advantage of that and at least *mention* black holes, for instance. I could also take advantage of electronic computers, which had not been invented until I was half through with the series.

The novel progressed steadily, and on January 17, 1982, I began final copy. I brought the manuscript to Hugh O'Neill in batches, and the poor fellow went half-crazy since he insisted on reading it in this broken fashion. On March 25, 1982, I brought in the last bit, and the very next day got the second half of the advance.

I had kept "Lightning Rod" as my working title all the way through, but Hugh finally said, "Is there any way of putting 'Foundation' into the title, Isaac?" I suggested *Foundations at Bay*, therefore, and that may be the title that will actually be used. (*Editor's note: The novel was published in October 1982 as *Foundation's Edge*.)

You will have noticed that I have said nothing about the plot of the new Foundation novel. Well, *naturally*. I would rather you buy and read the book.

And yet there is one thing I have to confess to you. I generally manage to tie up all the loose ends into one neat little bow-knot at the end of my stories, no matter how complicated the plot might be. In this case, however, I noticed that when I was all done, one glaring little item remained unresolved.

I am hoping no one else notices it because it clearly points the way to the continuation of the series.

It is even possible that I inadvertently gave this away for at the end of the novel, I wrote: "The End (for now)."

I very much fear that if the novel proves successful, Doubleday will be at my throat again, as Campbell used to be in the old days. And yet what can I do but hope that the novel is very successful indeed. What a quandary!

ABOUT THE AUTHOR

Isaac Asimov was born in the Soviet Union to his great surprise. He moved quickly to correct the situation. When his parents emigrated to the United States, Isaac (three

years old at the time) stowed away in their baggage. He has been an American citizen since the age of eight.

Brought up in Brooklyn, and educated in its public schools, he eventually found his way to Columbia University and, over the protests of the school administration, managed to annex a series of degrees in chemistry, up to and including a Ph.D. He then infiltrated Boston University and climbed the academic ladder, ignoring all cries of outrage, until he found himself Professor of Biochemistry.

Meanwhile, at the age of nine, he found the love of his life (in the inanimate sense) when he discovered his first science-fiction magazine. By the time he was eleven, he began to write stories, and at eighteen, he actually worked up the nerve to submit one. It was rejected. After four long months of tribulation and suffering, he sold his first story and, thereafter, he never looked back.

In 1941, when he was twenty-one years old, he wrote the classic short story "Nightfall" and his future was assured. Shortly before that he had begun writing his robot stories, and shortly after that he had begun his Foundation series.

What was left except quantity? At the present time, he has published over 260 books, distributed through every major division of the Dewey system of library classification, and shows no signs of slowing up. He remains as youthful, as lively, and as lovable as ever, and grows more handsome with each year. You can be sure that this is so since he has written this little essay himself and his devotion to absolute objectivity is notorious.

He is married to Janet Jeppson, psychiatrist and writer, has two children by a previous marriage, and lives in New York City.

PART I

THE PSYCHOHISTORIANS

1.

HARI SELDON— . . . born in the 11,988th year of the Galactic Era; died 12,069. The dates are more commonly given in terms of the current Foundational Era as – 79 to the year 1 F.E. Born to middle-class parents on Helicon, Arcturus sector (where his father, in a legend of doubtful authenticity, was a tobacco grower in the hydroponic plants of the planet), he early showed amazing ability in mathematics. Anecdotes concerning his ability are innumerable, and some are contradictory. At the age of two, he is said to have . . .

. . . Undoubtedly his greatest contributions were in the field of psychohistory. Seldon found the field little more than a set of vague axioms; he left it a profound statistical science. . . .

. . . The best existing authority we have for the details of his life is the biography written by Gaal Dornick who, as a young man, met Seldon two years before the great mathematician's death. The story of the meeting . . .

ENCYCLOPEDIA GALACTICA*

* All quotations from the Encyclopedia Galactica here reproduced are taken from the 116th Edition published in 1020 F.E. by the Encyclopedia Galactica Publishing Co., Terminus, with permission of the publishers.

His name was Gaal Dornick and he was just a country boy who had never seen Trantor before. That is, not in real life. He *had* seen it many times on the hyper-video, and occasionally in tremendous three-dimensional newscasts covering an Imperial Coronation or the opening of a Galactic Council. Even though he had lived all his life on the world of Synnax, which circled a star at the edges of the Blue Drift, he was not cut off from civilization, you see. At that time, no place in the Galaxy was.

There were nearly twenty-five million inhabited planets in the Galaxy then, and not one but owed allegiance to the Empire whose seat was on Trantor. It was the last half century in which that could be said.

To Gaal, this trip was the undoubted climax of his young, scholarly life. He had been in space before so that the trip, as a voyage and nothing more, meant little to him. To be sure, he had traveled previously only as far as Synnax's only satellite in order to get the data on the mechanics of meteor driftage which he needed for his dissertation, but space-travel was all one whether one travelled half a million miles, or as many light years.

He had steeled himself just a little for the Jump through hyper-space, a phenomenon one did not experience in simple interplanetary trips. The Jump remained, and would probably remain forever, the only practical method of travelling between the stars. Travel through ordinary space could proceed at no rate more rapid than that of ordinary light (a bit of scientific knowledge that belonged among the items known since the forgotten dawn of human history), and that would have meant years of travel between even the nearest of inhabited systems. Through hyper-space, that unimaginable region that was neither space nor time, matter nor energy, something nor nothing, one could traverse the length of the Galaxy in the interval between two neighboring instants of time.

Gaal had waited for the first of those Jumps with a little dread curled gently in his stomach, and it ended in nothing more than a trifling jar, a little internal kick which ceased an instant before he could be sure he had felt it. That was all.

And after that, there was only the ship, large and glistening; the cool production of 12,000 years of Imperial progress; and himself, with his doctorate in mathematics freshly obtained and an invitation from the great Hari Seldon to come to Trantor and join the vast and somewhat mysterious Seldon Project.

What Gaal was waiting for after the disappointment of the Jump was that first sight of Trantor. He haunted the View-room. The steel shutter-lids were rolled back at announced times and he was always there, watching the hard brilliance of the stars, enjoying the incredible hazy swarm of a star cluster, like a giant conglomeration of fire-flies caught in mid-motion and stilled forever. At one time there was the cold, blue-white smoke of a gaseous nebula within five light years of the ship, spreading over the window like distant milk, filling the room with an icy tinge, and disappearing out of sight two hours later, after another Jump.

The first sight of Trantor's sun was that of a hard, white speck all but lost in a myriad such, and recognizable only because it was pointed out by the ship's guide. The stars were thick here near the Galactic center. But with each Jump, it shone more brightly, drowning out the rest, paling them and thinning them out.

An officer came through and said, "View-room will be closed for the remainder of the trip. Prepare for landing."

Gaal had followed after, clutching at the sleeve of the white uniform with the Spaceship-and-Sun of the Empire on it.

He said, "Would it be possible to let me stay? I would like to see Trantor."

The officer smiled and Gaal flushed a bit. It occurred to him that he spoke with a provincial accent.

The officer said, "We'll be landing on Trantor by morning."

"I mean I want to see it from Space."

"Oh. Sorry, my boy. If this were a space-yacht we might manage it. But we're spinning down, sunside. You wouldn't want to be blinded, burnt, and radiation-scarred all at the same time, would you?"

Gaal started to walk away.

The officer called after him, "Trantor would only be gray blur anyway, Kid. Why don't you take a space-tour once you hit Trantor. They're cheap."

Gaal looked back, "Thank you very much."

It was childish to feel disappointed, but childishness comes almost as naturally to a man as to a child, and there was a lump in Gaal's throat. He had never seen Trantor spread out in all its incredibility, as large as life, and he hadn't expected to have to wait longer.

2.

The ship landed in a medley of noises. There was the far-off hiss of the atmosphere cutting and sliding past the metal of the ship. There was the steady drone of the conditioners fighting the heat of friction, and the slower rumble of the engines enforcing deceleration. There was the human sound of men and women gathering in the debarkation rooms and the grind of the hoists lifting baggage, mail, and freight to the long axis of the ship, from which they would be later moved along to the unloading platform.

Gaal felt the slight jar that indicated the ship no longer had an independent motion of its own. Ship's gravity had been giving way to planetary gravity for hours. Thousands of passengers had been sitting patiently in the debarkation rooms which swung easily on yielding force-fields to accommodate its orientation to the changing direction of the gravitational forces. Now they were crawling down curving ramps to the large, yawning locks.

Gaal's baggage was minor. He stood at a desk, as it was quickly and expertly taken apart and put together again. His visa was inspected and stamped. He himself paid no attention.

This was Trantor! The air seemed a little thicker here, the gravity a bit greater, than on his home planet of Synnax, but he would get used to that. He wondered if he would get used to immensity.

Debarkation Building was tremendous. The roof was almost lost in the heights. Gaal could almost imagine that clouds could form beneath its immensity. He could see no opposite wall; just men and desks and converging floor till it faded out in haze.

The man at the desk was speaking again. He sounded annoyed. He said, "Move on, Dornick." He had to open the visa, look again, before he remembered the name.

Gaal said, "Where— where—"

The man at the desk jerked a thumb, "Taxis to the right and third left."

Gaal moved, seeing the glowing twists of air suspended high in nothingness and reading, "TAXIS TO ALL POINTS."

A figure detached itself from anonymity and stopped at the desk, as Gaal left. The man at the desk looked up and nodded briefly. The figure nodded in return and followed the young immigrant.

He was in time to hear Gaal's destination.

Gaal found himself hard against a railing.

The small sign said, "Supervisor." The man to whom the sign referred did not look up. He said, "Where to?"

Gaal wasn't sure, but even a few seconds hesitation meant men queuing in line behind him.

The Supervisor looked up, "Where to?"

Gaal's funds were low, but there was only this one night and then he would have a job. He tried to sound nonchalant, "A good hotel, please."

The Supervisor was unimpressed, "They're all good. Name one."

Gaal said, desperately, "The nearest one, please."

The Supervisor touched a button. A thin line of light formed along the floor, twisting among others which brightened and dimmed in different colors and shades. A ticket was shoved into Gaal's hands. It glowed faintly.

The Supervisor said, "One point twelve."

Gaal fumbled for the coins. He said, "Where do I go?"

"Follow the light. The ticket will keep glowing as long as you're pointed in the tight direction."

Gaal looked up and began walking. There were hundreds creeping across the vast floor, following their individual trails, sifting and straining themselves through intersection points to arrive at their respective destinations.

His own trail ended. A man in glaring blue and yellow uniform, shining and new in unstainable plasto-textile, reached for his two bags.

"Direct line to the Luxor," he said.

The man who followed Gaal heard that. He also heard Gaal say, "Fine," and watched him enter the blunt-nosed vehicle.

The taxi lifted straight up. Gaal stared out the curved, transparent window, marvelling at the sensation of airflight within an enclosed structure and clutching instinctively at the back of the driver's seat. The vastness contracted and the people became ants in random distribution. The scene contracted further and began to slide backward.

There was a wall ahead. It began high in the air and extended upward out of sight. It was riddled with holes that were the mouths of tunnels. Gaal's taxi moved toward one then plunged into it. For a moment, Gaal wondered idly how his driver could pick out one among so many.

There was now only blackness, with nothing but the past-flashing of a colored signal light to relieve the gloom. The air was full of a rushing sound.

Gaal leaned forward against deceleration then and the taxi popped out of the tunnel and descended to ground-level once more.

"The Luxor Hotel," said the driver, unnecessarily. He helped Gaal with his baggage, accepted a tenth-credit tip with a businesslike air, picked up a waiting passenger, and was rising again.

In all this, from the moment of debarkation, there had been no glimpse of sky.

3.

TRANTOR—. . . At the beginning of the thirteenth millennium, this tendency reached its climax. As the center of the Imperial Government for unbroken hundreds of generations and located, as it was, toward the central regions of the Galaxy among the most densely populated and industrially advanced worlds of the system, it could scarcely help being the densest and richest clot of humanity the Race had ever seen.

Its urbanization, progressing steadily, had finally reached the ultimate. All the land surface of Trantor, 75,000,000 square miles in extent, was a single city. The population, at its height, was well in excess of forty billions. This enormous population was devoted almost entirely to the administrative necessities of Empire, and found themselves all too few for the complications of the task. (It is to be remembered that the impossibility of proper administration of the Galactic Empire under the uninspired leadership of the later Emperors was a considerable factor in the Fall.) Daily, fleets of ships in the tens of thousands brought the produce of twenty agricultural worlds to the dinner tables of Trantor. . . .

Its dependence upon the outer worlds for food and, indeed, for all necessities of life, made Trantor increasingly vulnerable to conquest by siege. In the last millennium of the Empire, the monotonously numerous revolts made Emperor after Emperor conscious of this, and Imperial policy became little more than the protection of Trantor's delicate jugular vein. . . .

ENCYCLOPEDIA GALACTICA

Gaal was not certain whether the sun shone, or, for that matter, whether it was day or night. He was ashamed to ask. All the planet seemed to live beneath metal. The meal of which he had just partaken had been labelled luncheon, but there were many planets which lived a standard timescale that took no account of the perhaps inconvenient alternation of day and night. The rate of planetary turnings differed, and he did not know that of Trantor.

At first, he had eagerly followed the signs to the "Sun Room" and found it but a chamber for basking in artificial radiation. He lingered a moment or two, then returned to the Luxor's main lobby.

He said to the room clerk, "Where can I buy a ticket for a planetary tour?"

"Right here."

"When will it start?"

"You just missed it. Another one tomorrow. Buy a ticket now and we'll reserve a place for you."

"Oh." Tomorrow would be too late. He would have to be at the University tomorrow. He said, "There wouldn't be an observation tower – or something? I mean, in the open air."

"Sure! Sell you a ticket for that, if you want. Better let me check if it's raining or not." He closed a contact at his elbow and read the flowing letters that raced across a frosted screen. Gaal read with him.

The room clerk said, "Good weather. Come to think of it, I do believe it's the dry season now." He added, conversationally, "I don't bother with the outside myself. The last time I was in the open was three years ago. You see it once, you know and that's all there is to it. Here's your ticket. Special elevator in the rear. It's marked 'To the Tower.' Just take it."

The elevator was of the new sort that ran by gravitic repulsion. Gaal entered and others flowed in behind him. The operator closed a contact. For a moment, Gaal felt suspended in space as gravity switched to zero, and then he had weight again in small measure as the elevator accelerated upward. Deceleration followed and his feet left the floor. He squawked against his will.

The operator called out, "Tuck your feet under the railing. Can't you read the sign?"

The others had done so. They were smiling at him as he madly and vainly tried to clamber back down the wall. Their shoes pressed upward against the chromium of the railings that stretched across the floor in parallels set two feet apart. He had noticed those railings on entering and had ignored them.

Then a hand reached out and pulled him down.

He gasped his thanks as the elevator came to a halt.

He stepped out upon an open terrace bathed in a white brilliance that hurl his eyes. The man, whose helping hand he had just now been the recipient of, was immediately behind him.

The man said, kindly, "Plenty of seats."

Gaal closed his mouth; he had been gaping; and said, "It certainly seems so." He started for them automatically, then stopped.

He said, "If you don't mind, I'll just stop a moment at the railing. I – I want to look a bit."

The man waved him on, good-naturedly, and Gaal leaned out over the shoulder-high railing and bathed himself in all the panorama.

He could not see the ground. It was lost in the ever increasing complexities of man-made structures. He could see no horizon other than that of metal against sky, stretching out to almost uniform grayness, and he knew it was so over all the land-surface of the planet. There was scarcely any motion to be seen – a few pleasure-craft lazed against the sky-but all the busy traffic of billions of men were going on, he knew, beneath the metal skin of the world.

There was no green to be seen; no green, no soil, no life other than man. Somewhere on the world, he realized vaguely, was the Emperor's palace, set amid one

hundred square miles of natural soil, green with trees, rainbowed with flowers. It was a small island amid an ocean of steel, but it wasn't visible from where he stood. It might be ten thousand miles away. He did not know.

Before very long, he must have his tour!

He sighed noisily, and realized finally that he was on Trantor at last; on the planet which was the center of all the Galaxy and the kernel of the human race. He saw none of its weaknesses. He saw no ships of food landing. He was not aware of a jugular vein delicately connecting the forty billion of Trantor with the rest of the Galaxy. He was conscious only of the mightiest deed of man; the complete and almost contemptuously final conquest of a world.

He came away a little blank-eyed. His friend of the elevator was indicating a seat next to himself and Gaal took it.

The man smiled. "My name is Jerril. First time on Trantor?"

"Yes, Mr. Jerril."

"Thought so. Jerril's my first name. Trantor gets you if you've got the poetic temperament. Trantorians never come up here, though. They don't like it. Gives them nerves."

"Nerves! – My name's Gaal, by the way. Why should it give them nerves? It's glorious."

"Subjective matter of opinion, Gaal. If you're born in a cubicle and grow up in a corridor, and work in a cell, and vacation in a crowded sun-room, then coming up into the open with nothing but sky over you might just give you a nervous breakdown. They make the children come up here once a year, after they're five. I don't know if it does any good. They don't get enough of it, really, and the first few times they scream themselves into hysteria. They ought to start as soon as they're weaned and have the trip once a week."

He went on, "Of course, it doesn't really matter. What if they never come out at all? They're happy down there and they run the Empire. How high up do you think we are?"

He said, "Half a mile?" and wondered if that sounded naive.

It must have, for Jerril chuckled a little. He said, "No. Just five hundred feet."

"What? But the elevator took about –"

"I know. But most of the time it was just getting up to ground level. Trantor is tunneled over a mile down. It's like an iceberg. Nine-tenths of it is out of sight. It even works itself out a few miles into the sub-ocean soil at the shorelines. In fact, we're down so low that we can make use of the temperature difference between ground level and a couple of miles under to supply us with all the energy we need. Did you know that?"

"No, I thought you used atomic generators."

"Did once. But this is cheaper."

"I imagine so."

"What do you think of it all?" For a moment, the man's good nature evaporated into shrewdness. He looked almost sly.

Gaal fumbled. "Glorious," he said, again.

"Here on vacation? Traveling? Sight-seeing?"

"No exactly. At least, I've always wanted to visit Trantor but I came here primarily for a job."

"Oh?"

Gaal felt obliged to explain further, "With Dr. Seldon's project at the University of Trantor."

"Raven Seldon?"

"Why, no. The one I mean is Hari Seldon. -The psychohistorian Seldon. I don't know of any Raven Seldon."

"Hari's the one I mean. They call him Raven. Slang, you know. He keeps predicting disaster."

"He does?" Gaal was genuinely astonished.

"Surely, you must know." Jerril was not smiling. "You're coming to work for him, aren't you?"

"Well, yes, I'm a mathematician. Why does he predict disaster? What kind of disaster?"

"What kind would you think?"

"I'm afraid I wouldn't have the least idea. I've read the papers Dr. Seldon and his group have published. They're on mathematical theory."

"Yes, the ones they publish."

Gaal felt annoyed. He said, "I think I'll go to my room now. Very pleased to have met you."

Jerril waved his arm indifferently in farewell.

Gaal found a man waiting for him in his room. For a moment, he was too startled to put into words the inevitable, "What are you doing here?" that came to his lips.

The man rose. He was old and almost bald and he walked with a limp, but his eyes were very bright and blue.

He said, "I am Hari Seldon," an instant before Gaal's befuddled brain placed the face alongside the memory of the many times he had seen it in pictures.

4.

PSYCHOHISTORY— . . . Gaal Dornick, using nonmathematical concepts, has defined psychohistory to be that branch of mathematics which deals with the reactions of human conglomerates to fixed social and economic stimuli. . . .

. . . Implicit in all these definitions is the assumption that the human conglomerate being dealt with is sufficiently large for valid statistical treatment. The necessary size of such a conglomerate may be determined by Seldon's First Theorem which . . . A further necessary assumption is that the human conglomerate be itself unaware of psychohistoric analysis in order that its reactions be truly random . . .

The basis of all valid psychohistory lies in the development of the Seldon. Functions which exhibit properties congruent to those of such social and economic forces as . . .

ENCYCLOPEDIA GALACTICA

"Good afternoon, sir," said Gaal. "I— I—"

"You didn't think we were to meet before tomorrow? Ordinarily, we would not have. It is just that if we are to use your services, we must work quickly. It grows continually more difficult to obtain recruits."

"I don't understand, sir."

"You were talking to a man on the observation tower, were you not?"

"Yes. His first name is Jerril. I know no more about him."

"His name is nothing. He is an agent of the Commission of Public Safety. He followed you from the space-port."

"But why? I am afraid I am very confused."

"Did the man on the tower say nothing about me?"

Gaal hesitated, "He referred to you as Raven Seldon."

"Did he say why?"

"He said you predict disaster."

"I do. What does Trantor mean to you?"

Everyone seemed to be asking his opinion of Trantor. Gaal felt incapable of response beyond the bare word, "Glorious."

"You say that without thinking. What of psychohistory?"

"I haven't thought of applying it to the problem."

"Before you are done with me, young man, you will learn to apply psychohistory to all problems as a matter of course. —Observe." Seldon removed his calculator pad from the pouch at his belt. Men said he kept one beneath his pillow for use in moments of wakefulness. Its gray, glossy finish was slightly worn by use. Seldon's nimble fingers, spotted now with age, played along the files and rows of buttons that filled its surface. Red symbols glowed out from the upper tier.

He said, "That represents the condition of the Empire at present."

He waited.

Gaal said finally, "Surely that is not a complete representation."

"No, not complete," said Seldon. "I am glad you do not accept my word blindly. However, this is an approximation which will serve to demonstrate the proposition. Will you accept that?"

"Subject to my later verification of the derivation of the function, yes." Gaal was carefully avoiding a possible trap.

"Good. Add to this the known probability of Imperial assassination, viceregal revolt, the contemporary recurrence of periods of economic depression, the declining rate of planetary explorations, the. . ."

He proceeded. As each item was mentioned, new symbols sprang to life at his touch, and melted into the basic function which expanded and changed.

Gaal stopped him only once. "I don't see the validity of that set-transformation."

Seldon repeated it more slowly.

Gaal said, "But that is done by way of a forbidden sociooperation."

"Good. You are quick, but not yet quick enough. It is not forbidden in this connection. Let me do it by expansions."

The procedure was much longer and at its end, Gaal said, humbly, "Yes, I see now."

Finally, Seldon stopped. "This is Trantor three centuries from now. How do you interpret that? Eh?" He put his head to one side and waited.

Gaal said, unbelievably, "Total destruction! But – but that is impossible. Trantor has never been –"

Seldon was filled with the intense excitement of a man whose body only had grown old. "Come, come. You saw how the result was arrived at. Put it into words. Forget the symbolism for a moment."

Gaal said, "As Trantor becomes more specialized, it becomes more vulnerable, less able to defend itself. Further, as it becomes more and more the administrative center of Empire, it becomes a greater prize. As the Imperial succession becomes more and more uncertain, and the feuds among the great families more rampant, social responsibility disappears."

"Enough. And what of the numerical probability of total destruction within three centuries?"

"I couldn't tell."

"Surely you can perform a field-differentiation?"

Gaal felt himself under pressure. He was not offered the calculator pad. It was held a foot from his eyes. He calculated furiously and felt his forehead grow slick with sweat.

He said, "About 85%?"

"Not bad," said Seldon, thrusting out a lower lip, "but not good. The actual figure is 92.5%."

Gaal said, "And so you are called Raven Seldon? I have seen none of this in the journals."

"But of course not. This is unprintable. Do you suppose the Imperium could expose its shakiness in this manner. That is a very simple demonstration in psychohistory. But some of our results have leaked out among the aristocracy."

"That's bad."

"Not necessarily. All is taken into account."

"But is that why I'm being investigated?"

"Yes. Everything about my project is being investigated."

"Are you in danger, sir?"

"Oh, yes. There is probability of 1.7% that I will be executed, but of course that will not stop the project. We have taken that into account as well. Well, never mind. You will meet me, I suppose, at the University tomorrow?"

"I will," said Gaal.

5.

COMMISSION OF PUBLIC SAFETY—. . . The aristocratic coterie rose to power after the assassination of Cleon I, last of the Entuns. In the main, they formed an element of order during the centuries of instability and uncertainty in the Imperium. Usually under the control of the great families of the Chens and the Divarts, it degenerated eventually into a blind instrument for maintenance of the status quo. . . . They were not completely removed as a power in the state until after the accession of the last strong Emperor, Cleon H. The first Chief Commissioner. . . .

. . . In a way, the beginning of the Commission's decline can be traced to the trial of Hari Seldon two years before the beginning of the Foundational Era. That trial is described in Gaal Dornick's biography of Hari Seldon. . . .

ENCYCLOPEDIA GALACTICA

Gaal did not carry out his promise. He was awakened the next morning by a muted buzzer. He answered it, and the voice of the desk clerk, as muted, polite and deprecating as it well might be, informed him that he was under detention at the orders of the Commission of Public Safety.

Gaal sprang to the door and found it would no longer open. He could only dress and wait.

They came for him and took him elsewhere, but it was still detention. They asked him questions most politely. It was all very civilized. He explained that he was a provincial of Synnax; that he had attended such and such schools and obtained a Doctor of Mathematics degree on such and such a date. He had applied for a position on Dr. Seldon's staff and had been accepted. Over and over again, he gave these details; and over and over again, they returned to the question of his joining the Seldon Project. How had he heard of it; what were to be his duties; what secret instructions had he received; what was it all about?

He answered that he did not know. He had no secret instructions. He was a scholar and a mathematician. He had no interest in politics.

And finally the gentle inquisitor asked, "When will Trantor be destroyed?"

Gaal faltered, "I could not say of my own knowledge."

"Could you say of anyone's?"

"How could I speak for another?" He felt warm; overwarm.

The inquisitor said, "Has anyone told you of such destruction; set a date?" And, as the young man hesitated, he went on, "You have been followed, doctor. We were at the airport when you arrived; on the observation tower when you waited for your appointment; and, of course, we were able to overhear your conversation with Dr. Seldon."

Gaal said, "Then you know his views on the matter."

"Perhaps. But we would like to hear them from you."

"He is of the opinion that Trantor would be destroyed within three centuries."

"He proved it, – uh – mathematically?"

"Yes, he did," – defiantly.

"You maintain the – uh – mathematics to be valid, I suppose."

"If Dr. Seldon vouches for it, it is valid."

"Then we will return."

"Wait. I have a right to a lawyer. I demand my rights as an Imperial citizen."

"You shall have them."

And he did.

It was a tall man that eventually entered, a man whose face seemed all vertical lines and so thin that one could wonder whether there was room for a smile.

Gaal looked up. He felt disheveled and wilted. So much had happened, yet he had been on Trantor not more than thirty hours.

The man said, "I am Lors Avakim. Dr. Seldon has directed me to represent you."

"Is that so? Well, then, look here. I demand an instant appeal to the Emperor. I'm being held without cause. I'm innocent of anything. Of *anything*." He slashed his hands outward, palms down, "You've got to arrange a hearing with the Emperor, instantly."

Avakim was carefully emptying the contents of a flat folder onto the floor. If Gaal had had the stomach for it, he might have recognized Cellomet legal forms, metal thin and tapelike, adapted for insertion within the smallness of a personal capsule. He might also have recognized a pocket recorder.

Avakim, paying no attention to Gaal's outburst, finally looked up. He said, "The Commission will, of course, have a spy beam on our conversation. This is against the law, but they will use one nevertheless."

Gaal ground his teeth.

"However," and Avakim seated himself deliberately, "the recorder I have on the table, – which is a perfectly ordinary recorder to all appearances and performs its duties well – has the additional property of completely blanketing the spy beam. This is something they will not find out at once."

"Then I can speak."

"Of course."

"Then I want a hearing with the Emperor."

Avakim smiled frostily, and it turned out that there was room for it on his thin face after all. His cheeks wrinkled to make the room. He said, "You are from the provinces."

"I am none the less an Imperial citizen. As good a one as you or as any of this Commission of Public Safety."

"No doubt; no doubt. It is merely that, as a provincial, you do not understand life on Trantor as it is, There are no hearings before the Emperor."

"To whom else would one appeal from this Commission? Is there other procedure?"

"None. There is no recourse in a practical sense. Legalistically, you may appeal to the Emperor, but you would get no hearing. The Emperor today is not the Emperor of an Entun dynasty, you know. Trantor, I am afraid is in the hands of the aristocratic families, members of which compose the Commission of Public Safety. This is a development which is well predicted by psychohistory."

Gaal said, "Indeed? In that case, if Dr. Seldon can predict the history of Trantor three hundred years into the future –"

"He can predict it fifteen hundred years into the future."

"Let it be fifteen thousand. Why couldn't he yesterday have predicted the events of this morning and warned me. –No, I'm sorry." Gaal sat down and rested his head in one sweating palm, "I quite understand that psychohistory is a statistical science and cannot predict the future of a single man with any accuracy. You'll understand that I'm upset."

"But you are wrong. Dr. Seldon was of the opinion that you would be arrested this morning."

"What!"

"It is unfortunate, but true. The Commission has been more and more hostile to his activities. New members joining the group have been interfered with to an increasing extent. The graphs showed that for our purposes, matters might best be brought to a climax now. The Commission of itself was moving somewhat slowly so Dr. Seldon visited you yesterday for the purpose of forcing their hand. No other reason."

Gaal caught his breath, "I resent –"

"Please. It was necessary. You were not picked for any personal reasons. You must realize that Dr. Seldon's plans, which are laid out with the developed mathematics of over eighteen years include all eventualities with significant probabilities. This is one of them. I've been sent here for no other purpose than to assure you that you need not fear. It will end well; almost certainly so for the project; and with reasonable probability for you."

"What are the figures?" demanded Gaal.

"For the project, over 99.9%."

"And for myself?"

"I am instructed that this probability is 77.2%."

"Then I've got better than one chance in five of being sentenced to prison or to death."

"The last is under one per cent."

"Indeed. Calculations upon one man mean nothing. You send Dr. Seldon to me."

"Unfortunately, I cannot. Dr. Seldon is himself arrested."

The door was thrown open before the rising Gaal could do more than utter the beginning of a cry. A guard entered, walked to the table, picked up the recorder, looked upon all sides of it and put it in his pocket.

Avakim said quietly, "I will need that instrument."

"We will supply you with one, Counsellor, that does not cast a static field."

"My interview is done, in that case."

Gaal watched him leave and was alone.

6.

The trial (Gaal supposed it to be one, though it bore little resemblance legalistically to the elaborate trial techniques Gaal had read of) had not lasted long. It was in its third day. Yet already, Gaal could no longer stretch his memory back far enough to embrace its beginning.

He himself had been but little pecked at. The heavy guns were trained on Dr. Seldon himself. Hari Seldon, however, sat there unperturbed. To Gaal, he was the only spot of stability remaining in the world.

The audience was small and drawn exclusively from among the Barons of the Empire. Press and public were excluded and it was doubtful that any significant number of outsiders even knew that a trial of Seldon was being conducted. The atmosphere was one of unrelieved hostility toward the defendants.

Five of the Commission of Public Safety sat behind the raised desk. They wore scarlet and gold uniforms and the shining, close-fitting plastic caps that were the sign of their judicial function. In the center was the Chief Commissioner Linge Chen. Gaal had never before seen so great a Lord and he watched him with fascination. Chen, throughout the trial, rarely said a word. He made it quite clear that much speech was beneath his dignity.

The Commission's Advocate consulted his notes and the examination continued, with Seldon still on the stand:

Q. Let us see, Dr. Seldon. How many men are now engaged in the project of which you are head?

A. Fifty mathematicians.

Q. Including Dr. Gaal Dornick?

A. Dr. Dornick is the fifty-first,

Q. Oh, we have fifty-one then? Search your memory, Dr. Seldon. Perhaps there are fifty-two or fifty-three? Or perhaps even more?

A. Dr. Dornick has not yet formally joined my organization. When he does, the membership will be fifty-one. It is now fifty, as I have said.

Q. Not perhaps nearly a hundred thousand?

A. Mathematicians? No.

Q. I did not say mathematicians. Are there a hundred thousand in all capacities?

A. In all capacities, your figure may be correct.

Q. May be? I say it is. I say that the men in your project number ninety-eight thousand, five hundred and seventy-two.

A. I believe you are counting women and children.

Q. (raising his voice) Ninety eight thousand five hundred and seventy-two individuals is the intent of my statement. There is no need to quibble.

A. I accept the figures.

Q. (referring to his notes) Let us drop that for the moment, then, and take up another matter which we have already discussed at some length. Would you repeat, Dr. Seldon, your thoughts concerning the future of Trantor?

A. I have said, and I say again, that Trantor will lie in ruins within the next three centuries.

Q. You do not consider your statement a disloyal one?

A. No, sir. Scientific truth is beyond loyalty and disloyalty.

Q. You are sure that your statement represents scientific truth?

A. I am.

Q. On what basis?

A. On the basis of the mathematics of psychohistory.

Q. Can you prove that this mathematics is valid'?

A. Only to another mathematician.

Q. (with a smile) Your claim then is that your truth is of so esoteric a nature that it is beyond the understanding of a plain man. It seems to me that truth should be clearer than that, less mysterious, more open to the mind.

A. It presents no difficulties to some minds. The physics of energy transfer, which we know as thermodynamics, has been clear and true through all the history of man since the mythical ages, yet there may be people present who would find it impossible to design a power engine. People of high intelligence, too. I doubt if the learned Commissioners—

At this point, one of the Commissioners leaned toward the Advocate. His words were not heard but the hissing of the voice carried a certain asperity. The Advocate flushed and interrupted Seldon.

Q. We are not here to listen to speeches, Dr. Seldon. Let us assume that you have made your point. Let me suggest to you that your predictions of disaster might be intended to destroy public confidence in the Imperial Government for purposes of your own.

A. That is not so.

Q. Let me suggest that you intend to claim that a period of time preceding the so-called ruin of Trantor will be filled with unrest of various types.

A. That is correct.

Q. And that by the mere prediction thereof, you hope to bring it about, and to have then an army of a hundred thousand available.

A. In the first place, that is not so. And if it were, investigation will show you that barely ten thousand are men of military age, and none of these has training in arms.

Q. Are you acting as an agent for another?

A. I am not in the pay of any man, Mr. Advocate.

Q. You are entirely disinterested? You are serving science?

A. I am.

Q. Then let us see how. Can the future be changed, Dr. Seldon?

A. Obviously. This courtroom may explode in the next few hours, or it may not. If it did, the future would undoubtedly be changed in some minor respects.

Q. You quibble, Dr. Seldon. Can the overall history of the human race be changed?

A. Yes.

Q. Easily?

A. No. With great difficulty.

Q. Why?

A. The psychohistoric trend of a planet-full of people contains a huge inertia. To be changed it must be met with something possessing a similar inertia. Either as many people must be concerned, or if the number of people be relatively small, enormous time for change must be allowed. Do you understand?

Q. I think I do. Trantor need not be ruined, if a great many people decide to act so that it will not.

A. That is right.

Q. As many as a hundred thousand people?

A. No, sir. That is far too few.

Q. You are sure?

A. Consider that Trantor has a population of over forty billions. Consider further that the trend leading to ruin does not belong to Trantor alone but to the Empire as a whole and the Empire contains nearly a quintillion human beings.

Q. I see. Then perhaps a hundred thousand people can change the trend, if they and their descendants labor for three hundred years.

A. I'm afraid not. Three hundred years is too short a time.

Q. Ah! In that case, Dr. Seldon, we are left with this deduction to be made from your statements. You have gathered one hundred thousand people within the confines of your project. These are insufficient to change the history of Trantor within three hundred years. In other words, they cannot prevent the destruction of Trantor no matter what they do.

A. You are unfortunately correct.

Q. And on the other hand, your hundred thousand are intended for no illegal purpose.

A. Exactly.

Q. (slowly and with satisfaction) In that case, Dr. Seldon— Now attend, sir, most carefully, for we want a considered answer. What is the purpose of your hundred thousand?

The Advocate's voice had grown strident. He had sprung his trap; backed Seldon into a corner; driven him astutely from any possibility of answering.

There was a rising buzz of conversation at that which swept the ranks of the peers in the audience and invaded even the row of Commissioners. They swayed toward one another in their scarlet and gold, only the Chief remaining uncorrupted.

Hari Seldon remained unmoved. He waited for the babble to evaporate.

A. To minimize the effects of that destruction.

Q. And exactly what do you mean by that?

A. The explanation is simple. The coming destruction of Trantor is not an event in itself, isolated in the scheme of human development. It will be the climax to an intricate drama which was begun centuries ago and which is accelerating in pace continuously. I refer, gentlemen, to the developing decline and fall of the Galactic Empire.

The buzz now became a dull roar. The Advocate, unheeded, was yelling, "You are openly declaring that—" and stopped because the cries of "Treason" from the audience showed that the point had been made without any hammering.

Slowly, the Chief Commissioner raised his gavel once and let it drop. The sound was that of a mellow gong. When the reverberations ceased, the gabble of the audience also did. The Advocate took a deep breath.

Q. (theatrically) Do you realize, Dr. Seldon, that you are speaking of an Empire that has stood for twelve thousand years, through all the vicissitudes of the generations, and which has behind it the good wishes and love of a quadrillion human beings?

A. I am aware both of the present status and the past history of the Empire. Without disrespect, I must claim a far better knowledge of it than any in this room.

Q. And you predict its ruin?

A. It is a prediction which is made by mathematics. I pass no moral judgements. Personally, I regret the prospect. Even if the Empire were admitted to be a bad thing (an admission I do not make), the state of anarchy which would follow its fall would be worse. It is that state of anarchy which my project is pledged to fight. The fall of Empire, gentlemen, is a massive thing, however, and not easily fought. It is dictated by a rising bureaucracy, a receding initiative, a freezing of caste, a damming of curiosity – a hundred other factors. It has been going on, as I have said, for centuries, and it is too majestic and massive a movement to stop.

Q. Is it not obvious to anyone that the Empire is as strong as it ever was?

A. The appearance of strength is all about you. It would seem to last forever. However, Mr. Advocate, the rotten tree-trunk, until the very moment when the storm-blast breaks it in two, has all the appearance of might it ever had. The storm-blast whistles through the branches of the Empire even now. Listen with the ears of psychohistory, and you will hear the creaking.

Q. (uncertainly) We are not here, Dr. Seldon, to lis–

A. (firmly) The Empire will vanish and all its good with it. Its accumulated knowledge will decay and the order it has imposed will vanish. Interstellar wars will be

endless; interstellar trade will decay; population will decline; worlds will lose touch with the main body of the Galaxy. –And so matters will remain.

Q. (a small voice in the middle of a vast silence) Forever?

A. Psychohistory, which can predict the fall, can make statements concerning the succeeding dark ages. The Empire, gentlemen, as has just been said, has stood twelve thousand years. The dark ages to come will endure not twelve, but thirty thousand years. A Second Empire will rise, but between it and our civilization will be one thousand generations of suffering humanity. We must fight that.

Q. (recovering somewhat) You contradict yourself. You said earlier that you could not prevent the destruction of Trantor; hence, presumably, the fall; –the so-called fall of the Empire.

A. I do not say now that we can prevent the fall. But it is not yet too late to shorten the interregnum which will follow. It is possible, gentlemen, to reduce the duration of anarchy to a single millennium, if my group is allowed to act now. We are at a delicate moment in history. The huge, onrushing mass of events must be deflected just a little, – just a little – It cannot be much, but it may be enough to remove twenty-nine thousand years of misery from human history.

Q. How do you propose to do this?

A. By saving the knowledge of the race. The sum of human knowing is beyond any one man; any thousand men. With the destruction of our social fabric, science will be broken into a million pieces. Individuals will know much of exceedingly tiny facets of what there is to know. They will be helpless and useless by themselves. The bits of lore, meaningless, will not be passed on. They will be lost through the generations. But, if we now prepare a giant summary of all knowledge, it will never be lost. Coming generations will build on it, and will not have to rediscover it for themselves. One millennium will do the work of thirty thousand.

Q. All this.

A. All my project; my thirty thousand men with their wives and children, are devoting themselves to the preparation of an "Encyclopedia Galactica." They will not complete it in their lifetimes. I will not even live to see it fairly begun. But by the time Trantor falls, it will be complete and copies will exist in every major library in the Galaxy.

The Chief Commissioner's gavel rose and fell. Hari Seldon left the stand and quietly took his seat next to Gaal.

He smiled and said, "How did you like the show?"

Gaal said, "You stole it. But what will happen now?"

"They'll adjourn the trial and try to come to a private agreement with me."

"How do you know?"

Seldon said, "I'll be honest. I don't know. It depends on the Chief Commissioner. I have studied him for years. I have tried to analyze his workings, but you know how risky it is to introduce the vagaries of an individual in the psychohistoric equations. Yet I have hopes."

7.

Avakim approached, nodded to Gaal, leaned over to whisper to Seldon. The cry of adjournment rang out, and guards separated them. Gaal was led away.

The next day's hearings were entirely different. Hari Seldon and Gaal Dornick were alone with the Commission. They were seated at a table together, with scarcely a separation between the five judges and the two accused. They were even offered cigars from a box of iridescent plastic which had the appearance of water, endlessly flowing. The eyes were fooled into seeing the motion although the fingers reported it to be hard and dry.

Seldon accepted one; Gaal refused.

Seldon said, "My lawyer is not present."

A Commissioner replied, "This is no longer a trial, Dr. Seldon. We are here to discuss the safety of the State."

Linge Chen said, "I will speak," and the other Commissioners sat back in their chairs, prepared to listen. A silence formed about Chen into which he might drop his words.

Gaal held his breath. Chen, lean and hard, older in looks than in fact, was the actual Emperor of all the Galaxy. The child who bore the title itself was only a symbol manufactured by Chen, and not the first such, either.

Chen said, "Dr. Seldon, you disturb the peace of the Emperor's realm. None of the quadrillions living now among all the stars of the Galaxy will be living a century from now. Why, then, should we concern ourselves with events of three centuries distance?"

"I shall not be alive half a decade hence," said Seldon, and yet it is of overpowering concern to me. Call it idealism. Call it an identification of myself with that mystical generalization to which we refer by the term, 'humanity.'"

"I do not wish to take the trouble to understand mysticism. Can you tell me why I may not rid myself of you, and of an uncomfortable and unnecessary three-century future which I will never see by having you executed tonight?"

"A week ago," said Seldon, lightly, "you might have done so and perhaps retained a one in ten probability of yourself remaining alive at year's end. Today, the one in ten probability is scarcely one in ten thousand."

There were expired breaths in the gathering and uneasy stirrings. Gaal felt the short hairs prickle on the back of his neck. Chen's upper eyelids dropped a little.

"How so?" he said.

"The fall of Trantor," said Seldon, "cannot be stopped by any conceivable effort. It can be hastened easily, however. The tale of my interrupted trial will spread through the Galaxy. Frustration of my plans to lighten the disaster will convince people that the future holds no promise to them. Already they recall the lives of their grandfathers with envy. They will see that political revolutions and trade stagnations will increase. The feeling will pervade the Galaxy that only what a man can grasp for himself at that moment will be of any account. Ambitious men will not wait and unscrupulous men will not hang back. By

their every action they will hasten the decay of the worlds. Have me killed and Trantor will fall not within three centuries but within fifty years and you, yourself, within a single year."

Chen said, "These are words to frighten children, and yet your death is not the only answer which will satisfy us."

He lifted his slender hand from the papers on which it rested, so that only two fingers touched lightly upon the topmost sheet.

"Tell me," he said, "will your only activity be that of preparing this encyclopedia you speak of?"

"It will."

"And need that be done on Trantor?"

"Trantor, my lord, possesses the Imperial Library, as well as the scholarly resources of the University of Trantor."

"And yet if you were located elsewhere—, let us say upon a planet where the hurry and distractions of a metropolis will not interfere with scholastic musings; where your men may devote themselves entirely and single-mindedly to their work; —might not that have advantages?"

"Minor ones, perhaps."

"Such a world had been chosen, then. You may work, doctor, at your leisure, with your hundred thousand about you. The Galaxy will know that you are working and fighting the Fall. They will even be told that you will prevent the Fall." He smiled, "Since I do not believe in so many things, it is not difficult for me to disbelieve in the Fall as well, so that I am entirely convinced I will be telling the truth to the people. And meanwhile, doctor, you will not trouble Trantor and there will be no disturbance of the Emperor's peace."

"The alternative is death for yourself and for as many of your followers as will seem necessary. Your earlier threats I disregard. The opportunity for choosing between death and exile is given you over a time period stretching from this moment to one five minutes hence."

"Which is the world chosen, my lord?" said Seldon.

"It is called, I believe, Terminus," said Chen. Negligently, he turned the papers upon his desk with his fingertips so that they faced Seldon. "It is uninhabited, but quite habitable, and can be molded to suit the necessities of scholars. It is somewhat secluded—"

Seldon interrupted, "It is at the edge of the Galaxy, sir."

"As I have said, somewhat secluded. It will suit your needs for concentration. Come, you have two minutes left."

Seldon said, "We will need time to arrange such a trip. There are twenty thousand families involved."

"You will be given time."

Seldon thought a moment, and the last minute began to die. He said, "I accept exile."

Gaal's heart skipped a beat at the words. For the most part, he was filled with a tremendous joy for who would not be, to escape death. Yet in all his vast relief, he found space for a little regret that Seldon had been defeated.

8.

For a long while, they sat silently as the taxi whined through the hundreds of miles of worm-like tunnels toward the University. And then Gaal stirred. He said:

"Was what you told the Commissioner true? Would your execution have really hastened the Fall?"

Seldon said, "I never lie about psychohistoric findings. Nor would it have availed me in this case. Chen knew I spoke the truth. He is a very clever politician and politicians by the very nature of their work must have an instinctive feeling for the truths of psychohistory."

"Then need you have accepted exile," Gaal wondered, but Seldon did not answer.

When they burst out upon the University grounds, Gaal's muscles took action of their own; or rather, inaction. He had to be carried, almost, out of the taxi.

All the University was a blaze of light. Gaal had almost forgotten that a sun could exist.

The University structures lacked the hard steel-gray of the rest of Trantor. They were silvery, rather. The metallic luster was almost ivory in color.

Seldon said, "Soldiers, it seems."

"What?" Gaal brought his eyes to the prosaic ground and found a sentinel ahead of them.

They stopped before him, and a soft-spoken captain materialized from a near-by doorway.

He said, "Dr. Seldon?"

"Yes."

"We have been waiting for you. You and your men will be under martial law henceforth. I have been instructed to inform you that six months will be allowed you for preparations to leave for Terminus."

"Six months!" began Gaal, but Seldon's fingers were upon his elbow with gentle pressure.

"These are my instructions," repeated the captain.

He was gone, and Gaal turned to Seldon, "Why, what can be done in six months? This is but slower murder."

"Quietly. Quietly. Let us reach my office."

It was not a large office, but it was quite spy-proof and quite undetectably so. Spy-beams trained upon it received neither a suspicious silence nor an even more suspicious static. They received, rather, a conversation constructed at random out of a vast stock of innocuous phrases in various tones and voices.

"Now," said Seldon, at his ease, "six months will be enough."

"I don't see how."

"Because, my boy, in a plan such as ours, the actions of others are bent to our needs. Have I not said to you already that Chen's temperamental makeup has been subjected to greater scrutiny than that of any other single man in history. The trial was not allowed to begin until the time and circumstances were right for the ending of our own choosing."

"But could you have arranged—"

"—to be exiled to Terminus? Why not?" He put his fingers on a certain spot on his desk and a small section of the wall behind him slid aside. Only his own fingers could have done so, since only his particular print-pattern could have activated the scanner beneath.

"You will find several microfilms inside," said Seldon. "Take the one marked with the letter, T."

Gaal did so and waited while Seldon fixed it within the projector and handed the young man a pair of eyepieces. Gaal adjusted them, and watched the film unroll before his eyes.

He said, "But then—"

Seldon said, "What surprises you?"

"Have you been preparing to leave for two years?"

"Two and a half. Of course, we could not be certain that it would be Terminus he would choose, but we hoped it might be and we acted upon that assumption—"

"But why, Dr. Seldon? If you arranged the exile, why? Could not events be far better controlled here on Trantor?"

"Why, there are some reasons. Working on Terminus, we will have Imperial support without ever rousing fears that we would endanger Imperial safety."

Gaal said, "But you aroused those fears only to force exile. I still do not understand."

"Twenty thousand families would not travel to the end of the Galaxy of their own will perhaps."

"But why should they be forced there?" Gaal paused, "May I not know?"

Seldon said, "Not yet. It is enough for the moment that you know that a scientific refuge will be established on Terminus. And another will be established at the other end of the Galaxy, let us say," and he smiled, "at Star's End. And as for the rest, I will die soon, and you will see more than I. —No, no. Spare me your shock and good wishes. My doctors tell me that I cannot live longer than a year or two. But then, I have accomplished in life what I have intended and under what circumstances may one better die."

"And after you die, sir?"

"Why, there will be successors — perhaps even yourself. And these successors will be able to apply the final touch in the scheme and instigate the revolt on Anacreon at the right time and in the right manner. Thereafter, events may roll unheeded."

"I do not understand."

"You will." Seldon's lined face grew peaceful and tired, both at once, "Most will leave for Terminus, but some will stay. It will be easy to arrange. –But as for me," and he concluded in a whisper, so that Gaal could scarcely hear him, "I am finished."

PART II

THE ENCYCLOPEDISTS

1.

TERMINUS— . . . Its location (see map) was an odd one for the role it was called upon to play in Galactic history, and yet as many writers have never tired of pointing out, an inevitable one. Located on the very fringe of the Galactic spiral, an only planet of an isolated sun, poor in resources and negligible in economic value, it was never settled in the five centuries after its discovery, until the landing of the Encyclopedists. . . .

It was inevitable that as a new generation grew, Terminus would become something more than an appendage of the psychohistorians of Trantor. With the Anacreonian revolt and the rise to power of Salvor Hardin, first of the great line of. . .

ENCYCLOPEDIA GALACTICA

Lewis Pirenne was busily engaged at his desk in the one well-lit corner of the room. Work had to be coordinated. Effort had to be organized. Threads had to be woven into a pattern.

Fifty years now; fifty years to establish themselves and set up Encyclopedia Foundation Number One into a smoothly working unit. Fifty years to gather the raw material. Fifty years to prepare.

It had been done. Five more years would see the publication of the first volume of the most monumental work the Galaxy had ever conceived. And then at ten-year intervals – regularly – like clockwork – volume after volume. And with them there would be supplements; special articles on events of current interest, until—

Pirenne stirred uneasily, as the muted buzzer upon his desk muttered peevishly. He had almost forgotten the appointment. He shoved the door release and out of an abstracted corner of one eye saw the door open and the broad figure of Salvor Hardin enter. Pirenne did not look up.

Hardin smiled to himself. He was in a hurry, but he knew better than to take offense at Pirenne's cavalier treatment of anything or anyone that disturbed him at his work. He buried himself in the chair on the other side of the desk and waited.

Pirenne's stylus made the faintest scraping sound as it raced across paper. Otherwise, neither motion nor sound. And then Hardin withdrew a two-credit coin from his vest pocket. He flipped it and its stainless-steel surface caught flitters of light as it tumbled through the air. He caught it and-flipped it again, watching the flashing reflections lazily. Stainless steel made good medium of exchange on a planet where all metal had to be imported.

Pirenne looked up and blinked. "Stop that!" he said querulously.

"Eh?"

"That infernal coin tossing. Stop it."

"Oh." Hardin pocketed the metal disk. "Tell me when you're ready, will you? I promised to be back at the City Council meeting before the new aqueduct project is put to a vote."

Pirenne sighed and shoved himself away from the desk. "I'm ready. But I hope you aren't going to bother me with city affairs. Take care of that yourself, please. The Encyclopedia takes up all my time."

"Have you heard the news?" questioned Hardin, phlegmatically.

"What news?"

"The news that the Terminus City ultrawave set received two hours ago. The Royal Governor of the Prefect of Anacreon has assumed the title of king."

"Well? What of it?"

"It means," responded Hardin, "that we're cut off from the inner regions of the Empire. We've been expecting it but that doesn't make it any more comfortable. Anacreon stands square across what was our last remaining trade route to Santanni and to Trantor and to Vega itself. Where is our metal to come from? We haven't managed to get a steel or aluminum shipment through in six months and now we won't be able to get any at all, except by grace of the King of Anacreon."

Pirenne tch-tched impatiently. "Get them through him, then."

"But can we? Listen, Pirenne, according to the charter which established this Foundation, the Board of Trustees of the Encyclopedia Committee has been given full administrative powers. I, as Mayor of Terminus City, have just enough power to blow my own nose and perhaps to sneeze if you countersign an order giving me permission. It's up to you and your Board then. I'm asking you in the name of the City, whose prosperity depends upon uninterrupted commerce with the Galaxy, to call an emergency meeting—"

"Stop! A campaign speech is out of order. Now, Hardin, the Board of Trustees has not barred the establishment of a municipal government on Terminus. We understand one to be necessary because of the increase in population since the Foundation was established fifty years ago, and because of the increasing number of people involved in non-Encyclopedia affairs. But that does not mean that the first and only aim of the Foundation is no longer to publish the definitive Encyclopedia of all human knowledge. We are a State-supported, scientific institution, Hardin. We cannot – must not – will not interfere in local politics."

"Local politics! By the Emperor's left toe, Pirenne, this is a matter of life and death. The planet, Terminus, by itself cannot support a mechanized civilization. It lacks metals. You know that. It hasn't a trace of iron, copper, or aluminum in the surface rocks, and precious little of anything else. What do you think will happen to the Encyclopedia if this watchmacallum King of Anacreon clamps down on us?"

"On us? Are you forgetting that we are under the direct control of the Emperor himself? We are not part of the Prefect of Anacreon or of any other prefect. Memorize

that! We are part of the Emperor's personal domain, and no one touches us. The Empire can protect its own."

"Then why didn't it prevent the Royal Governor of Anacreon from kicking over the traces? And only Anacreon?"

At least twenty of the outermost prefects of the Galaxy, the entire Periphery as a matter of fact, have begun steering things their own way. I tell you I feel damned uncertain of the Empire and its ability to protect us."

"Hokum! Royal Governors, Kings – what's the difference? The Empire is always shot through with a certain amount of politics and with different men pulling this way and that. Governors have rebelled, and, for that matter, Emperors have been deposed, or assassinated before this. But what has that to do with the Empire itself? Forget it, Hardin. It's none of our business. We are first of all and last of all scientists. And our concern is the Encyclopedia.

Oh, yes, I'd almost forgotten. Hardin!"

"Well?"

"Do something about that paper of yours!" Pirenne's voice was angry.

"The Terminus City *Journal*? It isn't mine; it's privately owned. What's it been doing?"

"For weeks now it has been recommending that the fiftieth anniversary of the establishment of the Foundation be made the occasion for public holidays and quite inappropriate celebrations."

"And why not? The computoclock will open the Vault in three months. I would call this first opening a big occasion, wouldn't you?"

"Not for silly pageantry, Hardin. The Vault and its opening concern the Board of Trustees alone. Anything of importance will be communicated to the people. That is final and please make it plain to the *Journal*."

"I'm sorry, Pirenne, but the City Charter guarantees a certain minor matter known as freedom of the press."

"It may. But the Board of Trustees does not. I am the Emperor's representative on Terminus, Hardin, and have full powers in this respect."

Hardin's expression became that of a man counting to ten, mentally. He said, grimly: "in connection with your status as Emperor's representative, then, I have a final piece of news to give you."

"About Anacreon?" Pirenne's lips tightened. He felt annoyed.

"Yes. A special envoy will be sent to us from Anacreon. In two weeks."

"An envoy? Here? From Anacreon?" Pirenne chewed that. "What for?"

Hardin stood up, and shoved his chair back up against the desk. "I give you one guess." And he left – quite unceremoniously.

2.

Anselm haut Rodric – "haut" itself signifying noble blood -Sub-prefect of Pluema and Envoy Extraordinary of his Highness of Anacreon-plus half a dozen other titles was met by Salvor Hardin at the spaceport with all the imposing ritual of a state occasion.

With a tight smile and a low bow, the sub-prefect had flipped his blaster from its holster and presented it to Hardin butt first. Hardin returned the compliment with, a blaster specifically borrowed for the occasion. Friendship and good will were thus established, and if Hardin noted the barest bulge at Haut Rodric's shoulder, he prudently said nothing.

The ground car that received them then – preceded, flanked, and followed by the suitable cloud of minor functionaries – proceeded in a slow, ceremonious manner to Cyclopedia Square, cheered on its way by a properly enthusiastic crowd.

Sub-prefect Anselm received the cheers with the complaisant indifference of a soldier and a nobleman.

He said to Hardin, "And this city is all your world?"

Hardin raised his voice to be heard above the clamor. "We are a young world, your eminence. In our short history we have had but few members of the higher nobility visiting our poor planet. Hence, our enthusiasm."

It is certain that "higher nobility" did not recognize irony when he heard it.

He said thoughtfully: "Founded fifty years ago. Hm-m-m! You have a great deal of unexploited land here, mayor. You have never considered dividing it into estates?"

"There is no necessity as yet. We're extremely centralized; we have to be, because of the Encyclopedia. Someday, perhaps, when our population has grown–"

"A strange world! You have no peasantry?"

Hardin reflected that it didn't require a great deal of acumen to tell that his eminence was indulging in a bit of fairly clumsy pumping. He replied casually, "No – nor nobility."

Haut Rodric's eyebrows lifted. "And your leader – the man I am to meet?"

"You mean Dr. Pirenne? Yes! He is the Chairman of the Board of Trustees – and a personal representative of the Emperor."

"Doctor? No other title? A *scholar*? And he rates above the civil authority?"

"Why, certainly," replied Hardin, amiably. "We're all scholars more or less. After all, we're not so much a world as a scientific foundation – under the direct control of the Emperor."

There was a faint emphasis upon the last phrase that seemed to disconcert the sub-prefect. He remained thoughtfully silent during the rest of the slow way to Cyclopedia Square.

If Hardin found himself bored by the afternoon and evening that followed, he had at least the satisfaction of realizing that Pirenne and Haut Rodric – having met with loud and mutual protestations of esteem and regard – were detesting each other's company a good deal more.

Haut Rodric had attended with glazed eye to Pirenne's lecture during the "inspection tour" of the Encyclopedia Building. With polite and vacant smile, he had listened to the latter's rapid patter as they passed through the vast storehouses of reference films and the numerous projection rooms.

It was only after he had gone down level by level into and through the composing departments, editing departments, publishing departments, and filming departments that he made the first comprehensive statement.

"This is all very interesting," he said, "but it seems a strange occupation for grown men. What good is it?"

It was a remark, Hardin noted, for which Pirenne found no answer, though the expression of his face was most eloquent.

The dinner that evening was much the mirror image of the events of that afternoon, for Haut Rodric monopolized the conversation by describing – in minute technical detail and with incredible zest – his own exploits as battalion head during the recent war between Anacreon and the neighboring newly proclaimed Kingdom of Smyrno.

The details of the sub-prefect's account were not completed until dinner was over and one by one the minor officials had drifted away. The last bit of triumphant description of mangled spaceships came when he had accompanied Pirenne and Hardin onto the balcony and relaxed in the warm air of the summer evening.

"And now," he said, with a heavy joviality, "to serious matters."

"By all means," murmured Hardin, lighting a long cigar of Vegan tobacco – not many left, he reflected – and teetering his chair back on two legs.

The Galaxy was high in the sky and its misty lens shape stretched lazily from horizon to horizon. The few stars here at the very edge of the universe were insignificant twinkles in comparison.

"Of course," said the sub-prefect, "all the formal discussions – the paper signing and such dull technicalities, that is – will take place before the – What is it you call your Council?"

"The Board of Trustees," replied Pirenne, coldly.

"Queer name! Anyway, that's for tomorrow. We might as well clear away some of the underbrush, man to man, right now, though. Hey?"

"And this means—" prodded Hardin.

"Just this. There's been a certain change in the situation out here in the Periphery and the status of your planet has become a trifle uncertain. It would be very convenient if we succeeded in coming to an understanding as to how the matter stands. By the way, mayor, have you another one of those cigars?"

Hardin started and produced one reluctantly.

Anselm haut Rodric sniffed at it and emitted a clucking sound of pleasure. "Vegan tobacco! Where did you get it?"

"We received some last shipment. There's hardly any left. Space knows when we'll get more – if ever."

Pirenne scowled. He didn't smoke – and, for that matter, detested the odor. "Let me understand this, your eminence. Your mission is merely one of clarification?"

Haut Rodric nodded through the smoke of his first lusty puffs.

"In that case, it is soon over. The situation with respect to the Encyclopedia Foundation is what it always has been."

"Ah! And what is it that it always has been?"

"Just this: A State-supported scientific institution and part of the personal domain of his august majesty, the Emperor."

The sub-prefect seemed unimpressed. He blew smoke rings. "That's a nice theory, Dr. Pirenne. I imagine you've got charters with the Imperial Seal upon it – but what's the actual situation? How do you stand with respect to Smyrno? You're not fifty parsecs from Smyrno's capital. you know. And what about Konom and Daribow?"

Pirenne said: "We have nothing to do with any prefect. As part of the Emperor's–"

"They're not prefects," reminded Haut Rodric; "they're kingdoms now."

"Kingdoms then. We have nothing to do with them. As a scientific institution–"

"Science be damned!" swore the other. "What the devil has that got to do with the fact that we're liable to see Terminus taken over by Smyrno at any time?"

"And the Emperor? He would just sit by?"

Haut Rodric calmed down and said: "Well, now, Dr. Pirenne, you respect the Emperor's property and so does Anacreon, but Smyrno might not. Remember, we've just signed a treaty with the Emperor – I'll present a copy to that Board of yours tomorrow – which places upon us the responsibility of maintaining order within the borders of the old Prefect of Anacreon on behalf of the Emperor. Our duty is clear, then, isn't it?"

"Certainly. But Terminus is not part of the Prefect of Anacreon."

"And Smyrno–"

"Nor is it part of the Prefect of Smyrno. It's not part of any prefect."

"Does Smyrno know that?"

"I don't care what it knows."

"We do. We've just finished a war with her and she still holds two stellar systems that are ours. Terminus occupies an extremely strategic spot, between the two nations."

Hardin felt weary. He broke in: "What is your proposition, your eminence?"

The sub-prefect seemed quite ready to stop fencing in favor of more direct statements. He said briskly: "It seems perfectly obvious that, since Terminus cannot defend itself, Anacreon must take over the job for its own sake. You understand we have no desire to interfere with internal administration–"

"Uh-huh," grunted Hardin dryly.

"–but we believe that it would be best for all concerned to have Anacreon establish a military base upon the planet."

"And that is all you would want – a military base in some of the vast unoccupied territory – and let it go at that?"

"Well, of course, there would be the matter of supporting the protecting forces."

Hardin's chair came down on all four, and his elbows went forward on his knees. "Now we're getting to the nub. Let's put it into language. Terminus is to be a protectorate and to pay tribute."

"Not tribute. Taxes. We're protecting you. You pay for it."

Pirenne banged his hand on the chair with sudden violence. "Let me speak, Hardin. Your eminence, I don't care a rusty half-credit coin for Anacreon, Smyrno, or all your local politics and petty wars. I tell you this is a State-supported tax-free institution."

"State-supported? But we are the State, Dr. Pirenne, and we're not supporting."

Pirenne rose angrily. "Your eminence, I am the direct representative of—"

"—his august majesty, the Emperor," chorused Anselm haut Rodric sourly, "And I am the direct representative of the King of Anacreon. Anacreon is a lot nearer, Dr. Pirenne. "

"Let's get back to business," urged Hardin. "How would you take these so-called taxes, your eminence? Would you take them in kind: wheat, potatoes, vegetables, cattle?"

The sub-prefect stared. "What the devil? What do we need with those? We've got hefty surpluses. Gold, of course. Chromium or vanadium would be even better, incidentally, if you have it in quantity."

Hardin laughed. "Quantity! We haven't even got iron in quantity. Gold! Here, take a look at our currency." He tossed a coin to the envoy.

Haut Rodric bounced it and stared. "What is it? Steel?"

"That's right."

"I don't understand."

"Terminus is a planet practically without metals. We import it all. Consequently, we have no gold, and nothing to pay unless you want a few thousand bushels of potatoes."

"Well – manufactured goods."

"Without metal? What do we make our machines out of?"

There was a pause and Pirenne tried again. "This whole discussion is wide of the point. Terminus is not a planet, but a scientific foundation preparing a great encyclopedia. Space, man, have you no respect for science?"

"Encyclopedias don't win wars." Haut Rodric's brows furrowed. "A completely unproductive world, then – and practically unoccupied at that. Well, you might pay with land."

"What do you mean?" asked Pirenne.

"This world is just about empty and the unoccupied land is probably fertile. There are many of the nobility on Anacreon that would like an addition to their estates."

"You can't propose any such—"

"There's no necessity of looking so alarmed, Dr. Pirenne. There's plenty for all of us. If it comes to what it comes, and you co-operate, we could probably arrange it so that you lose nothing. Titles can be conferred and estates granted. You understand me, I think."

Pirenne sneered, "Thanks!"

And then Hardin said ingenuously: "Could Anacreon supply us with adequate quantities of plutonium for our nuclear-power plant? We've only a few years' supply left."

There was a gasp from Pirenne and then a dead silence for minutes. When Haut Rodric spoke it was in a voice quite different from what it had been till then:

"You have nuclear power?"

"Certainly. What's unusual in that? I imagine nuclear power is fifty thousand years old now. Why shouldn't we have it? Except that it's a little difficult to get plutonium."

"Yes . . . Yes." The envoy paused and added uncomfortably: "Well, gentlemen, we'll pursue the subject tomorrow. You'll excuse me—"

Pirenne looked after him and gritted through his teeth: "That insufferable, dull-witted donkey! That—"

Hardin broke in: "Not at all. He's merely the product of his environment. He doesn't understand much except that 'I have a gun and you haven't.'"

Pirenne whirled on him in exasperation. "What in space did you mean by the talk about military bases and tribute? Are you crazy?"

"No. I merely gave him rope and let him talk. You'll notice that he managed to stumble out with Anacreon's real intentions – that is, the parceling up of Terminus into landed estates. Of course, I don't intend to let that happen."

"You don't intend. You don't. And who are you? And may I ask what you meant by blowing off your mouth about our nuclear-power plant? Why, it's just the thing that would make us a military target."

"Yes," grinned Hardin. "A military target to stay away from. Isn't it obvious why I brought the subject up? It happened to confirm a very strong suspicion I had had."

"And that was what?"

"That Anacreon no longer has a nuclear-power economy. If they had, our friend would undoubtedly have realized that plutonium, except in ancient tradition is not used in power plants. And therefore it follows that the rest of the Periphery no longer has nuclear power either. Certainly Smyrno hasn't, or Anacreon wouldn't have won most of the battles in their recent war. Interesting, wouldn't you say?"

"Bah!" Pirenne left in fiendish humor, and Hardin smiled gently.

He threw his cigar away and looked up at the outstretched Galaxy. "Back to oil and coal, are they?" he murmured – and what the rest of his thoughts were he kept to himself.

3.

When Hardin denied owning the *Journal*, he was perhaps technically correct, but no more. Hardin had been the leading spirit in the drive to incorporate Terminus into an autonomous municipality—he had been elected its first mayor—so it was not surprising that, though not a single share of *Journal* stock was in his name, some sixty percent was controlled by him in more devious fashions.

There were ways.

Consequently, when Hardin began suggesting to Pirenne that he be allowed to attend meetings of the Board of Trustees, it was not quite coincidence that the *Journal* began a similar campaign. And the first mass meeting in the history of the Foundation was held, demanding representation of the City in the "national" government.

And, eventually, Pirenne capitulated with ill grace.

Hardin, as he sat at the foot of the table, speculated idly as to just what it was that made physical scientists such poor administrators. It might be merely that they were too used to inflexible fact and far too unused to pliable people.

In any case, there was Tomaz Sutt and Jord Fara on his left; Lundin Crast and Yate Fulham on his right; with Pirenne, himself, presiding. He knew them all, of course, but they seemed to have put on an extra-special bit of pomposity for the occasion.

Hardin had dozed through the initial formalities and then perked up when Pirenne sipped at the glass of water before him by way of preparation and said:

"I find it very gratifying to be able to inform the Board that since our last meeting, I have received word that Lord Dorwin, Chancellor of the Empire, will arrive at Terminus in two weeks. It may be taken for granted that our relations with Anacreon will be smoothed out to our complete satisfaction as soon as the Emperor is informed of the situation. "

He smiled and addressed Hardin across the length of the table. "Information to this effect has been given the *Journal*."

Hardin snickered below his breath. It seemed evident that Pirenne's desire to strut this information before him had been one reason for his admission into the sacrosanctum.

He said evenly: "Leaving vague expressions out of account, what do you expect Lord Dorwin to do?"

Tomaz Sutt replied. He had a bad habit of addressing one in the third person when in his more stately moods.

"It is quite evident," he observed, "that Mayor Hardin is a professional cynic. He can scarcely fail to realize that the Emperor would be most unlikely to allow his personal rights to be infringed."

"Why? What would he do in case they were?"

There was an annoyed stir. Pirenne said, "You are out of order," and, as an afterthought, "and are making what are near-treasonable statements, besides."

"Am I to consider myself answered?"

"Yes! If you have nothing further to say—"

"Don't jump to conclusions. I'd like to ask a question. Besides this stroke of diplomacy – which may or may not prove to mean anything – has anything concrete been done to meet the Anacreonic menace?"

Yate Fulham drew one hand along his ferocious red mustache. "You see a menace there, do you?"

"Don't you?"

"Scarcely"—this with indulgence. "The Emperor—"

"Great space!" Hardin felt annoyed. "What is this? Every once in a while someone mentions 'Emperor' or 'Empire' as if it were a magic word. The Emperor is thousands of

parsecs away, and I doubt whether he gives a damn about us. And if he does, what can he do? What there was of the imperial navy in these regions is in the hands of the four kingdoms now and Anacreon has its share. Listen, we have to fight with guns, not with words.

"Now, get this. We've had two months' grace so far, mainly because we've given Anacreon the idea that we've got nuclear weapons. Well, we all know that that's a little white lie. We've got nuclear power, but only for commercial uses, and darn little at that. They're going to find that out soon, and if you think they're going to enjoy being jollied along, you're mistaken."

"My dear sir—"

"Hold on: I'm not finished." Hardin was warming up. He liked this. "It's all very well to drag chancellors into this, but it would be much nicer to drag a few great big siege guns fitted for beautiful nuclear bombs into it. We've lost two months, gentlemen, and we may not have another two months to lose. What do you propose to do?"

Said Lundin Crast, his long nose wrinkling angrily: "If you're proposing the militarization of the Foundation, I won't hear a word of it. It would mark our open entrance into the field of politics. We, Mr. Mayor, are a scientific foundation and nothing else."

Added Sutt: "He does not realize, moreover, that building armaments would mean withdrawing men – valuable men – from the Encyclopedia. That cannot be done, come what may."

"Very true," agreed Pirenne. "The Encyclopedia first – always."

Hardin groaned in spirit. The Board seemed to suffer violently from Encyclopedia on the brain,

He said icily: "Has it ever occurred to this Board that it is barely possible that Terminus may have interests other than the Encyclopedia?"

Pirenne replied: "I do not conceive, Hardin, that the Foundation can have *any* interest other than the Encyclopedia."

"I didn't say the Foundation; I said *Terminus*. I'm afraid you don't understand the situation. There's a good million of us here on Terminus, and not more than a hundred and fifty thousand are working directly on the Encyclopedia. To the rest of us, this is *home*. We were born here. We're living here. Compared with our farms and our homes and our factories, the Encyclopedia means little to us. We want them protected—"

He was shouted down.

"The Encyclopedia first," ground out Crast. "We have a mission to fulfill."

"Mission, hell," shouted Hardin. "That might have been true fifty years ago. But this is a new generation."

"That has nothing to do with it," replied Pirenne. "We are scientists."

And Hardin leaped through the opening. "Are you, though? That's a nice hallucination, isn't it? Your bunch here is a perfect example of what's been wrong with the entire Galaxy for thousands of years. What kind of science is it to be stuck out here for centuries classifying the work of scientists of the last millennium? Have you ever thought

of working onward, extending their knowledge and improving upon it? No! You're quite happy to stagnate. The whole Galaxy is, and has been for space knows how long. That's why the Periphery is revolting; that's why communications are breaking down; that's why petty wars are becoming eternal; that's why whole systems are losing nuclear power and going back to barbarous techniques of chemical power.

"If you ask me," he cried, "*the Galactic Empire is dying!*"

He paused and dropped into his chair to catch his breath, paying no attention to the two or three that were attempting simultaneously to answer him.

Crast got the floor. "I don't know what you're trying to gain by your hysterical statements, Mr. Mayor. Certainly, you are adding nothing constructive to the discussion. I move, Mr. Chairman, that the speaker's remarks be placed out of order and the discussion be resumed from the point where it was interrupted."

Jord Fara bestirred himself for the first time. Up to this point Fara had taken no part in the argument even at its hottest. But now his ponderous voice, every bit as ponderous as his three-hundred-pound body, burst its bass way out.

"Haven't we forgotten something, gentlemen?"

"What?" asked Pirenne, peevishly.

"That in a month we celebrate our fiftieth anniversary." Fara had a trick of uttering the most obvious platitudes with great profundity.

"What of it?"

"And on that anniversary," continued Fara, placidly, "Hari Seldon's Vault will open. Have you ever considered what might be in the Vault?"

"I don't know. Routine matters. A stock Speech of congratulations, perhaps. I don't think any significance need be placed on the Vault – though the *Journal*" – and he glared at Hardin, who grinned back – "did try to make an issue of it. I put a stop to that."

"Ah," said Fara, "but perhaps you are wrong. Doesn't it strike you" – he paused and put a finger to his round little nose – "that the Vault is opening at a very convenient time?"

"Very inconvenient time, you mean," muttered Fulham. "We've got some other things to worry about."

"Other things more important than a message from Hari Seldon? I think not." Fara was growing more pontifical than ever, and Hardin eyed him thoughtfully. What was he getting at?

"In fact," said Fara, happily, "you all seem to forget that Seldon was the greatest psychologist of our time and that he was the founder of our Foundation. It seems reasonable to assume that he used his science to determine the probable course of the history of the immediate future. If he did, as seems likely, I repeat, he would certainly have managed to find a way to warn us of danger and, perhaps, to point out a solution. The Encyclopedia was very dear to his heart, you know."

An aura of puzzled doubt prevailed. Pirenne hemmed. "Well, now, I don't know. Psychology is a great science, but-there are no psychologists among us at the moment, I believe. It seems to me we're on uncertain ground."

Fara turned to Hardin. "Didn't you study psychology under Alurin?"

Hardin answered, half in reverie: "Yes, I never completed my studies, though. I got tired of theory. I wanted to be a psychological engineer, but we lacked the facilities, so I did the next best thing – I went into politics. It's practically the same thing."

"Well, what do you think of the Vault?"

And Hardin replied cautiously, "I don't know."

He did not say a word for the remainder of the meeting even though it got back to the subject of the Chancellor of the Empire.

In fact, he didn't even listen. He'd been put on a new track and things were falling into place—just a little. Little angles were fitting together – one or two.

And psychology was the key. He was sure of that.

He was trying desperately to remember the psychological theory he had once learned – and from it he got one thing right at the start.

A great psychologist such as Seldon could unravel human emotions and human reactions sufficiently to be able to predict broadly the historical sweep of the future.

And what would that mean?

4.

Lord Dorwin took snuff. He also had long hair, curled intricately and, quite obviously, artificially, to which were added a pair of fluffy, blond sideburns, which he fondled affectionately. Then, too, he spoke in overprecise statements and left out all the r's.

At the moment, Hardin had no time to think of more of the reasons for the instant detestation in which he had held the noble chancellor. Oh, yes, the elegant gestures of one hand with which he accompanied his remarks and the studied condescension with which he accompanied even a simple affirmative.

But, at any rate, the problem now was to locate him. He had disappeared with Pirenne half an hour before – passed clean out of sight, blast him.

Hardin was quite sure that his own absence during the preliminary discussions would quite suit Pirenne.

But Pirenne had been seen in this wing And on this floor. It was simply a matter of trying every door. Halfway down, he said, "Ah!" and stepped into the darkened room. The profile of Lord Dorwin's intricate hair-do was unmistakable against the lighted screen.

Lord Dorwin looked up and said: "Ah, Hahdin. You ah looking foah us, no doubt?" He held out his snuffbox – overadorned and poor workmanship at that, noted Hardin and was politely refused whereat he helped himself to a pinch and smiled graciously.

Pirenne scowled and Hardin met that with an expression of blank indifference.

The only sound to break the short silence that followed was the clicking of the lid of Lord Dorwin's snuffbox. And then he put it away and said:

"A great achievement, this Encyclopedia of yoahs, Hahdin. A feat, indeed, to rank with the most majestic accomplishments of all time."

"Most of us think so, milord. It's an accomplishment not quite accomplished as yet, however."

"Fwom the little I have seen of the efficiency of yoah Foundation, I have no feahs on that scoah." And he nodded to Pirenne, who responded with a delighted bow.

Quite a love feast, thought Hardin. "I wasn't complaining about the lack of efficiency, milord, as much as of the definite excess of efficiency on the part of the Anacreonians – though in another and more destructive direction."

"Ah, yes, Anacweon." A negligent wave of the hand. "I have just come from theah. Most bahbawous planet. It is thowoughly inconceivable that human beings could live heah in the Pewiphewy. The lack of the most elementawy wequiahments of a cultuahed gentleman; the absence of the most fundamental necessities foah comfoht and convenience – the uttah desuetude into which they–"

Hardin interrupted dryly: "The Anacreonians, unfortunately, have all the elementary requirements for warfare and all the fundamental necessities for destruction."

"Quite, quite." Lord Dorwin seemed annoyed, perhaps at being stopped midway in his sentence. "But we ahn't to discuss business now, y'know. Weally, I'm othahwise concuhned. Doctah Piwenne, ahn't you going to show me the second volume? Do, please."

The lights clicked out and for the next half-hour Hardin might as well have been on Anacreon for all the attention they paid him. The book upon the screen made little sense to him, nor did he trouble to make the attempt to follow, but Lord Dorwin became quite humanly excited at times. Hardin noticed that during these moments of excitement the chancellor pronounced his r's.

When the lights went on again, Lord Dorwin said: "Mahvelous. Twuly mahvelous. You ah not, by chance, intewested in ahchaeology, ah you, Hahdin?"

"Eh?" Hardin shook himself out of an abstracted reverie. "No, milord, can't say I am. I'm a psychologist by original intention and a politician by final decision."

"Ah! No doubt intewesting studies. 1, myself, y'know" – he helped himself to a giant pinch of snuff – "dabble in ahchaeology."

"Indeed?"

"His lordship," interrupted Pirenne, "is most thoroughly acquainted with the field."

"Well, p'haps I am, p'haps I am," said his lordship complacently. "I *have* done an awful amount of wuhk in the science. Extwemely well-read, in fact. I've gone thwough all of Jawdun, Obijasi, Kwomwill . . . oh, all of them, y'know."

"I've heard of them, of course," said Hardin, "but I've never read them."

"You should some day, my deah fellow. It would amply repay you. Why, I cutainly considah it well wuhth the twip heah to the Pewiphewy to see this copy of Lameth. Would you believe it, my Libwawy totally lacks a copy. By the way, Doctah Piwenne, you have not fohgotten yoah pwomise to twansdevelop a copy foah me befoah I leave?"

"Only too pleased."

"Lameth, you must know," continued the chancellor, pontifically, "presents a new and most interesting addition to my previous knowledge of the 'Origin Question.'"

"Which question?" asked Hardin.

"The 'Origin Question.' The place of the origin of the human species, y'know. Surely you must know that it is thought that originally the human race occupied only one planetary system."

"Well, yes, I know that."

"Of course, no one knows exactly which system it is – lost in the mists of antiquity. Theah ah theawies, however. Siwius, some say. Others insist on Alpha Centauri, oah on Sol, oah on 61 Cygni – all in the Siwius sector, you see."

"And what does Lameth say?"

"Well, he goes off along a new trail completely. He tries to show that archaeological remains on the third planet of the Ahctuvian System show that humanity existed theah before theah was any indications of space-travel."

"And that means it was humanity's birth planet?"

"Perhaps. I must read it closely and weigh the evidence before I can say for certain. One must see just how reliable his observations are."

Hardin remained silent for a short while. Then he said, "When did Lameth write his book?"

"Oh – I should say about eight hundred years ago. Of course, he has based it largely on the previous work of Gleen."

"Then why rely on him? Why not go to Arcturus and study the remains for yourself?"

Lord Dorwin raised his eyebrows and took a pinch of snuff hurriedly. "Why, whatever for, my dear fellow?"

"To get the information firsthand, of course."

"But where's the necessity? It seems an uncommonly roundabout and hopelessly wiggamish method of getting anywhere. Look here, now, I've got the works of all the old masters – the great archaeologists of the past. I weigh them against each other – balance the disagreements – analyze the conflicting statements – decide which is probably correct – and come to a conclusion. That is the scientific method. At least" – patronizingly – "as I see it. How insufficiently wise it would be to go to Ahctuvus, oah to Sol, for instance, and blunder about, when the old masters have covered the ground so much more effectually than we could possibly hope to do."

Hardin murmured politely, "I see."

"Come, milord," said Pirenne, "think we had better be returning."

"Ah, yes. Perhaps we had."

As they left the room, Hardin said suddenly, "Milord, may I ask a question?"

Lord Dorwin smiled blandly and emphasized his answer with a gracious flutter of the hand. "Certainly, my dear fellow. Only too happy to be of service. If I can help you in any way from my poor store of knowledge-

"It isn't exactly about archaeology, milord."

"No?"

"No. It's this: Last year we received news here in Terminus about the meltdown of a power plant on Planet V of Gamma Andromeda. We got the barest outline of the accident – no details at all. I wonder if you could tell me exactly what happened."

Pirenne's mouth twisted. "I wonder you annoy his lordship with questions on totally irrelevant subjects."

"Not at all, Doctah Piwenne," interceded the chancellor. "It is quite all wight. Theah isn't much to say concuhning it in any case. The powah plant did undergo meltdown and it was quite a catastwophe, y'know. I believe wadiatsen damage. Weally, the govuhnment is sewiously considewing placing seveah westwictions upon the indiscwiminate use of nucleah powah – though that is not a thing for genewal publication, y'know."

"I understand," said Hardin. "But what was wrong with the plant?"

"Well, weally," replied Lord Dorwin indifferently, "who knows? It had bwoken down some yeahs pweviously and it is thought that the weplacements and wepaiah wuhk wuh most infewiah. It is so difficult these days to find men who weally undahstand the moah technical details of ouah powah systems." And he took a sorrowful pinch of snuff.

"You realize," said Hardin, "that the independent kingdoms of the Periphery had lost nuclear power altogether?"

"Have they? I'm not at all suhpwised. Bahbawous planets– Oh, but my deah fellow, don't call them independent. They ahn't, y'know. The tweaties we've made with them ah pwoof positive of that. They acknowledge the soveweignty of the Empewah. They'd have to, of cohse, oah we wouldn't tweat with them."

"That may be so, but they have considerable freedom of action."

"Yes, I suppose so. Considewable. But that scahcely mattahs. The Empiah is fah bettah off, with the Pewiphewy thwown upon its own wesoahces – as it is, moah oah less. They ahn't any good to us, y'know. Most bahbawous planets. Scahcely civilized."

"They were civilized in the past. Anacreon was one of the richest of the outlying provinces. I understand it compared favorably with Vega itself."

"Oh, but, Hahdin, that was centuwies ago. You can scahcely dwaw conclusion fwom that. Things wah diffewent in the old gweat days. We ahn't the men we used to be, y'know. But, Hahdin, come, you ah a most puhsistent chap."

I've told you I simply won't discuss business today. Doctah Piwenne did pwepayah me foah you. He told me you would twy to badgah me, but I'm fah too old a hand foah that. Leave it foah next day. And that was that.

5.

This was the second meeting of the Board that Hardin had attended, if one were to exclude the informal talks the Board members had had with the now-departed Lord

Dorwin. Yet the mayor had a perfectly definite idea that at least one other, and possibly two or three, had been held, to which he had somehow never received an invitation.

Nor, it seemed to him, would he have received notification of this one had it not been for the ultimatum.

At least, it amounted to an ultimatum, though a superficial reading of the visigraphed document would lead one to suppose that it was a friendly interchange of greetings between two potentates.

Hardin fingered it gingerly. It started off floridly with a salutation from "His Puissant Majesty, the King of Anacreon, to his friend and brother, Dr. Lewis Pirenne, Chairman of the Board of Trustees, of the Encyclopedia Foundation Number One," and it ended even more lavishly with a gigantic, multicolored seal of the most involved symbolism.

But it was an ultimatum just the same.

Hardin said: "It turned out that we didn't have much time after all – only three months. But little as it was, we threw it away unused. This thing here gives us a week. What do we do now?"

Pirenne frowned worriedly. "There must be a loophole. It is absolutely unbelievable that they would push matters to extremities in the face of what Lord Dorwin has assured us regarding the attitude of the Emperor and the Empire."

Hardin perked up. "I see. You have informed the King of Anacreon of this alleged attitude?"

"I did – after having placed the proposal to the Board for a vote and having received unanimous consent."

"And when did this vote take place?"

Pirenne climbed onto his dignity. "I do not believe I am answerable to you in any way, Mayor Hardin."

"All right. I'm not that vitally interested. It's just my opinion that it was your diplomatic transmission of Lord Dorwin's valuable contribution to the situation" – he lifted the corner of his mouth in a sour half-smile – "that was the direct cause of this friendly little note. They might have delayed longer otherwise – though I don't think the additional time would have helped Terminus any, considering the attitude of the Board."

Said Yate Fulham: "And just how do you arrive at that remarkable conclusion, Mr. Mayor?"

"In a rather simple way. It merely required the use of that much-neglected commodity – common sense. You see, there is a branch of human knowledge known as symbolic logic, which can be used to prune away all sorts of clogging deadwood that clutters up human language."

"What about it?" said Fulham.

"I applied it. Among other things, I applied it to this document here. I didn't really need to for myself because I knew what it was all about, but I think I can explain it more easily to five physical scientists by symbols rather than by words."

Hardin removed a few sheets of paper from the pad under his arm and spread them out. "I didn't do this myself, by the way," he said. "Muller Holk of the Division of Logic has his name signed to the analyses, as you can see."

Pirenne leaned over the table to get a better view and Hardin continued: "The message from Anacreon was a simple problem, naturally, for the men who wrote it were men of action rather than men of words. It boils down easily and straightforwardly to the unqualified statement, when in symbols is what you see, and which in words, roughly translated, is, 'You give us what we want in a week, or we take it by force.'"

There was silence as the five members of the Board ran down the line of symbols, and then Pirenne sat down and coughed uneasily.

Hardin said, "No loophole, is there, Dr. Pirenne?"

"Doesn't seem to be."

"All right." Hardin replaced the sheets. "Before you now you see a copy of the treaty between the Empire and Anacreon – a treaty, incidentally, which is signed on the Emperor's behalf by the same Lord Dorwin who was here last week – and with it a symbolic analysis."

The treaty ran through five pages of fine print and the analysis was scrawled out in just under half a page.

"As you see, gentlemen, something like ninety percent of the treaty boiled right out of the analysis as being meaningless, and what we end up with can be described in the following interesting manner:

"Obligations of Anacreon to the Empire: *None!*

"Powers of the Empire over Anacreon: *None!*"

Again the five followed the reasoning anxiously, checking carefully back to the treaty, and when they were finished, Pirenne said in a worried fashion, "That seems to be correct."

"You admit, then, that the treaty is nothing but a declaration of total independence on the part of Anacreon and a recognition of that status by the Empire?"

"It seems so."

"And do you suppose that Anacreon doesn't realize that, and is not anxious to emphasize the position of independence – so that it would naturally tend to resent any appearance of threats from the Empire? Particularly when it is evident that the Empire is powerless to fulfill any such threats, or it would never have allowed independence."

"But then," interposed Sutt, "how would Mayor Hardin account for Lord Dorwin's assurances of Empire support? They seemed –" He shrugged. "Well, they seemed satisfactory."

Hardin threw himself back in the chair. "You know, that's the most interesting part of the whole business. I'll admit I had thought his Lordship a most consummate donkey when I first met him – but it turned out that he was actually an accomplished diplomat and a most clever man. I took the liberty of recording all his statements."

There was a flurry, and Pirenne opened his mouth in horror.

"What of it?" demanded Hardin. "I realize it was a gross breach of hospitality and a thing no so-called gentleman would do. Also, that if his lordship had caught on, things might have been unpleasant; but he didn't, and I have the record, and that's that. I took that record, had it copied out and sent that to Holk for analysis, also."

Lundin Crast said, "And where is the analysis?"

"That," replied Hardin, "is the interesting thing. The analysis was the most difficult of the three by all odds. When Holk, after two days of steady work, succeeded in eliminating meaningless statements, vague gibberish, useless qualifications – in short, all the goo and dribble – he found he had nothing left. Everything canceled out."

"Lord Dorwin, gentlemen, in five days of discussion *didn't* say one *damned thing*, and said it so you never noticed. *There* are the assurances you had from your precious Empire."

Hardin might have placed an actively working stench bomb on the table and created no more confusion than existed after his last statement. He waited, with weary patience, for it to die down.

"So," he concluded, "when you sent threats – and that's what they were – concerning Empire action to Anacreon, you merely irritated a monarch who knew better. Naturally, his ego would demand immediate action, and the ultimatum is the result-which brings me to my original statement. We have one week left and what do we do now?"

"It seems," said Sutt, "that we have no choice but to allow Anacreon to establish military bases on Terminus."

"I agree with you there," replied Hardin, "but what do we do toward kicking them off again at the first opportunity?"

Yate Fulham's mustache twitched. "That sounds as if you have made up your mind that violence must be used against them."

"Violence," came the retort, "is the last refuge of the incompetent. But I certainly don't intend to lay down the welcome mat and brush off the best furniture for their use."

"I still don't like the way you put that," insisted Fulham. "It is a dangerous attitude; the more dangerous because we have noticed lately that a sizable section of the populace seems to respond to all your suggestions just so. I might as well tell you, Mayor Hardin, that the board is not quite blind to your recent activities."

He paused and there was general agreement. Hardin shrugged.

Fulham went on: "If you were to inflame the City into an act of violence, you would achieve elaborate suicide – and we don't intend to allow that. Our policy has but one cardinal principle, and that is the Encyclopedia. Whatever we decide to do or not to do will be so decided because it will be the measure required to keep that Encyclopedia safe."

"Then," said Hardin, "you come to the conclusion that we must continue our intensive campaign of doing nothing."

Pirenne said bitterly: "You have yourself demonstrated that the Empire cannot help us; though how and why it can be so, I don't understand. If compromise is necessary–"

Hardin had the nightmarelike sensation of running at top speed and getting nowhere. "There is no compromise! Don't you realize that this bosh about military bases is a particularly inferior grade of drivel? Haut Rodric told us what Anacreon was after – outright annexation and imposition of its own feudal system of landed estates and peasant-aristocracy economy upon us. What is left of our bluff of nuclear power may force them to move slowly, but they will move nonetheless."

He had risen indignantly, and the rest rose with him except for Jord Fara.

And then Jord Fara spoke. "Everyone will please sit down. We've gone quite far enough, I think. Come, there's no use looking so furious, Mayor Hardin; none of us have been committing treason."

"You'll have to convince me of that!"

Fara smiled gently. "You know you don't mean that. Let me speak!"

His little shrewd eyes were half closed, and the perspiration gleamed on the smooth expanse of his chin. "There seems no point in concealing that the Board has come to the decision that the real solution to the Anacreonian problem lies in what is to be revealed to us when the Vault opens six days from now."

"Is that your contribution to the matter?"

"Yes."

"We are to do nothing, is that fight, except to wait in quiet serenity and utter faith for the *deus ex machina* to pop out of the Vault?"

"Stripped of your emotional phraseology, that's the idea."

"Such unsubtle escapism! Really, Dr. Fara, such folly smacks of genius. A lesser mind would be incapable of it."

Fara smiled indulgently. "Your taste in epigrams is amusing, Hardin, but out of place. As a matter of fact, I think you remember my line of argument concerning the Vault about three weeks ago."

"Yes, I remember it. I don't deny that it was anything but a stupid idea from the standpoint of deductive logic alone. You said – stop me when I make a mistake – that Hari Seldon was the greatest psychologist in the System; that, hence, he could foresee the right and uncomfortable spot we're in now; that, hence, he established the Vault as a method of telling us the way out."

"You've got the essence of the idea."

"Would it surprise you to hear that I've given considerable thought to the matter these last weeks?"

"Very flattering. With what result?"

"With the result that pure deduction is found wanting. Again what is needed is a little sprinkling of common sense."

"For instance?"

"For instance, if he foresaw the Anacreonian mess, why not have placed us on some other planet nearer the Galactic centers? It's well known that Seldon maneuvered the Commissioners on Trantor into ordering the Foundation established on Terminus. But why should he have done so? Why put us out here at all if he could see in advance the

break in communication lines, our isolation from the Galaxy, the threat of our neighbors – and our helplessness because of the lack of metals on Terminus? That above all! Or if he foresaw all this, why not have warned the original settlers in advance that they might have had time to prepare, rather than wait, as he is doing, until one foot is over the cliff, before doing so?

"And don't forget this. Even though he could foresee the problem *then*, we can see it equally well *now*. Therefore, if he could foresee the solution *then*, we should be able to see it *now*. After all, Seldon was not a magician. There are no trick methods of escaping from a dilemma that he can see and we can't."

"But, Hardin," reminded Fara, "we can't!"

"But you haven't *tried*. You haven't tried once. First, you refused to admit that there was a menace at all! Then you reposed an absolutely blind faith in the Emperor! Now you've shifted it to Hari Seldon. Throughout you have invariably relied on authority or on the past – never on yourselves."

His fists balled spasmodically. "It amounts to a diseased attitude – a conditioned reflex that shunts aside the independence of your minds whenever it is a question of opposing authority. There seems no doubt ever in your minds that the Emperor is more powerful than you are, or Hari Seldon wiser. And that's wrong, don't you see?"

For some reason, no one cared to answer him.

Hardin continued: "It isn't just you. It's the whole Galaxy. Pirenne heard Lord Dorwin's idea of scientific research. Lord Dorwin thought the way to be a good archaeologist was to read all the books on the subject – written by men who were dead for centuries. He thought that the way to solve archaeological puzzles was to weigh the opposing authorities. And Pirenne listened and made no objections. Don't you see that there's something wrong with that?"

Again the note of near-pleading in his voice. Again no answer.

He went on: "And you men and half of Terminus as well are just as bad. We sit here, considering the Encyclopedia the all-in-all. We consider the greatest end of science. is the classification of past data. It is important, but is there no further work to be done? We're receding and forgetting, don't you see? Here in the Periphery they've lost nuclear power. In Gamma Andromeda, a power plant has undergone meltdown because of poor repairs, and the Chancellor of the Empire complains that nuclear technicians are scarce. And the solution? To train new ones? Never! Instead they're to restrict nuclear power."

And for the third time: "Don't you see? It's Galaxywide. It's a worship of the past. It's a deterioration – a *stagnation*!"

He stared from one to the other and they gazed fixedly at him.

Fara was the first to recover. "Well, mystical philosophy isn't going to help us here. Let us be concrete. Do you deny that Hari Seldon could easily have worked out historical trends of the future by simple psychological technique?"

"No, of course not," cried Hardin. "But we can't rely on him for a solution. At best, he might indicate the problem, but if ever there is to be a solution, we must work it out ourselves. He can't do it for us."

Fulham spoke suddenly. "What do you mean – 'indicate the problem'? We *know* the problem."

Hardin whirled on him. "You think you do? You think Anacreon is all Hari Seldon is likely to be worried about. I disagree! I tell you, gentlemen, that as yet none of you has the faintest conception of what is really going on."

"And you do?" questioned Pirenne, hostilely.

"I think so!" Hardin jumped up and pushed his chair away. His eyes were cold and hard. "If there's one thing that's definite, it is that there's something smelly about the whole situation; something that is bigger than anything we've talked about yet. Just ask yourself this question: Why was it that among the original population of the Foundation not one first-class psychologist was included, except Bor Alurin? And *he* carefully refrained from training his pupils in more than the fundamentals."

A short silence and Fara said: "All right. Why?"

"Perhaps because a psychologist might have caught on to what this was all about – and too soon to suit Hari Seldon. As it is, we've been stumbling about, getting misty glimpses of the truth and no more. And that is what Hari Seldon wanted."

He laughed harshly. "Good day, gentlemen!"

He stalked out of the room.

6.

Mayor Hardin chewed at the end of his cigar. It had gone out but he was past noticing that. He hadn't slept the night before and he had a good idea that he wouldn't sleep this coming night. His eyes showed it.

He said wearily, "And that covers it?"

"I think so." Yohan Lee put a hand to his chin. "How does it sound?"

"Not too bad. It's got to be done, you understand, with impudence. That is, there is to be no hesitation; no time to allow them to grasp the situation. Once we are in a position to give orders, why, give them as though you were born to do so, and they'll obey out of habit. That's the essence of a coup."

"If the Board remains irresolute for even –"

"The Board? Count them out. After tomorrow, their importance as a factor in Terminus affairs won't matter a rusty half-credit."

Lee nodded slowly. "Yet it is strange that they've done nothing to stop us so far. You say they weren't entirely in the dark."

"Fara stumbles at the edges of the problem. Sometimes he makes me nervous. And Pirenne's been suspicious of me since I was elected. But, you see, they never had the capacity of really understanding what was up. Their whole training has been authoritarian. They are sure that the Emperor, just because he is the Emperor, is all-powerful. And they are sure that the Board of Trustees, simply because it is the Board of Trustees acting in

the name of the Emperor, cannot be in a position where it does not give the orders. That incapacity to recognize the possibility of revolt is our best ally."

He heaved out of his chair and went to the water cooler. "They're not bad fellows, Lee, when they stick to their Encyclopedia – and we'll see that that's where they stick in the future. They're hopelessly incompetent when it comes to ruling Terminus. Go away now and start things rolling. I want to be alone."

He sat down on the corner of his desk and stared at the cup of water.

Space! If only he were as confident as he pretended! The Anacreonians were landing in two days and what had he to go on but a set of notions and half-guesses as to what Hari Seldon had been driving at these past fifty years? He wasn't even a real, honest-to-goodness psychologist – just a fumbler with a little training trying to outguess the greatest mind of the age.

If Fara were fight; if Anacreon were all the problem Hari Seldon had foreseen; if the Encyclopedia were all he was interested in preserving – then what price *coup d'état*?

He shrugged and drank his water.

7.

The Vault was furnished with considerably more than six chairs, as though a larger company had been expected. Hardin noted that thoughtfully and seated himself wearily in a corner just as far from the other five as possible.

The Board members did not seem to object to that arrangement. They spoke among themselves in whispers, which fell off into sibilant monosyllables, and then into nothing at all. Of them all, only Jord Fara seemed even reasonably calm. He had produced a watch and was staring at it somberly.

Hardin glanced at his own watch and then at the glass cubicle – absolutely empty – that dominated half the room. It was the only unusual feature of the room, for aside from that there was no indication that somewhere a computer was splitting off instants of time toward that precise moment when a muon stream would flow, a connection be made and–

The lights went dim!

They didn't go out, but merely yellowed and sank with a suddenness that made Hardin jump. He had lifted his eyes to the ceiling lights in startled fashion, and when he brought them down the glass cubicle was no longer empty.

A figure occupied it, a figure in a wheel chair!

It said nothing for a few moments, but it closed the book upon its lap and fingered it idly. And then it smiled, and the face seemed all alive.

It said, "I am Hari Seldon." The voice was old and soft.

Hardin almost rose to acknowledge the introduction and stopped himself in the act.

The voice continued conversationally: "As you see, I am confined to this chair and cannot rise to greet you. Your grandparents left for Terminus a few months back in my time and since then I have suffered a rather inconvenient paralysis. I can't see you, you know, so I can't greet you properly. I don't even know how many of you there are, so all this must be conducted informally. If any of you are standing, please sit down; and if you care to smoke, I wouldn't mind." There was a light chuckle. "Why should I? I'm not really here."

Hardin fumbled for a cigar almost automatically, but thought better of it.

Hari Seldon put away his book – as if laying it upon a desk at his side – and when his fingers let go, it disappeared.

He said: "It is fifty years now since this Foundation was established – fifty years in which the members of the Foundation have been ignorant of what it was they were working toward. It was necessary that they be ignorant, but now the necessity is gone.

"The Encyclopedia Foundation, to begin with, is a fraud, and always has been!"

There was a sound of a scramble behind Hardin and one or two muffled exclamations, but he did not turn around.

Hari Seldon was, of course, undisturbed. He went on: "It is a fraud in the sense that neither I nor my colleagues care at all whether a single volume of the Encyclopedia is ever published. It has served its purpose, since by it we extracted an imperial charter from the Emperor, by it we attracted the hundred thousand humans necessary for our scheme, and by it we managed to keep them preoccupied while events shaped themselves, until it was too late for any of them to draw back.

"In the fifty years that you have worked on this fraudulent project – there is no use in softening phrases – your retreat has been cut off, and you have now no choice but to proceed on the infinitely more important project that was, and is, our real plan.

"To that end we have placed you on such a planet and at such a time that in fifty years you were maneuvered to the point where you no longer have freedom of action. From now on, and into the centuries, the path you must take is inevitable. You will be faced with a series of crises, as you are now faced with the first, and in each case your freedom of action will become similarly circumscribed so that you will be forced along one, and only one, path.

"It is that path which our psychology has worked out – and for a reason.

"For centuries Galactic civilization has stagnated and declined, though only a few ever realized that. But now, at last, the Periphery is breaking away and the political unity of the Empire is shattered. Somewhere in the fifty years just past is where the historians of the future will place an arbitrary line and say: 'This marks the Fall of the Galactic Empire.'

"And they will be right, though scarcely any will recognize that Fall for additional centuries.

"And after the Fall will come inevitable barbarism, a period which, our psychohistory tells us, should, under ordinary circumstances, last for thirty thousand years. We cannot stop the Fall. We do not wish to; for Imperial culture has lost whatever virility

and worth it once had. But we can shorten the period of Barbarism that must follow – down to a single thousand of years.

"The ins and outs of that shortening, we cannot tell you; just as we could not tell you the truth about the Foundation fifty years ago. Were you to discover those ins and outs, our plan might fail; as it would have, had you penetrated the fraud of the Encyclopedia earlier; for then, by knowledge, your freedom of action would be expanded and the number of additional variables introduced would become greater than our psychology could handle.

"But you won't, for there are no psychologists on Terminus, and never were, but for Alurin – and he was one of us.

"But this I can tell you: Terminus and its companion Foundation at the other end of the Galaxy are the seeds of the Renaissance and the future founders of the Second Galactic Empire. And it is the present crisis that is starting Terminus off to that climax.

"This, by the way, is a rather straightforward crisis, much simpler than many of those that are ahead. To reduce it to its fundamentals, it is this: You are a planet suddenly cut off from the still-civilized centers of the Galaxy, and threatened by your stronger neighbors. You are a small world of scientists surrounded by vast and rapidly expanding reaches of barbarism. You are an island of nuclear power in a growing ocean of more primitive energy; but are helpless despite that, because of your lack of metals.

"You see, then, that you are faced by hard necessity, and that action is forced on you. The nature of that action – that is, the solution to your dilemma – is, of course, obvious!"

The image of Hari Seldon reached into open air and the book once more appeared in his hand. He opened it and said:

"But whatever devious course your future history may take, impress it always upon your descendants that the path has been marked out, and that at its end is new and greater Empire!"

And as his eyes bent to his book, he flicked into nothingness, and the lights brightened once more.

Hardin looked up to see Pirenne facing him, eyes tragic and lips trembling.

The chairman's voice was firm but toneless. "You were right, it seems. If you will see us tonight at six, the Board will consult with you as to the next move."

They shook his hand, each one, and left, and Hardin smiled to himself. They were fundamentally sound at that; for they were scientists enough to admit that they were wrong – but for them, it was too late.

He looked at his watch. By this time, it was all over. Lee's men were in control and the Board was giving orders no longer.

The Anacreonians were landing their first spaceships tomorrow, but that was all right, too. In six months, *they* would be giving orders no longer.

In fact, as Hari Seldon had said, and as Salvor Hardin had guessed since the day that Anselm haut Rodric had first revealed to him Anacreon's lack of nuclear power – the solution to this first crisis was obvious.

Obvious as all hell!

PART III

THE MAYORS

1.

THE FOUR KINGDOMS – The name given to those portions of the Province of Anacreon which broke away from the First Empire in the early years of the Foundational Era to form independent and short-lived kingdoms. The largest and most powerful of these was Anacreon itself which in area. . .

. . . Undoubtedly the most interesting aspect of the history of the Four Kingdoms involves the strange society forced temporarily upon it during the administration of Salvor Hardin. . . .

ENCYCLOPEDIA GALACTICA

A deputation!

That Salvor Hardin had seen it coming made it none the more pleasant. On the contrary, he found anticipation distinctly annoying.

Yohan Lee advocated extreme measures. "I don't see, Hardin," he said, "that we need waste any time. They can't do anything till next election – legally, anyway – and that gives us a year. Give them the brush-off."

Hardin pursed his lips. "Lee, you'll never learn. In the forty years I've known you, you've never once learned the gentle art of sneaking up from behind."

"It's not my way of fighting," grumbled Lee.

"Yes, I know that. I suppose that's why you're the one man I trust." He paused and reached for a cigar. "We've come a long way, Lee, since we engineered our coup against the Encyclopedists way back. I'm getting old. Sixty-two. Do you ever think how fast those thirty years went?"

Lee snorted. "I don't feel old, and I'm sixty-six."

"Yes, but I haven't your digestion." Hardin sucked lazily at his cigar. He had long since stopped wishing for the mild Vegan tobacco of his youth. Those days when the planet, Terminus, had trafficked with every part of the Galactic Empire belonged in the limbo to which all Good Old Days go. Toward the same limbo where the Galactic Empire was heading. He wondered who the new emperor was – or if there was a new emperor at all – or any Empire. Space! For thirty years now, since the breakup of communications here at the edge of the Galaxy, the whole universe of Terminus had consisted of itself and the four surrounding kingdoms.

How the mighty had fallen! *Kingdoms!* They were prefects in the old days, all part of the same province, which in turn had been part of a sector, which in turn had been part of a quadrant, which in turn had been part of the all-embracing Galactic Empire. And now

that the Empire had lost control over the farther reaches of the Galaxy, these little splinter groups of planets became kingdoms – with comic-opera kings and nobles, and petty, meaningless wars, and a life that went on pathetically among the ruins.

A civilization falling. Nuclear power forgotten. Science fading to mythology – until the Foundation had stepped in. The Foundation that Hari Seldon had established for just that purpose here on Terminus.

Lee was at the window and his voice broke in on Hardin's reverie. "They've come," he said, "in a late-model ground car, the young pups." He took a few uncertain steps toward the door and then looked at Hardin.

Hardin smiled, and waved him back. "I've given orders to have them brought up here."

"Here! What for? You're making them too important."

"Why go through all the ceremonies of an official mayor's audience? I'm getting too old for red tape. Besides which, flattery is useful when dealing with youngsters – particularly when it doesn't commit you to anything." He winked. "Sit down, Lee, and give me your moral backing. I'll need it with this young Sermak."

"That fellow, Sermak," said Lee, heavily, "is dangerous. He's got a following, Hardin, so don't underestimate him."

"Have I ever underestimated anybody?"

"Well, then, arrest him. You can accuse him of something or other afterward."

Hardin ignored that last bit of advice. "There they are, Lee." In response to the signal, he stepped on the pedal beneath his desk, and the door slid aside.

They filed in, the four that composed the deputation, and Hardin waved them gently to the armchairs that faced his desk in a semicircle. They bowed and waited for the mayor to speak first.

Hardin flicked open the curiously carved silver lid of the cigar box that had once belonged to Jord Fara of the old Board of Trustees in the long-dead days of the Encyclopedists. It was a genuine Empire product from Santanni, though the cigars it now contained were home-grown. One by one, with grave solemnity, the four of the deputation accepted cigars and lit up in ritualistic fashion.

Sef Sermak was second from the right, the youngest of the young group – and the most interesting with his bristly yellow mustache trimmed precisely, and his sunken eyes of uncertain color. The other three Hardin dismissed almost immediately; they were rank and file on the face of them. It was on Sermak that he concentrated, the Sermak who had already, in his first term in the City Council, turned that sedate body topsy-turvy more than once, and it was to Sermak that he said:

"I've been particularly anxious to see you, Councilman, ever since your very excellent speech last month. Your attack on the foreign policy of this government was a most capable one."

Sermak's eyes smoldered. "Your interest honors me. The attack may or may not have been capable, but it was certainly justified."

"Perhaps! Your opinions are yours, of course. Still you are rather young."

Dryly. "It is a fault that most people are guilty of at some period of their life. You became mayor of the city when you were two years younger than I am now."

Hardin smiled to himself. The yearling was a cool customer. He said, "I take it now that you have come to see me concerning this same foreign policy that annoys you so greatly in the Council Chamber. Are you speaking for your three colleagues, or must I listen to each of you separately?" There were quick mutual glances among the four young men, a slight flickering of eyelids.

Sermak said grimly, "I speak for the people of Terminus – a people who are not now truly represented in the rubberstamp body they call the Council."

"I see. Go ahead, then!"

"It comes to this, Mr. Mayor. We are dissatisfied–"

"By 'we' you mean 'the people,' don't you?"

Sermak stared hostilely, sensing a trap, and replied coldly, "I believe that my views reflect those of the majority of the voters of Terminus. Does that suit you?"

"Well, a statement like that is all the better for proof, but go on, anyway. You are dissatisfied."

"Yes, dissatisfied with the policy which for thirty years had been stripping Terminus defenseless against the inevitable attack from outside."

"I see. And therefore? Go on, go on."

"It's nice of you to anticipate. And therefore we are forming a new political party; one that will stand for the immediate needs of Terminus and not for a mystic 'manifest destiny' of future Empire. We are going to throw you and your lick-spittle clique of appeasers out of City Hall-and that soon."

"Unless? There's always an 'unless,' you know."

"Not much of one in this case: Unless you resign now. I'm not asking you to change your policies – I wouldn't trust you that far. Your promises are worth nothing. An outright resignation is all we'll take."

"I see." Hardin crossed his legs and teetered his chair back on two legs. "That's your ultimatum. Nice of you to give me warning. But, you see, I rather think I'll ignore it."

"Don't think it was a warning, Mr. Mayor. It was an announcement of principles and of action. The new party has already been formed, and it will begin its official activities tomorrow. There is neither room nor desire for compromise, and, frankly, it was only our recognition of your services to the City that induced us to offer the easy way out. I didn't think you'd take it, but my conscience is clear."

The next election will be a more forcible and quite irresistible reminder that resignation is necessary."

He rose and motioned the rest up.

Hardin lifted his arm. "Hold on! Sit down!"

Sef Sermak seated himself once more with just a shade too much alacrity and Hardin smiled behind a straight face. In spite of his words, he was waiting for an offer.

Hardin said, "In exactly what way do you want our foreign policy changed? Do you want us to attack the Four Kingdoms, now, at once, and all four simultaneously?"

"I make no such suggestion, Mr. Mayor. It is our simple proposition that all appeasement cease immediately. Throughout your administration, you have carried out a policy of scientific aid to the Kingdoms. You have given them nuclear power. You have helped rebuild power plants on their territories. You have established medical clinics, chemical laboratories and factories."

"Well? And your objection?"

"You have done this in order to keep them from attacking us. With these as bribes, you have been playing the fool in a colossal game of blackmail, in which you have allowed Terminus to be sucked dry – with the result that now we are at the mercy of these barbarians."

"In what way?"

"Because you have given them power, given them weapons, actually serviced the ships of their navies, they are infinitely stronger than they were three decades ago. Their demands are increasing, and with their new weapons, they will eventually satisfy all their demands at once by violent annexation of Terminus. Isn't that the way blackmail usually ends?"

"And your remedy?"

"Stop the bribes immediately and while you can. Spend your effort in strengthening Terminus itself – and attack first!"

Hardin watched the young fellow's little blond mustache with an almost morbid interest. Sermak felt sure of himself or he wouldn't talk so much. There was no doubt that his remarks were the reflection of a pretty huge segment of the population, pretty huge.

His voice did not betray the slightly perturbed current of his thoughts. It was almost negligent. "Are you finished?"

"For the moment."

"Well, then, do you notice the framed statement I have on the wall behind me? Read it, if you will!"

Sermak's lips twitched. "It says: 'Violence is the last refuge of the incompetent.' That's an old man's doctrine, Mr. Mayor."

"I applied it as a young man, Mr. Councilman – and successfully. You were busily being born when it happened, but perhaps you may have read something of it in school."

He eyed Sermak closely and continued in measured tones, "When Hari Seldon established the Foundation here, it was for the ostensible purpose of producing a great Encyclopedia, and for fifty years we followed that will-of-the-wisp, before discovering what he was really after. By that time, it was almost too late. When communications with the central regions of the old Empire broke down, we found ourselves a world of scientists concentrated in a single city, possessing no industries, and surrounded by newly created kingdoms, hostile and largely barbarous. We were a tiny island of nuclear power in this ocean of barbarism, and an infinitely valuable prize.

"Anacreon, then as now, the most powerful of the Four Kingdoms, demanded and later actually established a military base upon Terminus, and the then rulers of the City, the Encyclopedists, knew very well that this was only a preliminary to taking over the

entire planet. That is how matters stood when I . . . uh . . . assumed actual government. What would you have done?"

Sermak shrugged his shoulders. "That's an academic question. Of course, I know what you did."

"I'll repeat it, anyway. Perhaps you don't get the point. The temptation was great to muster what force we could and put up a fight. It's the easiest way out, and the most satisfactory to self-respect – but, nearly invariably, the stupidest. You would have done it; you and your talk of 'attack first.' What I did, instead, was to visit the three other kingdoms, one by one; point out to each that to allow the secret of nuclear power to fall into the hands of Anacreon was the quickest way of cutting their own throats; and suggest gently that they do the obvious thing. That was all. One month after the Anacreonian force had landed on Terminus, their king received a joint ultimatum from his three neighbors. In seven days, the last Anacreonian was off Terminus.

Now tell me, where was the need for violence?"

The young councilman regarded his cigar stub thoughtfully and tossed it into the incinerator chute. "I fail to see the analogy. Insulin will bring a diabetic to normal without the faintest need of a knife, but appendicitis needs an operation. You can't help that. When other courses have failed, what is left but, as you put it, the last refuge? It's your fault that we're driven to it."

"I? Oh, yes, again my policy of appeasement. You still seem to lack grasp of the fundamental necessities of our position. Our problem wasn't over with the departure of the Anacreonians. They had just begun. The Four Kingdoms were more our enemies than ever, for each wanted nuclear power-and each was kept off our throats only for fear of the other three. We are balanced on the point of a very sharp sword, and the slightest sway in any direction – If, for instance, one kingdom becomes too strong; or if two form a coalition – You understand?"

"Certainly. That was the time to begin all-out preparations for war."

"On the contrary. That was the time to begin all-out prevention of war. I played them one against the other. I helped each in turn. I offered them science, trade, education, scientific medicine. I made Terminus of more value to them as a flourishing world than as a military prize. It worked for thirty years."

"Yes, but you were forced to surround these scientific gifts with the most outrageous mummery. You've made half religion, half balderdash out of it. You've erected a hierarchy of priests and complicated, meaningless ritual."

Hardin frowned. "What of that? I don't see that it has anything to do with the argument at all. I started that way at first because the barbarians looked upon our science as a sort of magical sorcery, and it was easiest to get them to accept it on that basis. The priesthood built itself and if we help it along we are only following the line of least resistance. It is a minor matter."

"But these priests are in charge of the power plants. That is not a minor matter."

"True, but we have trained them. Their knowledge of their tools is purely empirical; and they have a firm belief in the mummery that surrounds them."

"And if one pierces through the mummery, and has the genius to brush aside empiricism, what is to prevent him from learning actual techniques, and selling out to the most satisfactory bidder? What price our value to the kingdoms, then?"

"Little chance of that, Sermak. You are being superficial. The best men on the planets of the kingdoms are sent here to the Foundation each year and educated into the priesthood. And the best of these remain here as research students. If you think that those who are left, with practically no knowledge of the elements of science, or worse, still, with the distorted knowledge the priests receive, can penetrate at a bound to nuclear power, to electronics, to the theory of the hyperwarp – you have a very romantic and very foolish idea of science. It takes lifetimes of training and an excellent brain to get that far."

Yohan Lee had risen abruptly during the foregoing speech and left the room. He had returned now and when Hardin finished speaking, he bent to his superior's ear. A whisper was exchanged and then a leaden cylinder. Then, with one short hostile look at the deputation, Lee resumed his chair.

Hardin turned the cylinder end for end in his hands, watching the deputation through his lashes. And then he opened it with a hard, sudden twist and only Sermak had the sense not to throw a rapid look at the rolled paper that fell out.

"In short, gentlemen," he said, "the Government is of the opinion that it knows what it is doing."

He read as he spoke. There were the lines of intricate, meaningless code that covered the page and the three penciled words scrawled in one corner that carried the message. He took it in at a glance and tossed it casually into the incinerator shaft.

"That," Hardin then said, "ends the interview, I'm afraid. Glad to have met you all. Thank you for coming." He shook hands with each in perfunctory fashion, and they filed out.

Hardin had almost gotten out of the habit of laughing, but after Sermak and his three silent partners were well out of earshot, he indulged in a dry chuckle and bent an amused look on Lee.

"How did you like that battle of bluffs, Lee?"

Lee snorted grumpily. "I'm not sure that *he* was bluffing. Treat him with kid gloves and he's quite liable to win the next election, just as he says."

"Oh, quite likely, quite likely – if nothing happens first."

"Make sure they don't happen in the wrong direction this time, Hardin. I tell you this Sermak has a following. What if he doesn't wait till the next election? There was a time when you and I put things through violently, in spite of your slogan about what violence is."

Hardin cocked an eyebrow. "You are pessimistic today, Lee. And singularly contrary, too, or you wouldn't speak of violence. Our own little putsch was carried through without loss of life, you remember. It was a necessary measure put through at the proper moment, and went over smoothly, painlessly, and all but effortlessly. As for Sermak, he's up against a different proposition. You and I, Lee, aren't the Encyclopedists."

We stand prepared. Order your men onto these youngsters in a nice way, old fellow. Don't let them know they're being watched – but eyes open, you understand."

Lee laughed in sour amusement. "I'd be a fine one to wait for your orders, wouldn't I, Hardin? Sermak and his men have been under surveillance for a month now."

The mayor chuckled. "Got in first, did you? All right. By the way," he observed, and added softly, "Ambassador Verisof is returning to Terminus. Temporarily, I hope."

There was a short silence, faintly horrified, and then Lee said, "Was that the message? Are things breaking already?"

"Don't know. I can't tell till I hear what Verisof has to say. They may be, though. After all, they *have* to before election. But what are you looking so dead about?"

"Because I don't know how it's going to turn out. You're too deep, Hardin, and you're playing the game too close to your chest."

"Even you?" murmured Hardin. And aloud, "Does that mean you're going to join Sermak's new party?"

Lee smiled against his will. "All right. You win. How about lunch now?"

2.

There are many epigrams attributed to Hardin – a confirmed epigrammatist – a good many of which are probably apocryphal. Nevertheless, it is reported that on a certain occasion, he said:

"It pays to be obvious, especially if you have a reputation for subtlety."

Poly Verisof had had occasion to act on that advice more than once for he was now in the fourteenth year of his double status on Anacreon – a double status the upkeep of which reminded him often and unpleasantly of a dance performed barefoot on hot metal.

To the people of Anacreon he was high priest, representative of that Foundation which, to those "barbarians," was the acme of mystery and the physical center of this religion they had created – with Hardin's help – in the last three decades. As such, he received a homage that had become horribly wearying, for from his soul he despised the ritual of which he was the center.

But to the King of Anacreon – the old one that had been, and the young grandson that was now on the throne – he was simply the ambassador of a power at once feared and coveted.

On the whole, it was an uncomfortable job, and his first trip to the Foundation in three years, despite the disturbing incident that had made it necessary, was something in the nature of a holiday.

And since it was not the first time he had had to travel in absolute secrecy, he again made use of Hardin's epigram on the uses of the obvious.

He changed into his civilian clothes – a holiday in itself – and boarded a passenger liner to the Foundation, second class. Once at Terminus, he threaded his way through the crowd at the spaceport and called up City Hall at a public visiphone.

He said, "My name is Jan Smite. I have an appointment with the mayor this afternoon."

The dead-voiced but efficient young lady at the other end made a second connection and exchanged a few rapid words, then said to Verisof in dry, mechanical tone, "Mayor Hardin will see you in half an hour, sir," and the screen went blank.

Whereupon the ambassador to Anacreon bought the latest edition of the *Terminus City Journal*, sauntered casually to City Hall Park and, sitting down on the first empty bench he came to, read the editorial page, sport section and comic sheet while waiting. At the end of half an hour, he tucked the paper under his arm, entered City Hall and presented himself in the anteroom.

In doing all this he remained safely and thoroughly unrecognized, for since he was so entirely obvious, no one gave him a second look.

Hardin looked up at him and grinned. "Have a cigar! How was the trip?"

Verisof helped himself. "Interesting. There was a priest in the next cabin on his way here to take a special course in the preparation of radioactive synthetics – for the treatment of cancer, you know –"

"Surely, he didn't call it radioactive synthetics, now?"

"I guess *not!* It was the Holy Food to him."

The mayor smiled. "Go on."

"He inveigled me into a theological discussion and did his level best to elevate me out of sordid materialism."

"And never recognized his own high priest?"

"Without my crimson robe? Besides, he was a Smyrnian. It was an interesting experience, though. It is remarkable, Hardin, how the religion of science has grabbed hold. I've written an essay on the subject – entirely for my own amusement; it wouldn't do to have it published. Treating the problem sociologically, it would seem that when the old Empire began to rot at the fringes, it could be considered that science, as science, had failed the outer worlds. To be reaccepted it would have to present itself in another guise and it has done just that. It works out beautifully."

"Interesting!" The mayor placed his arms around his neck and said suddenly, "Start talking about the situation at Anacreon!"

The ambassador frowned and withdrew the cigar from his mouth. He looked at it distastefully and put it down. "Well, it's pretty bad."

"You wouldn't be here, otherwise."

"Scarcely. Here's the position. The key man at Anacreon is the Prince Regent, Wienis. He's King Lepold's uncle."

"I know. But Lepold is coming of age next year, isn't he? I believe he'll be sixteen in February."

"Yes." Pause, and then a wry addition. "If he lives. The king's father died under suspicious circumstances. A needle bullet through the chest during a hunt. It was called an accident."

"Hmph. I seem to remember Wienis the time I was on Anacreon, when we kicked them off Terminus. It was before your time. Let's see now. If I remember, he was a dark young fellow, black hair and a squint in his right eye. He had a funny hook in his nose."

"Same fellow. The hook and the squint are still there, but his hair's gray now. He plays the game dirty. Luckily, he's the most egregious fool on the planet. Fancies himself as a shrewd devil, too, which makes his folly the more transparent."

"That's usually the way."

"His notion of cracking an egg is to shoot a nuclear blast at it. Witness the tax on Temple property he tried to impose just after the old king died two years ago. Remember?"

Hardin nodded thoughtfully, then smiled. "The priests raised a howl."

"They raised one you could hear way out to Lucreza. He's shown more caution in dealing with the priesthood since, but he still manages to do things the hard way. In a way, it's unfortunate for us; he has unlimited self-confidence."

"Probably an over-compensated inferiority complex. Younger sons of royalty get that way, you know."

"But it amounts to the same thing. He's foaming at the mouth with eagerness to attack the Foundation. He scarcely troubles to conceal it. And he's in a position to do it, too, from the standpoint of armament. The old king built up a magnificent navy, and Wienis hasn't been sleeping the last two years. In fact, the tax on Temple property was originally intended for further armament, and when that fell through he increased the income tax twice."

"Any grumbling at that?"

"None of serious importance. Obedience to appointed authority was the text of every sermon in the kingdom for weeks. Not that Wienis showed any gratitude."

"All right. I've got the background. Now what's happened?"

"Two weeks ago an Anacreonian merchant ship came across a derelict battle cruiser of the old Imperial Navy. It must have been drifting in space for at least three centuries."

Interest flickered in Hardin's eyes. He sat up. "Yes, I've heard of that. The Board of Navigation has sent me a petition asking me to obtain the ship for purposes of study. It is in good condition, I understand."

"In entirely too good condition," responded Verisof, dryly. "When Wienis received your suggestion last week that he turn the ship over to the Foundation, he almost had convulsions."

"He hasn't answered yet."

"He won't – except with guns, or so he thinks. You see, he came to me on the day I left Anacreon and requested that the Foundation put this battle cruiser into fighting order and turn it over to the Anacreonian navy. He had the infernal gall to say that your note of last week indicated a plan of the Foundation's to attack Anacreon. He said that refusal to repair the battle cruiser would confirm his suspicions; and indicated that measures for the

self-defense of Anacreon would be forced upon him. Those are his words. Forced upon him! And that's why I'm here."

Hardin laughed gently.

Verisof smiled and continued, "Of course, he expects a refusal, and it would be a perfect excuse – in his eyes – for immediate attack."

"I see that, Verisof. Well, we have at least six months to spare, so have the ship fixed up and present it with my compliments. Have it renamed the Wienis as a mark of our esteem and affection."

He laughed again.

And again Verisof responded with the faintest trace of a smile, "I suppose it's the logical step, Hardin – but I'm worried."

"What about?"

"It's a ship! They could *build* in those days. Its cubic capacity is half again that of the entire Anacreonian navy. It's got nuclear blasts capable of blowing up a planet, and a shield that could take a Q-beam without working up radiation. Too much of a good thing, Hardin –"

"Superficial, Verisof, superficial. You and I both know that the armament he now has could defeat Terminus handily, long before we could repair the cruiser for our own use. What does it matter, then, if we give him the cruiser as well? You know it won't ever come to actual war."

"I suppose so. Yes." The ambassador looked up. "But Hardin –"

"Well? Why do you stop? Go ahead."

"Look. This isn't my province. But I've been reading the paper." He placed the Journal on the desk and indicated the front page. "What's this all about?"

Hardin dropped a casual glance. "'A group of Councilmen are forming a new political party.'"

"That's what it says." Verisof fidgeted. "I know you're in better touch with internal matters than I am, but they're attacking you with everything short of physical violence. How strong are they?"

"Damned strong. They'll probably control the Council after next election."

"Not before?" Verisof looked at the mayor obliquely. "There are ways of gaining control besides elections."

"Do you take me for Wienis?"

"No. But repairing the ship will take months and an attack after that is certain. Our yielding will be taken as a sign of appalling weakness and the addition of the Imperial Cruiser will just about double the strength of Wienis' navy. He'll attack as sure as I'm a high priest. Why take chances? Do one of two things. Either reveal the plan of campaign to the Council, or force the issue with Anacreon now!"

Hardin frowned. "Force the issue now? Before the crisis comes? It's the one thing I mustn't do. There's Hari Seldon and the Plan, you know."

Verisof hesitated, then muttered, "You're absolutely sure, then, that there is a Plan?"

"There can scarcely be any doubt," came the stiff reply. "I was present at the opening of the Time Vault and Seldon's recording revealed it then."

"I didn't mean that, Hardin. I just don't see how it could be possible to chart history for a thousand years ahead. Maybe Seldon overestimated himself." He shriveled a bit at Hardin's ironical smile, and added, "Well, I'm no psychologist,"

"Exactly. None of us are. But I did receive some elementary training in my youth – enough to know what psychology is capable of, even if I can't exploit its capabilities myself. There's no doubt but that Seldon did exactly what he claims to have done. The Foundation, as he says, was established as a scientific refuge – the means by which the science and culture of the dying Empire was to be preserved through the centuries of barbarism that have begun, to be rekindled in the end into a second Empire."

Verisof nodded, a trifle doubtfully. "Everyone knows that's the way things are *supposed* to go. But can we afford to take chances? Can we risk the present for the sake of a nebulous future?"

"We must – because the future isn't nebulous. It's been calculated out by Seldon and charted. Each successive crisis in our history is mapped and each depends in a measure on the successful conclusion of the ones previous. This is only the second crisis and Space knows what effect even a trifling deviation would have in the end."

"That's rather empty speculation."

"No! Hari Seldon said in the Time Vault, that at each crisis our freedom of action would become circumscribed to the point where only one course of action was possible."

"So as to keep us on the straight and narrow?"

"So as to keep us from deviating, yes. But, conversely, as long as *more* than one course of action is possible, the crisis has not been reached. We *must* let things drift so long as we possibly can, and by space, that's what I intend doing."

Verisof didn't answer. He chewed his lower lip in a grudging silence. It had only been the year before that Hardin had first discussed the problem with him – the real problem; the problem of countering Anacreon's hostile preparations. And then only because he, Verisof, had balked at further appeasement.

Hardin seemed to follow his ambassador's thoughts. "I would much rather never to have told you anything about this."

"What makes you say that?" cried Verisof, in surprise.

"Because there are six people now – you and I, the other three ambassadors and Yohan Lee – who have a fair notion of what's ahead; and I'm damned afraid that it was Seldon's idea to have no one know."

"Why so?"

"Because even Seldon's advanced psychology was limited. It could not handle too many independent variables. He couldn't work with individuals over any length of time; any more than you could apply kinetic theory of gases to single molecules. He worked with mobs, populations of whole planets, and only *blind* mobs who do not possess foreknowledge of the results of their own actions."

"That's not plain."

"I can't help it. I'm not psychologist enough to explain it scientifically. But this you know. There are no trained psychologists on Terminus and no mathematical texts on the science. It is plain that he wanted no one on Terminus capable of working out the future in advance. Seldon wanted us to proceed blindly – and therefore correctly – according to the law of mob psychology. As I once told you, I never knew where we were heading when I first drove out the Anacreonians. My idea had been to maintain balance of power, no more than that. It was only afterward that I thought I saw a pattern in events; but I've done my level best not to act on that knowledge. Interference due to foresight would have knocked the Plan out of kilter."

Verisof nodded thoughtfully. "I've heard arguments almost as complicated in the Temples back on Anacreon. How do you expect to spot the right moment of action?"

"It's spotted already. You admit that once we repair the battle cruiser nothing will stop Wienis from attacking us. There will no longer be any alternative in that respect."

"Yes"

"All right. That accounts for the external aspect. Meanwhile, you'll further admit that the next election will see a new and hostile Council that will force action against Anacreon. There is no alternative there."

"Yes."

"And as soon as all the alternatives disappear, the crisis has come. Just the same – I get worried."

He paused, and Verisof waited. Slowly, almost reluctantly, Hardin continued, "I've got the idea – just a notion – that the external and internal pressures were planned to come to a head simultaneously. As it is, there's a few months difference. Wienis will probably attack before spring, and elections are still a year off."

"That doesn't sound important."

"I don't know. It may be due merely to unavoidable errors of calculation, or it might be due to the fact that I knew too much. I tried never to let my foresight influence my action, but how can I tell? And what effect will the discrepancy have? Anyway," he looked up, "there's one thing I've decided."

"And what's that?"

"When the crisis does begin to break, I'm going to Anacreon. I want to be on the spot . . . Oh, that's enough, Verisof. It's getting late. Let's go out and make a night of it. I want some relaxation."

"Then get it right here," said Verisof. "I don't want to be recognized, or you know what this new party your precious Councilmen are forming would say. Call for the brandy."

And Hardin did – but not for too much.

3.

In the ancient days when the Galactic Empire had embraced the Galaxy, and Anacreon had been the richest of the prefects of the Periphery, more than one emperor had visited the Viceregal Palace in state. And not one had left without at least one effort to pit his skill with air speedster and needle gun against the feathered flying fortress they call the Nyakbird.

The fame of Anacreon had withered to nothing with the decay of the times. The Viceregal Palace was a drafty mass of ruins except for the wing that Foundation workmen had restored. And no Emperor had been seen in Anacreon for two hundred years.

But Nyak hunting was still the royal sport and a good eye with the needle gun still the first requirement of Anacreon's kings.

Lepold I, King of Anacreon and – as was invariably, but untruthfully added – Lord of the Outer Dominions, though not yet sixteen had already proved his skill many times over. He had brought down his first Nyak when scarcely thirteen; had brought down his tenth the week after his accession to the throne; and was returning now from his forty-sixth.

"Fifty before I come of age," he had exulted. "Who'll take the wager?"

But Courtiers don't take wagers against the king's skill. There is the deadly danger of winning. So no one did, and the king left to change his clothes in high spirits.

"Lepold!"

The king stopped mid-step at the one voice that could cause him to do so. He turned sulkily.

Wienis stood upon the threshold of his chambers and beetled at his young nephew.

"Send them away," he motioned impatiently. "Get rid of them."

The king nodded curtly and the two chamberlains bowed and backed down the stairs. Lepold entered his uncle's room.

Wienis stared at the king's hunting suit morosely. "You'll have more important things to tend to than Nyak hunting soon enough."

He turned his back and stumped to his desk. Since he had grown too old for the rush of air, the perilous dive within wing-beat of the Nyak, the roll and climb of the speedster at the motion of a foot, he had soured upon the whole sport.

Lepold appreciated his uncle's sour-grapes attitude and it was not without malice that he began enthusiastically, "But you should have been with us today, uncle. We flushed one in the wilds of Sarnia that was a monster. And game as they come. We had it out for two hours over at least seventy square miles of ground. And then I got to Sunwards – he was motioning graphically, as though he were once more in his speedster – "and dived torque-wise. Caught him on the rise just under the left wing at quarters. It maddened him and he canted athwart. I took his dare and veered a-left, waiting for the plummet. Sure enough, down he came. He was within wing-beat before I moved and then –"

"Lepold!"

"Well!— I got him."

"I'm sure you did. Now *will* you attend?"

The king shrugged and gravitated to the end table where he nibbled at a Lera nut in quite an unregal sulk. He did not dare to meet his uncle's eyes.

Wienis said, by way of preamble, "I've been to the ship today."

"What ship?"

"There is only one ship. *The* ship. The one the Foundation is repairing for the navy. The old Imperial cruiser. Do I make myself sufficiently plain?"

"That one? You see, I told you the Foundation would repair it if we asked them to. It's all poppycock, you know, that story of yours about their wanting to attack us. Because if they did, why would they fix the ship? It doesn't make sense, you know."

"Lepold, you're a fool!"

The king, who had just discarded the shell of the Lera nut and was lifting another to his lips, flushed.

"Well now, look here," he said, with anger that scarcely rose above peevishness, "I don't think you ought to call me that. You forget yourself. I'll be of age in two months, you know."

"Yes, and you're in a fine position to assume regal responsibilities. If you spent half the time on public affairs that you do on Nyak hunting, I'd resign the regency directly with a clear conscience."

"I don't care. That has nothing to do with the case, you know. The fact is that even if you are the regent and my uncle, I'm still king and you're still my subject. You oughtn't to call me a fool and you oughtn't to sit in my presence, anyway. You haven't asked my permission. I think you ought to be careful, or I might do something about it pretty soon."

Wienis' gaze was cold. "May I refer to you as 'your majesty'?"

"Yes."

"Very well! You are a fool, your majesty!"

His dark eyes blazed from beneath his grizzled brows and the young king sat down slowly. For a moment, there was sardonic satisfaction in the regent's face, but it faded quickly. His thick lips parted in a smile and one hand fell upon the king's shoulder.

"Never mind, Lepold. I should not have spoken harshly to you. It is difficult sometimes to behave with true propriety when the pressure of events is such as – You understand?" But if the words were conciliatory, there was something in his eyes that had not softened.

Lepold said uncertainly, "Yes. Affairs of State are deuced difficult, you know." He wondered, not without apprehension, whether he were not in for a dull siege of meaningless details on the year's trade with Smyrno and the long, wrangling dispute over the sparsely settled worlds on the Red Corridor.

Wienis was speaking again. "My boy, I had thought to speak of this to you earlier, and perhaps I should have, but I know that your youthful spirits are impatient of the dry detail of statecraft."

Lepold nodded. "Well, that's all right—"

His uncle broke in firmly and continued, "However, you will come of age in two months. Moreover, in the difficult times that are coming, you will have to take a full and active part. You will be *king* henceforward, Lepold."

Again Lepold nodded, but his expression was quite blank.

"There will be war, Lepold."

"War! But there's been truce with Smyrno—"

"Not Smyrno. The Foundation itself."

"But, uncle, they've agreed to repair the ship. You said—"

His voice choked off at the twist of his uncle's lip.

"Lepold" – some of the friendliness had gone – "we are to talk man to man. There is to be war with the Foundation, whether the ship is repaired or not; all the sooner, in fact, since it is being repaired. The Foundation is the source of power and might. All the greatness of Anacreon; all its ships and its cities and its people and its commerce depend on the dribbles and leavings of power that the Foundation have given us grudgingly. I remember the time – I, myself – when the cities of Anacreon were warmed by the burning of coal and oil. But never mind that; you would have no conception of it."

"It seems," suggested the king timidly, "that we ought to be grateful—"

"Grateful?" roared Wienis. "Grateful that they begrudge us the merest dregs, while keeping space knows what for themselves – and keeping it with what purpose in mind? Why, only that they may some day rule the Galaxy."

His hand came down on his nephew's knee, and his eyes narrowed. "Lepold, you are king of Anacreon. Your children and your children's children may be kings of the universe – if you have the power that the Foundation is keeping from us!"

"There's something in that." Lepold's eyes gained a sparkle and his back straightened. "After all, what right have they to keep it to themselves? Not fair, you know. Anacreon counts for something, too."

"You see, you're beginning to understand. And now, my boy, what if Smyrno decides to attack the Foundation for its own part and thus gains all that power? How long do you suppose we could escape becoming a vassal power? How long would you hold your throne?"

Lepold grew excited. "Space, yes. You're absolutely right, you know. We must strike first. It's simply self-defense."

Wienis' smile broadened slightly. "Furthermore, once, at the very beginning of the reign of your grandfather, Anacreon actually established a military base on the Foundation's planet, Terminus – a base vitally needed for national defense. We were forced to abandon that base as a result of the machinations of the leader of that Foundation, a sly cur, a scholar, with not a drop of noble blood in his veins. You understand, Lepold? Your grandfather was humiliated by this commoner. I remember him! He was scarcely older than myself when he came to Anacreon with his devil's smile and devil's brain – and the power of the other three kingdoms behind him, combined in cowardly union against the greatness of Anacreon."

Lepold flushed and the sparkle in his eyes blazed. "By Seldon, if I had been my grandfather, I would have fought even so."

"No, Lepold. We decided to wait – to wipe out the insult at a fitter time. It had been your father's hope, before his untimely death, that he might be the one to – Well, well!" Wienis turned away for a moment. Then, as if stifling emotion, "He was my brother. And yet, if his son were–"

"Yes, uncle, I'll not fail him. I have decided. It seems only proper that Anacreon wipe out this nest of troublemakers, and that immediately."

"No, not immediately. First, we must wait for the repairs of the battle cruiser to be completed. The mere fact that they are willing to undertake these repairs proves that they fear us. The fools attempt to placate us, but we are not to be turned from our path, are we?"

And Lepold's fist slammed against his cupped palm.

"Not while I am king in Anacreon."

Wienis' lip twitched sardonically. "Besides which we must wait for Salvor Hardin to arrive."

"Salvor Hardin!" The king grew suddenly round-eyed, and the youthful contour of his beardless face lost the almost hard lines into which they had been compressed.

"Yes, Lepold, the leader of the Foundation himself is coming to Anacreon on your birthday – probably to soothe us with buttered words. But it won't help him."

"Salvor Hardin!" It was the merest murmur.

Wienis frowned. "Are you afraid of the name? It is the same Salvor Hardin, who on his previous visit, ground our noses into the dust. You're not forgetting that deadly insult to the royal house? And from a commoner. The dregs of the gutter."

"No. I guess not. No, I won't. I won't! We'll pay him back – but. . . but – I'm afraid – a little."

The regent rose. "Afraid? Of what? Of what, you young–" He choked off.

"It would be. . . uh. . . sort of blasphemous, you know, to attack the Foundation. I mean–" He paused.

"Go on."

Lepold said confusedly, "I mean, if there were really a Galactic Spirit, he. . . uh. . . it mightn't like it. Don't you think?"

"No, I don't," was the hard answer. Wienis sat down again and his lips twisted in a queer smile. "And so you really bother your head a great deal over the Galactic Spirit, do you? That's what comes of letting you run wild. You've been listening to Verisof quite a bit, I take it."

"He's explained a great deal–"

"About the Galactic Spirit?"

"Yes."

"Why, you unweaned cub, he believes in that mummary a good deal less than I do, and I don't believe in it at all. How many times have you been told that all this talk is nonsense?"

"Well, I know that. But Verisof says—"

"Pay no heed to Verisof. It's nonsense."

There was a short, rebellious silence, and then Lepold said, "Everyone believes it just the same. I mean all this talk about the Prophet Hari Seldon and how he appointed the Foundation to carry on his commandments that there might some day be a return of the Galactic Paradise: and how anyone who disobeys his commandments will be destroyed for eternity. They believe it. I've presided at festivals, and I'm sure they do."

"Yes, they do; but we don't. And you may be thankful it's so, for according to this foolishness, you are king by divine right – and are semi-divine yourself. Very handy. It eliminates all possibilities of revolts and insures absolute obedience in everything. And that is why, Lepold, you must take an active part in ordering the war against the Foundation. I am only regent, and quite human. You are king, and more than half a god – to them."

"But I suppose I'm not really," said the king reflectively.

"No, not really," came the sardonic response, "but you are to everyone but the people of the Foundation. Get that? To everyone but those of the Foundation. Once they are removed there will be no one to deny you the godhead. Think of that!"

"And after that we will ourselves be able to operate the power boxes of the temples and the ships that fly without men and the holy food that cures cancer and all the rest? Verisof said only those blessed with the Galactic Spirit could—"

"Yes, Verisof said! Verisof, next to Salvor Hardin, is your greatest enemy. Stay with me, Lepold, and don't worry about them. Together we will recreate an empire—not just the kingdom of Anacreon—but one comprising every one of the billions of suns of the Empire. Is that better than a wordy 'Galactic Paradise'?"

"Ye-es."

"Can Verisof promise more?"

"No."

"Very well." His voice became peremptory. "I suppose we may consider the matter settled." He waited for no answer. "Get along. I'll be down later. And just one thing, Lepold."

The young king turned on the threshold.

Wienis was smiling with all but his eyes. "Be careful on these Nyak hunts, my boy. Since the unfortunate accident to your father, I have had the strangest presentiments concerning you, at times. In the confusion, with needle guns thickening the air with darts, one can never tell. You will be careful, I hope. And you'll do as I say about the Foundation, won't you?"

Lepold's eyes widened and dropped away from those of his uncle. "Yes – certainly."

"Good!" He stared after his departing nephew, expressionlessly, and returned to his desk.

And Lepold's thoughts as he left were somber and not unfearful. Perhaps it would be best to defeat the Foundation and gain the power Wienis spoke of. But afterward,

when the war was over and he was secure on his throne— He became acutely conscious of the fact that Wienis and his two arrogant sons were at present next in line to the throne.

But he was king. And kings could order people executed.

Even uncles and cousins.

4.

Next to Sermak himself, Lewis Bort was the most active in rallying those dissident elements which had fused into the now-vociferous Action Party. Yet he had not been one of the deputation that had called on Salvor Hardin almost half a year previously. That this was so was not due to any lack of recognition of his efforts; quite the contrary. He was absent for the very good reason that he was on Anacreon's capital world at the time.

He visited it as a private citizen. He saw no official and he did nothing of importance. He merely watched the obscure comers of the busy planet and poked his stubby nose into dusty crannies.

He arrived home toward the end of a short winter day that had started with clouds and was finishing with snow and within an hour was seated at the octagonal table in Sermak's home.

His first words were not calculated to improve the atmosphere of a gathering already considerably depressed by the deepening snow-filled twilight outside..

"I'm afraid," he said, "that our position is what is usually termed, in melodramatic phraseology, a 'Lost Cause.'"

"You think so?" said Sermak, gloomily.

"It's gone past thought, Sermak. There's no room for any other opinion."

"Armaments—" began Doktor Walto, somewhat officiously, but Bort broke in at once.

"Forget that. That's an old story." His eyes traveled round the circle. "I'm referring to the people. I admit that it was my idea originally that we attempt to foster a palace rebellion of some sort to install as king someone more favorable to the Foundation. It was a good idea. It still is. The only trifling flaw about it is that it is impossible. The great Salvor Hardin saw to that."

Sermak said sourly, "If you'd give us the details, Bort—"

"Details! There aren't any! It isn't as simple as that. It's the whole damned situation on Anacreon. It's this religion the Foundation has established. It works!"

"Well!"

"You've got to see it work to appreciate it. All you see here is that we have a large school devoted to the training of priests, and that occasionally a special show is put on in some obscure comer of the city for the benefit of pilgrims and that's all. The whole business hardly affects us as a general thing. But on Anacreon—"

Lem Tarki smoothed his prim little Vandyke with one finger, and cleared his throat. "What kind of religion is it? Hardin's always said that it was just a fluffy flummery to get

them to accept our science without question. You remember, Sermak, he told us that day—"

"Hardin's explanations," reminded Sermak, "don't often mean much at face value. But what kind of a religion is it, Bort?"

Bort considered. "Ethically, it's fine. It scarcely varies from the various philosophies of the old Empire. High moral standards and all that. There's nothing to complain about from that viewpoint. Religion is one of the great civilizing influences of history and in that respect, it's fulfilling—"

"We know that," interrupted Sermak, impatiently. "Get to the point."

"Here it is." Bort was a trifle disconcerted, but didn't show it. "The religion – which the Foundation has fostered and encouraged, mind you – is built on strictly authoritarian lines. The priesthood has sole control of the instruments of science we have given Anacreon, but they've learned to handle these tools only empirically. They believe in this religion entirely, and in the . . . uh . . . spiritual value of the power they handle. For instance, two months ago some fool tampered with the power plant in the Thessalekian Temple – one of the large ones. He contaminated the city, of course. It was considered divine vengeance by everyone, including the priests."

"I remember. The papers had some garbled version of the story at the time. I don't see what you're driving at."

"Then, listen," said Bort, stiffly. "The priesthood forms a hierarchy at the apex of which is the king, who is regarded as a sort of minor god. He's an absolute monarch by divine right, and the people believe it, thoroughly, and the priests, too. You can't overthrow a king like that. Now do you get the point?"

"Hold on," said Walto, at this point. "What did you mean when you said Hardin's done all this? How does he come in?"

Bort glanced at his questioner bitterly. "The Foundation has fostered this delusion assiduously. We've put all our scientific backing behind the hoax. There isn't a festival at which the king does not preside surrounded by a radioactive aura shining forth all over his body and raising itself like a coronet above his head. Anyone touching him is severely burned. He can move from place to place through the air at crucial moments, supposedly by inspiration of divine spirit. He fills the temple with a pearly, internal light at a gesture. There is no end to these quite simple tricks that we perform for his benefit; but even the priests believe them, while working them personally."

"Bad!" said Sermak, biting his lip.

"I could cry – like the fountain in City Hall Park," said Bort, earnestly, "when I think of the chance we muffed. Take the situation thirty years ago, when Hardin saved the Foundation from Anacreon – At that time, the Anacreonian people had no real conception of the fact that the Empire was running down. They had been more or less running their own affairs since the Zeonian revolt, but even after communications broke down and Lepold's pirate of a grandfather made himself king, they never quite realized the Empire had gone kaput."

"If the Emperor had had the nerve to try, he could have taken over again with two cruisers and with the help of the internal revolt that would have certainly sprung to life. And we we could have done the same; but no, Hardin established monarch worship. Personally, I don't understand it. Why? Why? Why?"

"What," demanded Jaim Orsy, suddenly, "does Verisof do? There was a day when he was an advanced Actionist. What's he doing there? Is he blind, too?"

"I don't know," said Bort, curtly. "He's high priest to them. As far as I know, he does nothing but act as adviser to the priesthood on technical details. Figurehead, blast him, figurehead!"

There was silence all round and all eyes turned to Sermak. The young party leader was biting a fingernail nervously, and then said loudly, "No good. It's fishy!"

He looked around him, and added more energetically, "Is Hardin then such a fool?"

"Seems to be," shrugged Bort.

"Never! There's something wrong. To cut our own throats so thoroughly and so hopelessly would require colossal stupidity. More than Hardin could possibly have even if he were a fool, which I deny. On the one hand, to establish a religion that would wipe out all chance of internal troubles. On the other hand, to arm Anacreon with all weapons of warfare. I don't see it."

"The matter *is* a little obscure, I admit," said Bort, "but the facts are there. What else can we think?"

Walto said, jerkily, "Outright treason. He's in their pay."

But Sermak shook his head impatiently. "I don't see that, either. The whole affair is as insane and meaningless – Tell me, Bort, have you heard anything about a battle cruiser that the Foundation is supposed to have put into shape for use in the Anacreon navy?"

"Battle cruiser?"

"An old Imperial cruiser–"

"No, I haven't. But that doesn't mean much. The navy yards are religious sanctuaries completely inviolate on the part of the lay public. No one ever hears anything about the fleet.

"Well, rumors have leaked out. Some of the Party have brought the matter up in Council. Hardin never denied it, you know. His spokesmen denounced rumor mongers and let it go at that. It might have significance."

"It's of a piece with the rest," said Bort. "if true, it's absolutely crazy. But it wouldn't be worse than the rest."

"I suppose," said Orsy, "Hardin hasn't any secret weapon waiting. That might–"

"Yes," said Sermak, viciously, "a huge jack-in-the-box that will jump out at the psychological moment and scare old Wienis into fits. The Foundation may as well blow itself out of existence and save itself the agony of suspense if it has to depend on any secret weapon."

"Well," said Orsy, changing the subject hurriedly, "the question comes down to this: How much time have we left? Eli, Bort?"

"All fight. It is the question. But don't look at me; I don't know. The Anacreonian press never mentions the Foundation at all. Right now, it's full of the approaching celebrations and nothing else. Lepold is coming of age next week, you know."

"We have months then." Walto smiled for the first time that evening. "That gives us time—"

"That gives us time, my foot," ground out Bort, impatiently. "The king's a god, I tell you. Do you suppose he has to carry on a campaign of propaganda to get his people into fighting spirit? Do you suppose he has to accuse us of aggression and pull out all stops on cheap emotionalism? When the time comes to strike, Lepold gives the order and the people fight. Just like that. That's the damnedness of the system. You don't question a god. He may give the order tomorrow for all I know; and you can wrap tobacco round that and smoke it."

Everyone tried to talk at once and Sermak was slamming the table for silence, when the front door opened and Levi Norast stamped in. He bounded up the stairs, overcoat on, trailing snow.

"Look at that!" he cried, tossing a cold, snow-speckled newspaper onto the table. "The visicasters are full of it, too."

The newspaper was unfolded and five heads bent over it.

Sermak said, in a hushed voice, "Great Space, he's going to Anacreon! *Going to Anacreon!*"

"It *is* treason," squeaked Tarki, in sudden excitement. "I'll be damned if Walto isn't right. He's sold us out and now he's going there to collect his wage."

Sermak had risen. "We've no choice now. I'm going to ask the Council tomorrow that Hardin be impeached. And if *that* fails—"

5.

The snow had ceased, but it caked the ground deeply now and the sleek ground car advanced through the deserted streets with lumbering effort. The murky gray light of incipient dawn was cold not only in the poetical sense but also in a very literal way – and even in the then turbulent state of the Foundation's politics, no one, whether Actionist or pro-Hardin found his spirits sufficiently ardent to begin street activity that early.

Yohan Lee did not like that and his grumblings grew audible. "It's going to look bad, Hardin. They're going to say you sneaked away."

"Let them say it if they wish. I've got to get to Anacreon and I want to do it without trouble. Now that's enough, Lee."

Hardin leaned back into the cushioned seat and shivered slightly. It wasn't cold inside the well-heated car, but there was something frigid about a snow-covered world, even through glass, that annoyed him.

He said, reflectively, "Some day when we get around to it we ought to weather-condition Terminus. It could be done."

"I," replied Lee, "would like to see a few other things done first. For instance, what about weather-conditioning Sermak? A nice, dry cell fitted for twenty-five centigrade all year round would be just fight."

"And then I'd really *need* bodyguards," said Hardin, "and not just those two," He indicated two of Lee's bully-boys sitting up front with the driver, hard eyes on the empty streets, ready hands at their atom blasts. "You evidently want to stir up civil war."

"I do? There are other sticks in the fire and it won't require much stirring, I can tell you." He counted off on blunt fingers, "One: Sermak raised hell yesterday in the City Council and called for an impeachment."

"He had a perfect right to do so," responded Hardin, coolly. "Besides which, his motion was defeated 206 to 184."

"Certainly. A majority of twenty-two when we had counted on sixty as a minimum. Don't deny it; you know you did."

"It was close," admitted Hardin.

"All right. And two; after the vote, the fifty-nine members of the Actionist Party reared upon their hind legs and stamped out of the Council Chambers."

Hardin was silent, and Lee continued, "And three: Before leaving, Sermak howled that you were a traitor, that you were going to Anacreon to collect your payment, that the Chamber majority in refusing to vote impeachment had participated in the treason, and that the name of their party was not 'Actionist' for nothing. What does *that* sound like?"

"Trouble, I suppose."

"And now you're chasing off at daybreak, like a criminal. You ought to face them, Hardin – and if you have to, declare martial law, by space!"

"Violence is the last refuge—"

"—Of the incompetent. Bah!"

"All right. We'll see. Now listen to me carefully, Lee. Thirty years ago, the Time Vault opened, and on the fiftieth anniversary of the beginning of the Foundation, there appeared a Hari Seldon recording to give us our first idea of what was really going on."

"I remember," Lee nodded reminiscently, with a half smile. "It was the day we took over the government."

"That's right. It was the time of our first major crisis. This is our second-and three weeks from today will be the eightieth anniversary of the beginning of the Foundation. Does that strike you as in any way significant?"

"You mean he's coming again?"

"I'm not finished. Seldon never said anything about returning, you understand, but that's of a piece with his whole plan. He's always done his best to keep all foreknowledge from us. Nor is there any way of telling whether the computer is set for further openings short of dismantling the Vault – and it's probably set to destroy itself if we were to try that. I've been there every anniversary since the first appearance, just on the chance. He's never shown up, but this is the first time since then that there's really been a crisis."

"Then he'll come."

"Maybe. I don't know. However, this is the point. At today's session of the Council, just after you announce that I have left for Anacreon, you will further announce, officially, that on March 14th next, there will be another Hari Seldon recording, containing a message of the utmost importance regarding the recent successfully concluded crisis. That's very important, Lee. Don't add anything more no matter how many questions are asked."

Lee stared. "Will they believe it?"

"That doesn't matter. It will confuse them, which is all I want. Between wondering whether it is true and what I mean by it if it isn't – they'll decide to postpone action till after March 14th. I'll be back considerably before then."

Lee looked uncertain. "But that 'successfully concluded.' That's bull!"

"Highly confusing bull. Here's the airport!"

The waiting spaceship bulked somberly in the dimness. Hardin stamped through the snow toward it and at the open air lock turned about with outstretched hand.

"Good-by, Lee. I hate to leave you in the frying pan like this, but there's not another I can trust. Now please keep out of the fire."

"Don't worry. The frying pan is hot enough. I'll follow orders." He stepped back, and the air lock closed.

6.

Salvor Hardin did not travel to the planet Anacreon – from which planet the kingdom derived its name – immediately. It was only on the day before the coronation that he arrived, after having made flying visits to eight of the larger stellar systems of the kingdom, stopping only long enough to confer with the local representatives of the Foundation.

The trip left him with an oppressive realization of the vastness of the kingdom. It was a little splinter, an insignificant fly speck compared to the inconceivable reaches of the Galactic Empire of which it had once formed so distinguished a part; but to one whose habits of thought had been built around a single planet, and a sparsely settled one at that, Anacreon's size in area and population was staggering.

Following closely the boundaries of the old Prefect of Anacreon, it embraced twenty-five stellar systems, six of which included more than one inhabited world. The population of nineteen billion, though still far less than it had been in the Empire's heyday was rising rapidly with the increasing scientific development fostered by the Foundation.

And it was only now that Hardin found himself floored by the magnitude of *that* task. Even in thirty years, only the capital world had been powered. The outer provinces still possessed immense stretches where nuclear power had not yet been re-introduced. Even the progress that had been made might have been impossible had it not been for the still workable relics left over by the ebbing tide of Empire.

When Hardin did arrive at the capital world, it was to find all normal business at an absolute standstill. In the outer provinces there had been and still were celebrations; but here on the planet Anacreon, not a person but took feverish part in the hectic religious pageantry that heralded the coming-of-age of their god-king, Lepold.

Hardin had been able to snatch only half an hour from a haggard and harried Verisof before his ambassador was forced to rush off to supervise still another temple festival. But the half-hour was a most profitable one, and Hardin prepared himself for the night's fireworks well satisfied.

In all, he acted as an observer, for he had no stomach for the religious tasks he would undoubtedly have had to undertake if his identity became known. So, when the palace's ballroom filled itself with a glittering horde of the kingdom's very highest and most exalted nobility, he found himself hugging the wall, little noticed or totally ignored.

He had been introduced to Lepold as one of a long line of introducees, and from a safe distance, for the king stood apart in lonely and impressive grandeur, surrounded by his deadly blaze of radioactive aura. And in less than an hour this same king would take his seat upon the massive throne of rhodium-iridium alloy with jewel-set gold chasings, and then, throne and all would rise maestically into the air, skim the ground slowly to hover before the great window from which the great crowds of common folk could see their king and shout themselves into near apoplexy. The throne would not have been so massive, of course, if it had not had a shielded nuclear motor built into it.

It was past eleven. Hardin fidgeted and stood on his toes to better his view. He resisted an impulse to stand on a chair. And then he saw Wienis threading through the crowd toward him and he relaxed.

Wienis' progress was slow. At almost every step, he had to pass a kindly sentence with some revered noble whose grandfather had helped Lepold's grandfather brigandize the kingdom and had received a dukedom therefor.

And then he disentangled himself from the last uniformed peer and reached Hardin. His smile crooked itself into a smirk and his black eyes peered from under grizzled brows with glints of satisfaction in them.

"My dear Hardin," he said, in a low voice, "you must expect to be bored, when you refuse to announce your identity."

"I am not bored, your highness. This is all extremely interesting. We have no comparable spectacles on Terminus, you know."

"No doubt. But would you care to step into my private chambers, where we can speak at greater length and with considerably more privacy?"

"Certainly."

With arms linked, the two ascended the staircase, and more than one dowager duchess stared after them in surprise and wondered at the identity of this insignificantly dressed and uninteresting-looking stranger on whom such signal honor was being conferred by the prince regent.

In Wienis' chambers, Hardin relaxed in perfect comfort and accepted with a murmur of gratitude the glass of liquor that had been poured out by the regent's own hand.

"Locris wine, Hardin," said Wienis, "from the royal cellars. The real thing – two centuries in age. It was laid down ten years before the Zeonian Rebellion."

"A really royal drink," agreed Hardin, politely. "To Lepold I, King of Anacreon."

They drank, and Wienis added blandly, at the pause, "And soon to be Emperor of the Periphery, and further, who knows? The Galaxy may some day be reunited."

"Undoubtedly. By Anacreon?"

"Why not? With the help of the Foundation, our scientific superiority over the rest of the Periphery would be undisputable."

Hardin set his empty glass down and said, "Well, yes, except that, of course, the Foundation is bound to help any nation that requests scientific aid of it. Due to the high idealism of our government and the great moral purpose of our founder, Hari Seldon, we are unable to play favorites. That can't be helped, your highness."

Wienis' smile broadened. "The Galactic Spirit, to use the popular cant, helps those who help themselves. I quite understand that, left to itself, the Foundation would never cooperate."

"I wouldn't say that. We repaired the Imperial cruiser for you, though my board of navigation wished it for themselves for research purposes."

The regent repeated the last words ironically. "Research purposes! Yes! Yet you would not have repaired it, had I not threatened war."

Hardin made a deprecatory gesture. "I don't know."

"I do. And that threat always stood."

"And still stands now?"

"Now it is rather too late to speak of threats." Wienis had cast a rapid glance at the clock on his desk. "Look here, Hardin, you were on Anacreon once before. You were young then; we were both young. But even then we had entirely different ways of looking at things. You're what they call a man of peace, aren't you?"

"I suppose I am. At least, I consider violence an uneconomical way of attaining an end. There are always better substitutes, though they may sometimes be a little less direct."

"Yes. I've heard of your famous remark: 'Violence is the last refuge of the incompetent.' And yet" – the regent scratched one ear gently in affected abstraction – "I wouldn't call myself exactly incompetent."

Hardin nodded politely and said nothing.

"And in spite of that," Wienis continued, "I have always believed in direct action. I have believed in carving a straight path to my objective and following that path. I have accomplished much that way, and fully expect to accomplish still more."

"I know," interrupted Hardin. "I believe you are carving a path such as you describe for yourself and your children that leads directly to the throne, considering the

late unfortunate death of the king's father – your elder brother and the king's own precarious state of health. He is in a precarious state of health, is he not?"

Wienis frowned at the shot, and his voice grew harder. "You might find it advisable, Hardin, to avoid certain subjects. You may consider yourself privileged as mayor of Terminus to make . . . uh . . . injudicious remarks, but if you do, please disabuse yourself of the notion. I am not one to be frightened at words. It has been my philosophy of life that difficulties vanish when faced boldly, and I have never turned my back upon one yet."

"I don't doubt that. What particular difficulty are you refusing to turn your back upon at the present moment?"

"The difficulty, Hardin, of persuading the Foundation to co-operate. Your policy of peace, you see, has led you into making several very serious mistakes, simply because you underestimated the boldness of your adversary. Not everyone is as afraid of direct action as you are."

"For instance?" suggested Hardin.

"For instance, you came to Anacreon alone and accompanied me to my chambers alone."

Hardin looked about him. "And what is wrong with that?"

"Nothing," said the regent, "except that outside this room are five police guards, well armed and ready to shoot. I don't think you can leave, Hardin."

The mayor's eyebrows lifted, "I have no immediate desire to leave. Do you then fear me so much?"

"I don't fear you at all. But this may serve to impress you with my determination. Shall we call it a gesture?"

"Call it what you please," said Hardin, indifferently. "I shall not discommode myself over the incident, whatever you choose to call it."

"I'm sure that attitude will change with time. But you have made another error, Hardin, a more serious one. It seems that the planet Terminus is almost wholly undefended."

"Naturally. What have we to fear? We threaten no one's interest and serve all alike."

"And while remaining helpless," Wienis went on, "you kindly helped us to arm ourselves, aiding us particularly in the development of a navy of our own, a great navy. In fact, a navy which, since your donation of the Imperial cruiser, is quite irresistible."

"Your highness, you are wasting time." Hardin made as if to rise from his seat. "If you mean to declare war, and are informing me of the fact, you will allow me to communicate with my government at once."

"Sit down, Hardin. I am not declaring war, and you are not communicating with your government at all. When the war is fought – not declared, Hardin, *fought* – the Foundation will be informed of it in due time by the nuclear blasts of the Anacreonian navy under the lead of my own son upon the flagship, Wienis, once a cruiser of the Imperial navy."

Hardin frowned. "When will all this happen?"

"If you're really interested, the ships of the fleet left Anacreon exactly fifty minutes ago, at eleven, and the first shot will be fired as soon as they sight Terminus, which should be at noon tomorrow. You may consider yourself a prisoner of war."

"That's exactly what I do consider myself, your highness," said Hardin, still frowning. "But I'm disappointed."

Wienis chuckled contemptuously. "Is that all?"

"Yes. I had thought that the moment of coronation – midnight, you know – would be the logical time to set the fleet in motion. Evidently, you wanted to start the war while you were still regent. It would have been more dramatic the other way."

The regent stared. "What in Space are you talking about?"

"Don't you understand?" said Hardin, softly. "I had set my counterstroke for midnight."

Wienis started from his chair. "You are not bluffing me. There is no counterstroke. If you are counting on the support of the other kingdoms, forget it. Their navies, combined, are no match for ours."

"I know that. I don't intend firing a shot. It is simply that the word went out a week ago that at midnight tonight, the planet Anacreon goes under the interdict."

"The interdict?"

"Yes. If you don't understand, I might explain that every priest in Anacreon is going on strike, unless I countermand the order. But I can't while I'm being held incommunicado; nor do I wish to even if I weren't!" He leaned forward and added, with sudden animation, "Do you realize, your highness, that an attack on the Foundation is nothing short of sacrilege of the highest order?"

Wienis was groping visibly for self-control. "Give me none of that, Hardin. Save it for the mob."

"My dear Wienis, whoever do you think I am saving it for? I imagine that for the last half hour every temple on Anacreon has been the center of a mob listening to a priest exhorting them upon that very subject. There's not a man or woman on Anacreon that doesn't know that their government has launched a vicious, unprovoked attack upon the center of their religion. But it lacks only four minutes of midnight now. You'd better go down to the ballroom to watch events. I'll be safe here with five guards outside the door." He leaned back in his chair, helped himself to another glass of Locris wine, and gazed at the ceiling with perfect indifference.

Wienis suddenly furious, rushed out of the room.

A hush had fallen over the elite in the ballroom, as a broad path was cleared for the throne. Lepold sat on it now, hands solidly on its arms, head high, face frozen. The huge chandeliers had dimmed and in the diffused multi-colored light from the tiny nucleo-bulbs that bespangled the vaulted ceiling, the royal aura shone out bravely, lifting high above his head to form a blazing coronet.

Wienis paused on the stairway. No one saw him; all eyes were on the throne. He clenched his fists and remained where he was; Hardin would *not* bluff him into action.

And then the throne stiffed. Noiselessly, it lifted upward – and drifted. Off the dais, slowly down the steps, and then horizontally, five centimetres off the floor, it worked itself toward the huge, open window.

At the sound of the deep-toned bell that signified midnight, it stopped before the window – and the king's aura died.

For a frozen split second, the king did not move, face twisted in surprise, without an aura, merely human; and then the throne wobbled and dropped to the floor with a crashing thump, just as every light in the palace went out.

Through the shrieking din and confusion, Wienis' bull voice sounded. "Get the flares! Get the flares!"

He buffeted right and left through the crowd and forced his way to the door. From without, palace guards had streamed into the darkness.

Somehow the flares were brought back to the ballroom; flares that were to have been used in the gigantic torchlight procession through the streets of the city after the coronation.

Back to the ballroom guardsmen swarmed with torches – blue, green, and red; where the strange light lit up frightened, confused faces.

"There is no harm done," shouted Wienis. "Keep your places. Power will return in a moment."

He turned to the captain of the guard who stood stiffly at attention. "What is it, Captain?"

"Your highness," was the instant response, "the palace is surrounded by the people of the city."

"What do they want?" snarled Wienis.

"A priest is at the head. He has been identified as High Priest Poly Verisof. He demands the immediate release of Mayor Salvor Hardin and cessation of the war against the Foundation." The report was made in the expressionless tones of an officer, but his eyes shifted uneasily.

Wienis cried, "if any of the rabble attempt to pass the palace gates, blast them out of existence. For the moment, nothing more. Let them howl! There will be an accounting tomorrow."

The torches had been distributed now, and the ballroom was again alight. Wienis rushed to the throne, still standing by the window, and dragged the stricken, wax-faced Lepold to his feet.

"Come with me." He cast one look out of the window. The city was pitch-black. From below there were the hoarse confused cries of the mob. Only toward the fight, where the Argolid Temple stood was there illumination. He swore angrily, and dragged the king away.

Wienis burst into his chambers, the five guardsmen at his heels. Lepold followed, wide-eyed, scared speechless.

"Hardin," said Wienis, huskily, "you are playing with forces too great for you."

The mayor ignored the speaker. In the pearly light of the pocket nucleo-bulb at his side, he remained quietly seated, a slightly ironic smile on his face.

"Good morning, your majesty," he said to Lepold. "I congratulate you on your coronation."

"Hardin," cried Wienis again, "order your priests back to their jobs."

Hardin looked up coolly. "Order them yourself, Wienis, and see who is playing with forces too great for whom. Right now, there's not a wheel turning in Anacreon. There's not a light burning, except in the temples. There's not a drop of water running, except in the temples. On the wintry half of the planet, there's not a calorie of heat, except in the temples. The hospitals are taking in no more patients. The power plants have shut down. All ships are grounded. If you don't like it, Wienis, you can order the priests back to their jobs. I don't wish to."

"By Space, Hardin, I will. If it's to be a showdown, so be it. We'll see if your priests can withstand the army. Tonight, every temple on the planet will be put under army supervision."

"Very good, but how are you going to give the orders? Every line of communication on the planet is shut down. You'll find that neither wave nor hyperwave will work. In fact, the only communicator of the planet that will work – outside of the temples, of course – is the televisior right here in this room, and I've fitted it only for reception."

Wienis struggled vainly for breath, and Hardin continued, "If you wish you can order your army into the Argolid Temple just outside the palace and then use the ultrawave sets there to contact other portions of the planet. But if you do that, I'm afraid the army contingent will be cut to pieces by the mob, and then what will protect your palace, Wienis? And your *lives*, Wienis?"

Wienis said thickly, "We can hold out, devil. We'll last the day. Let the mob howl and let the power die, but we'll hold out. And when the news comes back that the Foundation has been taken, your precious mob will find upon what vacuum their religion has been built, and they'll desert your priests and turn against them. I give you until noon tomorrow, Hardin, because you can stop the power on Anacreon but *you can't stop my fleet*." His voice croaked exultantly. "They're on their way, Hardin, with the great cruiser you yourself ordered repaired, at the head."

Hardin replied lightly. "Yes, the cruiser I myself ordered repaired – but in my own way. Tell me, Wienis, have you ever heard of a hyperwave relay? No, I see you haven't. Well, in about two minutes you'll find out what one can do."

The televisior flashed to life as he spoke, and he amended, "No, in two seconds. Sit down, Wienis. and listen."

Theo Aporat was one of the very highest ranking priests of Anacreon. From the standpoint of precedence alone, he deserved his appointment as head priest- attendant upon the flagship *Wienis*.

But it was not only rank or precedence. He knew the ship. He had worked directly under the holy men from the Foundation itself in repairing the ship. He had gone over the motors under their orders. He had rewired the 'visors; revamped the communications system; replated the punctured hull; reinforced the beams. He had even been permitted to help while the wise men of the Foundation had installed a device so holy it had never been placed in any previous ship, but had been reserved only for this magnificent colossus of a vessel – a hyperwave relay.

It was no wonder that he felt heartsick over the purposes to which the glorious ship was perverted. He had never wanted to believe what Verisof had told him – that the ship was to be used for appalling wickedness; that its guns were to be turned on the great Foundation. Turned on that Foundation, where he had been trained as a youth, from which all blessedness was derived.

Yet he could not doubt now, after what the admiral had told him.

How could the king, divinely blessed, allow this abominable act? Or was it the king? Was it not, perhaps, an action of the accursed regent, *Wienis*, without the knowledge of the king at all. And it was the son of this same *Wienis* that was the admiral who five minutes before had told him:

"Attend to your souls and your blessings, priest. I will attend to my ship."

Aporat smiled crookedly. He would attend to his souls and his blessings – and also to his cursings; and Prince Lefkin would whine soon enough.

He had entered the general communications room now. His acolyte preceded him and the two officers in charge made no move to interfere. The head priest-attendant had the right of free entry anywhere on the ship.

"Close the door," Aporat ordered, and looked at the chronometer. It lacked Five minutes of twelve. He had timed it well.

With quick practiced motions, he moved the little levers that opened all communications, so that every part of the two-mile-long ship was within reach of his voice and his image.

"Soldiers of the royal flagship *Wienis*, attend! It is your priest-attendant that speaks!" The sound of his voice reverberated, he knew, from the stem atom blast in the extreme rear to the navigation tables in the prow.

"Your ship," he cried, "is engaged in sacrilege. Without your knowledge, it is performing such an act as will doom the soul of every man among you to the eternal frigidity of space! Listen! It is the intention of your commander to take this ship to the Foundation and there to bombard that source of all blessings into submission to his sinful will. And since that is his intention, I, in the name of the Galactic Spirit, remove him from his command, for there is no command where the blessing of the Galactic Spirit has been

withdrawn. The divine king himself may not maintain his kingship without the consent of the Spirit."

His voice took on a deeper tone, while the acolyte listened with veneration and the two soldiers with mounting fear. "And because this ship is upon such a devil's errand, the blessing of the Spirit is removed from it as well."

He lifted his arms solemnly, and before a thousand televisors throughout the ship, soldiers cowered, as the stately image of their priest-attendant spoke:

"In the name of the Galactic Spirit and of his prophet, Hari Seldon, and of his interpreters, the holy men of the Foundation, I curse this ship. Let the televisors of this ship, which are its eyes, become blind. Let its grapples, which are its arms, be paralyzed. Let the nuclear blasts, which are its fists, lose their function. Let the motors, which are its heart, cease to beat. Let the communications, which are its voice, become dumb. Let its ventilations, which are its breath, fade. Let its lights, which are its soul, shrivel into nothing. In the name of the Galactic Spirit, I so curse this ship."

And with his last word, at the stroke of midnight, a hand, light-years distant in the Argolid Temple, opened an ultrawave relay, which at the instantaneous speed of the ultrawave, opened another on the flagship *Wienis*.

And the ship died!

For it is the chief characteristic of the religion of science that it works, and that such curses as that of Aporat's are really deadly.

Aporat saw the darkness close down on the ship and heard the sudden ceasing of the soft, distant purring of the hyperatomic motors. He exulted and from the pocket of his long robe withdrew a self-powered nucleo-bulb that filled the room with pearly light.

He looked down at the two soldiers who, brave men though they undoubtedly were, writhed on their knees in the last extremity of mortal terror. "Save our souls, your reverence. We are poor men, ignorant of the crimes of our leaders," one whimpered.

"Follow," said Aporat, sternly. "Your soul is not yet lost."

The ship was a turmoil of darkness in which fear was so thick and palpable, it was all but a miasmic smell. Soldiers crowded close wherever Aporat and his circle of light passed, striving to touch the hem of his robe, pleading for the tiniest scrap of mercy.

And always his answer was, "Follow me!"

He found Prince Lefkin, groping his way through the officers' quarters, cursing loudly for lights. The admiral stared at the priest-attendant with hating eyes.

"There you are!" Lefkin inherited his blue eyes from his mother, but there was that about the hook in his nose and the squint in his eye that marked him as the son of *Wienis*. "What is the meaning of your treasonable actions? Return the power to the ship. I am commander here."

"No longer," said Aporat, somberly.

Lefkin looked about wildly. "Seize that man. Arrest him, or by Space, I will send every man within reach of my voice out the air lock in the nude." He paused, and then shrieked, "It is your admiral that orders. Arrest him."

Then, as he lost his head entirely, "Are you allowing yourselves to be fooled by this mountebank, this harlequin? Do you cringe before a religion compounded of clouds and moonbeams? This man is an imposter and the Galactic Spirit he speaks of a fraud of the imagination devised to—"

Aporat interrupted furiously. "Seize the blasphemer. You listen to him at the peril of your souls."

And promptly, the noble admiral went down under the clutching hands of a score of soldiers.

"Take him with you and follow me."

Aporat turned, and with Lefkin dragged along after him, and the corridors behind black with soldiery, he returned to the communications room. There, he ordered the ex-commander before the one televisor that worked.

"Order the rest of the fleet to cease course and to prepare for the return to Anacreon."

The disheveled Lefkin, bleeding, beaten, and half stunned, did so.

"And now," continued Aporat, grimly, "we are in contact with Anacreon on the hyperwave beam. Speak as I order you."

Lefkin made a gesture of negation, and the mob in the room and the others crowding the corridor beyond, growled fearfully.

"Speak!" said Aporat. "Begin: The Anacreonian navy—"

Lefkin began.

8.

There was absolute silence in Wienis' chambers when the image of Prince Lefkin appeared at the televisor. There had been one startled gasp from the regent at the haggard face and shredded uniform of his son, and then he collapsed into a chair, face contorted with surprise and apprehension.

Hardin listened stolidly, hands clasped lightly in his lap, while the just-crowned King Lepold sat shriveled in the most shadowy comer, biting spasmodically at his goldbraided sleeve. Even the soldiers had lost the emotionless stare that is the prerogative of the military, and, from where they lined up against the door, nuclear blasts ready, peered furtively at the figure upon the televisor.

Lefkin spoke, reluctantly, with a tired voice that paused at intervals as though he were being prompted-and not gently:

"The Anacreonian navy . . . aware of the nature of its mission . . . and refusing to be a party . . . to abominable sacrilege . . . is returning to Anacreon . . . with the following ultimatum issued . . . to those blaspheming sinners . . . who would dare to use profane force . . . against the Foundation . . . source of all blessings . . . and against the Galactic Spirit. Cease at once all war against . . . the true faith . . . and guarantee in a manner suiting us of the navy . . . as represented by our . . . priest-attendant, Theo

Aporat . . . that such war will never in the future . . . be resumed, and that" – here a long pause, and then continuing – "and that the one-time prince regent, Wienis . . . be imprisoned . . . and tried before an ecclesiastical court . . . for his crimes. Otherwise the royal navy . . . upon returning to Anacreon . . . will blast the palace to the ground . . . and take whatever other measures . . . are necessary . . . to destroy the nest of sinners . . . and the den of destroyers . . . of men's souls that now prevail."

The voice ended with half a sob and the screen went blank.

Hardin's fingers passed rapidly over the nucleo-bulb and its light faded until in the dimness, the hitherto regent, the king, and the soldiers were hazy-edged shadows; and for the first time it could be seen that an aura encompassed Hardin.

It was not the blazing light that was the prerogative of kings, but one less spectacular, less impressive, and yet one more effective in its own way, and more useful.

Hardin's voice was softly ironic as he addressed the same Wienis who had one hour earlier declared him a prisoner of war and Terminus on the point of destruction, and who now was a huddled shadow, broken and silent.

"There is an old fable," said Hardin, "as old perhaps as humanity, for the oldest records containing it are merely copies of other records still older, that might interest you. It runs as follows:

"A horse having a wolf as a powerful and dangerous enemy lived in constant fear of his life. Being driven to desperation, it occurred to him to seek a strong ally. Whereupon he approached a man, and offered an alliance, pointing out that the wolf was likewise an enemy of the man. The man accepted the partnership at once and offered to kill the wolf immediately, if his new partner would only co-operate by placing his greater speed at the man's disposal. The horse was willing, and allowed the man to place bridle and saddle upon him. The man mounted, hunted down the wolf, and killed him.

"The horse, joyful and relieved, thanked the man, and said: 'Now that our enemy is dead, remove your bridle and saddle and restore my freedom.'

"Whereupon the man laughed loudly and replied, 'Never!' and applied the spurs with a will."

Silence still. The shadow that was Wienis did not stir.

Hardin continued quietly, "You see the analogy, I hope. In their anxiety to cement forever domination over their own people, the kings of the Four Kingdoms accepted the religion of science that made them divine; and that same religion of science was their bridle and saddle, for it placed the life blood of nuclear power in the hands of the priesthood who took their orders from us, be it noted, and not from you. You killed the wolf, but could not get rid of the m—"

Wienis sprang to his feet and in the shadows, his eyes were maddened hollows. His voice was thick, incoherent. "And yet I'll get you. You won't escape. You'll rot. Let them blow us up. Let them blow everything up. You'll rot! I'll get you!

"Soldiers!" he thundered, hysterically. "Shoot me down that devil. Blast him! Blast him!"

Hardin turned about in his chair to face the soldiers and smiled. One aimed his nuclear blast and then lowered it. The others never budged. Salvor Hardin, mayor of Terminus, surrounded by that soft aura, smiling so confidently, and before whom all the power of Anacreon had crumbled to powder was too much for them, despite the orders of the shrieking maniac just beyond.

Wienis shouted incoherently and staggered to the nearest soldier. Wildly, he wrested the nuclear blast from the man's hand-aimed it at Hardin, who didn't stir, shoved the lever and held it contacted.

The pale continuous beam impinged upon the force-field that surrounded the mayor of Terminus and was sucked harmlessly to neutralization. Wienis pressed harder and laughed tearingly.

Hardin still smiled and his force-field aura scarcely brightened as it absorbed the energies of the nuclear blast. From his corner Lepold covered his eyes and moaned.

And, with a yell of despair, Wienis changed his aim and shot again – and toppled to the floor with his head blown into nothingness.

Hardin winced at the sight and muttered, "A man of 'direct action' to the end. The last refuge!"

9.

The Time Vault was filled; filled far beyond the available seating capacity, and men lined the back of the room, three deep.

Salvor Hardin compared this large company with the few men attending the first appearance of Hari Seldon, thirty years earlier. There had only been six, then; the five old Encyclopedists – all dead now – and himself, the young figurehead of a mayor. It had been on that day, that he, with Yohan Lee's assistance had removed the "figurehead" stigma from his office.

It was quite different now; different in every respect. Every man of the City Council was awaiting Seldon's appearance. He, himself, was still mayor, but all-powerful now; and since the utter rout of Anacreon, all-popular. When he had returned from Anacreon with the news of the death of Wienis, and the new treaty signed with the trembling Lepold, he was greeted with a vote of confidence of shrieking unanimity. When this was followed in rapid order, by similar treaties signed with each of the other three kingdoms – treaties that gave the Foundation powers such as would forever prevent any attempts at attack similar to that of Anacreon's – torchlight processions had been held in every city street of Terminus. Not even Hari Seldon's name had been more loudly cheered.

Hardin's lips twitched. Such popularity had been his after the first crisis also.

Across the room, Sef Sermak and Lewis Bort were engaged in animated discussion, and recent events seemed to have put them out not at all. They had joined in the vote of confidence; made speeches in which they publicly admitted that they had been in the wrong, apologized handsomely for the use of certain phrases in earlier debates, excused

themselves delicately by declaring they had merely followed the dictates of their judgement and their conscience – and immediately launched a new Actionist campaign.

Yohan Lee touched Hardin's sleeve and pointed significantly to his watch.

Hardin looked up. "Hello there, Lee. Are you still sour? What's wrong now?"

"He's due in five minutes, isn't he?"

"I presume so. He appeared at noon last time."

"What if he doesn't?"

"Are you going to wear me down with your worries all your life? If he doesn't, he won't."

Lee frowned and shook his head slowly. "If this thing flops, we're in another mess. Without Seldon's backing for what we've done, Sermak will be free to start all over. He wants outright annexation of the Four Kingdoms, and immediate expansion of the Foundation – by force, if necessary. He's begun his campaign, already."

"I know. A fire eater must eat fire even if he has to kindle it himself. And you, Lee, have got to worry even if you must kill yourself to invent something to worry about."

Lee would have answered, but he lost his breath at just that moment – as the lights yellowed and went dim. He raised his arm to point to the glass cubicle that dominated half the room and then collapsed into a chair with a windy sigh.

Hardin himself straightened at the sight of the figure that now filled the cubicle – a figure in a wheel chair! He alone, of all those present could remember the day, decades ago, when that figure had appeared first. He had been young then, and the figure old. Since then, the figure had not aged a day, but he himself had in turn grown old.

The figure stared straight ahead, hands fingering a book in its lap.

It said, "I am Hari Seldon!" The voice was old and soft.

There was a breathless silence in the room and Hari Seldon continued conversationally, "This is the second time I've been here. Of course, I don't know if any of you were here the first time. In fact, I have no way of telling, by sense perception, that there is anyone here at all, but that doesn't matter. If the second crisis has been overcome safely, you are bound to be here; there is no way out. If you are not here, then the second crisis has been too much for you."

He smiled engagingly. "I doubt *that*, however, for my figures show a ninety-eight point four percent probability there is to be no significant deviation from the Plan in the first eighty years.

"According to our calculations, you have now reached domination of the barbarian kingdoms immediately surrounding the Foundation. Just as in the first crisis you held them off by use of the Balance of Power, so in the second, you gained mastery by use of the Spiritual Power as against the Temporal.

"However, I might warn you here against overconfidence. It is not my way to grant you any foreknowledge in these recordings, but it would be safe to indicate that what you have now achieved is merely a new balance-though one in which your position is considerably better. The Spiritual Power, while sufficient to ward off attacks of the Temporal is *not* sufficient to attack in turn. Because of the invariable growth of the

counteracting force known as Regionalism, or Nationalism, the Spiritual Power cannot prevail. I am telling you nothing new, I'm sure.

"You must pardon me, by the way, for speaking to you in this vague way. The terms I use are at best mere approximations, but none of you is qualified to understand the true symbology of psychohistory, and so I must do the best I can.

"In this case, the Foundation is only at the start of the path that leads to the Second Galactic Empire. The neighboring kingdoms, in manpower and resources are still overwhelmingly powerful as compared to yourselves. Outside them lies the vast tangled jungle of barbarism that extends around the entire breadth of the Galaxy. Within that rim there is still what is left of the Galactic Empire – and that, weakened and decaying though it is, is still incomparably mighty."

At this point, Hari Seldon lifted his book and opened it. His face grew solemn. "And never forget there was *another* Foundation established eighty years ago; a Foundation at the other end of the Galaxy, at Star's End. They will always be there for consideration. Gentlemen, nine hundred and twenty years of the Plan stretch ahead of you. The problem is yours!"

He dropped his eyes to his book and flicked out of existence, while the lights brightened to fullness. In the babble that followed, Lee leaned over to Hardin's ear. "He didn't say when he'd be back."

Hardin replied, "I know – but I trust he won't return until you and I are safely and cozily dead!"

PART IV THE TRADERS

1.

TRADERS— . . . and constantly in advance of the political hegemony of the Foundation were the Traders, reaching out tenuous fingerholds through the tremendous distances of the Periphery. Months or years might pass between landings on Terminus; their ships were often nothing more than patchquilts of home-made repairs and improvisations; their honesty was none of the highest; their daring. . .

Through it all they forged an empire more enduring than the pseudo-religious despotism of the Four Kingdoms. . .

Tales without end are told of these massive, lonely figures who bore half-seriously, half-mockingly a motto adopted from one of Salvor Hardin's epigrams, "Never let your sense of morals prevent you from doing what is right!" It is difficult now to tell which tales are real and which apocryphal. There are none probably that have not suffered some exaggeration. . . .

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Limmar Ponyets was completely a-lather when the call reached his receiver – which proves that the old bromide about telemessages and the shower holds true even in the dark, hard space of the Galactic Periphery.

Luckily that part of a free-lance trade ship which is not given over to miscellaneous merchandise is extremely snug. So much so, that the shower, hot water included, is located in a two-by-four cubby, ten feet from the control panels. Ponyets heard the staccato rattle of the receiver quite plainly.

Dripping suds and a growl, he stepped out to adjust the vocal, and three hours later a second trade ship was alongside, and a grinning youngster entered through the air tube between the ships.

Ponyets rattled his best chair forward and perched himself on the pilot-swivel.

"What've you been doing, Gorm?" he asked, darkly. "Chasing me all the way from the Foundation?"

Les Gorm broke out a cigarette, and shook his head definitely, "Me? Not a chance. I'm just a sucker who happened to land on Glyptal IV the day after the mail. So they sent me out after you with this."

The tiny, gleaming sphere changed hands, and Gorm added, "It's confidential. Super-secret. Can't be trusted to the sub-ether and all that. Or so I gather. At least, it's a Personal Capsule, and won't open for anyone but you."

Ponyets regarded the capsule distastefully, "I can see that. And I never knew one of these to hold good news, either."

It opened in his hand and the thin, transparent tape unrolled stiffly. His eyes swept the message quickly, for when the last of the tape had emerged, the first was already brown and crinkled. In a minute and a half it had turned black and, molecule by molecule, fallen apart.

Ponyets grunted hollowly, "Oh, *Galaxy!*"

Les Gorm said quietly, "Can I help somehow? Or is it too secret?"

"It will bear telling, since you're of the Guild. I've got to go to Askone."

"That place? How come?"

"They've imprisoned a trader. But keep it to yourself."

Gorm's expression jolted into anger, "Imprisoned! That's against the Convention."

"So is the interference with local politics."

"Oh! Is that what he did?" Gorm meditated. "Who's the trader'? Anyone I know?"

"No!" said Ponyets sharply, and Gorm accepted the implication and asked no further questions.

Ponyets was up and staring darkly out the visiplat. He mumbled strong expressions at that part of the misty lens-form that was the body of the Galaxy, then said loudly, "Damnedest mess! I'm way behind quota."

Light broke on Gorm's intellect, "Hey, friend, Askone is a closed area."

"That's right. You can't sell as much as a penknife on Askone. They won't buy nuclear gadgets of *any* sort. With my quota dead on its feet, it's murder to go there."

"Can't get out of it?"

Ponyets shook his head absently, "A know the fellow involved. Can't walk out on a friend. What of it? I am in the hands of the Galactic Spirit and walk cheerfully in the way he points out."

Gorm said blankly, "Huh?"

Ponyets looked at him, and laughed shortly, "I forgot. You never read the 'Bood of the Spirit,' did you?"

"Never heard of it," said Gorm, curtly.

"Well, you would if *you'd* had a religious training."

"Religious training? For the *priesthood*?" Gorm was profoundly shocked.

"Afraid so. It's my dark shame and secret. I was too much for the Reverend Fathers, though, They expelled me, for reasons sufficient to promote me to a secular education under the Foundation. Well, look, I'd better push off. How's your quota this year?"

Gorm crushed out his cigarette and adjusted his cap, "I've got my last cargo going now. I'll make it."

"Lucky fellow," gloomed Ponyets, and for many minutes after Les Gorm left, he sat in motionless reverie.

So Eskel Gorov was on Askone – and in prison as well!

That was bad! In fact, considerably worse than it might appear. It was one thing to tell a curious youngster a diluted version of the business to throw him off and send him about his own. It was a thing of a different sort to face the truth.

For Limmar Ponyets was one of the few people who happened to know that Master Trader Eskel Gorov was not a trader at all; but that entirely different thing, an agent of the Foundation!

2.

Two weeks gone! Two weeks wasted.

One week to reach Askone, at the extreme borders of which the vigilant warships speared out to meet him in converging numbers. Whatever their detection system was, it worked – and well.

They sidled him in slowly, without a signal, maintaining their cold distance, and pointing him harshly towards the central sun of Askone.

Ponyets could have handled them at a pinch. Those ships were holdovers from the dead-and-gone Galactic Empire – but they were sports cruisers, not warships; and without nuclear weapons, they were so many picturesque and impotent ellipsoids. But Eskel Gorov was a prisoner in their hands, and Gorov was not a hostage to lose. The Askonians must know that.

And then another week – a week to wind a weary way through the clouds of minor officials that formed the buffer between the Grand Master and the outer world. Each little sub-secretary required soothing and conciliation. Each required careful and nauseating milking for the flourishing signature that was the pathway to the next official one higher up.

For the first time, Ponyets found his trader's identification papers useless.

I Now, at last, the Grand Master was on the other side of the Guard-flanked gilded door – and two weeks had gone.

Gorov was still a prisoner and Ponyets' cargo rotted useless in the holds of his ship.

The Grand Master was a small man; a small man with a balding head and very wrinkled face, whose body seemed weighed down to motionlessness by the huge, glossy fur collar about his neck.

His fingers moved on either side, and the line of armed men backed away to for a passage, along which Ponyets strode to the foot of the Chair of State.

"Don't speak," snapped the Grand Master, and Ponyets' opening lips closed tightly.

"That's right," the Askonian ruler relaxed visibly, "I can't endure useless chatter. You cannot threaten and I won't abide flattery. Nor is there room for injured complaints. I have lost count of the times you wanderers have been warned that your devil's machines are not wanted anywhere in Askone."

"Sir," said Ponyets, quietly, "there is no attempt to justify the trader in question. It is not the policy of traders to intrude where they are not wanted. But the Galaxy is great, and it has happened before that a boundary has been trespassed unwittingly. It was a deplorable mistake."

"Deplorable, certainly," squeaked the Grand Master. "But mistake? Your people on Glyptal IV have been bombarding me with pleas for negotiation since two hours after the sacrilegious wretch was seized. I have been warned by them of your own coming many times over. It seems a well-organized rescue campaign. Much seems to have been anticipated – a little too much for mistakes, deplorable or otherwise."

The Askonian's black eyes were scornful. He raced on, "And are you traders, flitting from world to world like mad little butterflies, so mad in your own right that you can land on Askone's largest world, in the center of its system, and consider it an unwitting boundary mix-up? Come, surely not."

Ponyets winced without showing it. He said, doggedly, "If the attempt to trade was deliberate, your Veneration, it was most injudicious and contrary to the strictest regulations of our Guild."

"Injudicious, yes," said the Askonian, curtly. "So much so, that your comrade is likely to lose life in payment."

Ponyets' stomach knotted. There was no irresolution there. He said, "Death, your Veneration, is so absolute and irrevocable a phenomenon that certainly there must be some alternative."

There was a pause before the guarded answer came, "I have heard that the Foundation is rich."

"Rich? Certainly. But our riches are that which you refuse to take. Our nuclear goods are worth–"

"Your goods are worthless in that they lack the ancestral blessing. Your goods are wicked and accursed in that they lie under the ancestral interdict." The sentences were intoned; the recitation of a formula.

The Grand Master's eyelids dropped, and he said with meaning, "You have nothing else of value?"

The meaning was lost on the trader, "I don't understand. What is it you want?"

The Askonian's hands spread apart, "You ask me to trade places with you, and make known to you *my* wants. I think not. Your colleague, it seems, must suffer the punishment set for sacrilege by the Askonian code. Death by gas. We are a just people. The poorest peasant, in like case, would suffer no more. I, myself, would suffer no less."

Ponyets mumbled hopelessly, "Your Veneration, would it be permitted that I speak to the prisoner?"

"Askonian law," said the Grand Master coldly, "allows no communication with a condemned man."

Mentally, Ponyets held his breath, "Your Veneration, I ask you to be merciful towards a man's soul, in the hour when his body stands forfeit. He has been separated

from spiritual consolation in all the time that his life has been in danger. Even now, he faces the prospect of going unprepared to the bosom of the Spirit that rules all."

The Grand Master said slowly and suspiciously, "You are a Tender of the Soul?"

Ponyets dropped a humble head, "I have been so trained. In the empty expanses of space, the wandering traders need men like myself to care for the spiritual side of a life so given over to commerce and worldly pursuits."

The Askonian ruler sucked thoughtfully at his lower lip. "Every man should prepare his soul for his journey to his ancestral spirits. Yet I had never thought you traders to be believers."

3.

Eskel Gorov stirred on his couch and opened one eye as Limmar Ponyets entered the heavily reinforced door. It boomed shut behind him. Gorov sputtered and came to his feet.

"Ponyets! They sent you?"

"Pure chance," said Ponyets, bitterly, "or the work of my own personal malevolent demon. Item one, you get into a mess on Askone. Item two, my sales route, as known to the Board of Trade, carries me within fifty parsecs of the system at just the time of item one. Item three, we've worked together before and the Board knows it. Isn't that a sweet, inevitable set-up? The answer just pops out of a slot."

"Be careful," said Gorov, tautly. "There'll be someone listening. Are you wearing a Field Distorter?"

Ponyets indicated the ornamented bracelet that hugged his wrist and Gorov relaxed.

Ponyets looked about him. The cell was bare, but large. It was well-lit and it lacked offensive odors. He said, "Not bad. They're treating you with kid gloves."

Gorov brushed the remark aside, "Listen, how did you get down here? I've been in strict solitary for almost two weeks."

"Ever since I came, huh? Well, it seems the old bird who's boss here has his weak points. He leans toward pious speeches, so I took a chance that worked. I'm here in the capacity of your spiritual adviser. There's something about a pious man such as he. He will cheerfully cut your throat if it suits him, but he will hesitate to endanger the welfare of your immaterial and problematical soul. It's just a piece of empirical psychology. A trader has to know a little of everything."

Gorov's smile was sardonic, "And you've been to theological school as well. You're all right, Ponyets. I'm glad they sent you. But the Grand Master doesn't love my soul exclusively. Has he mentioned a ransom?"

The trader's eyes narrowed, "He hinted – barely. And he also threatened death by gas. I played safe, and dodged; it might easily have been a trap. So it's extortion, is it? What is it he wants?"

"Gold."

"Gold!" Ponyets frowned. "The metal itself? What for?"

"It's their medium of exchange."

"Is it? And where do I get gold from?"

"Wherever you can. Listen to me; this is important. Nothing will happen to me as long as the Grand Master has the scent of gold in his nose. Promise it to him; as much as he asks for. Then go back to the Foundation, if necessary, to get it. When I'm free, we'll be escorted out of the system, and then we part company."

Ponyets stared disapprovingly, "And then you'll come back and try again."

"It's my assignment to sell nucleics to Askone."

"They'll get you before you've gone a parsec in space. You know that, I suppose."

"I don't," said Gorov. "And if I did, it wouldn't affect things."

"They'll kill you the second time."

Gorov shrugged.

Ponyets said quietly, "If I'm going to negotiate with the Grand Master again, I want to know the whole story. So far, I've been working it too blind. As it was, the few mild remarks I did make almost threw his Veneration into fits."

"It's simple enough," said Gorov. "The only way we can increase the security of the Foundation here in the Periphery is to form a religion-controlled commercial empire. We're still too weak to be able to force political control. It's all we can do to hold the Four Kingdoms."

Ponyets was nodding. "This I realize. And any system that doesn't accept nuclear gadgets can never be placed under our religious control—"

"And can therefore become a focal point for independence and hostility. Yes."

"All right, then," said Ponyets, "so much for theory. Now what exactly prevents the sale. Religion? The Grand Master implied as much."

"It's a form of ancestor worship. Their traditions tell of an evil past from which they were saved by the simple and virtuous heroes of the past generations. It amounts to a distortion of the anarchic period a century ago, when the imperial troops were driven out and an independent government was set up. Advanced science and nuclear power in particular became identified with the old imperial regime they remember with horror."

"That so? But they have nice little ships which spotted me very handily two parsecs away. That smells of nucleics to me."

Gorov shrugged. "Those ships are holdovers of the Empire, no doubt. Probably with nuclear drive. What they have, they keep. The point is that they will not innovate and their internal economy is entirely non-nuclear. That is what we must change."

"How were you going to do it?"

"By breaking the resistance at one point. To put it simply, if I could sell a penknife with a force-field blade to a nobleman, it would be to his interest to force laws that would allow him to use it. Put that baldly, it sounds silly, but it is sound, psychologically. To make strategic sales, at strategic points, would be to create a pro-nucleics faction at court."

"And they send you for that purpose, while I'm only here to ransom you and leave, while you keep on trying? Isn't that sort of tail-backward?"

"In what way?" said Gorov, guardedly.

"Listen," Ponyets was suddenly exasperated, "you're a diplomat, not a trader, and calling you a trader won't make you one. This case is for one who's made a business of selling – and I'm here with a full cargo stinking into uselessness, and a quota that won't ever be met, it looks like."

"You mean you're going to risk your life on something that isn't your business?" Gorov smiled thinly.

Ponyets said, "You mean that this is a matter of patriotism and traders aren't patriotic?"

"Notoriously not. Pioneers never are."

"All right. I'll grant that. I don't scoot about space to save the Foundation or anything like that. But I'm out to make money, and this is my chance. If it helps the Foundation at the same time, all the better. And I've risked my life on slimmer chances."

Ponyets rose, and Gorov rose with him, "What are you going to do?"

The trader smiled, "Gorov, I don't know – not yet. But if the crux of the matter is to make a sale, then I'm your man. I'm not a boaster as a general thing, but there's one thing I'll always back up. I've never *ended up* below quota yet."

The door to the cell opened almost instantly when he knocked, and two guards fell in on either side.

4.

"A show!" said the Grand Master, grimly. He settled himself well into his furs, and one thin hand grasped the iron cudgel he used as a cane.

"And gold, your Veneration."

"*And* gold," agreed the Grand Master, carelessly.

Ponyets set the box down and opened it with as fine an appearance of confidence as he could manage. He felt alone in the face of universal hostility; the way he had felt out in space his first year. The semicircle of bearded councilors who faced him down, stared unpleasantly. Among them was Pherl, the thin-faced favorite who sat next to the Grand Master in stiff hostility. Ponyets had met him once already and marked him immediately as prime enemy, and, as a consequence, prime victim.

Outside the hall, a small army awaited events. Ponyets was effectively isolated from his ship; he lacked any weapon, but his attempted bribe; and Gorov was still a hostage.

He made the final adjustments on the clumsy monstrosity that had cost him a week of ingenuity, and prayed once again that the lead-lined quartz would stand the strain.

"What is it?" asked the Grand Master.

"This," said Ponyets, stepping back, "is a small device I have constructed myself."

"That is obvious, but it is not the information I want. Is it one of the black-magic abominations of your world?"

"It is nuclear in nature, admitted Ponyets, gravely, "but none of you need touch it, or have anything to do with it. It is for myself alone, and if it contains abominations, I take the foulness of it upon myself."

The Grand Master had raised his iron cane at the machine in a threatening gesture and his lips moved rapidly and silently in a purifying invocation. The thin-faced councilor at his right leaned towards him and his straggled red mustache approached the Grand Master's ear. The ancient Askonian petulantly shrugged himself free.

"And what is the connection of your instrument of evil and the gold that may save your countryman's life?"

"With this machine," began Ponyets, as his hand dropped softly onto the central chamber and caressed its hard, round flanks, "I can turn the iron you discard into gold of the finest quality. It is the only device known to man that will take iron – the ugly iron, your Veneration, that props up the chair you sit in and the walls of this building – and change it to shining, heavy, yellow gold."

Ponyets felt himself botching it. His usual sales talk was smooth, facile and plausible; but this limped like a shot-up space wagon. But it was the content, not the form, that interested the Grand Master.

"So? Transmutation? Men have been fools who have claimed the ability. They have paid for their prying sacrilege."

"Had they succeeded?"

"No." The Grand Master seemed coldly amused. "Success at producing gold would have been a crime that carried its own antidote. It is the attempt plus the failure that is fatal. Here, what can you do with my staff?" He pounded the floor with it.

"Your Veneration will excuse me. My device is a small model, prepared by myself, and your staff is too long."

The Grand Master's small shining eye wandered and stopped, "Randel, your buckles. Come, man, they shall be replaced double if need be."

The buckles passed down the line, hand to hand. The Grand Master weighed them thoughtfully.

"Here," he said, and threw them to the floor.

Ponyets picked them up. He tugged hard before the cylinder opened, and his eyes blinked and squinted with effort as he centered the buckles carefully on the anode screen. Later, it would be easier but there must be no failures the first time.

The homemade transmuter crackled malevolently for ten minutes while the odor of ozone became faintly present. The Askonians backed away, muttering, and again Pherl whispered urgently into his ruler's ear. The Grand Master's expression was stony. He did not budge.

And the buckles were gold.

Ponyets held them out to the Grand Master with a murmured, "Your Veneration!" but the old man hesitated, then gestured them away. His stare lingered upon the transmuter.

Ponyets said rapidly, "Gentlemen, this is pure gold. Gold through and through. You may subject it to every known physical and chemical test, if you wish to prove the point. It cannot be identified from naturally-occurring gold in any way. Any iron can be so treated. Rust will not interfere, not will a moderate amount of alloying metals—"

But Ponyets spoke only to fill a vacuum. He let the buckles remain in his outstretched hand, and it was the gold that argued for him.

The Grand Master stretched out a slow hand at last, and the thin-faced Pherl was roused to open speech. "Your Veneration, the gold is from a poisoned source."

And Ponyets countered, "A rose can grow from the mud, your Veneration. In your dealings with your neighbors, you buy material of all imaginable variety, without inquiring as to where they get it, whether from an orthodox machine blessed by your benign ancestors or from some space-spawned outrage. Come, I don't offer the machine. I offer the gold."

"Your Veneration," said Pherl, "you are not responsible for the sins of foreigners who work neither with your consent nor knowledge. But to accept this strange pseudo-gold made sinfully from iron in your presence and with your consent is an affront to the living spirits of our holy ancestors."

"Yet gold is gold," said the Grand Master, doubtfully, "and is but an exchange for the heathen person of a convicted felon. Pherl, you are too critical." But he withdrew his hand.

Ponyets said, "You are wisdom, itself, your Veneration. Consider – to give up a heathen is to lose nothing for your ancestors, whereas with the gold you get in exchange you can ornament the shrines of their holy spirits. And surely, were gold evil in itself, if such, a thing could be, the evil would depart of necessity once the metal were put to such pious use."

"Now by the bones of my grandfather," said the Grand Master with surprising vehemence. His lips separated in a shrill laugh, "Pherl, what do you say of this young man? The statement is valid. It is as valid as the words of my ancestors."

Pherl said gloomily, "So it would seem. Grant that the validity does not turn out to be a device of the Malignant Spirit."

"I'll make it even better," said Ponyets, suddenly. "Hold the gold in hostage. Place it on the altars of your ancestors as an offering and hold me for thirty days. If at the end of that time, there is no evidence of displeasure – if no disasters occur – surely, it would be proof that the offering was accepted. What more can be offered?"

And when the Grand Master rose to his feet to search out disapproval, not a man in the council failed to signal his agreement. Even Pherl chewed the ragged end of his mustache and nodded curtly.

Ponyets smiled and meditated on the uses of a religious education.

5.

Another week rubbed away before the meeting with Pherl was arranged. Ponyets felt the tension, but he was used to the feeling of physical helplessness now. He had left city limits under guard. He was in Pherl's suburban villa under guard. There was nothing to do but accept it without even looking over his shoulder.

Pherl was taller and younger outside the circle of Elders. In nonformal costume, he seemed no Elder at all.

He said abruptly, "You're a peculiar man." His close-set eyes seemed to quiver. "You've done nothing this last week, and particularly these last two hours, but imply that I need gold. It seems useless labor, for who does not? Why not advance one step?"

"It is not simply gold," said Ponyets, discreetly. "Not simply gold. Not merely a coin or two. It is rather all that lies behind gold."

"Now what can lie behind gold?" prodded Pherl, with a down-curved smile. "Certainly this is not the preliminary of another clumsy demonstration."

"Clumsy?" Ponyets frowned slightly.

"Oh, definitely." Pherl folded his hands and nudged them gently with his chin. "I don't criticize you. The clumsiness was on purpose, I am sure. I might have warned his Veneration of *that*, had I been certain of the motive. Now had I been you, I would have produced the gold upon my ship, and offered it alone. The show you offered us and the antagonism you aroused would have been dispensed with."

"True," Ponyets admitted, "but since I was myself, I accepted the antagonism for the sake of attracting your attention."

"Is that it? Simply that?" Pherl made no effort to hide his contemptuous amusement. "And I imagine you suggested the thirty-day purification period that you might assure yourself time to turn the attraction into something a bit more substantial. But what if the gold turns out to be impure?"

Ponyets allowed himself a dark humor in return, "When the judgement of that impurity depends upon those who are most interested in finding it pure?"

Pherl lifted his eyes and stared narrowly at the trader. He seemed at once surprised and satisfied.

"A sensible point. Now tell me why you wished to attract me."

"This I will do. In the short time I have been here, I have observed useful facts that concern you and interest me. For instance, you are young-very young for a member of the council, and even of a relatively young family."

"You criticize my family?"

"Not at all. Your ancestors are great and holy; all will admit that. But there are those that say you are not a member of one of the Five Tribes."

Pherl leaned back, "With all respect to those involved," and he did not hide his venom, "the Five Tribes have impoverished loins and thin blood. Not fifty members of the Tribes are alive."

"Yet there are those who say the nation would not be willing to see any man outside the Tribes as Grand Master. And so young and newly-advanced a favorite of the Grand Master is bound to make powerful enemies among the great ones of the State – it is said. His Veneration is aging and his protection will not last past his death, when it is an enemy of yours who will undoubtedly be the one to interpret the words of his Spirit."

Pherl scowled, "For a foreigner you hear much. Such ears are made for cropping."

"That may be decided later."

"Let me anticipate." Pherl stirred impatiently in his seat. "You're going to offer me wealth and power in terms of those evil little machines you carry in your ship. Well?"

"Suppose it so. What would be your objection? Simply your standard of good and evil?"

Pherl shook his head. "Not at all. Look, my Outlander, your opinion of us in your heathen agnosticism is what it is – but I am not the entire slave of our mythology, though I may appear so. I am an educated man, sir, and, I hope, an enlightened one. The full depth of our religious customs, in the ritualistic rather than the ethical sense, is for the masses."

"Your objection, then?" pressed Ponyets, gently.

"Just that. The masses. I might be willing to deal with you, but your little machines must be used to be useful. How might riches come to me, if I had to use – what is it you sell?– well, a razor, for instance, only in the strictest, trembling secrecy. Even if my chin were more simply and more cleanly shaven, how would I become rich? And how would I avoid death by gas chamber or mob frightfulness if I were ever once caught using it?"

Ponyets shrugged, "You are correct. I might point out that the remedy would be to educate your own people into the use of nucleics for their convenience and your own substantial profit. It would be a gigantic piece of work; I don't deny it; but the returns would be still more gigantic. Still that is your concern, and, at the moment, not mine at all. For I offer neither razor, knife, nor mechanical garbage disposer."

"What do you offer?"

"Gold itself. Directly. You may have the machine I demonstrated last week."

And now Pherl stiffened and the skin on his forehead moved jerkily. "The transmuter?"

"Exactly. Your supply of gold will equal your supply of iron. That, I imagine, is sufficient for all needs. Sufficient for the Grand Mastership itself, despite youth and enemies. And it is safe."

"In what way?"

"In that secrecy is the essence of its use; that same secrecy you described as the only safety with regard to nucleics. You may bury the transmuter in the deepest dungeon of the strongest fortress on your furthest estate, and it will still bring you instant wealth. It is the gold you buy, not the machine, and that gold bears no trace of its manufacture, for it cannot be told from the natural creation."

"And who is to operate the machine?"

"Yourself. Five minutes teaching is all you will require. I'll set it up for you wherever you wish."

"And in return?"

"Well," Ponyets grew cautious. "I ask a price and a handsome one. It is my living. Let us say,— for it its a valuable machine – the equivalent of a cubic foot of gold in wrought iron."

Pherl laughed, and Ponyets grew red. "I point out, sir," he added, stiffly, "that you can get your price back in two hours."

"True, and in one hour, you might be gone, and my machine might suddenly turn out to be useless. I'll need a guarantee."

"You have my word."

"A very good one," Pherl bowed sardonically, "but your presence would be an even better assurance. I'll give you *my* word to pay you one week after delivery in working order."

"Impossible."

"Impossible? When you've already incurred the death penalty very handily by even offering to sell me anything. The only alternative is my word that you'll get the gas chamber tomorrow otherwise."

Ponyet's face was expressionless, but his eyes might have flickered. He said, "It is an unfair advantage. You will at least put your promise in writing?"

"And also become liable for execution? No, sir!" Pherl smiled a broad satisfaction. "No, sir! Only one of us is a fool."

The trader said in a small voice, "It is agreed, then."

6.

Gorov was released on the thirtieth day, and five hundred pounds of the yellowest gold took his place. And with him was released the quarantined and untouched abomination that was his ship.

Then, as on the journey into the Askonian system, so on the journey out, the cylinder of sleek little ships ushered them on their way.

Ponyets watched the dimly sun-lit speck that was Gorov's ship while Gorov's voice pierced through to him, clear and thin on the tight, distortion-bounded ether-beam.

He was saying, "But it isn't what's wanted, Ponyets. A transmuter won't do. Where did you get one, anyway?"

"I didn't," Ponyets answer was patient. "I juiced it up out of a food irradiation chamber. It isn't any good, really. The power consumption is prohibitive on any large scale or the Foundation would use transmutation instead of chasing all over the Galaxy for heavy metals. It's one of the standard tricks every trader uses, except that I never saw an iron-to-gold one before. But it's impressive, and it works – very temporarily."

"All right. But that particular trick is no good."

"It got you out of a nasty spot."

"That is very far from the point. Especially since I've got to go back, once we shake our solicitous escort."

"Why?"

"You yourself explained it to this politician of yours," Gorov's voice was on edge. "Your entire sales-point rested on the fact that the transmuter was a means to an end, but of no value in itself—, that he was buying the gold, not the machine. It was good psychology, since it worked, but—"

"But?" Ponyets urged blandly and obtusely.

The voice from the receiver grew shriller, "But we want to sell them a machine of value in itself, something they would want to use openly; something that would tend to force them out in favor of nuclear techniques as a matter of self-interest."

"I understand all that," said Ponyets, gently. "You once explained it. But look at what follows from my sale, will you? As long as that transmuter lasts, Pherl will coin gold; and it will last long enough to buy him the next election. The present Grand Master won't last long."

"You count on gratitude?" asked Gorov, coldly.

"No – on intelligent self-interest. The transmuter gets him an election; other mechanisms—"

"No! No! Your premise is twisted. It's not the transmuter, he'll credit – it'll be the good, old-fashioned gold. That's what I'm trying to tell you."

Ponyets grinned and shifted into a more comfortable position. All right. He'd baited the poor fellow sufficiently. Gorov was beginning to sound wild.

The trader said, "Not so fast, Gorov. I haven't finished. There are other gadgets already involved."

There was a short silence. Then, Gorov's voice sounded cautiously, "What other gadgets?"

Ponyets gestured automatically and uselessly, "You see that escort?"

"I do," said Gorov shortly. "Tell me about those gadgets."

"I will, –if you'll listen. That's Pherl's private navy escorting us; a special honor to him from the Grand Master. He managed to squeeze that out."

"So?"

"And where do you think he's taking us? To his mining estates on the outskirts of Askone, that's where. Listen!" Ponyets was suddenly fiery, "I told you I was in this to make money, not to save worlds. All right. I sold that transmuter for nothing. Nothing except the risk of the gas chamber and that doesn't count towards the quota."

"Get back to the mining estates, Ponyets. Where do they come in?"

"With the profits. We're stacking up on tin, Gorov. Tin to fill every last cubic foot this old scow can scrape up, and then some more for yours. I'm going down with Pherl to collect, old man, and you're going to cover me from upstairs with every gun you've got – just in case Pherl isn't as sporting about the matter as he lets on to be. That tin's my profit."

"For the transmuter?"

"*For my entire cargo of nucleics.* At double price, plus a bonus." He shrugged, almost apologetically. "I admit I gouged him, but I've got to make quota, don't I?"

Gorov was evidently lost. He said, weakly, "Do you mind explaining'?"

"What's there to explain? It's obvious, Gorov. Look, the clever dog thought he had me in a foolproof trap, because his word was worth more than mine to the Grand Master. He took the transmuter. That was a capital crime in Askone. But at any time he could say that he had lured me on into a trap with the purest of patriotic motives, and denounce me as a seller of forbidden things."

"That was obvious."

"Sure, but word against simple word wasn't all there was to it. You see, Pherl had never heard nor conceived of a microfilm-recorder."

Gorov laughed suddenly.

"That's right," said Ponyets. "He had the upper hand. I was properly chastened. But when I set up the transmuter for him in my whipped-dog fashion, I incorporated the recorder into the device and removed it in the next day's overhaul. I had a perfect record of his sanctum sanctorum, his holy-of-holies, with he himself, poor Pherl, operating the transmuter for all the ergs it had and crowing over his first piece of gold as if it were an egg he had just laid."

"You showed him the results?"

"Two days later. The poor sap had never seen three-dimensional color-sound images in his life. He claims he isn't superstitious, but if I ever saw an adult look as scared as he did then, call me rookie. When I told him I had a recorder planted in the city square, set to go off at midday with a million fanatical Askonians to watch, and to tear him to pieces subsequently, he was gibbering at my knees in half a second. He was ready to make any deal I wanted."

"Did you?" Gorov's voice was suppressing laughter. "I mean, have one planted in the city square."

"No, but that didn't matter. He made the deal. He bought every gadget I had, and every one you had for as much tin as we could carry. At that moment, he believed me capable of anything. The agreement is in writing and you'll have a copy before I go down with him, just as another precaution."

"But you've damaged his ego," said Gorov. "Will he use the gadgets?"

"Why not? It's his only way of recouping his losses, and if he makes money out of it, he'll salve his pride. And he will be the next Grand Master – and the best man we could have in our favor."

"Yes," said Gorov, "it was a good sale. Yet you've certainly got an uncomfortable sales technique. No wonder you were kicked out of a seminary. Have you no sense of morals?"

"What are the odds?" said Ponyets, indifferently. "You know what Salvor Hardin said about a sense of morals."

PART V

THE MERCHANT PRINCES

1.

TRADERS-. . . With psychohistoric inevitability. economic control of the Foundation grew. The traders grew rich; and with riches came power. . .

It is sometimes forgotten that Hober Mallow began life as an ordinary trader. It is never forgotten that he ended it as the first of the Merchant Princes. . . .

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Jorane Sutt put the tips of carefully-manicured fingers together and said, "It's something of a puzzle. In fact – and this is in the strictest of confidence – it may be another one of Hari Seldon's crises."

The man opposite felt in the pocket of his short Smyrnian jacket for a cigarette. "Don't know about that, Sutt. As a general rule, politicians start shouting 'Seldon crisis' at every mayoralty campaign."

Sutt smiled very faintly, "I'm not campaigning, Mallow. We're facing nuclear weapons, and we don't know where they're coming from."

Hober Mallow of Smyrno, Master Trader, smoked quietly, almost indifferently. "Go on. If you have more to say, get it out." Mallow never made the mistake of being overpolite to a Foundation man. He might be an Outlander, but a man's a man for a' that.

Sutt indicated the trimensional star-map on the table. He adjusted the controls and a cluster of some half-dozen stellar systems blazed red.

"That," he said quietly, "is the Korellian Republic."

The trader nodded, "I've been there. Stinking rathole! I suppose you can call it a republic but it's always someone out of the Argo family that gets elected Commdor each time. And if you ever don't like it – *things* happen to you." He twisted his lip and repeated, "I've been there."

"But you've come back, which hasn't always happened. Three trade ships, inviolate under the Conventions, have disappeared within the territory of the Republic in the last year. And those ships were armed with all the usual nuclear explosives and force-field defenses."

"What was the last word heard from the ships?"

"Routine reports. Nothing else."

"What did Korell say?"

Sutt's eyes gleamed sardonically, "There was no way of asking. The Foundation's greatest asset throughout the Periphery is its reputation of power. Do you think we can lose three ships and ask for them?"

"Well, then, suppose you tell me what you want with *me*."

Jorane Sutt did not waste his time in the luxury of annoyance. As secretary to the mayor, he had held off opposition councilmen, jobseekers, reformers, and crackpots who claimed to have solved in its entirety the course of future history as worked out by Hari Seldon. With training like that, it took a good deal to disturb him.

He said methodically, "In a moment. You see, three ships lost in the same sector in the same year can't be accident, and nuclear power can be conquered only by more nuclear power. The question automatically arises: if Korell has nuclear weapons, where is it getting them?"

"And where does it?"

"Two alternatives. Either the Korellians have constructed them themselves—"

"Far-fetched!"

"Very! But the other possibility is that we are being afflicted with a case of treason."

"You think so?" Mallow's voice was cold.

The secretary said calmly, "There's nothing miraculous about the possibility. Since the Four Kingdoms accepted the Foundation Convention, we have had to deal with considerable groups of dissident populations in each nation. Each former kingdom has its pretenders and its former noblemen, who can't very well pretend to love the Foundation. Some of them are becoming active, perhaps."

Mallow was a dull red. "I see. Is there anything you want to say to *me*? I'm a Smyrnian."

"I know. You're a Smyrnian – born in Smyrno, one of the former Four Kingdoms. You're a Foundation man by education only. By birth, you're an Outlander and a foreigner. No doubt your grandfather was a baron at the time of the wars with Anacreon and Loris, and no doubt your family estates were taken away when Sef Sermak redistributed the land."

"No, by Black Space, no! My grandfather was a blood-poor son-of-a-spacer who died heaving coal at starving wages before the Foundation took over. I owe nothing to the old regime. But I was born in Smyrno, and I'm not ashamed of either Smyrno or Smyrnians, by the Galaxy. Your sly little hints of treason aren't going to panic me into licking Foundation spittle. And now you can either give your orders or make your accusations. I don't care which."

"My good Master Trader, I don't care an electron whether your grandfather was King of Smyrno or the greatest pauper on the planet. I recited that rigmarole about your birth and ancestry to show you that I'm not interested in them. Evidently, you missed the point. Let's go back now. You're a Smyrnian. You know the Outlanders. Also, you're a trader and one of the best. You've been to Korell and you know the Korellians. That's where you've got to go."

Mallow breathed deeply, "As a spy?"

"Not at all. As a trader – but with your eyes open. If you can find out where the power is coming from – I might remind you, since you're a Smyrnian, that two of those lost trade ships had Smyrnian crews."

"When do I start?"

"When will your ship be ready?"

"In six days."

"Then that's when you start. You'll have all the details at the Admiralty."

"Right!" The trader rose, shook hands roughly, and strode out.

Sutt waited, spreading his fingers gingerly and rubbing out the pressure; then shrugged his shoulders and stepped into the mayor's office.

The mayor deadened the visiplat and leaned back. "What do you make of it, Sutt?"

"He could be a good actor," said Sutt, and stared thoughtfully ahead.

2.

It was evening of the same day, and in Jorane Sutt's bachelor apartment on the twenty-first floor of the Hardin Building, Publis Manlio was sipping wine slowly.

It was Publis Manlio in whose slight, aging body were fulfilled two great offices of the Foundation. He was Foreign Secretary in the mayor's cabinet, and to all the outer suns, barring only the Foundation itself, he was, in addition, Primate of the Church, Purveyor of the Holy Food, Master of the Temples, and so forth almost indefinitely in confusing but sonorous syllables.

He was saying, "But he agreed to let you send out that trader. It is a point."

"But such a small one," said Sutt. "It gets us nothing immediately. The whole business is the crudest sort of stratagem, since we have no way of foreseeing it to the end. It is a mere paying out of rope on the chance that somewhere along the length of it will be a noose."

"True. And this Mallow is a capable man. What if he is not an easy prey to dupery?"

"That is a chance that must be run. If there is treachery, it is the capable men that are implicated. If not, we need a capable man to detect the truth. And Mallow will be guarded. Your glass is empty."

"No, thanks. I've had enough."

Sutt filled his own glass and patiently endured the other's uneasy reverie.

Of whatever the reverie consisted, it ended indecisively, for the primate said suddenly, almost explosively, "Sutt, what's on your mind?"

"I'll tell you, Manlio." His thin lips parted, "We're in the middle of a Seldon crisis."

Manlio stared, then said softly, "How do you know? Has Seldon appeared in the Time Vault again?"

"That much, my friend, is not necessary. Look, reason it out. Since the Galactic Empire abandoned the Periphery, and threw us on our own, we have never had an opponent who possessed nuclear power. Now, for the first time, we have one. That seems significant even if it stood by itself. And it doesn't. For the first time in over seventy years, we are facing a major domestic political crisis. I should think the synchronization of the two crises, inner and outer, puts it beyond all doubt."

Manlio's eyes narrowed, "If that's all, it's not enough. There have been two Seldon crises so far, and both times the Foundation was in danger of extermination. Nothing can be a third crisis till that danger returns."

Sutt never showed impatience, "That danger is coming. Any fool can tell a crisis when it arrives. The real service to the state is to detect it in embryo. Look, Manlio, we're proceeding along a planned history. We *know* that Hari Seldon worked out the historical probabilities of the future. We *know* that some day we're to rebuild the Galactic Empire. We *know* that it will take a thousand years or thereabouts. And we *know* that in the interval we will face certain definite crises.

"Now the first crisis came fifty years after the establishment of the Foundation, and the second, thirty years later than that. Almost seventy-five years have gone since. It's time, Manlio, it's time."

Manlio rubbed his nose uncertainly, "And you've made your plans to meet this crisis?"

Sutt nodded.

"And I," continued Manlio, "am to play a part in it?"

Sutt nodded again, "Before we can meet the foreign threat of atomic power, we've got to put our own house in order. These traders—"

"Ah!" The primate stiffened, and his eyes grew sharp.

"That's right. These traders. They are useful, but they are too strong – and too uncontrolled. They are Outlanders, educated apart from religion. On the one hand, we put knowledge into their hands, and on the other, we remove our strongest hold upon them."

"If we can prove treachery?"

"If we could, direct action would be simple and sufficient. But that doesn't signify in the least. Even if treason among them did not exist, they would form an uncertain element in our society. They wouldn't be bound to us by patriotism or common descent, or even by religious awe. Under their secular leadership, the outer provinces, which, since Hardin's time, look to us as the Holy Planet, might break away."

"I see all that, but the cure—"

"The cure must come quickly, before the Seldon Crisis becomes acute. If nuclear weapons are without and disaffection within, the odds might be too great." Sutt put down the empty glass he had been fingering, "This is obviously your job."

"Mine?"

"I can't do it. My office is appointive and has no legislative standing."

"The mayor—"

"Impossible. His personality is entirely negative. He is energetic only in evading responsibility. But if an independent party arose that might endanger re-election, he might allow himself to be led."

"But, Sutt, I lack the aptitude for practical politics."

"Leave that to me. Who knows, Manlio? Since Salvor Hardin's time, the primacy and the mayoralty have never been combined in a single person. But it might happen now – if your job were well done."

3.

And at the other end of town, in homelier surroundings, Hober Mallow kept a second appointment. He had listened long, and now he said cautiously, "Yes, I've heard of your campaigns to get trader representation in the council. But why *me*, Twer?"

Jaim Twer, who would remind you any time, asked or unasked, that he was in the first group of Outlanders to receive a lay education at the Foundation, beamed.

"I know what I'm doing," he said. "Remember when I met you first, last year."

"At the Trader's Convention."

"Right. You ran the meeting. You had those red-necked oxen planted in their seats, then put them in your shirtpocket and walked off with them. And you're all right with the Foundation masses, too. You've got *glamor* – or, at any rate, solid adventure-publicity, which is the same thing."

"Very good," said Mallow, dryly. "But why now?"

"Because now's our chance. Do you know that the Secretary of Education has handed in his resignation? It's not out in the open yet, but it will be."

"How do you know?"

"That – never mind –" He waved a disgusted hand. "It's so. The Actionist party is splitting wide open, and we can murder it right now on a straight question of equal rights for traders; or, rather, democracy, pro- and anti-."

Mallow lounged back in his chair and stared at his thick fingers, "Uh-uh. Sorry, Twer. I'm leaving next week on business. You'll have to get someone else."

Twer stared, "Business? What kind of business?"

"Very super-secret. Triple-A priority. All that, you know. Had a talk with the mayor's own secretary."

"Snake Sutt?" Jaim Twer grew excited. "A trick. The son-of-a-spacer is getting rid of you. Mallow –"

"Hold on!" Mallow's hand fell on the other's balled fist. "Don't go into a blaze. If it's a trick, I'll be back some day for the reckoning. If it isn't, your snake, Sutt, is playing into our hands. Listen, there's a Seldon crisis coming up."

Mallow waited for a reaction but it never came. Twer merely stared. "What's a Seldon crisis?"

"Galaxy!" Mallow exploded angrily at the anticlimax, "What the blue blazes did you do when you went to school? What do you mean anyway by a fool question like that?"

The elder man frowned, "If you'll explain—"

There was a long pause, then, "I'll explain." Mallow's eyebrows lowered, and he spoke slowly. "When the Galactic Empire began to die at the edges, and when the ends of the Galaxy reverted to barbarism and dropped away, Hari Seldon and his band of psychologists planted a colony, the Foundation, out here in the middle of the mess, so that we could incubate art, science, and technology, and form the nucleus of the Second Empire."

"Oh, yes, yes—"

"I'm not finished," said the trader, coldly. "The future course of the Foundation was plotted according to the science of psychohistory, then highly developed, and conditions arranged so as to bring about a series of crises that will force us most rapidly along the route to future Empire. Each crisis, each *Seldon* crisis, marks an epoch in our history. We're approaching one now – our third."

Twer shrugged. "I suppose this was mentioned in school, but I've been out of school a long time – longer than you."

"I suppose so. Forget it. What matters is that I'm being sent out into the middle of the development of this crisis. There's no telling what I'll have when I come back, and there is a council election every year."

Twer looked up, "Are you on the track of anything?"

"No."

"You have definite plans?"

"Not the faintest inkling of one."

"Well—"

"Well, nothing. Hardin once said: 'To succeed, planning alone is insufficient. One must improvise as well.' I'll improvise."

Twer shook his head uncertainly, and they stood, looking at each other.

Mallow said, quite suddenly, but quite matter-of-factly, "I tell you what, how about coming with me? Don't stare, man. You've been a trader before you decided there was more excitement in politics. Or so I've heard."

"Where are you going? Tell me that."

Towards the Whassallian Rift. I can't be more specific till we're out in space. What do you say?"

Suppose Sutt decides he wants me where he can see.

"Not likely. If he's anxious to get rid of me, why not of you as well? Besides which, no trader would hit space if he couldn't pick his own crew. I take whom I please."

There was a queer glint in the older man's eyes, "All right. I'll go." He held out his hand, "It'll be my first trip in three years."

Mallow grasped and shook the other's hand, "Good! All fired good! And now I've got to round up the boys. You know where the *Far Star* docks, don't you? Then show up tomorrow. Good-by."

4.

Korell is that frequent phenomenon in history: the republic whose ruler has every attribute of the absolute monarch but the name. It therefore enjoyed the usual despotism unrestrained even by those two moderating influences in the legitimate monarchies: regal "honor" and court etiquette.

Materially, its prosperity was low. The day of the Galactic Empire had departed, with nothing but silent memorials and broken structures to testify to it. The day of the Foundation had not yet come – and in the fierce determination of its ruler, the Commдор Asper Argo, with his strict regulation of the traders and his stricter prohibition of the missionaries, it was never coming.

The spaceport itself was decrepit and decayed, and the crew of the *Far Star* were drearily aware of that. The moldering hangars made for a moldering atmosphere and Jaim Twer itched and fretted over a game of solitaire.

Hober Mallow said thoughtfully, "Good trading material here." He was staring quietly out the viewport. So far, there was little else to be said about Korell. The trip here was uneventful. The squadron of Korellian ships that had shot out to intercept the *Far Star* had been tiny, limping relics of ancient glory or battered, clumsy hulks. They had maintained their distance fearfully, and still maintained it, and for a week now, Mallow's requests for an audience with the local go government had been unanswered.

Mallow repeated, "Good trading here. You might call this virgin territory."

Jaim Twer looked up impatiently, and threw his cards aside, "What the devil do you intend doing, Mallow? The crew's grumbling, the officers are worried, and I'm wondering–"

"Wondering? About what?"

"About the situation. And about you. What are we doing?"

"Waiting."

The old trader snorted and grew red. He growled, "You're going it blind, Mallow. There's a guard around the field and there are ships overhead. Suppose they're getting ready to blow us into a hole in the ground."

"They've had a week."

"Maybe they're waiting for reinforcements." Twer's eyes were sharp and hard.

Mallow sat down abruptly, "Yes, I'd thought of that You see, it poses a pretty problem. First, we got here without trouble. That may mean nothing, however, for only three ships out of better than three hundred went a-glimmer last year. The percentage is low. But that may mean also that the number of their ships equipped with nuclear power is small, and that they dare not expose them needlessly, until that number grows.

"But it could mean, on the other hand, that they haven't nuclear power after all. Or maybe they have and are keeping undercover, for fear we know something. It's one thing, after all, to pirate blundering, light-armed merchant ships. It's another to fool around with an accredited envoy of the Foundation when the mere fact of his presence may mean the Foundation is growing suspicious.

"Combine this—"

"Hold on, Mallow, hold on." Twer raised his hands. "You're just about drowning me with talk. What're you getting at? Never mind the in-betweens."

"You've got to have the in-betweens, or you won't understand, Twer. We're both waiting. They don't know what I'm doing here and I don't know what they've got here. But I'm in the weaker position because I'm one and they're an entire world – maybe with atomic power. I can't afford to be the one to weaken. Sure it's dangerous. Sure there may be a hole in the ground waiting for us. But we knew that from the start. What else is there to do?"

"I don't– Who's that, now?"

Mallow looked up patiently, and tuned the receiver. The visiplat glowed into the craggy face of the watch sergeant.

"Speak, sergeant."

The sergeant said, "Pardon, sir. The men have given entry to a Foundation missionary."

"A *what*?" Mallow's face grew livid.

"A missionary, sir. He's in need of hospitalization, sir—"

"There'll be more than one in need of that, sergeant, for this piece of work. Order the men to battle stations."

Crew's lounge was almost empty. Five minutes after the order, even the men on the off-shift were at their guns. It was speed that was the great virtue in the anarchic regions of the interstellar space of the Periphery, and it was in speed above all that the crew of a master trader excelled.

Mallow entered slowly, and stared the missionary up and down and around. His eye slid to Lieutenant Tinter, who shifted uneasily to one side and to Watch-Sergeant Demen, whose blank face and stolid figure flanked the other.

The Master Trader turned to Twer and paused thoughtfully, "Well, then, Twer, get the officers here quietly, except for the coordinators and the trajectoryman. The men are to remain at stations till further orders."

There was a five-minute hiatus, in which Mallow kicked open the doors to the lavatories, looked behind the bar, pulled the draperies across the thick windows. For half a minute he left the room altogether, and when he returned he was humming abstractedly.

Men filed in. Twer followed, and closed the door silently.

Mallow said quietly, "First, who let this man in without orders from me?"

The watch sergeant stepped forward. Every eye shifted. "Pardon, sir. It was no definite person. It was a sort of mutual agreement. He was one of us, you might say, and these foreigners here—"

Mallow cut him short, "I sympathize with your feelings, sergeant, and understand them. These men, were they under your command?"

"Yes, sir."

"When this is over, they're to be confined to individual quarters for a week. You yourself are relieved of all supervisory duties for a similar period. Understood?"

The sergeant's face never changed, but there was the slightest droop to his shoulders. He said, crisply, "Yes, sir."

"You may leave. Get to your gun-station."

The door closed behind him and the babble rose.

Twer broke in, "Why the punishment, Mallow? You know that these Korellians kill captured missionaries."

"An action against my orders is bad in itself whatever other reasons there may be in its favor. No one was to leave or enter the ship without permission."

Lieutenant Tinter murmured rebelliously, "Seven days without action. You can't maintain discipline that way."

Mallow said icily, "*I* can. There's no merit in discipline under ideal circumstances. I'll have it in the face of death, or it's useless. Where's this missionary? Get him here in front of me."

The trader sat down, while the scarlet-cloaked figure was carefully brought forward.

"What's your name, reverend?"

"Eh?" The scarlet-robed figure wheeled towards Mallow, the whole body turning as a unit. His eyes were blankly open and there was a bruise on one temple. He had not spoken, nor, as far as Mallow could tell, moved during all the previous interval.

"Your name, revered one?"

The missionary started to sudden feverish life. His arms went out in an embracing gesture. "My son – my children. May you always be in the protecting arms of the Galactic Spirit."

Twer stepped forward, eyes troubled, voice husky, "The man's sick. Take him to bed, somebody. Order him to bed, Mallow, and have him seen to. He's badly hurt."

Mallow's great arm shoved him back, "Don't interfere, Twer, or I'll have you out of the room. Your name, revered one?"

The missionary's hands clasped in sudden supplication, "As you are enlightened men, save me from the heathen." The words tumbled out, "Save me from these brutes and darkened ones who raven after me and would afflict the Galactic Spirit with their crimes. I am Jord Parma, of the Anacreonian worlds. Educated at the Foundation; the Foundation itself, my children. I am a Priest of the Spirit educated into all the mysteries, who have come here where the inner voice called me." He was gasping. "I have suffered at the hands of the unenlightened. As you are Children of the Spirit; and in the name of that Spirit, protect me from them."

A voice broke in upon them, as the emergency alarm box clamored metallically:

"Enemy units in sight! Instruction desired!"

Every eye shot mechanically upward to the speaker.

Mallow swore violently. He clicked open the reverse and yelled, "Maintain vigil! That is all!" and turned it off.

He made his way to the thick drapes that rustled aside at a touch and stared grimly out,

Enemy units! Several thousands of them in the persons of the individual members of a Korellian mob. The rolling rabble encompassed the port from extreme end to extreme end, and in the cold, hard light of magnesium flares the foremost straggled closer.

"Tinter!" The trader never turned, but the back of his neck was red. "Get the outer speaker working and find out what they want. Ask if they have a representative of the law with them. Make no promises and no threats, or I'll kill you."

Tinter turned and left.

Mallow felt a rough hand on his shoulder and he struck it aside. It was Twer. His voice was an angry hiss in his ear, "Mallow, you're bound to hold onto this man. There's no way of maintaining decency and honor otherwise. He's of the Foundation and, after all, he – is a priest. These savages outside– Do you hear me?"

"I hear you, Twer." Mallow's voice was incisive. "I've got more to do here than guard missionaries. I'll do, sir, what I please, and, by Seldon and all the Galaxy, if you try to stop me, I'll tear out your stinking windpipe. Don't get in my way, Twer, or it will be the last of you."

He turned and strode past. "You! Revered Parma! Did you know that, by convention, no Foundation missionaries may enter the Korellian territory?"

The missionary was trembling, "I can but go where the Spirit leads, my son. If the darkened ones refuse enlightenment, is it not the greater sign of their need for it?"

"That's outside the question, revered one. You are here against the law of both Korell and the Foundation. I cannot in law protect you."

The missionary's hands were raised again. His earlier bewilderment was gone. There was the raucous clamor of the ship's outer communication system in action, and the faint, undulating gabble of the angry horde in response. The sound made his eyes wild.

"You hear them? Why do you talk of law to me, of a law made by men? There are higher laws. Was it not the Galactic Spirit that said: Thou shalt not stand idly by to the hurl of thy fellowman. And has he not said: Even as thou dealest with the humble and defenseless, thus shalt thou be dealt with.

"Have you not guns? Have you not a ship? And behind you is there not the Foundation? And above and all-about you is there not the Spirit that rules the universe?" He paused for breath.

And then the great outer voice of the Far Star ceased and Lieutenant Tinter was back, troubled.

"Speak!" said Mallow, shortly.

"Sir, they demand the person of Jord Parma."

"If not?"

"There are various threats, sir. It is difficult to make much out. There are so many – and they seem quite mad. There is someone who says he governs the district and has police powers, but he is quite evidently not his own master."

"Master or not," shrugged Mallow, "he is the law. Tell them that if this governor, or policeman, or whatever he is, approaches the ship alone, he can have the Revered Jord Parma."

And there was suddenly a gun in his hand. He added, "I don't know what insubordination is. I have never had any experience with it. But if there's anyone here who thinks he can teach me, I'd like to teach him my antidote in return."

The gun swiveled slowly, and rested on Twer. With an effort, the old trader's face untwisted and his hands unclenched and lowered. His breath was a harsh rasp in his nostrils.

Tinter left, and in five minutes a puny figure detached itself from the crowd. It approached slowly and hesitantly, plainly drenched in fear and apprehension. Twice it turned back, and twice the patently obvious threats of the many-headed monster urged him on.

"All right," Mallow gestured with the hand-blaster, which remained unsheathed. "Grun and Upshur, take him out."

The missionary screeched. He raised his arms and rigid fingers speared upward as the voluminous sleeves fell away to reveal the thin, veined arms. There was a momentary, tiny flash of light that came and went in a breath. Mallow blinked and gestured again, contemptuously.

The missionary's voice poured out as he struggled in the two-fold grasp, "Cursed be the traitor who abandons his fellowman to evil and to death. Deafened be the ears that are deaf to the pleadings of the helpless. Blind be the eyes that are blind to innocence. Blackened forever be the soul that consorts with blackness–"

Twer clamped his hands tightly over his ears.

Mallow flipped his blaster and put it away. "Disperse," he said, evenly, "to respective stations. Maintain full vigil for six hours after dispersion of crowd. Double stations for forty-eight hours thereafter. Further instructions at that time. Twer, come with me."

They were alone in Mallow's private quarters. Mallow indicated a chair and Twer sat down. His stocky figure looked shrunken.

Mallow stared him down, sardonically. "Twer," he said, "I'm disappointed. Your three years in politics seem to have gotten you out of trader habits. Remember, I may be a democrat back at the Foundation, but there's nothing short of tyranny that can run my ship the way I want it run. I never had to pull a blaster on my men before, and I wouldn't have had to now, if you hadn't gone out of line."

"Twer, you have no official position, but you're here on my invitation, and I'll extend you every courtesy – in private. However, from now on, in the presence of my

officers or men, I'm 'sir,' and not 'Mallow.' And when I give an order, you'll jump faster than a third-class recruit just for luck, or I'll have you handcuffed in the sub-level even faster. Understand?"

The party-leader swallowed dryly. He said, reluctantly, "My apologies."

"Accepted! Will you shake?"

Twer's limp fingers were swallowed in Mallow's huge palm. Twer said, "My motives were good. It's difficult to send a man out to be lynched. That wobbly-kneed governor or whatever-he-was can't save him. It's murder."

"I can't help that. Frankly, the incident smelled too bad. Didn't you notice?"

"Notice what?"

"This spaceport is deep in the middle of a sleepy far section. Suddenly a missionary escapes. Where from? He comes here. Coincidence? A huge crowd gathers. From where? The nearest city of any size must be at least a hundred miles away. But they arrive in half an hour. How?"

"How?" echoed Twer.

"Well, what if the missionary were brought here and released as bait. Our friend, Revered Parma, was considerably confused. He seemed at no time to be in complete possession of his wits."

"Hard usage—" murmured Twer bitterly.

"Maybe! And maybe the idea was to have us go all chivalrous and gallant, into a stupid defense of the man. He was here against the laws of Korell and the Foundation. If I withhold him, it is an act of war against Korell, and the Foundation would have no legal right to defend us."

"That – that's pretty far-fetched."

The speaker blared and forestalled Mallow's answer: "Sir, official communication received."

"Submit immediately!"

The gleaming cylinder arrived in its slot with a click. Mallow opened it and shook out the silver-impregnated sheet it held. He rubbed it appreciatively between thumb and finger and said, "Teleported direct from the capital. Commdor's own stationery."

He read it in a glance and laughed shortly, "So my idea was far-fetched, was it?"

He tossed it to Twer, and added, "Half an hour after we hand back the missionary, we finally get a very polite invitation to the Commdor's august presence – after seven days of previous waiting. I think we passed a test."

5.

Commdor Asper was a man of the people, by self-acclamation. His remaining back-fringe of gray hair drooped limply to his shoulders, his shirt needed laundering, and he spoke with a snuffle.

"There is no ostentation here, Trader Mallow," he said. "No false show. In me, you see merely the first citizen of the state. That's what Commdor means, and that's the only title I have."

He seemed inordinately pleased with it all, "in fact, I consider that fact one of the strongest bonds between Korell and your nation. I understand you people enjoy the republican blessings we do."

"Exactly, Commdor," said Mallow gravely, taking mental exception to the comparison, "an argument which I consider strongly in favor of continued peace and friendship between our governments."

"Peace! Ah!" The Commdor's sparse gray beard twitched to the sentimental grimaces of his face. "I don't think there is anyone in the Periphery who has so near his heart the ideal of Peace, as I have. I can truthfully say that since I succeeded my illustrious father to the leadership of the state, the reign of Peace has never been broken. Perhaps I shouldn't say it" –he coughed gently– "but I *have* been told that my people, my fellow-citizens rather, know me as Asper, the Well-Beloved."

Mallow's eyes wandered over the well-kept garden. Perhaps the tall men and the strangely-designed but openly-vicious weapons they carried just happened to be lurking in odd comers as a precaution against himself. That would be understandable. But the lofty, steel-girdered walls that circled the place had quite obviously been recently strengthened – an unfitting occupation for such a Well-Beloved Asper.

He said, "It is fortunate that I have you to deal with then, Commdor. The despots and monarchs of surrounding worlds, which haven't the benefit of enlightened administration, often lack the qualities that would make a ruler well-beloved."

"Such as?" There was a cautious note in the Commdor's voice.

"Such as a concern for the best interests of their people, You, on the other hand, would understand,"

The Commdor kept his eyes on the gravel path as they walked leisurely, His hands caressed each other behind his back.

Mallow went on smoothly, "Up to now, trade between our two nations has suffered because of the restrictions placed upon our traders by your government. Surely, it has long been evident to you that unlimited trade–"

"Free Trade!" mumbled the Commdor.

"Free Trade, then. You must see that it would be of benefit to both of us. There are things you have that we want, and things we have that you want. It asks only an exchange to bring increased prosperity. An enlightened ruler such as yourself, a friend of the people – I might say, a *member* of the people – needs no elaboration on that theme. I won't insult your intelligence by offering any."

"True! I have seen this. But what would you?" His voice was a plaintive whine. "Your people have always been so unreasonable. I am in favor of all the trade our economy can support, but not on your terms. I am not sole master here." His voice rose, "I am only the servant of public opinion. My people will not take commerce which carries with it a compulsory religion."

Mallow drew himself up, "A compulsory religion?"

"So it has always been in effect. Surely you remember the case of Askone twenty years ago. First they were sold some of your goods and then your people asked for complete freedom of missionary effort in order that the goods might be run properly; that Temples of Health be set up. There was then the establishment of religious schools; autonomous rights for all officers of the religion and with what result? Askone is now an integral member of the Foundation's system and the Grand Master cannot call his underwear his own. Oh, no! Oh, no! The dignity of an independent people could never suffer it."

"None of what you speak is at all what I suggest," interposed Mallow.

"No?"

"No. I'm a Master Trader. Money is my religion. All this mysticism and hocus-pocus of the missionaries annoy me, and I'm glad you refuse to countenance it. It makes you more my type of man."

The Commdor's laugh was high-pitched and jerky, "Well said! The Foundation should have sent a man of your caliber before this."

He laid a friendly hand upon the trader's bulking shoulder, "But man, you have told me only half. You have told me what the catch is *not*. Now tell me what it *is*."

"The only catch, Commдор, is that you're going to be burdened with an immense quantity of riches."

"Indeed?" he snuffled. "But what could I want with riches? The true wealth is the love of one's people. I have that."

"You can have both, for it is possible to gather gold with one hand and love with the other."

"Now that, my young man, would be an interesting phenomenon, if it were possible. How would you go about it?"

"Oh, in a number of ways. The difficulty is choosing among them. Let's see. Well, luxury items, for instance. This object here, now—"

Mallow drew gently out of an inner pocket a flat, linked chain of polished metal. "This, for instance."

"What is it?"

"That's got to be demonstrated. Can you get a woman? Any young female will do. *And* a mirror, full length."

"Hm-m-m. Let's get indoors, then."

The Commдор referred to his dwelling place as a house. The populace undoubtedly would call it a palace. To Mallow's straightforward eyes, it looked uncommonly like a fortress. It was built on an eminence that overlooked the capital. Its walls were thick and reinforced. Its approaches were guarded, and its architecture was shaped for defense. Just the type of dwelling, Mallow thought sourly, for Asper, the Well-Beloved.

A young girl was before them. She bent low to the Commдор, who said, "This is one of the Commdora's girls. Will she do?"

"Perfectly!"

The Commdor watched carefully while Mallow snapped the chain about the girl's waist, and stepped back.

The Commdor snuffled, "Well. Is that all?"

"Will you draw the curtain, Commdor. Young lady, there's a little knob just near the snap. Will you move it upward, please? Go ahead, it won't hurt you."

The girl did so, drew a sharp breath, looked at her hands, and gasped, "Oh!"

From her waist as a source she was drowned in a pale, streaming luminescence of shifting color that drew itself over her head in a flashing coronet of liquid fire. It was as if someone had torn the aurora borealis out of the sky and molded it into a cloak.

The girl stepped to the mirror and stared, fascinated.

"Here, take this." Mallow handed her a necklace of dull pebbles. "Put it around your neck."

The girl did so, and each pebble, as it entered the luminescent field became an individual flame that leaped and sparkled in crimson and gold.

"What do you think of it?" Mallow asked her. The girl didn't answer but there was adoration in her eyes. The Commdor gestured and reluctantly, she pushed the knob down, and the glory died. She left – with a memory.

"It's yours, Commdor," said Mallow, "for the Commdora. Consider it a small gift from the Foundation."

"Hm-m-m." The Commdor turned the belt and necklace over in his hand as though calculating the weight. "How is it done?"

Mallow shrugged, "That's a question for our technical experts. But it will work for you without – mark you, *without* – priestly help."

"Well, it's only feminine frippery after all. What could you do with it? Where would the money come in?"

"You have balls, receptions, banquets – that sort of thing?"

"Oh, yes."

"Do you realize what women will pay for that sort of jewelry? Ten thousand credits, at least."

The Commdor seemed struck in a heap, "Ah!"

"And since the power unit of this particular item will not last longer than six months, there will be the necessity of frequent replacements. Now we can sell as many of these as you want for the equivalent in wrought iron of one thousand credits. There's nine hundred percent profit for you."

The Commdor plucked at his beard and seemed engaged in awesome mental calculations, "Galaxy, how they would fight for them. I'll keep the supply small and let them bid. Of course, it wouldn't do to let them know that I personally–"

Mallow said, "We can explain the workings of dummy corporations, if you would like. –Then, working further at random, take our complete line of household gadgets. We have collapsible stoves that will roast the toughest meats to the desired tenderness in two minutes. We've got knives that won't require sharpening. We've got the equivalent of a

complete laundry that can be packed in a small closet and will work entirely automatically. Ditto dish-washers. Ditto-ditto floor-scrubbers, furniture polishers, dust-precipitators, lighting fixtures – oh, anything you like. Think of your increased popularity, *if* you make them available to the public. Think of your increased quantity of, uh, worldly goods, if they're available as a government monopoly at nine hundred percent profit. It will be worth many times the money to them, and they needn't know what you pay for it. And, mind you, none of it will require priestly supervision. Everybody will be happy."

"Except you, it seems. What do you get out of it?"

"Just what every trader gets by Foundation law. My men and I will collect half of whatever profits we take in. Just you buy all I want to sell you, and we'll both make out quite well. *Quite* well."

The Commdor was enjoying his thoughts, "What did you say you wanted to be paid with? Iron?"

"That, and coal, and bauxite. Also tobacco, pepper, magnesium, hardwood. Nothing you haven't got enough of."

"It sounds well."

"I think so. Oh, and still another item at random, Commdor. I could retool your factories."

"Eh? How's that?"

"Well, take your steel foundries. I have handy little gadgets that could do tricks with steel that would cut production costs to one percent of previous marks. You could cut prices by half, and still split extremely fat profits with the manufacturers. I tell you, I could show you exactly what I mean, if you allowed me a demonstration. Do you have a steel foundry in this city? It wouldn't take long."

"It could be arranged, Trader Mallow. But tomorrow, tomorrow. Would you dine with us tonight?"

"My men—" began Mallow.

"Let them all come," said the Commdor, expansively. "A symbolic friendly union of our nations. It will give us a chance for further friendly discussion. But one thing," his face lengthened and grew stem, "none of your religion. Don't think that all this is an entering wedge for the missionaries."

"Commdor," said Mallow, dryly, "I give you my word that religion would cut my profits."

"Then that will do for now. You'll be escorted back to your ship."

6.

The Commidora was much younger than her husband. Her face was pale and coldly formed and her black hair was drawn smoothly and tightly back.

Her voice was tart. "You are quite finished, my gracious and noble husband? Quite, *quite* finished? I suppose I may even enter the garden if I wish, now."

"There is no need for dramatics, Licia, my dear," said the Commdor, mildly. "The young man will attend at dinner tonight, and you can speak with him all you wish and even amuse yourself by listening to all I say. Room will have to be arranged for his men somewhere about the place. The stars grant that they be few in numbers."

"Most likely they'll be great hogs of eaters who will eat meat by the quarter-animal and wine by the hogshead. And you will groan for two nights when you calculate the expense."

"Well now, perhaps I won't. Despite your opinion, the dinner is to be on the most lavish scale."

"Oh, I see." She stared at him contemptuously. "You are very friendly with these barbarians. Perhaps that is why I was not to be permitted to attend your conversation. Perhaps your little weazened soul is plotting to turn against my father."

"Not at all."

"Yes, I'd be likely to believe you, wouldn't I? If ever a poor woman was sacrificed for policy to an unsavory marriage, it was myself. I could have picked a more proper man from the alleys and mudheaps of my native world."

"Well, now, I'll tell you what, my lady. Perhaps you would enjoy returning to your native world. Except that, to retain as a souvenir that portion of you with which I am best acquainted, I could have your tongue cut out first. And," he tolled his head, calculatingly, to one side, "as a final improving touch to your beauty, your ears and the tip of your nose as well."

"You wouldn't dare, you little pug-dog. My father would pulverize your toy nation to meteoric dust. In fact, he might do it in any case, if I told him you were treating with these barbarians."

"Hm-m-m. Well, there's no need for threats. You are free to question the man yourself tonight. Meanwhile, madam, keep your wagging tongue still."

"At your orders?"

"Here, take this, then, and keep still."

The band was about her waist and the necklace around her neck. He pushed the knob himself and stepped back.

The Commdora drew in her breath and held out her hands stiffly. She fingered the necklace gingerly, and gasped again.

The Commdor rubbed his hands with satisfaction and said, "You may wear it tonight – and I'll get you more. Now keep still."

The Commdora kept still.

7.

Jaim Twer fidgeted and shuffled his feet. He said, "What's twisting *your* face?"

Hober Mallow lifted out of his brooding, "Is my face twisted? It's not meant so."

"Something must have happened yesterday, –I mean, besides that feast." With sudden conviction, "Mallow, there's trouble, isn't there?"

"Trouble? No. Quite the opposite. In fact, I'm in the position of throwing my full weight against a door and finding it ajar at the time. We're getting into this steel foundry too easily."

"You suspect a trap?"

"Oh, for Seldon's sake, don't be melodramatic." Mallow swallowed his impatience and added conversationally, "It's just that the easy entrance means there will be nothing to see."

"Nuclear power, huh?" Twer ruminated. "I'll tell you. There's just about no evidence of any nuclear power economy here in Korell. And it would be pretty hard to mask all signs of the widespread effects a fundamental technology such as nucleics would have on everything."

"Not if it was just starting up, Twer, and being applied to a war economy. You'd find it in the shipyards and the steel foundries only."

"So if we don't find it, then–"

"Then they haven't got it – or they're not showing it. Toss a coin or take a guess."

Twer shook his head, "I wish I'd been with you yesterday."

"I wish you had, too," said Mallow stonily. "I have no objection to moral support. Unfortunately, it was the Commdor who set the terms of the meeting, and not myself. And what is coming now would seem to be the royal groundcar to escort us to the foundry. Have you got the gadgets?"

"All of them."

8.

The foundry was large, and bore the odor of decay which no amount of superficial repairs could quite erase. It was empty now and in quite an unnatural state of quiet, as it played unaccustomed host to the Commdor and his court.

Mallow had swung the steel sheet onto the two supports with a careless heave. He had taken the instrument held out to him by Twer and was gripping the leather handle inside its leaden sheath.

"The instrument," he said, "is dangerous, but so is a buzz saw. You just have to keep your fingers away."

And as he spoke, he drew the muzzle-slit swiftly down the length of the steel sheet, which quietly and instantly fell in two.

There was a unanimous jump, and Mallow laughed. He picked up one of the halves and propped it against his knee, "You can adjust the cutting-length accurately to a hundredth of an inch, and a two-inch sheet will slit down the middle as easily as this thing did. If you've got the thickness exactly judged, you can place steel on a wooden table, and split the metal without scratching the wood."

And at each phrase, the nuclear shear moved and a gouged chunk of steel flew across the room.

"That," he said, "is whittling – with steel."

He passed back the shear. "Or else you have the plane. Do you want to decrease the thickness of a sheet, smooth out an irregularity, remove corrosion? Watch!"

Thin, transparent foil flew off the other half of the original sheet in six-inch swarths, then eight-inch, then twelve.

"Or drills? It's all the same principle."

They were crowded around now. It might have been a sleight-of-hand show, a comer magician, a vaudeville act made into high-pressure salesmanship. Commdor Asper fingered scraps of steel. High officials of the government tiptoed over each other's shoulders, and whispered, while Mallow punched clean, beautiful round holes through an inch of hard steel at every touch of his nuclear drill.

"Just one more demonstration. Bring two short lengths of pipe, somebody."

An Honorable Chamberlain of something-or-other sprang to obedience in the general excitement and thought-absorption, and stained his hands like any laborer.

Mallow stood them upright and shaved the ends off with a single stroke of the shear, and then joined the pipes, fresh cut to fresh cut.

And there was a single pipe! The new ends, with even atomic irregularities missing, formed one piece upon joining.

Then Mallow looked up at his audience, stumbled at his first word and stopped. There was the keen stirring of excitement in his chest, and the base of his stomach went tingling and cold.

The Commдор's own bodyguard, in the confusion, had struggled to the front line, and Mallow, for the first time, was near enough to see their unfamiliar hand-weapons in detail.

They were nuclear! There was no mistaking it; an explosive projectile weapon with a barrel like that was impossible. But that wasn't the big point. That wasn't the point at all.

The butts of those weapons had, deeply etched upon them, in worn gold plating, the Spaceship-and-Sun!

The same Spaceship-and-Sun that was stamped on every one of the great volumes of the original Encyclopedia that the Foundation had begun and not yet finished. *The same Spaceship-and-Sun that had blazoned the banner of the Galactic Empire through millennia.*

Mallow talked through and around his thoughts, "Test that pipe! It's one piece. Not perfect; naturally, the joining shouldn't be done by hand."

There was no need of further legerdemain. It had gone over. Mallow was through. He had what he wanted. There was only one thing in his mind. The golden globe with its conventionalized rays, and the oblique cigar shape that was a space vessel.

The Spaceship-and-Sun of the Empire!

The Empire! The words drilled! A century and a half had passed but there was still the-Empire, somewhere deeper in the Galaxy. And it was emerging again, out into the Periphery.

Mallow smiled!

9.

The *Far Star* was two days out in space, when Hober Mallow, in his private quarters with Senior Lieutenant Drawt, handed him an envelope, a roll of microfilm, and a silvery spheroid.

"As of an hour from now, Lieutenant, you're Acting Captain of the *Far Star*, until I return, –or forever."

Drawt made a motion of standing but Mallow waved him down imperiously.

"Quiet, and listen. The envelope contains the exact location of the planet to which you're to proceed. There you will wait for me for two months. If, before the two months are up, the Foundation locates you, the microfilm is my report of the trip.

"If, however," and his voice was somber, "I do *not* return at the end of two months, and Foundation vessels do not locate you, proceed to the planet, Terminus, and hand in the Time Capsule as the report. Do you understand that?"

"Yes, sir."

"At no time are you, or any of the men, to amplify in any single instance, my official report."

"If we are questioned, sir?"

"Then you know nothing."

"Yes, sir."

The interview ended, and fifty minutes later, a lifeboat kicked lightly off the side of the *Far Star*.

10.

Onum Barr was an old man, too old to be afraid. Since the last disturbances, he had lived alone on the fringes of the land with what books he had saved from the ruins. He had nothing he feared losing, least of all the worn remnant of his life, and so he faced the intruder without cringing.

"Your door was open," the stranger explained.

His accent was clipped and harsh, and Barr did not fail to notice the strange blue-steel hand-weapon at his hip. In the half gloom of the small room, Barr saw the glow of a force-shield surrounding the man.

He said, wearily, "There is no reason to keep it closed. Do you wish anything of me?"

"Yes." The stranger remained standing in the center of the room. He was large, both in height and bulk. "Yours is the only house about here."

"It is a desolate place," agreed Barr, "but there is a town to the east. I can show you the way'."

"In a while. May I sit?"

"If the chairs will hold you," said the old man, gravely. They were old, too. Relics of a better youth.

The stranger said, "My name is Hober Mallow. I come from a far province."

Barr nodded and smiled, "Your tongue convicted you of that long ago. I am Onum Barr of Siwenna – and once Patrician of the Empire."

"Then this *is* Siwenna. I had only old maps to guide me."

"They would have to be old, indeed, for star-positions to be misplaced."

Barr sat quite still, while the other's eyes drifted away into a reverie. He noticed that the nuclear force-shield had vanished from about the man and admitted dryly to himself that his person no longer seemed formidable to strangers – or even, for good or for evil, to his enemies.

He said, "My house is poor and my resources few. You may share what I have if your stomach can endure black bread and dried corn."

Mallow shook his head, "No, I have eaten, and I can't stay. All I need are the directions to the center of government."

"That is easily enough done, and poor though I am, deprives me of nothing. Do you mean the capital of the planet, or of the Imperial Sector?"

The younger man's eyes narrowed, "Aren't the two identical? Isn't this Siwenna?"

The old patrician nodded slowly, "Siwenna, yes. But Siwenna is no longer capital of the Normannic Sector. Your old map has misled you after all. The stars may not change even in centuries, but political boundaries are all too fluid."

"That's too bad. In fact, that's very bad. Is the new capital far off?"

"It's on Orsha II. Twenty parsecs off. Your map will direct you. How old is it?"

"A hundred and fifty years."

"That old?" The old man sighed. "History has been crowded since. Do you know any of it?"

Mallow shook his head slowly.

Barr said, "You're fortunate. It has been an evil time for the provinces, but for the reign of Stannell VI, and he died fifty years ago. Since that time, rebellion and ruin, ruin and rebellion." Barr wondered if he were growing garrulous. It was a lonely life out here, and he had so little chance to talk to men.

Mallow said with sudden sharpness, "Ruin, eh? You sound as if the province were impoverished."

"Perhaps not on an absolute scale. The physical resources of twenty-five first-rank planets take a long time to use up. Compared to the wealth of the last century, though, we have gone a long way downhill – and there is no sign of turning, not yet. Why are you so interested in all this, young man? You are all alive and your eyes shine!"

The trader came near enough to blushing, as the faded eyes seemed to look too deep into his and smile at what they saw.

He said, "Now look here. I'm a trader out there – out toward the rim of the Galaxy. I've located some old maps, and I'm out to open new markets. Naturally, talk of impoverished provinces disturbs me. You can't get money out of a world unless money's there to be got. Now how's Siwenna, for instance?"

The old man leaned forward, "I cannot say. It will do even yet, perhaps. But you a trader? You look more like a fighting man. You hold your hand near your gun and there is a scar on your jawbone."

Mallow jerked his head, "There isn't much law out there where I come from. Fighting and scars are part of a trader's overhead. But fighting is only useful when there's money at the end, and if I can get it without, so much the sweeter. Now will I find enough money here to make it worth the fighting? I take it I can find the fighting easily enough."

"Easily enough," agreed Barr. "You could join Wiscard's remnants in the Red Stars. I don't know, though, if you'd call that fighting or piracy. Or you could join our present gracious viceroy – gracious by right of murder, pillage, rapine, and the word of a boy Emperor, since rightfully assassinated." The patrician's thin cheeks reddened. His eyes closed and then opened, bird-bright.

"You don't sound very friendly to the viceroy, Patrician Barr," said Mallow. "What if I'm one of his spies?"

"What if you are?" said Barr, bitterly. "What can you take?" He gestured a withered arm at the bare interior of the decaying mansion.

"Your life."

"It would leave me easily enough. It has been with me five years too long. But you are *not* one of the viceroy's men. If you were, perhaps even now instinctive self-preservation would keep my mouth closed."

"How do you know?"

The old man laughed, "You seem suspicious – Come, I'll wager you think I'm trying to trap you into denouncing the government. No, no. I am past politics."

"Past politics? Is a man ever past that? The words you used to describe the viceroy – what were they? Murder, pillage, all that. You didn't sound objective. Not exactly. Not as if you were past politics."

The old man shrugged, "Memories sting when they come suddenly. Listen! Judge for yourself! When Siwenna was the provincial capital, I was a patrician and a member of the provincial senate. My family was an old and honored one. One of my great-grandfathers had been– No, never mind that. Past glories are poor feeding."

"I take it," said Mallow, "there was a civil war, or a revolution."

Barr's face darkened. "Civil wars are chronic in these degenerate days, but Siwenna had kept apart. Under Stannell VI, it had almost achieved its ancient prosperity. But weak emperors followed, and weak emperors mean strong viceroys, and our last viceroy – the same Wiscard, whose remnants still prey on the commerce among the Red

Stars – aimed at the Imperial Purple. He wasn't the first to aim. And if he had succeeded, he wouldn't have been the first to succeed.

"But he failed. For when the Emperor's Admiral approached the province at the head of a fleet, Siwenna itself rebelled against its rebel viceroy." He stopped, sadly.

Mallow found himself tense on the edge of his seat, and relaxed slowly, "Please continue, sir."

"Thank you," said Barr, wearily. "It's kind of you to humor an old man. They rebelled; or I should say, we rebelled, for I was one of the minor leaders. Wiscard left Siwenna, barely ahead of us, and the planet, and with it the province, were thrown open to the admiral with every gesture of loyalty to the Emperor. Why we did this, –I'm not sure. Maybe we felt loyal to the symbol, if not the person, of the Emperor, –a cruel and vicious child. Maybe we feared the horrors of a siege."

"Well?" urged Mallow, gently.

"Well, came the grim retort, "that didn't suit the admiral. He wanted the glory of conquering a rebellious province and his men wanted the loot such conquest would involve. So while the people were still gathered in every large city, cheering the Emperor and his admiral, he occupied all armed centers, and then ordered the population put to the nuclear blast."

"On what pretext?"

"On the pretext that they had rebelled against their viceroy, the Emperor's anointed. And the admiral became the new viceroy, by virtue of one month of massacre, pillage and complete horror. I had six sons. Five died – variously. I had a daughter. I *hope* she died, eventually. I escaped because I was old. I came here, too old to cause even our viceroy worry." He bent his gray head, "They left me nothing, because I had helped drive out a rebellious governor and deprived an admiral of his glory."

Mallow sat silent, and waited. Then, "What of your sixth son?" he asked softly.

"Eh?" Barr smiled acidly. "He is safe, for he has joined the admiral as a common soldier under an assumed name. He is a gunner in the viceroy's personal fleet. Oh, no, I see your eyes. He is not an unnatural son. He visits me when he can and gives me what he can. He keeps me alive. And some day, our great and glorious viceroy will grovel to his death, and it will be my son who will be his executioner."

"And you tell this to a stranger? You endanger your son."

"No. I help him, by introducing a new enemy. And were I a friend of the viceroy, as I am his enemy, I would tell him to string outer space with ships, clear to the rim of the Galaxy."

"There are no ships there?"

"Did you find any? Did any space-guards question your entry? With ships few enough, and the bordering provinces filled with their share of intrigue and iniquity, none can be spared to guard the barbarian outer suns. No danger ever threatened us from the broken edge of the Galaxy, –until you came."

"I? I'm no danger."

"There will be more after you."

Mallow shook his head slowly, "I'm not sure I understand you."

"Listen!" There was a feverish edge to the old man's voice. "I knew you when you entered. You have a force-shield about your body, or had when I first saw you."

Doubtful silence, then, "Yes, –I had."

"Good. That was a flaw, but you didn't know that. There are some things I know. It's out of fashion in these decaying times to be a scholar. Events race and flash past and who cannot fight the tide with nuclear-blast in hand is swept away, as I was. But I was a scholar, and I know that in all the history of nucleics, no portable force-shield was ever invented. We have force-shields – huge, lumbering powerhouses that will protect a city, or even a ship, but not one, single man."

"Ah?" Mallow's underlip thrust out. "And what do you deduce from that?"

"There have been stories percolating through space. They travel strange paths and become distorted with every parsec, –but when I was young there was a small ship of strange men, who did not know our customs and could not tell where they came from. They talked of magicians at the edge of the Galaxy; magicians who glowed in the darkness, who flew unaided through the air, and whom weapons would not touch.

"We laughed. I laughed, too. I forgot it till today. But you glow in the darkness, and I don't think my blaster, if I had one, would hurt you. Tell me, can you fly through air as you sit there now?"

Mallow said calmly, "I can make nothing of all this."

Barr smiled, "I'm content with the answer. I do not examine my guests. But if there are magicians; if you are one of them; there may some day be a great influx of them, or you. Perhaps that would be well. Maybe we need new blood." He muttered soundlessly to himself, then, slowly, "But it works the other way, too. Our new viceroy also dreams, as did our old Wiscard."

"Also after the Emperor's crown?"

Barr nodded, "My son hears tales. In the viceroy's personal entourage, one could scarcely help it. And he tells me of them. Our new viceroy would not refuse the Crown if offered, but he guards his line of retreat. There are stories that, failing Imperial heights, he plans to carve out a new Empire in the Barbarian hinterland. It is said, but I don't vouch for this, that he has already given one of his daughters as wife to a Kinglet somewhere in the uncharted Periphery."

"If one listened to every story–"

"I know. There are many more. I'm old and I babble nonsense. But what do you say?" And those sharp, old eyes peered deep.

The trader considered, "I say nothing. But I'd like to ask something. Does Siwenna have nuclear power? Now, wait, I know that it possesses the knowledge of nucleics. I mean, do they have power generators intact, or did the recent sack destroy them?"

"Destroy them? Oh, no. Half a planet would be wiped out before the smallest power station would be touched. They are irreplaceable and the suppliers of the strength of the fleet." Almost proudly, "We have the largest and best on this side of Trantor itself."

"Then what would I do first if I wanted to see these generators?"

"Nothing!" replied Barr, decisively. "You couldn't approach any military center without being shot down instantly. Neither could anyone. Siwenna is still deprived of civic rights."

"You mean all the power stations are under the military?"

"No. There are the small city stations, the ones supplying power for heating and lighting homes, powering vehicles and so forth. Those are almost as bad. They're controlled by the tech-men."

"Who are they?"

"A specialized group which supervises the power plants. The honor is hereditary, the young ones being brought up in the profession as apprentices. Strict sense of duty, honor, and all that. No one but a tech-man could enter a station."

"I see."

"I don't say, though," added Barr, "that there aren't cases where tech-men haven't been bribed. In days when we have nine emperors in fifty years and seven of these are assassinated, –when every space-captain aspires to the usurpation of a viceroyship, and every viceroy to the Imperium,

I suppose even a tech-man can fall prey to money. But it would require a good deal, and I have none. Have you?"

"Money? No. But does one always bribe with money?"

"What else, when money buys all else."

"There is quite enough that money won't buy. And now if you'll tell me the nearest city with one of the stations, and how best to get there, I'll thank you."

"Wait!" Barr held out his thin hands. "Where do you rush? You come here, but I ask no questions. In the city, where the inhabitants are still called rebels, you would be challenged by the first soldier or guard who heard your accent and saw your clothes."

He rose and from an obscure corner of an old chest brought out a booklet. "My passport, –forged. I escaped with it."

He placed it in Mallow's hand and folded the fingers over it. "The description doesn't fit, but if you flourish it, the chances are many to one they will not look closely."

"But you. You'll be left without one."

The old exile shrugged cynically, "What of it? And a further caution. Curb your tongue! Your accent is barbarous, your idioms peculiar, and every once in a while you deliver yourself of the most astounding archaisms. The less you speak, the less suspicion you will draw upon yourself. Now I'll tell you how to get to the city–"

Five minutes later, Mallow was gone.

He returned but once, for a moment, to the old patrician's house, before leaving it entirely, however. And when Onum Barr stepped into his little garden early the next morning, he found a box at his feet. It contained provisions, concentrated provisions such as one would find aboard ship, and alien in taste and preparation.

But they were good, and lasted long.

The tech-man was short, and his skin glistened with well-kept plumpness. His hair was a fringe and his skull shone through pinkly. The rings on his fingers were thick and heavy, his clothes were scented, and he was the first man Mallow had met on the planet who hadn't looked hungry.

The tech-man's lips pursed peevishly, "Now, my man, quickly. I have things of great importance waiting for me. You seem a stranger—" He seemed to evaluate Mallow's definitely un-Siennese costume and his eyelids were heavy with suspicion.

"I am not of the neighborhood," said Mallow, calmly, "but the matter is irrelevant. I have had the honor to send you a little gift yesterday—"

The tech-man's nose lifted, "I received it. An interesting gewgaw. I may have use for it on occasion."

"I have other and more interesting gifts. Quite out of the gewgaw stage."

"Oh-h?" The tech-man's voice lingered thoughtfully over the monosyllable. "I think I already see the course of the interview; it has happened before. You are going to give me some trifle or other. A few credits, perhaps a cloak, second-rate jewelry; anything your little soul may think sufficient to corrupt a tech-man." His lower lip puffed out belligerently, "And I know what you wish in exchange. There have been others and to spare with the same bright idea. You wish to be adopted into our clan. You wish to be taught the mysteries of nucleics and the care of the machines. You think because you dogs of Sienna – and probably your strangerhood is assumed for safety's sake – are being daily punished for your rebellion that you can escape what you deserve by throwing over yourselves the privileges and protections of the tech-man's guild."

Mallow would have spoken, but the tech-man raised himself into a sudden roar. "And now leave before I report your name to the Protector of the City. Do you think that I would betray the trust? The Siennese traitors that preceded me would have – perhaps! But you deal with a different breed now. Why, Galaxy, I marvel that I do not kill you myself at this moment with my bare hands."

Mallow smiled to himself. The entire speech was patently artificial in tone and content, so that all the dignified indignation degenerated into uninspired farce.

The trader glanced humorously at the two flabby hands that had been named as his possible executioners then and there, and said, "Your Wisdom, you are wrong on three counts. First, I am not a creature of the viceroy come to test your loyalty. Second, my gift is something the Emperor himself in all his splendor does not and will never possess. Third, what I wish in return is very little; a nothing; a mere breath."

"So you say!" He descended into heavy sarcasm. "Come, what is this imperial donation that your godlike power wishes to bestow upon me? Something the Emperor doesn't have, eh?" He broke into a sharp squawk of derision.

Mallow rose and pushed the chair aside, "I have waited three days to see you, Your Wisdom, but the display will take only three seconds. If you will just draw that blaster whose butt I see very near your hand—"

"Eh?"

"And shoot me, I will be obliged."

"What?"

"If I am killed, you can tell the police I tried to bribe you into betraying guild secrets. You'll receive high praise. If I am not killed, you may have my shield."

For the first time, the tech-man became aware of the dimly-white illumination that hovered closely about his visitor, as though he had been dipped in pearl-dust. His blaster raised to the level and with eyes a-squint in wonder and suspicion, he closed contact.

The molecules of air caught in the sudden surge of atomic disruption, tore into glowing, burning ions, and marked out the blinding thin line that struck at Mallow's heart – and splashed!

While Mallow's look of patience never changed, the nuclear forces that tore at him consumed themselves against that fragile, pearly illumination, and crashed back to die in mid-air.

The tech-man's blaster dropped to the floor with an unnoticed crash.

Mallow said, "Does the Emperor have a personal force-shield? You can have one."

The tech-man stuttered, "Are you a tech-man?"

"No."

"Then – then where did you get that?"

"What do you care?" Mallow was coolly contemptuous. "Do you want it?" A thin, knobbed chain fell upon the desk, "There it is."

The tech-man snatched it up and fingered it nervously, "Is this complete?"

"Complete."

"Where's the power?"

Mallow's finger fell upon the largest knob, dull in its leaden case.

The tech-man looked up, and his face was congested with blood, "Sir, I am a tech-man, senior grade. I have twenty years behind me as supervisor and I studied under the great Bier at the University of Trantor. If you have the infernal charlatanry to tell me that a small container the size of a – of a walnut, blast it, holds a nuclear generator, I'll have you before the Protector in three seconds."

"Explain it yourself then, if you can. I say it's complete."

The tech-man's flush faded slowly as he bound the chain about his waist, and, following Mallow's gesture, pushed the knob. The radiance that surrounded him shone into dim relief. His blaster lifted, then hesitated. Slowly, he adjusted it to an almost burnless minimum.

And then, convulsively, he closed circuit and the nuclear fire dashed against his hand, harmlessly.

.He whirled, "And what if I shoot you now, and keep the shield."

"Try!" said Mallow. "Do you think I gave you my only sample?" And he, too, was solidly incased in light.

The tech-man giggled nervously. The blaster clattered onto the desk. He said, "And what is this mere nothing, this breath, that you wish in return'?"

"I want to see your generators."

"You realize that that is forbidden. It would mean ejection into space for both of us—"

"I don't want to touch them or have anything to do with them. I want to see them — from a distance."

"If not?"

"If not, you have your shield, but I have other things. For one thing, a blaster especially designed to pierce that shield."

"Hm-m-m." The tech-man's eyes shifted. "Come with me."

12.

The tech-man's home was a small two-story affair on the Outskirts of the huge, cubiform, windowless affair that dominated the center of the city. Mallow passed from one to the other through an underground passage, and found himself in the silent, ozone-tinged atmosphere of the powerhouse.

For fifteen minutes, he followed his guide and said nothing. His eyes missed nothing. His fingers touched nothing. And then, the tech-man said in strangled tones, "Have you had enough? I couldn't trust my underlings in *this* case."

"Could you ever?" asked Mallow, ironically. "I've had enough."

They were back in the office and Mallow said, thoughtfully, "And all those generators are in your hands?"

"Every one," said the tech-man, with more than a touch of complacency.

"And you keep them running and in order?"

"Right!"

"And if they break down?"

The tech-man shook his head indignantly, "They don't break down. They never break down. They were built for eternity."

"Eternity is a long time. Just suppose—"

"It is unscientific to suppose meaningless cases."

"All right. Suppose I were to blast a vital part into nothingness? I suppose the machines aren't immune to nuclear forces? Suppose I fuse a vital connection, or smash a quartz D-tube?"

"Well, then," shouted the tech-man, furiously, "you would be killed."

"Yes, I know that," Mallow was shouting, too, "but what about the generator? Could you repair it?"

"Sir," the tech-man howled his words, "you have had a fair return. You've had what you asked for. Now get out! I owe you nothing more!"

Mallow bowed with a satiric respect and left.

Two days later he was back where the *Far Star* waited to return with him to the planet, Terminus.

And two days later, the tech-man's shield went dead, and for all his puzzling and cursing never glowed again.

13.

Mallow relaxed for almost the first time in six months. He was on his back in the sunroom of his new house, stripped to the skin. His great, brown arms were thrown up and out, and the muscles tautened into a stretch, then faded into repose.

The man beside him placed a cigar between Mallow's teeth and lit it. He champed on one of his own and said, "You must be overworked. Maybe you need a long rest."

"Maybe I do, Jael, but I'd rather rest in a council seat. Because I'm going to have that seat, and you're going to help me."

Ankor Jael raised his eyebrows and said, "How did I get into this?"

"You got in obviously. Firstly, you're an old dog of a politico. Secondly, you were booted out of your cabinet seat by Jorane Sutt, the same fellow who'd rather lose an eyeball than see me in the council. You don't think much of my chances, do you?"

"Not much," agreed the ex-Minister of Education. "You're a Smyrnian."

"That's no legal bar. I've had a lay education."

"Well, come now. Since when does prejudice follow any law but its own. Now, how about your own man – this Jaim Twer? What does *he* say?"

"He spoke about running me for council almost a year ago," replied Mallow easily, "but I've outgrown him. He couldn't have pulled it off in any case. Not enough depth. He's loud and forceful – but that's only an expression of nuisance value. I'm off to put over a real coup. I need *you*."

"Jorane Sutt is the cleverest politician on the planet and he'll be against you. I don't claim to be able to outsmart him. And don't think he doesn't fight hard, and dirty."

"I've got money."

"Mat helps. But it takes a lot to buy off prejudice, you dirty Smyrnian."

"I'll have a lot."

"Well, I'll look into the matter. But don't ever you crawl up on your hind legs and bleat that I encouraged you in the matter. Who's that?"

Mallow pulled the corners of his mouth down, and said, "Jorane Sutt himself, I think. He's early, and I can understand it. I've been dodging him for a month. Look, Jael, get into the next room, and turn the speaker on low. I want you to listen."

He helped the council member out of the room with a shove of his bare foot, then scrambled up and into a silk robe. The synthetic sunlight faded to normal power.

The secretary to the mayor entered stiffly, while the solemn major-domo tiptoed the door shut behind him.

Mallow fastened his belt and said, "Take your choice of chairs, Sutt."

Sutt barely cracked a flickering smile. The chair he chose was comfortable but he did not relax into it. From its edge, he said, "If you'll state your terms to begin with, we'll get down to business."

"What terms?"

"You wish to be coaxed? Well, then, what, for instance, did you do at Korell? Your report was incomplete."

"I gave it to you months ago. You were satisfied then."

Yes," Sutt rubbed his forehead thoughtfully with one finger, "but since then your activities have been significant. We know a good deal of what you're doing, Mallow. We know, exactly, how many factories you're putting up; in what a hurry you're doing it; and how much it's costing you. And there's this palace you have," he gazed about him with a cold lack of appreciation, "which set you back considerably more than my annual salary; and a swathe you've been cutting – a very considerable and expensive swathe – through the upper layers of Foundation society."

"So? Beyond proving that you employ capable spies, what does it show?"

"It shows you have money you didn't have a year ago. And that can show anything – for instance, that a good deal went on at Korell that we know nothing of. Where are you getting your money?"

"My dear Sutt, you can't really expect me to tell you."

"I don't."

"I didn't think you did. That's why I'm going to tell you. It's straight from the treasure-chests of the Commdor of Korell."

Sutt blinked.

Mallow smiled and continued. "Unfortunately for you, the money is quite legitimate. I'm a Master Trader and the money I received was a quantity of wrought iron and chromite in exchange for a number of trinkets I was able to supply him with. Fifty per cent of the profit is mine by hidebound contract with the Foundation. The other half goes to the government at the end of the year when all good citizens pay their income tax."

"There was no mention of any trade agreement in your report."

"Nor was there any mention of what I had for breakfast that day, or the name of my current mistress, or any other irrelevant detail." Mallow's smile was fading into a sneer. "I was sent – to quote yourself – to keep my eyes open. They were never shut. You wanted to find out what happened to the captured Foundation merchant ships. I never saw or heard of them. You wanted to find out if Korell had nuclear power. My report tells of nuclear blasters in the possession of the Commdor's private bodyguard. I saw no other signs. And the blasters I did see are relics of the old Empire, and may be show-pieces that do not work, for all my knowledge."

"So far, I followed orders, but beyond that I was, and still am, a free agent. According to the laws of the Foundation, a Master Trader may open whatever new markets he can, and receive therefrom his due half of the profits. What are your objections? I don't see them."

Sutt bent his eyes carefully towards the wall and spoke with a difficult lack of anger, "It is the general custom of all traders to advance the religion with their trade."

"I adhere to law, and not to custom."

"There are times when custom can be the higher law."

"Then appeal to the courts."

Sutt raised somber eyes which seemed to retreat into their sockets. "You're a Smyrnian after all. It seems naturalization and education can't wipe out the taint in the blood. Listen, and try to understand, just the same.

"This goes beyond money, or markets. We have the science of the great Hari Seldon to prove that upon us depends the future empire of the Galaxy, and from the course that leads to that Imperium we cannot turn. The religion we have is our all-important instrument towards that end. With it we have brought the Four Kingdoms under our control, even at the moment when they would have crushed us. It is the most potent device known with which to control men and worlds.

"The primary reason for the development of trade and traders was to introduce and spread this religion more quickly, and to insure that the introduction of new techniques and a new economy would be subject to our thorough and intimate control."

He paused for breath, and Mallow interjected quietly, "I know the theory. I understand it entirely."

"Do you? It is more than I expected. Then you see, of course, that your attempt at trade for its own sake; at mass production of worthless gadgets, which can only affect a world's economy superficially; at the subversion of interstellar policy to the god of profits; at the divorce of nuclear power from our controlling religion – can only end with the overthrow and complete negation of the policy that has worked successfully for a century."

"And time enough, too," said Mallow, indifferently, "for a policy outdated, dangerous and impossible. However well your religion has succeeded in the Four Kingdoms, scarcely another world in the Periphery has accepted it. At the time we seized control of the Kingdoms, there were a sufficient number of exiles, Galaxy knows, to spread the story of how Salvor Hardin used the priesthood and the superstition of the people to overthrow the independence and power of the secular monarchs. And if that wasn't enough, the case of Askone two decades back made it plain enough. There isn't a ruler in the Periphery now that wouldn't sooner cut his own throat than let a priest of the Foundation enter the territory.

"I don't propose to force Korell or any other world to accept something I know they don't want. No, Sutt. If nuclear power makes them dangerous, a sincere friendship through trade will be many times better than an insecure overlordship, based on the hated supremacy of a foreign spiritual power, which, once it weakens ever so slightly, can only fall entirely and leave nothing substantial behind except an immortal fear and hate."

Sutt said cynically, "Very nicely put. So, to get back to the original point of discussion, what are your terms? What do you require to exchange your ideas for mine?"

"You think my convictions are for sale?"

"Why not?" came the cold response. "Isn't that your business, buying and selling?"

"Only at a profit," said Mallow, unoffended. "Can you offer me more than I'm getting as is?"

"You could have three-quarters of your trade profits, rather than half."

Mallow laughed shortly, "A fine offer. The whole of the trade on your terms would fall far below – a tenth share on mine. Try harder than that."

"You could have a council seat."

"I'll have that anyway, without and despite you."

With a sudden movement, Sutt clenched his fist, "You could also save yourself a prison term. Of twenty years, if I have my way. Count the profit in that."

"No profit at all, but can you fulfill such a threat?"

"How about a trial for murder?"

"Whose murder?" asked Mallow, contemptuously.

Sutt's voice was harsh now, though no louder than before, "The murder of an Anacreonian priest, in the service of the Foundation."

"Is that so now? And what's your evidence?"

The secretary to the mayor leaned forward, "Mallow, I'm not bluffing. The preliminaries are over. I have only to sign one final paper and the case of the Foundation versus Hober Mallow, Master Trader, is begun. You abandoned a subject of the Foundation to torture and death at the hands of an alien mob, Mallow, and you have only five seconds to prevent the punishment due you. For myself, I'd rather you decided to bluff it out. You'd be safer as a destroyed enemy, than as a doubtfully-converted friend."

Mallow said solemnly, "You have your wish."

"Good!" and the secretary smiled savagely. "It was the mayor who wished the preliminary attempt at compromise, not I. Witness that I did not try too hard."

The door opened before him, and he left.

Mallow looked up as Ankor Jael re-entered the room.

Mallow said, "Did you hear him?"

The politician flopped to the floor. "I never heard him as angry as that, since I've known the snake."

"All right. What do you make of it?"

"Well, I'll tell you. A foreign policy of domination through spiritual means is his *idee fixe*, but it's my notion that his ultimate aims aren't spiritual. I was fired out of the Cabinet for arguing on the same issue, as I needn't tell you."

"You needn't. And what are those unspiritual aims according to your notion?"

Jael grew serious, "Well, he's not stupid, so he must see the bankruptcy of our religious policy, which has hardly made a single conquest for us in seventy years. He's obviously using it for purposes of his own."

"Now any dogma primarily based on faith and emotionalism, is a dangerous weapon to use on others, since it is almost impossible to guarantee that the weapon will never be turned on the user. For a hundred years now, we've supported a ritual and

mythology that is becoming more and more venerable, traditional – and immovable. In some ways, it isn't under our control any more."

"In what ways?" demanded Mallow. "Don't stop. I want your thoughts."

"Well, suppose one man, one ambitious man, uses the force of religion against us, rather than for us."

"You mean Sutt–"

"You're right. I mean Sutt. Listen, man, if he could mobilize the various hierarchies on the subject planets against the Foundation in the name of orthodoxy, what chance would we stand? By planting himself at the head of the standards of the pious, he could make war on heresy, as represented by you, for instance, and make himself king eventually. After all, it was Hardin who said: 'A nuclear blaster is a good weapon, but it can point both ways.'"

Mallow slapped his bare thigh, "All right, Jael, then get me in that council, and I'll fight him."

Jael paused, then said significantly, "Maybe not. What was all that about having a priest lynched? Is isn't true, is it?"

"It's true enough," Mallow said, carelessly.

Jael whistled, "Has he definite proof?"

"He should have." Mallow hesitated, then added, "Jaim Twer was his man from the beginning, though neither of them knew that I knew that. And Jaim Twer was an eyewitness."

Jael shook his head. "Uh-uh. That's bad."

"Bad? What's bad about it? That priest was illegally upon the planet by the Foundation's own laws. He was obviously used by the Korellian government as a bait, whether involuntary or not. By all the laws of common-sense, I had no choice but one action – and that action was strictly within the law. If he brings me to trial, he'll do nothing but make a prime fool of himself."

And Jael shook his head again, "No, Mallow, you've missed it. I told you he played dirty. He's not out to convict you; he knows he can't do that. But he *is* out to ruin your standing with the people. You heard what he said. Custom *is* higher than law, at times. You could walk out of the trial scot-free, but if the people think you threw a priest to the dogs, your popularity is gone.

"They'll admit you did the legal thing, even the sensible thing. But just the same you'll have been, in their eyes, a cowardly dog, an unfeeling brute, a hard-hearted monster. *And* you would never get elected to the council. You might even lose your rating as Master Trader by having your citizenship voted away from you. You're not native born, you know. What more do you think Sutt can want?" Mallow frowned stubbornly, "So!"

"My boy," said Jael. "I'll stand by you, but *I* can't help. You're on the spot, –dead center."

The council chamber was full in a very literal sense on the fourth day of the trial of Hober Mallow, Master Trader. The only councilman absent was feebly cursing the fractured skull that had bedridden him. The galleries were filled to the aisleways and ceilings with those few of the crowd who by influence, wealth, or sheer diabolic perseverance had managed to get in. The rest filled the square outside, in swarming knots about the open-air trimensional 'visors.

Ankor Jael made his way into the chamber with the near-futile aid and exertions of the police department, and then through the scarcely smaller confusion within to Hober Mallow's seat.

Mallow turned with relief, "By Seldon, you cut it thin. Have you got it?"

"Here, take it," said Jael. "It's everything you asked for."

"Good. How are they taking it outside?"

"They're wild clear through." Jael stirred uneasily, "You should never have allowed public hearings. You could have stopped them."

"I didn't want to."

"There's lynch talk. And Publis Manlio's men on the outer planets—"

"I wanted to ask you about that, Jael. He's stirring up the Hierarchy against me, is he?"

"Is he? It's the sweetest setup you ever saw, As Foreign Secretary, he handles the prosecution in a case of interstellar law. As High Priest and Primate of the Church, he rouses the fanatic hordes—"

"Well, forget it. Do you remember that Hardin quotation you threw at me last month? We'll show them that the nuclear blaster can point both ways."

The mayor was taking his seat now and the council members were rising in respect.

Mallow whispered, "It's my turn today. Sit here and watch the fun."

The day's proceedings began and fifteen minutes later, Hober Mallow stepped through a hostile whisper to the empty space before the mayor's bench. A lone beam of light centered upon him and in the public 'visors of the city, as well as on the myriads of private 'visors in almost every home of the Foundation's planets, the lonely giant figure of a man stared out defiantly.

He began easily and quietly, "To save time, I will admit the truth of every point made against me by the prosecution. The story of the priest and the mob as related by them is perfectly accurate in every detail."

There was a stirring in the chamber and a triumphant mass-snarl from the gallery. He waited patiently for silence.

"However, the picture they presented fell short of completion. I ask the privilege of supplying the completion in my own fashion. My story may seem irrelevant at first. I ask your indulgence for that."

Mallow made no reference to the notes before him.

"I begin at the same time as the prosecution did; the day of my meeting with Jorane Sutt and Jaim Twer. What went on at those meetings you know. The conversations have been described, and to that description I have nothing to add – except my own thoughts of that day.

"They were suspicious thoughts, for the events of that day were queer. Consider. Two people, neither of whom I knew more than casually, make unnatural and somewhat unbelievable propositions to me. One, the secretary to the mayor, asks me to play the part of intelligence agent to the government in a highly confidential matter, the nature and importance of which has already been explained to you. The other, self-styled leader of a political party, asks me to run for a council seat.

"Naturally I looked for the ulterior motive. Sutt's seemed evident. He didn't trust me. Perhaps he thought I was selling nuclear power to enemies and plotting rebellion. And perhaps he was forcing the issue, or thought he was. In that case, he would need a man of his own near me on my proposed mission, as a spy. The last thought, however, did not occur to me until later on, when Jaim Twer came on the scene.

"Consider again: Twer presents himself as a trader, retired into politics, yet I know of no details of his trading career, although my knowledge of the field is immense. And further, although Twer boasted of a lay education, *he had never heard of a Seldon crisis.*"

Hober Mallow waited to let the significance sink in and was rewarded with the first silence he had yet encountered, as the gallery caught its collective breath. That was for the inhabitants of Terminus itself. The men of the Outer Planets could hear only censored versions that would suit the requirements of religion. They would hear nothing of Seldon crises. But there would be further strokes they would not miss.

Mallow continued:

"Who here can honestly state that *any* man with a lay education can possibly be ignorant of the nature of a Seldon crisis? There is only one type of education upon the Foundation that excludes all mention of the planned history of Seldon and deals only with the man himself as a semi-mythical wizard–

"I knew at that instant that Jaim Twer had never been a trader. I knew then that he was in holy orders and perhaps a full-fledged priest; and, doubtless, that for the three years he had pretended to head a political party of the traders, *he had been a bought man of Jorane Sutt.*

"At the moment, I struck in the dark. I did not know Sun's purposes with regard to myself, but since he seemed to be feeding me rope liberally, I handed him a few fathoms of my own. My notion was that Twer was to be with me on my voyage as unofficial guardian on behalf of Jorane Sutt. Well, if he didn't get on, I knew well there'd be other devices waiting – and those others I might not catch in time. A known enemy is relatively safe. I invited Twer to come with me. He accepted.

"That, gentlemen of the council, explains two things. First, it tells you that Twer is not a friend of mine testifying against me reluctantly and for conscience' sake, as the prosecution would have you believe. He is a spy, performing his paid job. Secondly, it explains a certain action of mine on the occasion of the first appearance of the priest

whom I am accused of having murdered – an action as yet unmentioned, because unknown."

Now there was a disturbed whispering in the council. Mallow cleared his throat theatrically, and continued:

"I hate to describe my feelings when I first heard that we had a refugee missionary on board. I even hate to remember them. Essentially, they consisted of wild uncertainty. The event struck me at the moment as a move by Sutt, and passed beyond my comprehension or calculation. I was at sea – and completely.

"There was one thing I could do. I got rid of Twer for five minutes by sending him after my officers. In his absence, I set up a Visual Record receiver, so that whatever happened might be preserved for future study. This was in the hope, the wild but earnest hope, that what confused me at the time might become plain upon review.

"I have gone over that Visual Record some fifty times since. I have it here with me now, and will repeat the job a fifty-first time in your presence right now."

The mayor pounded monotonously for order, as the chamber lost its equilibrium and the gallery roared. In five million homes on Terminus, excited observers crowded their receiving sets more closely, and at the prosecutor's own bench, Jorane Sutt shook his head coldly at the nervous high priest, while his eyes blazed fixedly on Mallow's face.

The center of the chamber was cleared, and the lights burnt low. Ankor Jael, from his bench on the left, made the adjustments, and with a preliminary click, a holographic scene sprang to view; in color, in three-dimensions, in every attribute of life but life itself.

There was the missionary, confused and battered, standing between the lieutenant and the sergeant. Mallow's image waited silently, and then men filed in, Twer bringing up the rear.

The conversation played itself out, word for word. The sergeant was disciplined, and the missionary was questioned. The mob appeared, their growl could be heard, and the Revered Jord Parma made his wild appeal. Mallow drew his gun, and the missionary, as he was dragged away, lifted his arms in a mad, final curse and a tiny flash of light came and went.

The scene ended, with the officers frozen at the horror of the situation, while Twer clamped shaking hands over his ears, and Mallow calmly put his gun away.

The lights were on again; the empty space in the center of the floor was no longer even apparently full. Mallow, the real Mallow of the present, took up the burden of his narration:

"The incident, you see, is exactly as the prosecution has presented it – on the surface. I'll explain that shortly. Jaim Twer's emotions through the whole business shows clearly a priestly education, by the way.

"It was on that same day that I pointed out certain incongruities in the episode to Twer. I asked him where the missionary came from in the midst of the near-desolate tract we occupied at the time. I asked further where the gigantic mob had come from with the nearest sizable town a hundred miles away. The prosecution has paid no attention to such problems.

"Or to other points; for instance, the curious point of Jord Parma's blatant conspicuousness. A missionary on Korell, risking his life in defiance of both Korellian and Foundation law, parades about in a very new and very distinctive priestly costume. There's something wrong there. At the time, I suggested that the missionary was an unwitting accomplice of the Commdor, who was using him in an attempt to force us into an act of wildly illegal aggression, to justify, *in law*, his subsequent destruction of our ship and of us.

"The prosecution has anticipated this justification of my actions. They have expected me to explain that the safety of my ship, my crew, my mission itself were at stake and could not be sacrificed for one man, when that man would, in any case, have been destroyed, with us or without us. They reply by muttering about the Foundation's 'honor' and the necessity of upholding our 'dignity' in order to maintain our ascendancy.

"For some strange reason, however, the prosecution has neglected Jord Parma himself, –as an individual. They brought out no details concerning him; neither his birthplace, nor his education, nor any detail of previous history. The explanation of this will also explain the incongruities I have pointed out in the Visual Record you have just seen. The two are connected.

"The prosecution has advanced no details concerning Jord Parma because it *cannot*. That scene you saw by Visual Record seemed phoney because Jord Parma was phoney. There never was a Jord Parma. *This whole trial is the biggest farce ever cooked up over an issue that never existed.*"

Once more he had to wait for the babble to die down. He said, slowly:

"I'm going to show you the enlargement of a single still from the Visual Record. It will speak for itself. Lights again, Jael."

The chamber dimmed, and the empty air filled again with frozen figures in ghostly, waxen illusion. The officers of the *Far Star* struck their stiff, impossible attitudes. A gun pointed from Mallow's rigid hand. At his left, the Revered Jord Parma, caught in mid-shriek, stretched his claws upward, while the failing sleeves hung halfway.

And from the missionary's hand there was that little gleam that in the previous showing had flashed and gone. It was a permanent glow now.

"Keep your eye on that light on his hand," called Mallow from the shadows. "Enlarge that scene, Jael!"

The tableau bloated quickly. Outer portions fell away as the missionary drew towards the center and became a giant. Then there was only a hand and an arm, and then only a hand, which filled everything and remained there in immense, hazy tautness.

The light had become a set of fuzzy, glowing letters: K S P.

"That," Mallow's voice boomed out, "is a sample of tatooing, gentlemen. Under ordinary light it is invisible, but under ultraviolet light – with which I flooded the room in taking this Visual Record, it stands out in high relief. I'll admit it is a naive method of secret identification, but it works on Korell, where UV light is not to be found on street comers. Even in our ship, detection was accidental.

"Perhaps some of you have already guessed what K S P stands for. Jord Parma knew his priestly lingo well and did his job magnificently. Where he had learned it, and how, I cannot say, but K S P stands for 'Korellian Secret Police.'"

Mallow shouted over the tumult, roaring against the noise, "I have collateral proof in the form of documents brought from Korell, which I can present to the council if required.

"And where is now the prosecution's case? They have already made and re-made the monstrous suggestion that I should have fought for the missionary in defiance of the law, and sacrificed my mission, my ship, and myself to the 'honor' of the Foundation.

"But to do it for an impostor?"

"Should I have done it then for a Korellian secret agent tricked out in the robes and verbal gymnastics probably borrowed of an Anacreonian exile? Would Jorane Sutt and Publis Manlio have had me fall into a stupid, odious trap—"

His hoarsened voice faded into the featureless background of a shouting mob. He was being lifted onto shoulders, and carried to the mayor's bench. Out the windows, he could see a torrent of madmen swarming into the square to add to the thousands there already.

Mallow looked about for Ankor Jael, but it was impossible to find any single face in the incoherence of the mass. Slowly he became aware of a rhythmic, repeated shout, that was spreading from a small beginning, and pulsing into insanity:

"Long live Mallow – long live Mallow – long live Mallow—"

15.

Ankor Jael blinked at Mallow out of a haggard face. The last two days had been mad, sleepless ones.

"Mallow, you've put on a beautiful show, so don't spoil it by jumping too high. You can't seriously consider running for mayor. Mob enthusiasm is a powerful thing, but it's notoriously fickle."

"Exactly!" said Mallow, grimly, "so we must coddle it, and the best way to do that is to continue the show."

"Now what?"

"You're to have Publis Manlio and Jorane Sutt arrested—"

"What!"

"Just what you hear. Have the mayor arrest them! I don't care what threats you use. I control the mob, –for today, at any rate. He won't dare face them."

"But on what charge, man?"

"On the obvious one. They've been inciting the priesthood of the outer planets to take sides in the factional quarrels of the Foundation. That's illegal, by Seldon. Charge them with 'endangering the state.' And I don't care about a conviction any more than they did in my case. Just get them out of circulation until I'm mayor."

"It's half a year till election."

"Not too long!" Mallow was on his feet, and his sudden grip of Jael's arm was tight. "Listen, I'd seize the government by force if I had to – the way Salvor Hardin did a hundred years ago. There's still that Seldon crisis coming up, and when it comes I have to be mayor *and* high priest. Both!"

Jael's brow furrowed. He said, quietly, "What's it going to be? Korell, after all?"

Mallow nodded, "Of course. They'll declare war, eventually, though I'm betting it'll take another pair of years."

"With nuclear ships?"

"What do you think? Those three merchant ships we lost in their space sector weren't knocked over with compressed-air pistols. Jael, they're getting ships from the Empire itself. Don't open your mouth like a fool. I said the Empire! It's still there, you know. It may be gone here in the Periphery but in the Galactic center it's still very much alive. And one false move means that it, itself, may be on our neck. That's why I must be mayor and high priest. I'm the only man who knows how to fight the crisis."

Jael swallowed dryly, "How? What are you going to do?"

"Nothing."

Jael smiled uncertainly, "Really! All of that!"

But Mallow's answer was incisive, "When I'm boss of this Foundation, I'm going to do nothing. One hundred percent of nothing, and that is the secret of this crisis."

16.

Asper Argo, the Well-Beloved, Commdor of the Korellian Republic greeted his wife's entry by a hangdog lowering of his scanty eyebrows. To her at least, his self-adopted epithet did not apply. Even he knew that.

She said, in a voice as sleek as her hair and as cold as her eyes, "My gracious lord, I understand, has finally come to a decision upon the fate of the Foundation upstarts."

"Indeed?" said the Commdor, sourly. "And what more does your versatile understanding embrace?"

"Enough, my very noble husband. You had another of your vacillating consultations with your councilors. Fine advisors." With infinite scorn, "A herd of palsied purblind idiots hugging their sterile profits close to their sunken chests in the face of my father's displeasure."

"And who, my dear," was the mild response, "is the excellent source from which your understanding understands all this?"

The Commdora laughed shortly, "If I told you, my source would be more corpse than source."

"Well, you'll have your own way, as always." The Commdor shrugged and turned away. "And as for your father's displeasure: I much fear me it extends to a niggardly refusal to supply more ships."

"More ships!" She blazed away, hotly, "And haven't you five? Don't deny it. I know you have five; and a sixth is promised."

"Promised for the last year."

"But one – just one – can blast that Foundation into stinking rubble. Just one! One, to sweep their little pygmy boats out of space."

"I couldn't attack their planet, even with a dozen."

"And how long would their planet hold out with their trade ruined, and their cargoes of toys and trash destroyed?"

"Those toys and trash mean money," he sighed. "A good deal of money."

"But if you had the Foundation itself, would you not have all it contained? And if you had my father's respect and gratitude, would you not have more than ever the Foundation could give you? It's been three years – more – since that barbarian came with his magic sideshow. It's long enough."

"My dear!" The Commdor turned and faced her. "I am growing old. I am weary. I lack the resilience to withstand your rattling mouth. You say you know that I have decided. Well, I have. It is over, and there is war between Korell and the Foundation."

"Well!" The Commdora's figure expanded and her eyes sparkled, "You learned wisdom at last, though in your dotage. And now when you are master of this hinterland, you may be sufficiently respectable to be of some weight and importance in the Empire. For one thing, we might leave this barbarous world and attend the viceroy's court. Indeed we might."

She swept out, with a smile, and a hand on her hip. Her hair gleamed in the light.

The Commdor waited, and then said to the closed door, with malignance and hate, "And when I am master of what you call the hinterland, I may be sufficiently respectable to do without your father's arrogance and his daughter's tongue. Completely – without!"

17.

The senior lieutenant of the *Dark Nebula* stared in horror at the visiplat.

"Great Galloping Galaxies!" It should have been a howl, but it was a whisper instead, "What's that?"

It was a ship, but a whale to the *Dark Nebula's* minnow; and on its side was the Spaceship-and-Sun of the Empire. Every alarm on the ship yammered hysterically.

The orders went out, and the *Dark Nebula* prepared to run if it could, and fight if it must, –while down in the hyperwave room, a message stormed its way through hyperspace to the Foundation.

Over and over again! Partly a plea for help, but mainly a warning of danger.

18.

Hober Mallow shuffled his feet wearily as he leafed through the reports. Two years of the mayoralty had made him a bit more housebroken, a bit softer, a bit more patient, – but it had not made him learn to like government reports and the mind-breaking officialese in which they were written.

"How many ships did they get?" asked Jael.

"Four trapped on the ground. Two unreported. All others accounted for and safe." Mallow grunted, "We should have done better, but it's just a scratch."

There was no answer and Mallow looked up, "Does anything worry you?"

"I wish Sutt would get here," was the almost irrelevant answer.

"Ah, yes, and now we'll hear another lecture on the home front."

"No, we won't," snapped Jael, "but you're stubborn, Mallow. You may have worked out the foreign situation to the last detail but you've never given a care about what goes on here on the home planet."

"Well, that's your job, isn't it? What did I make you Minister of Education and Propaganda for?"

"Obviously to send me to an early and miserable grave, for all the co-operation you give me. For the last year, I've been deafening you with the rising danger of Sutt and his Religionists. What good will your plans be, if Sutt forces a special election and has you thrown out?"

"None, I admit."

"And your speech last night just about handed the election to Sutt with a smile and a pat. Was there any necessity for being so frank?"

"Isn't there such a thing as stealing Sutt's thunder?"

"No," said Jael, violently, "not the way you did it. You claim to have foreseen everything, and don't explain why you traded with Korell to their exclusive benefit for three years. Your only plan of battle is to retire without a battle. You abandon all trade with the sectors of space near Korell. You openly proclaim a stalemate. You promise no offensive, even in the future. Galaxy, Mallow, what am I supposed to do with such a mess?"

"It lacks glamor?"

"It lacks mob emotion-appeal."

"Same thing."

"Mallow, wake up. You have two alternatives. Either you present the people with a dynamic foreign policy, whatever your private plans are, or you make some sort of compromise with Sutt."

Mallow said, "All right, if I've failed the first, let's try the second. Sutt's just arrived."

Sutt and Mallow had not met personally since the day of the trial, two years back. Neither detected any change in the other, except for that subtle atmosphere about each which made it quite evident that the roles of ruler and defier had changed.

Sutt took his seat without shaking hands.

Mallow offered a cigar and said, "Mind if Jael stays? He wants a compromise earnestly. He can act as mediator if tempers rise."

Sutt shrugged, "A compromise will be well for you. Upon another occasion I once asked you to state your terms. I presume the positions are reversed now."

"You presume correctly."

"Then there are my terms. You must abandon your blundering policy of economic bribery and trade in gadgetry, and return to the tested foreign policy of our fathers."

"You mean conquest by missionary."

"Exactly."

"No compromise short of that?"

"None."

"Um-m-m." Mallow lit up very slowly and inhaled the tip of his cigar into a bright glow. "In Hardin's time, when conquest by missionary was new and radical, men like yourself opposed it. Now it is tried, tested, hallowed, —everything a Jorane Sutt would find well. But, tell me, how would you get us out of our present mess?"

"Your present mess. I had nothing to do with it."

"Consider the question suitably modified."

"A strong offensive is indicated. The stalemate you seem to be satisfied with is fatal. It would be a confession of weakness to all the worlds of the Periphery, where the appearance of strength is all-important, and there's not one vulture among them that wouldn't join the assault for its share of the corpse. You ought to understand that. You're from Smyrno, aren't you?"

Mallow passed over the significance of the remark. He said, "And if you beat Korell, what of the Empire? *That* is the real enemy."

Sutt's narrow smile tugged at the comers of his mouth, "Oh, no, your records of your visit to Siwenna were complete. The viceroy of the Normannic Sector is interested in creating dissension in the Periphery for his own benefit, but only as a side issue. He isn't going to stake everything on an expedition to the Galaxy's rim when he has fifty hostile neighbors and an emperor to rebel against. I paraphrase your own words."

"Oh, yes he might, Sutt, if he thinks we're strong enough to be dangerous. And he might think so, if we destroy Korell by the main force of frontal attack. We'd have to be considerably more subtle."

"As for instance—"

Mallow leaned back, "Sutt, I'll give you your chance. I don't need you, but I can use you. So I'll tell you what it's all about, and then you can either join me and receive a place in a coalition cabinet, or you can play the martyr and rot in jail."

"Once before you tried that last trick."

"Not very hard, Sutt. The right time has only just come. Now listen." Mallow's eyes narrowed.

"When I first landed on Korell," he began, "I bribed the Commdor with the trinkets and gadgets that form the trader's usual stock. At the start, that was meant only to get us

entrance into a steel foundry. I had no plan further than that, but in that I succeeded. I got what I wanted. But it was only after my visit to the Empire that I first realized exactly what a weapon I could build that trade into.

"This is a Seldon crisis we're facing, Sutt, and Seldon crises are not solved by individuals but by historic forces. Hari Seldon, when he planned our course of future history, did not count on brilliant heroics but on the broad sweeps of economics and sociology. So the solutions to the various crises must be achieved by the forces that become available to us at the time.

"In this case, –trade!"

Sutt raised his eyebrows skeptically and took advantage of the pause, "I hope I am not of subnormal intelligence, but the fact is that your vague lecture isn't very illuminating."

"It will become so," said Mallow. "Consider that until now the power of trade has been underestimated. It has been thought that it took a priesthood under our control to make it a powerful weapon. That is not so, and *this* is my contribution to the Galactic situation. Trade without priests! Trade alone! It is strong enough. Let us become very simple and specific. Korell is now at war with us. Consequently our trade with her has stopped. *But*, –notice that I am making this as simple as a problem in addition, –in the past three years she has based her economy more and more upon the nuclear techniques which we have introduced and which only we can continue to supply. Now what do you suppose will happen once the tiny nuclear generators begin failing, and one gadget after another goes out of commission?

"The small household appliances go first. After a half a year of this stalemate that you abhor, a woman's nuclear knife won't work any more. Her stove begins failing. Her washer doesn't do a good job. The temperature-humidity control in her house dies on a hot summer day. What happens?"

He paused for an answer, and Sutt said calmly, "Nothing. People endure a good deal in war."

"Very true. They do. They'll send their sons out in unlimited numbers to die horribly on broken spaceships. They'll bear up under enemy bombardment, if it means they have to live on stale bread and foul water in caves half a mile deep. But it's very hard to bear up under little things when the patriotic uplift of imminent danger is not present. It's going to, be a stalemate. There will be no casualties, no bombardments, no battles.

"There will just be a knife that won't cut, and a stove that won't cook, and a house that freezes in the winter. It will be annoying, and people will grumble."

Sutt said slowly, wonderingly, "Is that what you're setting your hopes on, man? What do you expect? A housewives' rebellion? A Jacquerie? A sudden uprising of butchers and grocers with their cleavers and bread-knives shouting 'Give us back our Automatic Super-Kleeno Nuclear Washing Machines.'"

"No, sir," said Mallow, impatiently, "I do not. I expect, however, a general background of grumbling and dissatisfaction which will be seized on by more important figures later on."

"And what more important figures are these?"

"The manufacturers, the factory owners, the industrialists of Korell. When two years of the stalemate have gone, the machines in the factories will, one by one, begin to fail. Those industries which we have changed from first to last with our new nuclear gadgets will find themselves very suddenly ruined. The heavy industries will find themselves, *en masse* and at a stroke, the owners of nothing but scrap machinery that won't work."

"The factories ran well enough before you came there, Mallow."

"Yes, Sutt, so they did – at about one-twentieth the profits, even if you leave out of consideration the cost of reconversion to the original pre-nuclear state. With the industrialist and financier and the average man all against him, how long will the Commdor hold out?"

"As long as he pleases, as soon as it occurs to him to get new nuclear generators from the Empire."

And Mallow laughed joyously, "You've missed, Sutt, missed as badly as the Commdor himself. You've missed everything, and understood nothing. Look, man, the Empire can replace nothing. The Empire has always been a realm of colossal resources. They've calculated everything in planets, in stellar systems, in whole sectors of the Galaxy. Their generators are gigantic because they thought in gigantic fashion."

"But we, –we, our little Foundation, our single world almost without metallic resources, –have had to work with brute economy. Our generators have had to be the size of our thumb, because it was all the metal we could afford. We had to develop new techniques and new methods, –techniques and methods the Empire can't follow because they have degenerated past the stage where they can make any really vital scientific advance."

"With all their nuclear shields, large enough to protect a ship, a city, an entire world; they could never build one to protect a single man. To supply light and heat to a city, they have motors six stories high, –I saw them – where ours could fit into this room. And when I told one of their nuclear specialists that a lead container the size of a walnut contained a nuclear generator, he almost choked with indignation on the spot."

"Why, they don't even understand their own colossi any longer. The machines work from generation to generation automatically, and the caretakers are a hereditary caste who would be helpless if a single D-tube in all that vast structure burnt out."

"The whole war is a battle between those two systems, between the Empire and the Foundation; between the big and the little. To seize control of a world, they bribe with immense ships that can make war, but lack all economic significance. We, on the other hand, bribe with little things, useless in war, but vital to prosperity and profits."

"A king, or a Commdor, will take the ships and even make war. Arbitrary rulers throughout history have bartered their subjects' welfare for what they consider honor, and glory, and conquest. But it's still the little things in life that count – and Asper Argo won't stand up against the economic depression that will sweep all Korell in two or three years."

Sutt was at the window, his back to Mallow and Jael. It was early evening now, and the few stars that struggled feebly here at the very rim of the Galaxy sparked against the

background of the misty, wispy Lens that included the remnants of that Empire, still vast, that fought against them.

Sutt said, "No. You are not the man."

"You don't believe me?"

"I mean I don't trust you. You're smooth-tongued. You befooled me properly when I thought I had you under proper care on your first trip to Korell. When I thought I had you cornered at the trial, you wormed your way out of it and into the mayor's chair by demagoguery. There is nothing straight about you; no motive that hasn't another behind it; no statement that hasn't three meanings.

"Suppose you were a traitor. Suppose your visit to the Empire had brought you a subsidy and a promise of power. Your actions would be precisely what they are now. You would bring about a war after having strengthened the enemy. You would force the Foundation into inactivity. And you would advance a plausible explanation of everything, one so plausible it would convince everyone."

"You mean there'll be no compromise?" asked Mallow, gently.

"I mean you must get out, by free will or force."

"I warned you of the only alternative to co-operation."

Jorane Sutt's face congested with blood in a sudden access of emotion. "And I warn you, Hober Mallow of Smyrno, that if you arrest me, there will be no quarter. My men will stop nowhere in spreading the truth about you, and the common people of the Foundation will unite against their foreign ruler. They have a consciousness of destiny that a Smyrnian can never understand – and that consciousness will destroy you."

Hober Mallow said quietly to the two guards who had entered, "Take him away. He's under arrest."

Sutt said, "Your last chance."

Mallow stubbed out his cigar and never looked up.

And five minutes later, Jael stirred and said, wearily, "Well, now that you've made a martyr for the cause, what next?"

Mallow stopped playing with the ash tray and looked up, "That's not the Sutt I used to know. He's a blood-blind bull. Galaxy, he hates me."

"All the more dangerous then."

"More dangerous? Nonsense! He's lost all power of judgement."

Jael said grimly, "You're overconfident, Mallow. You're ignoring the possibility of a popular rebellion."

Mallow looked up, grim in his turn, "Once and for all, Jael, there is no possibility of a popular rebellion."

"You're sure of yourself!"

"I'm sure of the Seldon crisis and the historical validity of their solutions, externally *and* internally. There are some things I *didn't* tell Suit right now. He tried to control the Foundation itself by religious forces as he controlled the outer worlds, and he failed, – which is the surest sign that in the Seldon scheme, religion is played out.

"Economic control worked differently. And to paraphrase that famous Salvor Hardin quotation of yours, it's a poor nuclear blaster that won't point both ways. If Korell prospered with our trade, so did we. If Korellian factories fail without our trade; and if the prosperity of the outer worlds vanishes with commercial isolation; so will our factories fail and our prosperity vanish.

"And there isn't a factory, not a trading center. not a shipping line that isn't under my control; that I couldn't squeeze to nothing if Sutt attempts revolutionary propaganda. Where his propaganda succeeds, or even looks as though it might succeed, I will make certain that prosperity dies. Where it fails, prosperity will continue, because my factories will remain fully staffed.

"So by the same reasoning which makes me sure that the Korellians will revolt in favor of prosperity, I am sure we will not revolt against it. The game will be played out to its end."

"So then," said Jael, "you're establishing a plutocracy. You're making us a land of traders and merchant princes. Then what of the future?"

Mallow lifted his gloomy face, and exclaimed fiercely, "What business of mine is the future? No doubt Seldon has foreseen it and prepared against it. There will be other crises in the time to come when money power has become as dead a force as religion is now. Let my successors solve those new problems, as I have solved the one of today."

KORELL—. . . And so after three years of a war which was certainly the most unfought war on record, the Republic of Korell surrendered unconditionally, and Hober Mallow took his place next to Hari Seldon and Salvor Hardin in the hearts of the people of the Foundation.

ENCYCLOPEDIA GALACTICA

FOUNDATION AND EMPIRE

1952

PROLOGUE

The Galactic Empire Was Falling.

It was a colossal Empire, stretching across millions of worlds from arm-end to arm-end of the mighty multi-spiral that was the Milky Way. Its fall was colossal, too – and a long one, for it had a long way to go.

It had been falling for centuries before one man became really aware of that fall. That man was Hari Seldon, the man who represented the one spark of creative effort left among the gathering decay. He developed and brought to its highest pitch the science of psychohistory.

Psychohistory dealt not with man, but with man-masses. It was the science of mobs; mobs in their billions. It could forecast reactions to stimuli with something of the accuracy that a lesser science could bring to the forecast of a rebound of a billiard ball. The reaction of one man could be forecast by no known mathematics; the reaction of a billion is something else again.

Hari Seldon plotted the social and economic trends of the time, sighted along the curves and foresaw the continuing and accelerating fall of civilization and the gap of thirty thousand years that must elapse before a struggling new Empire could emerge from the ruins.

It was too late to stop that fall, but not too late to narrow the gap of barbarism. Seldon established two Foundations at "opposite ends of the Galaxy" and their location was so designed that in one short millennium events would knit and mesh so as to force out of them a stronger, more permanent, more benevolent Second Empire.

Foundation (Gnome Press, 1951) has told the story of one of those Foundations during the first two centuries of life.

It began as a settlement of physical scientists on Terminus, a planet at the extreme end of one of the spiral arms of the Galaxy. Separated from the turmoil of the Empire, they worked as compilers of a universal compendium of knowledge, the Encyclopedia Galactica, unaware of the deeper role planned for them by the already-dead Seldon,

As the Empire rotted, the outer regions fell into the hands of independent "kings." The Foundation was threatened by them. However, by playing one petty ruler against another, under the leadership of their first mayor, Salvor Hardin, they maintained a precarious independence. As sole possessors, of nuclear power among worlds which were losing their sciences and falling back on coal and oil, they even established an ascendancy. The Foundation became the "religious" center of the neighboring kingdoms.

Slowly, the Foundation developed a trading economy as the Encyclopedia receded into the background. Their Traders, dealing in nuclear gadgets which not even the Empire in its heyday could have duplicated for compactness, penetrated hundreds of light-years through the Periphery.

Under Hober Mallow, the first of the Foundation's Merchant Princes, they developed the techniques of economic warfare to the point of defeating the Republic of Korell, even though that world was receiving support from one of the outer provinces of what was left of the Empire.

At the end of two hundred years, the Foundation was the most powerful state in the Galaxy, except for the remains of the Empire, which, concentrated in the inner third of the Milky Way, still controlled three quarters of the population and wealth of the Universe.

It seemed inevitable that the next danger the Foundation would have to face was the final lash of the dying Empire.

The way must be cleared for the battle of Foundation and Empire.

PART I

THE GENERAL

1. SEARCH FOR MAGICIANS

BEL RIOSE In his relatively short career, Riose earned the title of "The Last of the Imperials" and earned it well. A study of his campaigns reveals him to be the equal of Peurifoy in strategic ability and his superior perhaps in his ability to handle men. That he was born in the days of the decline of Empire made it all but impossible for him to equal Peurifoy's record as a conqueror. Yet he had his chance when, the first of the Empire's generals to do so, he faced the Foundation squarely. . . .

ENCYCLOPEDIA GALACTICA*

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Bel Riose traveled without escort, which is not what court etiquette prescribes for the head of a fleet stationed in a yet-sullen stellar system on the Marches of the Galactic Empire.

But Bel Riose was young and energetic – energetic enough to be sent as near the end of the universe as possible by an unemotional and calculating court – and curious besides. Strange and improbable tales fancifully-repeated by hundreds and murkily-known to thousands intrigued the last faculty; the possibility of a military venture engaged the other two. The combination was overpowering.

He was out of the dowdy ground-car he had appropriated and at the door of the fading mansion that was his destination. He waited. The photonic eye that spanned the doorway was alive, but when the door opened it was by hand.

Bel Riose smiled at the old man. "I am Riose—"

"I recognize you." The old man remained stiffly and unsurprised in his place. "Your business?"

Riose withdrew a step in a gesture of submission. "One of peace. If you are Ducem Barr, I ask the favor of conversation."

Ducem Barr stepped aside and in the interior of the house the walls glowed into life. The general entered into daylight.

He touched the wall of the study, then stared at his fingertips. "You have this on Siwenna?"

Barr smiled thinly. "Not elsewhere, I believe. I keep this in repair myself as well as I can. I must apologize for your wait at the door. The automatic device registers the presence of a visitor but will no longer open the door."

"Your repairs fall short?" The general's voice was faintly mocking.

"Parts are no longer available. If you will sit, sir. You drink tea?"

"On Siwenna? My good sir, it is socially impossible not to drink it here."

The old patrician retreated noiselessly with a slow bow that was part of the ceremonious legacy left by the aristocracy of the last century's better days.

Riose looked after his host's departing figure, and his studied urbanity grew a bit uncertain at the edges. His education had been purely military; his experience likewise. He had, as the cliché, has it, faced death many times; but always death of a very familiar and tangible nature. Consequently, there is no inconsistency in the fact that the idolized lion of the Twentieth Fleet felt chilled in the suddenly musty atmosphere of an ancient room.

The general recognized the small black-ivroid boxes that lined the shelves to be books. Their titles were unfamiliar. He guessed that the large structure at one end of the room was the receiver that transmuted the books into sight-and-sound on demand. He had never seen one in operation; but he had heard of them.

Once he had been told that long before, during the golden ages when the Empire had been co-extensive with the entire Galaxy, nine houses out of every ten had such receivers – and such rows of books.

But there were borders to watch now; books were for old men. And half the stories told about the old days were mythical anyway. More than half.

The tea arrived, and Riose seated himself. Ducem Barr lifted his cup. "To your honor."

"Thank you. To yours."

Ducem Barr said deliberately, "You are said to be young. Thirty-five?"

"Near enough. Thirty-four."

"In that case," said Barr, with soft emphasis, "I could not begin better than by informing you regretfully that I am not in the possession of love charms, potions, or philtres. Nor am I in the least capable of influencing the favors of any young lady as may appeal to you."

"I have no need of artificial aids in that respect, sir." The complacency undeniably present in the general's voice was stirred with amusement. "Do you receive many requests for such commodities?"

"Enough. Unfortunately, an uninformed public tends to confuse scholarship with magicianry, and love life seems to be that factor which requires the largest quantity of magical tinkering."

"And so would seem most natural. But I differ. I connect scholarship with nothing but the means of answering difficult questions."

The Siwennian considered somberly, "You may be as wrong as they!"

"That may turn out or not." The young general set down his cup in its flaring sheath and it refilled. He dropped the offered flavor-capsule into it with a small splash. "Tell me then, patrician, who are the magicians? The real ones."

Barr seemed startled at a title long-unused. He said, "There are no magicians."

"But people speak of them. Siwenna crawls with the tales of them. There are cults being built about them. There is some strange connection between it and those groups among your countrymen who dream and drivel of ancient days and what they call liberty and autonomy. Eventually the matter might become a danger to the State."

The old man shook his head. "Why ask me? Do you smell rebellion, with myself at the head?"

Riose shrugged, "Never. Never. Oh, it is not a thought completely ridiculous. Your father was an exile in his day; you yourself a patriot and a chauvinist in yours. It is indelicate in me as a guest to mention it, but my business here requires it. And yet a conspiracy now? I doubt it. Siwenna has had the spirit beat out of it these three generations."

The old man replied with difficulty, "I shall be as indelicate a host as you a guest. I shall remind you that once a viceroy thought as you did of the spiritless Siwennians. By the orders of that viceroy my father became a fugitive pauper, my brothers martyrs, and my sister a suicide. Yet that viceroy died a death sufficiently horrible at the hands of these same slavish Siwennians."

"Ah, yes, and there you touch nearly on something I could wish to say. For three years the mysterious death of that viceroy has been no mystery to me. There was a young soldier of his personal guard whose actions were of interest. You were that soldier, but there is no need of details, I think."

Barr was quiet. "None. What do you propose?"

"That you answer my questions."

"Not under threats. I am old enough for life not to mean particularly overmuch."

"My good sir, these are hard times," said Riose, with meaning, "and you have children and friends. You have a country for which you have mouthed phrases of love and folly in the past. Come, if I should decide to use force, my aim would not be so poor as to strike you."

Barr said coldly, "What do you want?"

Riose held the empty cup as he spoke. "Patrician, listen to me. These are days when the most successful soldiers are those whose function is to lead the dress parades that wind through the imperial palace grounds on feast days and to escort the sparkling pleasure ships that carry His Imperial Splendor to the summer planets. I . . . I am a failure. I am a failure at thirty-four, and I shall stay a failure. Because, you see, I like to fight."

"That's why they sent me here. I'm too troublesome at court. I don't fit in with the etiquette. I offend the dandies and the lord admirals, but I'm too good a leader of ships and men to be disposed of shortly by being marooned in space. So Siwenna is the substitute. It's a frontier world; a rebellious and a barren province. It is far away, far enough away to satisfy all."

"And so I moulder. There are no rebellions to stamp down, and the border viceroys do not revolt lately, at least, not since His Imperial Majesty's late father of glorious memory made an example of Mountel of Paramay."

"A strong Emperor," muttered Barr.

"Yes, and we need more of them. He is my master; remember that. These are his interests I guard."

Barr shrugged unconcernedly. "How does all this relate to the subject?"

"I'll show you in two words. The magicians I've mentioned come from beyond-out there beyond the frontier guards, where the stars are scattered thinly--"

"Where the stars are scattered thinly," quoted Barr, "And the cold of space seeps in."

"Is that poetry?" Riose frowned. Verse seemed frivolous at the moment. "In any case, they're from the Periphery – from the only quarter where I am free to fight for the glory of the Emperor."

"And thus serve His Imperial Majesty's interests and satisfy your own love of a good fight."

"Exactly. But I must know what I fight; and there you can help."

"How do you know?"

Riose nibbled casually at a cakelet. "Because for three years I have traced every rumor, every myth, every breath concerning the magicians – and of all the library of information I have gathered, only two isolated facts are unanimously agreed upon, and are hence certainly true. The first is that the magicians come from the edge of the Galaxy opposite Siwenna; the second is that your father once met a magician, alive and actual, and spoke with him."

The aged Siwennian stared unblinkingly, and Riose continued, "You had better tell me what you know--"

Barr said thoughtfully, "It would be interesting to tell you certain things. It would be a psychohistoric experiment of my own."

"What kind of experiment?"

"Psychohistoric." The old man had an unpleasant edge to his smile. Then, crisply, "You'd better have more tea. I'm going to make a bit of a speech."

He leaned far back into the soft cushions of his chair. The wall-lights had softened to a pink-ivory glow, which mellowed even the soldier's hard profile.

Ducem Barr began, "My own knowledge is the result of two accidents; the accidents of being born the son of my father, and of being born the native of my country. It begins over forty years ago, shortly after the great Massacre, when my father was a fugitive in the forests of the South, while I was a gunner in the viceroy's personal fleet. This same viceroy, by the way, who had ordered the Massacre, and who died such a cruel death thereafter."

Barr smiled grimly, and continued, "My father was a Patrician of the Empire and a Senator of Siwenna. His name was Onum Barr."

Riose interrupted impatiently, "I know the circumstances of his exile very well. You needn't elaborate upon it."

The Siwennian ignored him and proceeded without deflection. "During his exile a wanderer came upon him; a merchant from the edge of the Galaxy; a young man who spoke a strange accent, knew nothing of recent Imperial history, and who was protected by an individual force-shield."

"An individual force-shield?" Riose glared. "You speak extravagance. What generator could be powerful enough to condense a shield to the size of a single man? By the Great Galaxy, did he carry five thousand myria-tons of nuclear power-source about with him on a little wheeled gocart?"

Barr said quietly, "This is the magician of whom you hear whispers, stories and myths. The name 'magician' is not lightly earned. He carried no generator large enough to be seen, but not the heaviest weapon you can carry in your hand would have as much as creased the shield he bore."

"Is this all the story there is? Are the magicians born of maunderings of an old man broken by suffering and exile?"

"The story of the magicians antedated even my father, sir. And the proof is more concrete. After leaving my father, this merchant that men call a magician visited a Tech-man at the city to which my father had guided him, and there he left a shield-generator of the type he wore. That generator was retrieved by my father after his return from exile upon the execution of the bloody viceroy. It took a long time to find—

"The generator hangs on the wall behind you, sir. It does not work. It never worked but for the first two days; but if you'll look at it, you will see that no one in the Empire ever designed it."

Bel Riose reached for the belt of linked metal that clung to the curved wall. It came away with a little sucking noise as the tiny adhesion-field broke at the touch of his hand. The ellipsoid at the apex of the belt held his attention. It was the size of a walnut.

"This—" he said.

"Was the generator," nodded Barr. "But it was the generator. The secret of its workings are beyond discovery now. Sub-electronic investigations have shown it to be fused into a single lump of metal and not all the most careful study of the diffraction patterns have sufficed to distinguish the discrete parts that had existed before fusion."

"Then your 'proof' still lingers on the frothy border of words backed by no concrete evidence."

Barr shrugged. "You have demanded my knowledge of me and threatened its extortion by force. If you choose to meet it with skepticism, what is that to me? Do you want me to stop?"

"Go on!" said the general, harshly.

"I continued my father's researches after he died, and then the second accident I mentioned came to help me, for Siwenna was well known to Hari Seldon."

"And who is Hari Seldon?"

"Hari Seldon was a scientist of the reign of the Emperor, Daluben IV. He was a psychohistorian; the last and greatest of them all. He once visited Siwenna, when Siwenna was a great commercial center, rich in the arts and sciences."

"Hmph," muttered Riose, sourly, "where is the stagnant planet that does not claim to have been a land of overflowing wealth in older days?"

"The days I speak of are the days of two centuries ago, when the Emperor yet ruled to the uttermost star; when Siwenna was a world of the interior and not a semi-barbarian border province. In those days, Hari Seldon foresaw the decline of Imperial power and the eventual barbarization of the entire Galaxy."

Riose laughed suddenly. "He foresaw that? Then he foresaw wrong, my good scientist. I suppose you call yourself that. Why, the Empire is more powerful now than it has been in a millennium. Your old eyes are blinded by the cold bleakness of the border. Come to the inner worlds some day; come to the warmth and the wealth of the center."

The old man shook his head somberly. "Circulation ceases first at the outer edges. It will take a while yet for the decay to reach the heart. That is, the apparent, obvious-to-all decay, as distinct from the inner decay that is an old story of some fifteen centuries."

"And so this Hari Seldon foresaw a Galaxy of uniform barbarism," said Riose, good-humoredly. "And what then, eh?"

"So he established two foundations at the extreme opposing ends of the Galaxy – Foundations of the best, and the youngest, and the strongest, there to breed, grow, and develop. The worlds on which they were placed were chosen carefully; as were the times and the surroundings. All was arranged in such a way that the future as foreseen by the unalterable mathematics of psychohistory would involve their early isolation from the main body of Imperial civilization and their gradual growth into the germs of the Second Galactic Empire – cutting an inevitable barbarian interregnum from thirty thousand years to scarcely a single thousand."

"And where did you find out all this? You seem to know it in detail."

"I don't and never did," said the patrician with composure. "It is the painful result of the piecing together of certain evidence discovered by my father and a little more found by myself. The basis is flimsy and the superstructure has been romanticized into existence to fill the huge gaps. But I am convinced that it is essentially true."

"You are easily convinced."

"Am I? It has taken forty years of research."

"Hmph. Forty years! I could settle the question in forty days. In fact, I believe I ought to. It would be – different."

"And how would you do that?"

"In the obvious way. I could become an explorer. I could find this Foundation you speak of and observe with my eyes. You say there are two?"

"The records speak of two. Supporting evidence has been found only for one, which is understandable, for the other is at the extreme end of the long axis of the Galaxy."

"Well, we'll visit the near one." The general was on his feet, adjusting his belt.

"You know where to go?" asked Barr.

"In a way. In the records of the last viceroy but one, he whom you murdered so effectively, there are suspicious tales of outer barbarians. In fact, one of his daughters was given in marriage to a barbarian prince. I'll find my way."

He held out a hand. "I thank you for your hospitality."

Ducem Barr touched the hand with his fingers and bowed formally. "Your visit was a great honor."

"As for the information you gave me," continued Bel Riose, "I'll know how to thank you for that when I return."

Ducem Barr followed his guest submissively to the outer door and said quietly to the disappearing ground-car, "And *if* you return."

2. THE MAGICIANS

FOUNDATION . . . With forty years of expansion behind them, the Foundation faced the menace of Riose. The epic days of Hardin and Mallow had gone and with them were gone a certain hard daring and resolution. . . .

ENCYCLOPEDIA GALACTICA

There were four men in the room, and the room was set apart where none could approach. The four men looked at each other quickly, then lengthily at the table that separated them. There were four bottles on the table and as many full glasses, but no one had touched them.

And then the man nearest the door stretched out an arm and drummed a slow, padding rhythm on the table.

He said, "Are you going to sit and wonder forever? Does it matter who speaks first?"

"Speak you first, then," said the big man directly opposite. "You're the one who should be the most worried."

Sennett Forell chuckled with noiseless nonhumor. "Because you think I'm the richest. Well – Or is it that you expect me to continue as I have started. I don't suppose you forget that it was my own Trade Fleet that captured this scout ship of theirs."

"You had the largest fleet," said a third, "and the best pilots; which is another way of saying you are the richest. It was a fearful risk; and would have been greater for one of us."

Sennett Forell chuckled again. "There is a certain facility in risk-taking that I inherit from my father. After all, the essential point in running a risk is that the returns justify it. As to which, witness the fact that the enemy ship was isolated and captured without loss to ourselves or warning to the others."

That Forell was a distant collateral relative of the late great Hober Mallow was recognized openly throughout the Foundation. That he was Mallow's illegitimate son was accepted quietly to just as wide an extent.

The fourth man blinked his little eyes stealthily. Words crept out from between thin lips. "It is nothing to sleep over in fat triumph, this grasping of little ships. Most likely, it will but anger that young man further."

"You think he needs motives?" questioned Forell, scornfully.

"I do, and this might, or will, save him the vexation of having to manufacture one." The fourth man spoke slowly, "Hober Mallow worked otherwise. And Salvor Hardin. They let others take the uncertain paths of force, while they maneuvered surely and quietly."

Forell shrugged. "This ship has proved its value. Motives are cheap and we have sold this one at a profit." There was the satisfaction of the born Trader in that. He continued, "The young man is of the old Empire."

"We knew that," said the second man, the big one, with rumbling discontent.

"We suspected that," corrected Forell, softly. "If a man comes with ships and wealth, with overtures of friendliness, and with offers of trade, it is only sensible to refrain from antagonizing him, until we are certain that the profitable mask is not a face after all. But now—"

There was a faint whining edge to the third man's voice as he spoke. "We might have been even more careful. We might have found out first. We might have found out before allowing him to leave. It would have been the truest wisdom."

"That has been discussed and disposed of," said Forell. He waved the subject aside with a flatly final gesture.

"The government is soft," complained the third man. "The mayor is an idiot."

The fourth man looked at the other three in turn and removed the stub of a cigar from his mouth. He dropped it casually into the slot at his right where it disappeared with a silent flash of disruption.

He said sarcastically, "I trust the gentleman who last spoke is speaking through habit only. We can afford to remember here that we are the government."

There was a murmur of agreement.

The fourth man's little eyes were on the table. "Then let us leave government policy alone. This young man . . . this stranger might have been a possible customer. There have been cases. All three of you tried to butter him into an advance contract. We have an agreement – a gentleman's agreement – against it, but you tried."

"So did you," growled the second man.

I know it," said the fourth, calmly.

"Then let's forget what we should have done earlier," interrupted Forell impatiently, "and continue with what we should do now. In any case, what if we had imprisoned him, or killed him, what then? We are not certain of his intentions even yet, and at the worst, we could not destroy an Empire by snipping short one man's life. There might be navies upon navies waiting just the other side of his nonreturn."

"Exactly," approved the fourth man. "Now what did you get out of your captured ship? I'm too old for all this talking."

"It can be told in a few enough words," said Forell, grimly. "He's an Imperial general or whatever rank corresponds to that over there. He's a young man who has proved his military brilliance – so I am told – and who is the idol of his men. Quite a romantic career. The stories they tell of him are no doubt half lies, but even so it makes him out to be a type of wonder man."

"Who are the 'they'?" demanded the second man.

"The crew of the captured ship. Look, I have all their statements recorded on micro-film, which I have in a secure place. Later on, if you wish, you can see them. You can talk to the men yourselves, if you think it necessary. I've told you the essentials."

"How did you get it out of them? How do you know they're telling the truth?"

Forell frowned. "I wasn't gentle, good sir. I knocked them about, drugged them crazy, and used the Probe unmercifully. They talked. You can believe them."

"In the old days," said the third man, with sudden irrelevance, "they would have used pure psychology. Painless, you know, but very sure. No chance of deceit."

"Well, there is a good deal they had in the old days," said Forell, dryly. "These are the new days."

"But," said the fourth man, "what did he want here, this general, this romantic wonder-man?" There was a dogged, weary persistence about him.

Forell glanced at him sharply. "You think he confides the details of state policy to his crew? They didn't know. There was nothing to get out of them in that respect, and I tried, Galaxy knows."

"Which leaves us–"

"To draw our own conclusions, obviously." Forell's fingers were tapping quietly again. "The young man is a military leader of the Empire, yet he played the pretense of being a minor princeling of some scattered stars in an odd corner of the Periphery. That alone would assure us that his real motives are such as it would not benefit him to have us know. Combine the nature of his profession with the fact that the Empire has already subsidized one attack upon us in my father's time, and the possibilities become ominous. That first attack failed. I doubt that the Empire owes us love for that."

"There is nothing in your findings," questioned the fourth man guardedly, "that makes for certainty? You are withholding nothing?"

Forell answered levelly, "I can't withhold anything. From here on there can be no question of business rivalry. Unity is forced upon us."

"Patriotism?" There was a sneer in the third man's thin voice.

"Patriotism be damned," said Forell quietly. "Do you think I give two puffs of nuclear emanation for the future Second Empire? Do you think I'd risk a single Trade mission to smooth its path? But – do you suppose Imperial conquest will help my business or yours? If the Empire wins, there will be a sufficient number of yearning carrion crows to crave the rewards of battle."

"And we're the rewards," added the fourth man, dryly.

The second man broke his silence suddenly, and shifted his bulk angrily, so that the chair creaked under him. "But why talk of that. The Empire can't win, can it? There is Seldon's assurance that we will form the Second Empire in the end. This is only another crisis. There have been three before this."

"Only another crisis, yes!" Forell brooded. "But – in the case of the first two, we had Salvor Hardin to guide us; in the third, there was Hober Mallow. Whom have we now?"

He looked at the others somberly and continued, "Seldon's rules of psychohistory on which it is so comforting to rely probably have as one of the contributing variables, a certain normal initiative on the part of the people of the Foundation themselves. Seldon's laws help those who help themselves."

"The times make the man," said the third man. "There's another proverb for you."

"You can't count on that, not with absolute assurance," grunted Forell. "Now the way it seems to me is this. If this is the fourth crisis, then Seldon has foreseen it. If he has, then it can be beaten, and there should be a way of doing it."

"Now The Empire is stronger than we; it always has been. But this is the first time we are in danger of its direct attack, so that strength becomes terribly menacing. If it can be beaten, it must be once again as in all past crises by a method other than pure force. We must find the weak side of our enemy and attack it there."

"And what is that weak side?" asked the fourth man. "Do you intend advancing a theory?"

"No. That is the point I'm leading up to. Our great leaders of the past always saw the weak points of their enemies and aimed at that. But now—"

There was a helplessness in his voice, and for a moment none volunteered a comment.

Then the fourth man said, "We need spies."

Forell turned to him eagerly. "Right! I don't know when the Empire will attack. There may be time."

"Hober Mallow himself entered the Imperial dominions," suggested the second man.

But Forell shook his head. "Nothing so direct. None of us are precisely youthful; and all of us are rusty with red-tape and administrative detail. We need young men that are in the field now—"

"The independent traders?" asked the fourth man.

And Forell nodded his head and whispered, "If there is yet time—"

3. THE DEAD HAND

Bel Riose interrupted his annoyed stridings to look up hopefully when his aide entered. "Any word of the *Starlet*?"

"None. The scouting party has quartered space, but the instruments have detected nothing. Commander Yume has reported that the Fleet is ready for an immediate attack in retaliation."

The general shook his head. "No, not for a patrol ship. Not yet. Tell him to double – Wait! I'll write out the message. Have it coded and transmitted by tight beam."

He wrote as he talked and thrust the paper at the waiting officer. "Has the Siwennian arrived yet?"

"Not yet."

"Well, see to it that he is brought in here as soon as he does arrive."

The aide saluted crisply and left. Riose resumed his caged stride.

When the door opened a second time, it was Ducem Barr that stood on the threshold. Slowly, in the footsteps of the ushering aide, he stepped into the garish room whose ceiling was an ornamented holographic model of the Galaxy, and in the center of which Bel Riose stood in field uniform.

"Patrician, good day!" The general pushed forward a chair with his foot and gestured the aide away with a "That door is to stay closed till I open it."

He stood before the Siwennian, legs apart, hand grasping wrist behind his back, balancing himself slowly, thoughtfully, on the balls of his feet.

Then, harshly, "Patrician, are you a loyal subject of the Emperor?"

Barr, who had maintained an indifferent silence till then, wrinkled a noncommittal brow. "I have no cause to love Imperial rule."

"Which is a long way from saying that you would be a traitor."

"True. But the mere act of not being a traitor is also a long way from agreeing to be an active helper."

"Ordinarily also true. But to refuse your help at this point," said Riose, deliberately, "will be considered treason and treated as such."

Barr's eyebrows drew together. "Save your verbal cudgels for your subordinates. A simple statement of your needs and wants will suffice me here."

Riose sat down and crossed his legs. "Barr, we had an earlier discussion half a year ago."

"About your magicians?"

"Yes. You remember what I said I would do."

Barr nodded. His arms rested limply in his lap. "You were going to visit them in their haunts, and you've been away these four months. Did you find them?"

"Find them? That I did," cried Riose. His lips were stiff as he spoke. It seemed to require effort to refrain from grinding molars. "Patrician, they are not magicians; they are devils. It is as far from belief as the outer galaxies from here. Conceive it! It is a world the size of a handkerchief, of a fingernail; with resources so petty, power so minute, a population so microscopic as would never suffice the most backward worlds of the dusty prefects of the Dark Stars. Yet with that, a people so proud and ambitious as to dream quietly and methodically of Galactic rule."

"Why, they are so sure of themselves that they do not even hurry. They move slowly, phlegmatically; they speak of necessary centuries. They swallow worlds at leisure; creep through systems with dawdling complacency.

"And they succeed. There is no one to stop them. They have built up a filthy trading community that curls its tentacles about the systems further than their toy ships dare reach. For parsecs, their Traders – which is what their agents call themselves – penetrate."

Ducem Barr interrupted the angry flow. "How much of this information is definite; and how much is simply fury?"

The soldier caught his breath and grew calmer. "My fury does not blind me. I tell you I was in worlds nearer to Siwenna than to the Foundation, where the Empire was a myth of the distance, and where Traders were living truths. We ourselves were mistaken for Traders."

"The Foundation itself told you they aimed at Galactic dominion?"

"Told me!" Riose was violent again. "It was not a matter of telling me. The officials said nothing. They spoke business exclusively. But I spoke to ordinary men. I absorbed the ideas of the common folk; their 'manifest destiny,' their calm acceptance of a great future. It is a thing that can't be hidden; a universal optimism they don't even try to hide."

The Siwennian openly displayed a certain quiet satisfaction. "You will notice that so far it would seem to bear out quite accurately my reconstruction of events from the paltry data on the subject that I have gathered."

"It is no doubt," replied Riose with vexed sarcasm, "a tribute to your analytical powers. It is also a hearty and bumptious commentary on the growing danger to the domains of His Imperial Majesty."

Barr shrugged his unconcern, and Riose leaned forward suddenly, to seize the old man's shoulders and stare with curious gentleness into his eyes.

He said, "Now, patrician, none of that. I have no desire to be barbaric. For my part, the legacy of Siwennian hostility to the Imperium is an odious burden, and one which I would do everything in my power to wipe out. But my province is the military and interference in civil affairs is impossible. It would bring about my recall and ruin my usefulness at once. You see that? I know you see that. Between yourself and myself then, let the atrocity of forty years ago be repaid by your vengeance upon its author and so forgotten. I need your help. I frankly admit it."

There was a world of urgency in the young man's voice, but Ducem Barr's head shook gently and deliberately in a negative gesture.

Riose said pleadingly, "You don't understand, patrician, and I doubt my ability to make you. I can't argue on your ground. You're the scholar, not I. But this I can tell you. Whatever you think of the Empire, you will admit its great services. Its armed forces have committed isolated crimes, but in the main they have been a force for peace and civilization. It was the Imperial navy that created the *Pax Imperium* that ruled over all the Galaxy for thousands of years. Contrast the millennia of peace under the Sun-and-Spaceship of the Empire with the millennia of interstellar anarchy that preceded it.

Consider the wars and devastations of those old days and tell me if, with all its faults, the Empire is not worth preserving.

"Consider," he drove on forcefully, "to what the outer fringe of the Galaxy is reduced in these days of their breakaway and independence, and ask yourself if for the sake of a petty revenge you would reduce Siwenna from its position as a province under the protection of a mighty Navy to a barbarian world in a barbarian Galaxy, all immersed in its fragmentary independence and its common degradation and misery."

"Is it so bad – so soon?" murmured the Siwennian.

"No," admitted Riose. "We would be safe ourselves no doubt, were our lifetimes quadrupled. But it is for the Empire I fight; that, and a military tradition which is something for myself alone, and which I can not transfer to you. It is a military tradition built on the Imperial institution which I serve."

"You are getting mystical, and I always find it difficult to penetrate another person's mysticism."

"No matter. You understand the danger of this Foundation."

"It was I who pointed out what you call the danger before ever you headed outward from Siwenna."

"Then you realize that it must be stopped in embryo or perhaps not at all. You have known of this Foundation before anyone had heard of it. You know more about it than anyone else in the Empire. You probably know how it might best be attacked; and you can probably forewarn me of its countermeasures. Come, let us be friends."

Ducem Barr rose. He said flatly, "Such help as I could give you means nothing. So I will make you free of it in the face of your strenuous demand."

"I will be the judge of its meaning."

"No, I am serious. Not all the might of the Empire could avail to crush this pygmy world."

"Why not?" Bel Riose's eyes glistened fiercely. "No, stay where you are. I'll tell you when you may leave. Why not? If you think I underestimate this enemy I have discovered, you are wrong. Patrician," he spoke reluctantly, "I lost a ship on my return. I have no proof that it fell into the hands of the Foundation; but it has not been located since and were it merely an accident, its dead hulk should, certainly have been found along the route we took. It is not an important loss – less than the tenth part of a fleabite, but it may mean that the Foundation has already opened hostilities. Such eagerness and such disregard for consequences might mean secret forces of which I know nothing. Can you help me then by answering a specific question? What is their military power?"

"I haven't any notion."

"Then explain yourself on your own terms. Why do you say the Empire can not defeat this small enemy?"

The Siwennian seated himself once more and looked away from Riose's fixed glare. He spoke heavily, "Because I have faith in the principles of psychohistory. It is a strange science. It reached mathematical maturity with one man, Hari Seldon, and died with him, for no man since has been capable of manipulating its intricacies. But in that short period,

it proved itself the most powerful instrument ever invented for the study of humanity. Without pretending to predict the actions of individual humans, it formulated definite laws capable of mathematical analysis and extrapolation to govern and predict the mass action of human groups."

"So—"

"It was that psychohistory which Seldon and the group he worked with applied in full force to the establishment of the Foundation. The place, time, and conditions all conspire mathematically and so, inevitably, to the development of a Second Galactic Empire."

Riose's voice trembled with indignation. "You mean that this art of his predicts that I would attack the Foundation and lose such and such a battle for such and such a reason? You are trying to say that I am a silly robot following a predetermined course into destruction."

"No," replied the old patrician, sharply. "I have already said that the science had nothing to do with individual actions. It is the vaster background that has been foreseen."

"Then we stand clasped tightly in the forcing hand of the Goddess of Historical Necessity."

"Of *Psychohistorical Necessity*," prompted Barr, softly.

"And if I exercise my prerogative of freewill? If I choose to attack next year, or not to attack at all? How pliable is the Goddess? How resourceful?"

Barr shrugged. "Attack now or never; with a single ship, or all the force in the Empire; by military force or economic pressure; by candid declaration of war or by treacherous ambush. Do whatever you wish in your fullest exercise of freewill. You will still lose."

"Because of Hari Seldon's dead hand?"

"Because of the dead hand of the mathematics of human behavior that can neither be stopped, swerved, nor delayed."

The two faced each other in deadlock, until the general stepped back.

He said simply, "I'll take that challenge. It's a dead hand against a living will."

4. THE EMPEROR

CLEON II commonly called "The Great." The last strong Emperor of the First Empire, he is important for the political and artistic renaissance that took place during his long reign. He is best known to romance, however, for his connection with Bel Riose, and to the common man, he is simply "Riose's Emperor." It is important not to allow events of the last year of his reign to overshadow forty years of. . .

Cleon II was Lord of the Universe. Cleon II also suffered from a painful and undiagnosed ailment. By the queer twists of human affairs, the two statements are not mutually exclusive, nor even particularly incongruous. There have been a wearisomely large number of precedents in history.

But Cleon II cared nothing for such precedents. To meditate upon a long list of similar cases would not ameliorate personal suffering an electron's worth. It soothed him as little to think that where his great-grandfather had been the pirate ruler of a dust-speck planet, he himself slept in the pleasure palace of Ammenetik the Great, as heir of a line of Galactic rulers stretching backward into a tenuous past. It was at present no source of comfort to him that the efforts of his father had cleansed the realm of its leprous patches of rebellion and restored it to the peace and unity it had enjoyed under Stanel VI; that, as a consequence, in the twenty-five years of his reign, not one cloud of revolt had misted his burnished glory.

The Emperor of the Galaxy and the Lord of All whimpered as he lolled his head backward into the invigorating plane of force about his pillows. It yielded in a softness that did not touch, and at the pleasant tingle, Cleon relaxed a bit. He sat up with difficulty and stared morosely at the distant walls of the grand chamber. It was a bad room to be alone in. It was too big. All the rooms were too big.

But better to be alone during these crippling bouts than to endure the prinking of the courtiers, their lavish sympathy, their soft, condescending dullness. Better to be alone than to watch those insipid masks behind which spun the tortuous speculations on the chances of death and the fortunes of the succession.

His thoughts hurried him. There were his three sons; three straight-backed youths full of promise and virtue. Where did they disappear on these bad days? Waiting, no doubt. Each watching the other; and all watching him.

He stirred uneasily. And now Brodrig craved audience. The low-born, faithful Brodrig; faithful because he was hated with a unanimous and cordial hatred that was the only point of agreement between the dozen cliques that divided his court.

Brodrig – the faithful favorite, who had to be faithful, since unless he owned the fastest speed-ship in the Galaxy and took to it the day of the Emperor's death, it would be the radiation-chamber the day after.

Cleon II touched the smooth knob on the arm of his great divan, and the huge door at the end of the room dissolved to transparency.

Brodrig advanced along the crimson carpet, and knelt to kiss the Emperor's limp hand.

"Your health, sire?" asked the Privy Secretary in a low tone of becoming anxiety.

"I live," snapped the Emperor with exasperation, "if you can call it life where every scoundrel who can read a book of medicine uses me as a blank and receptive field for his feeble experiments. If there is a conceivable remedy, chemical, physical, or nuclear, which has not yet been tried, why then, some learned babbler from the far comers of the realm will arrive tomorrow to try it. And still another newly-discovered book, or forgery morelike, will be used as authority.

"By my father's memory," he rumbled savagely, "it seems there is not a biped extant who can study a disease before his eyes with those same eyes. There is not one who can count a pulse-beat without a book of the ancients before him. I'm sick and they call it 'unknown.' The fools! If in the course of millennia, human bodies learn new methods of falling askew, it remains uncovered by the studies of the ancients and incurable forevermore. The ancients should be alive now, or I then."

The Emperor ran down to a low-breathed curse while Brodrig waited dutifully. Cleon II said peevishly, "How many are waiting outside?"

He jerked his head in the direction of the door.

Brodrig said patiently, "The Great Hall holds the usual number."

"Well, let them wait. State matters occupy me. Have the Captain of the Guard announce it. Or wait, forget the state matters. Just have it announced I hold no audience, and let the Captain of the Guard look doleful. The jackals among them may betray themselves." The Emperor sneered nastily.

"There is a rumor, sire," said Brodrig, smoothly, "that it is your heart that troubles you."

The Emperor's smile was little removed from the previous sneer. "It will hurt others more than myself if any act prematurely on that rumor. But what is it you want. Let's have this over."

Brodrig rose from his kneeling posture at a gesture of permission and said, "It concerns General Bel Riose, the Military Governor of Siwenna."

"Riose?" Cleon II frowned heavily. "I don't place him. Wait, is he the one who sent that quixotic message some months back? Yes, I remember. He panted for permission to enter a career of conquest for the glory of the Empire and Emperor."

"Exactly, sire."

The Emperor laughed shortly. "Did you think I had such generals left me, Brodrig? He seems to be a curious atavism. What was the answer? I believe you took care of it."

"I did, sire. He was instructed to forward additional information and to take no steps involving naval action without further orders from the Imperium."

"Hmp. Safe enough. Who is this Riose? Was he ever at court?"

Brodrig nodded and his mouth twisted ever so little. "He began his career as a cadet in the Guards ten years back. He had part in that affair off the Lemul Cluster."

"The Lemul Cluster? You know, my memory isn't quite – Was that the time a young soldier saved two ships of the line from a head-on collision by . . . uh . . . something or other?" He waved a hand impatiently. "I don't remember the details. It was something heroic."

"Riose was that soldier. He received a promotion for it," Brodrig said dryly, "and an appointment to field duty as captain of a ship."

"And now Military Governor of a border system and still young. Capable man, Brodrig!"

"Unsafe, sire. He lives in the past. He is a dreamer of ancient times, or rather, of the myths of what ancient times used to be. Such men are harmless in themselves, but

their queer lack of realism makes them fools for others." He added, "His men, I understand, are completely under his control. He is one of your *popular* generals."

"Is he?" the Emperor mused. "Well, come, Brodrig, I would not wish to be served entirely by incompetents. They certainly set no enviable standard for faithfulness themselves."

"An incompetent traitor is no danger. It is rather the capable men who must be watched."

"You among them, Brodrig?" Cleon II laughed and then grimaced with pain.

"Well, then, you may forget the lecture for the while. What new development is there in the matter of this young conqueror? I hope you haven't come merely to reminisce."

"Another message, sire, has been received from General Riose."

"Oh? And to what effect?"

"He has spied out the land of these barbarians and advocates an expedition in force. His arguments are long and fairly tedious. It is not worth annoying Your Imperial Majesty with it at present, during your indisposition. Particularly since it will be discussed at length during the session of the Council of Lords." He glanced sidewise at the Emperor.

Cleon II frowned. "The Lords? Is it a question for them, Brodrig? It will mean further demands for a broader interpretation of the Charter. It always comes to that."

"It can't be avoided, sire. It might have been better if your august father could have beaten down the last rebellion without granting the Charter. But since it is here, we must endure it for the while."

"You're right, I suppose. Then the Lords it must be. But why all this solemnity, man? It is, after all, a minor point. Success on a remote border with limited troops is scarcely a state affair."

Brodrig smiled narrowly. He said coolly, "It is an affair of a romantic idiot; but even a romantic idiot can be a deadly weapon when an unromantic rebel uses him as a tool. Sire, the man was popular here and is popular there. He is young. If he annexes a vagrant barbarian planet or two, he will become a conqueror. Now a young conqueror who has proven his ability to rouse the enthusiasm of pilots, miners, tradesmen and suchlike rabble is dangerous at any time. Even if he lacked the desire to do to you as your august father did to the usurper, Ricker, then one of our loyal Lords of the Domain may decide to use him as his weapon."

Cleon II moved an arm hastily and stiffened with pain. Slowly he relaxed, but his smile was weak, and his voice a whisper. "You are a valuable subject, Brodrig. You always suspect far more than is necessary, and I have but to take half your suggested precautions to be utterly safe. We'll put it up to the Lords. We shall see what they say and take our measure accordingly. The young man, I suppose, has made no hostile moves yet."

"He report none. But already he asks for reinforcements."

"Reinforcements!" The Emperor's eyes narrowed with wonder. "What force has he?"

"Ten ships of the line, sire, with a full complement of auxiliary vessels. Two of the ships are equipped with motors salvaged from the old Grand Fleet, and one has a battery of power artillery from the same source. The other ships are new ones of the last fifty years, but are serviceable, nevertheless."

"Ten ships would seem adequate for any reasonable undertaking. Why, with less than ten ships my father won his first victories against the usurper. Who are these barbarians he's fighting?"

The Privy Secretary raised a pair of supercilious eyebrows. "He refers to them as 'the Foundation.'"

"The Foundation? What is it?"

"There is no record of it, sire. I have searched the archives carefully. The area of the Galaxy indicated falls within the ancient province of Anacreon, which two centuries since gave itself up to brigandage, barbarism, and anarchy. There is no planet known as Foundation in the province, however. There was a vague reference to a group of scientists sent to that province just before its separation from our protection. They were to prepare an Encyclopedia." He smiled thinly. "I believe they called it the Encyclopedia Foundation."

"Well," the Emperor considered it somberly, "that seems a tenuous connection to advance."

"I'm not advancing it, sire. No word was ever received from that expedition after the growth of anarchy in that region. If their descendants still live and retain their name, then they have reverted to barbarism most certainly."

"And so he wants reinforcements." The Emperor bent a fierce glance at his secretary. "This is most peculiar; to propose to fight savages with ten ships and to ask for more before a blow is struck. And yet I begin to remember this Riose; he was a handsome boy of loyal family. Brodrig, there are complications in this that I don't penetrate. There may be more importance in it than would seem."

His fingers played idly with the gleaming sheet that covered his stiffened legs. He said, "I need a man out there; one with eyes, brains and loyalty. Brodrig—"

The secretary bent a submissive head. "And the ships, sire?"

"Not yet!" The Emperor moaned softly as he shifted his position in gentle stages. He pointed a feeble finger, "Not till we know more. Convene the Council of Lords for this day week. It will be a good opportunity for the new appropriation as well. I'll put *that* through or lives will end."

He leaned his aching head into the soothing tingle of the force-field pillow, "Go now, Brodrig, and send in the doctor. He's the worst bumbler of the lot."

5. THE WAR BEGINS

From the radiating point of Siwenna, the forces of the Empire reached out cautiously into the black unknown of the Periphery. Giant ships passed the vast distances

that separated the vagrant stars at the Galaxy's rim, and felt their way around the outermost edge of Foundation influence.

Worlds isolated in their new barbarism of two centuries felt the sensation once again of Imperial overlords upon their soil. Allegiance was sworn in the face of the massive artillery covering capital cities.

Garrisons were left; garrisons of men in Imperial uniform with the Spaceship-and-Sun insignia upon their shoulders. The old men took notice and remembered once again the forgotten tales of their grandfathers' fathers of the times when the universe was big, and rich, and peaceful and that same Spaceship-and-Sun ruled all.

Then the great ships passed on to weave their line of forward bases further around the Foundation. And as each world was knotted into its proper place in the fabric, the report went back to Bel Riose at the General Headquarters he had established on the rocky barrenness of a wandering sunless planet.

Now Riose relaxed and smiled grimly at Ducem Barr. "Well, what do you think, patrician?"

"I? Of what value are my thoughts? I am not a military man." He took in with one wearily distasteful glance the crowded disorder of the rock-bound room which had been carved out of the wall of a cavern of artificial air, light, and heat which marked the single bubble of life in the vastness of a bleak world.

"For the help I could give you," he muttered, "or would want to give you, you might return me to Siwenna."

"Not yet. Not yet." The general turned his chair to the corner which held the huge, brilliantly-transparent sphere that mapped the old Imperial prefect of Anacreon and its neighboring sectors. "Later, when this is over, you will go back to your books and to more. I'll see to it that the estates of your family are restored to you and to your children for the rest of time."

"Thank you," said Barr, with faint irony, "but I lack your faith in the happy outcome of all this."

Riose laughed harshly, "Don't start your prophetic croakings again. This map speaks louder than all your woeful theories." He caressed its curved invisible outline gently. "Can you read a map in radial projection? You can? Well, here, see for yourself. The stars in gold represent the Imperial territories. The red stars are those in subjection to the Foundation and the pink are those which are probably within the economic sphere of influence. Now watch—"

Riose's hand covered a rounded knob, and slowly an area of hard, white pinpoints changed into a deepening blue. Like an inverted cup they folded about the red and the pink.

"Those blue stars have been taken over by my forces," said Riose with quiet satisfaction, "and they still advance. No opposition has appeared anywhere. The barbarians are quiet. And particularly, no opposition has come from Foundation forces. They sleep peacefully and well."

"You spread your force thinly, don't you?" asked Barr.

"As a matter of fact," said Riose, "despite appearances, I don't. The key points which I garrison and fortify are relatively few, but they are carefully chosen. The result is that the force expended is small, but the strategic result great. There are many advantages, more than would ever appear to anyone who hasn't made a careful study of spatial tactics, but it is apparent to anyone, for instance, that I can base an attack from any point in an inclosing sphere, and that when I am finished it will be impossible for the Foundation to attack at flank or rear. I shall have no flank or rear with respect to them.

"This strategy of the Previous Enclosure has been tried before, notably in the campaigns of Loris VI, some two thousand years ago, but always imperfectly; always with the knowledge and attempted interference of the enemy. This is different."

"The ideal textbook case?" Barr's voice was languid and indifferent.

Riose was impatient, "You still think my forces will fail?"

"They must."

"You understand that there is no case in military history where an Enclosure has been completed that the attacking forces have not eventually won, except where an outside Navy exists in sufficient force to break the Enclosure."

"If you say so."

"And you still adhere to your faith."

"Yes."

Riose shrugged. "Then do so."

Barr allowed the angry silence to continue for a moment, then asked quietly, "Have you received an answer from the Emperor?"

Riose removed a cigarette from a wall container behind his head, placed a filter tip between his lips and puffed it aflame carefully. He said, "You mean my request for reinforcements? It came, but that's all. Just the answer."

"No ships."

"None. I half-expected that. Frankly, patrician, I should never have allowed myself to be stampeded by your theories into requesting them in the first place. It puts me in a false light."

"Does it?"

"Definitely. Ships are at a premium. The civil wars of the last two centuries have smashed up more than half of the Grand Fleet and what's left is in pretty shaky condition. You know it isn't as if the ships we build these days are worth anything. I don't think there's a man in the Galaxy today who can build a first-rate hypernuclear motor."

"I knew that," said the Siwennian. His eyes were thoughtful and introspective. "I didn't know that *you* knew it. So his Imperial Majesty can spare no ships. Psychohistory could have predicted that; in fact, it probably did. I should say that Hari Seldon's dead hand wins the opening round."

Riose answered sharply, "I have enough ships as it is. Your Seldon wins nothing. Should the situation turn more serious, then more ships *will* be available. As yet, the Emperor does not know all the story."

"Indeed? What haven't you told him?"

"Obviously – your theories." Riose looked sardonic. "The story is, with all respect to you, inherently improbable. If developments warrant; if events supply me with proof, then, but only then, would I make out the case of mortal danger.

"And in addition," Riose drove on, casually, "the story, unbolstered by fact, has a flavor of *lese majeste* that could scarcely be pleasant to His Imperial Majesty."

The old patrician smiled. "You mean that telling him his august throne is in danger of subversion by a parcel of ragged barbarians from the ends of the universe is not a warning to be believed or appreciated. Then you expect nothing from him."

"Unless you count a special envoy as something."

"And why a special envoy?"

"It's an old custom. A direct representative of the crown is present on every military campaign which is under government auspices."

"Really? Why?"

"It's a method of preserving the symbol of personal Imperial leadership in all campaigns. It's gained a secondary function of insuring the fidelity of generals. It doesn't always succeed in that respect."

"You'll find that inconvenient, general. Extraneous authority, I mean."

"I don't doubt that," Riose reddened faintly, "but it can't be helped–"

The receiver at the general's hand glowed warmly, and with an unobtrusive jar, the cylindered communication popped into its slot. Riose unrolled it, "Good! This is it!"

Ducem Barr raised a mildly questioning eyebrow.

Riose said, "You know we've captured one of these Trader people. Alive – and with his ship intact."

"I've heard talk of it."

"Well, they've just brought him in, and we'll have him here in a minute. You keep your seat, patrician. I want you here when I'm questioning him. It's why I asked you here today in the first place. You may understand him where I might miss important points."

The door signal sounded and a touch of the general's toe swung the door wide. The man who stood on the threshold was tall and bearded, wore a short coat of a soft, leathery plastic, with an attached hood shoved back on his neck. His hands were free, and if he noticed the men about him were armed, he did not trouble to indicate it.

He stepped in casually, and looked about with calculating eyes. He favored the general with a rudimentary wave of the hand and a half nod.

"Your name?" demanded Riose, crisply.

"Lathan Devers." The trader hooked his thumbs into his wide and gaudy belt. "Are you the boss here?"

"You are a trader of the Foundation?"

"That's right. Listen, if you're the boss, you'd better tell your hired men here to lay off my cargo."

The general raised his head and regarded the prisoner coldly. "Answer questions. Do not volunteer orders."

"All right. I'm agreeable. But one of your boys blasted a two-foot hole in his chest already, by sticking his fingers where he wasn't supposed to."

Riose shifted his gaze to the lieutenant in charge. "Is this man telling the truth? Your report, Vrank, had it that no lives were lost."

"None were, sir," the lieutenant spoke stiffly, apprehensively, "at the time. There was later some disposition to search the ship, there having arisen a rumor that a woman was aboard. Instead, sir, many instruments of unknown nature were located, instruments which the prisoner claims to be his stock in trade. One of them flashed on handling, and the soldier holding it died."

The general turned back to the trader. "Does your ship carry nuclear explosives?"

"Galaxy, no. What for? That fool grabbed a nuclear puncher, wrong end forward and set at maximum dispersion. You're not supposed to do that. Might as well point a neut-gun at your head. I'd have stopped him, if five men weren't sitting on my chest."

Riose gestured at the waiting guard, "You go. The captured ship is to be sealed against all intrusion. Sit down, Devers."

The trader did so, in the spot indicated, and withstood stolidly the hard scrutiny of the Imperial general and the curious glance of the Siwennian patrician.

Riose said, "You're a sensible man, Devers."

"Thank you. Are you impressed by my face, or do you want something? Tell you what, though. I'm a good business man."

"It's about the same thing. You surrendered your ship when you might have decided to waste our ammunition and have yourself blown to electron-dust. It could result in good treatment for you, if you continue that sort of outlook on life."

"Good treatment is what I mostly crave, boss."

"Good, and co-operation is what I mostly crave." Riose smiled, and said in a low aside to Ducem Barr, "I hope the word 'crave' means what I think it does. Did you ever hear such a barbarous jargon?"

Devers said blandly, "Right. I check you. But what kind of co-operation are you talking about, boss? To tell you straight, I don't know where I stand." He looked about him, "Where's this place, for instance, and – what's the idea?"

"Ah, I've neglected the other half of the introductions. I apologize." Riose was in good humor. "That gentleman is Ducem Barr, Patrician of the Empire. I am Bel Riose, Peer of the Empire, and General of the Third Class in the armed forces of His Imperial Majesty."

The trader's jaw slackened. Then, "The Empire? I mean the old Empire they taught us about at school? Huh! Funny! I always had the sort of notion that it didn't exist any more."

"Look about you. It does," said Riose grimly.

"Might have known it though," and Lathan Devers pointed his beard at the ceiling. "That was a mightily polished-looking set of craft that took my tub. No kingdom of the Periphery could have turned them out." His brow furrowed. "So what's the game, boss? Or do I call you general?"

"Me game is war."

"Empire versus Foundation, that it?"

"Right."

"Why?"

"I think you know why."

The trader stared sharply and shook his head.

Riose let the other deliberate, then said softly, "I'm sure you know why."

Lathan Devers muttered, "Warm here," and stood up to remove his hooded jacket.

Then he sat down again and stretched his legs out before him.

"You know," he said, comfortably, "I figure you're thinking I ought to jump up with a whoop and lay about me. I can catch you before you could move if I choose my time, and this old fellow who sits there and doesn't say anything couldn't do much to stop me."

"But you won't," said Riose, confidently.

"I won't," agreed Devers, amiably. "First off, killing you wouldn't stop the war, I suppose. There are more generals where you came from."

"Very accurately calculated."

"Besides which, I'd probably be slammed down about two seconds after I got you, and killed fast, or maybe slow, depending. But I'd be killed, and I never like to count on that when I'm making plans. It doesn't pay off."

"I said you were a sensible man."

"But there's one thing I would like, boss. I'd like you to tell me what you mean when you say I know why you're jumping us. I don't; and guessing games bother me no end."

"Yes? Ever hear of Hari Seldon?"

"No. I *said* I don't like guessing games."

Riose flicked a side glance at Ducem Barr who smiled with a narrow gentleness and resumed his inwardly-dreaming expression.

Riose said with a grimace, "Don't you play games, Devers. There is a tradition, or a fable, or sober history – I don't care what – upon your Foundation, that eventually you will found the Second Empire. I know quite a detailed version of Hari Seldon's psychohistorical claptrap, and your eventual plans of aggression against the Empire."

"That so?" Devers nodded thoughtfully. "And who told you all that?"

"Does that matter?" said Riose with dangerous smoothness. "You're here to question nothing. I want what you know about the Seldon Fable."

"But if it's a Fable—"

"Don't play with words, Devers."

"I'm not. In fact, I'll give it to you straight. You know all I know about it. It's silly stuff, half-baked. Every world has its yams; you can't keep it away from them. Yes, I've heard that sort of talk; Seldon, Second Empire, and so on. They put kids to sleep at night with the stuff. The young squirts curl up in the spare rooms with their pocket projectors and suck up Seldon thrillers. But it's strictly non-adult. Nonintelligent adult, anyway." The trader shook his head.

The Imperial general's eyes were dark. "Is that really so? You waste your lies, man. I've been on the planet, Terminus. I know your Foundation. I've looked it in the face."

"And you ask me? Me, when I haven't kept foot on it for two months at a piece in ten years. You are wasting your time. But go ahead with your war, if it's fables you're after."

And Barr spoke for the first time, mildly, "You are so confident then that the Foundation will win?"

The trader turned. He flushed faintly and an old scar on one temple showed whitely, "Hm-m-m, the silent partner. How'd you squeeze *that* out of what I said, doc?"

Riose nodded very slightly at Barr, and the Siwennian continued in a low voice, "Because the notion *would* bother you if you thought your world might lose this war, and suffer the bitter reappings of defeat, I know. My world once did, and still does."

Lathan Devers fumbled his beard, looked from one of his opponents to the other, then laughed shortly. "Does he always talk like that, boss? Listen," he grew serious, "what's defeat? I've seen wars and I've seen defeats. What if the winner does take over? Who's bothered? Me? Guys like me?" He shook his head in derision.

"Get this," the trader spoke forcefully and earnestly, "there are five or six fat slobs who usually run an average planet. They get the rabbit punch, but I'm not losing peace of mind over them. See. The people? The ordinary run of guys? Sure, some get killed, and the rest pay extra taxes for a while. But it settles itself out; it runs itself down. And then it's the old situation again with a different five or six."

Ducem Barr's nostrils flared, and the tendons of his old right hand jerked; but he said nothing.

Lathan Devers' eyes were on him. They missed nothing. He said, "Look. I spend my life in space for my five-and-dime gadgets and my beer-and-pretzel kickback from the Combines. There's fat fellows back there," his thumb jerked over his shoulder and back, "that sit home and collect my year's income every minute – out of skimmings from me and more like me. Suppose *you* run the Foundation. You'll still need us. You'll need us more than ever the Combines do – because you'd not know your way around, and we could bring in the hard cash. We'd make a better deal with the Empire. Yes, we would; and I'm a man of business. If it adds up to a plus mark, I'm for it."

And he stared at the two with sardonic belligerence.

The silence remained unbroken for minutes, and then a cylinder rattled into its slot. The general flipped it open, glanced at the neat printing and in-circuited the visuals with a sweep.

"Prepare plan indicating position of each ship in action. Await orders on full-armed defensive."

He reached for his cape. As he fastened it about his shoulders, he whispered in a stiff-lipped monotone to Barr, "I'm leaving this man to you. I'll expect results. This is war and I can be cruel to failures. Remember!" He left, with a salute to both.

Lathan Devers looked after him, "Well, something's hit him where it hurts. What goes on?"

"A battle, obviously," said Barr, gruffly. "The forces of the Foundation are coming out for their first battle. You'd better come along."

There were armed soldiers in the room. Their bearing was respectful and their faces were hard. Devers followed the proud old Siwennian patriarch out of the room.

The room to which they were led was smaller, barer. It contained two beds, a visiscreen, and shower and sanitary facilities. The soldiers marched out, and the thick door boomed hollowly shut.

"Hmp?" Devers stared disapprovingly about. "This looks permanent."

"It is," said Barr, shortly. The old Siwennian turned his back.

The trader said irritably, "What's your game, doc?"

"I have no game. You're in my charge, that's all."

The trader rose and advanced. His bulk towered over the unmoving patrician. "Yes? But you're in this cell with me and when you were marched here the guns were pointed just as hard at you as at me. Listen, you were all boiled up about my notions on the subject of war and peace."

He waited fruitlessly, "All fight, let me ask you something. You said *your* country was licked once. By whom? Comet people from the outer nebulae?"

Barr looked up. "By the Empire."

"That so? Then what are you doing here?"

Barr maintained an eloquent silence.

The trader thrust out a lower lip and nodded his head slowly. He slipped off the flat-linked bracelet that hugged his fight wrist and held it out. "What do you think of that?" He wore the mate to it on his left.

The Siwennian took the ornament. He responded slowly to the trader's gesture and put it on. The odd tingling at the wrist passed away quickly.

Devers' voice changed at once. "Right, doc, you've got the action now. Just speak casually. If this room is wired, they won't get a thing. That's a Field Distorter you've got there; genuine Mallow design. Sells for twenty-five credits on any world from here to the outer rim. You get it free. Hold your lips still when you talk and take it easy. You've got to get the trick of it."

Ducem Barr was suddenly weary. The trader's boring eyes were luminous and urging. He felt unequal to their demands.

Barr said, "What do you want?" The words slurred from between unmoving lips.

"I've told you. You make mouth noises like what we call a patriot. Yet your own world has been mashed up by the Empire, and here you are playing ball with the Empire's fair-haired general. Doesn't make sense, does it?"

Barr said, "I have done my part. A conquering Imperial viceroy is dead because of me."

"That so? Recently?"

"Forty years ago."

"Forty . . . years . . . ago!" The words seemed to have meaning to the trader. He frowned, "That's a long time to live on memories. Does that young squirt in the general's uniform know about it?"

Barr nodded.

Devers' eyes were dark with thought. "You want the Empire to win?"

And the old Siwennian patrician broke out in sudden deep anger, "May the Empire and all its works perish in universal catastrophe. All Siwenna prays that daily. I had brothers once, a sister, a father. But I have children now, grandchildren. The general knows where to find them."

Devers waited.

Barr continued in a whisper, "But that would not stop me if the results in view warranted the risk. They would know how to die."

The trader said gently, "You killed a viceroy once, huh? You know, I recognize a few things. We once had a mayor, Hober Mallow his name was. He visited Siwenna; that's your world, isn't it? He met a man named Barr."

Ducem Barr stared hard, suspiciously. "What do you know of this?"

"What every trader on the Foundation knows. You might be a smart old fellow put in here to get on my right side. Sure, they'd point guns at you, and you'd hate the Empire and be all-out for its smashing. Then I'd fall all over you and pour out my heart to you, and wouldn't the general be pleased. There's not much chance of that, doc.

"But just the same I'd like to have you prove that you're the son of Onum Barr of Siwenna – the sixth and youngest who escaped the massacre."

Ducem Barr's hand shook as he opened the flat metal box in a wall recess. The metal object he withdrew clanked softly as he thrust it into the trader's hands. "Look at that," he said.

Devers stared. He held the swollen central link of the chain close to his eyes and swore softly. "That's Mallow's monogram, or I'm a space-struck rookie, and the design is fifty years old if it's a day."

He looked up and smiled.

"Shake, doc. A man-sized nuclear shield is all the proof I need," and he held out his large hand.

6. THE FAVORITE

The tiny ships had appeared out of the vacant depths and darted into the midst of the Armada. Without a shot or a burst of energy, they weaved through the ship-swollen area, then blasted on and out, while the Imperial wagons turned after them like lumbering beasts. There were two noiseless flares that pinpointed space as two of the tiny gnats shriveled in atomic disintegration, and the rest were gone.

The great ships searched, then returned to their original task, and world by world, the great web of the Enclosure continued.

Brodrig's uniform was stately; carefully tailored and as carefully worn. His walk through the gardens of the obscure planet Wanda, now temporary Imperial headquarters, was leisurely; his expression was somber.

Bel Riose walked with him, his field uniform open at the collar, and doleful in its monotonous gray-black.

Riose indicated the smooth black bench under the fragrant tree-fern whose large spatulate leaves lifted flatly against the white sun. "See that, sir. It is a relic of the Imperium. The ornamented benches, built for lovers, linger on, fresh and useful, while the factories and the palaces collapse into unremembered ruin."

He seated himself, while Cleon II's Privy Secretary stood erect before him and clipped the leaves above neatly with precise swings of his ivory staff.

Riose crossed his legs and offered a cigarette to the other. He fingered one himself as he spoke, "It is what one would expect from the enlightened wisdom of His Imperial Majesty to send so competent an observer as yourself. It relieves any anxiety I might have felt that the press of more important and more immediate business might perhaps force into the shadows a small campaign on the Periphery."

"The eyes of the Emperor are everywhere," said Brodrig, mechanically. "We do not underestimate the importance of the campaign; yet still it would seem that too great an emphasis is being placed upon its difficulty. Surely their little ships are no such barrier that we must move through the intricate preliminary maneuver of an Enclosure."

Riose flushed, but he maintained his equilibrium. "I can not risk the lives of my men, who are few enough, or the destruction of my ships which are irreplaceable, by a too-rash attack. The establishment of an Enclosure will quarter my casualties in the ultimate attack, howsoever difficult it be. The military reasons for that I took the liberty to explain yesterday."

"Well, well, I am not a military man. In this case, you assure me that what seems patently and obviously right is, in reality, wrong. We will allow that. Yet your caution shoots far beyond that. In your second communication, you requested reinforcements. And these, against an enemy poor, small, and barbarous, with whom you have had not one' skirmish at the time. To desire more forces under the circumstances would savor almost of incapacity or worse, had not your earlier career given sufficient proof of your boldness and imagination."

"I thank you," said the general, coldly, "but I would remind you that there is a difference between boldness and blindness. There is a place for a decisive gamble when you know your enemy and can calculate the risks at least roughly; but to move at all against an *unknown* enemy is boldness in itself. You might as well ask why the same man sprints safely across an obstacle course in the day, and falls over the furniture in his room at night."

Brodrig swept away the other's words with a neat flirt of the fingers. "Dramatic, but not satisfactory. You have been to this barbarian world yourself. You have in addition this enemy prisoner you coddle, this trader. Between yourself and the prisoner you are not in a night fog."

"No? I pray you to remember that a world which has developed in isolation for two centuries can not be interpreted to the point of intelligent attack by a month's visit. I am a soldier, not a cleft-chinned, barrel-chested hero of a subetheric trimensional thriller. Nor can a single prisoner, and one who is an obscure member of an economic group which has no close connection with the enemy world introduce me to all the inner secrets of enemy strategy."

"You have questioned him?"

"I have."

"Well?"

"It has been useful, but not vitally so. His ship is tiny, of no account. He sells little toys which are amusing if nothing else. I have a few of the cleverest which I intend sending to the Emperor as curiosities. Naturally, there is a good deal about the ship and its workings which I do not understand, but then I am not a tech-man."

"But you have among you those who are," pointed out Brodrig.

"I, too, am aware of that," replied the general in faintly caustic tones. "But the fools have far to go before they could meet my needs. I have already sent for clever men who can understand the workings of the odd nuclear field-circuits the ship contains. I have received no answer."

"Men of that type can not be spared, general. Surely, there must be one man of your vast province who understands nucleics."

"Were there such a one, I would have him heal the limping, invalid motors that power two of my small fleet of ships. Two ships of my meager ten that can not fight a major battle for lack of sufficient power supply. One fifth of my force condemned to the carrion activity of consolidating positions behind the lines."

The secretary's fingers fluttered impatiently. "Your position is not unique in that respect, general. The Emperor has similar troubles."

The general threw away his shredded, never-lit cigarette, lit another, and shrugged. "Well, it is beside the immediate point, this lack of first-class tech-men. Except that I might have made more progress with my prisoner were my Psychic Probe in proper order."

The secretary's eyebrows lifted. "You have a Probe?"

"An old one. A superannuated one which fails me the one time I needed it. I set it up during the prisoner's sleep, and received nothing. So much for the Probe. I have tried it on my own men and the reaction is quite proper, but again there is not one among my staff of tech-men who can tell me why it fails upon the prisoner. Ducem Barr, who is a theoretician of parts, though no mechanic, says the psychic structure of the prisoner may be unaffected by the Probe since from childhood he has been subjected to alien environments and neural stimuli. I don't know. But he may yet be useful. I save him in that hope."

Brodrig leaned on his staff. A shall see if a specialist is available in the capital. In the meanwhile, what of this other man you just mentioned, this Siwennian? You keep too many enemies in your good graces."

"He knows the enemy. He, too, I keep for future reference and the help he may afford me."

"But he is a Siwennian and the son of a proscribed rebel."

"He is old and powerless, and his family acts as hostage."

"I see. Yet I think that I should speak to this trader, myself."

"Certainly."

"Alone," the secretary added coldly, making his point.

"Certainly," repeated Riose, blandly. "As a loyal subject of the Emperor, I accept his personal representative as my superior. However, since the trader is at the permanent base, you will have to leave the front areas at an interesting moment."

"Yes? Interesting in what way?"

"Interesting in that the Enclosure is complete today. Interesting in that within the week, the Twentieth Fleet of the Border advances inward towards the core of resistance." Riose smiled and turned away.

In a vague way, Brodrig felt punctured.

7. BRIBERY

Sergeant Mori Luk made an ideal soldier of the ranks. He came from the huge agricultural planets of the Pleiades where only army life could break the bond to the soil and the unavailing life of drudgery; and he was typical of that background. Unimaginative enough to face danger without fear, he was strong and agile enough to face it successfully. He accepted orders instantly, drove the men under him unbendingly and adored his general unswervingly.

And yet with that, he was of a sunny nature. If he killed a man in the line of duty without a scrap of hesitation, it was also without a scrap of animosity.

That Sergeant Luk should signal at the door before entering was further a sign of tact, for he would have been perfectly within his rights to enter without signaling.

The two within looked up from their evening meal and one reached out with his foot to cut off the cracked voice which rattled out of the battered pocket-transmitter with bright liveliness.

"More books?" asked Lathan Devers.

The sergeant held out the tightly-wound cylinder of film and scratched his neck. "It belongs to Engineer Orre, but he'll have to have it back. He's going to send it to his kids, you know, like what you might call a souvenir, you know."

Ducem Barr turned the cylinder in his hands with interest. "And where did the engineer get it? He hasn't a transmitter also, has he?"

The sergeant shook his head emphatically. He pointed to the knocked-about remnant at the foot of the bed. "That's the only one in the place. This fellow, Orre, now, he got that book from one of these pig-pen worlds out here we captured. They had it in a

big building by itself and he had to kill a few of the natives that tried to stop him from taking it."

He looked at it appraisingly. "It makes a good souvenir – for kids."

He paused, then said stealthily, "There's big news floating about, by the way. It's only scuttlebutt, but even so, it's too good to keep. The general did it again." And he nodded slowly, gravely.

"That so?" said Devers. "And what did he do?"

"Finished the Enclosure, that's all." The sergeant chuckled with a fatherly pride. "Isn't he the corker, though? Didn't he work it fine? One of the fellows who's strong on fancy talk, says it went as smooth and even as the music of the spheres, whatever they are."

"The big offensive starts now?" asked Barr, mildly.

"Hope so," was the boisterous response. "I want to get back on my ship now that my arm is in one piece again. I'm tired of sitting on my scupper out here."

"So am I," muttered Devers, suddenly and savagely. There was a bit of underlip caught in his teeth, and he worried it.

The sergeant looked at him doubtfully, and said, "I'd better go now. The captain's round is due and I'd just as soon he didn't catch me in here."

He paused at the door. "By the way, sir," he said with sudden, awkward shyness to the trader, "I heard from my wife. She says that little freezer you gave me to send her works fine. It doesn't cost her anything, and she just about keeps a month's supply of food froze up complete. I appreciate it."

"It's all right. Forget it."

The great door moved noiselessly shut behind the grinning sergeant.

Ducem Barr got out of his chair. "Well, he gives us a fair return for the freezer. Let's take a look at this new book. Ahh, the title is gone."

He unrolled a yard or so of the film and looked through at the light. Then he murmured, "Well, skewer me through the scupper, as the sergeant says. This is 'The Garden of Summa,' Devers."

"That so?" said the trader, without interest. He shoved aside what was left of his dinner. "Sit down, Barr. Listening to this old-time literature isn't doing me any good. You heard what the sergeant said?"

"Yes, I did. What of it?"

"The offensive will start. And we sit here!"

"Where do you want to sit?"

"You know what I mean. There's no use just waiting."

"Isn't there?" Barr was carefully removing the old film from the transmitter and installing the new. "You told me a good deal of Foundation history in the last month, and it seems that the great leaders of past crises did precious little more than sit – and wait."

"Ah, Barr, but they knew where they were going."

"Did they? I suppose they said they did when it was over, and for all I know maybe they did. But there's no proof that things would not have worked out as well or better if

they had not known where they were going. The deeper economic and sociological forces aren't directed by individual men."

Devers sneered. "No way of telling that things wouldn't have worked out worse, either. You're arguing tail-end backwards." His eyes were brooding. "You know, suppose I blasted him?"

"Whom? Riose?"

"Yes."

Barr sighed. His aging eyes were troubled with a reflection of the long past. "Assassination isn't the way out, Devers. I once tried it, under provocation, when I was twenty – but it solved nothing. I removed a villain from Siwenna, but not the Imperial yoke; and it was the Imperial yoke and not the villain that mattered."

"But Riose is not just a villain, doc. He's the whole blamed army. It would fall apart without him. They hang on him like babies. The sergeant out there slobbers every time he mentions him."

"Even so. There are other armies and other leaders. You must go deeper. There is this Brodrig, for instance – no one more than he has the ear of the Emperor. He could demand hundreds of ships where Riose must struggle with ten. I know him by reputation."

"That so? What about him?" The trader's eyes lost in frustration what they gained in sharp interest.

"You want a pocket outline? He's a low-born rascal who has by unfailing flattery tickled the whims of the Emperor. He's well-hated by the court aristocracy, vermin themselves, because he can lay claim to neither family nor humility. He is the Emperor's adviser in all things, and the Emperor's too in the worst things. He is faithless by choice but loyal by necessity. There is not a man in the Empire as subtle in villainy or as crude in his pleasures. And they say there is no way to the Emperor's favor but through him; and no way to his, but through infamy."

"Wow!" Devers pulled thoughtfully at his neatly trimmed beard. "And he's the old boy the Emperor sent out here to keep an eye on Riose. Do you know I have an idea?"

"I do now."

"Suppose this Brodrig takes a dislike to our young Army's Delight?"

"He probably has already. He's not noted for a capacity for liking."

"Suppose it gets really bad. The Emperor might hear about it, and Riose might be in trouble."

"Uh-huh. Quite likely. But how do you propose to get that to happen?"

"I don't know. I suppose he could be bribed?"

The patrician laughed gently. "Yes, in a way, but not in the manner you bribed the sergeant – not with a pocket freezer. And even if you reach his scale, it wouldn't be worth it. There's probably no one so easily bribed, but he lacks even the fundamental honesty of honorable corruption. He doesn't stay bribed; not for any sum. Think of something else."

Devers swung a leg over his knee and his toe nodded quickly and restlessly. "It's the first hint, though—"

He stopped; the door signal was flashing once again, and the sergeant was on the threshold once more. He was excited, and his broad face was red and unsmiling.

"Sir," he began, in an agitated attempt at deference, "I am very thankful for the freezer, and you have always spoken to me very fine, although I am only the son of a farmer and you are great lords."

His Pleiades accent had grown thick, almost too much so for easy comprehension; and with excitement, his lumpish peasant derivation wiped out completely the soldierly bearing so long and so painfully cultivated.

Barr said softly, "What is it, sergeant?"

"Lord Brodrig is coming to see you. Tomorrow! I know, because the captain told me to have my men ready for dress review tomorrow for . . . for him. I thought – I might warn you."

Barr said, "Thank you, sergeant, we appreciate that. But it's all right, man; no need for—"

But the look on Sergeant Luk's face was now unmistakably one of fear. He spoke in a rough whisper, "You don't hear the stories the men tell about him. He has sold himself to the space fiend. No, don't laugh. There are most terrible tales told about him. They say he has men with blast-guns who follow him everywhere, and when he wants pleasure, he just tells them to blast down anyone they meet. And they do – and he laughs. They say even the Emperor is in terror of him, and that he forces the Emperor to raise taxes and won't let him listen to the complaints of the people.

"And he hates the general, that's what they say. They say he would like to kill the general, because the general is so great and wise. But he can't because our general is a match for anyone and he knows Lord Brodrig is a bad 'un."

The sergeant blinked; smiled in a sudden incongruous shyness at his own outburst; and backed toward the door. He nodded his head, jerkily. "You mind my words. Watch him."

He ducked out.

And Devers looked up, hard-eyed. "This breaks things our way, doesn't it, doc?"

"It depends," said Barr, dryly, "on Brodrig, doesn't it?"

But Devers was thinking, not listening.

He was thinking hard.

Lord Brodrig ducked his head as he stepped into the cramped living quarters of the trading ship, and his two armed guards followed quickly, with bared guns and the professionally hard scowls of the hired bravos.

The Privy Secretary had little of the look of the lost soul about him just then. If the space fiend had bought him, he had left no visible mark of possession. Rather might Brodrig have been considered a breath of court-fashion come to enliven the hard, bare ugliness of an army base.

The stiff, tight lines of his sheened and immaculate costume gave him the illusion of height, from the very top of which his cold, emotionless eyes stared down the declivity of a long nose at the trader. The mother-of-pearl ruches at his wrists fluttered filmily as he brought his ivory stick to the ground before him and leaned upon it daintily.

"No," he said, with a little gesture, "you remain here. Forget your toys; I am not interested in them."

He drew forth a chair, dusted it carefully with the iridescent square of fabric attached to the top of his white stick, and seated himself. Devers glanced towards the mate to the chair, but Brodrig said lazily, "You will stand in the presence of a Peer of the Realm."

He smiled.

Devers shrugged. "If you're not interested in my stock in trade, what am I here for?"

The Privy Secretary waited coldly, and Devers added a slow, "Sir."

"For privacy," said the secretary. "Now is it likely that I would come two hundred parsecs through space to inspect trinkets? It's you I want to see." He extracted a small pink tablet from an engraved box and placed it delicately between his teeth. He sucked it slowly and appreciatively.

"For instance," he said, "who are you? Are you really a citizen of this barbarian world that is creating all this fury of military frenzy?"

Devers nodded gravely.

"And you were really captured by him *after* the beginning of this squabble he calls a war. I am referring to our young general."

Devers nodded again.

"So! Very well, my worthy Outlander. I see your fluency of speech is at a minimum. I shall smooth the way for you. It seems that our general here is fighting an apparently meaningless war with frightful transports of energy – and this over a forsaken fleabite of a world at the end of nowhere, which to a logical man would not seem worth a single blast of a single gun. Yet the general is not illogical. On the contrary, I would say he was extremely intelligent. Do you follow me?"

"Can't say I do, sir."

The secretary inspected his fingernails and said, "Listen further, then. The general would not waste his men and ships on a sterile feat of glory. I know he *talks* of glory and of Imperial honor, but it is quite obvious that the affectation of being one of the insufferable old demigods of the Heroic Age won't wash. There is something more than glory here and he does take queer, unnecessary care of you. Now if you were *my* prisoner and told *me* as little of use as you have our general, I would slit open your abdomen and strangle you with your own intestines."

Devers remained wooden. His eyes moved slightly, first to one of the secretary's bully-boys, and then to the other. They were ready; eagerly ready.

The secretary smiled. "Well, now, you're a silent devil. According to the general, even a Psychic Probe made no impression, and that was a mistake on his part, by the way,

for it convinced me that our young military whizz-bang was lying." He seemed in high humor.

"My honest tradesman," he said, "I have a Psychic Probe of my own, one that ought to suit you peculiarly well. You see this—"

And between thumb and forefinger, held negligently, were intricately designed, pink-and-yellow rectangles which were most definitely obvious in identity.

Devers said so. "It looks like cash," he said.

"Cash it is – and the best cash of the Empire, for it is backed by my estates, which are more extensive than the Emperor's own. A hundred thousand credits. All here! Between two fingers! Yours!"

"For what, sir? I am a good trader, but all trades go in both directions."

"For what? For the truth! What is the general after? Why is he fighting this war?"

Lathan Devers sighed, and smoothed his beard thoughtfully.

"What he's after?" His eyes were following the motions of the secretary's hands as he counted the money slowly, bill by bill. "In a word, the Empire."

"Hmp. How ordinary! It always comes to that in the end. But how? What is the road that leads from the Galaxy's edge to the peak of Empire so broadly and invitingly?"

"The Foundation," said Devers, bitterly, "has secrets. They have books, old books – so old that the language they are in is only known to a few of the top men. But the secrets are shrouded in ritual and religion, and none may use them. I tried and now I am here – and there is a death sentence waiting for me, there."

"I see. And these old secrets? Come, for one hundred thousand I deserve the intimate details."

"The transmutation of elements," said Devers, shortly.

The secretary's eyes narrowed and lost some of their detachment. "I have been told that practical transmutation is impossible by the laws of nucleics."

"So it is, if nuclear forces are used. But the ancients were smart boys. There are sources of power greater than the nuclei and more fundamental. If the Foundation used those sources as I suggested—"

Devers felt a soft, creeping sensation in his stomach. The bait was dangling; the fish was nosing it.

The secretary said suddenly, "Continue. The general, I am sure, is aware of a this. But what does he intend doing once he finishes this opera-bouffe affair?"

Devers kept his voice rock-steady. "With transmutation he controls the economy of the whole set-up of your Empire. Mineral holdings won't be worth a sneeze when Riose can make tungsten out of aluminum and iridium out of iron. An entire production system based on the scarcity of certain elements and the abundance of others is thrown completely out of whack. There'll be the greatest disjointment the Empire has ever seen, and only Riose will be able to stop it. And there is the question of this new power I mentioned, the use of which won't give Riose religious heebies.

"There's nothing that can stop him now. He's got the Foundation by the back of the neck, and once he's finished with it, he'll be Emperor in two years."

"So." Brodrig laughed lightly. "Iridium out of iron, that's what you said, isn't it? Come, I'll tell you a state secret. Do you know that the Foundation has already been in communication with the general?"

Devers' back stiffened.

"You look surprised. Why not? It seems logical now. They offered him a hundred tons of iridium a year to make peace. A hundred tons of *iron* converted to iridium in violation of their religious principles to save their necks. Fair enough, but no wonder our rigidly incorruptible general refused – when he can have the iridium and the Empire as well. And poor Cleon called him his one honest general. My bewhiskered merchant, you have earned your money."

He tossed it, and Devers scrambled after the flying bills.

Lord Brodrig stopped at the door and turned. "One reminder, trader. My playmates with the guns here have neither middle ears, tongues, education, nor intelligence. They can neither hear, speak, write, nor even make sense to a Psychic Probe. But they are very expert at interesting executions. I have bought you, man, at one hundred thousand credits. You will be good and worthy merchandise. Should you forget that you are bought at any time and attempt to . . . say . . . repeat our conversation to Riose, you will be executed. But executed my way."

And in that delicate face there were sudden hard lines of eager cruelty that changed the studied smile into a red-lipped snarl. For one fleeting second, Devers saw that space fiend who had bought his buyer, look out of his buyer's eyes.

Silently, he preceded the two thrusting blast-guns of Brodrig's "playmates" to his quarters.

And to Ducem Barr's question, he said with brooding satisfaction, "No, that's the queerest part of it. *He bribed me.*

Two months of difficult war had left their mark on Bel Riose. There was heavy-handed gravity about him; and he was short-tempered.

It was with impatience that he addressed the worshiping Sergeant Luk. "Wait outside, soldier, and conduct these men back to their quarters when I am through. No one is to enter until I call. No one at all, you understand."

The sergeant saluted himself stiffly out of the room, and Riose with muttered disgust scooped up the waiting papers on his desk, threw them into the top drawer and slammed it shut.

"Take seats," he said shortly, to the waiting two. "I haven't much time. Strictly speaking, I shouldn't be here at all, but it is necessary to see you."

He turned to Ducem Barr, whose long fingers were caressing with interest the crystal cube in which was set the simulacrum of the lined, austere face of His Imperial Majesty, Cleon II.

"In the first place, patrician," said the general, "your Seldon is losing. To be sure, he battles well, for these men of the Foundation swarm like senseless bees and fight like madmen. Every planet is defended viciously, and once taken, every planet heaves so with

rebellion it is as much trouble to hold as to conquer. But they are taken, and they are held. Your Seldon is losing."

"But he has not yet lost," murmured Barr politely.

"The Foundation itself retains less optimism. They offer me millions in order that I may not put this Seldon to the final test."

"So rumor goes."

"Ah, is rumor preceding me? Does it prate also of the latest?"

"What is the latest?"

"Why, that Lord Brodrig, the darling of the Emperor, is now second in command at his own request."

Devers spoke for the first time. "At his own request, boss? How come? Or are you growing to like the fellow?" He chuckled.

Riose said, calmly, "No, can't say I do. It's just that he bought the office at what I considered a fair and adequate price."

"Such as?"

"Such as a request to the Emperor for reinforcements."

Devers' contemptuous smile broadened. "'He has communicated with the Emperor, huh? And I take it, boss, you're just waiting for these reinforcements, but they'll come any day. Right?"

"Wrong! They have already come. Five ships of the line; smooth and strong, with a personal message of congratulations from the Emperor, and more ships on the way. What's wrong, trader?" he asked, sardonically.

Devers spoke through suddenly frozen lips. "Nothing!"

Riose strode out from behind his desk and faced the trader, hand on the butt of his blast-gun.

"I say, what's wrong, trader? The news would seem to disturb you. Surely, you have no sudden birth of interest in the Foundation."

"I haven't."

"Yes – there are queer points about you."

"That so, boss?" Devers smiled tightly, and balled the fists in his pockets. "Just you line them up and I'll knock them down for you."

"Here they are. You were caught easily. You surrendered at first blow with a burnt-out shield. You're quite ready to desert your world, and that without a price. Interesting, all this, isn't it?"

"I crave to be on the winning side, boss. I'm a sensible man; you called me that yourself."

Riose said with tight throatiness, "Granted! Yet no trader since has been captured. No trade ship but has had the speed to escape at choice. No trade ship but has had a screen that could take all the beating a light cruiser could give it, should it choose to fight. And no trader but has fought to death when occasion warranted. Traders have been traced as the leaders and instigators of the guerilla warfare on occupied planets and of the flying raids in occupied space.

"Are you the *only* sensible man then? You neither fight nor flee, but turn traitor without urging. You are unique, amazingly unique – in fact, suspiciously unique."

Devers said softly, "I take your meaning, but you have nothing on me. I've been here now six months, and I've been a good boy."

"So you have, and I have repaid you by good treatment. I have left your ship undisturbed and treated you with every consideration. Yet you fall short. Freely offered information, for instance, on your gadgets might have been helpful. The atomic principles on which they are built would seem to be used in some of the Foundation's nastiest weapons. Right?"

"I am only a trader," said Devers, "and not one of these bigwig technicians. I sell the stuff; I don't make it."

"Well, that will be seen shortly. It is what I came here for. For instance, your ship will be searched for a personal force-shield. You have never worn one; yet all soldiers of the Foundation do. It will be significant evidence that there is information you do not choose to give me. Right?"

There was no answer. He continued, "And there will be more direct evidence. I have brought with me the Psychic Probe. It failed once before, but contact with the enemy is a liberal education."

His voice was smoothly threatening and Devers felt the gun thrust hard in his midriff – the general's gun, hitherto in its holster.

The general said quietly, "You will remove your wristband and any other metal ornament you wear and give them to me. Slowly! Atomic fields can be distorted, you see, and Psychic Probes might probe only into static. That's right.. I'll take it."

The receiver on the general's desk was glowing and a message capsule clicked into the slot, near which Barr stood and still held the trimensional Imperial bust.

Riose stepped behind his desk, with his blast-gun held ready. He said to Barr, "You too, patrician. Your wristband condemns you. You have been helpful earlier, however, and I am not vindictive, but I shall judge the fate of your behostaged family by the results of the Psychic Probe."

And as Riose leaned over to take out the message capsule, Barr lifted the crystal-enveloped bust of Cleon and quietly and methodically brought it down upon the general's head.

It happened too suddenly for Devers to grasp. It was as if a sudden demon had grown into the old man.

"Out!" said Barr, in a tooth-clenched whisper. "Quickly!" He seized Riose's dropped blaster and buried it in his blouse.

Sergeant Luk turned as they emerged from the narrowest possible crack of the door.

Barr said easily, "Lead on, sergeant!"

Devers closed the door behind him.

Sergeant Luk led in silence to their quarters, and then, with the briefest pause, continued onward, for there was the nudge of a blast-gun muzzle in his ribs, and a hard voice in his ears which said, "To the trade ship."

Devers stepped forward to open the air lock, and Barr said, "Stand where you are, Luk. You've been a decent man, and we're not going to kill you."

But the sergeant recognized the monogram on the gun. He cried in choked fury, "You've killed the general."

With a wild, incoherent yell, he charged blindly upon the blasting fury of the gun and collapsed in blasted ruin.

The trade ship was rising above the dead planet before the signal lights began their eerie blink and against the creamy cobweb of the great Lens in the sky which was the Galaxy, other black forms rose.

Devers said grimly, "Hold tight, Barr – and let's see if they've got a ship that can match my speed."

He knew they hadn't!

And once in open space, the trader's voice seemed lost and dead as he said, "The line I fed Brodrig was a little too good. It seems as if he's thrown in with the general."

Swiftly they raced into the depths of the star-mass that was the Galaxy.

8. TO TRANTOR

Devers bent over the little dead globe, watching for a tiny sign of life. The directional control was slowly and thoroughly sieving space with its jabbing tight sheaf of signals.

Barr watched patiently from his seat on the low cot in the corner. He asked, "No more signs of them?"

"The Empire boys? No." The trader growled the words with evident impatience. "We lost the scuppers long ago. Space! With the blind jumps we took through hyperspace, it's lucky we didn't land up in a sun's belly. They couldn't have followed us even if they outranged us, which they didn't."

He sat back and loosened his collar with a jerk. "I don't know what those Empire boys have done here. I think some of the gaps are out of alignment."

"I take it, then, you're trying to get to the Foundation."

"I'm calling the Association – or trying to."

"The Association? Who are they?"

"Association of Independent Traders. Never heard of it, huh? Well, you're not alone. We haven't made our splash yet!"

For a while there was a silence that centered about the unresponsive Reception Indicator, and Barr said, "Are you within range?"

"I don't know. I haven't but a small notion where we are, going by dead reckoning. That's why I have to use directional control. It could take years, you know."

"Might it?"

Barr pointed; and Devers jumped and adjusted his earphones. Within the little murky sphere there was a tiny glowing whiteness.

For half an hour, Devers nursed the fragile, groping thread of communication that reached through hyperspace to connect two points that laggard light would take five hundred years to bind together.

Then he sat back, hopelessly. He looked up, and shoved the earphones back.

"Let's eat, doc. There's a needle-shower you can use if you want to, but go easy on the hot water."

He squatted before one of the cabinets that lined one wall and felt through the contents. "You're not a vegetarian, I hope?"

Barr said, "I'm omnivorous. But what about the Association. Have you lost them?"

"Looks so. It was extreme range, a little too extreme. Doesn't matter, though. I got all that counted."

He straightened, and placed the two metal containers upon the table. "Just give it five minutes, doc, then slit it open by pushing the contact. It'll be plate, food, and fork – sort of handy for when you're in a hurry, if you're not interested in such incidentals as napkins. I suppose you want to know what I got out of the Association."

"If it isn't a secret."

Devers shook his head. "Not to you. What Riose said was true."

"About the offer of tribute?"

"Uh-huh. They offered it, *and* had it refused. Things are bad. There's fighting in the outer suns of Loris."

"Loris is close to the Foundation?"

"Huh? Oh, you wouldn't know. It's one of the original Four Kingdoms. You might call it part of the inner line of defense. That's not the worst. They've been fighting large ships previously never encountered. Which means Riose wasn't giving us the works. He *has* received more ships. Brodrig *has* switched sides, and I *have* messed things up."

His eyes were bleak as he joined the food-container contact-points and watched it fall open neatly. The stewlike dish steamed its aroma through the room. Ducem Barr was already eating.

"So much," said Barr, "for improvisations, then. We can do nothing here; we can not cut through the Imperial lines to return to the Foundation; we can do nothing but that which is most sensible – to wait patiently. However, if Riose has reached the inner line I trust the wait will not be too long."

And Devers put down his fork. "Wait, is it?" he snarled, glowering. "That's all right for *you*. You've got nothing at stake."

"Haven't I?" Barr smiled thinly.

"No. In fact, I'll tell you." Devers' irritation skimmed the surface. "I'm tired of looking at this whole business as if it were an interesting something-or-other on a microscope slide. I've got friends somewhere out there, dying; and a whole world out there, my home, dying also. You're an outsider. You don't know."

"I have seen friends die." The old man's hands were limp in his lap and his eyes were closed. "Are you married?"

Devers said, "Traders don't marry."

"Well, I have two sons and a nephew. They have been warned, but – for reasons – they could take no action. Our escape means their death. My daughter and my two grandchildren have, I hope, left the planet safely before this, but even excluding them, I have already risked and lost more than you."

Devers was morosely savage. "I know. But that was a matter of choice. You might have played ball with Riose. I never asked you to–"

Barr shook his head. "It was not a matter of choice, Devers. Make your conscience free, I didn't risk my sons for you. I co-operated with Riose as long as I dared. But there was the Psychic Probe."

The Siwennian patrician opened his eyes and they were sharp with pain. "Riose came to me once; it was over a year ago. He spoke of a cult centering about the magicians, but missed the truth. It is not quite a cult. You see, it is forty years now that Siwenna has been gripped in the same unbearable vise that threatens your world. Five revolts have been ground out. Then I discovered the ancient records of Hari Seldon – and now this 'cult' waits.

"It waits for the coming of the 'magicians' and for that day it is ready. My sons are leaders of those who wait. It is *that* secret which is in my mind and which the Probe must never touch. And so they must die as hostages; for the alternative is their death as rebels and half of Siwenna with them. You see, I had no choice! And I am no outsider."

Devers' eyes fell, and Barr continued softly, "It is on a Foundation victory that Siwenna's hopes depend. It is for a Foundation victory that my sons are sacrificed. And Hari Seldon does not pre-calculate the inevitable salvation of Siwenna as he does that of the Foundation. I have no certainty for *my* people – only hope."

"But you are still satisfied to wait. Even with the Imperial Navy at Loris."

"I would wait, in perfect confidence," said Barr, simply, "if they had landed on the planet, Terminus, itself."

The trader frowned hopelessly. "I don't know. It can't really work like that; not just like magic. Psychohistory or not, they're terribly strong, and we're weak. What can Setdon do about it?"

"There's nothing to *do*. It's all already *done*. It's proceeding now. Because you don't hear the wheels turning and the gongs beating doesn't mean it's any the less certain."

"Maybe; but I wish you had cracked Riose's skull for keeps. He's more the enemy than all his army."

"Cracked his skull? With Brodrig his second in command?" Barr's face sharpened with hate. "All Siwenna would have been my hostage. Brodrig has proven his worth long since. There exists a world which five years ago lost one male in every ten – and simply for failure to meet outstanding taxes. This same Brodrig was the tax-collector. No, Riose may live. His punishments are mercy in comparison."

"But six months, *six months*, in the enemy Base, with nothing to show for it." Devers' strong hands clasped each other tautly, so that his knuckles cracked. "Nothing to show for it!"

"Well, now, wait. You remind me—" Barr fumbled in his pouch. "You might want to count this." And he tossed the small sphere of metal on the table.

Devers snatched it. "What is it?"

"The message capsule. The one that Riose received just before I jacked him. Does that count as something?"

"I don't know. Depends on what's in it!" Devers sat down and turned it over carefully in his hand.

When Barr stepped from his cold shower and, gratefully, into the mild warm current of the air dryer, he found Devers silent and absorbed at the workbench.

The Siwennian slapped his body with a sharp rhythm and spoke above the punctuating sounds. "What are you doing?"

Devers looked up. Droplets of perspiration glittered in his beard. "I'm going to open this capsule."

"Can you open it without Riose's personal characteristic?" There was mild surprise in the Siwennian's voice.

"If I can't, I'll resign from the Association and never skipper a ship for what's left of my life. I've got a three-way electronic analysis of the interior now, and I've got little jiggers that the Empire never heard of, especially made for jimmying capsules. I've been a burglar before this, y'know. A trader has to be something of everything."

He bent low over the little sphere, and a small flat instrument probed delicately and sparked redly at each fleeting contact.

He said, "This capsule is a crude job, anyway. These Imperial boys are no shakes at this small work. I can see that. Ever see a Foundation capsule? It's half the size and impervious to electronic analysis in the first place."

And then he was rigid, the shoulder muscles beneath his tunic tautening visibly. His tiny probe pressed slowly—

It was noiseless when it came, but Devers; relaxed and sighed. In his hand was the shining sphere with its message unrolled like a parchment tongue.

"It's from Brodrig," he said. Then, with contempt, "The message medium is permanent. In a Foundation capsule, the message would be oxidized to gas within the minute."

But Ducem Barr waved him silent. He read the message quickly.

FROM: AMMEL BRODRIG, ENVOY EXTRAORDINARY OF HIS IMPERIAL MAJESTY, PRIVY SECRETARY OF THE COUNCIL, AND PEER OF THE REALM.

TO: BEL RIOSE, MILITARY GOVERNOR OF SIWENNA. GENERAL OF THE IMPERIAL FORCES, AND PEER OF THE REALM. I GREET YOU.

PLANET #1120 NO LONGER RESISTS. THE PLANS OF OFFENSE AS OUTLINED CONTINUE SMOOTHLY. THE ENEMY WEAKENS VISIBLY AND THE ULTIMATE ENDS IN VIEW WILL SURELY BE GAINED.

Barr raised his head from the almost microscopic print and cried bitterly, "The fool! The forsaken blasted fop! *That* a message?"

"Huh?" said Devers. He was vaguely disappointed.

"It says nothing," ground out Barr. "Our lick-spittle courtier is playing at general now. With Riose away, he is the field commander and must sooth his paltry spirit by spewing out his pompous reports concerning military affairs he has nothing to do with. 'So-and-so planet no longer resists.' 'The offensive moves on.' 'The enemy weakens.' The vacuum-headed peacock."

"Well, now, wait a minute. Hold on—"

"Throw it away." The old man turned away in mortification. "The Galaxy knows I never expected it to be world-shakingly important, but in wartime it is reasonable to assume that even the most routine order left undelivered might hamper military movements and lead to complications later. It's why I snatched it. But this! Better to have left it. It would have wasted a minute of Riose's time that will now be put to more constructive use."

But Devers had arisen. "Will you hold on and stop throwing your weight around? For Seldon's sake—"

He held out the sliver of message before Barr's nose, "Now read that again. What does he mean by 'ultimate ends in view'?"

"The conquest of the Foundation. Well?"

"Yes? And maybe he means the conquest of the Empire. You know he *believes* that to be the ultimate end."

"And if he does?"

"If he does!" Devers' one-sided smile was lost in his beard. "Why, watch then, and I'll show you."

With one finger the lavishly monogrammed sheet of message-parchment was thrust back into its slot. With a soft twang, it disappeared and the globe was a smooth, unbroken whole again. Somewhere inside was the tiny oiled whirl of the controls as they lost their setting by random movements.

"Now there is no known way of opening this capsule without knowledge of Riose's personal characteristic, is there?"

"To the Empire, no," said Barr.

"Then the evidence it contains is unknown to us and absolutely authentic."

"To the Empire, yes," said Barr.

"And the Emperor can open it, can't he? Personal Characteristics of Government officials must be on file. We keep records of *our* officials at the Foundation."

"At the Imperial capital as well," agreed Barr.

"Then when you, a Siwennian patrician and Peer of the Realm, tell this Cleon, this Emperor, that his favorite tame-parrot and his shiniest general are getting together to knock him over, and hand him the capsule as evidence, what will *he* think Brodrig's 'ultimate ends' are?"

Barr sat down weakly. "Wait, I don't follow you." He stroked one thin cheek, and said, "You're not really serious, are you?"

"I am." Devers was angrily excited. "Listen, nine out of the last ten Emperors got their throats cut, or their gizzards blasted out by one or another of their generals with bigtime notions in their heads. You told me that yourself more than once. Old man Emperor would believe us so fast it would make Riose's head swim."

Barr muttered feebly, "He *is* serious, For the Galaxy's sake, man, you can't beat a Seldon crisis by a far-fetched, impractical, storybook scheme like that. Suppose you had never got hold of the capsule. Suppose Brodrig hadn't used the word 'ultimate.' Seldon doesn't depend on wild luck."

"If wild luck comes our way, there's no law says Seldon can't take advantage of it."

"Certainly. But . . . but," Barr stopped, then spoke calmly but with visible restraint. "Look, in the first place, how will you get to the planet Trantor? You don't know its location in space, and I certainly don't remember the coordinates, to say nothing of the ephemerae. You don't even know your own position in space."

"You can't get lost in space," grinned Devers. He was at the controls already.

"Down we go to the nearest planet, and back we come with complete bearings and the best navigation charts Brodrig's hundred thousand smackers can buy."

"*And* a blaster in our belly. Our descriptions are probably in every planet in this quarter of the Empire."

"Doc," said Devers, patiently, "don't be a hick tom the sticks. Riose said my ship surrendered too easily and, brother, he wasn't kidding. This ship has enough fire-power and enough juice in its shield to hold off anything we're Rely to meet this deep inside the frontier. And we have personal shields, too. The Empire boys never found them, you know, but they weren't meant to be found."

"All fight," said Barr, "all right. Suppose yourself on Trantor. How do you see the Emperor then? You think he keeps office hours?"

"Suppose we worry about that on Trantor," said Devers.

And Barr muttered helplessly, "All right again. I've wanted to see Trantor before I die for half a century now. Have your way."

The hypernuclear motor was cut in. The lights flickered and there was the slight internal wrench that marked the shift into hyperspace.

9. ON TRANTOR

The stars were as thick as weeds in an unkempt field, and for the first time, Lathan Devers found the figures to the right of the decimal point of prime importance in calculating the cuts through the hyper-regions. There was a claustrophobic sensation about the necessity for leaps of not more than a light-year. There was a frightening harshness about a sky which glittered unbrokenly in every direction. It was being lost in a sea of radiation.

And in the center of an open cluster of ten thousand stars, whose light tore to shreds the feebly encircling darkness, there circled the huge Imperial planet, Trantor.

But it was more than a planet; it was the living pulse beat of an Empire of twenty million stellar systems. It had only one, function, administration; one purpose, government; and one manufactured product, law.

The entire world was one functional distortion. There was no living object on its surface hut man, his pets, and his parasites. No blade of grass or fragment of uncovered soil could be found outside the hundred square miles of the Imperial Palace. No fresh water outside the Palace grounds existed but in the vast underground cisterns that held the water supply of a world.

The lustrous, indestructible, incorruptible metal that was the unbroken surface of the planet was the foundation of the huge, metal structures that mazed the planet. They were structures connected by causeways; laced by corridors; cubbyholed by offices; basemented by the huge retail centers that covered square miles; penthoused by the glittering amusement world that sparkled into life each night.

One could walk around the world of Trantor and never leave that one conglomerate building, nor see the city.

A fleet of ships greater in number than all the war fleets the Empire had ever supported landed their cargoes on Trantor each day to feed the forty billions of humans who gave nothing in exchange but the fulfillment of the necessity of untangling the myriads of threads that spiraled into the central administration of the most complex government Humanity had ever known.

Twenty agricultural worlds were the granary of Trantor. A universe was its servant.

Tightly held by the huge metal arms on either side, the trade ship was gently lowered down the huge ramp that led to the hangar. Already Devers had fumed his way through the manifold complications of a world conceived in paper work and dedicated to the principle of the form-in-quadruplicate.

There had been the preliminary halt in space, where the first of what had grown into a hundred questionnaires had been filled out. There were the hundred cross-examinations, the routine administration of a simple Probe, the photographing of the ship, the Characteristic-Analysis of the two men, and the subsequent recording of the same, the search for contraband, the payment of the entry tax – and finally the question of the identity cards and visitor's visa.

Ducem Barr was a Siwennian and subject of the Emperor, but Lathan Devers was an unknown without the requisite documents. The official in charge at the moment was devastated with sorrow, but Devers could not enter. In fact, he would have to be held for official investigation.

From somewhere a hundred credits in crisp, new bills backed by the estates of Lord Brodrig made their appearance, and changed bands quietly. The official hemmed importantly and the devastation of his sorrow was assuaged. A new form made its appearance from the appropriate pigeonhole. It was filled out rapidly and efficiently, with the Devers characteristic thereto formally and properly attached.

The two men, trader and patrician, entered Siwenna.

In the hangar, the trade ship was another vessel to be cached, photographed, recorded, contents noted, identity cards of passengers facsimiled, and for which a suitable fee was paid, recorded, and receipted.

And then Devers was on a huge terrace under the bright white sun, along which women chattered, children shrieked, and men sipped drinks languidly and listened to the huge televisions blaring out the news of the Empire.

Barr paid a requisite number of iridium coins and appropriated the uppermost member of a pile of newspapers. It was the *Trantor Imperial News*, official organ of the government. In the back of the news room, there was the soft clicking noise of additional editions being printed in long-distance sympathy with the busy machines at the *Imperial News* offices ten thousand miles away by corridor – six thousand by air-machine – just as ten million sets of copies were being likewise printed at that moment in ten million other news rooms all over the planet.

Barr glanced at the headlines and said softly, "What shall we do first?"

Devers tried to shake himself out of his depression. He was in a universe far removed from his own, on a world that weighted him down with its intricacy, among people whose doings were incomprehensible and whose language was nearly so. The gleaming metallic towers that surrounded him and continued onwards in never-ending multiplicity to beyond the horizon oppressed him; the whole busy, unheeding life of a world-metropolis cast him into the horrible gloom of isolation and pygmyish unimportance.

He said, "I better leave it to you, doc."

Barr was calm, low-voice. "I tried to tell you, but it's hard to believe without seeing for yourself, I know that. Do you know how many people want to see the Emperor every day? About one million. Do you know how many he sees? About ten. We'll have to work through the civil service, and that makes it harder. But we can't afford the aristocracy."

"We have almost one hundred thousand."

"A single Peer of the Realm would cost us that, and it would take at least three or four to form an adequate bridge to the Emperor. It may take fifty chief commissioners and senior supervisors to do the same, but they would cost us only a hundred apiece perhaps. I'll do the talking. In the first place, they wouldn't understand your accent, and in the second, you don't know the etiquette of Imperial bribery. It's an art, I assure you. Ah!"

The third page of the *Imperial News* had what he wanted and he passed the paper to Devers.

Devers read slowly. The vocabulary was strange, but he understood. He looked up, and his eyes were dark with concern. He slapped the news sheet angrily with the back of his hand. "You think this can be trusted?"

"Within limits," replied Barr, calmly. "It's highly improbable that the Foundation fleet was wiped out. They've probably reported *that* several times already, if they've gone by the usual war-reporting technique of a world capital far from the actual scene of fighting. What it means, though, is that Riose has won another battle, which would be

none-too-unexpected. It says he's captured Loris. Is that the capital planet of the Kingdom of Loris?"

"Yes," brooded Devers, "or of what used to be the Kingdom of Loris. And it's not twenty parsecs from the Foundation. Doc, we've got to work fast."

Barr shrugged, "You can't go fast on Trantor. If you try, you'll end up at the point of an atom-blaster, most likely."

"How long will it take?"

"A month, if we're lucky. A month, and our hundred thousand credits – if even that will suffice. And that is providing the Emperor does not take it into his head in the meantime to travel to the Summer Planets, where he sees no petitioners at all."

"But the Foundation–"

"–Will take care of itself, as heretofore. Come, there's the question of dinner. I'm hungry. And afterwards, the evening is ours and we may as well use it. We shall never see Trantor or any world like it again, you know."

The Home Commissioner of the Outer Provinces spread his pudgy hands helplessly and peered at the petitioners with owlish nearsightedness. "But the Emperor is indisposed, gentlemen. It is really useless to take the matter to my superior. His Imperial Majesty has seen no one in a week."

"He will see us," said Barr, with an affectation of confidence. "It is but a question of seeing a member of the staff of the Privy Secretary."

"Impossible," said the commissioner emphatically. "It would be the worth of my job to attempt that. Now if you could but be more explicit concerning the nature of your business. I'm willing to help you, understand, but naturally I want something less vague, something I can present to my superior as reason for taking the matter further."

"If my business were such that it could be told to any but the highest," suggested Barr, smoothly, "it would scarcely be important enough to rate audience with His Imperial Majesty. I propose that you take a chance. I might remind you that if His Imperial Majesty attaches the importance to our business which we guarantee that he will, you will stand certain to receive the honors you will deserve for helping us now."

"Yes, but–" and the commissioner shrugged, wordlessly.

"It's a chance," agreed Barr. "Naturally, a risk should have its compensation. It is a rather great favor to ask you, but we have already been greatly obliged with your kindness in offering us this opportunity to explain our problem. But if you would *allow* us to express our gratitude just slightly by–"

Devers scowled. He had heard this speech with its slight variations twenty times in the past month. It ended, as always, in a quick shift of the half-hidden bills. But the epilogue differed here. Usually the bills vanished immediately; here they remained in plain view, while slowly the commissioner counted them, inspecting them front and back as he did so.

There was a subtle change in his voice. "Backed by the Privy Secretary, hey? Good money!"

"To get back to the subject–" urged Barr.

"No, but wait," interrupted the commissioner, "let us go back by easy stages. I really do wish to know what your business can be. This money, it is fresh and new, and you must have a good deal, for it strikes me that you have seen other officials before me. Come, now, what about it?"

Barr said, "I don't see what you are driving at."

"Why, see here, it might be proven that you are upon the planet illegally, since the Identification and Entry Cards of your silent friend are certainly inadequate. He is not a subject of the Emperor."

"I deny that."

"It doesn't matter that you do," said the commissioner, with sudden bluntness.

"The official who signed his Cards for the sum of a hundred credits has confessed – under pressure – and we know more of you than you think."

"If you are hinting, sir, that the sum we have asked you to accept is inadequate in view of the risks–"

The commissioner smiled. "On the contrary, it is more than adequate." He tossed the bills aside. "To return to what I was saying, it is the Emperor himself who has become interested in your case. Is it not true, sirs, that you have recently been guests of General Riose? Is it not true that you have escaped from the midst of his army with, to put it mildly, astonishing ease? Is it not true that you possess a small fortune in bills backed by Lord Brodrig's estates? In short, is it not true that you are a pair of spies and assassins sent here to – Well, you shall tell us yourself who paid you and for what!"

"Do you know," said Barr, with silky anger, "I deny the right of a petty commissioner to accuse us of crimes. We will leave."

"You will not leave." The commissioner arose, and his eyes no longer seemed near-sighted. "You need answer no question now; that will be reserved for a later – and more forceful – time. Nor am I a commissioner; I am a Lieutenant of the Imperial Police. You are under arrest."

There was a glitteringly efficient blast-gun in his fist as he smiled. "There are greater men than you under arrest this day. It is a hornet's nest we are cleaning up."

Devers snarled and reached slowly for his own gun. The lieutenant of police smiled more broadly and squeezed the contacts. The blasting line of force struck Devers' chest in an accurate blaze of destruction – that bounced harmlessly off his personal shield in sparkling spicules of light.

Devers shot in turn, and the lieutenant's head fell from off an upper torso that had disappeared. It was still smiling as it lay in the jag of sunshine which entered through the new-made hole in the wall.

It was through the back entrance that they left.

Devers said huskily, "Quickly to the ship. They'll have the alarm out in no time." He cursed in a ferocious whisper. "It's another plan that's backfired. I could swear the space fiend himself is against me."

It was in the open that they became aware of the jabbering crowds that surrounded the huge televisions. They had no time to wait; the disconnected roaring

words that reached them, they disregarded. But Barr snatched a copy of the *Imperial News* before diving into the huge barn of the hangar, where the ship lifted hastily through a giant cavity burnt fiercely into the roof.

"Can you get away from them?" asked Barr.

Ten ships of the traffic-police wildly followed the runaway craft that had burst out of the lawful, radio-beamed Path of Leaving, and then broken every speed law in creation. Further behind still, sleek vessels of the Secret Service were lifting in pursuit of a carefully described ship manned by two thoroughly identified murderers.

"Watch me," said Devers, and savagely shifted into hyperspace two thousand miles above the surface of Trantor. The shift, so near a planetary mass, meant unconsciousness for Barr and a fearful haze of pain for Devers, but light-years further, space above them was clear.

Devers' somber pride in his ship burst to the surface. He said, "There's not an Imperial ship that could follow me anywhere."

And then, bitterly, "But there is nowhere left to run to for us, and we can't fight their weight. What's there to do? What can anyone do?"

Barr moved feebly on his cot. The effect of the hypershift had not yet worn off, and each of his muscles ached. He said, "No one has to do anything. It's all over. Here!"

He passed the copy of the *Imperial News* that he still clutched, and the headlines were enough for the trader.

"Recalled and arrested – Riose and Brodrig," Devers muttered. He stared blankly at Barr. "Why?"

"The story doesn't say, but what does it matter? The war with the Foundation is over, and at this moment, Siwenna is revolting. Read the story and see." His voice was drifting off. "We'll stop in some of the provinces and find out the later details. If you don't mind, I'll go to sleep now."

And he did.

In grasshopper jumps of increasing magnitude, the trade ship was spanning the Galaxy in its return to the Foundation.

10. THE WAR ENDS

Lathan Devers felt definitely uncomfortable, and vaguely resentful. He had received his own decoration and withstood with mute stoicism the turgid oratory of the mayor which accompanied the slip of crimson ribbon. That had ended his share of the ceremonies, but, naturally, formality forced him to remain. And it was formality, chiefly – the type that couldn't allow him to yawn noisily or to swing a foot comfortably onto a chair seat – that made him long to be in space, where he belonged.

The Siwennese delegation, with Ducem Barr a lionized member, signed the Convention, and Siwenna became the first province to pass directly from the Empire's political rule to the Foundation's economic one.

Five Imperial Ships of the Line – captured when Siwenna rebelled behind the lines of the Empire's Border Fleet – flashed overhead, huge and massive, detonating a roaring salute as they passed over the city.

Nothing but drinking, etiquette, and small talk now.

A voice called him. It was Forell; the man who, Devers realized coldly, could buy twenty of him with a morning's profits – but a Forell who now crooked a finger at him with genial condescension.

He stepped out upon the balcony into the cool night wind, and bowed properly, while scowling into his bristling beard. Barr was there, too; smiling. He said, "Devers, you'll have to come to my rescue. I'm being accused of modesty, a horrible and thoroughly unnatural crime."

"Devers," Forell removed the fat cigar from the side of his mouth when he spoke, "Lord Barr claims that your trip to Cleon's capital had nothing to do with the recall of Riose."

"Nothing at all, sir." Devers was curt. "We never saw the Emperor. The reports we picked up on our way back concerning the trial, showed it up to be the purest frameup. There was a mess of rigmarole about the general being tied up with subversive interests at the court."

"And he was innocent?"

"Riose?" interposed Barr. "Yes! By the Galaxy, yes. Brodrig was a traitor on general principles but was never guilty of the specific accusations brought against him. It was a judicial farce; but a necessary one, a predictable one, an inevitable one."

"By psychohistorical necessity, I presume." Forell rolled the phrase sonorously with the humorous ease of long familiarity.

"Exactly." Barr grew serious. "It never penetrated earlier, but once it was over and I could . . . well . . . look at the answers in the back of the book, the problem became simple. We can see, *now*, that the social background of the Empire makes wars of conquest impossible for it. Under weak Emperors, it is tom apart by generals competing for a worthless and surely death-bringing throne. Under strong Emperors, the Empire is frozen into a paralytic rigor in which disintegration apparently ceases for the moment, but only at the sacrifice of all possible growth."

Forell growled bluntly through strong puffs, "You're not clear, Lord Barr."

Barr smiled slowly. "I suppose so. It's the difficulty of not being trained in psychohistory. Words are a pretty fuzzy substitute for mathematical equations. But let's see now—"

Barr considered, while Forell relaxed, back to railing, and Devers looked into the velvet sky and thought wonderingly of Trantor.

Then Barr said, "You see, sir, you – and Devers – and everyone no doubt, had the idea that beating the Empire meant first prying apart the Emperor and his general. You, and Devers, and everyone else were right – right all the time, as far as the principle of internal disunion was concerned.

"You were wrong, however, in thinking that this internal split was something to be brought about by individual acts, by inspirations of the moment. You tried bribery and lies. You appealed to ambition and to fear. But you got nothing for all your pains. In fact, appearances were worse after each attempt.

"And through all this wild threshing up of tiny ripples, the Seldon tidal wave continued onward, quietly – but quite irresistibly."

Ducem Barr turned away, and looked over the railing at the lights of a rejoicing city. He said, "There was a dead hand pushing all of us; the mighty general and the great Emperor; my world and your world – the dead hand of Hari Seldon. He knew that a man like Riose would have to fail, since it was his success that brought failure; and the greater the success, the surer the failure."

Forell said dryly, "I can't say you're getting clearer."

"A moment," continued Barr earnestly. "Look at the situation. A weak general could never have endangered us, obviously. A strong general during the time of a weak Emperor would never have endangered us, either; for he would have turned his arms towards a much more fruitful target. Events have shown that three-fourths of the Emperors of the last two centuries were rebel generals and rebel viceroys before they were Emperors.

"So it is only the combination of strong Emperor *and* strong general that can harm the Foundation; for a strong Emperor can not be dethroned easily, and a strong general is forced to turn outwards, past the frontiers.

"*But*, what keeps the Emperor strong? What kept Cleon strong? It's obvious. He is strong, because he permits no strong subjects. A courtier who becomes too rich, or a general who becomes too popular is dangerous. All the recent history of the Empire proves that to any Emperor intelligent enough to be strong.

"Riose won victories, so the Emperor grew suspicious. All the atmosphere of the times forced him to be suspicious. Did Riose refuse a bribe? Very suspicious; ulterior motives. Did his most trusted courtier suddenly favor Riose? Very suspicious; ulterior motives. It wasn't the individual acts that were suspicious. Anything else would have done which is why our individual plots were unnecessary and rather futile. It was the *success* of Riose that was suspicious. So he was recalled, and accused, condemned, murdered. The Foundation wins again.

"Look, there is not a conceivable combination of events that does not result in the Foundation winning. It was inevitable; whatever Riose did, whatever we did."

The Foundation magnate nodded ponderously. "So! But what if the Emperor and the general had been the same person. Hey? What then? That's a case you didn't cover, so you haven't proved your point yet."

Barr shrugged. "I can't prove anything; I haven't the mathematics. But I appeal to your reason. With an Empire in which every aristocrat, every strong man, every pirate can aspire to the Throne – and, as history shows, often successfully – what would happen to even a strong Emperor who preoccupied himself with foreign wars at the extreme end of the Galaxy? How long would he have to remain away from the capital before somebody

raised the standards of civil war and forced him home. The social environment of the Empire would make that time short.

"I once told Riose that not all the Empire's strength could swerve the dead hand of Hari Seldon."

"Good! Good!" Forell was expansively pleased. "Then you imply the Empire can never threaten us again."

"It seems to me so," agreed Barr. "Frankly, Cleon may not live out the year, and there's going to be a disputed succession almost as a matter of course, which might mean the last civil war for the Empire."

"Then," said Forell, "there are no more enemies."

Barr was thoughtful. "There's a Second Foundation."

"At the other end of the Galaxy? Not for centuries."

Devers turned suddenly at this, and his face was dark as he faced Forell. "There are internal enemies, perhaps."

"Are there?" asked Forell, coolly. "Who, for instance?"

"People, for instance, who might like to spread the wealth a bit, and keep it from concentrating too much out of the hands that work for it. See what I mean?"

Slowly, Forell's gaze lost its contempt and grew one with the anger of Devers' own.

PART II

THE MULE

11. BRIDE AND GROOM

THE MULE Less is known of "The Mule" than of any character of comparable significance to Galactic history. Even the period of his greatest renown is known to us chiefly through the eyes of his antagonists and, principally, through those of a young bride. . . .

ENCYCLOPEDIA GALACTICA

Bayta's first sight of Haven was entirely the contrary of spectacular. Her husband pointed it out – a dull star lost in the emptiness of the Galaxy's edge. It was past the last sparse clusters, to where straggling points of light gleamed lonely. And even among these it was poor and inconspicuous.

Toran was quite aware that as the earliest prelude to married life, the Red Dwarf lacked impressiveness and his lips curled self-consciously. "I know, Bay – It isn't exactly a proper change, is it? I mean from the Foundation to this."

"A horrible change, Toran. I should never have married you."

And when his face looked momentarily hurt, before he caught himself, she said with her special "cozy" tone, "All right, silly. Now let your lower lip droop and give me that special dying-duck look – the one just before you're supposed to bury your head on my shoulder, while I stroke your hair full of static electricity. You were fishing for some drivel, weren't you? You were expecting me to say 'I'd be happy anywhere with you, Toran!' or 'The interstellar depths themselves would be home, my sweet, were you but with me!' Now you admit it."

She pointed a finger at him and snatched it away an instant before his teeth closed upon it.

He said, "If I surrender, and admit you're right, will you prepare dinner?"

She nodded contentedly. He smiled, and just looked at her.

She wasn't beautiful on the grand scale to others – he admitted that – even if everybody did look twice. Her hair was dark and glossy, though straight, her mouth a bit wide – but her meticulous, close-textured eyebrows separated a white, unlined forehead from the warmest mahogany eyes ever filled with smiles.

And behind a very sturdily-built and staunchly-defended facade of practical, unromantic, hard-headedness towards life, there was just that little pool of softness that would never show if you poked for it, but could be reached if you knew just how – and never let on that you were looking for it.

Toran adjusted the controls unnecessarily and decided to relax. He was one interstellar jump, and then several milli-microparsecs "on the straight" before

manipulation by hand was necessary. He leaned over backwards to look into the storeroom, where Bayta was juggling appropriate containers.

There was quite a bit of smugness about his attitude towards Bayta – the satisfied awe that marks the triumph of someone who has been hovering at the edge of an inferiority complex for three years.

After all he was a provincial – and not merely a provincial, but the son of a renegade Trader. And she was of the Foundation itself – and not merely that, but she could trace her ancestry back to Mallow.

And with all that, a tiny quiver underneath. To take her back to Haven, with its rock-world and cave-cities was bad enough. To have her face the traditional hostility of Trader for Foundation – nomad for city dweller – was worse.

Still – After supper, the last jump!

Haven was an angry crimson blaze, and the second planet was a ruddy patch of light with atmosphere-blurred rim and a half-sphere of darkness. Bayta leaned over the large view table with its spidering of crisscross lines that centered Haven II neatly.

She said gravely, "I wish I had met your father first. If he takes a dislike to me–"

"Then," said Toran matter-of-factly, "you would be the first pretty girl to inspire *that* in him. Before he lost his arm and stopped roving around the Galaxy, he – Well, if you ask him about it, he'll talk to you about it till your ears wear down to a nubbin. After a while I got to thinking that he was embroidering; because he never told the same story twice the same way–"

Haven II was rushing up at them now. The landlocked sea wheeled ponderously below them, slate-gray in the lowering dimness and lost to sight, here and there, among the wispy clouds. Mountains jutted raggedly along the coast.

The sea became wrinkled with nearness and, as it veered off past the horizon just at the end, there was one vanishing glimpse of shore-hugging ice fields.

Toran grunted under the fierce deceleration, "Is your suit locked?"

Bayta's plump face was round and ruddy in the incasing sponge-foam of the internally-heated, skin-clinging costume.

The ship lowered crunchingly on the open field just short of the lifting of the plateau.

They climbed out awkwardly into the solid darkness of the outer-galactic night, and Bayta gasped as the sudden cold bit, and the thin wind swirled emptily. Toran seized her elbow and nudged her into an awkward run over the smooth, packed ground towards the sparking of artificial light in the distance.

The advancing guards met them halfway, and after a whispered exchange of words, they were taken onward. The wind and the cold disappeared when the gate of rock opened and then closed behind them. The warm interior, white with wall-light, was filled with an incongruous humming bustle. Men looked up from their desks, and Toran produced documents.

They were waved onward after a short glance and Toran whispered to his wife, "Dad must have fixed up the preliminaries. The usual lapse here is about five hours."

They burst into the open and Bayta said suddenly, "Oh, my—"

The cave city was in daylight – the white daylight of a young sun. Not that there was a sun, of course. What should have been the sky was lost in the unfocused glow of an over-all brilliance. And the warm air was properly thick and fragrant with greenery.

Bayta said, "Why, Toran, it's beautiful."

Toran grinned with anxious delight. "Well, now, Bay, it isn't like anything on the Foundation, of course, but it's the biggest city on Haven II – twenty thousand people, you know – and you'll get to like it. No amusement palaces, I'm afraid, but no secret police either."

"Oh, Torie, it's just like a toy city. It's all white and pink – and so clean."

"Well—" Toran looked at the city with her. The houses were two stories high for the most part, and of the smooth vein rock indigenous to the region. The spires of the Foundation were missing, and the colossal community houses of the Old Kingdoms – but the smallness was there and the individuality; a relic of personal initiative in a Galaxy of mass life.

He snapped to sudden attention. "Bay – There's Dad! Right there – where I'm pointing, silly. Don't you see him?"

She did. It was just the impression of a large man, waving frantically, fingers spread wide as though groping wildly in air. The deep thunder of a drawn-out shout reached them. Bayta trailed her husband, rushing downwards over the close-cropped lawn. She caught sight of a smaller man, white-haired, almost lost to view behind the robust One-arm, who still waved and still shouted.

Toran cried over his shoulder, "It's my father's half-brother. The one who's been to the Foundation. You know."

They met in the grass, laughing and incoherent, and Toran's father let out a final whoop for sheer joy. He hitched at his short jacket and adjusted the metal-chased belt that was his one concession to luxury.

His eyes shifted from one of the youngsters to the other, and then he said, a little out of breath, "You picked a rotten day to return home, boy!"

"What? Oh, it *is* Seldon's birthday, isn't it?"

"It is. I had to rent a car to make the trip here, and dragoon Randu to drive it. Not a public vehicle to be had at gun's point."

His eyes were on Bayta now, and didn't leave. He spoke to her more softly, "I have the crystal of you right here – and it's good, but I can see the fellow who took it was an amateur."

He had the small cube of transparency out of his jacket pocket and in the light the laughing little face within sprang to vivid colored life as a miniature Bayta.

"That one!" said Bayta. "Now I wonder why Toran should send that caricature. I'm surprised you let me come near you, sir."

"Are you now? Call me Fran. I'll have none of this fancy mess. For that, I think you can take my arm, and we'll go on to the car. Till now I never did think my boy knew what he was ever up to. I think I'll change that opinion. I think I'll *have* to change that opinion."

Toran said to his half uncle softly, "How is the old man these days? Does he still hound the women?"

Randu puckered up all over his face when he smiled. "When he can, Toran, when he can. There are times when he remembers that his next birthday will be his sixtieth, and that disheartens him. But he shouts it down, this evil thought, and then he is himself. He is a Trader of the ancient type. But you, Toran. Where did you find such a pretty wife?"

The young man chuckled and linked arms. "Do you want a three years' history at a gasp, uncle?"

It was in the small living room of the home that Bayta struggled out of her traveling cloak and hood and shook her hair loose. She sat down, crossing her knees, and returned the appreciative stare of this large, ruddy man.

She said, "I know what you're trying to estimate, and I'll help you; Age, twenty-four, height, five-four, weight, one-ten, educational specialty, history." She noticed that he always crooked his stand so as to hide the missing arm. But now Fran leaned close and said, "Since you mention it – weight, one-twenty."

He laughed loudly at her flush. Then he said to the company in general, "You can always tell a woman's weight by her upper arm – with due experience, of course. Do you want a drink, Bay?"

"Among other things," she said, and they left together, while Toran busied himself at the book shelves to check for new additions.

Fran returned alone and said, "She'll be down later."

He lowered himself heavily into the large comer chair and placed his stiff-jointed left leg on the stool before it. The laughter had left his red face, and Toran turned to face him.

Fran said, "Well, you're home, boy, and I'm glad you are. I like your woman. She's no whining ninny."

"I married her," said Toran simply.

"Well, that's another thing altogether, boy." His eyes darkened. "It's a foolish way to tie up the future. In my longer life, and more experienced, I never did such a thing."

Randu interrupted from the comer where he stood quietly. "Now Franssart, what comparisons are you making? Till your crash landing six years ago you were never in one spot long enough to establish residence requirements for marriage, And since then, who would have you?"

The one-armed man jerked erect in his seat and replied hotly, "Many, you snowy dotard—"

Toran said with hasty tact, "It's largely a legal formality, Dad. The situation has its conveniences."

"Mostly for the woman," grumbled Fran.

"And even if so," agreed Randu, "it's up to the boy to decide. Marriage is an old custom among the Foundationers."

"The Foundationers are not fit models for an honest Trader," smoldered Fran.

Toran broke in again, "My wife is a Foundationer." He looked from one to the other, and then said quietly, "She's coming."

The conversation took a general turn after the evening meal, which Fran had spiced with three tales of reminiscence composed of equal parts of blood, women, profits, and embroidery. The small televisor was on, and some classic drama was playing itself out in an unregarded whisper. Randu had hitched himself into a more comfortable position on the low couch and gazed past the slow smoke of his long pipe to where Bayta had knelt down upon the softness of the white fur mat brought back once long ago from a trade mission and now spread out only upon the most ceremonious occasions.

"You have studied history, my girl?" he asked, pleasantly.

Bayta nodded. "I was the despair of my teachers, but I learned a bit, eventually."

"A citation for scholarship," put in Toran, smugly, "that's all!"

"And what did you learn?" proceeded Randu, smoothly.

"Everything? Now?" laughed the girl.

The old man smiled gently. "Well then, what do you think of the Galactic situation?"

"I think," said Bayta, concisely, "that a Seldon crisis is pending – and that if it isn't then away with the Seldon plan altogether. It is a failure."

("Whew," muttered Fran, from his corner. "What a way to speak of Seldon." But he said nothing aloud.)

Randu sucked at his pipe speculatively. "Indeed? Why do you say that? I was to the Foundation, you know, in my younger days, and I, too, once thought great dramatic thoughts. But, now, why do you say that?"

"Well," Bayta's eyes misted with thought as she curled her bare toes into the white softness of the rug and nestled her little chin in one plump hand, "it seems to me that the whole essence of Seldon's plan was to create a world better than the ancient one of the Galactic Empire. It was failing apart, that world, three centuries ago, when Seldon first established the Foundation – and if history speaks truly, it was falling apart of the triple disease of inertia, despotism, and maldistribution of the goods of the universe."

Randu nodded slowly, while Toran gazed with proud, luminous eyes at his wife, and Fran in the corner clucked his tongue and carefully refilled his glass.

Bayta said, "If the story of Seldon is true, he foresaw the complete collapse of the Empire through his Jaws of psychohistory, and was able to predict the necessary thirty thousand years of barbarism before the establishment of a new Second Empire to restore civilization and culture to humanity. It was the whole aim of his life-work to set up such conditions as would insure a speedier rejuvenation,"

The deep voice of Fran burst out, "And that's why he established the two Foundations, honor be to his name."

"And that's why he established the two Foundations," assented Bayta. "Our Foundation was a gathering of the scientists of the dying Empire intended to carry on the science and learning of man to new heights. And the Foundation was so situated in space and the historical environment was such that through the careful calculations of his

genius, Seldon foresaw that in one thousand years, it would become a newer, greater Empire."

There was a reverent silence.

The girl said softly, "It's an old story. You all know it. For almost three centuries every human being of the Foundation has known it. But I thought it would be appropriate to go through it – just quickly. Today is Seldon's birthday, you know, and even if I *am* of the Foundation, and you are of Haven, we have that in common–"

She lit a cigarette slowly, and watched the glowing tip absently. "The laws of history are as absolute as the laws of physics, and if the probabilities of error are greater, it is only because history does not deal with as many humans as physics does atoms, so that individual variations count for more. Seldon predicted a series of crises through the thousand years of growth, each of which would force a new turning of our history into a pre-calculated path. It is those crises which direct us – and therefore a crisis must come now.

"Now!" she repeated, forcefully. "It's almost a century since the last one, and in that century, every vice of the Empire has been repeated in the Foundation. Inertia! Our ruling class knows one law; no change. Despotism! They know one rule; force. Maldistribution! They know one desire; to hold what is theirs."

"While others starve!" roared Fran suddenly with a mighty blow of his fist upon the arm of his chair. "Girl, your words are pearls. The fat guts on their moneybags ruin the Foundation, while the brave Traders hide their poverty on dregs of worlds like Haven. It's a disgrace to Seldon, a casting of dirt in his face, a spewing in his beard." He raised his arm high, and then his face lengthened. "If I had my other arm! If – once – they had listened to me!"

"Dad," said Toran, "take it easy."

"Take it easy. Take it easy," his father mimicked savagely. "We'll live here and die here forever – and you say, take it easy."

"That's our modern Lathan Devers," said Randu, gesturing with his pipe, "this Fran of ours. Devers died in the slave mines eighty years ago with your husband's great-grandfather, because he lacked wisdom and didn't lack heart–"

"Yes, by the Galaxy, I'd do the same if I were he," swore Fran. "Devers was the greatest Trader in history – greater than the overblown windbag, Mallow, the Foundationers worship. If the cutthroats who lord the Foundation killed him because he loved justice, the greater the blood-debt owed them."

"Go on, girl," said Randu. "Go on, or, surely, he'll talk a the night and rave all the next day."

"There's nothing to go on about," she said, with a sudden gloom. "There must be a crisis, but I don't know how to make one. The progressive forces on the Foundation are oppressed fearfully. You Traders may have the will, but you are hunted and disunited. If all the forces of good will in and out of the Foundation could combine–"

Fran's laugh was a raucous jeer. "Listen to her, Randu, listen to her. In and out of the Foundation, she says. Girl, girl, there's no hope in the flab-sides of the Foundation.

Among them some hold the whip and the rest are whipped dead whipped. Not enough spunk left in the whole rotten world to outface one good Trader."

Bayta's attempted interruptions broke feebly against the overwhelming wind.

Toran leaned over and put a hand over her mouth. "Dad," he said, coldly, "you've never been on the Foundation. You know nothing about it. I tell you that the underground there is brave and daring enough. I could tell you that Bayta was one of them—"

"All right, boy, no offense. Now, where's the cause for anger?" He was genuinely perturbed.

Toran drove on fervently, "The trouble with you, Dad, is that you've got a provincial outlook. You think because some hundred thousand Traders scurry into holes on an unwanted planet at the end of nowhere, that they're a great people. Of course, any tax collector from the Foundation that gets here never leaves again, but that's cheap heroism. What would you do if the Foundation sent a fleet?"

"We'd blast them," said Fran, sharply.

"And get blasted – with the balance in their favor. You're outnumbered, outarmed, outorganized – and as soon as the Foundation thinks it worth its while, you'll realize that. So you had better seek your allies – on the Foundation itself, if you can."

"Randu, said Fran, looking at his brother like a great, helpless bull.

Randu took his pipe away from his lips, "The boy's right, Fran. When you listen to the little thoughts deep inside you, you know he is. But they're uncomfortable thoughts, so you drown them out with that roar of yours. But they're still there. Toran, I'll tell you why I brought all this up."

He puffed thoughtfully awhile, then dipped his pipe into the neck of the tray, waited for the silent flash, and withdrew it clean. Slowly, he filled it again with precise tamps of his little finger.

He said, "Your little suggestion of Foundation's interest in us, Toran, is to the point. There have been two recent visits lately – for tax purposes. The disturbing point is that the second visitor was accompanied by a light patrol ship. They landed in Gleiar City – giving us the miss for a change – and they never lifted off again, naturally. But now they'll surely be back. Your father is aware of all this, Toran, he really is.

"Look at the stubborn rakehell. He knows Haven is in trouble, and he knows we're helpless, but he repeats his formulas. It warms and protects him. But once he's had his say, and roared his defiance, and feels he's discharged his duty as a man and a Bull Trader, why he's as reasonable as any of us."

"Any of who?" asked Bayta.

He smiled at her. "We've formed a little group, Bayta – just in our city. We haven't done anything, yet. We haven't even managed to contact the other cities yet, but it's a start."

"But towards what?"

Randu shook his head. "We don't know-yet. We hope for a miracle. We have decided that, as you say, a Seldon crisis must be at hand." He gestured widely upwards.

"The Galaxy is full of the chips and splinters of the broken Empire. The generals swarm. Do you suppose the time may come when one will grow bold?"

Bayta considered, and shook her head decisively, so that the long straight hair with the single inward curl at the end swirled about her ears. "No, not a chance. There's not one of those generals who doesn't know that an attack on the Foundation is suicide. Bel Riose of the old Empire was a better man than any of them, and he attacked with the resources of a galaxy, and couldn't win against the Seldon Plan. Is there one general that doesn't know that?"

"But what if we spur them on?"

"Into where? Into an atomic furnace? With what could you possibly spur them?"

"Well, there is one – a new one. In this past year or two, there has come word of a strange man whom they call the Mule."

"The Mule?" She considered. "Ever hear of him, Torie?"

Toran shook his head. She said, "What about him?"

"I don't know. But he wins victories at, they say, impossible odds. The rumors may be exaggerated, but it would be interesting, in any case, to become acquainted with him. Not every man with sufficient ability and sufficient ambition would believe in Hari Seldon and his laws of psychohistory. We could encourage that disbelief. He might attack."

"And the Foundation would win."

"Yes – but not necessarily easily. It might be a crisis, and we could take advantage of such a crisis to force a compromise with the despots of the Foundation. At the worst, they would forget us long enough to enable us to plan farther."

"What do you think, Torie?"

Toran smiled feebly and pulled at a loose brown curl that fell over one eye. "The way he describes it, it can't hurt; but who is the Mule? What do you know of him, Randu?"

"Nothing yet. For that, we could use you, Toran. And your wife, if she's willing. We've talked of this, your father and I. We've talked of this thoroughly."

"In what way, Randu? What do you want of us?" The young man cast a quick inquisitive look at his wife.

"Have you had a honeymoon?"

"Well . . . yes . . . if you can call the trip from the Foundation a honeymoon."

"How about a better one on Kalgan? It's semitropical beaches – water sports – bird hunting – quite the vacation spot. It's about seven thousand parsecs in-not too far."

"What's on Kalgan?"

"The Mule! His men, at least. He took it last month, and without a battle, though Kalgan's warlord broadcast a threat to blow the planet to ionic dust before giving it up."

"Where's the warlord now?"

"He isn't," said Randu, with a shrug. "What do you say?"

"But what are we to do?"

"I don't know. Fran and I are old; we're provincial. The Traders of Haven are all essentially provincial. Even you say so. Our trading is of a very restricted sort, and we're not the Galaxy roamers our ancestors were, Shut up, Fran! But you two know the Galaxy."

Bayta, especially, speaks with a nice Foundation accent. We merely wish whatever you can find out. If you can make contact . . . but we wouldn't expect that. Suppose you two think it over. You can meet our entire group if you wish . . . oh, not before next week. You ought to have some time to catch your breath."

There was a pause and then Fran roared, "Who wants; another drink? I mean, besides me?"

12. CAPTAIN AND MAYOR

Captain Han Pritcher was unused to the luxury of his surroundings and by no means impressed. As a general thing, he discouraged self-analysis and all forms of philosophy and metaphysics not directly connected with his work.

It helped.

His work consisted largely of what the War Department called "intelligence," the sophisticates, "espionage," and the romanticists, "spy stuff." And, unfortunately, despite the frothy shrillness of the televisors, "intelligence," "espionage," and "spy stuff" are at best a sordid business of routine betrayal and bad faith. It is excused by society since it is in the "interest of the State," but since philosophy seemed always to lead Captain Pritcher to the conclusion that even in that holy interest, society is much more easily soothed than one's own conscience – he discouraged philosophy.

And now, in the luxury of the mayor's anteroom, his thoughts turned inward despite himself.

Men had been promoted over his head continuously, though of lesser ability – that much was admitted. He had withstood an eternal rain of black marks and official reprimands, and survived it. And stubbornly he had held to his own way in the firm belief that insubordination in that same holy "interest of the State" would yet be recognized for the service it was.

So here he was in the anteroom of the mayor-with five soldiers as a respectful guard, and probably a court-martial awaiting him.

The heavy, marble doors rolled apart smoothly, silently, revealing satiny walls, a red plastic carpeting, and two more marble doors, metal-inlaid, within. Two officials in the straight-lined costume of three centuries back, stepped out, and called:

"An audience to Captain Han Pritcher of Information."

They stepped back with a ceremonious bow as the captain started forward. His escort stopped at the outer door, and he entered the inner alone.

On the other side of the doors, in a large room strangely simple, behind a large desk strangely angular, sat a small man, almost lost in the immensity,

Mayor Indbur – successively the third of that name – was the grandson of the first Indbur, who had been brutal and capable; and who had exhibited the first quality in spectacular fashion by his manner of seizing power, and the latter by the skill with which

he put an end to the last farcical remnants of free election and the even greater skill with which he maintained a relatively peaceful rule.

Mayor Indbur was also the son of the second Indbur, who was the first Mayor of the Foundation to succeed to his post by right of birth – and who was only half his father, for he was merely brutal.

So Mayor Indbur was the third of the name and the second to succeed by right of birth, and he was the least of the three, for he was neither brutal nor capable – but merely an excellent bookkeeper born wrong.

Indbur the Third was a peculiar combination of ersatz characteristics to all but himself.

To him, a stilted geometric love of arrangement was "system," an indefatigable and feverish interest in the pettiest facets of day-to-day bureaucracy was "industry," indecision when right was "caution," and blind stubbornness when wrong, "determination."

And withal he wasted no money, killed no man needlessly, and meant extremely well.

If Captain Pritcher's gloomy thoughts ran along these lines as he remained respectfully in place before the large desk, the wooden arrangement of his features yielded no insight into the fact. He neither coughed, shifted weight, nor shuffled his feet until the thin face of the mayor lifted slowly as the busy stylus ceased in its task of marginal notations, and a sheet of close-printed paper was lifted from one neat stack and placed upon another neat stack.

Mayor Indbur clasped his hands carefully before him, deliberately refraining from disturbing the careful arrangement of desk accessories.

He said, in acknowledgment, "Captain Han Pritcher of Information."

And Captain Pritcher in strict obedience to protocol bent one knee nearly to the ground and bowed his head until he heard the words of release.

"Arise, Captain Pritcher!"

The mayor said with an air of warm sympathy, "You are here, Captain Pritcher, because of certain disciplinary action taken against yourself by your superior officer. The papers concerning such action have come, in the ordinary course of events, to my notice, and since no event in the Foundation is of disinterest to me, I took the trouble to ask for further information on your case. You are not, I hope, surprised."

Captain Pritcher said unemotionally, "Excellence, no. Your justice is proverbial."

"Is it? Is it?" His tone was pleased, and the tinted contact lenses he wore caught the light in a manner that imparted a hard, dry gleam to his eyes. Meticulously, he fanned out a series of metal-bound folders before him. The parchment sheets within crackled sharply as he turned them, his long finger following down the line as he spoke.

"I have your record here, captain – complete. You are forty-three and have been an Officer of the Armed Forces for seventeen years. You were born in Loris, of Anacreonian parents, no serious childhood diseases, an attack of myo . . . well, that's of no importance . . . education, premilitary, at the Academy of Sciences, major, hyper-

engines, academic standing . . . hm-m-m, very good, you are to be congratulated . . . entered the Army as Under-Officer on the one hundred second day of the 293rd year of the Foundation Era."

He lifted his eyes momentarily as he shifted the first folder, and opened the second.

"You see," he said, "in my administration, nothing is left to chance. Order! System!"

He lifted a pink, scented jelly-globule to his lips. It was his one vice, and but dolingly indulged in. Witness the fact that the mayor's desk lacked that almost-inevitable atom flash for the disposal of dead tobacco. For the mayor did not smoke.

Nor, as a matter of course, did his visitors.

The mayor's voice droned on, methodically, slurringly, mumblingly – now and then interspersed with whispered comments of equally mild and equally ineffectual commendation or reproof.

Slowly, he replaced the folders as originally, in a single neat pile.

"Well, captain," he said, briskly, "your record is unusual. Your ability is outstanding, it would seem, and your services valuable beyond question. I note that you have been wounded in the line of duty twice, and that you have been awarded the Order of Merit for bravery beyond the call of duty. Those are facts not lightly to be minimized."

Captain Pritcher's expressionless face did not soften. He remained stiffly erect. Protocol required that a subject honored by an audience with the mayor may not sit down – a point perhaps needlessly reinforced by the fact that only one chair existed in the room, the one underneath the mayor. Protocol further required no statements other than those needed to answer a direct question.

The mayor's eyes bore down hard upon the soldier and his voice grew pointed and heavy. "However, you have not been promoted in ten years, and your superiors report, over and over again, of the unbending stubbornness of your character. You are reported to be chronically insubordinate, incapable of maintaining a correct attitude towards superior officers, apparently uninterested in maintaining frictionless relationships with your colleagues, and an incurable troublemaker, besides. How do you explain that, captain?"

"Excellence, I do what seems right to me. My deeds on behalf of the State, and my wounds in that cause bear witness that what seems right to me is also in the interest of the State."

"A soldierly statement, captain, but a dangerous doctrine. More of that, later. Specifically, you are charged with refusing an assignment three times in the face of orders signed by my legal delegates. What have you to say to that?"

"Excellence, the assignment lacks significance in a critical time, where matters of first importance are being ignored."

"Ah, and who tells you these matters you speak of are of the first importance at all, and if they are, who tells you further that they are ignored?"

"Excellence, these things are quite evident to me. My experience and my knowledge of events – the value of neither of which my superiors deny – make it plain."

"But, my good captain, are you blind that you do not see that by arrogating to yourself the right to determine Intelligence policy, you usurp the duties of your superior?"

"Excellence, my duty is primarily to the State, and not to my superior."

"Fallacious, for your superior has his superior, and that superior is myself, and I am the State. But come, you shall have no cause to complain of this justice of mine that you say is proverbial. State in your own words the nature of the breach in discipline that has brought all this on."

"Excellence, my duty is primarily to the State, and not to my living the life of a retired merchant mariner upon the world of Kalgan. My instructions were to direct Foundation activity upon the planet, perfect an organization to act as check upon the warlord of Kalgan, particularly as regards his foreign policy."

"This is known to me. Continue!"

"Excellence, my reports have continually stressed the strategic positions of Kalgan and the systems it controls. I have reported on the ambition of the warlord, his resources, his determination to extend his domain and his essential friendliness – or, perhaps, neutrality – towards the Foundation."

"I have read your reports thoroughly. Continue!"

"Excellence, I returned two months ago. At that time, there was no sign of impending war; no sign of anything but an almost superfluity of ability to repel any conceivable attack. One month ago, an unknown soldier of fortune took Kalgan without a fight. The man who was once warlord of Kalgan is apparently no longer alive. Men do not speak of treason – they speak only of the power and genius of this strange condottiere – this Mule."

"This who?" the mayor leaned forward, and looked offended.

"Excellence, he is known as the Mule. He is spoken of little, in a factual sense, but I have gathered the scraps and fragments of knowledge and winnowed out the most probable of them. He is apparently a man of neither birth nor standing. His father, unknown. His mother, dead in childbirth. His upbringing, that of a vagabond. His education, that of the tramp worlds, and the backwash alleys of space. He has no name other than that of the Mule, a name reportedly applied by himself to himself, and signifying, by popular explanation, his immense physical strength, and stubbornness of purpose."

"What is his military strength, captain? Never mind his physique."

"Excellence, men speak of huge fleets, but in this they may be influenced by the strange fall of Kalgan. The territory he controls is not large, though its exact limits are not capable of definite determination. Nevertheless, this man must be investigated."

"Hm-m-m. So! So!" The mayor fell into a reverie, and slowly with twenty-four strokes of his stylus drew six squares in hexagonal arrangements upon the blank top sheet of a pad, which he tore off, folded neatly in three parts and slipped into the wastepaper slot at his right hand. It slid towards a clean and silent atomic disintegration.

"Now then, tell me, captain, what is the alternative? You have told me what 'must' be investigated. What have you been *ordered* to investigate?"

"Excellence, there is a rat hole in space that, it seems, does not pay its taxes."

"Ah, and is that all? You are not aware, and have not been told that these men who do not pay their taxes, are descendants of the wild Traders of our early days – anarchists, rebels, social maniacs who claim Foundation ancestry and deride Foundation culture. You are not aware, and have not been told, that this rat hole in space, is not one, but many; that these rat holes are in greater number than we know; that these rat holes conspire together, one with the other, and all with the criminal elements that still exist throughout Foundation territory. Even here, captain, even here!"

The mayor's momentary fire subsided quickly. "You are not aware, captain?"

"Excellence, I have been told all this. But as servant of the State, I must serve faithfully – and he serves most faithfully who serves Truth. Whatever the political implications of these dregs of the ancient Traders – the warlords who have inherited the splinters of the old Empire have the power. The Traders have neither arms nor resources. They have not even unity. I am not a tax collector to be sent on a child's errand."

"Captain Pritcher, you are a soldier, and count guns. It is a failing to be allowed you up to the point where it involves disobedience to myself. Take care. My justice is not simply weakness. Captain, it has already been proven that the generals of the Imperial Age and the warlords of the present age are equally impotent against us. Seldon's science which predicts the course of the Foundation is based, not on individual heroism, as you seem to believe, but on the social and economic trends of history. We have passed successfully through four crises already, have we not?"

"Excellence, we have. Yet Seldon's science is known only to Seldon. We ourselves have but faith. In the first three crises, as I have been carefully taught, the Foundation was led by wise leaders who foresaw the nature of the crises and took the proper precautions. Otherwise – who can say?"

"Yes, captain, but you omit the fourth crisis. Come, captain, we had no leadership worthy of the name then, and we faced the cleverest opponent, the heaviest armor, the strongest force of all. Yet we won by the inevitability of history."

"Excellence, that is true. But this history you mention became inevitable only after we had fought desperately for over a year. The inevitable victory we won cost us half a thousand ships and half a million men. Excellence, Seldon's plan helps those who help themselves."

Mayor Indbur frowned and grew suddenly tired of his patient exposition. It occurred to him that there was a fallacy in condescension, since it was mistaken for permission to argue eternally; to grow contentious; to wallow in dialectic. He said, stiffly, "Nevertheless, captain, Seldon guarantees victory over the warlords, and I can not, in these busy times, indulge in a dispersal of effort. These Traders you dismiss are Foundation-derived. A war with them would be a civil war. Seldon's plan makes no guarantee there for us – since they *and* we are Foundation. So they must be brought to heel. You have your orders."

"Excellence—"

"You have been asked no question, captain. You have your orders. You will obey those orders. Further argument of any sort with myself or those representing myself will be considered treason. You are excused."

Captain Han Pritcher knelt once more, then left with slow, backward steps.

Mayor Indbur, third of his name, and second mayor of Foundation history to be so by right of birth, recovered his equilibrium, and lifted another sheet of paper from the neat stack at his left. It was a report on the saving of funds due to the reduction of the quantity of metal-foam edging on the uniforms of the police force. Mayor Indbur crossed out a superfluous comma, corrected a misspelling, made three marginal notations, and placed it upon the neat stack at his right. He lifted another sheet of paper from the neat stack at his left.

Captain Han Pritcher of Information found a Personal Capsule waiting for him when he returned to barracks. It contained orders, terse and redly underlined with a stamped "URGENT" across it, and the whole initialed with a precise, capital "I".

Captain Han Pritcher was ordered to the "rebel world called Haven" in the strongest terms.

Captain Han Pritcher, alone in his light one-man speedster, set his course quietly and calmly for Kalgan. He slept that night the sleep of a successfully stubborn man.

13. LIEUTENANT AND CLOWN

If, from a distance of seven thousand parsecs, the fall of Kalgan to the armies of the Mule had produced reverberations that had excited the curiosity of an old Trader, the apprehension of a dogged captain, and the annoyance of a meticulous mayor – to those on Kalgan itself, it produced nothing and excited no one. It is the invariable lesson to humanity that distance in time, and in space as well, lends focus. It is not recorded, incidentally, that the lesson has ever been permanently learned.

Kalgan was – Kalgan. It alone of all that quadrant of the Galaxy seemed not to know that the Empire had fallen, that the Stannells no longer ruled, that greatness had departed, and peace had disappeared.

Kalgan was the luxury world. With the edifice of mankind crumbling, it maintained its integrity as a producer of pleasure, a buyer of gold and a seller of leisure.

It escaped the harsher vicissitudes of history, for what conqueror would destroy or even seriously damage a world so full of the ready cash that would buy immunity.

Yet even Kalgan had finally become the headquarters of a warlord and its softness had been tempered to the exigencies of war.

Its tamed jungles, its mildly modeled shores, and its garishly glamorous cities echoed to the march of imported mercenaries and impressed citizens. The worlds of its province had been armed and its money invested in battleships rather than bribes for the first time in its history. Its ruler proved beyond doubt that he was determined to defend

what was his and eager to seize what was others. He was a great one of the Galaxy, a war and peace maker, a builder of Empire, an establisher of dynasty.

And an unknown with a ridiculous nickname had taken him – and his arms – and his budding Empire – and had not even fought a battle.

So Kalgan was as before, and its uniformed citizens hurried back to their older life, while the foreign professionals of war merged easily into the newer bands that descended.

Again as always, there were the elaborate luxury hunts for the cultivated animal life of the jungles that never took human life; and the speedster bird-chases in the air above, that was fatal only to the Great Birds.

In the cities, the escapers of the Galaxy could take their varieties of pleasure to suit their purse, from the ethereal sky-palaces of spectacle and fantasy that opened their doors to the masses at the jingle of half a credit, to the unmarked, unnoted haunts to which only those of great wealth were of the cognoscenti.

To the vast flood, Toran and Bayta added not even a trickle. They registered their ship in the huge common hangar on the East Peninsula, and gravitated to that compromise of the middle-classes, the Inland Sea-where the pleasures were yet legal, and even respectable, and the crowds not yet beyond endurance.

Bayta wore dark glasses against the light, and a thin, white robe against the heat. Warm-tinted arms, scarcely the goldener for the sun, clasped her knees to her, and she stared with firm, abstracted gaze at the length of her husband's outstretched body – almost shimmering in the brilliance of white sun-splendor.

"Don't overdo it," she had said at first, but Toran was of a dying-red star, Despite three years of the Foundation, sunlight was a luxury, and for four days now his skin, treated beforehand for ray resistance, had not felt the harshness of clothing, except for the brief shorts.

Bayta huddled close to him on the sand and they spoke in whispers.

Toran's voice was gloomy, as it drifted upwards from a relaxed face, "No, I admit we're nowhere. But where is he? Who is he? This mad world says nothing of him. Perhaps he doesn't exist."

"He exists," replied Bayta, with lips that didn't move. "He's clever, that's all. And your uncle is right. He's a man we could use – if there's time."

A short pause. Toran whispered, "Know what I've been doing, Bay? I'm just daydreaming myself into a sun-stupor. Things figure themselves out so neatly – so sweetly." His voice nearly trailed off, then returned, "Remember the way Dr. Amann talked back at college, Bay. The Foundation can never lose, but that does not mean the *rulers* of the Foundation can't. Didn't the real history of the Foundation begin when Salvor Hardin kicked out the Encyclopedists and took over the planet Terminus as the first mayor? And then in the next century, didn't Hober Mallow gain power by methods almost as drastic? That's twice the rulers were defeated, so it can be done. So why not by us?"

"It's the oldest argument in the books. Torie. What a waste of good reverie."

"Is it? Follow it out. What's Haven? Isn't it part of the Foundation? If we become top dog, it's still the Foundation winning, and only the current rulers losing."

"Lots of difference between 'we can' and 'we will.' You're just jabbering."

Toran squirmed. "Nuts, Bay, you're just in one of your sour, green moods. What do you want to spoil my fun for? I'll just go to sleep if you don't mind."

But Bayta was craning her head, and suddenly – quite a *non sequitur* – she giggled, and removed her glasses to look down the beach with only her palm shading her eyes.

Toran looked up, then lifted and twisted his shoulders to follow her glance.

Apparently, she was watching a spindly figure, feet in air, who teetered on his hands for the amusement of a haphazard crowd. It was one of the swarming acrobatic beggars of the shore, whose supple joints bent and snapped for the sake of the thrown coins.

A beach guard was motioning him on his way and with a surprising one-handed balance, the clown brought a thumb to his nose in an upside-down gesture. The guard advanced threateningly and reeled backward with a foot in his stomach. The clown righted himself without interrupting the motion of the initial kick and was away, while the frothing guard was held off by a thoroughly unsympathetic crowd.

The clown made his way raggedly down the beach. He brushed past many, hesitated often, stopped nowhere. The original crowd had dispersed. The guard had departed.

"He's a queer fellow," said Bayta, with amusement, and Toran agreed indifferently. The clown was close enough now to be seen clearly. His thin face drew together in front into a nose of generous planes and fleshy tip that seemed all but prehensile. His long, lean limbs and spidery body, accentuated by his costume, moved easily and with grace, but with just a suggestion of having been thrown together at random.

To look was to smile.

The clown seemed suddenly aware of their regard, for he stopped after he had passed, and, with a sharp turn, approached. His large, brown eyes fastened upon Bayta.

She found herself disconcerted.

The clown smiled, but it only saddened his beaked face, and when he spoke it was with the soft, elaborate phrasing of the Central Sectors.

"Were I to use the wits the good Spirits gave me," he said, "then I would say this lady can not exist – for what sane man would hold a dream to be reality. Yet rather would I not be sane and lend belief to charmed, enchanted eyes."

Bayta's own eyes opened wide. She said, "Wow!"

Toran laughed, "Oh, you enchantress. Go ahead, Bay, that deserves a five-credit piece. Let him have it."

But the clown was forward with a jump. "No, my lady, mistake me not. I spoke for money not at all, but for bright eyes and sweet face."

"Well, *thanks*," then, to Toran, "Golly, you think the sun's in his eyes?"

"Yet not alone for eyes and face," babbled the clown, as his words hurled past each other in heightened frenzy, "but also for a mind, clear and sturdy – and kind as well."

Toran rose to his feet, reached for the white robe he had crooked his arm about for four days, and slipped into it.

"Now, bud," he said, "suppose you tell me what you want, and stop annoying the lady."

The clown fell back a frightened step, his meager body cringing. "Now, sure I meant no harm. I am a stranger here, and it's been said I am of addled wits; yet there is something in a face that I can read. Behind this lady's fairness, there is a heart that's kind, and that would help me in my trouble for all I speak so boldly."

"Will five credits cure your trouble?" said Toran, dryly, and held out the coin.

But the clown did not move to take it, and Bayta said, "Let me talk to him, Torie," She added swiftly, and in an undertone, "There's no use being annoyed at his silly way of talking. That's just his dialect; and our speech is probably as strange to him."

She said, "What is your trouble? You're not worried about the guard, are you? He won't bother you."

"Oh, no, not he. He's but a windlet that blows the dust about my ankles. There is another that I flee, and he is a storm that sweeps the worlds aside and throws them plunging at each other. A week ago, I ran away, have slept in city streets, and hid in city crowds. I've looked in many faces for help in need. I find it here." He repeated the last phrase in softer, anxious tones, and his large eyes were troubled, "I find it here."

"Now," said Bayta, reasonably, "I would like to help, but really, friend, I'm no protection against a world-sweeping storm. To be truthful about it, I could use—"

There was an uplifted, powerful voice that bore down upon them.

"Now, then, you mud-spawned rascal—"

It was the beach guard, with a fire-red face, and snarling mouth, that approached at a run. He pointed with his low-power stun pistol.

"Hold him, you two. Don't let him get away." His heavy hand fell upon the clown's thin shoulder, so that a whimper was squeezed out of him.

Toran said, "What's he done?"

"What's he done? What's he done? Well, now, that's good!" The guard reached inside the dangling pocket attached to his belt, and removed a purple handkerchief, with which he mopped his bare neck. He said with relish. "I'll tell you what he's done. He's run away. The word's all over Kalgan and I would have recognized him before this if he had been on his feet instead of on his hawkface top." And he rattled his prey in a fierce good humor.

Bayta said with a smile, "Now where did he escape from, sir?"

The guard raised his voice. A crowd was gathering, popeyed and jabbering, and with the increase of audience, the guard's sense of importance increased in direct ratio.

"Where did he escape from?" he declaimed in high sarcasm. "Why, I suppose you've heard of the Mule, now."

All jabbering stopped, and Bayta felt a sudden iciness trickle down into her stomach. The clown had eyes only for her—he still quivered in the guard's brawny grasp.

"And who," continued the guard heavily, "would this infernal ragged piece be, but his lordship's own court fool who's run away." He jarred his captive with a massive shake, "Do you admit it, fool?"

There was only white fear for answer, and the soundless sibilance of Bayta's voice close to Toran's ear.

Toran stepped forward to the guard in friendly fashion, "Now, my man, suppose you take your hand away for just a while. This entertainer you hold has been dancing for us and has not yet danced out his fee."

"Here!" The guard's voice rose in sudden concern. "There's a reward—"

"You'll have it, if you can prove he's the man you want. Suppose you withdraw till then. You know that you're interfering with a guest, which could be serious for you."

"But you're interfering with his lordship and that *will* be serious for you." He shook the clown once again. "Return the man's fee, carrion."

Toran's hand moved quickly and the guard's stun pistol was wrenched away with half a finger nearly following it. The guard howled his pain and rage. Toran shoved him violently aside, and the clown, unhanded, scuttled behind him.

The crowd, whose fringes were now lost to the eye, paid little attention to the latest development. There was among them a craning of necks, and a centrifugal motion as if many had decided to increase their distance from the center of activity.

Then there was a bustle, and a rough order in the distance. A corridor formed itself and two men strode through, electric whips in careless readiness. Upon each purple blouse was designed an angular shaft of lightning with a splitting planet underneath.

A dark giant, in lieutenant's uniform, followed them; dark of skin, and hair, and scowl.

The dark man spoke with the dangerous softness that meant he had little need of shouting to enforce his whims. He said, "Are you the man who notified us?"

The guard was still holding his wrenched hand, and with a pain-distorted face mumbled, "I claim the reward, your mightiness, and I accuse that man—"

"You'll get your reward," said the lieutenant, without looking at him. He motioned curtly to his men, "Take him."

Toran felt the clown tearing at his robe with a maddened grip.

He raised his voice and kept it from shaking, "I'm sorry, lieutenant; this man is mine."

The soldiers took the statement without blinking. One raised his whip casually, but the lieutenant's snapped order brought it down.

His dark mightiness swung forward and planted his square body before Toran, "Who are you?"

And the answer rang out, "A citizen of the Foundation."

It worked—with the crowd, at any rate. The pent-up silence broke into an intense hum. The Mule's name might excite fear, but it was, after all, a new name and scarcely

stuck as deeply in the vitals as the old one of the Foundation – that had destroyed the Empire – and the fear of which ruled a quadrant of the Galaxy with ruthless despotism.

The lieutenant kept face. He said, "Are you aware of the identity of the man behind you?"

"I have been told he's a runaway from the court of your leader, but my only sure knowledge is that he is a friend of mine. You'll need firm proof of his identity to take him."

There were high-pitched sighs from the crowd, but the lieutenant let it pass. "Have you your papers of Foundation citizenship with you?"

"At my ship."

"You realize that your actions are illegal? I can have you shot."

"Undoubtedly. But then you would have shot a Foundation citizen and it is quite likely that your body would be sent to the Foundation – quartered – as part compensation. It's been done by other warlords."

The lieutenant wet his lips. The statement was true.

He said, "Your name?"

Toran followed up his advantage, "I will answer further questions at my ship. You can get the cell number at the Hangar; it is registered under the name 'Bayta'."

"You won't give up the runaway?"

"To the Mule, perhaps. Send your master!"

The conversation had degenerated to a whisper and the lieutenant turned sharply away.

"Disperse the crowd!" he said to his men, with suppressed ferocity.

The electric whips rose and fell. There were shrieks and a vast surge of separation and flight.

Toran interrupted his reverie only once on their way back to the Hangar. He said, almost to himself, "Galaxy, Bay, what a time I had! I was so scared–"

"Yes," she said, with a voice that still shook, and eyes that still showed something akin to worship, "it was quite out of character."

"Well, I still don't know what happened. I just got up there with a stun pistol that I wasn't even sure I knew how to use, and talked back to him. I don't know why I did it."

He looked across the aisle of the short-run air vessel that was carrying them out of the beach area, to the seat on which the Mule's clown scrunched up in sleep, and added distastefully, "It was the hardest thing I've ever done."

The lieutenant stood respectfully before the colonel of the garrison, and the colonel looked at him and said, "Well done. Your part's over now."

But the lieutenant did not retire immediately. He said darkly, "The Mule has lost face before a mob, sir. It will be necessary to undertake disciplinary action to restore proper atmosphere of respect."

"Those measures have already been taken."

The lieutenant half turned, then, almost with resentment, "I'm willing to agree, sir, that orders are orders, but standing before that man with his stun pistol and swallowing his insolence whole, was the hardest thing I've ever done."

14. THE MUTANT

The "hangar" on Kalgan is an institution peculiar unto itself, born of the need for the disposition of the vast number of ships brought in by the visitors from abroad, and the simultaneous and consequent vast need for living accommodations for the same. The original bright one who had thought of the obvious solution had quickly become a millionaire. His heirs – by birth or finance – were easily among the richest on Kalgan.

The "hangar" spreads fatly over square miles of territory, and "hangar" does not describe it at all sufficiently. It is essentially a hotel – for ships. The traveler pays in advance and his ship is awarded a berth from which it can take off into space at any desired moment. The visitor then lives in his ship as always. The ordinary hotel services such as the replacement of food and medical supplies at special rates, simple servicing of the ship itself, special intra-Kalgan transportation for a nominal sum are to be had, of course.

As a result, the visitor combines hangar space and hotel bill into one, at a saving. The owners sell temporary use of ground space at ample profits. The government collects huge taxes. Everyone has fun. Nobody loses. Simple!

The man who made his way down the shadow-borders of the wide corridors that connected the multitudinous wings of the "hangar" had in the past speculated on the novelty and usefulness of the system described above, but these were reflections for idle moments – distinctly unsuitable at present.

The ships hulked in their height and breadth down the long lines of carefully aligned cells, and the man discarded line after line. He was an expert at what he was doing now and if his preliminary study of the hangar registry had failed to give specific information beyond the doubtful indication of a specific wing – one containing hundreds of ships – his specialized knowledge could winnow those hundreds into one.

There was the ghost of a sigh in the silence, as the man stopped and faded down one of the lines; a crawling insect beneath the notice of the arrogant metal monsters that rested there.

Here and there the sparkling of light from a porthole would indicate the presence of an early returner from the organized pleasures to simpler – or more private – pleasures of his own.

The man halted, and would have smiled if he ever smiled. Certainly the convolutions of his brain performed the mental equivalent of a smile.

The ship he stopped at was sleek and obviously fast. The peculiarity of its design was what he wanted. It was not a usual model – and these days most of the ships of this quadrant of the Galaxy either imitated Foundation design or were built by Foundation

technicians. But this was special. This was a Foundation ship – if only because of the tiny bulges in the skin that were the nodes of the protective screen that only a Foundation ship could possess. There were other indications, too.

The man felt no hesitation.

The electronic barrier strung across the line of the ships as a concession to privacy on the part of the management was not at all important to him. It parted easily, and without activating the alarm, at the use of the very special neutralizing force he had at his disposal.

So the first knowledge within the ship of the intruder without was the casual and almost friendly signal of the muted buzzer in the ship's living room that was the result of a palm placed over the little photocell just one side of the main air lock.

And while that successful search went on, Toran and Bayta felt only the most precarious security within the steel walls of the *Bayta*. The Mule's clown who had reported that within his narrow compass of body he held the lordly name of Magnifico Giganticus, sat hunched over the table and gobbled at the food set before him.

His sad, brown eyes lifted from his meat only to follow Bayta's movements in the combined kitchen and larder where he ate.

"The thanks of a weak one are of but little value," he muttered, "but you have them, for truly, in this past week, little but scraps have come my way – and for all my body is small, yet is my appetite unseemly great."

"Well, then, eat!" said Bayta, with a smile. "Don't waste your time on thanks. Isn't there a Central Galaxy proverb about gratitude that I once heard?"

"Truly there is, my lady. For a wise man, I have been told, once said, 'Gratitude is best and most effective when it does not evaporate itself in empty phrases.' But alas, my lady, I am but a mass of empty phrases, it would seem. When my empty phrases pleased the Mule, it brought me a court dress, and a grand name – for, see you, it was originally simply Bobo, one that pleases him not – and then when my empty phrases pleased him not, it would bring upon my poor bones beatings and whippings."

Toran entered from the pilot room, "Nothing to do now but wait, Bay. I hope the Mule is capable of understanding that a Foundation ship is Foundation territory."

Magnifico Giganticus, once Bobo, opened his eyes wide and exclaimed, "How great is the Foundation before which even the cruel servants of the Mule tremble."

"Have you heard of the Foundation, too?" asked Bayta, with a little smile.

"And who has not?" Magnifico's voice was a mysterious whisper. "There are those who say it is a world of great magic, of fires that can consume planets, and secrets of mighty strength. They say that not the highest nobility of the Galaxy could achieve the honor and deference considered only the natural due of a simple man who could say 'I am a citizen of the Foundation,' – were he only a salvage miner of space, or a nothing like myself."

Bayta said, "Now, Magnifico, you'll never finish if you make speeches. Here, I'll get you a little flavored milk. It's good."

She placed a pitcher of it upon the table and motioned Toran out of the room.

"Torie, what are we going to do now – about him?" and she motioned towards the kitchen.

"How do you mean?"

"If the Mule comes, are we going to give him up?"

"Well, what else, Bay?" He sounded harassed, and the gesture with which he shoved back the moist curl upon his forehead testified to that.

He continued impatiently, "Before I came here I had a sort of vague idea that all we had to do was to ask for the Mule, and then get down to business – just business, you know, nothing definite."

"I know what you mean, Torie. I wasn't much hoping to see the Mule myself, but I did think we could pick up some firsthand knowledge of the mess, and then pass it over to people who know a little more about this interstellar intrigue. I'm no storybook spy."

"You're not behind me, Bay." He folded his arms and frowned. "What a situation! You'd never know there was a person like the Mule, except for this last queer break. Do you suppose he'll come for his clown?"

Bayta looked up at him. "I don't know that I want him to. I don't know what to say or do. Do you?"

The inner buzzer sounded with its intermittent burring noise. Bayta's lips moved wordlessly, "The Mule!"

Magnifico was in the doorway, eyes wide, his voice a whimper, "The Mule?"

Toran murmured, "I've got to let them in."

A contact opened the air lock and the outer door closed behind the newcomer. The scanner showed only a single shadowed figure.

"It's only one person," said Toran, with open relief, and his voice was almost shaky as he bent toward the signal tube, "Who are you?"

"You'd better let me in and find out, hadn't you?" The words came thinly out the receiver.

"I'll inform you that this is a Foundation ship and consequently Foundation territory by international treaty."

"I know that."

"Come with your arms free, or I'll shoot. I'm well-armed."

"Done!"

Toran opened the inner door and closed contact on his blast pistol, thumb hovering over the pressure point. There was the sound of footsteps and then the door swung open, and Magnifico cried out, "It's not the Mule. It's but a man."

The "man" bowed to the clown somberly, "Very accurate. I'm not the Mule." He held his hands apart, "I'm not armed, and I come on a peaceful errand. You might relax and put the blast pistol away. Your hand isn't steady enough for my peace of mind."

"Who are you?" asked Toran, brusquely.

"I might ask you that," said the stranger, coolly, "since you're the one under false pretenses, not I."

"How so?"

"You're the one who claims to be a Foundation citizen when there's not an authorized Trader on the planet."

"That's not so. How would you know?"

"Because I *am* a Foundation citizen, and have my papers to prove it. Where are yours?"

"I think you'd better get out."

"I think not. If you know anything about Foundation methods, and despite your imposture you might, you'd know that if I don't return alive to my ship at a specified time, there'll be a signal at the nearest Foundation headquarters so I doubt if your weapons will have much effect, practically speaking."

There was an irresolute silence and then Bayta said, calmly, "Put the blaster away, Toran, and take him at face value. He sounds like the real thing."

"Thank you," said the stranger.

Toran put his gun on the chair beside him, "Suppose you explain all this now."

The stranger remained standing. He was long of bone and large of limb. His face consisted of hard flat planes and it was somehow evident that he never smiled. But his eyes lacked hardness.

He said, "News travels quickly, especially when it is apparently beyond belief. I don't suppose there's a person on Kalgan who doesn't know that the Mule's men were kicked in the teeth today by two tourists from the Foundation. I knew of the important details before evening, and, as I said, there are no Foundation tourists aside from myself on the planet. We know about those things."

"Who are the 'we'?"

"'We' are – 'we'! Myself for one! I knew you were at the Hangar – you had been overheard to say so. I had my ways of checking the registry, and my ways of finding the ship."

He turned to Bayta suddenly, "You're from the Foundation – by birth, aren't you?"

"Am I?"

"You're a member of the democratic opposition – they call it 'the underground.' I don't remember your name, but I do the face. You got out only recently – and wouldn't have if you were more important."

Bayta shrugged, "You know a lot."

"I do. You escaped with a man. That one?"

"Does it matter what I say?"

"No. I merely want a thorough mutual understanding. I believe that the password during the week you left so hastily was 'Seldon, Hardin, and Freedom.' Porfirat Hart was your section leader. "

"Where'd you get that?" Bayta was suddenly fierce. "Did the police get him?" Toran held her back, but she shook herself loose and advanced.

The man from the Foundation said quietly, "Nobody has him. It's just that the underground spreads widely and in queer places. I'm Captain Han Pritcher of Information, and I'm a section leader myself – never mind under what name."

He waited, then said, "No, you don't have to believe me. In our business it is better to overdo suspicion than the opposite. But I'd better get past the preliminaries."

"Yes," said Toran, "suppose you do."

"May I sit down? Thanks." Captain Pritcher swung a long leg across his knee and let an arm swing loose over the back of the chair. "I'll start out by saying that I don't know what all this is about – from your angle. You two aren't from the Foundation, but it's not a hard guess that you're from one of the independent Trading worlds. That doesn't bother me overmuch. But out of curiosity, what do you want with that fellow, that clown you snatched to safety? You're risking your life to hold on to him."

"I can't tell you that."

"Hm-m-m. Well, I didn't think you would. But if you're waiting for the Mule himself to come behind a fanfare of horns, drums, and electric organs – relax! The Mule doesn't work that way."

"What?" It came from both Toran and Bayta, and in the corner where Magnifico lurked with ears almost visibly expanded, there was a sudden joyful start.

"That's right. I've been trying to contact him myself, and doing a rather more thorough job of it than you two amateurs can. It won't work. The man makes no personal appearance, does not allow himself to be photographed or simulated, and is seen only by his most intimate associates."

"Is that supposed to explain your interest in us, captain?" questioned Toran.

"No. That clown is the key. That clown is one of the very few that *have* seen him. I want him. He may be the proof I need – and I need something, Galaxy knows – to awaken the Foundation."

"It needs awakening?" broke in Bayta with sudden sharpness. "Against what? And in what role do you act as alarm, that of rebel democrat or of secret police and provocateur?"

The captain's face set in its hard lines. "When the entire Foundation is threatened, Madame Revolutionary, both democrats and tyrants perish. Let us save the tyrants from a greater, that we may overthrow them in their turn."

"Who's the greater tyrant you speak of?" flared Bayta.

"The Mule! I know a bit about him, enough to have been my death several times over already, if I had moved less nimbly. Send the clown out of the room. This will require privacy."

"Magnifico," said Bayta, with a gesture, and the clown left without a sound.

The captain's voice was grave and intense, and low enough so that Toran and Bayta drew close.

He said, "The Mule is a shrewd operator – far too shrewd not to realize the advantage of the magnetism and glamour of personal leadership. If he gives that up, it's for a reason. That reason must be the fact that personal contact would reveal something that is of overwhelming importance not to reveal."

He waved aside questions, and continued more quickly, "I went back to his birthplace for this, and questioned people who for their knowledge will not live long. Few

enough are still alive. They remember the baby born thirty years before – the death of his mother – his strange youth. *The Mule is not a human being!*"

And his two listeners drew back in horror at the misty implications. Neither understood, fully or clearly, but the menace of the phrase was definite.

The captain continued, "He is a mutant, and obviously from his subsequent career, a highly successful one. I don't know his powers or the exact extent to which he is what our thrillers would call a 'superman,' but the rise from nothing to the conqueror of Kalgan's warlord in two years is revealing. You see, don't you, the danger? Can a genetic accident of unpredictable biological properties be taken into account in the Seldon plan?"

Slowly, Bayta spoke, "I don't believe it. This is some sort of complicated trickery. Why didn't the Mule's men kill us when they could have, if he's a superman?"

"I told you that I don't know the extent of his mutation. He may not be ready, yet, for the Foundation, and it would be a sign of the greatest wisdom to resist provocation until ready. Now let me speak to the clown."

The captain faced the trembling Magnifico, who obviously distrusted this huge, hard man who faced him.

The captain began slowly, "Have you seen the Mule with your own eyes?"

"I have but too well, respected sir. And felt the weight of his arm with my own body as well."

"I have no doubt of that. Can you describe him?"

"It is frightening to recall him, respected sir. He is a man of mighty frame. Against him, even you would be but a spindling. His hair is of a burning crimson, and with all my strength and weight I could not pull down his arm, once extended – not a hair's thickness." Magnifico's thinness seemed to collapse upon itself in a huddle of arms and legs. "Often, to amuse his generals or to amuse only himself, he would suspend me by one finger in my belt from a fearful height, while I chattered poetry. It was only after the twentieth verse that I was withdrawn, and each improvised and each a perfect rhyme, or else start over. He is a man of overpowering might, respected sir, and cruel in the use of his power – and his eyes, respected sir, no one sees."

"What? What's that last?"

"He wears spectacles, respected sir, of a curious nature. It is said that they are opaque and that he sees by a powerful magic that far transcends human powers. I have heard," and his voice was small and mysterious, "that to see his eyes is to see death; that he kills with his eyes, respected sir."

Magnifico's eyes wheeled quickly from one watching face to another. He quavered, "It is true. As I live, it is true. "

Bayta drew a long breath, "Sounds like you're right, captain. Do you want to take over?"

"Well, let's look at the situation. You don't owe anything here? The hangar's barrier above is free?"

"I can leave any time."

"Then leave. The Mule may not wish to antagonize the Foundation, but he runs a frightful risk in letting Magnifico get away. It probably accounts for the hue and cry after the poor devil in the first place. So there may be ships waiting for you upstairs. If you're lost in space, who's to pin the crime?"

"You're right," agreed Toran, bleakly.

"However, you've got a shield and you're probably speedier than anything they've got, so as soon as you're clear of the atmosphere make the circle in neutral to the other hemisphere, then just cut a track outwards at top acceleration."

"Yes," said Bayta coldly, "and when we are back on the Foundation, what then, captain?"

"Why, you are then co-operative citizens of Kalgan, are you not? I know nothing to the contrary, do I?"

Nothing was said. Toran turned to the controls. There was an imperceptible lurch.

It was when Toran had left Kalgan sufficiently far in the rear to attempt his first interstellar jump, that Captain Pritcher's face first creased slightly – for no ship of the Mule had in any way attempted to bar their leaving.

"Looks like he's letting us carry off Magnifico," said Toran. "Not so good for your story."

"Unless," corrected the captain, "he wants us to carry him off, in which case it's not so good for the Foundation."

It was after the last jump, when within neutral-flight distance of the Foundation, that the first hyperwave news broadcast reached the ship.

And there was one news item barely mentioned. It seemed that a warlord – unidentified by the bored speaker – had made representations to the Foundation concerning the forceful abduction of a member of his court. The announcer went on to the sports news.

Captain Pritcher said icily, "He's one step ahead of us after all." Thoughtfully, he added, "He's ready for the Foundation, and he uses this as an excuse for action. It makes things more difficult for us. We will have to act before we are really ready."

15. THE PSYCHOLOGIST

There was reason to the fact that the element known as "pure science" was the freest form of life on the Foundation. In a Galaxy where the predominance – and even survival – of the Foundation still rested upon the superiority of its technology – even despite its large access of physical power in the last century and a half – a certain immunity adhered to The Scientist. He was needed, and he knew it.

Likewise, there was reason to the fact that Ebling Mis – only those who did not know him added his titles to his name – was the freest form of life in the "pure science" of the Foundation. In a world where science was respected, he was The Scientist – with capital letters and no smile. He was needed, and he knew it.

And so it happened, that when others bent their knee, he refused and added loudly that his ancestors in their time bowed no knee to any stinking mayor. And in his ancestors' time the mayor was elected anyhow, and kicked out at will, and that the only people that inherited anything by right of birth were the congenital idiots.

So it also happened, that when Ebling Mis decided to allow Indbur to honor him with an audience, he did not wait for the usual rigid line of command to pass his request up and the favored reply down, but, having thrown the less disreputable of his two formal jackets over his shoulders and pounded an odd hat of impossible design on one side of his head, and lit a forbidden cigar into the bargain, he barged past two ineffectually bleating guards and into the mayor's palace.

The first notice his excellence received of the intrusion was when from his garden he heard the gradually nearing uproar of expostulation and the answering bull-roar of inarticulate swearing.

Slowly, Indbur lay down his trowel; slowly, he stood up; and slowly, he frowned. For Indbur allowed himself a daily vacation from work, and for two hours in the early afternoon, weather permitting, he was in his garden. There in his garden, the blooms grew in squares and triangles, interlaced in a severe order of red and yellow, with little dashes of violet at the apices, and greenery bordering the whole in rigid lines. There in his garden no one disturbed him – *no one!*

Indbur peeled off his soil-stained gloves as he advanced toward the little garden door.

Inevitably, he said, "What is the meaning of this?"

It is the precise question and the precise wording thereof that has been put to the atmosphere on such occasions by an incredible variety of men since humanity was invented. It is not recorded that it has ever been asked for any purpose other than dignified effect.

But the answer was literal this time, for Mis's body came plunging through with a bellow, and a shake of a fist at the ones who were still holding tatters of his cloak.

Indbur motioned them away with a solemn, displeased frown, and Mis bent to pick up his ruin of a hat, shake about a quarter of the gathered dirt off it, thrust it under his armpit and say:

"Look here, Indbur, those unprintable minions of yours will be charged for one good cloak. Lots of good wear left in this cloak." He puffed and wiped his forehead with just a trace of theatricality.

The mayor stood stiff with displeasure, and said haughtily from the peak of his five-foot-two, "It has not been brought to my attention, Mis, that you have requested an audience. You have certainly not been assigned one."

Ebling Mis looked down at his mayor with what was apparently shocked disbelief, "Ga-LAX-y, Indbur, didn't you get my note yesterday? I handed it to a flunky in purple uniform day before. I would have handed it to you direct, but I know how you like formality."

"Formality!" Indbur turned up exasperated eyes. Then, strenuously, "Have you ever heard of proper organization? At all future times you are to submit your request for an audience, properly made out in triplicate, at the government office intended for the purpose. You are then to wait until the ordinary course of events brings you notification of the time of audience to be granted. You are then to appear, properly clothed – properly clothed, do you understand – and with proper respect, too. You may leave."

"What's wrong with my clothes?" demanded Mis, hotly. "Best cloak I had till those unprintable fiends got their claws on it. I'll leave just as soon as I deliver what I came to deliver. "Ga-LAX-y, if it didn't involve a Seldon Crisis, I would leave right now."

"Seldon crisis!" Indbur exhibited first interest. Mis was a great psychologist – a democrat, boor, and rebel certainly, but a psychologist, too. In his uncertainty, the mayor even failed to put into words the inner pang that stabbed suddenly when Mis plucked a casual bloom, held it to his nostrils expectantly, then flipped it away with a wrinkled nose.

Indbur said coldly, "Would you follow me? This garden wasn't made for serious conversation."

He felt better in his built-up chair behind his large desk from which he could look down on the few hairs that quite ineffectually hid Mis's pink scalp-skin. He felt much better when Mis cast a series of automatic glances about him for a non-existent chair and then remained standing in uneasy shifting fashion. He felt best of all when in response to a careful pressure of the correct contact, a liveried underling scurried in, bowed his way to the desk, and laid thereon a bulky, metal-bound volume.

"Now, in order," said Indbur, once more master of the situation, "to make this unauthorized interview as short as possible, make your statement in the fewest possible words."

Ebling Mis said unhurriedly, "You know what I'm doing these days?"

"I have your reports here," replied the mayor, with satisfaction, "together with authorized summaries of them. As I understand it, your investigations into the mathematics of psychohistory have been intended to duplicate Hari Seldon's work and, eventually, trace the projected course of future history, for the use of the Foundation."

"Exactly," said Mis, dryly. "When Seldon first established the Foundation, he was wise enough to include no psychologists among the scientists placed here – so that the Foundation has always worked blindly along the course of historical necessity. In the course of my researches, I have based a good deal upon hints found at the Time Vault."

"I am aware of that, Mis. It is a waste of time to repeat."

"I'm not repeating," blared Mis, "because what I'm going to tell you isn't in any of those reports."

"How do you mean, not in the reports?" said Indbur, stupidly. "How could–"

"Ga-LAX-y, Let me tell this my own way, you offensive little creature. Stop putting words into my mouth and questioning my every statement or I'll tramp out of here and let everything crumble around you. Remember, you unprintable fool, the Foundation will come through because it must, but if I walk out of here now – you won't."

Dashing his hat on the floor, so that clods of earth scattered, he sprang up the stairs of the dais on which the wide desk stood and shoving papers violently, sat down upon a corner of it.

Indbur thought frantically of summoning the guard, or using the built-in blasters of his desk. But Mis's face was glaring down upon him and there was nothing to do but cringe the best face upon it.

"Dr. Mis," he began, with weak formality, "you must—"

"Shut up," said Mis, ferociously, "and listen. If this thing here," and his palm came down heavily on the metal of the bound data, "is a mess of my reports – throw it out. Any report I write goes up through some twenty-odd officials, gets to you, and then sort of winds down through twenty more. That's fine if there's nothing you don't want kept secret. Well, I've got something confidential here. It's so confidential, even the boys working for me haven't got wind of it. They did the work, of course, but each just a little unconnected piece – and I put it together. You know what the Time Vault is?"

Indbur nodded his head, but Mis went on with loud enjoyment of the situation, "Well, I'll tell you anyhow because I've been sort of imagining this unprintable situation for a "Ga-LAX-y, of a long time; I can read your mind, you puny fraud. You've got your hand right near a little knob that'll call in about five hundred or so armed men to finish me off, but you're afraid of what I know – you're afraid of a Seldon Crisis. Besides which, if you touch anything on your desk, I'll knock your unprintable head off before anyone gets here. You and your bandit father and pirate grandfather have been blood-sucking the Foundation long enough anyway."

"This is treason," gabbled Indbur.

"It certainly is," gloated Mis, "but what are you going to do about it? Let me tell you about the Time Vault. That Time Vault is what Hari Seldon placed here at the beginning to help us over the rough spots. For every crisis, Seldon has prepared a personal simulacrum to help – and explain. Four crises so far – four appearances. The first time he appeared at the height of the first crisis. The second time, he appeared at the moment just after the successful evolution of the second crisis. Our ancestors were there to listen to him both times. At the third and fourth crises, he was ignored – probably because he was not needed, but recent investigations – *not* included in those reports you have – indicate that he appeared anyway, and at the proper times. Get it?"

He did not wait for any answer. His cigar, a tattered, dead ruin was finally disposed of, a new cigar groped for, and lit. The smoke puffed out violently.

He said, "Officially I've been trying to rebuild the science of psychohistory. Well, no one man is going to do *that*, and it won't get done in any one century, either. But I've made advances in the more simple elements and I've been able to use it as an excuse to meddle with the Time Vault. What I *have* done, involves the determination, to a pretty fair kind of certainty, of the exact date of the next appearance of Hari Seldon. I can give you the exact day, in other words, that the coming Seldon Crisis, the fifth, will reach its climax.

"

"How far off?" demanded Indbur, tensely.

And Mis exploded his bomb with cheerful nonchalance,

"Four months," he said. "Four unprintable months, less two days."

"Four months," said Indbur, with uncharacteristic vehemence. "Impossible."

"Impossible, my unprintable eye."

"Four months? Do you understand what that means? For a crisis to come to a head in four months would mean that it has been preparing for years."

"And why not? Is there a law of Nature that requires the process to mature in the full light of day?"

"But nothing impends. Nothing hangs over us." Indbur almost wrung his hands for anxiety. With a sudden spasmodic recrudescence of ferocity, he screamed, "*Will* you get off my desk and let me put it in order? How do you expect me to *think*?"

Mis, startled, lifted heavily and moved aside.

Indbur replaced objects in their appropriate niches with a feverish motion. He was speaking quickly, "You have no right to come here like this. If you had presented your theory—"

"It is not a *theory*."

"I say it *is* a theory. If you had presented it together with your evidence and arguments, in appropriate fashion, it would have gone to the Bureau of Historical Sciences. There it could have been properly treated, the resulting analyses submitted to me, and then, of course, proper action would have been taken. As it is, you've vexed me to no purpose. Ah, here it is."

He had a sheet of transparent, silvery paper in his hand which he shook at the bulbous psychologist beside him.

"This is a short summary I prepare myself – weekly – of foreign matters in progress. Listen – we have completed negotiations for a commercial treaty with Mores, continue negotiations for one with Lyonesse, sent a delegation to some celebration or other on Bonde, received some complaint or other from Kalgan and we've promised to look into it, protested some sharp trade practices in Asperta and they've promised to look into it – and so on and so on." The mayor's eyes swarmed down the list of coded notations, and then he carefully placed the sheet in its proper place in the proper folder in the proper pigeonhole.

I tell you, Mis, there's not a thing there that breathes anything but order and peace—"

The door at the far, long end opened, and, in far too dramatically coincident a fashion to suggest anything but real life, a plainly-costumed notable stepped in.

Indbur half-rose. He had the curiously swirling sensation of unreality that comes upon those days when too much happens. After Mis's intrusion and wild fumings there now came the equally improper, hence disturbing, intrusion unannounced, of his secretary, who at least knew the rules.

The secretary kneeled low.

Indbur said, sharply, "Well!"

The secretary addressed the floor, "Excellence, Captain Han Pritcher of Information, returning from Kalgan, in disobedience to your orders, has according to prior instructions – your order X20-513 – been imprisoned, and awaits execution. Those accompanying him are being held for questioning. A full report has been filed."

Indbur, in agony, said, "A full report has been received. Well!"

"Excellence, Captain Pritcher has reported, vaguely, dangerous designs on the part of the new warlord of Kalgan. He has been given, according to prior instructions – your order X20-651 – no formal hearing, but his remarks have been recorded and a full report filed."

Indbur screamed, "A full report has been received. Well!"

"Excellence, reports have within the quarter-hour been received from the Salinnian frontier. Ships identified as Kalganian have been entering Foundation territory, unauthorized. The ships are armed. Fighting has occurred."

The secretary was bent nearly double. Indbur remained standing. Ebling Mis shook himself, clumped up to the secretary, and tapped him sharply on the shoulder.

"Here, you'd better have them release this Captain Pritcher, and have him sent here. Get out."

The secretary left, and Mis turned to the mayor, "Hadn't you better get the machinery moving, Indbur? Four months, you know."

Indbur remained standing, glaze-eyed. Only one finger seemed alive – and it traced rapid jerky triangles on the smooth desk top before him.

16. CONFERENCE

When the twenty-seven independent Trading worlds, united only by their distrust of the mother planet of the Foundation, concert an assembly among themselves, and each is big with a pride grown of its smallness, hardened by its own insularity and embittered by eternal danger – there are preliminary negotiations to be overcome of a pettiness sufficiently staggering to heartsicken the most persevering.

It is not enough to fix in advance such details as methods of voting, type of representation – whether by world or by population. These are matters of involved political importance. It is not enough to fix matters of priority at the table, both council and dinner, those are matters of involved social importance.

It was the place of meeting – since that was a matter of overpowering provincialism. And in the end the devious routes of diplomacy led to the world of Radole, which some commentators had suggested at the start for logical reason of central position.

Radole was a small world – and, in military potential, perhaps the weakest of the twenty-seven. That, by the way, was another factor in the logic of the choice.

It was a ribbon world – of which the Galaxy boasts sufficient, but among which, the inhabited variety is a rarity for the physical requirements are difficult to meet. It was a

world, in other words, where the two halves face the monotonous extremes of heat and cold, while the region of possible life is the girdling ribbon of the twilight zone.

Such a world invariably sounds uninviting to those who have not tried it, but there exist spots, strategically placed – and Radole City was located in such a one.

It spread along the soft slopes of the foothills before the hacked-out mountains that backed it along the rim of the cold hemisphere and held off the frightful ice. The warm, dry air of the sun-half spilled over, and from the mountains was piped the water – and between the two, Radole City became a continuous garden, swimming in the eternal morning of an eternal June.

Each house nestled among its flower garden, open to the fangless elements. Each garden was a horticultural forcing ground, where luxury plants grew in fantastic patterns for the sake of the foreign exchange they brought – until Radole had almost become a producing world, rather than a typical Trading world.

So, in its way, Radole City was a little point of softness and luxury on a horrible planet – a tiny scrap of Eden – and that, too, was a factor in the logic of the choice.

The strangers came from each of the twenty-six other Trading worlds: delegates, wives, secretaries, newsmen, ships, and crews – and Radole's population nearly doubled and Radole's resources strained themselves to the limit. One ate at will, and drank at will, and slept not at all.

Yet there were few among the roisterers who were not intensely aware that all that volume of the Galaxy burnt slowly in a sort of quiet, slumbrous war. And of those who were aware, there were dime classes. First, there were the many who knew little and were very confident.

Such as the young space pilot who wore the Haven cockade on the clasp of his cap, and who managed, in holding his glass before his eyes, to catch those of the faintly smiling Radolian girl opposite. He was saying:

"We came fight through the war-zone to get here-on purpose. We traveled about a light-minute or so, in neutral, right past Horleggor–"

"Horleggor?" broke in a long-legged native, who was playing host to that particular gathering. "That's where the Mule got the guts beat out of him last week, wasn't it?"

"Where'd you hear that the Mule got the guts beat out of him?" demanded the pilot, loftily.

"Foundation radio."

"Yeah? Well, the Mule's got Horleggor. We almost ran into a convoy of his ships, and that's where they were coming from. It isn't a gut-beating when you stay where you fought, and the gut-beater leaves in a hurry."

Someone else said in a high, blurred voice, "Don't talk like that. Foundation always takes it on the chin for a while. You watch; just sit tight and watch. Ol' Foundation knows when to come back. And then – *pow!*" The thick voice concluded and was succeeded by a bleary grin.

"Anyway." said the pilot from Haven, after a short pause, "As I say, we saw the Mule's ships, and they looked pretty good, pretty good. I tell you what – they looked new."

"New?" said the native, thoughtfully. "They build them themselves?" He broke a leaf from an overhanging branch, sniffed delicately at it, then crunched it between his teeth, the bruised tissues bleeding greenly and diffusing a minty odor. He said, "You trying to tell me they beat Foundation ships with homebuilt jobs? Go on."

"We saw them, doc. And I can tell a ship from a comet, too, you know."

The native leaned close. "You know what I think. Listen, don't kid yourself. Wars don't just start by themselves, and we have a bunch of shrewd apples running things. They know what they're doing."

The well-unthirsted one said with sudden loudness, "You watch ol' Foundation. They wait for the last minute, then – *pow!*" He grinned with vacuously open mouth at the girl, who moved away from him.

The Radolian was saying, "For instance, old man, you think maybe that this Mule guy's running things. No-o-o." And he wagged a finger horizontally. "The way I hear it, and from pretty high up, mind you, he's our boy. We're paying him off, and we probably built those ships. Let's be realistic about it – we probably did. Sure, he can't beat the Foundation in the long run, but he can get them shaky, and when he does – we *get in*."

The girl said, "Is that all you can talk about, Klev? The war? You make me tired."

The pilot from Haven said, in an access of gallantry,
"Change the subject. Can't make the girls tired."

The bedewed one took up the refrain and banged a mug to the rhythm. The little groups of two that had formed broke up with giggles and swagger, and a few similar groups of twos emerged from the sun-house in the background.

The conversation became more general, more varied, more meaningless.

Then there were those who knew a little more and were less confident.

Such as the one-armed Fran, whose large bulk represented Haven as official delegated, and who lived high in consequence, and cultivated new friendships – with women when he could and with men when he had to.

It was on the sun platform of the hilltop home, of one of these new friends, that he relaxed for the first of what eventually proved to be a total of two times while on Radole. The new friend was Iwo Lyon, a kindred soul of Radole. Iwo's house was apart from the general cluster, apparently alone in a sea of floral perfume and insect chatter. The sun platform was a grassy strip of lawn set at a forty-five degree angle, and upon it Fran stretched out and fairly sopped up sun.

He said, "Don't have anything like this on Haven."

Iwo replied, sleepily, "Ever seen the cold side. There's a spot twenty miles from here where the oxygen runs like water. "

"Go on.

"Fact."

"Well, I'll tell you, Iwo-In the old days before my arm was chewed off I knocked around, see – and you won't believe this, but" – The story that followed lasted considerably, and Iwo didn't believe it.

Iwo said, through yawns, "They don't make them like in the old days, that's the truth."

"No, guess they don't. Well, now," Fran fired up, "don't say that. I told you about my son, didn't I? He's one of the old school, if you like. He'll make a great Trader, blast it. He's his old man up and down. Up and down, except that he gets married."

"You mean legal contract? With a girl?"

"That's right. Don't see the sense in it myself. They went to Kalgan for their honeymoon."

"Kalgan? *Kalgan*? When the Galaxy was this?"

Fran smiled broadly, and said with slow meaning, "Just before the Mule declared war on the Foundation."

"That so?"

Fran nodded and motioned Iwo closer with his head. He said, hoarsely, "In fact, I can tell you something, if you don't let it go any further. My boy was sent to Kalgan for a purpose. Now I wouldn't like to let it out, you know, just what the purpose was, naturally, but you look at the situation now, and I suppose you can make a pretty good guess. In any case, my boy was the man for the job. We Traders needed some sort of ruckus." He smiled, craftily. "It's here. I'm not saying how we did it, but – my boy went to Kalgan, and the Mule sent out his ships. My son!"

Iwo was duly impressed. He grew confidential in his turn, "That's good. You know, they say we've got five hundred ships ready to pitch in on our own at the right time. "

Fran said authoritatively, "More than that, maybe. This is real strategy. This is the kind I like." He clawed loudly at the skin of his abdomen. "But don't you forget that the Mule is a smart boy, too. What happened at Horleggor worries me."

"I heard he lost about ten ships."

"Sure, but he had a hundred more, and the Foundation had to get out. It's all to the good to have those tyrants beaten, but not as quickly as all that." He shook his head.

"The question I ask is where does the Mule get his ships? There's a widespread rumor we're making them for him."

"We? The Traders? Haven has the biggest ship factories anywhere in the independent worlds, and we haven't made one for anyone but ourselves. Do you suppose any world is building a fleet for the Mule on its own, without taking the precaution of united action? That's a . . . a fairy tale."

"Well, where does he get them?"

And Fran shrugged, "Makes them himself, I suppose. That worries me, too."

Fran blinked at the sun and curled his toes about the smooth wood of the polished foot-rest. Slowly, he fell asleep and the soft burr of his breathing mingled with the insect sibilance.

Lastly, there were the very few who knew considerable and were not confident at all.

Such as Randu, who on the fifth day of the all-Trader convention entered the Central Hall and found the two men he had asked to be there, waiting for him. The five hundred seats were empty – and were going to stay so.

Randu said quickly, almost before he sat down, "We three represent about half the military potential of the Independent Trading Worlds."

"Yes," said Mangin of Iss, "my colleague and I have already commented upon the fact."

"I am ready," said Randu, "to speak quickly and earnestly. I am not interested in bargaining or subtlety. Our position is radically in the worse."

"As a result of—" urged Ovall Gri of Mnemon.

"Of developments of the last hour. Please! From the beginning. First, our position is not of our doing, and but doubtfully of our control. Our original dealings were not with the Mule, but with several others; notably the ex-warlord of Kalgan, whom the Mule defeated at a most inconvenient time for us."

"Yes, but this Mule is a worthy substitute," said Mangin. "I do not cavil at details."

"You may when you know *all* the details." Randu leaned forward and placed his hands upon the table palms-up in an obvious gesture.

He said, "A month ago I sent my nephew and my nephew's wife to Kalgan."

"Your nephew!" cried Ovall Gri, in surprise. "I did not know he was your nephew."

"With what purpose," asked Mangin, dryly. "This?" And his thumb drew an inclusive circle high in the air.

"No. If you mean the Mule's war on the Foundation, no. How could I aim so high? The young man knew nothing – neither of our organization nor of our aims. He was told I was a minor member of an intra-Haven patriotic society, and his function at Kalgan was nothing but that of an amateur observer. My motives were, I must admit, rather obscure. Mainly, I was curious about the Mule. He is a strange phenomenon – but that's a chewed cud; I'll not go into it. Secondly, it would make an interesting and educational training project for a man who had experience with the Foundation and the Foundation underground and showed promise of future usefulness to us. You see—"

Ovall's long face fell into vertical lines as he showed his large teeth, "You must have been surprised at the outcome, then, since there is not a world among the Traders, I believe, that does not know that this nephew of yours abducted a Mule underling in the name of the Foundation and furnished the Mule with a *casus belli*. Galaxy, Randu, you spin romances. I find it hard to believe you had no hand in that. Come, it was a skillful job."

Randu shook his white head, "Not of my doing. Nor, willfully, of my nephew's, who is now held prisoner at the Foundation, and may not live to see the completion of this so-skillful job. I have just heard from him. The Personal Capsule has been smuggled out somehow, come through the war zone, gone to Haven, and traveled from there to here. It has been a month on its travels."

"And?–"

Randu leaned a heavy hand upon the heel of his palm and said, sadly, "I'm afraid we are cast for the same role that the onetime warlord of Kalgan played. The Mule is a mutant!"

There was a momentary qualm; a faint impression of quickened heartbeats. Randu might easily have imagined it.

When Mangin spoke, the evenness of his voice was unchanged, "How do you know?"

"Only because my nephew says so, but he was on Kalgan.

"What kind of a mutant? There are all kinds, you know."

Randu forced the rising impatience down, "All kinds of mutants, yes, Mangin. All kinds! But only one kind of Mule. What kind of a mutant would start as an unknown, assemble an army, establish, they say, a five-mile asteroid as original base, capture a planet, then a system, then a region – and then attack the Foundation, and *defeat* them at Horleggor. *And all in two or three years!*"

Ovall Gri shrugged, "So you think he'll beat the Foundation?"

"I don't know. Suppose he does?"

"Sorry, I can't go that far. You *don't* beat the Foundation. Look, there's not a new fact we have to go on except for the statements of a . . . well, of an inexperienced boy. Suppose we shelve it for a while. With all the Mule's victories, we weren't worried until now, and unless he goes a good deal further than he has, I see no reason to change that. Yes?"

Randu frowned and despaired at the cobweb texture of his argument. He said to both, "Have we yet made any contact with the Mule?"

"No," both answered.

"It's true, though, that we've tried, isn't it? It's true that there's not much purpose to our meeting unless we do reach him, isn't it? It's true that so far there's been more drinking than thinking, and more wooing than doing – I quote from an editorial in today's Radole Tribune – and all because we can't reach the Mule. Gentlemen, we have nearly a thousand ships waiting to be thrown into the fight at the proper moment to seize control of the Foundation. I say we should change that. I say, throw those thousand onto the board now – *against the Mule.*"

"You mean for the Tyrant Indbur and the bloodsuckers of the Foundation?" demanded Mangin, with quiet venom.

Randu raised a weary hand, "Spare me the adjectives. Against the Mule, I say, and for I-don't-care-who."

Ovall Gri rose, "Randu, I'll have nothing to do with that, You present it to the full council tonight if you particularly hunger for political suicide."

He left without another word and Mangin followed silently, leaving Randu to drag out a lonely hour of endless, insoluble consideration.

At the full council that night, he said nothing.

But it was Ovall Gri who pushed into his room the next morning; an Ovall Gri only sketchily dressed and who had neither shaved nor combed his hair.

Randu stared at him over a yet-uncleared breakfast table with an astonishment sufficiently open and strenuous to cause him to drop his pipe.

Ovall said baldly, harshly. "Mnemon has been bombarded from space by treacherous attack."

Randu's eyes narrowed, "The Foundation?"

"The Mule!" exploded Ovall. "The Mule!" His words raced, "It was unprovoked and deliberate. Most of our fleet had joined the international flotilla. The few left as Home Squadron were insufficient and were blown out of the sky. There have been no landings yet, and there may not be, for half the attackers are reported destroyed – but it is war – and I have come to ask how Haven stands on the matter."

"Haven, I am sure, will adhere to the spirit of the Charter of Federation. But, you see? He attacks us as well."

"This Mule is a madman. Can he defeat the universe?" He faltered and sat down to seize Randu's wrist, "Our few survivors have reported the Mule's poss . . . enemy's possession of a new weapon. A nuclear-field depressor."

"A what?"

Ovall said, "Most of our ships were lost because their nuclear weapons failed them. It could not have happened by either accident or sabotage. It must have been a weapon of the Mule. It didn't work perfectly; the effect was intermittent; there were ways to neutralize – my dispatches are not detailed. But you see that such a tool would change the nature of war and, possibly, make our entire fleet obsolete."

Randu felt an old, old man. His face sagged hopelessly, "I am afraid a monster is grown that will devour all of us. Yet we must fight him."

17. THE VISI-SONOR

Ebling Mis's house in a not-so-pretentious neighborhood of Terminus City was well known to the intelligentsia, literati, and just-plain-well-read of the Foundation. Its notable characteristics depended, subjectively, upon the source material that was read. To a thoughtful biographer, it was the "symbolization of a retreat from a nonacademic reality," a society columnist gushed silkily at its "frightfully masculine atmosphere of careless disorder," a University Ph.D. called it brusquely, "bookish, but unorganized," a nonuniversity friend said, "good for a drink anytime and you can put your feet on the sofa," and a breezy newsweekly broadcast, that went in for color, spoke of the "rocky, down-to-earth, no-nonsense living quarters of blaspheming, Leftish, balding Ebling Mis."

To Bayta, who thought for no audience but herself at the moment, and who had the advantage of first-hand information, it was merely sloppy.

Except for the first few days, her imprisonment had been a light burden. Far lighter, it seemed, that this half-hour wait in the psychologist's home – under secret observation, perhaps? She had been with Toran then, at least.

Perhaps she might have grown wearier of the strain, had not Magnifico's long nose drooped in a gesture that plainly showed his own far greater tension.

Magnifico's pipe-stem legs were folded up under a pointed, sagging chin, as if he were trying to huddle himself into disappearance, and Bayta's hand went out in a gentle and automatic gesture of reassurance. Magnifico winced, then smiled.

"Surely, my lady, it would seem that even yet my body denies the knowledge of my mind and expects of others' hands a blow."

"There's no need for worry, Magnifico. I'm with you, and I won't let anyone hurt you."

The clown's eyes sidled towards her, then drew away quickly. "But they kept me away from you earlier – and from your kind husband – and, on my word, you may laugh, but I was lonely for missing friendship."

"I wouldn't laugh at that. I was, too."

The clown brightened, and he hugged his knees closer. He said, "You have not met this man who will see us?" It was a cautious question.

"No. But he is a famous man. I have seen him in the newscasts and heard quite a good deal of him. I think he's a good man, Magnifico, who means us no harm."

"Yes?" The clown stirred uneasily. "That may be, my lady, but he has questioned me before, and his manner is of an abruptness and loudness that bequivers me. He is full of strange words, so that the answers to his questions could not worm out of my throat. Almost, I might believe the romancer who once played on my ignorance with a tale that, at such moments, the heart lodged in the windpipe and prevented speech."

"But it's different now. We're two to his one, and he won't be able to frighten the both of us, will he?"

"No, my lady."

A door slammed somewhere, and the roaring of a voice entered the house. Just outside the room, it coagulated into words with a fierce, "Get the "Ga-LAX-y out of here!" and two uniformed guards were momentarily visible through the opening door, in quick retreat.

Ebling Mis entered frowning, deposited a carefully wrapped bundle on the floor, and approached to shake Bayta's hand with careless pressure. Bayta returned it vigorously, man-fashion. Mis did a double-take as he turned to the clown, and favored the girl with a longer look.

He said, "Married?"

"Yes. We went through the legal formalities."

Mis paused. Then, "Happy about it?"

"So far."

Mis shrugged, and turned again to Magnifico. He unwrapped the package, "Know what this is, boy?"

Magnifico fairly hurled himself out of his seat and caught the multi-keyed instrument. He fingered the myriad knobby contacts and threw a sudden back somersault of joy, to the imminent destruction of the nearby furniture.

He croaked, "A Visi-Sonor – and of a make to distill joy out of a dead man's heart." His long fingers caressed softly and slowly, pressing lightly on contacts with a rippling motion, resting momentarily on one key then another – and in the air before them there was a soft glowing rosiness, just inside the range of vision.

Ebling Mis said, "All right, boy, you said you could pound on one of those gadgets, and there's your chance. You'd better tune it, though. It's out of a museum." Then, in an aside to Bayta, "Near as I can make it, no one on the Foundation can make it talk right."

He leaned closer and said quickly, "The clown won't talk without you. Will you help?"

She nodded.

"Good!" he said. "His state of fear is almost fixed, and I doubt that his mental strength would possibly stand a psychic probe. If I'm to get anything out of him otherwise, he's got to feel absolutely at ease. You understand?"

She nodded again.

"This Visi-Sonor is the first step in the process. He says he can play it; and his reaction now makes it pretty certain that it's one of the great joys of his life. So whether the playing is good or bad, be interested and appreciative. Then exhibit friendliness and confidence in me. Above all, follow my lead in everything." There was a swift glance at Magnifico, huddled in a corner of the sofa, making rapid adjustments in the interior of the instrument. He was completely absorbed.

Mis said in a conversational tone to Bayta, "Ever hear a Visi-Sonor?"

"Once," said Bayta, equally casually, "at a concert of rare instruments. I wasn't impressed."

"Well, I doubt that you came across good playing. There are very few really good players. It's not so much that it requires physical coordination – a multi-bank piano requires more, for instance – as a certain type of free-wheeling mentality." In a lower voice, "That's why our living skeleton there might be better than we think. More often than not, good players are idiots otherwise. It's one of those queer setups that makes psychology interesting."

He added, in a patent effort to manufacture light conversation, "You know how the beblistered thing works? I looked it up for this purpose, and all I've made out so far is that its radiations stimulate the optic center of the brain directly, without ever touching the optic nerve. It's actually the utilization of a sense never met with in ordinary nature. Remarkable, when you come to think of it. What you hear is all right. That's ordinary. Eardrum, cochlea, all that. But – *Shh!* He's ready. Will you kick that switch. It works better in the dark."

In the darkness, Magnifico was a mere blob, Ebling Mis a heavy-breathing mass. Bayta found herself straining her eyes anxiously, and at first with no effect. There was a

thin, reedy quaver in the air, that wavered raggedly up the scale. It hovered, dropped and caught itself, gained in body, and swooped into a booming crash that had the effect of a thunderous split in a veiling curtain.

A little globe of pulsing color grew in rhythmic spurts and burst in midair into formless goutts that swirled high and came down as curving streamers in interfacing patterns. They coalesced into little spheres, no two alike in color – and Bayta began discovering things.

She noticed that closing her eyes made the color pattern all the clearer; that each little movement of color had its own little pattern of sound; that she could not identify the colors; and, lastly, that the globes were not globes but little figures.

Little figures; little shifting flames, that danced and flickered in their myriads; that dropped out of sight and returned from nowhere; that whipped about one another and coalesced then into a new color.

Incongruously, Bayta thought of the little blobs of color that come at night when you close your eyelids till they hurt, and stare patiently. There was the old familiar effect of the marching polka dots of shifting color, of the contracting concentric circles, of the shapeless masses that quiver momentarily. All that, larger, multivaried – and each little dot of color a tiny figure.

They darted at her in pairs, and she lifted her hands with a sudden gasp, but they tumbled and for an instant she was the center of a brilliant snowstorm, while cold light slipped off her shoulders and down her arm in a luminous ski-slide, shooting off her stiff fingers and meeting slowly in a shining midair focus. Beneath it all, the sound of a hundred instruments flowed in liquid streams until she could not tell it from the light.

She wondered if Ebling Mis were seeing the same thing, and if not, what he did see, The wonder passed, and then–

She was watching again. The little figures-were they little figures? –little tiny women with burning hair that turned and bent too quickly for the mind to focus? –seized one another in star-shaped groups that turned – and the music was faint laughter – girls' laughter that began inside the ear.

The stars drew together, sparked towards one another, grew slowly into structure – and from below, a palace shot upward in rapid evolution. Each brick a tiny color, each color a tiny spark, each spark a stabbing light that shifted patterns and led the eye skyward to twenty jeweled minarets.

A glittering carpet shot out and about, whirling, spinning an insubstantial web that engulfed all space, and from it luminous shoots stabbed upward and branched into trees that sang with a music all their own.

Bayta sat inclosed in it. The music welled about her in rapid, lyrical flights. She reached out to touch a fragile tree and blossoming spicules floated downwards and faded, each with its clear, tiny tinkle.

The music crashed in twenty cymbals, and before her an area flamed up in a spout and cascaded down invisible steps into Bayta's lap, where it spilled over and flowed in

rapid current, raising the fiery sparkle to her waist, while across her lap was a rainbow bridge and upon it the little figures—

A palace, and a garden, and tiny men and women on a bridge, stretching out as far as she could see, swimming through the stately swells of stringed music converging in upon her—

And then – there seemed a frightened pause, a hesitant, indrawn motion, a swift collapse. The colors fled, spun into a globe that shrank, and rose, and disappeared.

And it was merely dark again.

A heavy foot scratched for the pedal, reached it, and the light flooded in; the flat light of a prosy sun. Bayta blinked until the tears came, as though for the longing of what was gone. Ebling Mis was a podgy inertness with his eyes still round and his mouth still open.

Only Magnifico himself was alive, and he fondled his Visi-Sonor in a crooning ecstasy.

"My lady," he gasped, "it is indeed of an effect the most magical. It is of balance and response almost beyond hope in its delicacy and stability. On this, it would seem I could work wonders. How liked you my composition, my lady?"

"Was it yours?" breathed Bayta. "Your own?"

At her awe, his thin face turned a glowing red to the tip of his mighty nose. "My very own, my lady. The Mule liked it not, but often and often I have played it for my own amusement. It was once, in my youth, that I saw the palace – a gigantic place of jeweled riches that I saw from a distance at a time of high carnival. There were people of a splendor undreamed of – and magnificence more than ever I saw afterwards, even in the Mule's service. It is but a poor makeshift I have created, but my mind's poverty precludes more. I call it, 'The Memory of Heaven.'"

Now through the midst of the chatter, Mis shook himself to active life. "Here," he said, "here, Magnifico, would you like to do that same thing for others?"

For a moment, the clown drew back. "For others?" he quavered.

"For thousands," cried Mis, "in the great Halls of the Foundation. Would you like to be your own master, and honored by all, wealthy, and . . . and—" his imagination failed him. "And all that? Eh? What do you say?"

"But how may I be all that, mighty sir, for indeed I am but a poor clown ungiven to the great things of the world?"

The psychologist puffed out his lips, and passed the back of his hand across his brow. He said, "But your playing, man. The world is yours if you would play so for the mayor and his Trading Trusts. Wouldn't you like that?"

The clown glanced briefly at Bayta, "Would *she* stay with me?"

Bayta laughed, "Of course, silly. Would it be likely that I'd leave you now that you're on the point of becoming rich and famous?"

"It would all be yours," he replied earnestly, "and surely the wealth of Galaxy itself would be yours before I could repay my debt to your kindness."

"But," said Mis, casually, "if you would first help me—"

"What is that?"

The psychologist paused, and smiled, "A little surface probe that doesn't hurt. It wouldn't touch but the peel of your brain."

There was a flare of deadly fear in Magnifico's eyes. "Not a probe. I have seen it used. It drains the mind and leaves an empty skull. The Mule did use it upon traitors and let them wander mindless through the streets, until out of mercy, they were killed." He held up his hand to push Mis away.

"That was a psychic probe," explained Mis, patiently, "and even that would only harm a person when misused. This probe I have is a surface probe that wouldn't hurt a baby. "

"That's right, Magnifico," urged Bayta. "It's only to help beat the Mule and keep him far away. Once that's done, you and I will be rich and famous all our lives."

Magnifico held out a trembling hand, "Will you hold my hand, then?"

Bayta took it in both her own, and the clown watched the approach of the burnished terminal plates with large eyes.

Ebling Mis rested carelessly on the too-lavish chair in Mayor Indbur's private quarters, unregenerately unthankful for the condescension shown him and watched the small mayor's fidgeting unsympathetically. He tossed away a cigar stub and spat out a shred of tobacco.

"And, incidentally, if you want something for your next concert at Mallow Hall, Indbur," he said, "you can dump out those electronic gadgeteers into the sewers they came from and have this little freak play the Visi-Sonor for you. Indbur – it's out of this world."

Indbur said peevishly, "I did not call you here to listen to your lectures on music. What of the Mule? Tell me that. What of the Mule?"

"The Mule? Well, I'll tell you – I used a surface probe and got little. Can't use the psychic probe because the freak is scared blind of it, so that his resistance will probably blow his unprintable mental fuses as soon as contact is made. But this is what I've got, if you'll just stop tapping your fingernails–

"First place, de-stress the Mule's physical strength. He's probably strong, but most of the freak's fairy tales about it are probably considerably blown up by his own fearful memory, He wears queer glasses and his eyes kill, he evidently has mental powers."

"So much we had at the start," commented the mayor, sourly.

"Then the probe confirms it, and from there on I've been working mathematically."

"So? And how long will all this take? Your word-rattling will deafen me yet."

"About a month, I should say, and I may have something for you. And I may not, of course. But what of it? If this is all outside Seldon's plans, our chances are precious little, unprintable little."

Indbur whirled on the psychologist fiercely, "Now I have you, traitor. Lie! Say you're not one of these criminal rumormongers that are spreading defeatism and panic through the Foundation, and making my work doubly hard."

"I? I?" Mis gathered anger slowly.

Indbur swore at him, "Because by the dust-clouds of space, the Foundation will win – the Foundation *must* win."

"Despite the loss at Horleggor?"

"It was not a loss. You have swallowed that spreading lie, too? We were outnumbered and betrayed—"

"By whom?" demanded Mis, contemptuously.

"By the lice-ridden democrats of the gutter," shouted Indbur back at him. "I have known for long that the fleet has been riddled by democratic cells. Most have been wiped out, but enough remain for the unexplained surrender of twenty ships in the thickest of the swarming fight. Enough to force an apparent defeat.

"For that matter, my rough-tongued, simple patriot and epitome of the primitive virtues, what are your own connections with the democrats?"

Ebling Mis shrugged it off, "You rave, do you know that? What of the retreat since, and the loss of half of Siwenna? Democrats again?"

"No. Not democrats," the little man smiled sharply. "We retreat – as the Foundation has always retreated under attack, until the inevitable march of history turns with us. Already, I see the outcome. Already, the so-called underground of the democrats has issued manifestoes swearing aid and allegiance to the Government. It could be a feint, a cover for a deeper treachery, but I make good use of it, and the propaganda distilled from it will have its effect, whatever the crawling traitors scheme. And better than that—"

"Even better than that, Indbur?"

"Judge for yourself. Two days ago, the so-called Association of Independent Traders declared war on the Mule, and the Foundation fleet is strengthened, at a stroke, by a thousand ships. You see, this Mule goes too far. He finds us divided and quarreling among ourselves and under the pressure of his attack we unite and grow strong. He *must* lose. It is inevitable – as always."

Mis still exuded skepticism, "Then you tell me that Seldon planned even for the fortuitous occurrence of a mutant."

"A mutant! I can't tell him from a human, nor could you but for the ravings of a rebel captain, some outland youngsters, and an addled juggler and clown. You forget the most conclusive evidence of all – your own."

"My own?" For just a moment, Mis was startled.

"Your own," sneered the mayor. "The Time Vault opens in nine weeks. What of that? It opens for a crisis. If this attack of the Mule is not the crisis, where is the 'real' one, the one the Vault is opening for? Answer me, you lardish ball."

The psychologist shrugged, "All tight. If it keeps you happy. Do me a favor, though. Just in case . . . just in case old Seldon makes his speech and it *does* go sour, suppose you let me attend the Grand Opening."

"All right. Get out of here. And stay out of my sight for nine weeks."

"With unprintable pleasure, you wizened horror," muttered Mis to himself as he left.

18. FALL OF THE FOUNDATION

There was an atmosphere about the Time Vault that just missed definition in several directions at once. It was not one of decay, for it was well-lit and well-conditioned, with the color scheme of the walls lively, and the rows of fixed chairs comfortable and apparently designed for eternal use. It was not even ancient, for three centuries had left no obvious mark. There was certainly no effort at the creation of awe or reverence, for the appointments were simple and everyday – next door to bareness, in fact.

Yet after all the negatives were added and the sum disposed of, something was left – and that something centered about the glass cubicle that dominated half the room with its clear emptiness. Four times in three centuries, the living simulacrum of Hari Seldon himself had sat there and spoken. Twice he had spoken to no audience.

Through three centuries and nine generations, the old man who had seen the great days of universal empire projected himself – and still he understood more of the Galaxy of his great-ultra-great-grandchildren, than did those grandchildren themselves.

Patiently that empty cubicle waited.

The first to arrive was Mayor Indbur III, driving his ceremonial ground car through the hushed and anxious streets. Arriving with him was his own chair, higher than those that belonged there, and wider. It was placed before all the others, and Indbur dominated all but the empty glassiness before him.

The solemn official at his left bowed a reverent head. "Excellence, arrangements are completed for the widest possible sub-etheric spread for the official announcement by your excellence tonight."

"Good. Meanwhile, special interplanetary programs concerning the Time Vault are to continue. There will, of course, be no predictions or speculations of any sort on the subject. Does popular reaction continue satisfactory?"

"Excellence, very much so. The vicious rumors prevailing of late have decreased further. Confidence is widespread."

"Good!" He gestured the man away and adjusted his elaborate neckpiece to a nicety.

It was twenty minutes of noon!

A select group of the great props of the mayoralty – the leaders of the great Trading organizations – appeared in ones and twos with the degree of pomp appropriate to their financial status and place in mayoral favor. Each presented himself to the mayor, received a gracious word or two, took an assigned seat.

Somewhere, incongruous among the stilted ceremony of all this, Randu of Haven made his appearance and wormed his way unannounced to the mayor's seat.

"Excellence!" he muttered, and bowed.

Indbur frowned. "You have not been granted an audience. "

"Excellence, I have requested one for a week."

"I regret that the matters of State involved in the appearance of Seldon have—"

"Excellence, I regret them, too, but I must ask you to rescind your order that the ships of the Independent Traders be distributed among the fleets of the Foundation."

Indbur had flushed red at the interruption. "This is not the time for discussion."

"Excellence, it is the only time," Randu whispered urgently. "As representative of the Independent Trading Worlds, I tell you such a move can not be obeyed. It must be rescinded before Seldon solves our problem for us. Once the emergency is passed, it will be too late to conciliate and our alliance will melt away."

Indbur stared at Randu coldly. "You realize that I am head of the Foundation armed forces? Have I the right to determine military policy or have I not?"

"Excellence, you have, but some things are inexpedient."

"I recognize no inexpediency. It is dangerous to allow your people separate fleets in this emergency. Divided action plays into the hands of the enemy. We must unite, ambassador, militarily as well as politically."

Randu felt his throat muscles tighten. He omitted the courtesy of the opening title. "You feel safe now that Seldon will speak, and you move against us. A month ago you were soft and yielding, when our ships defeated the Mule at Terel. I might remind you, sir, that it is the Foundation Fleet that has been defeated in open battle five times, and that the ships of the Independent Trading Worlds have won your victories for you."

Indbur frowned dangerously, "You are no longer welcome upon Terminus, ambassador. Your return will be requested this evening. Furthermore, your connection with subversive democratic forces on Terminus will be – and has been – investigated."

Randu replied, "When I leave, our ships will go with me. I know nothing of your democrats. I know only that your Foundation's ships have surrendered to the Mule by the treason of their high officers, not their sailors, democratic or otherwise. I tell you that twenty ships of the Foundation surrendered at Horleggor at the orders of their rear admiral, when they were unharmed and unbeaten. The rear admiral was your own close associate – he presided at the trial of my nephew when he first arrived from Kalgan. It is not the only case we know of and our ships and men will not be risked under potential traitors.

Indbur said, "You will be placed under guard upon leaving here."

Randu walked away under the silent stares of the contemptuous coterie of the rulers of Terminus.

It was ten minutes of twelve!

Bayta and Toran had already arrived. They rose in their back seats and beckoned to Randu as he passed.

Randu smiled gently, "You are here after all. How did you work it?"

"Magnifico was our politician," grinned Toran. "Indbur insists upon his Visi-Sonor composition based on the Time Vault, with himself, no doubt, as hero. Magnifico refused to attend without us, and there was no arguing him out of it. Ebling Mis is with us, or was. He's wandering about somewhere." Then, with a sudden access of anxious gravity, "Why, what's wrong, uncle? You don't look well."

Randu nodded, "I suppose not. We're in for bad times, Toran. When the Mule is disposed of, our turn will come, I'm afraid. "

A straight solemn figure in white approached, and greeted them with a stiff bow.

Bayta's dark eyes smiled, as she held out her hand, "Captain Pritcher! Are you on space duty then?"

The captain took the hand and bowed lower, "Nothing like it. Dr. Mis, I understand, has been instrumental in bringing me here, but it's only temporary. Back to home guard tomorrow. What time is it?"

It was three minutes of twelve!

Magnifico was the picture of misery and heartsick depression. His body curled up, in his eternal effort at self-effacement. His long nose was pinched at the nostrils and his large, down-slanted eyes darted uneasily about.

He clutched at Bayta's hand, and when she bent down, he whispered, "Do you suppose, my lady, that all these great ones were in the audience, perhaps, when I . . . when I played the Visi-Sonor?"

"Everyone, I'm sure," Bayta assured him, and shook him gently. "And I'm sure they all think you're the most wonderful player in the Galaxy and that your concert was the greatest ever seen, so you just straighten yourself and sit correctly. We must have dignity."

He smiled feebly at her mock-frown and unfolded his long-boned limbs slowly.

It was noon – and the glass cubicle was no longer empty.

It was doubtful that anyone had witnessed the appearance. It was a clean break; one moment not there and the next moment there.

In the cubicle was a figure in a wheelchair, old and shrunken, from whose wrinkled face bright eyes shone, and whose voice, as it turned out, was the liveliest thing about him. A book lay face downward in his lap, and the voice came softly.

"I am Hari Seldon!"

He spoke through a silence, thunderous in its intensity.

"I am Hari Seldon! I do not know if anyone is here at all by mere sense-perception but that is unimportant. I have few fears as yet of a breakdown in the Plan. For the first three centuries the percentage probability of nondeviation is nine-four point two."

He paused to smile, and then said genially, "By the way, if any of you are standing, you may sit. If any would like to smoke, please do. I am not here in the flesh. I require no ceremony.

"Let us take up the problem of the moment, then. For the first time, the Foundation has been faced, or perhaps, is in the last stages of facing, civil war. Till now, the attacks from without have been adequately beaten off, and inevitably so, according to the strict laws of psychohistory. The attack at present is that of a too-undisciplined outer group of the Foundation against the too-authoritarian central government. The procedure was necessary, the result obvious."

The dignity of the high-born audience was beginning to break. Indbur was half out of his chair.

Bayta leaned forward with troubled eyes. What was the great Seldon talking about? She had missed a few of the words—

"—that the compromise worked out is necessary in two respects. The revolt of the Independent Traders introduces an element of new uncertainty in a government perhaps grown over-confident. The element of striving is restored. Although beaten, a healthy increase of democracy—"

There were raised voices now. Whispers had ascended the scale of loudness, and the edge of panic was in them.

Bayta said in Toran's ear, "Why doesn't he talk about the Mule? The Traders never revolted."

Toran shrugged his shoulders.

The seated figure spoke cheerfully across and through the increasing disorganization:

"—a new and firmer coalition government was the necessary and beneficial outcome of the logical civil war forced upon the Foundation. And now only the remnants of the old Empire stand in the way of further expansion, and in them, for the next few years, at any rate, is no problem. Of course, I can not reveal the nature of the next prob—"

In the complete uproar, Seldon's lips moved soundlessly.

Ebling Mis was next to Randu, face ruddy. He was shouting. "Seldon is off his rocker. He's got the wrong crisis. Were your Traders ever planning civil war?"

Randu said thinly, "We planned one, yes. We called it off in the face of the Mule."

"Then the Mule is an added feature, unprepared for in Seldon's psychohistory. Now what's happened?"

In the sudden, frozen silence, Bayta found the cubicle once again empty. The nuclear glow of the walls was dead, the soft current of conditioned air absent.

Somewhere the sound of a shrill siren was rising and falling in the scale and Randu formed the words with his lips, "Space raid!"

And Ebling Mis held his wrist watch to his ears and shouted suddenly, "Stopped, by the "Ga-LAX-y, is there a watch in the room that is going?" His voice was a roar.

Twenty wrists went to twenty ears. And in far less than twenty seconds, it was quite certain that none were.

"Then," said Mis, with a grim and horrible finality, "something has stopped all nuclear power in the Time Vault – and the Mule is attacking."

Indbur's wail rose high above the noise, "Take your seats! The Mule is fifty parsecs distant."

"He was," shouted back Mis, "a week ago. Right now, Terminus is being bombarded."

Bayta felt a deep depression settle softly upon her. She felt its folds tighten close and thick, until her breath forced its way only with pain past her tightened throat.

The outer noise of a gathering crowd was evident. The doors were thrown open and a harried figure entered, and spoke rapidly to Indbur, who had rushed to him.

"Excellence," he whispered, "not a vehicle is running in the city, not a communication line to the outside is open.

The Tenth Fleet is reported defeated and the Mule's ships are outside the atmosphere. The general staff—"

Indbur crumpled, and was a collapsed figure of impotence upon the floor. In all that hall, not a voice was raised now. Even the growing crowd without was fearful, but silent, and the horror of cold panic hovered dangerously.

Indbur was raised. Wine was held to his lips. His lips moved before his eyes opened, and the word they formed was, "Surrender!"

Bayta found herself near to crying – not for sorrow or humiliation, but simply and plainly out of a vast frightened despair. Ebling Mis plucked at her sleeve. "Come, young lady—"

She was pulled out of her chair, bodily.

"We're leaving," he said, "and take your musician with you." The plump scientist's lips were trembling and colorless.

"Magnifico," said Bayta, faintly. The clown shrank in horror. His eyes were glassy.

"The Mule," he shrieked. "The Mule is coming for me."

He thrashed wildly at her touch. Toran leaned over and brought his fist up sharply. Magnifico slumped into unconsciousness and Toran carried him out potato-sack fashion.

The next day, the ugly, battle-black ships of the Mule poured down upon the landing fields of the planet Terminus. The attacking general sped down the empty main street of Terminus City in a foreign-made ground car that ran where a whole city of atomic cars still stood useless.

The proclamation of occupation was made twenty-four hours to the minute after Seldon had appeared before the former mighty of the Foundation.

Of all the Foundation planets, only the Independent Traders still stood, and against them the power of the Mule – conqueror of the Foundation – now turned itself.

19. START OF THE SEARCH

The lonely planet, Haven – only planet of an only sun of a Galactic Sector that trailed raggedly off into intergalactic vacuum – was under siege.

In a strictly military sense, it was certainly under siege, since no area of space on the Galactic side further than twenty parsecs distance was outside range of the Mule's advance bases. In the four months since the shattering fall of the Foundation, Haven's communications had fallen apart like a spiderweb under the razor's edge. The ships of Haven converged inwards upon the home world, and only Haven itself was now a fighting base.

And in other respects, the siege was even closer; for the shrouds of helplessness and doom had already invaded.

Bayta plodded her way down the pink-waved aisle past the rows of milky plastic-topped tables and found her seat by blind reckoning. She eased on to the high, armless chair, answered half-heard greetings mechanically, rubbed a wearily-itching eye with the back of a weary hand, and reached for her menu.

She had time to register a violent mental reaction of distaste to the pronounced presence of various cultured-fungus dishes, which were considered high delicacies at Haven, and which her Foundation taste found highly inedible – and then she was aware of the sobbing near her and looked up.

Until then, her notice of Juddee, the plain, snub-nosed, indifferent blonde at the dining unit diagonally across had been the superficial one of the nonacquaintance. And now Juddee was crying, biting woefully at a moist handkerchief, and choking back sobs until her complexion was blotched with turgid red. Her shapeless radiation-proof costume was thrown back upon her shoulders, and her transparent face shield had tumbled forward into her dessert, and there remained.

Bayta joined the three girls who were taking turns at the eternally applied and eternally inefficacious remedies of shoulder-patting, hair-smoothing, and incoherent murmuring.

"What's the matter?" she whispered.

One turned to her and shrugged a discreet, "I don't know." Then, feeling the inadequacy of the gesture, she pulled Bayta aside.

"She's had a hard day, I guess. And she's worrying about her husband."

"Is he on space patrol?"

"Yes".

Bayta reached a friendly hand out to Juddee.

"Why don't you go home, Juddee?" Her voice was a cheerfully businesslike intrusion on the soft, flabby inanities that had preceded.

Juddee looked up half in resentment. "I've been out once this week already–"

"Then you'll be out twice. If you try to stay on, you know, you'll just be out three days next week – so going home now amounts to patriotism. Any of you girls work in her department? Well, then, suppose you take care of her card. Better go to the washroom first, Juddee, and get the peaches and cream back where it belongs. Go ahead! Shoo!"

Bayta returned to her seat and took up the menu again with a dismal relief. These moods were contagious. One weeping girl would have her entire department in a frenzy these nerve-torn days.

She made a distasteful decision, pressed the correct buttons at her elbow and put the menu back into its niche.

The tall, dark girl opposite her was saying, "Isn't much any of us can do except cry, is there?"

Her amazingly full lips scarcely moved, and Bayta noticed that their ends were carefully touched to exhibit that artificial, just-so half-smile that was the current last word in sophistication.

Bayta investigated the insinuating thrust contained in the words with lashed eyes and welcomed the diversion of the arrival of her lunch, as the tile-top of her unit moved inward and the food lifted. She tore the wrappings carefully off her cutlery and handled them gingerly till they cooled.

She said, "Can't you think of anything else to do, Hella?"

"Oh, yes," said Hella. "I can!" She flicked her cigarette with a casual and expert finger-motion into the little recess provided and the tiny flash caught it before it hit shallow bottom.

"For instance," and Hella clasped slender, well-kept hands under her chin, "I think we could make a very nice arrangement with the Mule and stop all this nonsense. But then I don't have the . . . uh . . . facilities to manage to get out of places quickly when the Mule takes over."

Bayta's clear forehead remained clear. Her voice was light and indifferent. "You don't happen to have a brother or husband in the fighting ships, do you?"

"No. All the more credit that I see no reason for the sacrifice of the brothers and husbands of others."

"The sacrifice will come the more surely for surrender."

"The Foundation surrendered and is at peace. Our men are away and the Galaxy is against us."

Bayta shrugged, and said sweetly, "I'm afraid it is the first of the pair that bothers you." She returned to her vegetable platter and ate it with the clammy realization of the silence about her. No one in ear-shot had cared to answer Hella's cynicism.

She left quickly, after stabbing at the button which cleared her dining unit for the next shift's occupant.

A new girl, three seats away, stage-whispered to Hella, "Who was she?"

Hella's mobile lips curled in indifference. "She's our coordinator's niece. Didn't you know that?"

"Yes?" Her eyes sought out the last glimpse of disappearing back. "What's she doing here?"

"Just an assembly girl. Don't you know it's fashionable to be patriotic? It's all so democratic, it makes me retch."

"Now, Hella," said the plump girl to her right. "She's never pulled her uncle on us yet. Why don't you lay off?"

Hella ignored her neighbor with a glazed sweep of eyes and lit another cigarette.

The new girl was listening to the chatter of the bright-eyed accountant opposite. The words were coming quickly,

"—and she's supposed to have been in the Vault — actually in the Vault, you know — when Seldon spoke — and they say the mayor was in frothing furies and there were riots, and all of that sort of thing, you know. She got away before the Mule landed, and they say she had the most tha-rilling escape — had to go through the blockade, and all — and I do wonder she doesn't write a book about it, these war books being so popular these

days, you know. And she was supposed to be on this world of the Mule's, too – Kalgan, you know – and–"

The time bell shrilled and the dining room emptied slowly. The accountant's voice buzzed on, and the new girl interrupted only with the conventional and wide-eyed, "Really-y-y-y?" at appropriate points.

The huge cave lights were being shielded group-wise in the gradual descent towards the darkness that meant sleep for the righteous and hard-working, when Bayta returned home.

Toran met her at the door, with a slice of buttered bread in his hand.

"Where've you been?" he asked, food-muffled. Then, more clearly, "I've got a dinner of sorts rassled up. If it isn't much, don't blame me."

But she was circling him, wide-eyed. "Torie! Where's your uniform? What are you doing in civvies?"

"Orders, Bay. Randu is holed up with Ebling Mis right now, and what it's all about, I don't know. So there you have everything."

"Am I going?" She moved towards him impulsively.

He kissed her before he answered, "I believe so. It will probably be dangerous."

"What isn't dangerous?"

"Exactly. Oh, yes, and I've already sent for Magnifico, so he's probably coming too."

"You mean his concert at the Engine Factory will have to be cancelled."

"Obviously."

Bayta passed into the next room and sat down to a meal that definitely bore signs of having been "rassled-up." She cut the sandwiches in two with quick efficiency and said:

"That's too bad about the concert. The girls at the factory were looking forward to it. Magnifico, too, for that matter." She shook her head. "He's such a queer thing."

"Stirs your mother-complex, Bay, that's what he does. Some day we'll have a baby, and then you'll forget Magnifico."

'Bayta answered from the depths of her sandwich, "Strikes me that you're all the stirring my mother-complex can stand."

And then she laid the sandwich down, and was gravely serious in a moment.

"Torie."

"M-m-m?"

"Torie, I was at City Hall today – at the Bureau of Production. That is why I was so late today."

"What were you doing there?"

"Well. . . " she hesitated, uncertainly. "It's been building up. I was getting so I couldn't stand it at the factory. Morale just doesn't exist. The girls go on crying jags for no particular reason. Those who don't get sick become sullen. Even the little mousie types pout. In my particular section, production isn't a quarter what it was when I came, and there isn't a day that we have a full roster of workers."

"All right," said Toran, "tie in the B. of P. What did you do there?"

"Asked a few questions. And it's so, Torie, it's so all over Haven. Dropping production, increasing sedition and disaffection. The bureau chief just shrugged his shoulders – after I had sat in the anteroom an hour to see him, and only got in because I was the coordinator's niece – and said it was beyond him. Frankly, I don't think he cared."

"Now, don't go off base, Bay."

"I don't think he did." She was strenuously fiery. "I tell you there's something wrong. It's that same horrible frustration that hit me in the Time Vault when Seldon deserted us. You felt it yourself."

"Yes, I did."

"Well, it's back," she continued savagely. "And we'll never be able to resist the Mule. Even if we had the material, we lack the heart, the spirit, the will – Torie, there's no use fighting–"

Bayta had never cried in Toran's memory, and she did not cry now. Not really. But Toran laid a light hand on her shoulder and whispered, "Suppose you forget it, baby. I know what you mean. But there's nothing–"

"Yes, there's nothing we can do! Everyone says that – and we just sit and wait for the knife to come down."

She returned to what was left of her sandwich and tea. Quietly, Toran was arranging the beds. It was quite dark outside.

Randu, as newly-appointed coordinator – in itself a wartime post – of the confederation of cities on Haven, had been assigned, at his own request, to an upper room, out of the window of which he could brood over the roof tops and greenery of the city. Now, in the fading of the cave lights, the city receded into the level lack of distinction of the shades. Randu did not care to meditate upon the symbolism.

He said to Ebling Mis – whose clear, little eyes seemed to have no further interest than the red-filled goblet in his hand – "There's a saying on Haven that when the cave lights go out, it is time for the righteous and hard-working to sleep."

"Do you sleep much lately?"

"No! Sorry to call you so late, Mis. I like the night better somehow these days. Isn't that strange? The people on Haven condition themselves pretty strictly on the lack of light meaning sleep. Myself, too. But it's different now–"

"You're hiding," said Mis, flatly. "You're surrounded by people in the waking period, and you feel their eyes and their hopes on you. You can't stand up under it. In the sleep period, you're free."

"Do you feel it, too, then? This miserable sense of defeat?"

Ebling Mis nodded slowly, "I do. It's a mass psychosis, an unprintable mob panic. "Ga-LAX-y, Randu, what do you expect? Here you have a whole culture brought up to a blind, blubbering belief that a folk hero of the past has everything all planned out and is taking care of every little piece of their unprintable lives. The thought-pattern evoked has religious characteristics, and you know what that means."

"Not a bit."

Mis was not enthusiastic about the necessity of explanation. He never was. So he growled, stared at the long cigar he rolled thoughtfully between his fingers and said, "Characterized by strong faith reactions. Beliefs can't be shaken short of a major shock, in which case, a fairly complete mental disruption results. Mild cases-hysteria, morbid sense of insecurity. Advanced cases – madness and suicide."

Randu bit at a thumbnail. "When Seldon fails us, in other words, our prop disappears, and we've been leaning upon it so long, our muscles are atrophied to where we can not stand without it."

"That's it. Sort of a clumsy metaphor, but that's it."

"And you, Ebling, what of your own muscles?"

The psychologist filtered a long draught of air through his cigar, and let the smoke laze out. "Rusty, but not atrophied. My profession has resulted in just a bit of independent thinking."

"And you see a way out?"

"No, but there must be one. Maybe Seldon made no provisions for the Mule. Maybe he didn't guarantee our victory. But, then, neither did he guarantee defeat. He's just out of the game and we're on our own. The Mule can be licked."

"How?"

"By the only way anyone can be licked – by attacking in strength at weakness. See here, Randu, the Mule isn't a superman. If he is finally defeated, everyone will see that for himself. It's just that he's an unknown, and the legends cluster quickly. He's supposed to be a mutant. Well, what of that? A mutant means a 'superman' to the ignoramuses of humanity. Nothing of the sort."

"It's been estimated that several million mutants are born in the Galaxy every day. Of the several million, all but one or two percent can be detected only by means of microscopes and chemistry. Of the one or two percent macromutants, that is, those with mutations detectable to the naked eye or naked mind, all but one or two percent are freaks, fit for the amusement centers, the laboratories, and death. Of the few macromutants whose differences are to the good, almost all are harmless curiosities, unusual in some single respect, normal – and often subnormal – in most others. You see that, Randu?"

"I do. But what of the Mule?"

"Supposing the Mule to be a mutant then, we can assume that he has some attribute, undoubtedly mental, which can be used to conquer worlds. In other respects, he undoubtedly has his shortcomings, which we must locate. He would not be so secretive, so shy of others' eyes, if these shortcomings were not apparent and fatal. *If* he's a mutant."

"Is there an alternative?"

"There might be. Evidence for mutation rests on Captain Han Pritcher of what used to be Foundation's Intelligence. He drew his conclusions from the feeble memories of those who claimed to know the Mule-or somebody who might have been the Mule – in infancy and early childhood. Pritcher worked on slim pickings there, and what evidence he

found might easily have been planted by the Mule for his own purposes, for it's certain that the Mule has been vastly aided by his reputation as a mutant-superman."

"This is interesting. How long have you thought that?"

"I never thought that, in the sense of believing it. It is merely an alternative to be considered. For instance, Randu, suppose the Mule has discovered a form of radiation capable of depressing mental energy just as he is in possession of one which depresses nuclear reactions. What then, eh? Could that explain what's hitting us now – and what did hit the Foundation?"

Randu seemed immersed in a near-wordless gloom.

He said, "What of your own researches on the Mule's clown."

And now Ebling Mis hesitated. "Useless as yet. I spoke bravely to the mayor previous to the Foundation's collapse, mainly to keep his courage up – partly to keep my own up as well. But, Randu, if my mathematical tools were up to it, then from the clown alone I could analyze the Mule completely. Then we would have him. Then we could solve the queer anomalies that have impressed me already."

"Such as?"

"Think, man. The Mule defeated the navies of the Foundation at will, but he has not once managed to force the much weaker fleets of the Independent Traders to retreat in open combat. The Foundation fell at a blow; the Independent Traders hold out against all his strength. He first used Extinguishing Field upon the nuclear weapons of the Independent Traders of Mnemon. The element of surprise lost them that battle but they countered the Field. He was never able to use it successfully against the Independents again.

"But over and over again, it worked against Foundation forces. It worked on the Foundation itself. Why? With our present knowledge, it is all illogical. So there must be factors of which we are not aware."

"Treachery?"

"That's rattle-pated nonsense, Randu. Unprintable twaddle. There wasn't a man on the Foundation who wasn't sure of victory. Who would betray a certain-to-win side."

Randu stepped to the curved window and stared unseeingly out into the unseeable. He said, "But we're certain to lose now, if the Mule had a thousand weaknesses; if he were a network of holes—"

He did not turn. It was as if the slump of his back, the nervous groping for one another of the hands behind him that spoke. He said, "We escaped easily after the Time Vault episode, Ebling. Others might have escaped as well. A few did. Most did not. The Extinguishing Field could have been counteracted. It asked ingenuity and a certain amount of labor. All the ships of the Foundation Navy could have flown to Haven or other nearby planets to continue the fight as we did. Not one percent did so. In effect, they deserted to the enemy.

"The Foundation underground, upon which most people here seem to rely so heavily, has thus far done nothing of consequence. The Mule has been politic enough to

promise to safeguard the property and profits of the great Traders and they have gone over to him."

Ebling Mis said stubbornly, "The plutocrats have always been against us."

"They always held the power, too. Listen, Ebling. We have reason to believe that the Mule or his tools have already been in contact with powerful men among the Independent Traders. At least ten of the twenty-seven Trading Worlds are known to have gone over to the Mule. Perhaps ten more waver. There are personalities on Haven itself who would not be unhappy over the Mule's domination. It's apparently an insurmountable temptation to give up endangered political power, if that will maintain your hold over economic affairs. "

"You don't think Haven can fight the Mule?"

"I don't think Haven will." And now Randu turned his troubled face full upon the psychologist. "I think Haven is waiting to surrender. It's what I called you here to tell you. I want you to leave Haven."

Ebling Mis puffed up his plump cheeks in amazement. "Already?"

Randu felt horribly tired. "Ebling, you are the Foundation's greatest psychologist. The real master-psychologists went out with Seldon, but you're the best we have. You're our only chance of defeating the Mule. You can't do that here; you'll have to go to what's left of the Empire."

"To Trantor?"

"That's right. What was once the Empire is bare bones today, but something must still be at the center. They've got the records there, Ebling. You may learn more of mathematical psychology; perhaps enough to be able to interpret the clown's mind. He will go with you, of course."

Mis responded dryly, "I doubt if he'd be willing to, even for fear of the Mule, unless your niece went with him."

"I know that. Toran and Bayta are leaving with you for that very reason. And, Ebling, there's another, greater purpose. Hari Seldon founded *two* Foundations three centuries ago; one at each end of the Galaxy. *You must find that Second Foundation.*"

20. CONSPIRATOR

The mayor's palace – what was once the mayor's palace – was a looming smudge in the darkness. The city was quiet under its conquest and curfew, and the hazy milk of the great Galactic Lens, with here and there a lonely star, dominated the sky of the Foundation.

In three centuries the Foundation had grown from a private project of a small group of scientists to a tentacular trade empire sprawling deep into the Galaxy and half a year had flung it from its heights to the status of another conquered province.

Captain Han Pritcher refused to grasp that.

The city's sullen nighttime quiet, the darkened palace, intruder-occupied, were symbolic enough, but Captain Han Pritcher, just within the outer gate of the palace, with the tiny nuclear bomb under his tongue, refused to understand.

A shape drifted closer – the captain bent his head.

The whisper came deathly low, "The alarm system is as it always was, captain. Proceed! It will register nothing."

Softly, the captain ducked through the low archway, and down the fountain-lined path to what had been Indbur's garden.

Four months ago had been the day in the Time Vault, the fullness of which his memory balked at. Singly and separately the impressions would come back, unwelcome, mostly at night.

Old Seldon speaking his benevolent words that were so shatteringly wrong – the jumbled confusion – Indbur, with his mayoral costume incongruously bright about his pinched, unconscious face – the frightened crowds gathering quickly, waiting noiselessly for the inevitable word of surrender – the young man, Toran, disappearing out of a side door with the Mule's clown dangling over his shoulder.

And himself, somehow out of it all afterward, with his car unworkable. Shouldering his way along and through the leaderless mob that was already leaving the city – destination unknown.

Making blindly for the various rat holes which were – which had once been – the headquarters for a democratic underground that for eighty years had been failing and dwindling. And the rat holes were empty.

The next day, black alien ships were momentarily visible in the sky, sinking gently into the clustered buildings of the nearby city. Captain Han Pritcher felt an accumulation of helplessness and despair drown him.

He started his travels in earnest. In thirty days he had covered nearly two hundred miles on foot, changed to the clothing of a worker in the hydroponic factories whose body he found newly-dead by the side of the road, grown a fierce beard of russet intensity. And found what was left of the underground.

The city was Newton, the district a residential one of one-time elegance slowly edging towards squalor, the house an undistinguished member of a row, and the man a small-eyed, big-boned whose knotted fists bulged through his pockets and whose wiry body remained unbudgingly in the narrow door opening.

The captain mumbled, "I come from Miran."

The man returned the gambit, grimly. "Miran is early this year."

The captain said, "No earlier than last year."

But the man did not step aside. He said, "Who are you?"

"Aren't you Fox?"

"Do you always answer by asking?"

The captain took an imperceptibly longer breath, and then said calmly, "I am Han Pritcher, Captain of the Fleet, and member of the Democratic Underground Party. Will you let me in?"

The Fox stepped aside. He said, "My real name is Orum Palley."

He held out his hand. The captain took it.

The room was well-kept, but not lavish. In one corner stood a decorative book-film projector, which to the captain's military eyes might easily have been a camouflaged blaster of respectable caliber. The projecting lens covered the doorway, and such could be remotely controlled.

The Fox followed his bearded guest's eyes, and smiled tightly. He said, "Yes! But only in the days of Indbur and his lackey-hearted vampires. It wouldn't do much against the Mule, eh? Nothing would help against the Mule. Are you hungry?"

The captain's jaw muscles tightened beneath his beard, and he nodded.

"It'll take a minute if you don't mind waiting." The Fox removed cans from a cupboard and placed two before Captain Pritcher. "Keep your finger on it, and break them when they're hot enough. My heat-control unit's out of whack. Things like that remind you there's a war on – or was on, eh?"

His quick words had a jovial content, but were said in anything but a jovial tone – and his eyes were coldly thoughtful. He sat down opposite the captain and said, "There'll be nothing but a burn-spot left where you're sitting, if there's anything about you I don't like. Know that?"

The captain did not answer. The cans before him opened at a pressure.

The Fox said, shortly, "Stew! Sorry, but the food situation is short."

"I know," said the captain. He ate quickly; not looking up.

The Fox said, "I once saw you. I'm trying to remember, and the beard is definitely out of the picture."

"I haven't shaved in thirty days." Then, fiercely, "What do you want? I had the correct passwords. I have identification."

The other waved a hand, "Oh, I'll grant you're Pritcher all right. But there are plenty who have the passwords, and the identifications, and the *identities* – who are with the Mule. Ever hear of Levvaw, eh?"

"Yes."

"He's with the Mule."

"What? He—"

"Yes. He was the man they called 'No Surrender.'" The Fox's lips made laughing motions, with neither sound nor humor. "Then there's Willig. With the Mule! Garre and Noth. With the Mule! Why not Pritcher as well, eh? How would I know?"

The captain merely shook his head.

"But it doesn't matter," said the Fox, softly. "They must have my name, if Noth has gone over – so if you're legitimate, you're in more new danger than I am over our acquaintanceship."

The captain had finished eating. He leaned back, "If you have no organization here, where can I find one? The Foundation may have surrendered, but I haven't."

"So! You can't wander forever, captain. Men of the Foundation must have travel permits to move from town to town these days. You know that? Also identity cards. You

have one? Also, all officers of the old Navy have been requested to report to the nearest occupation headquarters. That's you, eh?"

"Yes." The captain's voice was hard. "Do you think I run through fear. I was on Kalgan not long after *its* fall to the Mule. Within a month, not one of the old warlord's officers was at large, because they were the natural military leaders of any revolt. It's always been the underground's knowledge that no revolution can be successful without the control of at least part of the Navy. The Mule evidently knows it, too."

The Fox nodded thoughtfully, "Logical enough. The Mule is thorough."

"I discarded the uniform as soon as I could. I grew the beard. Afterwards there may be a chance that others have taken the same action."

"Are you married?"

"My wife is dead. I have no children."

"You're hostage-immune, then."

"Yes."

"You want my advice?"

"If you have any."

A don't know what the Mule's policy is or what he intends, but skilled workers have not been harmed so far. Pay rates have gone up. Production of all sorts of nuclear weapons is booming."

"Yes? Sounds like a continuing offensive."

"I don't know. The Mule's a subtle son of a drab, and he may merely be soothing the workers into submission. If Seldon couldn't figure him out with all his psychohistory, I'm not going to try. But you're wearing work clothes. That suggests something, eh?"

"I'm not a skilled worker."

"You've had a military course in nucleics, haven't you?"

"Certainly."

"That's enough. The Nuclear-Field Bearings, Inc., is located here in town. Tell them you've had experience. The stinkers who used to run the factory for Indbur are still running it – for the Mule. They won't ask questions, as long as they need more workers to make their fat hunk. They'll give you an identity card and you can apply for a room in the Corporation's housing district. You might start now."

In that manner, Captain Han Pritcher of the National Fleet became Shield-man Lo Moro of the 45 Shop of Nuclear-Field Bearings, Inc. And from an Intelligence agent, he descended the social scale to "conspirator" – a calling which led him months later to what had been Indbur's private garden,

In the garden, Captain Pritcher consulted the radometer in the palm of his hand. The inner warning field was still in operation, and he waited. Half an hour remained to the life of the nuclear bomb in his mouth. He rolled it gingerly with his tongue.

The radometer died into an ominous darkness and the captain advanced quickly.

So far, matters had progressed well.

He reflected objectively that the life of the nuclear bomb was his as well; that its death was his death – and the Mule's death.

And the grand climacteric of a four-month's private war would be reached; a war that had passed from flight through a Newton factory.

For two months, Captain Pritcher wore leaden aprons and heavy face shields, till all things military had been frictioned off his outer bearing. He was a laborer, who collected his pay, spent his evenings in town, and never discussed politics.

For two months, he did not see the Fox.

And then, one day, a man stumbled past his bench, and there was a scrap of paper in his pocket. The word "Fox" was on it. He tossed it into the nuclear chamber, where it vanished in a sightless puff, sending the energy output up a millimicrovolt – and turned back to his work.

That night he was at the Fox's home, and took a hand in a game of cards with two other men he knew by reputation and one by name and face.

Over the cards and the passing and repassing tokens, they spoke.

The captain said, "It's a fundamental error. You live in the exploded past. For eighty years our organization has been waiting for the correct historical moment. We've been blinded by Seldon's psychohistory, one of the first propositions of which is that the individual does not count, does not make history, and that complex social and economic factors override him, make a puppet out of him." He adjusted his cards carefully, appraised their value and said, as he put out a token. "Why not kill the Mule?"

"Well, now, and what good would that do?" demanded the man at his left, fiercely.

"You see," said the captain, discarding two cards, "that's the attitude. What is one man – out of quadrillions. The Galaxy won't stop rotating because one man dies. But the Mule is not a man, he is a mutant. Already, he had upset Seldon's plan, and if you'll stop to analyze the implications, it means that he – one man – one mutant – upset all of Seldon's psychohistory. If he had never lived, the Foundation would not have fallen. If he ceased living, it would not remain fallen.

"Come, the democrats have fought the mayors and the traders for eighty years by connivance. Let's try assassination."

"How?" interposed the Fox, with cold common sense.

The captain said, slowly, "I've spent three months of thought on that with no solution. I came here and had it in five minutes." He glanced briefly at the man whose broad, pink melon of a face smiled from the place at his right. "You were once Mayor Indbur's chamberlain. I did not know you were of the underground,"

"Nor I, that you were."

"Well, then, in your capacity as chamberlain you periodically checked the working of the alarm system of the palace."

"I did."

"And the Mule occupies the palace now."

"So it has been announced – though he is a modest conqueror who makes no speeches, proclamations nor public appearances of any sort."

"That's an old story, and affects nothing. You, my ex-chamberlain, are all we need."

The cards were shown and the Fox collected the stakes. Slowly, he dealt a new hand.

The man who had once been chamberlain picked up his cards, singly. "Sorry, captain. I checked the alarm system, but it was routine. I know nothing about it."

"I expected that, but your mind carries an eidetic memory of the controls if it can be probed deeply enough – with a psychic probe."

The chamberlain's ruddy face paled suddenly and sagged. The cards in his hand crumpled under sudden fist-pressure, "A psychic probe?"

"You needn't worry," said the captain, sharply. "I know how to use one. It will not harm you past a few days' weakness. And if it did, it is the chance you take and the price you pay. There are some among us, no doubt, who from the controls of the alarm could determine the wavelength combinations. There are some among us who could manufacture a small bomb under time-control and I myself will carry it to the Mule."

The men gathered over the table.

The captain announced, "On a given evening, a riot will start in Terminus City in the neighborhood of the palace. No real fighting. Disturbance – then flight. As long as the palace guard is attracted . . . or, at the very least, distracted–"

From that day for a month the preparations went on, and Captain Han Pritcher of the National Fleet having become conspirator descended further in the social scale and became an "assassin."

Captain Pritcher, assassin, was in the palace itself, and found himself grimly pleased with his psychology. A thorough alarm system outside meant few guards within. In this case, it meant none at all.

The floor plan was clear in his mind. He was a blob moving noiselessly up the well-carpeted ramp. At its head, he flattened against the wall and waited.

The small closed door of a private room was before him. Behind that door must be the mutant who had beaten the unbeatable. He was early – the bomb had ten minutes of life in it.

Five of these passed, and still in all the world there was no sound. The Mule had five minutes to live – So had Captain Pritcher–

He stepped forward on sudden impulse. The plot could no longer fail. When the bomb went, the palace would go with it – all the palace. A door between – ten yards between – was nothing. But he wanted to see the Mule as they died together.

In a last, insolent gesture, he thundered upon the door.

And it opened and let out the blinding light.

Captain Pritcher staggered, then caught himself. The solemn man, standing in the center of the small room before a suspended fish bowl, looked up mildly.

His uniform was a somber black, and as he tapped the bowl in an absent gesture, it bobbed quickly and the feather-finned, orange and vermilion fish within darted wildly.

He said, "Come in, captain!"

To the captain's quivering tongue the little metal globe beneath was swelling ominously – a physical impossibility, the captain knew. But it was in its last minute of life.

The uniformed man said, "You had better spit out the foolish pellet and free yourself for speech. It won't blast."

The minute passed and with a slow, sodden motion the captain bent his head and dropped the silvery globe into his palm. With a furious force it was flung against the wall. It rebounded with a tiny, sharp clangor, gleaming harmlessly as it flew.

The uniformed man shrugged. "So much for that, then. It would have done you no good in any case, captain. I am not the Mule. You will have to be satisfied with his viceroy."

"How did you know?" muttered the captain, thickly.

"Blame it on an efficient counter-espionage system. I can name every member of your little gang, every step of their planning–"

"And you let it go this far?"

"Why not? It has been one of my great purposes here to find you and some others. Particularly you. I might have had you some months ago, while you were still a worker at the Newton Bearings Works, but this is much better. If you hadn't suggested the main outlines of the plot yourself, one of my own men would have advanced something of much the same sort for you. The result is quite dramatic, and rather grimly humorous."

The captain's eyes were hard. "I find it so, too. Is it all over now?"

"Just begun. Come, captain, sit down. Let us leave heroics for the fools who are impressed by it. Captain, you are a capable man. According to the information I have, you were the first on the Foundation to recognize the power of the Mule. Since then you have interested yourself, rather daringly, in the Mule's early life. You have been one of those who carried off his clown, who, incidentally, has not yet been found, and for which there will yet be full payment. Naturally, your ability is recognized and the Mule is not of those who fear the ability of his enemies as long as he can convert it into the ability of a new friend."

"Is that what you're hedging up to? Oh, no!"

"Oh, yes! It was the purpose of tonight's comedy. You are an intelligent man, yet your little conspiracies against the Mule fail humorously. You can scarcely dignify it with the name of conspiracy. Is it part of your military training to waste ships in hopeless actions?"

"One must first admit them to be hopeless."

"One will," the viceroy assured him, gently. "The Mule has conquered the Foundation, it is rapidly being turned into an arsenal for accomplishment of his greater aims."

"What greater aims?"

"The conquest of the entire Galaxy. The reunion of all the tom worlds into a new Empire. The fulfillment, you dull-witted patriot, of your own Seldon's dream seven hundred years before he hoped to see it. And in the fulfillment, you can help us."

"I can, undoubtedly. But I won't, undoubtedly."

"I understand," reasoned the viceroy, "that only three of the Independent Trading Worlds yet resist. They will not last much longer. It will be the last of all Foundation forces. You still hold out."

"Yes."

"Yet you won't. A voluntary recruit is the, most efficient. But the other kind will do. Unfortunately, the Mule is absent. He leads the fight, as always, against the resisting Traders. But he is in continual contact with us. You will not have to wait long."

"For what?"

"For your conversion."

"The Mule," said the captain, frigidly, "will find that beyond his ability."

"But he won't. I was not beyond it. You don't recognize me? Come, you were on Kalgan, so you have seen me. I wore a monocle, a fur-lined scarlet robe, a high-crowned hat--"

The captain stiffened in dismay. "You were the warlord of Kalgan."

"Yes. And now I am the loyal viceroy of the Mule. You see, he is persuasive."

21. INTERLUDE IN SPACE

The blockade was run successfully. In the vast volume of space, not all the navies ever in existence could keep their watch in tight proximity. Given a single ship, a skillful pilot, and a moderate degree of luck, and there are holes and to spare.

With cold-eyed calm, Toran drove a protesting vessel from the vicinity of one star to that of another. If the neighborhood of great mass made an interstellar jump erratic and difficult, it also made the enemy detection devices useless or nearly so.

And once the girdle of ships had been passed the inner sphere of dead space, through whose blockaded sub-ether no message could be driven, was passed as well. For the first time in over three months Toran felt unisolated.

A week passed before the enemy news programs dealt with anything more than the dull, self-laudatory details of growing control over the Foundation. It was a week in which Toran's armored trading ship fled inward from the Periphery in hasty jumps.

Ebling Mis called out to the pilot room and Toran rose blink-eyed from his charts.

"What's the matter?" Toran stepped down into the small central chamber which Bayta had inevitably devised into a living room.

Mis shook his head, "Bescuppered if I know. The Mule's newsmen are announcing a special bulletin. Thought you might want to get in on it."

"Might as well. Where's Bayta?"

"Setting the table in the diner and picking out a menu or some such frippery."

Toran sat down upon the cot that served as Magnifico's bed, and waited. The propaganda routine of the Mule's "special bulletins" were monotonously similar. First the martial music, and then the buttery slickness of the announcer. The minor news items

would come, following one another in patient lock step. Then the pause. Then the trumpets and the rising excitement and the climax.

Toran endured it. Mis muttered to himself.

The newscaster spilled out, in conventional war-correspondent phraseology, the unctuous words that translated into sound the molten metal and blasted flesh of a battle in space.

"Rapid cruiser squadrons under Lieutenant General Sammin hit back hard today at the task force striking out from Iss—" The carefully expressionless face of the speaker upon the screen faded into the blackness of a space cut through by the quick swaths of ships reeling across emptiness in deadly battle. The voice continued through the soundless thunder.

"The most striking action of the battle was the subsidiary combat of the heavy cruiser *Cluster* against three enemy ships of the 'Nova' class—"

The screen's view veered and closed in. A great ship sparked and one of the frantic attackers glowed angrily, twisted out of focus, swung back and rammed. The *Cluster* bowed wildly and survived the glancing blow that drove the attacker off in twisting reflection.

The newsman's smooth unimpassioned delivery continued to the last blow and the last hulk.

Then a pause, and a large similar voice-and-picture of the fight off Mnemon, to which the novelty was added of a lengthy description of a hit-and-run landing – the picture of a blasted city – huddled and weary prisoners – and off again.

Mnemon had not long to live.

The pause again – and this time the raucous sound of the expected brasses. The screen faded into the long, impressively soldier-lined corridor up which the government spokesman in councilor's uniform strode quickly.

The silence was oppressive.

The voice that came at last was solemn, slow and hard: "By order of our sovereign, it is announced that the planet, Haven, hitherto in warlike opposition to his will, has submitted to the acceptance of defeat. At this moment, the forces of our sovereign are occupying the planet. Opposition was scattered, unco-ordinated, and speedily crushed."

The scene faded out, the original newsman returned to state importantly that other developments would be transmitted as they occurred.

Then there was dance music, and Ebling Mis threw the shield that cut the power.

Toran rose and walked unsteadily away, without a word. The psychologist made no move to stop him.

When Bayta stepped out of the kitchen, Mis motioned silence.

He said, "They've taken Haven."

And Bayta said, "Already?" Her eyes were round, and sick with disbelief.

"Without a fight. Without an unprin—" He stopped and swallowed. "You'd better leave Toran alone. It's not pleasant for him. Suppose we eat without him this once."

Bayta looked once toward the pilot room, then turned hopelessly. "Very well!"

Magnifico sat unnoticed at the table. He neither spoke nor ate but stared ahead with a concentrated fear that seemed to drain all the vitality out of his thread of a body.

Ebling Mis pushed absently at his iced-fruit dessert and said, harshly, "Two Trading worlds fight. They fight, and bleed, and die and don't surrender. Only at Haven – Just as at the Foundation–"

"But why? Why?"

The psychologist shook his head. "It's of a piece with all the problem. Every queer facet is a hint at the nature of the Mule. First, the problem of how he could conquer the Foundation, with little blood, and at a single blow essentially – while the Independent Trading Worlds held out. The blanket on nuclear reactions was a puny weapon – we've discussed that back and forth till I'm sick of it – and it did not work on any but the Foundation.

"Randu suggested," and Ebling's grizzly eyebrows pulled together, "it might have been a radiant Will-Depresser. It's what might have done the work on Haven. But then why wasn't it used on Mnemon and Iss – which even now fight with such demonic intensity that it is taking half the Foundation fleet in addition to the Mule's forces to beat them down. Yes, I recognized Foundation ships in the attack."

Bayta whispered, "The Foundation, then Haven. Disaster seems to follow us, without touching. We always seem to get out by a hair. Will it last forever?"

Ebling Mis was not listening. To himself, he was making a point. "But there's another problem – another problem. Bayta, you remember the news item that the Mule's clown was not found on Terminus; that it was suspected he had fled to Haven, or been carried there by his original kidnappers. There is an importance attached to him, Bayta, that doesn't fade, and we have not located it yet. Magnifico must know something that is fatal to the Mule. I'm sure of it. "

Magnifico, white and stuttering, protested, "Sire . . . noble lord . . . indeed, I swear it is past my poor reckoning to penetrate your wants. I have told what I know to the utter limits, and with your probe, you have drawn out of my meager wit that which I knew, but knew not that I knew."

"I know . . . I know. It is something small. A hint so small that neither you nor I recognize it for what it is. Yet I must find it – for Mnemon and Iss will go soon, and when they do, we are the last remnants, the last droplets of the independent Foundation."

The stars begin to cluster closely when the core of the Galaxy is penetrated. Gravitational fields begin to overlap at intensities sufficient to introduce perturbations in an interstellar jump that can not be overlooked.

Toran became aware of that when a jump landed their ship in the full glare of a red giant which clutched viciously, and whose grip was loosed, then wrenched apart, only after twelve sleepless, soul-battering hours.

With charts limited in scope, and an experience not at all fully developed, either operationally or mathematically, Toran resigned himself to days of careful plotting between jumps.

It became a community project of a sort. Ebling Mis checked Toran's mathematics and Bayta tested possible routes, by the various generalized methods, for the presence of real solutions. Even Magnifico was put to work on the calculating machine for routine computations, a type of work, which, once explained, was a source of great amusement to him and at which he was surprisingly proficient.

So at the end of a month, or nearly, Bayta was able to survey the red line that wormed its way through the ship's trimensional model of the Galactic Lens halfway to its center, and say with Satiric relish, "You know what it looks like. It looks like a ten-foot earth-worm with a terrific case of indigestion. Eventually, you'll land us back in Haven."

"I will," growled Toran, with a fierce rustle of his chart, "if you don't shut up."

"And at that," continued Bayta, "there is probably a route fight through, straight as a meridian of longitude."

"Yeah? Well, in the first place, dimwit, it probably took five hundred ships five hundred years to work out that route by hit-and-miss, and my lousy half-credit charts don't give it. Besides, maybe those straight routes are a good thing to avoid. They're probably choked up with ships. And besides--"

"Oh, for Galaxy's sake, stop driveling and slaving so much righteous indignation." Her hands were in his hair.

He yowled, "Ouch! Let go!" seized her wrists and whipped downward, whereupon Toran, Bayta, and chair formed a tangled threesome on the floor. It degenerated into a panting wrestling match, composed mostly of choking laughter and various foul blows.

Toran broke loose at Magnifico's breathless entrance.

"What is it?"

The lines of anxiety puckered the clown's face and tightened the skin whitely over the enormous bridge of his nose. "The instruments are behaving queerly, sir. I have not, in the knowledge of my ignorance, touched anything--"

In two seconds, Toran was in the pilot room. He said quietly to Magnifico, "Wake up Ebling Mis. Have him come down here."

He said to Bayta, who was trying to get a basic order back to her hair by use of her fingers, "We've been detected, Bay."

"Detected?" And Bayta's arms dropped. "By whom?"

"Galaxy knows," muttered Toran, "but I imagine by someone with blasters already ranged and trained."

He sat down and in a low voice was already sending into the sub-ether the ship's identification code.

And when Ebling Mis entered, bathrobed and blear-eyed, Toran said with a desperate calm, "It seems we're inside the borders of a local Inner Kingdom which is called the Autarchy of Filia."

"Never heard of it," said Mis, abruptly.

"Well, neither did I," replied Toran, "but we're being stopped by a Filian ship just the same, and I don't know what it will involve."

The captain-inspector of the Filian ship crowded aboard with six armed men following him. He was short, thin-haired, thin-lipped, and dry-skinned. He coughed a sharp cough as he sat down and threw open the folio under his arm to a blank page.

"Your passports and ship's clearance, please."

"We have none," said Toran.

"None, hey?" he snatched up a microphone suspended from his belt and spoke into it quickly, "Three men and one woman. Papers not in order." He made an accompanying notation in the folio.

He said, "Where are you from?"

"Siwenna," said Toran warily.

"Where is that?"

"Thirty thousand parsecs, eighty degrees west Trantor, forty degrees—"

"Never mind, never mind!" Toran could see that his inquisitor had written down: "Point of origin – Periphery."

The Filian continued, "Where are you going?"

Toran said, "Trantor sector."

"Purpose?"

"Pleasure trip."

"Carrying any cargo?"

"No."

"Hm-m-m. We'll check on that." He nodded and two men jumped to activity. Toran made no move to interfere.

"What brings you into Filian territory?" The Filian's eyes gleamed unamiably.

"We didn't know we were. I lack a proper chart."

"You will be required to pay a hundred credits for that lack – and, of course, the usual fees required for tariff duties, et cetera."

He spoke again into the microphone – but listened more than he spoke. Then, to Toran, "Know anything about nuclear technology?"

"A little," replied Toran, guardedly.

"Yes?" The Filian closed his folio, and added, "The men of the Periphery have a knowledgeable reputation that way. Put on a suit and come with me."

Bayta stepped forward, "What are you going to do with him?"

Toran put her aside gently, and asked coldly, "Where do you want me to come?"

"Our power plant needs minor adjustments. He'll come with you." His pointing finger aimed directly at Magnifico, whose brown eyes opened wide in a blubbery dismay.

"What's he got to do with it?" demanded Toran fiercely.

The official looked up coldly. "I am informed of pirate activities in this vicinity. A description of one of the known thugs tallies roughly. It is a purely routine matter of identification. "

Toran hesitated, but six men and six blasters are eloquent arguments. He reached into the cupboard for the suits.

An hour later, he rose upright in the bowels of the Filian ship and raged, "There's not a thing wrong with the motors that I can see. The busbars are true, the L-tubes are feeding properly and the reaction analysis checks. Who's in charge here?"

The head engineer said quietly, "I am."

"Well, get me out of here—"

He was led to the officers' level and the small anteroom held only an indifferent ensign.

"Where's the man who came with me?"

"Please wait," said the ensign.

It was fifteen minutes later that Magnifico was brought in.

"What did they do to you?" asked Toran quickly.

"Nothing. Nothing at all." Magnifico's head shook a slow negative.

It took two hundred and fifty credits to fulfill the demands of Filia – fifty credits of it for instant release – and they were in free space again.

Bayta said with a forced laugh, "Don't we rate an escort? Don't we get the usual figurative boot over the border?"

And Toran replied, grimly, "That was no Filian ship – and we're not leaving for a while. Come in here."

They gathered about him.

He said, whitely, "That was a Foundation ship, and those were the Mule's men aboard."

Ebling bent to pick up the cigar he had dropped. He said, "Here? We're fifteen thousand parsecs from the Foundation. "

"And we're here. What's to prevent them from making the same trip. Galaxy, Ebling, don't you think I can tell ships apart? I saw their engines, and that's enough for me. I tell you it was a Foundation engine in a Foundation ship."

"And how did they get here?" asked Bayta, logically. "What are the chances of a random meeting of two given ships in space?"

"What's that to do with it?" demanded Toran, hotly. "It would only show we've been followed."

"Followed?" hooted Bayta. "Through hyperspace?"

Ebling Mis interposed wearily, "That can be done – given a good ship and a great pilot. But the possibility doesn't impress me."

"I haven't been masking my trail," insisted Toran. "I've been building up take-off speed on the straight. A blind man could have calculated our route."

"The blazes he could," cried Bayta. "With the cockeyed jumps you are making, observing our initial direction didn't mean a thing. We came out of the jump wrong-end forwards more than once."

"We're wasting time," blazed Toran, with gritted teeth. "It's a Foundation ship under the Mule. It's stopped us. It's searched us. It's had Magnifico – alone – with me as hostage to keep the rest of you quiet, in case you suspected. And we're going to bum it out of space right now."

"Hold on now," and Ebling Mis clutched at him. "Are you going to destroy us for one ship you think is an enemy? Think, man, would those scuppers chase us over an impossible route half through the bestinkered Galaxy, look us over, and then *let us go*?"

"They're still interested in where we're going."

"Then why stop us and put us on our guard? You can't have it both ways, you know."

"I'll have it my way. Let go of me, Ebling, or I'll knock you down."

Magnifico leaned forward from his balanced perch on his favorite chair back. His long nostrils flared with excitement. "I crave your pardon for my interruption, but my poor mind is of a sudden plagued with a queer thought."

Bayta anticipated Toran's gesture of annoyance, and added her grip to Ebling's. "Go ahead and speak, Magnifico. We will all listen faithfully."

Magnifico said, "In my stay in their ship what addled wits I have were bemazed and bemused by a chattering fear that befell men. Of a truth I have a lack of memory of most that happened. Many men staring at me, and talk I did not understand. But towards the last – as though a beam of sunlight had dashed through a cloud rift – there was a face I knew. A glimpse, the merest glimmer – and yet it glows in my memory ever stronger and brighter."

Toran said, "Who was it?"

"That captain who was with us so long a time ago, when first you saved me from slavery."

It had obviously been Magnifico's intention to create a sensation, and the delighted smile that curled broadly in the shadow of his proboscis, attested to his realization of the intention's success.

"Captain . . . Han . . . Pritcher?" demanded Mis, sternly. "You're sure of that? Certain sure now?"

"Sir, I swear," and he laid a bone-thin hand upon his narrow chest. "I would uphold the truth of it before the Mule and swear it in his teeth, though all his power were behind him to deny it."

Bayta said in pure wonder, "Then what's it all about?" The clown faced her eagerly, "My lady, I have a theory. It came upon me, ready made, as though the Galactic Spirit had gently laid it in my mind." He actually raised his voice above Toran's interrupting objection.

"My lady," he addressed himself exclusively to Bayta, "if this captain had, like us, escaped with a ship; if he, like us, were on a trip for a purpose of his own devising; if he blundered upon us – he would suspect us of following and waylaying him, as we suspect *him* of the like. What wonder he played this comedy to enter our ship?"

"Why would he want us in *his* ship, then?" demanded Toran. "That doesn't fit."

"Why, yes, it does," clamored the clown, with a flowing inspiration. "He sent an underling who knew us not, but who described us into his microphone. The listening captain would be struck at my own poor likeness – for, of a truth there are not many in

this great Galaxy who bear a resemblance to my scantiness. I was the proof of the identity of the rest of you."

"And so he leaves us?"

"What do we know of his mission, and the secrecy thereof? lie has spied us out for not an enemy and having it done so, must he needs think it wise to risk his plan by widening the knowledge thereof?"

Bayta said slowly, "Don't be stubborn, Torie. It *does* explain things."

"It could be," agreed Mis.

Toran seemed helpless in the face of united resistance. Something in the clown's fluent explanations bothered him. Something was wrong. Yet he was bewildered and, in spite of himself, his anger ebbed.

"For a while," he whispered, "I thought we might have had one of the Mule's ships."

And his eyes were dark with the pain of Haven's loss.

The others understood.

22. DEATH ON NEOTRANTOR

NEOTRANTOR The small planet of Delicass, renamed after the Great Sack, was for nearly a century, the seat of the last dynasty of the First Empire. It was a shadow world and a shadow Empire and its existence is only of legalistic importance. Under the first of the Neotrantorian dynasty. . .

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Neotrantor was the name! New Trantor! And when you have said the name you have exhausted at a stroke all the resemblances of the new Trantor to the great original. Two parsecs away, the sun of Old Trantor still shone and the Galaxy's Imperial Capital of the previous century still cut through space in the silent and eternal repetition of its orbit.

Men even inhabited Old Trantor. Not many – a hundred million, perhaps, where fifty years before, forty billions had swarmed. The huge, metal world was in jagged splinters. The towering thrusts of the multi-towers from the single world-girdling base were torn and empty – still bearing the original blastholes and firegut – shards of the Great Sack of forty years earlier.

It was strange that a world which had been the center of a Galaxy for two thousand years – that had ruled limitless space and been home to legislators and rulers whose whims spanned the parsecs – could die in a month. It was strange that a world which had been untouched through the vast conquering sweeps and retreats of a millennia, and equally untouched by the civil wars and palace revolutions of other millennia – should lie dead at last. It was strange that the Glory of the Galaxy should be a rotting corpse.

And pathetic!

For centuries would yet pass before the mighty works of fifty generations of humans would decay past use. Only the declining powers of men, themselves, rendered them useless now.

The millions left after the billions had died tore up the gleaming metal base of the planet and exposed soil that had not felt the touch of sun in a thousand years.

Surrounded by the mechanical perfections of human efforts, encircled by the industrial marvels of mankind freed of the tyranny of environment – they returned to the land. In the huge traffic clearings, wheat and corn grew. In the shadow of the towers, sheep grazed.

But Neotrantor existed – an obscure village of a planet drowned in the shadow of mighty Trantor, until a heart-throttled royal family, racing before the fire and flame of the Great Sack sped to it as its last refuge – and held out there, barely, until the roaring wave of rebellion subsided. There it ruled in ghostly splendor over a cadaverous remnant of Imperium.

Twenty agricultural worlds were a Galactic Empire!

Dagobert IX, ruler of twenty worlds of refractory squires and sullen peasants, was Emperor of the Galaxy, Lord of the Universe.

Dagobert IX had been twenty-five on the bloody day he arrived with his father upon Neotrantor. His eyes and mind were still alive with the glory and the power of the Empire that was. But his son, who might one day be Dagobert X, was born on Neotrantor.

Twenty worlds were all he knew.

Jord Commason's open air car was the finest vehicle of its type on all Neotrantor – and, after all, justly so. It did not end with the fact that Commason was the largest landowner on Neotrantor. It began there. For in earlier days he had been the companion and evil genius of a young crown prince, restive in the dominating grip of a middle-aged emperor. And now he was the companion and still the evil genius of a middle-aged crown prince who hated and dominated an old emperor.

So Jord Commason, in his air car, which in mother-of-pearl finish and gold-and-lumetron ornamentation needed no coat of arms as owner's identification, surveyed the lands that were his, and the miles of rolling wheat that were his, and the huge threshers and harvesters that were his, and the tenant-farmers and machine-tenders that were his – and considered his problems cautiously.

Beside him, his bent and withered chauffeur guided the ship gently through the upper winds and smiled.

Jord Commason spoke to the wind, the air, and the sky, "You remember what I told you, Inchney?"

Inchney's thin gray hair wisped lightly in the wind. His gap-toothed smile widened in its thin-lipped fashion and the vertical wrinkles of his cheeks deepened as though he were keeping an eternal secret from himself. The whisper of his voice whistled between his teeth.

"I remember, sire, and I have thought."

"And what have you thought, Inchney?" There was an impatience about the question.

Inchney remembered that he had been young and handsome, and a lord on Old Trantor. Inchney remembered that he was a disfigured ancient on Neotrantor, who lived by grace of Squire Jord Commason, and paid for the grace by lending his subtlety on request. He sighed very softly.

He whispered again, "Visitors from the Foundation, sire, are a convenient thing to have. Especially, sire, when they come with but a single ship, and but a single fighting man. How welcome they might be."

"Welcome?" said Commason, gloomily. "Perhaps so. But those men are magicians and may be powerful."

"*Pugh*," muttered Inchney, "the mistiness of distance hides the truth. The Foundation is but a world. Its citizens are but men. If you blast them, they die."

Inchney held the ship on its course – A river was a winding sparkle below. He whispered, "And is there not a man they speak of now who stirs the worlds of the Periphery?"

Commason was suddenly suspicious. "What do you know of this?"

There was no smile on his chauffeur's face. "Nothing, sire. It was but an idle question."

The squire's hesitation was short. He said, with brutal directness, "Nothing you ask is idle, and your method of acquiring knowledge will have your scrawny neck in a vise yet. But – I have it! This man is called the Mule, and a subject of his had been here some months ago on a . . . matter of business. I await another . . . now . . . for its conclusion."

"And these newcomers? They are not the ones you want, perhaps?"

"They lack the identification they should have."

"It has been reported that the Foundation has been captured–"

"I did not tell you that."

"It has been so reported," continued Inchney, coolly, "and if that is correct, then these may be refugees from the destruction, and may be held for the Mule's man out of honest friendship."

"Yes?" Commason was uncertain.

"And, sire, since it is well-known that the friend of a conqueror is but the last victim, it would be but a measure of honest self-defense. For there are such things as psychic probes, and here we have four Foundation brains. There is much about the Foundation it would be useful to know, much even about the Mule. And then the Mule's friendship would be a trifle the less overpowering."

Commason, in the quiet of the upper air, returned with a shiver to his first thought. "But if the Foundation has not fallen. If the reports are lies. It is said that it has been foretold it can not fall."

"We are past the age of soothsayers, sire."

"And yet if it did not fall, Inchney. Think! If it did not fall. The Mule made me promises, indeed—" He had gone too far, and backtracked. "That is, he made boasts. But boasts are wind and deeds are hard."

Inchney laughed noiselessly. "Deeds are hard indeed, until begun. One could scarcely find a further fear than a Galaxy-end Foundation."

"There is still the prince," murmured Commason, almost to himself.

"He deals with the Mule also, then, sire?"

Commason could not quite choke down the complacent shift of features. "Not entirely. Not as *I* do. But he grows wilder, more uncontrollable. A demon is upon him. If I seize these people and he takes them away for his own use – for he does not lack a certain shrewdness – I am not yet ready to quarrel with him." He frowned and his heavy cheeks bent downwards with dislike.

"I saw those strangers for a few moments yesterday," said the gray chauffeur, irrelevantly, "and it is a strange woman, that dark one. she walks with the freedom of a man and she is of a startling paleness against the dark luster of hair." There was almost a warmth in the husky whisper of the withered voice, so that Commason turned toward him in sudden surprise.

Inchney continued, "The prince, I think, would not find his shrewdness proof against a reasonable compromise. You could have the rest, if you left him the girl—"

A light broke upon Commason, "A thought! Indeed a thought! Inchney, turn back! And Inchney, if all turns well, we will discuss further this matter of your freedom."

It was with an almost superstitious sense of symbolism that Commason found a Personal Capsule waiting for him in his private study when he returned. It had arrived by a wavelength known to few. Commason smiled a fat smile. The Mule's man was coming and the Foundation had indeed fallen.

Bayta's misty visions, when she had them, of an Imperial palace, did not jibe with the reality, and inside her, there was a vague sense of disappointment. The room was small, almost plain, almost ordinary. The palace did not even match the mayor's residence back at the Foundation – and Dagobert IX –

Bayta had *definite* ideas of what an emperor ought to look like. He ought *not* look like somebody's benevolent grandfather. He ought not be thin and white and faded – or serving cups of tea with his own hand in an expressed anxiety for the comfort of his visitors.

But so it was.

Dagobert IX chuckled as he poured tea into her stiffly outheld cup.

"This is a great pleasure for me, my dear. It is a moment away from ceremony and courtiers. I have not had the opportunity for welcoming visitors from my outer provinces for a time now. My son takes care of these details now that I'm older. You haven't met my son? A fine boy. Headstrong, perhaps. But then he's young. Do you care for a flavor capsule? No?"

Toran attempted an interruption, "Your imperial majesty—"

"Yes?"

"Your imperial majesty, it has not been our intention to intrude upon you—"

"Nonsense, there is no intrusion. Tonight there will be the official reception, but until then, we are free. Let's see, where did you say you were from? It seems a long time since we had an official reception. You said you were from the Province of Anacreon?"

"From the Foundation, your imperial majesty!"

"Yes, the Foundation. I remember now. I had it located. It is in the Province of Anacreon. I have never been there. My doctor forbids extensive traveling. I don't recall any recent reports from my viceroy at Anacreon. How are conditions there?" he concluded anxiously.

"Sire," mumbled Toran, "I bring no complaints."

"That is gratifying. I will commend my viceroy."

Toran looked helplessly at Ebling Mis, whose brusque voice rose. "Sire, we have been told that it will require your permission for us to visit the Imperial University Library on Trantor."

"Trantor?" questioned the emperor, mildly, "Trantor?"

Then a look of puzzled pain crossed his thin face. "Trantor?" he whispered. "I remember now. I am making plans now to return there with a flood of ships at my back. You shall come with me. Together we will destroy the rebel, Gilmer. Together we shall restore the empire!"

His bent back had straightened. His voice had strengthened. For a moment his eyes were hard. Then, he blinked and said softly, "But Gilmer is dead. I seem to remember – Yes. Yes! Gilmer is dead! Trantor is dead – For a moment, it seemed – Where was it you said you came from?"

Magnifico whispered to Bayta, "Is this really an emperor? For somehow I thought emperors were greater and wiser than ordinary men."

Bayta motioned him quiet. She said, "If your imperial majesty would but sign an order permitting us to go to Trantor, it would avail greatly the common cause."

"To Trantor?" The emperor was blank and uncomprehending.

"Sire, the Viceroy of Anacreon, in whose name we speak, sends word that Gilmer is yet alive—"

"Alive! Alive!" thundered Dagobert. "Where? It will be war!"

"Your imperial majesty, it must not yet be known. His whereabouts are uncertain. The viceroy sends us to acquaint you of the fact, and it is only on Trantor that we may find his hiding place. Once discovered—"

"Yes, yes – He must be found—" The old emperor doddered to the wall and touched the little photocell with a trembling finger. He muttered, after an ineffectual pause, "My servants do not come. I can not wait for them."

He was scribbling on a blank sheet, and ended with a flourished "D." He said, "Gilmer will yet learn the power of his emperor. Where was it you came from? Anacreon? What are the conditions there? Is the name of the emperor powerful?"

Bayta took the paper from his loose fingers, "Your imperial majesty is beloved by the people. Your love for them is widely known."

"I shall have to visit my good people of Anacreon, but my doctor says . . . I don't remember what he says, but—" He looked up, his old gray eyes sharp, "Were you saying something of Gilmer?"

"No, your imperial majesty."

"He shall not advance further. Go back and tell your people that. Trantor shall hold! My father leads the fleet now, and the rebel vermin Gilmer shall freeze in space with his regicidal rabble."

He staggered into a seat and his eyes were blank once more. "What was I saying?"

Toran rose and bowed low, "Your imperial majesty has been kind to us, but the time allotted us for an audience is over. "

For a moment, Dagobert IX looked like an emperor indeed as he rose and stood stiff-backed while, one by one, his visitors retreated backward through the door—to where twenty armed men intervened and locked a circle about them.

A hand-weapon flashed—

To Bayta, consciousness returned sluggishly, but without the "Where am I?" sensation. She remembered clearly the odd old man who called himself emperor, and the other men who waited outside. The arthritic tingle in her finger joints meant a stun pistol.

She kept her eyes closed, and listened with painful attention to the voices.

There were two of them. One was slow and cautious, with a slyness beneath the surface obsequy. The other was hoarse and thick, almost sodden, and blurted out in viscous spurts. Bayta liked neither.

The thick voice was predominant.

Bayta caught the last words, "He will live forever, that old madman. It wearies me. It annoys me. Commason, I will have it. I grow older, too."

"Your highness, let us first see of what use these people are. It may be we shall have sources of strength other than your father still provides."

The thick voice was lost in a bubbling whisper. Bayta caught only the phrase, "—the girl—" but the other, fawning voice was a nasty, low, running chuckle followed by a comradely, near-patronizing, "Dagobert, you do not age. They lie who say you are not a youth of twenty."

They laughed together, and Bayta's blood was an icy trickle. Dagobert—your highness—The old emperor had spoken of a headstrong son, and the implication of the whispers now beat dully upon her. But such things didn't happen to people in real life—

Toran's voice broke upon her in a slow, hard current of cursing.

She opened her eyes, and Toran's, which were upon her, showed open relief. He said, fiercely, "This banditry will be answered by the emperor. Release us."

It dawned upon Bayta that her wrists and ankles were fastened to wall and floor by a tight attraction field.

Thick Voice approached Toran. He was paunchy, his lower eyelids puffed darkly, and his hair was thinning out. There was a gay feather in his peaked hat, and the edging of his doublet was embroidered with silvery metal-foam.

He sneered with a heavy amusement. "The emperor? The poor, mad emperor?"

"I have his pass. No subject may hinder our freedom."

"But I am no subject, space-garbage. I am the regent and crown prince and am to be addressed as such. As for my poor silly father, it amuses him to see visitors occasionally. And we humor him. It tickles his mock-imperial fancy. But, of course, it has no other meaning."

And then he was before Bayta, and she looked up at him contemptuously. He leaned close and his breath was overpoweringly minted.

He said, "Her eyes suit well, Commason – she is even prettier with them open. I think she'll do. It will be an exotic dish for a jaded taste, eh?"

There was a futile surge upwards on Toran's part, which the crown prince ignored and Bayta felt the iciness travel outward to the skin. Ebling Mis was still out; head lolling weakly upon his chest, but, with a sensation of surprise, Bayta noted that Magnifico's eyes were open, sharply open, as though awake for many minutes. Those large brown eyes swiveled towards Bayta and stared at her out of a doughy face.

He whimpered, and nodded with his head towards the crown prince, "That one has my Visi-Sonor."

The crown prince turned sharply toward the new voice, "This is yours, monster?" He swung the instrument from his shoulder where it had hung, suspended by its green strap, unnoticed by Bayta.

He fingered it clumsily, tried to sound a chord and got nothing for his pains, "Can you play it, monster?"

Magnifico nodded once.

Toran said suddenly, "You've rifled a ship of the Foundation. If the emperor will not avenge, the Foundation will."

It was the other, Commason, who answered slowly, "*What* Foundation? Or is the Mule no longer the Mule?"

There was no answer to that. The prince's grin showed large uneven teeth. The clown's binding field was broken and he was nudged ungentle to his feet. The Visi-Sonor was thrust into his hand.

"Play for us, monster," said the prince. "Play us a serenade of love and beauty for our foreign lady here. Tell her that my father's country prison is no palace, but that I can take her to one where she can swim in rose water – and know what a prince's love is. Sing of a prince's love, monster."

He placed one thick thigh upon a marble table and swung a leg idly, while his fatuous smiling stare swept Bayta into a silent rage. Toran's sinews strained against the field, in painful, perspiring effort. Ebling Mis stirred and moaned.

Magnifico gasped, "My fingers are of useless stiffness–"

"Play, monster!" roared the prince. The lights dimmed at a gesture to Commason and in the dimness he crossed his arms and waited.

Magnifico drew his fingers in rapid, rhythmic jumps from end to end of the multikeyed instrument – and a sharp, gliding rainbow of light jumped across the room. A

low, soft tone sounded – throbbing, tearful. It lifted in sad laughter, and underneath it there sounded a dull tolling.

The darkness seemed to intensify and grow thick. Music reached Bayta through the muffled folds of invisible blankets. Gleaming light reached her from the depths as though a single candle glowed at the bottom of a pit.

Automatically, her eyes strained. The light brightened, but remained blurred. It moved fuzzily, in confused color, and the music was suddenly brassy, evil – flourishing in high crescendo. The light flickered quickly, in swift motion to the wicked rhythm. Something writhed within the light. Something with poisonous metallic scales writhed and yawned. And the music writhed and yawned with it.

Bayta struggled with a strange emotion and then caught herself in a mental gasp. Almost, it reminded her of the time in the Time Vault, of those last days on Haven. It was that horrible, cloying, clinging spiderweb of horror and despair. She shrunk beneath it oppressed.

The music dinned upon her, laughing horribly, and the writhing terror at the wrong end of the telescope in the small circle of light was lost as she turned feverishly away. Her forehead was wet and cold.

The music died. It must have lasted fifteen minutes, and a vast pleasure at its absence flooded Bayta. Light glared, and Magnifico's face was close to hers, sweaty, wild-eyed, lugubrious.

"My lady," he gasped, "how fare you?"

"Well enough," she whispered, "but why did you play like that?"

She became aware of the others in the room. Toran and Mis were limp and helpless against the wall, but her eyes skimmed over them. There was the prince, lying strangely still at the foot of the table. There was Commason, moaning wildly through an open, drooling mouth.

Commason flinched, and yelled mindlessly, as Magnifico took a step towards him.

Magnifico turned, and with a leap, turned the others loose.

Toran lunged upwards and with eager, taut fists seized the landowner by the neck, "You come with us. We'll want you – to make sure we get to our ship."

Two hours later, in the ship's kitchen, Bayta served a walloping homemade pie, and Magnifico celebrated the return to space by attacking it with a magnificent disregard of table manners.

"Good, Magnifico?"

"Um-m-m-m!"

"Magnifico?"

"Yes, my lady?"

"What was it you played back there?"

The clown writhed, "I . . . I'd rather not say. I learned it once, and the Visi-Sonor is of an effect upon the nervous system most profound. Surely, it was an evil thing, and not for your sweet innocence, my lady."

"Oh, now, come, Magnifico. I'm not as innocent as that. Don't flatter so. Did I see anything like what *they* saw?"

"I hope not. I played it for them only. If you saw, it was but the rim of it – from afar."

"And that was enough. Do you know you knocked the prince out?"

Magnifico spoke grimly through a large, muffling piece of pie. "I *killed* him, my lady."

"What?" She swallowed, painfully.

"He was dead when I stopped, or I would have continued. I cared not for Commason. His greatest threat was death or torture. But, my lady, this prince looked upon you wickedly, and—" he choked in a mixture of indignation and embarrassment.

Bayta felt strange thoughts come and repressed them sternly. "Magnifico, you've got a gallant soul."

"Oh, my lady." He bent a red nose into his pie, but, somehow did not eat.

Ebling Mis stared out the port. Trantor was near – its metallic shine fearfully bright. Toran was standing there, too.

He said with dull bitterness, "We've come for nothing, Ebling. The Mule's man precedes us."

Ebling Mis rubbed his forehead with a hand that seemed shriveled out of its former plumpness. His voice was an abstracted mutter.

Toran was annoyed. "I say those people know the Foundation has fallen. I say—"

"Eh?" Mis looked up, puzzled. Then, he placed a gentle hand upon Toran's wrist, in complete oblivion of any previous conversation, "Toran, I . . . I've been looking at Trantor. Do you know . . . I have the queerest feeling . . . ever since we arrived on Neotrantor. It's an urge, a driving urge that's pushing and pushing inside. Toran, I can do it; I know I can do it. Things are becoming clear in my mind – they have never been so clear."

Toran stared – and shrugged. The words brought him no confidence.

He said, tentatively, "Mis?"

"Yes?"

"You didn't see a ship come down on Neotrantor as we left?"

Consideration was brief. "No."

"I did. Imagination, I suppose, but it could have been that Filian ship."

"The one with Captain Han Pritcher on it?"

"The one with space knows who upon it. Magnifico's information – It followed us here, Mis."

Ebling Mis said nothing,

Toran said strenuously, "is there anything wrong with you? Aren't you well?"

Mis's eyes were thoughtful, luminous, and strange. He did not answer.

23. THE RUINS OF TRANTOR

The location of an objective upon the great world of Trantor presents a problem unique in the Galaxy. There are no continents or oceans to locate from a thousand miles distance. There are no rivers, lakes, and islands to catch sight of through the cloud rifts.

The metal-covered world was – had been – one colossal city, and only the old Imperial palace could be identified readily from outer space by a stranger. The *Bayta* circled the world at almost air-car height in repeated painful search.

From polar regions, where the icy coating of the metal spires were somber evidence of the breakdown or neglect of the weather-conditioning machinery, they worked southwards. Occasionally they could experiment with the correlations –(or presumable correlations)– between what they saw and what the inadequate map obtained at Neotrantor showed.

But it was unmistakable when it came. The gap in the metal coat of the planet was fifty miles. The unusual greenery spread over hundreds of square miles, inclosing the mighty grace of the ancient Imperial residences.

The *Bayta* hovered and slowly oriented itself. There were only the huge supercauseways to guide them. Long straight arrows on the map, smooth, gleaming ribbons there below them.

What the map indicated to be the University area was reached by dead reckoning, and upon the flat area of what once must have been a busy landing-field, the ship lowered itself.

It was only as they submerged into the welter of metal that the smooth beauty apparent from the air dissolved into the broken, twisted near-wreckage that had been left in the wake of the Sack. Spires were truncated, smooth walls gouted and twisted, and just for an instant there was the glimpse of a shaven area of earth – perhaps several hundred acres in extent – dark and plowed.

Lee Senter waited as the ship settled downward cautiously. It was a strange ship, not from Neotrantor, and inwardly he sighed. Strange ships and confused dealings with the men of outer space could mean the end of the short days of peace, a return to the old grandiose times of death and battle. Senter was leader of the group; the old books were in his charge and he had read of those old days. He did not want them.

Perhaps ten minutes spent themselves as the strange ship came down to nestle upon the flatness, but long memories telescoped themselves in that time. There was first the great farm of his childhood – that remained in his mind merely as busy crowds of people. Then there was the trek of the young families to new lands. He was ten, then; an only child, puzzled, and frightened.

Then the new buildings; the great metal slabs to be uprooted and tom aside; the exposed soil to be turned, and freshened, and invigorated; neighboring buildings to be tom down and leveled; others to be transformed to living quarters.

There were crops to be grown and harvested; peaceful relations with neighboring farms to be established–

There was growth and expansion, and the quiet efficiency of self-rule. There was the coming of a new generation of hard, little youngsters born to the soil. There was the great day when he was chosen leader of the Group and for the first time since his eighteenth birthday he did not shave and saw the first stubble of his Leader's Beard appear.

And now the Galaxy might intrude and put an end to the brief idyll of isolation—

The ship landed. He watched wordlessly as the port opened. Four emerged, cautious and watchful. There were three men, varied, old, young, thin and beaked. And a woman striding among them like an equal. His hand left the two glassy black tufts of his beard as he stepped forward.

He gave the universal gesture of peace. Both hands were before him; hard, calloused palms upward.

The young man approached two steps and duplicated the gesture. "I come in peace."

The accent was strange, but the words were understandable, and welcome. He replied, deeply, "In peace be it. You are welcome to the hospitality of the Group. Are you hungry? You shall eat. Are you thirsty? You shall drink."

Slowly, the reply came, "We thank you for your kindness, and shall bear good report of your Group when we return to our world."

A queer answer, but good. Behind him, the men of the Group were smiling, and from the recesses of the surrounding structures, the women emerged.

In his own quarters, he removed the locked, mirror-walled box from its hidden place, and offered each of the guests the long, plump cigars that were reserved for great occasions. Before the woman, he hesitated. She had taken a seat among the men. The strangers evidently allowed, even expected, such effrontery. Stiffly, he offered the box.

She accepted one with a smile, and drew in its aromatic smoke, with all the relish one could expect. Lee Senter repressed a scandalized emotion.

The stiff conversation, in advance of the meal, touched politely upon the subject of fanning on Trantor.

It was the old man who asked, "What about hydroponics? Surely, for such a world as Trantor, hydroponics would be the answer."

Senter shook his head slowly. He felt uncertain. His knowledge was the unfamiliar matter of the books he had read, "Artificial fanning in chemicals, I think? No, not on Trantor. This hydroponics requires a world of industry – for instance, a great chemical industry. And in war or disaster, when industry breaks down, the people starve. Nor can all foods be grown artificially. Some lose their food value. The soil is cheaper, still better – always more dependable."

"And your food supply is sufficient?"

"Sufficient; perhaps monotonous. We have fowl that supply eggs, and milk-yielders for our dairy products – but our meat supply rests upon our foreign trade."

"Trade." The young man seemed roused to sudden interest. "You trade then. But what do you export?"

"Metal," was the curt answer. "Look for yourself. We have an infinite supply, ready processed. They come from Neotrantor with ships, demolish an indicated area-increasing our growing space – and leave us in exchange meat, canned fruit, food concentrates, farm machinery and so on. They carry off the metal and both sides profit."

They feasted on bread and cheese, and a vegetable stew that was unreservedly delicious. It was over the dessert of frosted fruit, the only imported item on the menu, that, for the first time, the Outlanders became other than mere guests. The young man produced a map of Trantor.

Calmly, Lee Senter studied it. He listened – and said gravely, "The University Grounds are a static area. We farmers do not grow crops on it. We do not, by preference, even enter it. It is one of our few relics of another time we would keep undisturbed. "

"We are seekers after knowledge. We would disturb nothing. Our ship would be our hostage." The old man offered this – eagerly, feverishly.

"I can take you there then," said Senter.

That night the strangers slept, and that night Lee Senter sent a message to Neotrantor.

24. CONVERT

The thin life of Trantor trickled to nothing when they entered among the wide-spaced buildings of the University grounds. There was a solemn and lonely silence over it.

The strangers of the Foundation knew nothing of the swirling days and nights of the bloody Sack that had left the University untouched. They knew nothing of the time after the collapse of the Imperial power, when the students, with their borrowed weapons, and their pale-faced inexperienced bravery, formed a protective volunteer army to protect the central shrine of the science of the Galaxy. They knew nothing of the Seven Days Fight, and the armistice that kept the University free, when even the Imperial palace clanged with the boots of Gilmer and his soldiers, during the short interval of their rule.

Those of the Foundation, approaching for the first time, realized only that in a world of transition from a gutted old to a strenuous new this area was a quiet, graceful museum-piece of ancient greatness.

They were intruders in a sense. The brooding emptiness rejected them. The academic atmosphere seemed still to live and to stir angrily at the disturbance.

The library was a deceptively small building which broadened out vastly underground into a mammoth volume of silence and reverie. Ebling Mis paused before the elaborate murals of the reception room.

He whispered – one had to whisper here: "I think we passed the catalog rooms back a way. I'll stop there."

His forehead was flushed, his hand trembling, "I mustn't be disturbed, Toran. Will you bring my meals down to me?"

"Anything you say. We'll do all we can to help. Do you want us to work under you—

"

"No. I must be alone—"

"You think you will get what you want."

And Ebling Mis replied with a soft certainty, "I know I will!"

Toran and Bayta came closer to "setting up housekeeping" in normal fashion than at any time in their year of married life. It was a strange sort of "housekeeping." They lived in the middle of grandeur with an inappropriate simplicity. Their food was drawn largely from Lee Senter's farm and was paid for in the little nuclear gadgets that may be found on any Trader's ship.

Magnifico taught himself how to use the projectors in the library reading room, and sat over adventure novels and romances to the point where he was almost as forgetful of meals and sleep as was Ebling Mis.

Ebling himself was completely buried. He had insisted on a hammock being slung up for him in the Psychology Reference Room. His face grew thin and white. His vigor of speech was lost and his favorite curses had died a mild death. There were times when the recognition of either Toran or Bayta seemed a struggle.

He was more himself with Magnifico who brought him his meals and often sat watching him for hours at a time, with a queer, fascinated absorption, as the aging psychologist transcribed endless equations, cross-referred to endless book-films, scurried endlessly about in a wild mental effort towards an end he alone saw.

Toran came upon her in the darkened room, and said sharply, "Bayta!"

Bayta started guiltily. "Yes? You want me, Torie?"

"Sure I want you. What in Space are you sitting there for? You've been acting all wrong since we got to Trantor. What's the matter with you?"

"Oh, Torie, stop," she said, wearily.

And "Oh, Torie, stop!" he mimicked impatiently. Then, with sudden softness, "Won't you tell me what's wrong, Bay? Something's bothering you."

"No! Nothing is, Torie. If you keep on just nagging and nagging, you'll have me mad. I'm just — thinking."

"Thinking about what?"

"About nothing. Well, about the Mule, and Haven, and the Foundation, and everything. About Ebling Mis and whether he'll find anything about the Second Foundation, and whether it will help us when he does find it — and a million other things. Are you satisfied?" Her voice was agitated.

"If you're just brooding, do you mind stopping? It isn't pleasant and it doesn't help the situation."

Bayta got to her feet and smiled weakly. "All right. I'm happy. See, I'm smiling and jolly. "

Magnifico's voice was an agitated cry outside. "My lady—"

"What is it? Come—"

Bayta's voice choked off sharply when the opening door framed the large, hard-faced—

"Pritcher," cried Toran.

Bayta gasped, "Captain! How did you find us?"

Han Pritcher stepped inside. His voice was clear and level, and utterly dead of feeling, "My rank is colonel now – under the Mule."

"Under the . . . Mule!" Toran's voice trailed off. They formed a tableau there, the three.

Magnifico stared wildly and shrank behind Toran. Nobody stopped to notice him.

Bayta said, her hands trembling in each other's tight grasp, "You are arresting us? You have really gone over to them?"

The colonel replied quickly, "I have not come to arrest you. My instructions make no mention of you. With regard to you, I am free, and I choose to exercise our old friendship, if you will let me."

Toran's face was a twisted suppression of fury, "How did you find us? You were in the Filian ship, then? You followed us?"

The wooden lack of expression on Pritcher's face might have flickered in embarrassment. "I was on the Filian ship! I met you in the first place . . . well . . . by chance."

"It is a chance that is mathematically impossible."

"No. Simply rather improbable, so my statement will have to stand. In any case, you admitted to the. Filians – there is, of course, no such nation as Filia actually – that you were heading for the Trantor sector, and since the Mule already had his contacts upon Neotrantor, it was easy to have you detained there. Unfortunately, you got away before I arrived, but not long before. I had time to have the farms on Trantor ordered to report your arrival. It was done and I am here. May I sit down? I come in friendliness, believe me.

He sat. Toran bent his head and thought futilely. With a numbed lack of emotion, Bayta prepared tea.

Toran looked up harshly. "Well, what are you waiting for – *colonel*? What's your friendship? If it's not arrest, what is it then? Protective custody? Call in your men and give your orders."

Patently, Pritcher shook his head. "No, Toran. I come of my own will to speak to you, to persuade you of the uselessness of what you are doing. If I fail I shall leave. That is all."

"That is all? Well, then peddle your propaganda, give us your speech, and leave. I don't want any tea, Bayta."

Pritcher accepted a cup, with a grave word of thanks. He looked at Toran with a clear strength as he sipped lightly. Then he said, "The Mule *is* a mutant. He can not be beaten in the very nature of the mutation—"

"Why? What is the mutation?" asked Toran, with sour humor. "I suppose you'll tell us now, eh?"

"Yes, I will. Your knowledge won't hurt him. You see – he is capable of adjusting the emotional balance of human beings. It sounds like a little trick, but it's quite unbeatable."

Bayta broke in, "The emotional balance?" She frowned, "Won't you explain that? I don't quite understand."

"I mean that it is an easy matter for him to instill into a capable general, say, the emotion of utter loyalty to the Mule and complete belief in the Mule's victory. His generals are emotionally controlled. They can not betray him; they can not weaken – and the control is permanent. His most capable enemies become his most faithful subordinates, The warlord of Kalgan surrenders his planet and becomes his viceroy for the Foundation."

"And you," added Bayta, bitterly, "betray your cause and become Mule's envoy to Trantor. I see!"

"I haven't finished. The Mule's gift works in reverse even more effectively. Despair is an emotion! At the crucial moment, keymen on the Foundation – keymen on Haven – despaired. Their worlds fell without too much struggle."

"Do you mean to say," demanded Bayta, tensely, "that the feeling I had in the Time Vault was the Mule juggling my emotional control."

"Mine, too. Everyone's. How was it on Haven towards the end?"

Bayta turned away.

Colonel Pritcher continued earnestly, "As it works for worlds, so it works for individuals. Can you fight a force which can make you surrender willingly when it so desires; can make you a faithful servant when it so desires?"

Toran said slowly, "How do I know this is the truth?"

"Can you explain the fall of the Foundation and of Haven otherwise? Can you explain my conversion otherwise? Think, man! What have you – or I – or the whole Galaxy accomplished against the Mule in all this time? What one little thing?"

Toran felt the challenge, "By the Galaxy, I can!" With a sudden touch of fierce satisfaction, he shouted, "Your wonderful Mule had contacts with Neotrantor you say that were to have detained us, eh? Those contacts are dead or worse. We killed the crown prince and left the other a whimpering idiot. The Mule did not stop us there, and that much has been undone."

"Why, no, not at all. Those weren't our men. The crown prince was a wine-soaked mediocrity. The other man, Commason, is phenomenally stupid. He was a power on his world but that didn't prevent him from being vicious, evil, and completely incompetent. We had nothing really to do with them. They were, in a sense, merely feints—"

"It was they who detained us, or tried."

"Again, no. Commason had a personal slave – a man called Inchney. Detention was *his* policy. He is old, but will serve our temporary purpose. You would not have killed him, you see."

Bayta whirled on him. She had not touched her own tea. "But, by your very statement, your own emotions have been tampered with. You've got faith and belief in

the Mule, an unnatural, a *diseased* faith in the Mule. Of what value are your opinions? You've lost all power of objective thought."

"You are wrong." Slowly, the colonel shook his head. "Only my emotions are fixed. My reason is as it always was. It may be influenced in a certain direction by my conditioned emotions, but it is not *forced*. And there are some things I can see more clearly now that I am freed of my earlier emotional trend."

"I can see that the Mule's program is an intelligent and worthy one. In the time since I have been – converted, I have followed his career from its start seven years ago. With his mutant mental power, he began by winning over a condottiere and his band. With that – and his power – he won a planet. With that – and his power – he extended his grip until he could tackle the warlord of Kalgan. Each step followed the other logically. With Kalgan in his pocket, he had a first-class fleet, and with that – and his power – he could attack the Foundation."

"The Foundation is the key. It is the greatest area of industrial concentration in the Galaxy, and now that the nuclear techniques of the Foundation are in his hands, he is the actual master of the Galaxy. With those techniques – and his power – he can force the remnants of the Empire to acknowledge his rule, and eventually – with the death of the old emperor, who is mad and not long for this world – to crown him emperor. He will then have the name as well as the fact. With that – and his power – where is the world in the Galaxy that can oppose him?"

"In these last seven years, he has established a new Empire. In seven years, in other words, he will have accomplished what all Seldon's psychohistory could not have done in less than an additional seven hundred. The Galaxy will have peace and order at last."

"And you could not stop it – any more than you could stop a planet's rush with your shoulders."

A long silence followed Pritcher's speech. What remained of his tea had grown cold. He emptied his cup, filled it again, and drained it slowly. Toran bit viciously at a thumbnail. Bayta's face was cold, and distant, and white.

Then Bayta said in a thin voice, "We are not convinced. If the Mule wishes us to be, let him come here and condition us himself. You fought him until the last moment of your conversion, I imagine, didn't you?"

"I did," said Colonel Pritcher, solemnly.

"Then allow us the same privilege."

Colonel Pritcher arose. With a crisp air of finality, he said, "Then I leave. As I said earlier, my mission at present concerns you in no way. Therefore, I don't think it will be necessary to report your presence here. That is not too great a kindness. If the Mule wishes you stopped, he no doubt has other men assigned to the job, and you will be stopped. But, for what it is worth, I shall not contribute more than my requirement."

"Thank you," said Bayta faintly.

"As for Magnifico. Where is he? Come out, Magnifico, I won't hurt you—"

"What about him?" demanded Bayta, with sudden animation.

"Nothing. My instructions make no mention of him, either. I have heard that he is searched for, but the Mule will find him when the time suits him. I shall say nothing. Will you shake hands?"

Bayta shook her head. Toran glared his frustrated contempt.

There was the slightest lowering of the colonel's iron shoulders. He strode to the door, turned and said:

"One last thing. Don't think I am not aware of the source of your stubbornness. It is known that you search for the Second Foundation. The Mule, in his time, will take his measures. Nothing will help you – But I knew you in other times; perhaps there is something in my conscience that urged me to this; at any rate, I tried to help you and remove you from the final danger before it was too late. Good-by."

He saluted sharply – and was gone.

Bayta turned to a silent Toran, and whispered, "They even know about the Second Foundation."

In the recesses of the library, Ebling Mis, unaware of all, crouched under the one spark of light amid the murky spaces and mumbled triumphantly to himself.

25. DEATH OF A PSYCHOLOGIST

After that there were only two weeks left to the life of Ebling Mis.

And in those two weeks, Bayta was with him three times. The first time was on the night after the evening upon which they saw Colonel Pritcher. The second was one week later. And the third was again a week later – on the last day – the day Mis died.

First, there was the night of Colonel Pritcher's evening, the first hour of which was spent by a stricken pair in a brooding, unmerry merry-go-round.

Bayta said, "Torie, let's tell Ebling."

Toran said dully, "Think he can help?"

"We're only two. We've got to take some of the weight off. Maybe he *can* help."

Toran said, "He's changed. He's lost weight. He's a little feathery; a little woolly." His fingers groped in air, metaphorically. "Sometimes, I don't think he'll help us *muchever*. Sometimes, I don't think anything will help."

"Don't!" Bayta's voice caught and escaped a break, "Torie, don't! When you say that, I think the Mule's getting us. Let's tell Ebling, Torie – now!"

Ebling Mis raised his head from the long desk, and bleared at them as they approached. His thinning hair was scuffed up, his lips made sleepy, smacking sounds.

"Eh?" he said. "Someone want me?"

Bayta bent to her knees, "Did we wake you? Shall we leave?"

"Leave? Who is it? Bayta? No, no, stay! Aren't there chairs? I saw them—" His finger pointed vaguely.

Toran pushed two ahead of him. Bayta sat down and took one of the psychologist's flaccid hands in hers. "May we talk to you, Doctor?" She rarely used the title.

"Is something wrong?" A little sparkle returned to his abstracted eyes. His sagging cheeks regained a touch of color. "Is something wrong?"

Bayta said, "Captain Pritcher has been here. Let *me* talk, Torie. You remember Captain Pritcher, Doctor?"

"Yes— Yes—" His fingers pinched his lips and released them. "Tall man. Democrat."

"Yes, he. He's discovered the Mule's mutation. He was here, Doctor, and told us."

"But that is nothing new. The Mule's mutation is straightened out." In honest astonishment, "Haven't I told you? Have I forgotten to tell you?"

"Forgotten to tell us what?" put in Toran, quickly.

"About the Mule's mutation, of course. He tampers with emotions. Emotional control! I haven't told you? Now what made me forget?" Slowly, he sucked in his under lip and considered.

Then, slowly, life crept into his voice and his eyelids lifted wide, as though his sluggish brain had slid onto a well-greased single track. He spoke in a dream, looking between the two listeners rather than at them. "It is really so simple. It requires no specialized knowledge. In the mathematics of psychohistory, of course, it works out promptly, in a third-level equation involving no more – Never mind that. It can be put into ordinary words – roughly – and have it make sense, which isn't usual with psychohistorical phenomena.

"Ask yourselves – What can upset Hari Seldon's careful scheme of history, eh?" He peered from one to the other with a mild, questioning anxiety. "What were Seldon's original assumptions? First, that there would be no fundamental change in human society over the next thousand years.

"For instance, suppose there were a major change in the Galaxy's technology, such as finding a new principle for the utilization of energy, or perfecting the study of electronic neurobiology. Social changes would render Seldon's original equations obsolete. But that hasn't happened, has it now?"

"Or suppose that a new weapon were to be invented by forces outside the Foundation, capable of withstanding all the Foundation's armaments. *That* might cause a ruinous deviation, though less certainly. But even that hasn't happened. The Mule's Nuclear Field-Depressor was a clumsy weapon and could be countered. And that was the only novelty he presented, poor as it was.

"But there was a second assumption, a more subtle one! Seldon assumed that human reaction to stimuli would remain constant. Granted that the first assumption held true, *then the second must have broken down!* Some factor must be twisting and distorting the emotional responses of human beings or Seldon couldn't have failed and the Foundation couldn't have fallen. And what factor but the Mule?

"Am I right? Is there a flaw in the reasoning?"

Bayta's plump hand patted his gently. "No flaw, Ebling."

Mis was joyful, like a child. "This and more comes so easily. I tell you I wonder sometimes what is going on inside me. I seem to recall the time when so much was a mystery to me and now things are so clear. Problems are absent. I come across what might be one, and somehow, inside me, I see and understand. And my guesses, my theories seem always to be borne out. There's a drive in me . . . always onward . . . so that I can't stop . . . and I don't want to eat or sleep . . . but always go on . . . and on . . . and on—"

His voice was a whisper; his wasted, blue-veined hand rested tremblingly upon his forehead. There was a frenzy in his eyes that faded and went out.

He said more quietly, "Then I never told you about the Mule's mutant powers, did I? But then . . . did you say you knew about it?"

"It was Captain Pritcher, Ebling," said Bayta. "Remember?"

"He told you?" There was a tinge of outrage in his tone. "But how did he find out?"

"He's been conditioned by the Mule. He's a colonel now, a Mule's man. He came to advise us to surrender to the Mule, and he told us – what you told us."

"Then the Mule knows we're here? I must hurry – Where's Magnifico? Isn't he with you?"

"Magnifico's sleeping," said Toran, impatiently. "It's past midnight, you know."

"It is? Then – Was I sleeping when you came in?"

"You were," said Bayta decisively, "and you're not going back to work, either. You're getting into bed. Come on, Torie, help me. And you stop pushing at me, Ebling, because it's just your luck I don't shove you under a shower first. Pull off his shoes, Torie, and tomorrow you come down here and drag him out into the open air before he fades completely away. Look at you, Ebling, you'll be growing cobwebs. Are you hungry?"

Ebling Mis shook his head and looked up from his cot in a peevish confusion. "I want you to send Magnifico down tomorrow," he muttered.

Bayta tucked the sheet around his neck. "You'll have *me* down tomorrow, with washed clothes. You're going to take a good bath, and then get out and visit the farm and feel a little sun on you."

"I won't do it," said Mis weakly. "You hear me? I'm too busy."

His sparse hair spread out on the pillow like a silver fringe about his head. His voice was a confidential whisper. "You want that Second Foundation, don't you?"

Toran turned quickly and squatted down on the cot beside him. "What about the Second Foundation, Ebling?"

The psychologist freed an arm from beneath the sheet and his tired fingers clutched at Toran's sleeve. "The Foundations were established at a great Psychological Convention presided over by Hari Seldon. Toran, I have located the published minutes of that Convention. Twenty-five fat films. I have already looked through various summaries."

"Well?"

"Well, do you know that it is very easy to find from them the exact location of the First Foundation, if you know anything at all about psychohistory. It is frequently referred

to, when you understand the equations. But Toran, nobody mentions the Second Foundation, There has been no reference to it anywhere."

Toran's eyebrows pulled into a frown. "It doesn't exist?"

"Of course it exists," cried Mis, angrily, "who said it didn't? But there's less talk of it. Its significance – and all about it – are better hidden, better obscured. Don't you see? It's the more important of the two. It's the critical one; *the one that counts!* And I've got the minutes of the Seldon Convention. The Mule hasn't won yet–"

Quietly, Bayta turned the lights down. "Go to sleep!"

Without speaking, Toran and Bayta made their way up to their own quarters.

The next day, Ebling Mis bathed and dressed himself, saw the sun of Trantor and felt the wind of Trantor for the last time. At the end of the day he was once again submerged in the gigantic recesses of the library, and never emerged thereafter.

In the week that followed, life settled again into its groove. The sun of Neotrantor was a calm, bright star in Trantor's night sky. The farm was busy with its spring planting. The University grounds were silent in their desertion. The Galaxy seemed empty. The Mule might never have existed.

Bayta was thinking that as she watched Toran light his cigar carefully and look up at the sections of blue sky visible between the swarming metal spires that encircled the horizon.

"It's a nice day," he said.

"Yes, it is. Have you everything mentioned on the list, Torie?"

"Sure. Half pound butter, dozen eggs, string beans – Got it all down here, Bay. I'll have it right."

"Good. And make sure the vegetables are of the last harvest and not museum relics. Did you see Magnifico anywhere, by the way?"

"Not since breakfast. Guess he's down with Ebling, watching a book-film."

"All right. Don't waste any time, because I'll need the eggs for dinner."

Toran left with a backward smile and a wave of the hand.

Bayta turned away as Toran slid out of sight among the maze of metal. She hesitated before the kitchen door, about-faced slowly, and entered the colonnade leading to the elevator that burrowed down into the recesses.

Ebling Mis was there, head bent down over the eyepieces of the projector, motionless, a frozen, questing body. Near him sat Magnifico, screwed up into a chair, eyes sharp and watching – a bundle of slatty limbs with a nose emphasizing his scrawny face.

Bayta said softly, "Magnifico–"

Magnifico scrambled to his feet. His voice was an eager whisper. "My lady!"

"Magnifico," said Bayta, "Toran has left for the farm and won't be back for a while. Would you be a good boy and go out after him with a message that I'll write for you?"

"Gladly, my lady. My small services are but too eagerly yours, for the tiny uses you can put them to."

She was alone with Ebling Mis, who had not moved. Firmly, she placed her hand upon his shoulder. "Ebling—"

The psychologist started, with a peevish cry, "What is it?" He wrinkled his eyes. "Is it you, Bayta? Where's Magnifico?"

"I sent him away. I want to be alone with you for a while." She enunciated her words with exaggerated distinctness. "I want to talk to you, Ebling."

The psychologist made a move to return to his projector, but her hand on his shoulder was firm. She felt the bone under the sleeve clearly. The flesh seemed to have fairly melted away since their arrival on Trantor. His face was thin, yellowish, and bore a half-week stubble. His shoulders were visibly stooped, even in a sitting position.

Bayta said, "Magnifico isn't bothering you, is he, Ebling? He seems to be down here night and day."

"No, no, no! Not at all. Why, I don't mind him. He is silent and never disturbs me. Sometimes he carries the films back and forth for me; seems to know what I want without my speaking. Just let him be."

"Very well – but, Ebling, doesn't he make you wonder? Do you hear me, Ebling? Doesn't he make you wonder?"

She jerked a chair close to his and stared at him as though to pull the answer out of his eyes.

Ebling Mis shook his head. "No. What do you mean?"

"I mean that Colonel Pritcher and you both say the Mule can condition the emotions of human beings. But are you sure of it? Isn't Magnifico himself a flaw in the theory?"

There was silence.

Bayta repressed a strong desire to shake the psychologist. "What's wrong with you, Ebling? Magnifico was the Mule's clown. Why wasn't he conditioned to love and faith? Why should he, of all those in contact with the Mule, hate him so.

"But . . . but he was conditioned. Certainly, Bay!" He seemed to gather certainty as he spoke. "Do you suppose that the Mule treats his clown the way he treats his generals? He needs faith and loyalty in the latter, but in his clown he needs only fear. Didn't you ever notice that Magnifico's continual state of panic is pathological in nature? Do you suppose it is natural for a human being to be as frightened as that all the time? Fear to such an extent becomes comic. It was probably comic to the Mule – and helpful, too, since it obscured what help we might have gotten earlier from Magnifico."

Bayta said, "You mean Magnifico's information about the Mule was false?"

"It was misleading. It was colored by pathological fear. The Mule is not the physical giant Magnifico thinks. He is more probably an ordinary man outside his mental powers. But if it amused him to appear a superman to poor Magnifico—" The psychologist shrugged. "In any case, Magnifico's information is no longer of importance."

"What is, then?"

But Mis shook himself loose and returned to his projector.

"What is, then?" she repeated. "The Second Foundation?"

The psychologist's eyes jerked towards her. "Have I told you anything about that? I don't remember telling you anything. I'm not ready yet. What have I told you?"

"Nothing," said Bayta, intensely. "Oh, Galaxy, you've told me nothing, but I wish you would because I'm deathly tired. When will it be over?"

Ebling Mis peered at her, vaguely rueful, "Well, now, my . . . my dear, I did not mean to hurt you. I forget sometimes . . . who my friends are. Sometimes it seems to me that I must not talk of all this. There's a need for secrecy – but from the Mule, not from you, my dear." He patted her shoulder with a weak amiability.

She said, "What about the Second Foundation?"

His voice was automatically a whisper, thin and sibilant. "Do you know the thoroughness with which Seldon covered his traces? The proceedings of the Seldon Convention would have been of no use to me at a as little as a month ago, before this strange insight came. Even now, it seems – tenuous. The papers put out by the Convention are often apparently unrelated; always obscure. More than once I wondered if the members of the Convention, themselves, knew all that was in Seldon's mind. Sometimes I think he used the Convention only as a gigantic front, and single-handed erected the structure–"

"Of the Foundations?" urged Bayta.

"Of the Second Foundation! Our Foundation was simple. But the Second Foundation was only a name. It was mentioned, but if there was any elaboration, it was hidden deep in the mathematics. There is still much I don't even begin to understand, but for seven days, the bits have been clumping together into a vague picture.

"Foundation Number One was a world of physical scientists. It represented a concentration of the dying science of the Galaxy under the conditions necessary to make it live again. No psychologists were included. It was a peculiar distortion, and must have had a purpose. The usual explanation was that Seldon's psychohistory worked best where the individual working units – human beings – had no knowledge of what was coming, and could therefore react naturally to all situations. Do you follow me, my dear–"

"Yes, doctor."

"Then listen carefully. Foundation Number Two was a world of mental scientists. It was the mirror image of our world. Psychology, not physics, was king." Triumphantly.

"You see?"

"I don't."

"But think, Bayta, use your head. Hari Seldon knew that his psychohistory could predict only probabilities, and not certainties. There was always a margin of error, and as time passed that margin increases in geometric progression. Seldon would naturally guard as well as he could against it. Our Foundation was scientifically vigorous. It could conquer armies and weapons. It could pit force against force. But what of the mental attack of a mutant such as the Mule?"

"That would be for the psychologists of the Second Foundation!" Bayta felt excitement rising within her.

"Yes, yes, yes! Certainly!"

"But they have done nothing so far."

"How do you know they haven't?"

Bayta considered that, "I don't. Do you have evidence that they have?"

"No. There are many factors I know nothing of. The Second Foundation could not have been established full-grown, any more than we were. We developed slowly and grew in strength; they must have also. The stars know at what stage their strength is now. Are they strong enough to fight the Mule? Are they aware of the danger in the first place? Have they capable leaders?"

"But if they follow Seldon's plan, then the Mule *must* be beaten by the Second Foundation."

"Ah," and Ebling Mis's thin face wrinkled thoughtfully, "is it that again? But the Second Foundation was a more difficult job than the First. Its complexity is hugely greater; and consequently so is its possibility of error. And if the Second Foundation should not beat the Mule, it is bad – ultimately bad. It is the end, may be, of the human race as we know it."

"No."

"Yes. If the Mule's descendants inherit his mental powers – You see? Homo sapiens could not compete. There would be a new dominant race – a new aristocracy – with homo sapiens demoted to slave labor as an inferior race. Isn't that so?"

"Yes, that is so."

"And even if by some chance the Mule did not establish a dynasty, he would still establish a distorted new Empire upheld by his personal power only. It would die with his death; the Galaxy would be left where it was before he came, except that there would no longer be Foundations around which a real and healthy Second Empire could coalesce. It would mean thousands of years of barbarism. It would mean no end in sight."

"What can we do? Can we warn the Second Foundation?"

"We must, or they may go under through ignorance, which we can not risk. But there is no way of warning them."

"No way?"

"I don't know where they are located. They are 'at the other end of the Galaxy' but that is all, and there are millions of worlds to choose from."

"But, Ebling, don't they say?" She pointed vaguely at the films that covered the table.

"No, they don't. Not where I can find it – yet. The secrecy must mean something. There must be a reason—" A puzzled expression returned to his eyes. "But I wish you'd leave. I have wasted enough time, and it's growing short – it's growing short."

He tore away, petulant and frowning.

Magnifico's soft step approached. "Your husband is home, my lady."

Ebling Mis did not greet the clown. He was back at his projector.

That evening Toran, having listened, spoke, "And you think he's really right, Bay? You think he isn't—" He hesitated.

"He is right, Torie. He's sick, I know that. The change that's come over him, the loss in weight, the way he speaks – he's sick. But as soon as the subject of the Mule or the Second Foundation, or anything he is working on, comes up, listen to him. He is lucid and clear as the sky of outer space. He knows what he's talking about. I believe him."

"Then there's hope." It was half a question.

"I . . . I haven't worked it out. Maybe! Maybe not! I'm carrying a blaster from now on." The shiny-barreled weapon was in her hand as she spoke. "Just in case, Torie, just in case."

"In case what?"

Bayta laughed with a touch of hysteria, "Never mind. Maybe I'm a little crazy, too – like Ebling Mis."

Ebling Mis at that time had seven days to live, and the seven days slipped by, one after the other, quietly.

To Toran, there was a quality of stupor about them. The warming days and the dull silence covered him with lethargy. All life seemed to have lost its quality of action, and changed into an infinite sea of hibernation.

Mis was a hidden entity whose burrowing work produced nothing and did not make itself known. He had barricaded himself. Neither Toran nor Bayta could see him. Only Magnifico's go-between characteristics were evidence of his existence. Magnifico, grown silent and thoughtful, with his tiptoed trays of food and his still, watchful witness in the gloom.

Bayta was more and more a creature of herself. The vivacity died, the self-assured competence wavered. She, too, sought her own worried, absorbed company, and once Toran had come upon her, fingering her blaster. She had put it away quickly, forced a smile.

"What are you doing with it, Bay?"

"Holding it. Is that a crime?"

"You'll blow your fool head off."

"Then I'll blow it off. Small loss!"

Married life had taught Toran the futility of arguing with a female in a dark-brown mood. He shrugged, and left her.

On the last day, Magnifico scampered breathless into their presence. He clutched at them, frightened. "The learned doctor calls for you. He is not well."

And he wasn't well. He was in bed, his eyes unnaturally large, unnaturally bright. He was dirty, unrecognizable.

"Ebling!" cried Bayta.

"Let me speak," croaked the psychologist, lifting his weight to a thin elbow with an effort. "Let me speak. I am finished; the work I pass on to you. I have kept no notes; the scrap-figures I have destroyed. No other must know. All must remain in your minds."

"Magnifico," said Bayta, with rough directness. "Go upstairs!"

Reluctantly, the clown rose and took a backward step. His sad eyes were on Mis.

Mis gestured weakly, "He won't matter; let him stay. Stay, Magnifico."

The clown sat down quickly. Bayta gazed at the floor.

Slowly, slowly, her lower lip caught in her teeth.

Mis said, in a hoarse whisper, "I am convinced the Second Foundation can win, if it is not caught prematurely by the Mule. It has kept itself secret; the secrecy must be upheld; it has a purpose. You must go there; your information is vital . . . may make all the difference. Do you hear me?"

Toran cried in near-agony, "Yes, yes! Tell us how to get there, Ebling? Where is it?"

"I can tell you," said the faint voice.

He never did.

Bayta, face frozen white, lifted her blaster and shot, with an echoing clap of noise. From the waist upward, Mis was not, and a ragged hole was in the wall behind. From numb fingers, Bayta's blaster dropped to the floor.

26. END OF THE SEARCH

There was not a word to be said. The echoes of the blast rolled away into the outer rooms and rumbled downward into a hoarse, dying whisper. Before its death, it had muffled the sharp clamor of Bayta's falling blaster, smothered Magnifico's high-pitched cry, drowned out Toran's inarticulate roar.

There was a silence of agony.

Bayta's head was bent into obscurity. A droplet caught the light as it fell. Bayta had never wept since her childhood.

Toran's muscles almost cracked in their spasm, but he did not relax – he felt as if he would never unclench his teeth again. Magnifico's face was a faded, lifeless mask.

Finally, from between teeth still tight, Toran choked out in an unrecognizable voice, "You're a Mule's woman, then. He got to you!"

Bayta looked up, and her mouth twisted with a painful merriment, "I, a Mule's woman? That's ironic."

She smiled – a brittle effort – and tossed her hair back. Slowly, her voice verged back to the normal, or something near it. "It's over, Toran; I can talk now. How much I will survive, I don't know. But I can start talking–"

Toran's tension had broken of its own weight and faded into a flaccid dullness, "Talk about what, Bay? What's there to talk about?"

"About the calamity that's followed us. We've remarked about it before, Torie. Don't you remember? How defeat has always bitten at our heels and never actually managed to nip us? We were on the Foundation, and it collapsed while the Independent Traders still fought – but we got out in time to go to Haven. We were on Haven, and it collapsed while the others still fought – and again we got out in time. We went to Neotrantor, and by now it's undoubtedly joined the Mule."

Toran listened and shook his head, "I don't understand."

"Torie, such things don't happen in real life. You and I are insignificant people; we don't fall from one vortex of politics into another continuously for the space of a year – unless we carry the vortex with us. *Unless we carry the source of infection with us!* Now do you see?"

Toran's lips tightened. His glance fixed horribly upon the bloody remnants of what had once been a human, and his eyes sickened.

"Let's get out of here, Bay. Let's get out into the open."

It was cloudy outside. The wind scudded about them in drab spurts and disordered Bayta's hair. Magnifico had crept after them and now he hovered at the edge of their conversation.

Toran said tightly, "You killed Ebling Mis because you believed *him* to be the focus of infection?" Something in her eyes struck him. He whispered, "He was the Mule?" He did not – could not – believe the implications of his own words.

Bayta laughed sharply, "Poor Ebling the Mule? Galaxy, no! I couldn't have killed him if he were the Mule. He would have detected the emotion accompanying the move and changed it for me to love, devotion, adoration, terror, whatever he pleased. No, I killed Ebling because he was *not* the Mule. I killed him because he knew where the Second Foundation was, and in two seconds would have told the Mule the secret."

"Would have told the Mule the secret," Toran repeated stupidly. "Told the Mule–"

And then he emitted a sharp cry, and turned to stare in horror at the clown, who might have been crouching unconscious there for the apparent understanding he had of what he heard.

"Not Magnifico?" Toran whispered the question.

"Listen!" said Bayta. "Do you remember what happened on Neotrantor? Oh, think for yourself, Torie–"

But he shook his head and mumbled at her.

She went on, wearily, "A man died on Neotrantor. A man died with no one touching him. Isn't that true? Magnifico played on his Visi-Sonor and when he was finished, the crown prince was dead. Now isn't that strange? Isn't it queer that a creature afraid of everything, apparently helpless with terror, has the capacity to kill at will."

"The music and the light-effects," said Toran, "have a profound emotional effect–"

"Yes, an *emotional* effect. A pretty big one. Emotional effects happen to be the Mule's specialty. That, I suppose, can be considered a coincidence. And a creature who can kill by suggestion is so full of fright. Well, the Mule tampered with his mind, supposedly, so that can be explained. But, Toran, I caught a little of that Visi-Sonor selection that killed the crown prince. Just a little – but it was enough to give me that same feeling of despair I had in the Time Vault and on Haven. Toran, I can't mistake that particular feeling."

Toran's face was darkening. "I . . . felt it, too. I forgot. I never thought–"

"It was then that it first occurred to me. It was just a vague feeling – intuition, if you like. I had nothing to go on. And then Pritcher told us of the Mule and his mutation, and it was clear in a moment. It was the Mule who had created the despair in the Time Vault; it

was Magnifico who had created the despair on Neotrantor. It was the same emotion. Therefore, the Mule and Magnifico were the same person. Doesn't it work out nicely, Torie? Isn't it just like an axiom in geometry – things equal to the same thing are equal to each other?"

She was at the edge of hysteria, but dragged herself back to sobriety by main force. She continued, "The discovery scared me to death. If Magnifico were the Mule, he could know my emotions – and cure them for his own purposes. I dared not let him know. I avoided him. Luckily, he avoided me also; he was too interested in Ebling Mis. I planned killing Mis before he could talk. I planned it secretly – as secretly as I could – so secretly I didn't dare tell it to myself.

"If I could have killed the Mule himself – But I couldn't take the chance. He would have noticed, and I would have lost everything."

She seemed drained of emotion.

Toran said harshly and with finality, "It's impossible. Look at the miserable creature. *He* the Mule? He doesn't even hear what we're saying."

But when his eyes followed his pointing finger, Magnifico was erect and alert, his eyes sharp and darkly bright. His voice was without a trace of an accent, "I hear her, my friend. It is merely that I have been sitting here and brooding on the fact that with all my cleverness and forethought I could make a mistake, and lose so much."

Toran stumbled backward as if afraid the clown might touch him or that his breath might contaminate him.

Magnifico nodded, and answered the unspoken question. "I am the Mule."

He seemed no longer a grotesque; his pipestem limbs, his beak of a nose lost their humor-compelling qualities. His fear was gone; his bearing was firm.

He was in command of the situation with an ease born of usage.

He said, tolerantly, "Seat yourselves. Go ahead; you might as well sprawl out and make yourselves comfortable. The game's over, and I'd like to tell you a story. It's a weakness of mine – I want people to understand me."

And his eyes as he looked at Bayta were still the old, soft sad brown ones of Magnifico, the clown.

"There is nothing really to my childhood," he began, plunging bodily into quick, impatient speech, "that I care to remember. Perhaps you can understand that. My meagerness is glandular; my nose I was born with. It was not possible for me to lead a normal childhood. My mother died before she saw me. I do not know my father. I grew up haphazard, wounded and tortured in mind, full of self-pity and hatred of others. I was known then as a queer child. All avoided me; most out of dislike; some out of fear. Queer incidents occurred – Well, never mind! Enough happened to enable Captain Pritcher, in his investigation of my childhood to realize that I was a mutant, which was more than I ever realized until I was in my twenties."

Toran and Bayta listened distantly. The wash of his voice broke over them, seated on the ground as they were, unheeded almost. The clown – or the Mule – paced before them with little steps, speaking downward to his own folded arms.

"The whole notion of my unusual power seems to have broken on me so slowly, in such sluggish steps. Even toward the end, I couldn't believe it. To me, men's minds are dials, with pointers that indicate the prevailing emotion. It is a poor picture, but how else can I explain it? Slowly, I learned that I could reach into those minds and turn the pointer to the spot I wished, that I could nail it there forever. And then it took even longer to realize that others couldn't.

"But the consciousness of power came, and with it, the desire to make up for the miserable position of my earlier life. Maybe you can understand it. Maybe you can try to understand it. It isn't easy to be a freak – to have a mind and an understanding and be a freak. Laughter and cruelty! To be different! To be an outsider!

"You've never been through it!"

Magnifico looked up to the sky and teetered on the balls of his feet and reminisced stonily, "But I eventually did learn, and I decided that the Galaxy and I could take turns. Come, they had had their innings, and I had been patient about it – for twenty-two years. My turn! It would be up to the rest of you to take it! And the odds would be fair enough for the Galaxy. One of me! Quadrillions of them!"

He paused to glance at Bayta swiftly. "But I had a weakness. I was nothing in myself. If I could gain power, it could only be by means of others. Success came to me through middlemen. Always! It was as Pritcher said. Through a pirate, I obtained my first asteroidal base of operations. Through an industrialist I got my first foothold on a planet. Through a variety of others ending with the warlord of Kalgan, I won Kalgan itself and got a navy. After that, it was the Foundation – and you two come into the story.

"The Foundation," he said, softly, "was the most difficult task I had met. To beat it, I would have to win over, break down, or render useless an extraordinary proportion of its ruling class. I could have done it from scratch – but a short cut was possible, and I looked for it. After all, if a strong man can lift five hundred pounds, it does not mean that he is eager to do so continuously. My emotional control is not an easy task, I prefer not to use it, where not fully necessary. So I accepted allies in my first attack upon the Foundation.

"As my clown, I looked for the agent, or agents, of the Foundation that must inevitably have been sent to Kalgan to investigate my humble self. I know now it was Han Pritcher I was looking for. By a stroke of fortune, I found you instead. I am a telepath, but not a complete one, and, my lady, you were from the Foundation. I was led astray by that. It was not fatal for Pritcher joined us afterward, but it was the starting point of an error that was fatal."

Toran stirred for the first time. He spoke in an outraged tone, "Hold on, now. You mean that when I outfaced that lieutenant on Kalgan with only a stun pistol, and rescued you – that you had emotionally-controlled me into it." He was spluttering. "You mean I've been tampered with all along."

A thin smile played on Magnifico's face. "Why not? You don't think it's likely? Ask yourself then – Would you have risked death for a strange grotesque you had never seen before, if you had been in your right mind? I imagine you were surprised at events in cold after-blood."

"Yes," said Bayta, distantly, "he was. It's quite plain."

"As it was," continued the Mule, "Toran was in no danger. The lieutenant had his own strict instructions to let us go. So the three of us and Pritcher went to the Foundation – and see how my campaign shaped itself instantly. When Pritcher was court-martialed and we were present, I was busy. The military judges of that trial later commanded their squadrons in the war. They surrendered rather easily, and my Navy won the battle of Horleggor, and other lesser affairs."

"Through Pritcher, I met Dr. Mis, who brought me a Visi-Sonor, entirely of his own accord, and simplified my task immensely. Only it wasn't *entirely* of his own accord."

Bayta interrupted, "Those concerts! I've been trying to fit them in. Now I see."

"Yes," said Magnifico, "the Visi-Sonor acts as a focusing device. In a way, it is a primitive device for emotional control in itself. With it, I can handle people in quantity and single people more intensively. The concerts I gave on Terminus before it fell and Haven before *it* fell contributed to the general defeatism. I might have made the crown prince of Neotrantor very sick without the Visi-Sonor, but I could not have killed him. You see?"

"But it was Ebling Mis who was my most important find. He might have been—" Magnifico said it with chagrin, then hurried on, "There is a special facet to emotional control you do not know about. Intuition or insight or hunch-tendency, whatever you wish to call it, can be treated as an emotion. At least, I can treat it so. You don't understand it, do you?"

He waited for no negative, "The human mind works at low efficiency. Twenty percent is the figure usually given. When, momentarily, there is a flash of greater power it is termed a hunch, or insight, or intuition. I found early that I could induce a continual use of high brain-efficiency. It is a killing process for the person affected, but it is useful. The nuclear field-depressor which I used in the war against the Foundation was the result of high-pressuring a Kalgan technician. Again I work through others."

"Ebling Mis was the bull's-eye. His potentialities were high, and I needed him. Even before my war with the Foundation had opened, I had already sent delegates to negotiate with the Empire. It was at that time I began my search for the Second Foundation. Naturally, I didn't find it. Naturally, I knew that I must find it – and Ebling Mis was the answer. With his mind at high efficiency, he might possibly have duplicated the work of Hari Seldon."

"Partly, he did. I drove him to the utter limit. The process was ruthless, but had to be completed. He was dying at the end, but he lived—" Again, his chagrin interrupted him. "He *would* have lived long enough. Together, we three could have gone onward to the Second Foundation. It would have been the last battle – but for my mistake."

Toran stirred his voice to hardness, "Why do you stretch it out so? What was your mistake, and . . . and have done with your speech."

"Why, your wife was the mistake. Your wife was an unusual person. I had never met her like before in my life. I . . . I—" Quite suddenly, Magnifico's voice broke. He recovered with difficulty. There was a grimness about him as he continued. "She liked me without

my having to juggle her emotions. She was neither repelled by me nor amused by me. She *liked* me!

"Don't you understand? Can't you see what that would mean to me? Never before had anyone – Well, I . . . cherished that. My own emotions played me false, though I was master of all others. I stayed out of her mind, you see; I did not tamper with it. I cherished the *natural* feeling too greatly. It was my mistake – the first.

"You, Toran, were under control. You never suspected me; never questioned me; never saw anything peculiar or strange about me. As for instance, when the 'Filian' ship stopped us. They knew our location, by the way, because I was in communication with them, as I've remained in communication with my generals at all times. When they stopped us, I was taken aboard to adjust Han Pritcher, who was on it as a prisoner. When I left, he was a colonel, a Mule's man, and in command. The whole procedure was too open even for you, Toran. Yet you accepted my explanation of the matter, which was full of fallacies. See what I mean?"

Toran grimaced, and challenged him, "How did you retain communications with your generals?"

"There was no difficulty to it. Hyperwave transmitters are easy to handle and eminently portable. Nor could I be detected in a real sense! Anyone who did catch me in the act would leave me with a slice gapped out of his memory. It happened, on occasion.

"On Neotrantor, my own foolish emotions betrayed me again. Bayta was not under my control, but even so might never have suspected me if I had kept my head about the crown prince. His intentions towards Bayta – annoyed me.

"I killed him. It was a foolish gesture. An unobtrusive flight would have served as well.

"And still your suspicions would not have been certainties, if I had stopped Pritcher in his well-intentioned babbling, or paid less attention to Mis and more to you—" He shrugged.

"That's the end of it?" asked Bayta.

"That's the end."

"What now, then?"

"I'll continue with my program. That I'll find another as adequately brained and trained as Ebling Mis in these degenerate days, I doubt. I shall have to search for the Second Foundation otherwise. In a sense you have defeated me."

And now Bayta was upon her feet, triumphant. "In a sense? Only in a sense? We have defeated you *entirely*! All your victories outside the Foundation count for nothing, since the Galaxy is a barbarian vacuum now. The Foundation itself is only a minor victory, since it wasn't meant to stop *your* variety of crisis. It's the Second Foundation you must beat – *the Second Foundation* – and it's the Second Foundation that will defeat you. Your only chance was to locate it and strike it before it was prepared. You won't do that now. Every minute from now on, they will be readier for you. At this moment, *at this moment*, the machinery may have started. You'll know – when it strikes you, and your short term of

power will be over, and you'll be just another strutting conqueror, flashing quickly and meanly across the bloody face of history."

She was breathing hard, nearly gasping in her vehemence, "And we've defeated you, Toran and I. I am satisfied to die."

But the Mule's sad, brown eyes were the sad, brown, loving eyes of Magnifico. "I won't kill you or your husband. It is, after all, impossible for you two to hurt me further; and killing you won't bring back Ebling Mis. My mistakes were my own, and I take responsibility for them. Your husband and yourself may leave! Go in peace, for the sake of what I call – friendship."

Then, with a sudden touch of pride, "And meanwhile I am still the Mule, the most powerful man in the Galaxy. I shall *still* defeat the Second Foundation."

And Bayta shot her last arrow with a firm, calm certitude, "You won't! I have faith in the wisdom of Seldon yet. You shall be the last ruler of your dynasty, as well as the first."

Something caught Magnifico. "Of my dynasty? Yes, I had thought of that, often. That I might establish a dynasty. That I might have a suitable consort."

Bayta suddenly caught the meaning of the look in his eyes and froze horribly.

Magnifico shook his head. "I sense your revulsion, but that's silly. If things were otherwise, I could make you happy very easily. It would be an artificial ecstasy, but there would be no difference between it and the genuine emotion. But things are not otherwise. I call myself the Mule – but not because of my strength – obviously–"

He left them, never looking back.

SECOND FOUNDATION

1953

PROLOGUE

The First Galactic Empire had endured for tens of thousands of years. It had included all the planets of the Galaxy in a centralized rule, sometimes tyrannical, sometimes benevolent, always orderly. Human beings had forgotten that any other form of existence could be.

All except Hari Seldon.

Hari Seldon was the last great scientist of the First Empire. It was he who brought the science of psycho-history to its full development. Psycho-history was the quintessence of sociology, it was the science of human behavior reduced to mathematical equations.

The individual human being is unpredictable, but the reactions of human mobs, Seldon found, could be treated statistically. The larger the mob, the greater the accuracy that could be achieved. And the size of the human masses that Seldon worked with was no less than the population of the Galaxy which in his time was numbered in the quintillions.

It was Seldon, then, who foresaw, against all common sense and popular belief, that the brilliant Empire which seemed so strong was in a state of irremediable decay and decline. He foresaw (or he solved his equations and interpreted its symbols, which amounts to the same thing) that left to itself, the Galaxy would pass through a thirty thousand year period of misery and anarchy before a unified government would rise once more.

He set about to remedy the situation, to bring about a state of affairs that would restore peace and civilization in a single thousand of years. Carefully, he set up two colonies of scientists that he called "Foundations." With deliberate intention, he set them up "at opposite ends of the Galaxy." One Foundation was set up in the full daylight of publicity. The existence of the other, the Second Foundation, was drowned in silence.

In *Foundation* (Gnome, 1951) and *Foundation and Empire* (Gnome, 1952) are told the first three centuries of the history of the First Foundation. It began as a small community of Encyclopedists lost in the emptiness of the outer periphery of the Galaxy. Periodically, it faced a crisis in which the variables of human intercourse, of the social and economic currents of the time constricted about it. Its freedom to move lay along only one certain line and when it moved in that direction, a new horizon of development opened before it. All had been planned by Hari Seldon, long dead now.

The First Foundation, with its superior science, took over the barbarized planets that surrounded it. It faced the anarchic Warlords that broke away from the dying Empire and beat them. It faced the remnant of the Empire itself under its last strong Emperor and its last strong General and beat it.

Then it faced something which Hari Seldon could not foresee, the overwhelming power of a single human being, a Mutant. The creature known as the Mule was born with the ability to mold men's emotions and to shape their minds. His bitterest opponents

were made into his devoted servants. Armies could not, *would* not fight him. Before him, the First Foundation fell and Seldon's schemes lay partly in ruins.

There was left the mysterious Second Foundation, the goal of all searches. The Mule must find it to make his conquest of the Galaxy complete. The faithful of what was left of the First Foundation must find it for quite another reason. But where was it? That no one knew.

This, then, is the story of the search for the Second Foundation!

PART I

SEARCH BY THE MULE

1. TWO MEN AND THE MULE

THE MULE It was after the fall of the First Foundation that the constructive aspects of the Mule's regime took shape. After the definite break-up at the first Galactic Empire, it was he who first presented history with a unified volume at space truly imperial in scope. The earlier commercial empire at the fallen Foundation had been diverse and loosely knit, despite the impalpable backing at the predictions of psycho-history. It was not to be compared with the tightly controlled 'Union of Worlds' under the Mule, comprising as it did, one-tenth the volume of the Galaxy and one-fifteenth of its population. Particularly during the era of the so-called Search. . . .

ENCYCLOPEDIA GALACTICA *

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There is much more that the Encyclopedia has to say on the subject of the Mule and his Empire but almost all of it is not germane to the issue at immediate hand, and most of it is considerably too dry for our purposes in any case. Mainly, the article concerns itself at this point with the economic conditions that led to the rise of the "First Citizen of the Union" – the Mule's official title – and with the economic consequences thereof.

If, at any time, the writer of the article is mildly astonished at the colossal haste with which the Mule rose from nothing to vast dominion in five years, he conceals it. If he is further surprised at the sudden cessation of expansion in favor of a five-year consolidation of territory, he hides the fact.

We therefore abandon the Encyclopedia and continue on our own path for our own purposes and take up the history of the Great Interregnum – between the First and Second Galactic Empires – at the end of that five years of consolidation.

Politically, the Union is quiet. Economically, it is prosperous. Few would care to exchange the peace of the Mule's steady grip for the chaos that had preceded. On the worlds that five years previously had known the Foundation, there might be a nostalgic regret, but no more. The Foundation's leaders were dead, where useless; and Converted, where useful.

And of the Converted, the most useful was Han Pritcher, now lieutenant general.

In the days of the Foundation, Han Pritcher had been a captain and a member of the underground Democratic Opposition. When the Foundation fell to the Mule without a fight, Pritcher fought the Mule. Until, that is, he was Converted.

The Conversion was not the ordinary one brought on by the power of superior reason. Han Pritcher knew that well enough. He had been changed because the Mule was a mutant with mental powers quite capable of adjusting the conditions of ordinary humans to suit himself. But that satisfied him completely. That was as it should be. The very contentment with the Conversion was a prime symptom of it, but Han Pritcher was no longer even curious about the matter.

And now that he was returning from his fifth major expedition into the boundlessness of the Galaxy outside the Union, it was with something approaching artless joy that the veteran spaceman and Intelligence agent considered his approaching audience with the "First Citizen." His hard face, gouged out of a dark, grainless wood that did not seem to be capable of smiling without cracking, didn't show it – but the outward indications were unnecessary. The Mule could see the emotions within, down to the smallest, much as an ordinary man could see the twitch of an eyebrow.

Pritcher left his air car at the old vice-regal hangars and entered the palace grounds on foot as was required. He walked one mile along the arrowed highway – which was empty and silent. Pritcher knew that over the square miles of Palace grounds, there was not one guard, not one soldier, not one armed man.

The Mule had need of no protection.

The Mule was his own best, all-powerful protector.

Pritcher's footsteps beat softly in his own cars, as the palace reared its gleaming, incredibly light and incredibly strong metallic walls before him in the daring, overblown, near-hectic arches that characterized the architecture of the Late Empire. It brooded strongly over the empty grounds, over the crowded city on the horizon.

Within the palace was that one man – by himself – on whose inhuman mental attributes depended the new aristocracy, and the whole structure of the Union.

The huge, smooth door swung massively open at the general's approach, and he entered. He stepped on to the wide, sweeping ramp that moved upward under him. He rose swiftly in the noiseless elevator. He stood before the small plain door of the Mule's own room in the highest glitter of the palace spires.

It opened–

Bail Channis was young, and Bail Channis was Unconverted. That is, in plainer language, his emotional make-up had been unadjusted by the Mule. It remained exactly as it had been formed by the original shape of its heredity and the subsequent modifications of his environment. And that satisfied him, too.

At not quite thirty, he was in marvelously good odor in the capital. He was handsome and quick-witted – therefore successful in society. He was intelligent and self-possessed – therefore successful with the Mule. And he was thoroughly pleased at both successes.

And now, for the first time, the Mule had summoned him to personal audience.

His legs carried him down the long, glittering highway that led tautly to the sponge-aluminum spires that had been once the residence of the viceroy of Kalgan, who ruled under the old emperors; and that had been later the residence of the independent Princes of Kalgan, who ruled in their own name; and that was now the residence of the First Citizen of the Union, who ruled over an empire of his own.

Channis hummed softly to himself. He did not doubt what this was all about. The Second Foundation, naturally! That all-embracing bogey, the mere consideration of which had thrown the Mule back from his policy of limitless expansion into static caution. The official term was – "consolidation."

Now there were rumors – you couldn't stop rumors. The Mule was to begin the offensive once more. The Mule had discovered the whereabouts of the Second Foundation, and would attack The Mule had come to an agreement with the Second Foundation and divided the Galaxy. The Mule had decided the Second Foundation did not exist and would take over all the Galaxy.

No use listing all the varieties one heard in the anterooms. It was not even the first time such rumors had circulated. But now they seemed to have more body in them, and all the free, expansive Souls Who thrived on war, military adventure, and political chaos and withered in times of stability and stagnant peace were joyful.

Bail Channis was one of these. He did not fear the mysterious Second Foundation. For that matter, he did not fear the Mule, and boasted of it. Some, perhaps, who disapproved of one at once so young and so well-off, waited darkly for the reckoning with the gay ladies' man who employed his wit openly at the expense of the Mule's physical appearance and sequestered life. None dared join him and few dared laugh, but when nothing happened to him, his reputation rose accordingly.

Channis was improvising words to the tune he was humming. Nonsense words with the recurrent refrain: "Second Foundation threatens the Nation and all of Creation."

He was at the palace.

The huge, smooth door swung massively open at his approach and he entered. He stepped on to the wide, sweeping ramp that moved upward under him. He rose swiftly in the noiseless elevator. He stood before the small plain door of the Mule's own room in the highest glitter of the palace spires.

It opened–

The man who had no name other than the Mule, and no title other than First Citizen looked out through the one-way transparency of the wall to the light and lofty city on the horizon.

In the darkening twilight, the stars were emerging, and not one but owed allegiance to him.

He smiled with fleeting bitterness at the thought. The allegiance they owed was to a personality few had ever seen.

He was not a man to look at, the Mule – not a man to look at without derision. Not more than one hundred and twenty pounds was stretched out into his five-foot-eight length. His limbs were bony stalks that jutted out of his scrawniness in graceless

angularity. And his thin face was nearly drowned out in the prominence of a fleshy beak that thrust three inches outward.

Only his eyes played false with the general farce that was the Mule. In their softness – a strange softness for the Galaxy's greatest conqueror – sadness was never entirely subdued.

In the city was to be found all the gaiety of a luxurious capital on a luxurious world. He might have established his capital on the Foundation, the strongest of his now-conquered enemies, but it was far out on the very rim of the Galaxy. Kalgan, more centrally located, with a long tradition as aristocracy's playground, suited him better – strategically.

But in its traditional gaiety, enhanced by unheard-of prosperity, he found no peace.

They feared him and obeyed him and, perhaps, even respected him – from a goodly distance. But who could look at him without contempt? Only those he had Converted. And of what value was their artificial loyalty? It lacked flavor. He might have adopted titles, and enforced ritual and invented elaborations, but even that would have changed nothing. Better – or at least, no worse – to be simply the First Citizen – and to hide himself.

There was a sudden surge of rebellion within him – strong and brutal. Not a portion of the Galaxy must be denied him, For five years he had remained silent and buried here on Kalgan because of the eternal, misty, space-ridden menace of the unseen, unheard, unknown Second Foundation. He was thirty-two. Not old – but he felt old. His body, whatever its mutant mental powers, was physically weak.

Every star! Every star he could see – and every star he couldn't see. It must all be his!

Revenge on all. On a humanity of which he wasn't a part. On a Galaxy in which he didn't fit.

The cool, overhead warning light flickered. He could follow the progress of the man who had entered the palace, and simultaneously, as though his mutant sense had been enhanced and sensitized in the lonely twilight, he felt the wash of emotional content touch the fibers of his brain.

He recognized the identity without an effort. It was Pritcher.

Captain Pritcher of the one-time Foundation. The Captain Pritcher who had been ignored and passed over by the bureaucrats of that decaying government. The Captain Pritcher whose job as petty spy he had wiped out and whom he had lifted from its slime. The Captain Pritcher whom he had made first colonel and then general; whose scope of activity he had made Galaxywide.

The now-General Pritcher who was, iron rebel though he began, completely loyal. And yet with all that, not loyal because of benefits gained, not loyal out of gratitude, not loyal as a fair return – but loyal only through the artifice of Conversion.

The Mule was conscious of that strong unalterable surface layer of loyalty and love that colored every swirl and eddy of the emotionality of Han Pritcher – the layer he had

himself implanted five years before. Far underneath there were the original traces of stubborn individuality, impatience of rule, idealism – but even he, himself, could scarcely detect them any longer.

The door behind him opened, and he turned. The transparency of the wall faded to opacity, and the purple evening light gave way to the whitely blazing glow of atomic power.

Han Pritcher took the seat indicated. There was neither bowing, nor kneeling nor the use of honorifics in private audiences with the Mule. The Mule was merely "First Citizen." He was addressed as "sir." You sat in his presence, and you could turn your back on him if it so happened that you did.

To Han Pritcher this was all evidence of the sure and confident power of the man. He was warmly satisfied with it.

The Mule said: "Your final report reached me yesterday. I can't deny that I find it somewhat depressing, Pritcher."

The general's eyebrows closed upon each other: "Yes, I imagine so – but I don't see to what other conclusions I could have come. There just isn't any Second Foundation, sir."

Arid the Mule considered and then slowly shook his head, as he had done many a time before: "There's the evidence of Ebling Mis. There is always the evidence of Ebling Mis."

It was not a new story. Pritcher said without qualification: "Mis may have been the greatest psychologist of the Foundation, but he was a baby compared to Hari Seldon. At the time he was investigating Seldon's works, he was under the artificial stimulation of your own brain control. You may have pushed him too far. He might have been wrong. Sir, he *must* have been wrong."

The Mule sighed, his lugubrious face thrust forward on its thin stalk of a neck. "If only he had lived another minute. He was on the point of telling me where the Second Foundation was. He *knew*, I'm telling you. I need not have retreated. I need not have waited and waited. So much time lost. Five years gone for nothing."

Pritcher could not have been censorious over the weak longing of his ruler; his controlled mental make-up forbade that. He was disturbed instead; vaguely uneasy. He said: "But what alternative explanation can there possibly be, sir? Five times I've gone out. You yourself have plotted the routes. And I've left no asteroid unturned. It was three hundred years ago that Hari Seldon of the old Empire supposedly established two Foundations to act as nuclei of a new Empire to replace the dying old one. One hundred years after Seldon, the First Foundation – the one we know so well – was known through all the Periphery. One hundred fifty years after Seldon – at the time of the last battle with the old Empire – it was known throughout the Galaxy. And now it's three hundred years – and where should this mysterious Second be? In no eddy of the Galactic stream has it been heard of."

"Ebling Mis said it kept itself secret. Only secrecy can turn its weakness to strength."

"Secrecy as deep as this is past possibility without nonexistence as well."

The Mule looked up, large eyes sharp and wary. "No. It *does* exist." A bony finger pointed sharply. "There is going to be a slight change in tactics."

Pritcher frowned. "You plan to leave yourself? I would scarcely advise it."

"No, of course not. You will have to go out once again – one last time. But with another in joint command."

There was a silence, and Pritcher's voice was hard, "Who, Sir?"

"There's a young man here in Kalgan. Bail Channis."

"I've never heard of him, Sir."

"No, I imagine not. But he's got an agile mind, he's ambitious – and he's *not* Converted."

Pritcher's long jaw trembled for a bare instant, "I fail to see the advantage in that."

"There is one, Pritcher. You're a resourceful and experienced man. You have given me good service. But you are Converted. Your motivation is simply an enforced and helpless loyalty to myself. When you lost your native motivations, you lost something, some subtle drive, that I cannot possibly replace."

"I don't feel that, Sir," said Pritcher grimly. "I recall myself quite well as I was in the days when I was an enemy of yours. I feel none the inferior."

"Naturally not," and the Mule's mouth twitched into a smile. "Your judgment in this matter is scarcely objective. This Channis, now, is ambitious – for himself. He is completely trustworthy – out of no loyalty but to himself. He knows that it is on my coattails that he rides and he would do anything to increase my power that the ride might be long and far and that the destination might be glorious. If he goes with you, there is just that added push behind *his* seeking – that push for himself."

"Then," said Pritcher. still insistent, "why not remove my own Conversion, if you think that will improve me. I can scarcely be mistrusted, now."

"That never, Pritcher. While you are within arm's reach, or blaster reach, of myself, you will remain firmly held in Conversion. If I were to release you this minute, I would be dead the next."

The general's nostrils flared. "I am hurt that you should think so."

"I don't mean to hurt you, but it is impossible for you to realize what your feelings would be if free to form themselves along the lines of your natural motivation. The human mind resents control. The ordinary human hypnotist cannot hypnotize a person against his will for that reason. I can, because I'm not a hypnotist, and, believe me, Pritcher, the resentment that you cannot show and do not even know you possess is something I wouldn't want to face."

Pritcher's head bowed. Futility wrenched him and left him gray and haggard inside. He said with an effort, "But how can you trust this man. I mean, completely – as you can trust me in my Conversion."

"Well, I suppose I can't entirely. That is why you must go with him. You see, Pritcher," and the Mule buried himself in the large armchair against the soft back of which he looked like an angularly animated toothpick, "if he *should* stumble on the Second

Foundation – if it *should* occur to him that an arrangement with them might be more profitable than with me – You understand?"

A profoundly satisfied light blazed in Pritcher's eyes. "That is better, Sir."

"Exactly. But remember, he must have a free rein as far as possible."

"Certainly."

"And . . . uh . . . Pritcher. The young man is handsome, pleasant and extremely charming. Don't let him fool you. He's a dangerous and unscrupulous character. Don't get in his way unless you're prepared to meet him properly. That's all."

The Mule was alone again. He let the lights die and the wall before him kicked to transparency again. The sky was purple now, and the city was a smudge of light on the horizon.

What was it all for? And if he were the master of all there was – what then? Would it really stop men like Pritcher. from being straight and tall, self-confident, strong? Would Bail Channis lose his looks? Would he himself be other than he was?

He cursed his doubts. What was he really after?

The cool, overhead warning light flickered. He could follow the progress of the man who had entered the palace and, almost against his will, he felt the soft wash of emotional content touch the fibers of his brain.

He recognized the identity without an effort. It was Channis. Here the Mule saw no uniformity, but the primitive diversity of a strong mind, untouched and unmolded except by the manifold disorganizations of the Universe. It writhed in floods and waves. There was caution on the surface, a thin, smoothing effect, but with touches of cynical ribaldry in the hidden eddies of it. And underneath there was the strong flow of self-interest and self-love, with a gush of cruel humor here and there, and a deep, still pool of ambition underlying all.

The Mule felt that he could reach out and dam the current, wrench the pool from its basin and turn it in another course, dry up one flow and begin another. But what of it? If he could bend Channis' curly head in the profoundest adoration, would that change his own grotesquerie that made him shun the day and love the night, that made him a recluse inside an empire that was unconditionally big?

The door behind him opened, and he turned. The transparency of the wall faded to opacity, and the darkness gave way to the whitely blazing artifice of atomic power.

Bail Channis sat down lightly and said: "This is a not-quite-unexpected honor, sir."

The Mule rubbed his proboscis with all four fingers at once and sounded a bit irritable in his response. "Why so, young man?"

"A hunch, I suppose. Unless I want to admit that I've been listening to rumors."

"Rumors? Which one of the several dozen varieties are you referring to?"

"Those that say a renewal of the Galactic Offensive is being planned. It is a hope with me that such is true and that I might play an appropriate part."

"Then you think there is a Second Foundation?"

"Why not? It would make things so much more interesting."

"And you find interest in it as well?"

"Certainly. In the very mystery of it! What better subject could you find for conjecture? The newspaper supplements are full of nothing else lately – which is probably significant. The *Cosmos* had one of its feature writers compose a weirdie about a world consisting of beings of pure mind – the Second Foundation, you see – who had developed mental force to energies large enough to compete with any known to physical science. Spaceships could be blasted light-years away, planets could be turned out of their orbits--"

"Interesting. Yes. But do you have any notions on the subject? Do you subscribe to this mind-power notion?"

"Galaxy, no! Do you think creatures like that would stay on their own planet? No, sir. I think the Second Foundation remains hidden because it is weaker than we think."

"In that case, I can explain myself very easily. How would you like to head an expedition to locate the Second Foundation?"

For a moment Channis seemed caught up by the sudden rush of events at just a little greater speed than he was prepared for. His tongue had apparently skidded to a halt in a lengthening silence.

The Mule said dryly: "Well?"

Channis corrugated his forehead. "Certainly. But where am I to go? Have you any information available?"

"General Pritcher will be with you--"

"Then I'm not to head it?"

"Judge for yourself when I'm done. Listen, you're not of the Foundation. You're a native of Kalgan, aren't you? Yes. Well, then, your knowledge of the Seldon plan may be vague. When the first Galactic Empire was falling, Hari Seldon and a group of psychohistorians, analyzing the future course of history by mathematical tools no longer available in these degenerate times, set up two Foundations, one at each end of the Galaxy, in such a way that the economic and sociological forces that were slowly evolving, would make them serve as foci for the Second Empire. Hari Seldon planned on a thousand years to accomplish that – and it would have taken thirty thousand without the Foundations. But he couldn't count on *me*. I am a mutant and I am unpredictable by psychohistory which can only deal with the average reactions of numbers. Do you understand?"

"Perfectly, sir. But how does that involve me?"

"You'll understand shortly. I intend to unite the Galaxy now – and reach Seldon's thousand-year goal in three hundred. One Foundation – the world of physical scientists – is still flourishing, under me. Under the prosperity and order of the Union, the atomic weapons they have developed are capable of dealing with anything in the Galaxy – except perhaps the Second Foundation. So I must know more about it. General Pritcher is of the definite opinion that it does not exist at all. I know otherwise."

Channis said delicately: "How do you know, sir?"

And the Mule's words were suddenly liquid indignation: "Because minds under my control have been interfered with. Delicately! Subtly! But not so subtly that I couldn't

notice. And these interferences are increasing, and hitting valuable men at important times. Do you wonder now that a certain discretion has kept me motionless these years?

"That is your importance. General Pritcher is the best man left me, so he is no longer safe. Of course, he does not know that. But you are Unconverted and therefore not instantly detectable as a Mule's man. You may fool the Second Foundation longer than one of my own men would – perhaps just sufficiently longer. Do you understand?"

"Um-m-m. Yes. But pardon me, sir, if I question you. How are these men of yours disturbed, so that I might detect change in General Pritcher, in case any occurs. Are they Unconverted again? Do they become disloyal?"

"No. I told you it was subtle. It's more disturbing than that, because it's harder to detect and sometimes I have to wait before acting, uncertain whether a key man is being normally erratic or has been tampered with. Their loyalty is left intact, but initiative and ingenuity are rubbed out. I'm left with a perfectly normal person, apparently, but one completely useless. In the last year, six have been so treated. Six of my best." A corner of his mouth lifted. "They're in charge of training bases now – and my most earnest wishes go with them that no emergencies come up for them to decide upon."

"Suppose, sir . . . suppose it were not the Second Foundation. What if it were another, such as yourself – another mutant?"

"The planning is too careful, too long range. A single man would be in a greater hurry. No, it is a world, and you are to be my weapon against it."

Channis' eyes shone as he said: "I'm delighted at the chance."

But the Mule caught the sudden emotional upwelling. He said: "Yes, apparently it occurs to you, that you will perform a unique service, worthy of a unique reward – perhaps even that of being my successor. Quite so. But there are unique punishments, too, you know. My emotional gymnastics are not confined to the creation of loyalty alone."

And the little smile on his thin lips was grim, as Channis leaped out of his seat in horror.

For just an instant, just one, flashing instant, Channis had felt the pang of an overwhelming grief close over him. It had slammed down with a physical pain that had blackened his mind unbearably, and then lifted. Now nothing was left but the strong wash of anger.

The Mule said: "Anger won't help . . . yes, you're covering it up now, aren't you? But I can see it. So just remember – *that* sort of business can be made more intense and kept up. I've killed men by emotional control, and there's no death crueler."

He paused: "That's all!"

The Mule was alone again. He let the lights die and the wall before him kicked to transparency again. The sky was black, and the rising body of the Galactic Lens was spreading its bespanglement across the velvet depths of space.

All that haze of nebula was a mass of stars so numerous that they melted one into the other and left nothing but a cloud of light.

And all to be his—

And now but one last arrangement to make, and he could sleep.

FIRST INTERLUDE

The Executive Council of the Second Foundation was in session. To us they are merely voices. Neither the exact scene of the meeting nor the identity of those present are essential at the point.

Nor, strictly speaking, can we even consider an exact reproduction of any part of the session – unless we wish to sacrifice completely even the minimum comprehensibility we have a right to expect.

We deal here with psychologists – and not merely psychologists. Let us say, rather, scientists with a psychological orientation. That is, men whose fundamental conception of scientific philosophy is pointed in an entirely different direction from all of the orientations we know. The "psychology" of scientists brought up among the axioms deduced from the observational habits of physical science has only the vaguest relationship to PSYCHOLOGY.

Which is about as far as I can go in explaining color to a blind man – with myself as blind as the audience.

The point being made is that the minds assembled understood thoroughly the workings of each other, not only by general theory but by the specific application over a long period of these theories to particular individuals. Speech as known to us was unnecessary. A fragment of a sentence amounted almost to long-winded redundancy. A gesture, a grunt, the curve of a facial line – even a significantly timed pause yielded informational juice.

The liberty is taken, therefore, of freely translating a small portion of the conference into the extremely specific word-combinations necessary to minds oriented from childhood to a physical science philosophy, even at the risk of losing the more delicate nuances.

There was one "voice" predominant, and that belonged to the individual known simply as the First Speaker.

He said: "It is apparently quite definite now as to what stopped the Mule in his first mad rush. I can't say that the matter reflects credit upon . . . well, upon the organization of the situation. Apparently, he almost located us, by means of the artificially heightened brain-energy of what they call a 'psychologist' on the First Foundation. This psychologist was killed just before he could communicate his discovery to the Mule. The events leading to that killing were completely fortuitous for all calculations below Phase Three. Suppose you take over."

It was the Fifth Speaker who was indicated by an inflection of the voice. He said, in grim nuances: "It is certain that the situation was mishandled. We are, of course, highly vulnerable under mass attack, particularly an attack led by such a mental phenomenon as the Mule. Shortly after he first achieved Galactic eminence with the conquest of the First Foundation, half a year after to be exact, he was on Trantor. Within another half year he

would have been here and the odds would have been stupendously against us – 96.3 plus or minus 0.05% to be exact. We have spent considerable time analyzing the forces that stopped him. We know, of course, what was driving him on so in the first place. The internal ramifications of his physical deformity and mental uniqueness are obvious to all of us. However, it was only through penetration to Phase Three that we could determine – *after the fact* – the possibility of his anomalous action in the presence of another human being who had an honest affection for him.

"And since such an anomalous action would depend upon the presence of such another human being at the appropriate time, to that extent the whole affair was fortuitous. Our agents are certain that it was a girl that killed the Mule's psychologist – a girl for whom the Mule felt trust out of sentiment, and whom he, therefore, did not control mentally – simply because she liked him.

"Since that event – and for those who want the details, a mathematical treatment of the subject has been drawn up for the Central Library – which warned us, we have held the Mule off by unorthodox methods with which we daily risk Seldon's entire scheme of history. That is all."

The First Speaker paused an instant to allow the individuals assembled to absorb the full implications. He said: "The situation is then highly unstable. With Seldon's original scheme bent to the fracture point – and I must emphasize that we have blundered badly in this whole matter, in our horrible lack of foresight – we are faced with an irreversible breakdown of the Plan. Time is passing us by. I think there is only one solution left us – and even that is risky.

"We must allow the Mule to find us – in a sense."

Another pause, in which he gathered the reactions, then: "I repeat – in a sense!"

2. TWO MEN WITHOUT THE MULE

The ship was in near-readiness. Nothing lacked, but the destination. The Mule had suggested a return to Trantor – the world that was the bulk of an incomparable Galactic metropolis of the hugest Empire mankind had ever known – the dead world that had been capital of all the stars.

Pritcher disapproved. It was an old path – sucked dry.

He found Bail Channis in the ship's navigation room. The young man's curly hair was just sufficiently disheveled to allow a single curl to droop over the forehead – as if it had been carefully placed there – and even teeth showed in a smile that matched it. Vaguely, the stiff officer felt himself harden against the other.

Channis' excitement was evident, "Pritcher, it's too far a coincidence."

The general said coldly: "I'm not aware of the subject of conversation."

"Oh– Well, then drag up a chair, old man, and let's get into it. I've been going over your notes. I find them excellent."

"How . . . pleasant that you do."

"But I'm wondering if you've come to the conclusions I have. Have you ever tried analyzing the problem deductively? I mean, it's all very well to comb the stars at random, and to have done all you did in five expeditions is quite a bit of star-hopping. That's obvious. But have you calculated how long it would take to go through every known world at this rate?"

"Yes. Several times," Pritcher felt no urge to meet the young man halfway, but there was the importance of filching the other's mind – the other's uncontrolled, and hence, unpredictable, mind.

"Well, then, suppose we're analytical about it and try to decide just what we're looking for?"

"The Second Foundation," said Pritcher, grimly.

"A Foundation of psychologists," corrected Channis, "who are is weak in physical science as the First Foundation was weak in psychology. Well, you're from the First Foundation, which I'm not. The implications are probably obvious to you. We must find a world which rules by virtue of mental skills, and yet which is very backwards scientifically."

"Is that necessarily so?" questioned Pritcher, quietly. "Our own 'Union of Worlds' isn't backwards scientifically, even though our ruler owes his strength to his mental powers."

"Because he has the skills of the First Foundation to draw upon," came the slightly impatient answer, "and that is the only such reservoir of knowledge in the Galaxy. The Second Foundation must live among the dry crumbs of the broken Galactic Empire. There are no pickings there."

"So then you postulate mental power sufficient to establish their rule over a group of worlds and physical helplessness as well?"

"*Comparative* physical helplessness. Against the decadent neighboring areas, they are competent to defend themselves. Against the resurgent forces of the Mule, with his background of a mature atomic economy, they cannot stand. Else, why is their location so well-hidden, both at the start by the founder, Hari Seldon, and now by themselves. Your own First Foundation made no secret of its existence and did not have it made for them, when they were an undefended single city on a lonely planet three hundred years ago."

The smooth lines of Pritcher's dark face twitched sardonically. 'And now that you've finished your deep analysis, would you like a list of all the kingdoms, republics, planet states and dictatorships of one sort or another in that political wilderness out there that correspond to your description and to several factors besides?"

"All this has been considered then?" Channis lost none of his brashness.

"You won't find it here, naturally, but we have a completely worked out guide to the political units of the Opposing Periphery. Really, did you suppose the Mule would work entirely hit-and-miss?"

"Well, then" and the young man's voice rose in a burst of energy, "what of the Oligarchy of Tazenda?"

Pritcher touched his ear thoughtfully, "Tazenda? Oh, I think I know it. They're not in the Periphery, are they? It seems to me they're fully a third of the way towards the center of the Galaxy."

"Yes. What of that?"

"The records we have place the Second Foundation at the other end of the Galaxy. Space knows it's the only thing we have to go on. Why talk of Tazenda anyway? Its angular deviation from the First Foundation radian is only about one hundred ten to one hundred twenty degrees anyway. Nowhere near one hundred eighty."

"There's another point in the records. The Second Foundation was established at 'Star's End.'"

"No such region in the Galaxy has ever been located."

"Because it was a local name, suppressed later for greater secrecy. Or maybe one invented for the purpose by Seldon and his group. Yet there's some relationship between 'Star's End' and 'Tazenda,' don't you think?"

"A vague similarity in sound? Insufficient."

"Have you ever been there?"

"No."

"Yet it is mentioned in your records."

"Where? Oh, yes, but that was merely to take on food and water. There was certainly nothing remarkable about the world."

"Did you land at the ruling planet? The center of government?"

"I couldn't possibly say."

Channis brooded about it under the other's cold gaze. Then, "Would you look at the Lens with me for a moment?"

"Certainly."

The Lens was perhaps the newest feature of the interstellar cruisers of the day. Actually, it was a complicated calculating machine which could throw on a screen a reproduction of the night sky as seen from any given point of the Galaxy.

Channis adjusted the coordinate points and the wall lights of the pilot room were extinguished. In the dim red light at the control board of the Lens, Channis' face glowed ruddily. Pritcher sat in the pilot seat, long legs crossed, face lost in the gloom.

Slowly, as the induction period passed, the points of light brightened on the screen. And then they were thick and bright with the generously populated star-groupings of the Galaxy's center.

"This," explained Channis, "is the winter night-sky as seen from Trantor. That is the important point that, as far as I know, has been neglected so far in your search. All intelligent orientation must start from Trantor as zero point. Trantor was the capital of the Galactic Empire. Even more so scientifically and culturally, than politically. And, therefore, the significance of any descriptive name should stem, nine times out of ten, from a Trantorian orientation. You'll remember in this connection that, although Seldon was from Helicon, towards the Periphery, his group worked on Trantor itself."

"What is it you're trying to show me?" Pritcher's level voice plunged icily into the gathering enthusiasm of the other.

"The map will explain it. Do you see the dark nebula?" The shadow of his arm fell upon the screen, which took on the bespanglement of the Galaxy. The pointing finger ended on a tiny patch of black that seemed a hole in the speckled fabric of light. "The stellagographical records call it Pelot's Nebula. Watch it. I'm going to expand the image."

Pritcher had watched the phenomenon of Lens Image expansion before but he still caught his breath. It was like being at the visiplat of a spaceship storming through a horribly crowded Galaxy without entering hyperspace. The stars diverged towards them from a common center, flared outwards and tumbled off the edge of the screen. Single points became double, then globular. Hazy patches dissolved into myriad points. And always that illusion of motion.

Channis spoke through it all, "You'll notice that we are moving along the direct line from Trantor to Pelot's Nebula, so that in effect we are still looking at a stellar orientation equivalent to that of Trantor. There is probably a slight error because of the gravitic deviation of light that I haven't the math to calculate for, but I'm sure it can't be significant."

The darkness was spreading over the screen. As the rate of magnification slowed, the stars slipped off the four ends of the screen in a regretful leave-taking. At the rims of the growing nebula, the brilliant universe of stars shone abruptly in token for that light which was merely hidden behind the swirling unradiating atom fragments of sodium and calcium that filled cubic parsecs of space.

And Channis pointed again, "This has been called 'The Mouth' by the inhabitants of that region of space. And that is significant because it is only from the Trantorian orientation that it looks like a mouth." What he indicated was a rift in the body of the Nebula, shaped like a ragged, grinning mouth in profile, outlined by the glazing glory of the starlight with which it was filled.

"Follow The Mouth." said Channis. "Follow 'The Mouth' towards the gullet as it narrows down to a thin, splintering line of light.

Again the screen expanded a trifle, until the Nebula stretched away from "The Mouth" to block off all the screen but that narrow trickle and Channis' finger silently followed it down, to where it straggled to a halt, and then, as his finger continued moving onward, to a spot where one single star sparked lonesomely; and there his finger halted, for beyond that was blackness, unrelieved.

"Star's End," said the young man, simply. "The fabric of the Nebula is thin there and the light of that one star finds its way through in just that one direction – to shine on Trantor."

"You're trying to tell me that—" the voice of the Mule's general died in suspicion.

"I'm not trying. That *is* Tazenda – Star's End."

The lights went on. The Lens flicked off. Pritcher reached Channis in three long strides, "What made you think of this?"

And Channis leaned back in his chair with a queerly puzzled expression on his face. "It was accidental. I'd like to take intellectual credit for this, but it was only accidental. In any case, however it happens, it fits. According to our references, Tazenda is an oligarchy. It rules twenty-seven inhabited planets. It is not advanced scientifically. And most of all, it is an obscure world that has adhered to a strict neutrality in the local politics of that stellar region, and is not expansionist. I think we ought to see it."

"Have you informed the Mule of this?"

"No. Nor shall we. We're in space now, about to make the first hop."

Pritcher, in sudden horror, sprang to the visiplat. Cold space met his eyes when he adjusted it. He gazed fixedly at the view, then turned. Automatically, his hand reached for the hard, comfortable curve of the butt of his blaster.

"By whose order?"

"By my order, general"—it was the first time Channis had ever used the other's title—"while I was engaging you here. You probably felt no acceleration, because it came at the moment I was expanding the field of the Lens and you undoubtedly imagined it to be an illusion of the apparent star motion."

"Why? Just what are you doing? What was the point of your nonsense about Tazenda, then?"

"That was no nonsense. I was completely serious. We're going there. We left today because we were scheduled to leave three days from now. General, you don't believe there is a Second Foundation, and I do. *You* are merely following the Mule's orders without faith; I recognize a serious danger. The Second Foundation has now had five years to prepare. How they've prepared, I don't know, but what if they have agents on Kalgan. If I carry about in my mind the knowledge of the whereabouts of the Second Foundation, they may discover that. My life might be no longer safe, and I have a great affection for my life. Even on a thin and remote possibility such as that, I would rather play safe. So no one knows of Tazenda but you, and you found out only after we were out in space. And even so, there is the question of the crew." Channis was smiling again, ironically, in obviously complete control of the situation.

Pritcher's hand fell away from his blaster, and for a moment a vague discomfort pierced him. What kept *him* from action? What deadened *him*? There was a time when he was a rebellious and unpromoted captain of the First Foundation's commercial empire, when it would have been *himself* rather than Channis who would have taken prompt and daring action such as that. Was the Mule right? Was his controlled mind so concerned with obedience as to lose initiative? He felt a thickening despondency drive him down into a strange lassitude.

He said, "Well done! However, you will consult me in the future before making decisions of this nature."

The flickering signal caught his attention.

"That's the engine room," said Channis, casually. "They warmed up on five minutes' notice and I asked them to let me know if there was any trouble. Want to hold the fort?"

Pritcher nodded mutely, and cogitated in the sudden loneliness on the evils of approaching fifty. The visiplane was sparsely starred. The main body of the Galaxy misted one end. What if he were free of the Mule's influence—

But he recoiled in horror at the thought.

Chief Engineer Huxlani looked sharply at the young, ununiformed man who carried himself with the assurance of a Fleet officer and seemed to be in a position of authority. Huxlani, as a regular Fleet man from the days his chin had dripped milk, generally confused authority with specific insignia.

But the Mule had appointed this man, and the Mule was, of course, the last word. The only word for that matter. Not even subconsciously did he question that. Emotional control went deep.

He handed Channis the little oval object without a word.

Channis hefted it, and smiled engagingly.

"You're a Foundation man, aren't you, chief?"

"Yes, sir. I served in the Foundation Fleet eighteen years before the First Citizen took over."

"Foundation training in engineering?"

"Qualified Technician, First Class – Central School on Anacreon."

"Good enough. And you found this on the communication circuit, where I asked you to look?"

"Yes, Sir."

"Does it belong there?"

"No, Sir."

"Then what is it?"

"A hypertracer, sir."

"That's not enough. I'm not a Foundation man. What is it?"

"It's a device to allow the ship to be traced through hyperspace."

"In other words we can be followed anywhere."

"Yes, Sir."

"All right. It's a recent invention, isn't it? It was developed by one of the Research Institutes set up by the First Citizen, wasn't it?"

"I believe so, Sir."

"And its workings are a government secret. Right?"

"I, believe so, Sir."

"Yet here it is. Intriguing."

Channis tossed the hypertracer methodically from hand to hand for a few seconds. Then, sharply, he held it out, "Take it, then, and put it back exactly where you found it and exactly how you found it. Understand? And then forget this incident. Entirely!"

The chief choked down his near-automatic salute, turned sharply and left.

The ship bounded through the Galaxy, its path a wide-spaced dotted line through the stars. The dots, referred to, were the scant stretches of ten to sixty light-seconds

spent in normal space and between them stretched the hundred-and-up light-year gaps that represented the "hops" through hyperspace.

Bail Channis sat at the control panel of the Lens and felt again the involuntary surge of near-worship at the contemplation of it.

He was not a Foundation man and the interplay of forces at the twist of a knob or the breaking of a contact was not second nature to him.

Not that the Lens ought quite to bore even a Foundation man. Within its unbelievably compact body were enough electronic circuits to pin-point accurately a hundred million separate stars in exact relationship to each other. And as if that were not a feat in itself, it was further capable of translating any given portion of the Galactic Field along any of the three spatial axes or to rotate any portion of the Field about a center.

It was because of that, that the Lens had performed a near-revolution in interstellar travel. In the younger days of interstellar travel, the calculation of each "hop" through hyperspace meant any amount of work from a day to a week – and the larger portion of such work was the more or less precise calculation of "Ship's Position" on the Galactic scale of reference. Essentially that meant the accurate observation of at least three widely-spaced stars, the position of which, with reference to the arbitrary Galactic triple-zero, were known.

And it is the word "known," that is the catch. To any who know the star field well from one certain reference point, stars are as individual as people. Jump ten parsecs, however, and not even your own sun is recognizable. It may not even be visible.

The answer was, of course, spectroscopic analysis. For centuries, the main object of interstellar engineering was the analysis of the "light signature" of more and more stars in greater and greater detail. With this, and the growing precision of the "hop" itself, standard routes of travel through the Galaxy were adopted and interstellar travel became less of an art and more of a science.

And yet, even under the Foundation with improved calculating machines and a new method of mechanically scanning the star field for a known "light signature," it sometimes took days to locate three stars and then calculate position in regions not previously familiar to the pilot.

It was the Lens that changed all that. For one thing it required only a single known star. For another, even a space tyro such as Channis could operate it.

The nearest sizable star at the moment was Vincetori, according to "hop" calculations, and on the visiplat now, a bright star was centered. Channis hoped that it was Vincetori.

The field screen of the Lens was thrown directly next that of the visiplat and with careful fingers, Channis punched out the coordinates of Vincetori. He closed a relay, and the star field sprang to bright view. In it, too, a bright star was centered, but otherwise there seemed no relationship. He adjusted the Lens along the Z-Axis and expanded the Field to where the photometer showed both centered stars to be of equal brightness.

Channis looked for a second star, sizably bright, on the visiplat and found one on the field screen to correspond. Slowly, he rotated the screen to similar angular deflection.

He twisted his mouth and rejected the result with a grimace. Again he rotated and another bright star was brought into position, and a third. And then he grinned. That did it. Perhaps a specialist with trained relationship perception might have clicked first try, but he'd settle for three.

That was the adjustment. In the final step, the two fields overlapped and merged into a sea of not-quite-rightness. Most of the stars were close doubles. But the fine adjustment did not take long. The double stars melted together, one field remained, and the "Ship's Position" could now be read directly off the dials. The entire procedure had taken less than half an hour.

Channis found Han Pritcher in his private quarters. The general was quite apparently preparing for bed. He looked up.

"News?"

"Not particularly. We'll be at Tazenda in another hop."

"I know."

"I don't want to bother you if you're turning in, but have you looked through the film we picked up in Cil?"

Han Pritcher cast a disparaging look at the article in question, where it lay in its black case upon his low bookshelf, "Yes."

"And what do you think?"

"I think that if there was ever any science to History, it has been quite lost in this region of the Galaxy."

Channis grinned broadly, "I know what you mean. Rather barren, isn't it?"

"Not if you enjoy personal chronicles of rulers. Probably unreachable, I should say, in both directions. Where history concerns mainly personalities, the drawings become either black or white according to the interests of the writer. I find it all remarkably useless."

"But there is talk about Tazenda. That's the point I tried to make when I gave you the film. It's the only one I could find that even mentioned them."

"All right. They have good rulers and bad. They've conquered a few planets, won some battles, lost a few. There is nothing distinctive about them. I don't think much of your theory, Channis."

"But you've missed a few points. Didn't you notice that they never formed coalitions? They always remained completely outside the politics of this corner of the star swarm. As you say, they conquered a few planets, but then they stopped – and that without any startling defeat of consequence. It's just as if they spread out enough to protect themselves, but not enough to attract attention."

"Very well," came the unemotional response. "I have no objection to landing. At the worst – a little lost time."

"Oh, no. At the worst – complete defeat. If it is the Second Foundation. Remember it would be a world of space-knows-how-many Mules."

"What do you plan to do?"

"Land on some minor subject planet. Find out as much as we can about Tazenda first, then improvise from that."

"All right. No objection. If you don't mind now, I *would* like the light out."

Channis left with a wave of his hand.

And in the darkness of a tiny room in an island of driving metal lost in the vastness of space, General Han Pritcher remained awake, following the thoughts that led him through such fantastic reaches.

If everything he had so painfully decided were true – and how all the facts were beginning to fit – then Tazenda was the Second Foundation. There was no way out. But how? How?

Could it be Tazenda? An ordinary world? One without distinction? A slum lost amid the wreckage of an Empire? A splinter among the fragments? He remembered, as from a distance, the Mule's shriveled face and his thin voice as he used to speak of the old Foundation psychologist, Ebling Mis, the one man who had – maybe – learned the secret of the Second Foundation.

Pritcher recalled the tension of the Mule's words: "It was as if astonishment had overwhelmed Mis. It was as though something about the Second Foundation had surpassed all his expectations, had driven in a direction completely different from what he might have assumed. If I could only have read his thoughts rather than his emotions. Yet the emotions were plain – and above everything else was this vast surprise."

Surprise was the keynote. Something supremely astonishing! And now came this boy, this grinning youngster, glibly joyful about Tazenda and its undistinguished subnormality. And he had to be right. He *had* to. Otherwise, nothing made sense.

Pritcher's last conscious thought had a touch of grimness. That hypertracer along the Etheric tube was still there. He had checked it one hour back, with Channis well out of the way.

SECOND INTERLUDE

It was a casual meeting in the anteroom of the Council Chamber – just a few moments before passing into the Chamber to take up the business of the day – and the few thoughts flashed back and forth quickly.

"So the Mule is on his way."

"That's what I hear, too. Risky! Mighty risky!"

"Not if affairs adhere to the functions set up."

"The Mule is not an ordinary man – and it is difficult to manipulate his chosen instruments without detection by him. The controlled minds are difficult to touch. They say he's caught on to a few cases."

"Yes, I don't see how that can be avoided."

"Uncontrolled minds are easier. But so few are in positions of authority under him–

"

They entered the Chamber. Others of the Second Foundation followed them.

3. TWO MEN AND A PEASANT

Rossem is one of those marginal worlds usually neglected in Galactic history and scarcely ever obtruding itself upon the notice of men of the myriad happier planets.

In the latter days of the Galactic Empire, a few political prisoners had inhabited its wastes, while an observatory and a small Naval garrison served to keep it from complete desertion. Later, in the evil days of strife, even before the time of Hari Seldon, the weaker sort of men, tired of the periodic decades of insecurity and danger; weary of sacked planets and a ghostly succession of ephemeral emperors making their way to the Purple for a few wicked, fruitless years – these men fled the populated centers and sought shelter in the barren nooks of the Galaxy.

Along the chilly wastes of Rossem, villages huddled. Its sun was a small ruddy niggard that clutched its dribble of heat to itself, while snow beat thinly down for nine months of the year. The tough native grain lay dormant in the soil those snow-filled months, then grew and ripened in almost panic speed, when the sun's reluctant radiation brought the temperature to nearly fifty.

Small, goatlike animals cropped the grasslands, kicking the thin snow aside with tiny, tri-hooved feet.

The men of Rossem had, thus, their bread and their milk – and when they could spare an animal – even their meat. The darkly ominous forests that gnarled their way over half of the equatorial region of the planet supplied a tough, fine-grained wood for housing. This wood, together with certain furs and minerals, was even worth exporting, and the ships of the Empire came at times and brought in exchange farm machinery, atomic heaters, even television sets. The last was not really incongruous, for the long winter imposed a lonely hibernation upon the peasant.

Imperial history flowed past the peasants of Rossem. The trading ships might bring news in impatient spurts; occasionally new fugitives would arrive – at one time, a relatively large group arrived in a body and remained – and these usually had news of the Galaxy.

It was then that the Rossemites learned of sweeping battles and decimated populations or of tyrannical emperors and rebellious viceroys. And they would sigh and shake their heads, and draw their fur collars closer about their bearded faces as they sat about the village square in the weak sun and philosophized on the evil of men.

Then after a while, no trading ships arrived at all, and life grew harder. Supplies of foreign, soft food, of tobacco, of machinery stopped. Vague word from scraps gathered on the television brought increasingly disturbing news. And finally it spread that Trantor had been sacked. The great capital world of all the Galaxy, the splendid, storied, unapproachable and incomparable home of the emperors had been despoiled and ruined and brought to utter destruction.

It was something inconceivable, and to many of the peasants of Rossem, scratching away at their fields, it might well seem that the end of the Galaxy was at hand.

And then one day not unlike other days a ship arrived again. The old men of each village nodded wisely and lifted their old eyelids to whisper that thus it had been in their father's time – but it wasn't, quite.

This ship was not an Imperial ship. The glowing Spaceship-and-Sun of the Empire was missing from its prow. It was a stubby affair made of scraps of older ships – and the men within called themselves soldiers of Tazenda.

The peasants were confused. They had not heard of Tazenda, but they greeted the soldiers nevertheless in the traditional fashion of hospitality. The newcomers inquired closely as to the nature of the planet, the number of its inhabitants, the number of its cities – a word mistaken by the peasants to mean "villages" to the confusion of all concerned – its type of economy and so on.

Other ships came and proclamations were issued all over the world that Tazenda was now the ruling world, that tax-collecting stations would be established girdling the equator – the inhabited region – that percentages of grain and furs according to certain numerical formulae would be collected annually.

The Rossemites had blinked solemnly, uncertain of the word "taxes." When collection time came, many had paid, or had stood by in confusion while the uniformed, other-wordlings loaded the harvested corn and the pelts on to the broad ground-cars.

Here and there indignant peasants banded together and brought out ancient hunting weapons – but of this nothing ever came. Grumblingly they had disbanded when the men of Tazenda came and with dismay watched their hard struggle for existence become harder.

But a new equilibrium was reached. The Tazendian governor lived dourly in the village of Gentri, from which all Rossemites were barred. He and the officials under him were dim otherworld beings that rarely impinged on the Rossemiter ken. The tax-farmers, Rossemites in the employ of Tazenda, came periodically, but they were creatures of custom now – and the peasant had learned how to hide his grain and drive his cattle into the forest, and refrain from having his hut appear too ostentatiously prosperous. Then with a dull, uncomprehending expression he would greet all sharp questioning as to his assets by merely pointing at what they could see.

Even that grew less, and taxes decreased, almost as if Tazenda wearied of extorting pennies from such a world.

Trading sprang up and perhaps Tazenda found that more profitable. The men of Rossem no longer received in exchange the polished creations of the Empire, but even Tazendian machines and Tazendian food was better than the native stuff. And there were clothes for the women of other than gray home-spun, which was a very important thing.

So once again, Galactic history glided past peacefully enough, and the peasants scrabbled life out of the hard soil.

Narovi blew into his beard as he stepped out of his cottage.

The first snows were sifting across the hard ground and the sky was a dull, overcast pink. He squinted carefully upward and decided that no real storm was in sight. He could

travel to Gentri without much trouble and get rid of his surplus grain in return for enough canned foods to last the winter.

He roared back through the door, which he opened a crack for the purpose: "Has the car been fed its fuel, yunker?"

A voice shouted from within, and then Narovi's oldest son, his short, red beard not yet completely outgrown its boyish sparseness, joined him.

"The car," he said, sullenly, "is fueled and rides well, but for the bad condition of the axles. For that I am of no blame. I have told you it needs expert repairs."

The old man stepped back and surveyed his son through lowering eyebrows, then thrust his hairy chin outward: "And is the fault mine? Where and in what manner may I achieve expert repairs? Has the harvest then been anything but scanty for five years? Have my herds escaped the pest? Have the pelts climbed of themselves—"

"Narovi!" The well-known voice from within stopped him in mid-word. He grumbled, "Well, well – and now your mother must insert herself into the affairs of a father and his son. Bring out the car, and see to it that the storage trailers are securely attached."

He pounded his gloved hands together, and looked upward again. The dimly-ruddy clouds were gathering and the gray sky that showed in the rifts bore no warmth. The sun was hidden.

He was at the point of looking away, when his dropping eyes caught and his finger almost automatically rose on high while his mouth fell open in a shout, in complete disregard of the cold air.

"Wife," he called vigorously, "Old woman – come here."

An indignant head appeared at a window. The woman's eyes followed his finger, gaped. With a cry, she dashed down the wooden stairs, snatching up an old wrap and a square of linen as she went. She emerged with the linen wrapped insecurely over her head and ears, and the wrap dangling from her shoulders.

She snuffled: "It is a ship from outer space."

And Narovi remarked impatiently: "And what else could it be? We have visitors, old woman, visitors!"

The ship was sinking slowly to a landing on the bare frozen field in the northern portions of Narovi's farm.

"But what shall we do?" gasped the woman. "Can we offer these people hospitality? Is the dirt floor of our hovel to be theirs and the pickings of last week's hoecake?"

"Shall they then go to our neighbors?" Narovi purpled past the crimson induced by the cold and his arms in their sleek fur covering lunged out and seized the woman's brawny shoulders.

"Wife of my soul," he purred, "you will take the two chairs from our room downstairs; you will see that a fat youngling is slaughtered and roasted with tubers; you will bake a fresh hoecake. I go now to greet these men of power from outer space . . .

and . . . and—" He paused, placed his great cap awry, and scratched hesitantly. "Yes, I shall bring my jug of brewed grain as well. Hearty drink is pleasant."

The woman's mouth had flapped idly during this speech. Nothing came out. And when that stage passed, it was only a discordant screech that issued.

Narovi lifted a finger, "Old woman, what was it the village Elders said a se'nnight since? Eh? Stir your memory. The Elders went from farm to farm – themselves! Imagine the importance of it! – to ask us that should any ships from outer space land, they were to be informed immediately on *the orders of the governor*.

"And now shall I not seize the opportunity to win into the good graces of those in power? Regard that ship. Have you ever seen its like? These men from the outer worlds are rich, great. The governor himself sends such urgent messages concerning them that the Elders walk from farm to farm in the cooling weather. Perhaps the message is sent throughout all Rossem that these men are greatly desired by the Lords of Tazenda – and it is on my farm that they are landing."

He fairly hopped for anxiety, "The proper hospitality now – the mention of my name to the governor – and what may not be ours?"

His wife was suddenly aware of the cold biting through her thin house-clothing. She leaped towards the door, shouting over her shoulders, "Leave then quickly."

But she was speaking to a man who was even then racing towards the segment of the horizon against which the ship sank.

Neither the cold of the world, nor its bleak, empty spaces worried General Han Pritcher. Nor the poverty of their surroundings, nor the perspiring peasant himself.

What did bother him was the question of the wisdom of their tactics? He and Channis were alone here.

The ship, left in space, could take care of itself in ordinary circumstances, but still, he felt unsafe. It was Channis, of course, who was responsible for this move. He looked across at the young man and caught him winking cheerfully at the gap in the furred partition, in which a woman's peeping eyes and gaping mouth momentarily appeared.

Channis, at least, seemed completely at ease. That fact Pritcher savored with a vinegary satisfaction. His game had not much longer to proceed exactly as he wished it. Yet, meanwhile their wrist ultrawave sender-receivers were their only connection with the ship.

And then the peasant host smiled enormously and bobbed his head several times and said in a voice oily with respect, "Noble Lords, I crave leave to tell you that my eldest son – a good, worthy lad whom my poverty prevents from educating as his wisdom deserves – has informed me that the Elders will arrive soon. I trust your stay here has been as pleasant as my humble means – for I am poverty-stricken, though a hard-working, honest, and humble farmer, as anyone here will tell you – could afford."

"Elders?" said Channis, lightly. "The chief men of the region here?"

"So they are, Noble Lords, and honest, worthy men all of them, for our entire village is known throughout Rossem as a just and righteous spot – though living is hard and the returns of the fields and forests meager. Perhaps you will mention to the Elders,

Noble Lords, of my respect and honor for travelers and it may happen that they will request a new motor wagon for our household as the old one can scarcely creep and upon the remnant of it depends our livelihood."

He looked humbly eager and Han Pritcher nodded with thee properly aloof condescension required of the role of "Noble, Lords" bestowed upon them.

"A report of your hospitality shall reach the ears of your Elders."

Pritcher seized the next moments of isolation to speak to the apparently half-sleeping Channis.

"I am not particularly fond of this meeting of the Elders," he said. "Have you any thoughts on the subject?"

Channis seemed surprised. "No. What worries you?"

"It seems we have better things to do than to become conspicuous here."

Channis spoke hastily, in a low monotoned voice: "It may be necessary to risk becoming conspicuous in our next moves. We won't find the type of men we want, Pritcher, by simply reaching out a hand into a dark bag and groping. Men who rule by tricks of the mind need not necessarily be men in obvious power. In the first place, the psychologists of the Second Foundation are probably a very small minority of the total population, just as on your own First Foundation, the technicians and scientists formed a minority. The ordinary inhabitants are probably just that – very ordinary. The psychologists may even be well hidden, and the men in the apparently ruling position, may honestly think they are the true masters. Our solution to that problem may be found here on this frozen lump of a planet."

"I don't follow that at all."

"Why, see here, it's obvious enough. Tazenda is probably a huge world of millions or hundreds of millions. How could we identify the psychologists among them and be able to report truly to the Mule that we have located the Second Foundation? But here, on this tiny peasant world and subject planet, an the Tazendian rulers, our host informs us, are concentrated in their chief village of Gentri. There may be only a few hundred of them there, Pritcher, and among them *must* be one or more of the men of the Second Foundation. We will go there eventually, but let us see the Elders first – it's a logical step on the way."

They drew apart easily, as their black-bearded host tumbled into the room again, obviously agitated.

"Noble Lords, the Elders are arriving. I crave leave to beg you once more to mention a word, perhaps, on my behalf—" He almost bent double in a paroxysm of fawning.

"We shall certainly remember you," said Channis. "Are these your Elders?"

They apparently were. There were three.

One approached. He bowed with a dignified respect and said: "We are honored. Transportation has been provided, Respected sirs, and we hope for the pleasure of your company at our Meeting Hall."

THIRD INTERLUDE

The First Speaker gazed wistfully at the night sky. Wispy clouds scudded across the faint stargleams. Space looked actively hostile. It was cold and awful at best but now it contained that strange creature, the Mule, and the very content seemed to darken and thicken it into ominous threat.

The meeting was over. It had not been long. There had been the doubts and questionings inspired by the difficult mathematical problem of dealing with a mental mutant of uncertain makeup. All the extreme permutations had had to be considered.

Were they even yet certain? Somewhere in this region of space – within reaching distance as Galactic spaces go – was the Mule. What would he do?

It was easy enough to handle his men. They reacted – and were reacting – according to plan.

But what of the Mule himself?

4. TWO MEN AND THE ELDERS

The Elders of this particular region of Rossem were not exactly what one might have expected. They were not a mere extrapolation of the peasantry; older, more authoritative, less friendly.

Not at all.

The dignity that had marked them at first meeting had grown in impression till it had reached the mark of being their predominant characteristic.

They sat about their oval table like so many grave and slow-moving thinkers. Most were a trifle past their physical prime, though the few who possessed beards wore them short and neatly arranged. Still, enough appeared younger than forty to make it quite obvious that "Elders" was a term of respect rather than entirely a literal description of age.

The two from outer space were at the head of the table and in the solemn silence that accompanied a rather frugal meal that seemed ceremonious rather than nourishing, absorbed the new, contrasting atmosphere.

After the meal and after one or two respectful remarks – too short and simple to be called speeches – had been made by those of the Elders apparently held most in esteem, an informality forced itself upon the assembly.

It was as if the dignity of greeting foreign personages had finally given way to the amiable rustic qualities of curiosity and friendliness.

They crowded around the two strangers and the flood of questions came.

They asked if it were difficult to handle a spaceship, how many men were required for the job, if better motors could be made for their ground-cars, if it was true that it rarely snowed on other worlds as was said to be the case with Tazenda, how many people lived on their world, if it was as large as Tazenda, if it was far away, how their clothes were

woven and what gave them the metallic shimmer, why they did not wear furs, if they shaved every day, what sort of stone that was in Pritcher's ring – The list stretched out.

And almost always the questions were addressed to Pritcher as though, as the elder, they automatically invested him with the greater authority. Pritcher found himself forced to answer at greater and greater length. It was like an immersion in a crowd of children. Their questions were those of utter and disarming wonder. Their eagerness to know was completely irresistible and would not be denied.

Pritcher explained that spaceships were not difficult to handle and that crews varied with the size, from one to many, that the motors of their ground-cars were unknown in detail to him but could doubtless be improved, that the climates of worlds varied almost infinitely, that many hundreds of millions lived on his world but that it was far smaller and more insignificant than the great empire of Tazenda, that their clothes were woven of silicone plastics in which metallic luster was artificially produced by proper orientation of the surface molecules, and that they could be artificially heated so that furs were unnecessary, that they shaved every day, that the stone in his ring was an amethyst. The list stretched out. He found himself thawing to these naive provincials against his will.

And always as he answered there was a rapid chatter among the Elders, as though they debated the information gained. It was difficult to follow these inner discussions of theirs for they lapsed into their own accented version of the universal Galactic language that, through long separation from the currents of living speech, had become archaic.

Almost, one might say, their curt comments among themselves hovered on the edge of understanding, but just managed to elude the clutching tendrils of comprehension.

Until finally Channis interrupted to say, "Good sirs, you must answer us for a while, for we are strangers and would be very much interested to know all we can of Tazenda."

And what happened then was that a great silence fell and each of the hitherto voluble Elders grew silent. Their hands, which had been moving in such rapid and delicate accompaniment to their words as though to give them greater scope and varied shades of meaning, fell suddenly limp. They stared furtively at one another, apparently quite willing each to let the other have all the floor.

Pritcher interposed quickly, "My companion asks this in friendliness, for the fame of Tazenda fills the Galaxy and we, of course, shall inform the governor of the loyalty and love of the Elders of Rossem."

No sigh of relief was heard but faces brightened. An Elder stroked his beard with thumb and forefinger, straightening its slight curl with a gentle pressure, and said: "We are faithful servants of the Lords of Tazenda."

Pritcher's annoyance at Channis' bald question subsided. It was apparent, at least, that the age that he had felt creeping over him of late had not yet deprived him of his own capacity for making smooth the blunders of others.

He continued: "We do not know, in our far part of the universe, much of the past history of the Lords of Tazenda. We presume they have ruled benevolently here for a long time."

The same Elder who spoke before, answered. In a soft, automatic way he had become spokesman. He said: "Not the grandfather of the oldest can recall a time in which the Lords were absent."

"It has been a time of peace?"

"It has been a time of peace!" He hesitated. "The governor is a strong and powerful Lord who would not hesitate to punish traitors. None of us are traitors, of course."

"He has punished some in the past, I imagine, as they deserve."

Again hesitation, "None here have ever been traitors, or our fathers or our fathers' fathers. But on other worlds, there have been such, and death followed for them quickly. It is not good to think of for we are humble men who are poor farmers and not concerned with matters of politics."

The anxiety in his voice, the universal concern in the eyes of all of them was obvious.

Pritcher said smoothly: "Could you inform us as to how we can arrange an audience with your governor."

And instantly an element of sudden bewilderment entered the situation.

For after a long moment, the elder said: "Why, did you not know? The governor will be here tomorrow. He has expected you. It has been a great honor for us. We . . . we hope earnestly that you will report to him satisfactorily as to our loyalty to him."

Pritcher's smile scarcely twitched. "Expected us?"

The Elder looked wonderingly from one to the other. "Why . . . it is now a week since we have been waiting for you."

Their quarters were undoubtedly luxurious for the world. Pritcher had lived in worse. Channis showed nothing but indifference to externals.

But there was an element of tension between them of a different nature than hitherto. Pritcher, felt the time approaching for a definite decision and yet there was still the desirability of additional waiting. To see the governor first would be to increase the gamble to dangerous dimensions and yet to win that gamble might multi-double the winnings. He felt a surge of anger at the slight crease between Channis' eyebrows, the delicate uncertainty with which the young man's lower lip presented itself to an upper tooth. He detested the useless play-acting and yearned for an end to it.

He said: "We seem to be anticipated."

"Yes," said Channis, simply.

"Just that? You have no contribution of greater pith to make. We come here and find that the governor expects us. Presumably we shall find from the governor that Tazenda itself expects us. Of what value then is our entire mission?"

Channis looked up, without endeavoring to conceal the weary note in his voice: "To expect us is one thing; to know who we are and what we came for, is another."

"Do you expect to conceal these things from men of the Second Foundation?"

"Perhaps. Why not? Are you ready to throw your hand in? Suppose our ship was detected in space. Is it unusual for a realm to maintain frontier observation posts? Even if we were ordinary strangers, we would be of interest."

"Sufficient interest for a governor to come to us rather than the reverse?"

Channis shrugged: "We'll have to meet that problem later. Let us see what this governor is like."

Pritcher bared his teeth in a bloodless kind of scowl. The situation was becoming ridiculous.

Channis proceeded with an artificial animation: "At least we know one thing. Tazenda is the Second Foundation or a million shreds of evidence are unanimously pointing the wrong way. How do you interpret the obvious terror in which these natives hold Tazenda? I see no signs of political domination. Their groups of Elders apparently meet freely and without interference of any sort. The taxation they speak of doesn't seem at all extensive to me or efficiently carried through. The natives speak much of poverty but seem sturdy and well-fed. The houses are uncouth and their villages rude, but are obviously adequate for the purpose.

"In fact, the world fascinates me. I have never seen a more forbidding one, yet I am convinced there is no suffering among the population and that their uncomplicated lives manage to contain a well-balanced happiness lacking in the sophisticated populations of the advanced centers."

"Are you an admirer of peasant virtues, then?"

"The stars forbid." Channis seemed amused at the idea. "I merely point out the significance of all this. Apparently, Tazenda is an efficient administrator – efficient in a sense far different from the efficiency of the old Empire or of the First Foundation, or even of our own Union. All these have brought mechanical efficiency to their subjects at the cost of more intangible values. Tazenda brings happiness and sufficiency. Don't you see that the whole orientation of their domination is different? It is not physical, but psychological."

"Really?" Pritcher, allowed himself irony. "And the terror with which the Elders spoke of the punishment of treason by these kind hearted psychologist administrators? How does that suit your thesis?"

"Were they the objects of the punishment? They speak of punishment only of others. It is as if knowledge of punishment has been so well implanted in them that punishment itself need never be used. The proper mental attitudes are so inserted into their minds that I am certain that not a Tazendian soldier exists on the planet. Don't you see all this?"

"I'll see perhaps," said Pritcher, coldly, "when I see the governor. And what, by the way, if *our* mentalities are handled?"

Channis replied with brutal contempt: "You should be accustomed to *that*."

Pritcher whitened perceptibly, and, with an effort, turned away. They spoke to one another no more that day.

It was in the silent windlessness of the frigid night, as he listened to the soft, sleeping motions of the other, that Pritcher silently adjusted his wrist-transmitter to the ultrawave region for which Channis' was unadjustable and, with noiseless touches of his fingernail, contacted the ship.

The answer came in little periods of noiseless vibration that barely lifted themselves above the sensory threshold.

Twice Pritcher asked: "Any communications at all yet?"

Twice the answer came: "None. We wait always."

He got out of bed. It was cold in the room and he pulled the furry blanket around him as he sat in the chair and stared out at the crowding stars so different in the brightness and complexity of their arrangement from the even fog of the Galactic Lens that dominated the night sky of his native Periphery.

Somewhere there between the stars was the answer to the complications that overwhelmed him, and he felt the yearning for that solution to arrive and end things.

For a moment he wondered again if the Mule were right – if Conversion had robbed him of the firm sharp edge of self-reliance. Or was it simply age and the fluctuations of these last years?

He didn't really care.

He was tired.

The governor of Rossem arrived with minor ostentation. His only companion was the uniformed man at the controls of the ground-car.

The ground-car itself was of lush design but to Pritcher it appeared inefficient. It turned clumsily; more than once it apparently balked at what might have been a too-rapid change of gears. It was obvious at once from its design that it ran on chemical, and not on atomic, fuel.

The Tazendian governor stepped softly on to the thin layer of snow and advanced between two lines of respectful Elders. He did not look at them but entered quickly. They followed after him.

From the quarters assigned to them, the two men of the Mule's Union watched. He – the governor – was thickset, rather stocky, short, unimpressive.

But what of that?

Pritcher cursed himself for a failure of nerve. His face, to be sure, remained icily calm. There was no humiliation before Channis – but he knew very well that his blood pressure had heightened and his throat had become dry.

It was not a case of physical fear. He was not one of those dull-witted, unimaginative men of nerveless meat who were too stupid ever to be afraid – but physical fear he could account for and discount.

But this was different. It was the other fear.

He glanced quickly at Channis. The young man glanced idly at the nails of one hand and poked leisurely at some trifling unevenness.

Something inside Pritcher became vastly indignant. What had Channis to fear of mental handling?

Pritcher caught a mental breath and tried to think back. How had he been before the Mule had Converted him from the die-hard Democrat that he was. It was hard to remember. He could not place himself mentally. He could not break the clinging wires that bound him emotionally to the Mule. Intellectually, he could remember that he had once tried to assassinate the Mule but not for all the straining he could endure, could he remember his emotions at the time. That might be the self-defense of his own mind, however, for at the intuitive thought of what those emotions might have been – not realizing the details, but merely comprehending the drift of it – his stomach grew queasy.

What if the governor tampered with his mind?

What if the insubstantial mental tendrils of a Second Foundationer insinuated itself down the emotional crevices of his makeup and pulled them apart and rejoined them?

There had been no sensation the first time. There had been no pain, no mental jar – not even a feeling of discontinuity. He had always loved the Mule. If there had ever been a time long before – as long before as five short years – when he had thought he hadn't loved him, that he had hated him – that was just a horrid illusion. The thought of that illusion embarrassed him.

But there had been no pain.

Would meeting the governor duplicate that? Would all that had gone before – all his service for the Mule – all his life's orientation – join the hazy, other-life dream that held the word, Democracy. The Mule also a dream, and only to Tazenda, his loyalty–

Sharply, he turned away.

There was that strong desire to retch.

And then Channis' voice clashed on his ear, "I think this is it, general."

Pritcher turned again. An Elder had opened the door silently and stood with a dignified and calm respect upon the threshold.

He said, "His Excellency, Governor of Rossem, in the name of the Lords of Tazenda, is pleased to present his permission for an audience and request your appearance before him."

"Sure thing," and Channis tightened his belt with a jerk and adjusted a Rosseman hood over his head.

Pritcher's jaw set. *This* was the beginning of the real gamble.

The governor of Rossem was not of formidable appearance. For one thing, he was bareheaded, and his thinning hair, light brown, tending to gray, lent him mildness. His bony eye-ridges lowered at them, and his eyes, set in a fine network of surrounding wrinkles, seemed calculating, but his fresh-cropped chin was soft and small and, by the universal convention of followers of the pseudoscience of reading character by facial bony structure, seemed "weak."

Pritcher, avoided the eyes and watched the chin. He didn't know whether that would be effective – if anything would be.

The governor's voice was high-pitched, indifferent: "Welcome to Tazenda. We greet you in peace. You have eaten?"

His hand – long fingers, gnarled veins – waved almost regally at the U-shaped table.

They bowed and sat down. The governor sat at the outer side of the base of the U, they on the inner; along both arms sat the double row of silent Elders.

The governor spoke in short, abrupt sentences – praising the food as Tazendian importations – and it had indeed a quality different if, somehow, not so much better, than the rougher food of the Elders – disparaging Rosseman weather, referring with an attempt at casualness to the intricacies of space travel.

Channis talked little. Pritcher not at all.

Then it was over. The small, stewed fruits were finished; the napkins used and discarded, and the governor leaned back.

His small eyes sparkled.

"I have inquired as to your ship. Naturally, I would like to see that it receives due care and overhaul. I am told its whereabouts are unknown."

"True." Channis replied lightly. "We have left it in space. It is a large ship, suitable for long journeys in sometimes hostile regions, and we felt that landing it here might give rise to doubts as to our peaceful intentions. We preferred to land alone, unarmed."

"A friendly act," commented the governor, without conviction. "A large ship, you say?"

"Not a vessel of war, excellency."

"Ha, hum. Where is it you come from?"

"A small world of the Santanni sector, your excellency. It may be you are not aware of its existence for it lacks importance. We are interested in establishing trade relationships."

"Trade, eh? And what have you to sell? "

"Machines of all sorts, excellency. In return, food, wood, ores"

"Ha, hum." The governor seemed doubtful. "I know little these matters. Perhaps mutual profit may be arranged. Perhaps, after I have examined your credentials at length – for much information will be required by my government before matters may proceed, you understand – and after I have looked over your ship, it would be advisable for you to proceed to Tazenda."

There was no answer to that, and the governor's attitude iced perceptibly.

"It is necessary that I see your ship, however."

Channis said distantly: "The ship, unfortunately, is undergoing repairs at the moment. If your excellency would not object giving us forty-eight hours, it will be at your service."

"I am not accustomed to waiting."

For the first time, Pritcher met the glare of the other, eye to eye, and his breath exploded softly inside him. For a moment, he had the sensation of drowning, but then his eyes tore away.

Channis did not waver. He said: "The ship cannot be landed for forty-eight hours, excellency. We are here and unarmed. Can you doubt our honest intentions?"

There was a long silence, and then the governor said gruffly, "Tell me of the world from which you come."

That was all. It passed with that. There was no more unpleasantness. The governor, having fulfilled his official duty, apparently lost interest and the audience died a dull death.

And when it was *all* over, Pritcher found himself back in their quarters and took stock of himself.

Carefully – holding his breath – he "felt" his emotions. Certainly he seemed no different to himself, but *would* he feel any difference? Had he felt different after the Mule's Conversion? Had not everything seemed natural? As it should have been?

He experimented.

With cold purpose, he shouted inside the silent caverns of his mind, and the shout was, "The Second Foundation must be discovered and destroyed."

And the emotion that accompanied it was honest hate. There was not as much as a hesitation involved in it.

And then it was in his mind to substitute the word "Mule" for the phrase "Second Foundation" and his breath caught at the mere emotion and his tongue clogged.

So far, good.

But had he been handled otherwise – more subtly? Had tiny changes been made? Changes that he couldn't detect because their very existence warped his judgment.

There was no way to tell.

But he still felt absolute loyalty to the Mule! If that were unchanged, nothing else really mattered.

He turned his mind to action again. Channis was busy at his end of the room. Pritcher's thumbnail idled at his wrist communicator.

And then at the response that came he felt a wave of relief surge over him and leave him weak.

The quiet muscles of his face did not betray him, but inside he was shouting with joy – and when Channis turned to face him, he knew that the farce was about over.

FOURTH INTERLUDE

The two Speakers passed each other on the road and one stopped the other.

"I have word from the First Speaker."

There was a half-apprehensive flicker in the other's eyes. "Intersection point?"

"Yes! May we live to see the dawn!"

5. ONE MAN AND THE MULE

There was no sign in any of Channis' actions that he was aware of any subtle change in the attitude of Pritcher, and in their relations to each other. He leaned back on the hard wooden bench and spread-eagled his feet out in front of him.

"What did you make of the governor?"

Pritcher shrugged: "Nothing at all. He certainly seemed no mental genius to me. A very poor specimen of the Second Foundation, if that's what he was supposed to be."

"I don't think he was, you know. I'm not sure what to make of it. Suppose you were a Second Foundationer," Channis grew thoughtful, "what would you do? Suppose you had an idea of our purpose here. How would you handle us?"

"Conversion, of course."

"Like the Mule?" Channis looked up, sharply. "Would we know if they *had* converted us? I wonder— And what if they were simply psychologists, but very clever ones."

"In that case, I'd have us killed rather quickly."

"And our ship? No." Channis wagged a forefinger. "We're playing a bluff, Pritcher, old man. It can only be a bluff. Even if they have emotional control down pat, we – you and I – are only fronts. It's the Mule they must fight, and they're being just as careful of us as we are of them. I'm assuming that they know who we are."

Pritcher, stared coldly: "What do you intend doing?"

"Wait." The word was bitten off. "Let them come to us. They're worried, maybe about the ship, but probably about the Mule. They bluffed with the governor. It didn't work. We stayed pat. The next person they'll send *will* be a Second Foundationer, and he'll propose a deal of some sort."

"And then?"

"And then we make the deal."

"I don't think so."

"Because you think it will double-cross the Mule? It won't."

"No, the Mule could handle your double-crosses, any you could invent. But I still don't think so."

"Because you think then we couldn't double-cross the Foundationers?"

"Perhaps not. But that's not the reason."

Channis let his glance drop to what the other held in his fist, and said grimly: "You mean *that's* the reason."

Pritcher cradled his blaster, "That's right. You are under arrest."

"Why?"

"For treason to the First Citizen of the Union."

Channis' lips hardened upon one another: "What's going on?"

"Treason! As I said. And correction of the matter, on my part."

"Your proof? Or evidence, assumptions, daydreams? Are you mad?"

"No. Are you? Do you think the Mule sends out unweaned youngsters on ridiculous swashbuckling missions for nothing? It was queer to me at the time. But I wasted time in doubting myself. Why should he send *you*? Because you smile and dress well? Because you're twenty-eight."

"Perhaps because I can be trusted. Or aren't you in the market for logical reasons?"

"Or perhaps because you can't be trusted. Which is logical enough, as it turns out."

"Are we matching paradoxes, or is this all a word game to see who can say the least in the most words?"

And the blaster advanced, with Pritcher after it. He stood erect before the younger man: "Stand up!"

Channis did so, in no particular hurry, and felt the muzzle of the blaster touch his belt with no shrinking of the stomach muscles.

Pritcher said: "What the Mule wanted was to find the Second Foundation. He had failed and I had failed, and the secret that neither of us can find is a well-hidden one. So there was one outstanding possibility left – and that was to find a seeker who ready knew the hiding-place."

"Is that I?"

"Apparently it was. I didn't know then, of course, but though my mind must be slowing, it still points in the right direction. How easily we found Star's End! How miraculously you examined the correct Field Region of the Lens from among an infinite number of possibilities! And having done so, how nicely we observe just the correct point for observation! You clumsy fool! Did you so underestimate me that no combination of impossible fortuties struck you as being too much for me to swallow?"

"You mean I've been too successful?"

"Too successful by half for any loyal man."

"Because the standards of success you set me were so low?"

And the blaster prodded, *though in* the face that confront Channis only the cold glitter of the eyes betrayed the growing anger: "Because you are in the pay of the Second Foundation."

"Pay?" – infinite contempt. "Prove that."

"Or under the mental influence."

"Without the Mule's knowledge? Ridiculous."

"*With* the Mule's knowledge. Exactly my point, my you dullard. *With* the Mule's knowledge. Do you suppose else that you would be given a ship to play with? You led us to the Second Foundation as you were supposed to do."

"I thresh a kernel of something or other out of this immensity of chaff. May I ask why I'm supposed to be doing all this? If were a traitor, why should I lead you to the Second Foundation? Why not hither and yon through the Galaxy, skipping gaily, finding no more than you ever did?"

"For the sake of the ship. And because the men of the Second Foundation quite obviously need atomic warfare for self-defense."

"You'll have to do better than that. One ship won't mean thing to them, and if they think they'll learn science from it a build atomic power plants next year, they are very, very simple Second Foundationers, indeed. On the order of simplicity as yourself, I should say."

"You will have the opportunity to explain that to the Mule."

"We're going back to Kalgan?"

"On the contrary. We're staying here. And the Mule will join us in fifteen minutes – more or less. Do you think he hasn't followed us, my sharp-witted, nimble-minded lump of self-admiration? You have played the decoy well in reverse. You may not have led our victims to us, but you have certainly led us to our victims."

"May I sit down," said Channis, "and explain something to you in picture drawings? Please."

"You will remain standing."

At that, I can say it as well standing. You think the Mule followed us because of the hypertracer on the communication circuit?"

The blaster might have wavered. Channis wouldn't have sworn to it. He said: "You don't look surprised. But I don't waste time doubting that you feel surprised. Yes, I knew about it. And now, having shown you that I knew of something you didn't think I did, I'll tell you something *you* don't know, that I know you don't."

"You allow yourself too many preliminaries, Channis. I should think your sense of invention was more smoothly greased."

"There's on invention to this. There *have* been traitors, of course, or enemy agents, if you prefer that term. But the Mule knew of that in a rather curious way. It seems, you see, that some of his Converted men had been tampered with."

The blaster did waver that time. Unmistakably.

"I emphasize that, Pritcher. It was why he needed me. I was an Unconverted man. Didn't he emphasize to you that he needed an Unconverted? Whether he gave you the real reason or not?"

"Try something else, Channis. If I were against the Mule, I'd know it." Quietly, rapidly, Pritcher was feeling his mind. It felt the same. It felt the same. Obviously the man was lying.

"You mean you feel loyal to the Mule. Perhaps. Loyalty wasn't tampered with. Too easily detectable, the Mule said. But how do you feel mentally? Sluggish? Since you started this trip, have you always felt normal? Or have you felt strange sometimes, as though you weren't quite yourself? What are you trying to do, bore a hole through me without touching the trigger?"

Pritcher withdrew his blaster half an inch, "What are you trying to say?"

"I say that you've been tampered with. You've been handled. You didn't see the Mule install that hypertracer. You didn't see anyone do it. You just found it there, and assumed it was the Mule, and ever since you've been assuming he was following us. Sure,

the wrist receiver you're wearing contacts the ship on a wave length mine isn't good for. Do you think I didn't know that?" He was speaking quickly now, angrily. His cloak of indifference had dissolved into savagery. "But it's not the Mule that's coming toward us from out there. It's not the Mule."

"Who, if not?"

"Well, who do you suppose? I found that hypertracer, the day we left. But I didn't think it was the Mule. *He* had no reason for indirection at that point. Don't you see the nonsense of it? If I were a traitor and he knew that, I could be Converted as easily as you were, and he would have the secret of the location of the Second Foundation out of my mind without sending me half across the Galaxy. Can you keep a secret from the Mule? And if *I didn't* know, then I couldn't lead him to it. So why send me in either case?

"Obviously, that hypertracer must have been put there by an agent of the Second Foundation. *That's* who's coming towards us now. And would you have been fooled if your precious mind hadn't been tampered with? What kind of normality have you that you imagine immense folly to be wisdom? *Me* bring a ship to the Second Foundation? What would they do with a ship?

"It's *you* they want, Pritcher. You know more about the Union than anyone but the Mule, and you're not dangerous to them while he is. That's why they put the direction of search into my mind. Of course, it was completely impossible for me to find Tazenda by random searchings of the Lens. I knew that. But I knew there was the Second Foundation after us, and I knew they engineered it. Why not play their game? It was a battle of bluffs. They wanted us and I wanted their location – and space take the one that couldn't outbluff the other.

"But it's *we* that will lose as long as you hold that blaster on me. And it obviously isn't your idea. It's theirs. Give me the blaster, Pritcher. I know it seems wrong to you, but it isn't your mind speaking, it's the Second Foundation within you. Give me the blaster, Pritcher, and we'll face what's coming now, together."

Pritcher, faced a growing confusion in horror. Plausibility! Could he be so wrong? Why this eternal doubt of himself? Why wasn't he sure? What made Channis sound so plausible?

Plausibility!

Or was it his own tortured mind fighting the invasion of the alien.

Was he split in two?

Hazily, he saw Channis standing before him, hand outstretched – and suddenly, he knew he was going to give him the blaster.

And as the muscles of his arm were on the point of contracting in the proper manner to do so, the door opened, not hastily, behind him – and he turned.

There are perhaps men in the Galaxy who can be confused for one another even by men at their peaceful leisure. Correspondingly, there may be conditions of mind when even unlikely pairs may be mis-recognized. But the Mule rises above any combination of the two factors.

Not all Pritcher's agony of mind prevented the instantaneous mental flood of cool vigor that engulfed him.

Physically, the Mule could not dominate any situation. Nor did he dominate this one.

He was rather a ridiculous figure in his layers of clothing that thickened him past his normality without allowing him to reach normal dimensions even so. His face was muffled and the usually dominant beak covered what was left in a cold-red prominence.

Probably as a vision of rescue, no greater incongruity could exist.

He said: "Keep your blaster, Pritcher."

Then he turned to Channis, who had shrugged and seated himself: "The emotional context here seems rather confusing and considerably in conflict. What's this about someone other than myself following you?"

Pritcher intervened sharply: "Was a hypertracer placed upon our ship by your orders, sir?"

The Mule turned cool eyes upon him, "Certainly. Is it very likely that any organization in the Galaxy other than the Union of Worlds would have access to it?"

"He said—"

"Well, he's here, general. Indirect quotation is not necessary. Have you been saying anything, Channis?"

"Yes. But mistakes apparently, sir. It has been my opinion that the tracer was put there by someone in the pay of the Second Foundation and that we had been led here for some purpose of theirs, which I was prepared to counter. I was under the further impression that the general was more or less in their hands."

"You sound as if you think so no longer."

"I'm afraid not. Or it would not have been you at the door."

"Well, then, let us thresh this out." The Mule peeled off the outer layers of padded, and electrically heated clothing. "Do you mind if I sit down as well? Now – we are safe here and perfectly free of any danger of intrusion. No native of this lump of ice will have any desire to approach this place. I assure you of that," and there was a grim earnestness about his insistence upon his powers.

Channis showed his disgust. "Why privacy? Is someone going to serve tea and bring out the dancing girls?"

"Scarcely. What was this theory of yours, young man? A Second Foundationer was tracing you with a device which no one but I have and – how did you say you found this place?"

"Apparently, sir, it seems obvious, in order to account for known facts, that certain notions have been put into my head—"

"By these same Second Foundationers?"

"No one else, I imagine."

"Then it did not occur to you that if a Second Foundationer could force, or entice, or inveigle you into going to the Second Foundation for purposes of his own – and I assume you imagined he used methods similar to mine, though, mind you, I can implant

only emotions, not ideas – it did not occur to you that if he could do that there was little necessity to put a hypertracer on you.

And Channis looked up sharply and met his sovereign's large eyes with sudden startle. Pritcher grunted and a visible relaxation showed itself in his shoulders.

"No," said Channis, "that hadn't occurred to me."

"Or that if they were obliged to trace you, they couldn't feel capable of directing you, and that, undirected, you could have precious little chance of finding your way here as you did. Did *that* occur to you?"

"That, neither."

"Why not? Has your intellectual level receded to a so-much-greater-than-probable degree?"

"The only answer is a question, sir. Are you joining General Pritcher in accusing me of being a traitor?"

"You have a defense in case I am?"

"Only the one I presented to the general. If I were a traitor and knew the whereabouts of the Second Foundation, you could Convert me and learn the knowledge directly. If you felt it necessary to trace me, then I hadn't the knowledge beforehand and wasn't a traitor. So I answer your paradox with another."

"Then your conclusion?"

"That I am not a traitor."

"To which I must agree, since your argument is irrefutable."

"Then may I ask you why you had us secretly followed?"

"Because to all the facts there is a third explanation. Both you and Pritcher explained some facts in your own individual ways, but not all. I – if you can spare me the time – will explain all. And in a rather short time, so there is little danger of boredom. Sit down, Pritcher, and give me your blaster. There is no danger of attack on us any longer. None from in here and none from out there. None in fact even from the Second Foundation. Thanks to you, Channis."

The room was lit in the usual Rossemian fashion of electrically heated wire. A single bulb was suspended from the ceiling and in its dim yellow glow, the three cast their individual shadows.

The Mule said: "Since I felt it necessary to trace Channis, it was obvious I expect to gain something thereby. Since he went to the Second Foundation with a startling speed and directness, we can reasonably assume that that was what I was expecting to happen. Since I did not gain the knowledge from him directly, something must have been preventing me. Those are the facts. Channis, of course, knows the answer. So do I. Do you see it, Pritcher?"

And Pritcher said doggedly: "No, sir."

"Then I'll explain. Only one kind of man can both know the location of the Second Foundation and prevent me from learning it. Channis, I'm afraid you're a Second Foundationer yourself."

And Channis' elbows rested on his knees as he leaned forward, and through stiff and angry lips said: "What is your direct evidence? Deduction has proven wrong twice today."

"There is direct evidence, too, Channis. It was easy enough. I told you that my men had been tampered with. The tamperer must have been, obviously, someone who was a) Unconverted, and b) fairly close to the center of things. The field was large but not entirely unlimited. You were too successful, Channis. People liked you too much. You got along too well. I wondered—

"And then I summoned you to take over this expedition and it didn't set you back. I watched your emotions. It didn't bother you. You overplayed the confidence there, Channis. No man of real competence could have avoided a dash of uncertainty at a job like that. Since your mind did avoid it, it was either a foolish one or a controlled one.

It was easy to test the alternatives. I seized your mind at a moment of relaxation and filled it with grief for an instant and then removed it. You were angry afterwards with such accomplished art that I could have sworn it was a natural reaction, but for that which went first. For when I wrenched at your emotions, for just one instant, for one tiny instant before you could catch yourself, your mind resisted. It was all I needed to know.

"No one could have resisted me, even for that tiny instant, without control similar to mine."

Channis' voice was low and bitter: "Well, then? Now what?"

"And now you die – as a Second Foundationer. Quite necessary, as I believe you realize."

And once again Channis stared into the muzzle of a blaster. A muzzle guided this time by a mind, not like Pritcher's capable of offhand twisting to suit himself, but by one as mature as his own and as resistant to force as his own.

And the period of time allotted him for a correction of events was small.

What followed thereafter is difficult to describe by one with the normal complement of senses and the normal incapacity for emotional control.

Essentially, this is what Channis realized in the tiny space of time involved in the pushing of the Mule's thumb upon the trigger contact.

The Mule's current emotional makeup was one of a hard and polished determination, unmisted by hesitation in the least. Had Channis been sufficiently interested afterward to calculate the time involved from the determination to shoot to the arrival of the disintegrating energies, he might have realized that his leeway was about one-fifth of a second.

That was barely time.

What the Mule realized in that same tiny space of time was that the emotional potential of Channis' brain had surged suddenly upwards without his own mind feeling any impact and that, simultaneously, a flood of pure, thrilling hatred cascaded upon him from an unexpected direction.

It was that new emotional element that jerked his thumb off the contact. Nothing else could have done it, and almost together with his change of action, came complete realization of the new situation.

It was a tableau that endured far less than the significance adhering to it should require from a dramatic standpoint. There was the Mule, thumb off the blaster, staring intently upon Channis. There was Channis taut, not quite daring to breathe yet. And there was Pritcher, convulsed in his chair; every muscle at a spasmodic breaking point; every tendon writhing in an effort to hurl forward; his face twisted at last out of schooled woodenness into an unrecognizable death mask of horrid hate; and his eyes only and entirely and supremely upon the Mule.

Only a word or two passed between Channis and the Mule – only a word or two and that utterly revealing stream of emotional consciousness that remains forever the true interplay of understanding between such as they. For the sake of our own limits, it is necessary to translate into words what went on, then, and thenceforward.

Channis said, tensely: "You're between two fires, First Citizen. You can't control two minds simultaneously, not when one of them is mine – so you have your choice. Pritcher, is free of your Conversion now. I've snapped the bonds. He's the old Pritcher; the one who tried to kill you once; the one who thinks you're the enemy of all that is free and right and holy; and he's the one besides who knows that you've debased him to helpless adulation for five years. I'm holding him back now by suppressing his will, but if you kill me, that ends, and in considerably less time than you could shift your blaster or even your will – he will kill you."

The Mule quite plainly realized that. He did not move.

Channis continued: "If you turn to place him under control, to kill him, to do anything, you won't ever be quick enough to turn again to stop me."

The Mule still did not move. Only a soft sigh of realization.

"So," said Channis, "throw down the blaster, and let us be on even terms again, and you can have Pritcher back."

"I made a mistake," said the Mule, finally. "It was wrong to have a third party present when I confronted you. It introduced one variable too many. It is a mistake that must be paid for, I suppose."

He dropped the blaster carelessly, and kicked it to the other end of the room. Simultaneously, Pritcher crumpled into profound sleep.

"He'll be normal when he awakes," said the Mule, indifferently.

The entire exchange from the time the Mule's thumb had begun pressing the trigger-contact to the time he dropped the blaster had occupied just under a second and a half of time.

But just beneath the borders of consciousness, for a time just above the borders of detection, Channis caught a fugitive emotional gleam in the Mule's mind. And it was still one of sure and confident triumph.

6. ONE MAN, THE MULE – AND ANOTHER

Two men, apparently relaxed and entirely at ease, poles apart physically – with every nerve that served as emotional detector quivering tensely.

The Mule, for the first time in long years, had insufficient surety of his own way. Channis knew that, though he could protect himself for the moment, it was an effort – and that the attack upon him was none such for his opponent. In a test of endurance, Channis knew he would lose.

But it was deadly to think of that. To give away to the Mule an emotional weakness would be to hand him a weapon. There was already that glimpse of something – a winner's something – in the Mule's mind.

To gain time–

Why did the others delay? Was that the source of the Mule's confidence? What did his opponent know that he didn't? The mind he watched told nothing. If only he could read ideas. And yet–

Channis braked his own mental whirling roughly. There was only that; to gain time–

Channis said: "Since it is decided, and not denied by myself after our little duel over Pritcher, that I am a Second Foundationer, suppose you tell me why I came to Tazenda."

"Oh, no," and the Mule laughed, with high-pitched confidence, "I am not Pritcher. I need make no explanations to you. You had what you thought were reasons. Whatever they were, your actions suited me, and so I inquire no further."

"Yet there must be such gaps in your conception of the story. Is Tazenda the Second Foundation you expected to find? Pritcher spoke much of your other attempt at finding it, and of your psychologist tool, Ebling Mis. He babbled a bit sometimes under my . . . uh . . . slight encouragement. Think back on Ebling Mis, First Citizen."

"Why should I?" Confidence!

Channis felt that confidence edge out into the open, as if with the passage of time, any anxiety the Mule might be having was increasingly vanishing.

He said, firmly restraining the rush of desperation: "You lack curiosity, then? Pritcher told me of Mis' vast surprise at *something*. There was his terribly drastic urging for speed, for a rapid warning of the Second Foundation? Why? Why? Ebling Mis died. The Second Foundation was not warned. And yet the Second Foundation exists."

The Mule smiled in real pleasure, and with a sudden and surprising dash of cruelty that Channis felt advance and suddenly withdraw: "But apparently the Second Foundation was warned. Else how and why did one Bail Channis arrive on Kalgan to handle my men and to assume the rather thankless task of outwitting me. The warning came too late, that is all."

"Then," and Channis allowed pity to drench outward from him, "you don't even know what the Second Foundation is, or anything of the deeper meaning of all that has been going on."

To gain time!

The Mule felt the other's pity, and his eyes narrowed with instant hostility. He rubbed his nose in his familiar four-fingered gesture, and snapped: "Amuse yourself, then. What of the Second Foundation?"

Channis spoke deliberately, in words rather than in emotional symbology. He said: "From what I have heard, it was the mystery that surrounded the Second Foundation that most puzzled Mis. Hari Seldon founded his two units so differently. The First Foundation was a splurge that in two centuries dazzled half the Galaxy. And the Second was an abyss that was dark.

"You won't understand why that was, unless you can once again feel the intellectual atmosphere of the days of the dying Empire. It was a time of absolutes, of the great final generalities, at least in thought. It was a sign of decaying culture, of course, that dams had been built against the further development of ideas. It was his revolt against these dams that made Seldon famous. It was that one last spark of youthful creation in him that lit the Empire in a sunset glow and dimly foreshadowed the rising sun of the Second Empire."

"Very dramatic. So what?"

"So he created his Foundations according to the laws of psychohistory, but who knew better than he that even those laws were relative. *He* never created a finished product. Finished products are for decadent minds. His was an evolving mechanism and the Second Foundation was the instrument of that evolution. *We*, First Citizen of your Temporary Union of Worlds, we are the guardians of Seldon's Plan. Only *we*!"

"Are you trying to talk yourself into courage," inquired the Mule, contemptuously, "or are you trying to impress me? For the Second Foundation, Seldon's Plan, the Second Empire all impresses me not the least, nor touches any spring of compassion, sympathy, responsibility, nor any other source of emotional aid you may be trying to tap in me. And in any case, poor fool, speak of the Second Foundation in the past tense, for it is destroyed."

Channis felt the emotional potential that pressed upon his mind rise in intensity as the Mule rose from his chair and approached. He fought back furiously, but something crept relentlessly on within him, battering and bending his mind back – and back.

He felt the wall behind him, and the Mule faced him, skinny arms akimbo, lips smiling terribly beneath that mountain of nose.

The Mule said: "Your game is through, Channis. The game of all of you-of all the men of what used to be the Second Foundation. Used to be! *Used to be*!"

"What were you sitting here waiting for all this time, with your babble to Pritcher, when you might have struck him down and taken the blaster from him without the least effort of physical force? You were waiting for me, weren't you, waiting to greet me in a situation that would not too arouse my suspicions.

"Too bad for you that I needed no arousal. I knew you. I knew you well, Channis of the Second Foundation.

"But what are you waiting for now? You still throw words at me desperately, as though the mere sound of your voice would freeze me to my seat. And all the while you

peak, something in your mind is waiting and waiting and is still waiting. But no one is coming. None of those you expect – none of your allies. You are alone here, Channis, and you will remain alone. Do you know why?

"It is because your Second Foundation miscalculated me to the very dregs of the end. I knew their plan early. They thought I would follow you here and be proper meat for their cooking. You were to be a decoy indeed – a decoy for a poor, foolish weakling mutant, so hot on the trail of Empire that he would fall blindly into an obvious pit. But am I their prisoner?

"I wonder if it occurred to them that I'd scarcely be here without my fleet – against the artillery of any unit of which they are entirely and pitifully helpless? Did it occur to them that I would not pause for discussion or wait for events?

"My ships were launched against Tazenda twelve hours ago and they are quite, quite through with their mission. Tazenda is laid in ruins; its centers of population are wiped out. There was no resistance. The Second Foundation no longer exists, Channis – and I, the queer, ugly weakling, am the ruler of the Galaxy."

Channis could do nothing but shake his head feebly. "No– No–"

"Yes– Yes–" mimicked the Mule. "And if you are the last one alive, and you may be, that will not be for long either."

And then there followed a short, pregnant pause, and Channis almost howled with the sudden pain of that tearing penetration of the innermost tissues of his mind.

The Mule drew back and muttered: "Not enough. You do not pass the test after all. Your despair is pretense. Your fear is not the broad overwhelming that adheres to the destruction of an ideal, but the puny seeping fear of personal destruction."

And the Mule's weak hand seized Channis by the throat in a puny grip that Channis was somehow unable to break.

"You are my insurance, Channis. You are my director and safeguard against any underestimation I may make." The Mule's eyes bore down upon him. Insistent– Demanding–

"Have I calculated rightly, Channis? Have I outwitted your men of the Second Foundation? Tazenda *is* destroyed, Channis, tremendously destroyed; so why is your despair pretense? Where is the reality? I must have reality and truth! Talk, Channis talk. Have I penetrated then, not deeply enough? Does the danger still exist? *Talk, Channis.* Where have I done wrong?"

Channis felt the words drag out of his mouth. They did not come willingly. He clenched his teeth against them. He bit his tongue. He tensed every muscle of his throat.

And they came out – gasping – pulled out by force and tearing his throat and tongue and teeth on the way.

"Truth," he squeaked, "truth–"

"Yes, truth. What is left to be done?"

"Seldon founded Second Foundation here. Here, as I said. I told no lie. The psychologists arrived and took control of the native population."

"Of Tazenda?" The Mule plunged deeply into the flooding torture of the other's emotional upwellings – tearing at them brutally. "It is Tazenda I have destroyed. You know what I want. Give it to me."

"Not Tazenda. I said Second Foundationers might not be those apparently in power; Tazenda is the figurehead—" The words were almost unrecognizable, forming themselves against every atom of will of the Second Founder, "Rossem— Rossem— Rossem is the world—"

The Mule loosed his grip and Channis dropped into a huddle of pain and torture.

"And you thought to fool me?" said the Mule, softly.

"You were fooled." It was the last dying shred of resistance in Channis.

"But not long enough for you and yours. I am in communication with my Fleet. And after Tazenda can come Rossem. But first—"

Channis felt the excruciating darkness rise against him, and the automatic lift of his arm to his tortured eyes could not ward it off. It was a darkness that throttled, and as he felt his tom, wounded mind reeling backwards, backwards into the everlasting black – there was that final picture of the triumphant Mule – laughing matchstick – that long, fleshy nose quivering with laughter.

The sound faded away. The darkness embraced him lovingly.

It ended with a cracking sensation that was like the jagged glare of a lightning flash, and Channis came slowly to earth while sight returned painfully in blurry transmission through tear-drenched eyes.

His head ached unbearably, and it was only with a stab of agony that he could bring up a hand to it.

Obviously, he was alive. Softly, like feathers caught up in an eddy of air that had passed, his thoughts steadied and drifted to rest. He felt comfort suck in – from outside. Slowly, torturedly, he bent his neck – and relief was a sharp pang.

For the door was open; and the First Speaker stood just inside the threshold. He tried to speak, to shout, to warn – but his tongue froze and he knew that a part of the Mule's mighty mind still held him and clamped all speech within him.

He bent his neck once more. The Mule was still in the room. He was angry and hot-eyed. He laughed no longer, but his teeth were bared in a ferocious smile.

Channis felt the First Speaker's mental influence moving gently over his mind with a healing touch and then there was the numbing sensation as it came into contact with the Mule's defense for an instant of struggle and withdrew.

The Mule said gratingly, with a fury that was grotesque in his meagre body: "Then another comes to greet me." His agile mind reached its tendrils out of the room— out— out—

"You are alone," he said.

And the First Speaker interrupted with an acquiescence: "I am thoroughly alone. It is necessary that I be alone, since it was I who miscalculated your future five years ago. There would be a certain satisfaction to me in correcting that matter without aid. Unfortunately, I did not count on the strength of your Field of Emotional Repulsion that

surrounded this place. It took me long to penetrate. I congratulate you upon the skill with which it was constructed."

"Thank you for nothing," came the hostile rejoinder. "Bandy no compliments with me. Have you come to add your brain splinter to that of yonder cracked pillar of your realm?"

The First Speaker smiled: "Why, the man you call Bail Channis performed his mission well, the more so since he was not your mental equal by far. I can see, of course, that you have mistreated him, yet it may be that we may restore him fully even yet. He is a brave man, sir. He volunteered for this mission although we were able to predict mathematically the huge chance of damage to his mind – a more fearful alternative than that of mere physical crippling."

Channis' mind pulsed futilely with what he wanted to say and couldn't; the warning he wished to shout and was unable to. He could only emit that continuous stream of fear–fear–

The Mule was calm. "You know, of course, of the destruction of Tazenda."

"I do. The assault by your fleet was foreseen."

Grimly: "Yes, so I suppose. But not prevented, eh?"

"No, not prevented." The First Speaker's emotional symbology was plain. It was almost a self-horror; a complete self-disgust: "And the fault is much more mine than yours. Who could have imagined your powers five years ago. We suspected from the start – from the moment you captured Kalgan – that you had the powers of emotional control. That was not too surprising, First Citizen, as I can explain to you.

"Emotional contact such as you and I possess is not a very new development. Actually it is implicit in the human brain. Most humans can read emotion in a primitive manner by associating it pragmatically with facial expression, tone of voice and so on. A good many animals possess the faculty to a higher degree; they use the sense of smell to a good extent and the emotions involved are, of course, less complex.

"Actually, humans are capable of much more, but the faculty of direct emotional contact tended to atrophy with the development of speech a million years back. It has been the great advance of our Second Foundation that this forgotten sense has been restored to at least some of its potentialities.

"But we are not born with its full use. A million years of decay is a formidable obstacle, and we must educate the sense, exercise it as we exercise our muscles. And there you have the main difference. *You* were born with it.

"So much we could calculate. We could also calculate the effect of such a sense upon a person in a world of men who did not possess it. The seeing man in the kingdom of the blind– We calculated the extent to which a megalomania would take control of you and we thought we were prepared. But for two factors we were not prepared.

"The first was the great extent of your sense. We can induce emotional contact only when in eyeshot, which is why we are more helpless against physical weapons than you might think. Sight plays such an enormous part. Not so with you. You are definitely

known to have had men under control, and, further, to have had intimate emotional contact with them when out of sight and out of earshot. That was discovered too late.

"Secondly, we did not know of your physical shortcomings, particularly the one that seemed so important to you, that you adopted the name of the Mule. We didn't foresee that you were not merely a mutant, but a sterile mutant and the added psychic distortion due to your inferiority complex passed us by. We allowed only for a megalomania – not for an intensely psychopathic paranoia as well.

"It is myself that bears the responsibility for having missed all that, for I was the leader of the Second Foundation when you captured Kalgan. When you destroyed the First Foundation, we found out – but too late – and for that fault millions have died on Tazenda."

"And you will correct things now?" The Mules thin lips curled, his mind pulsing with hate: "What will you do? Fatten me? Restore me to a masculine vigor? Take away from my past the long childhood in an alien environment. Do you regret *my* sufferings? Do you regret *my* unhappiness? I have no sorrow for what I did in my necessity. Let the Galaxy Protect itself as best it can, since it stirred not a whit for my protection when I needed it."

Your emotions are, of course," said the First Speaker, "only the children of your background and are not to be condemned – merely changed. The destruction of Tazenda was unavoidable. The alternative would have been a much greater destruction generally throughout the Galaxy over a period of centuries. We did our best in our limited way. We withdrew as many men from Tazenda as we could. We decentralized the rest of the world. Unfortunately, our measures were of necessity far from adequate. It left many millions to die – do you not regret that?"

"Not at all – any more than I regret the hundred thousand that must die on Rossem in not more than six hours."

"On Rossem?" said the First Speaker, quickly.

He turned to Channis who had forced himself into a half-sitting posture, and his mind exerted its force. Channis, felt the duel of minds strain over him, and then there was a short snapping of the bond and the words came tumbling out of his mouth: "Sir, I have failed completely. He forced it from me not ten minutes before your arrival. I could not resist him and I offer no excuses. He knows Tazenda is not the Second Foundation. He knows that Rossem is."

And the bonds closed down upon him again.

The First Speaker frowned: "I see. What is it you are planning to do?"

"Do you really wonder? Do you really find it difficult to penetrate the obvious? All this time that you have preached to me of the nature of emotional contact – all this time that you have been throwing words such as megalomania and paranoia at me, I have been working. I have been in contact with my Fleet and it has its orders. In six hours, unless I should for some reason counteract my orders, they are to bombard all of Rossem except this lone village and an area of a hundred square miles about it. They are to do a thorough job and are then to land here.

"You have six hours, and in six hours, you cannot beat down my mind, nor can you save the rest of Rossem."

The Mule spread his hands and laughed again while the First Speaker seemed to find difficulty in absorbing this new state of affairs.

He said: "The alternative?"

"Why should there even be an alternative? I can stand to gain no more by any alternative. Is it the lives of those on Rossem I'm to be chary of? Perhaps if you allow my ships to land and submit, all of you – all the men on the Second Foundation – to mental control sufficient to suit myself, I may countermand the bombardment orders. It may be worthwhile to put so many men of high intelligence under my control. But then again it would be a considerable effort and perhaps not worth it after all, so I'm not particularly eager to have you agree to it. What do you say, Second Foundationer? What weapon have you against my mind which is as strong as yours at least and against my ships which are stronger than anything you have ever dreamed of possessing?"

"What have I?" repeated the First Speaker, slowly: "Why nothing – except a little grain – such a little grain of knowledge that even yet you do not possess."

"Speak quickly," laughed the Mule, "speak inventively. For squirm as you might, you won't squirm out of this."

"Poor mutant," said the First Speaker, "I have nothing to squirm out of. Ask yourself – why was Bail Channis sent to Kalgan as a decoy – Bail Channis, who though young and brave is almost as much your mental inferior as is this sleeping officer of yours, this Han Pritcher. Why did not I go, or another of our leaders, who would be more your match?"

"Perhaps," came the supremely confident reply, "you were not sufficiently foolish, since perhaps none of you are my match."

"The true reason is more logical. You knew Channis to be a Second Foundationer. He lacked the capacity to hide that from you. And you knew, too, that you were his superior, so you were not afraid to play his game and follow him as he wished you to in order to outwit him later. Had I gone to Kalgan, you would have killed me for I would have been a real danger, or had I avoided death by concealing my identity, I would yet have failed in persuading you to follow me into space. It was only known inferiority that lured you on. And had you remained on Kalgan, not all the force of the Second Foundation could have harmed you, surrounded as you were by your men, your machines, and your mental power."

"My mental power is yet with me, squirmer," said the Mule, "and my men and machines are not far off."

"Truly so, but you are not on Kalgan. You are here in the Kingdom of Tazenda, logically presented to you as the Second Foundation – very logically presented. It had to be so presented, for you are a wise man, First Citizen, and would follow only logic."

"Correct, and it was a momentary victory for your side, but there was still time for me to worm the truth from your man, Channis, and still wisdom in me to realize that such a truth might exist."

"And on our side, oh, not-quite-sufficiently-subtle one, was the realization that you might go that one step further and so Bail Channis was prepared for you."

"That he most certainly was not, for I stripped his brain clean as any plucked chicken. It quivered bare and open before me and when he said Rossem was the Second Foundation, it was basic truth for I had ground him so flat and smooth that not the smidgeon of a deceit could have found refuge in any microscopic crevice."

"True enough. So much the better for our foresight. For I have told you already that Bail Channis was a volunteer. Do you know what sort of a volunteer? Before he left our Foundation for Kalgan and you, he submitted to emotional surgery of a drastic nature. Do you think it was sufficient to deceive you? Do you think Bail Channis, mentally untouched, could possibly deceive you? No, Bail Channis was himself deceived, of necessity and voluntarily. Down to the inmost core of his mind, Bail Channis honestly believes that Rossem is the Second Foundation.

"And for three years now, we of the Second Foundation have built up the appearance of that here in the Kingdom of Tazenda, in preparation and waiting for you. And we have succeeded, have we not? You penetrated to Tazenda, and beyond that, to Rossem – but past that, you could not go."

The Mule was upon his feet: "You dare tell me that Rossem also, is not the Second Foundation?"

Channis, from the floor, felt his bonds burst for good, under a stream of mental force on the part of the First Speaker and strained upright. He let out one long, incredulous cry: "You mean Rossem is *not* the Second Foundation?"

The memories of life, the knowledge of his mind – everything – whirled mistily about him in confusion.

The First Speaker smiled: "You see, First Citizen, Channis is as upset as you are. Of course, Rossem is not the Second Foundation. Are we madmen then, to lead you, our greatest, most powerful, most dangerous enemy to our own world? Oh, no!

"Let your Fleet bombard Rossem, First Citizen, if you must have it so. Let them destroy all they can. For at most they can kill only Channis and myself – and that will leave you in a situation improved not in the least.

"For the Second Foundation's Expedition to Rossem which has been here for three years and has functioned, temporarily, as Elders in this village, embarked yesterday and are returning to Kalgan. They will evade your Fleet, of course, and they will arrive in Kalgan at least a day before you can, which is why I tell you all this. Unless I countermand my orders, when you return, you will find a revolting Empire, a disintegrated realm, and only the men with you in your Fleet here will be loyal to you. They will be hopelessly outnumbered. And moreover, the men of the Second Foundation will be with your Home Fleet and will see to it that you reconvert no one. Your Empire is done, mutant."

Slowly, the Mule bowed his head, as anger and despair cornered his mind completely, "Yes. Too late– Too late– Now I see it."

"Now you see it," agreed the First Speaker, "and now you don't."

In the despair of that moment, when the Mule's mind lay open, the First Speaker – ready for that moment and pre-sure of its nature – entered quickly. It required a rather insignificant fraction of a second to consummate the change completely.

The Mule looked up and said: "Then I shall return to Kalgan?"

"Certainly. How do you feel?"

"Excellently well." His brow puckered: "Who are you?"

"Does it matter?"

"Of course not." He dismissed the matter, and touched Pritcher's shoulder: "Wake up, Pritcher, we're going home."

It was two hours later that Bail Channis felt strong enough to walk by himself. He said: "He won't ever remember?"

"Never. He retains his mental powers and his Empire – but his motivations are now entirely different. The notion of a Second Foundation is a blank to him, and he is a man of peace. He will be a far happier man henceforward, too, for the few years of life left him by his maladjusted physique. And then, after he is dead Seldon's Plan will go on – somehow."

"And it is true," urged Channis, "it is true that Rossem is not the Second Foundation? I could swear – I tell you I *know* it is. I am not mad."

"You are not mad, Channis, merely, as I have said, changed. Rossem is *not* the Second Foundation. Come! We, too, will return home."

LAST INTERLUDE

Bail Channis sat in the small white-tiled room and allowed his mind to relax. He was content to live in the present. There were the walls and the window and the grass outside. They had no names. They were just things. There was a bed and a chair and books that developed themselves idly on the screen at the foot of his bed. There was the nurse who brought him his food.

At first he had made efforts to piece together the scraps of things he had heard. Such as those two men talking together.

One had said: "Complete aphasia now. It's cleaned out, and I think without damage. It will only be necessary to return the recording of his original brain-wave makeup."

He remembered the sounds by rote, and for some reason they seemed peculiar sounds – as if they meant something. But why bother.

Better to watch the pretty changing colors on the screen at the foot of the thing he lay on.

And then someone entered and did things to him and for a long time, he slept.

And when that had passed, the bed was suddenly a bed and he knew he was in a hospital, and the words he remembered made sense.

He sat up: "What's happening?"

The First Speaker was beside him, "You're on the Second Foundation, and you have your mind back – your original mind."

"Yes! Yes!" Channis came to the realization that he was *himself*, and there was incredible triumph and joy in that.

"And now tell me," said the First Speaker, "do you know where the Second Foundation is now?"

And the truth came flooding down in one enormous wave and Channis did not answer. Like Ebling Mis before him, he was conscious of only one vast, numbing surprise.

Until he finally nodded, and said: "By the Stars of the Galaxy – now, I know."

PART II

SEARCH BY THE FOUNDATION

7. ARCADIA

DARELL, ARKADY novelist, born 11, 5, 362 F.E., died 1, 7, 443 F.E. Although primarily a writer of fiction, Arkady Darell is best known for her biography of her grandmother, Bayta Darell. Based on first-hand information, it has for centuries served as a primary source of information concerning the Mule and his times. . . . Like "Unkeyed Memories", her novel "Time and Time and Over" is a stirring reflection of the brilliant Kalganian society of the early Interregnum, based, it is said, on a visit to Kalgan in her youth. . . .

ENCYCLOPEDIA GALACTICA

Arcadia Darell declaimed firmly into the mouthpiece of her transcriber:

"The Future of Seldon's Plan, by A. Darell" and then thought darkly that some day when she was a great writer, she would write all her masterpieces under the pseudonym of Arkady. Just Arkady. No last name at all.

"A. Darell" *would* be just the sort of thing that she would have to put on all her themes for her class in Composition and Rhetoric – so tasteless. All the other kids had to do it, too, except for Olynthus Dam, because the class laughed so when he did it the first time, And "Arcadia" was a little girls name, wished on her because her great-grandmother had been called that; her parents just had no imagination *at all*.

Now that she was two days past fourteen, you'd think they'd recognize the simple fact of adulthood and call her Arkady. Her lips tightened as she thought of her father looking up from his book-viewer just long enough to say, "But if you're going to pretend you're nineteen, Arcadia, what will you do when you're twenty-five and all the boys think you're thirty?"

From where she sprawled across the arms and into the hollow of her own special armchair, she could see the mirror on her dresser. Her foot was a little in the way because her house slipper kept twirling about her big toe, so she pulled it in and sat up with an unnatural straightness to her neck that she felt sure, somehow, lengthened it a full two inches into slim regality.

For a moment, she considered her face thoughtfully – too fat. She opened her jaws half an inch behind closed lips, and caught the resultant trace of unnatural gauntness at every angle. She licked her lips with a quick touch of tongue and let them pout a bit in moist softness. Then she let her eyelids droop in a weary, worldly way– Oh, golly if only her cheeks weren't that silly *pink*.

She tried putting her fingers to the outer corners of her eye and tilting the lids a bit to get that mysterious exotic languor of the women of the inner star systems, but her hands were in the way and she couldn't see her face very well.

Then she lifted her chin, caught herself at a half-profile, and with her eyes a little strained from looking out the corner and her neck muscles faintly aching, she said, in a voice one octave below its natural pitch, "Really, father, if you think it makes a *particle* of difference to me what some silly old boys think you just—"

And then she remembered that she still had the transmitter open in her hand and said, dreadingly, "Oh, golly," and shut it off.

The faintly violet paper with the peach margin line on the left had upon it the following:

"THE FUTURE OF SELDON'S PLAN

"Really, father, if you think it makes a particle of difference to me what some silly old boys think you just"

"Oh, golly."

She pulled the sheet out of the machine with annoyance and another clicked neatly into place.

But her face smoothed out of its vexation, nevertheless, and her wide, little mouth stretched into a self-satisfied smile. She sniffed at the paper delicately. Just right. Just that proper touch of elegance and charm. And the penmanship was just the last word.

The machine had been delivered two days ago on her first adult birthday. She had said, "But father, everybody – just everybody in the class who has the slightest pretensions to *being* anybody has one. Nobody but some old drips would use hand machines—"

The salesman had said, "There is no other model as compact on the one hand and as adaptable on the other. It will spell and punctuate correctly according to the sense of the sentence. Naturally, it is a great aid to education since it encourages the user to employ careful enunciation and breathing in order to make sure of the correct spelling, to say nothing of demanding a proper and elegant delivery for correct punctuation."

Even then her father had tried to get one geared for type-print as if she were some dried-up, old-maid teacher.

But when it was delivered, it was the model she wanted – obtained perhaps with a little more wail and snuffle than quite went with the adulthood of fourteen – and copy was turned out in a charming and entirely feminine handwriting, with the most beautifully graceful capitals anyone ever saw.

Even the phrase, "Oh, golly," somehow breathed glamour when the Transcriber was done with it.

But just the same she had to get it right, so she sat up straight in her chair, placed her first draft before her in businesslike fashion, and began again, crisply and clearly; her

abdomen flat, her chest lifted, and her breathing carefully controlled. She intoned, with dramatic fervor: The Future of Seldon's Plan.

"The Foundation's past history is, I am sure, well-known to all of us who have had the good fortune to be educated in our planet's efficient and well-staffed school system.

(There! That would start things off right with Miss Erlking, that mean old hag.)

That past history is largely the past history of the great Plan of Hari Seldon. The two are one. But the question in the mind of most people today is whether this Plan will continue in all its great wisdom, or whether it will be foully destroyed, or, perhaps, has been so destroyed already.

"To understand this, it may be best to pass quickly over some of the highlights of the Plan as it has been revealed to humanity thus far.

(This part was easy because she had taken Modern History the semester before.)

"In the days, nearly four centuries ago, when the First Galactic Empire was decaying into the paralysis that preceded final death, one man – the great Hari Seldon – foresaw the approaching end. Through the science of psychohistory, the intricacies of whose mathematics has long since been forgotten,

(She paused in a trifle of doubt. She was sure that "intricacies" was pronounced with soft c's but the spelling didn't look right. Oh, well, the machine couldn't very well be wrong–) he and the men who worked with him are able to foretell the course of the great social and economic currents sweeping the Galaxy at the time. It was possible for them to realize that, left to itself, the Empire would break up, and that thereafter there would be at least thirty thousand years of anarchic chaos prior to the establishment of a new Empire.

"It was too late to prevent the great Fall, but it was still possible, at least, to cut short the intermediate period of chaos. The Plan was, therefore, evolved whereby only a single millennium would separate the Second Empire from the First. We are completing the fourth century of that millennium, and many generations of men have lived and died while the Plan has continued its inexorable workings.

"Hari Seldon established two Foundations at the opposite ends of the Galaxy, in a manner and under such circumstances as would yield the best mathematical solution for his psychohistorical problem. In one of these, *our* Foundation, established here on Terminus, there was concentrated the physical science of the Empire, and through the possession of that science, the Foundation was able to withstand the attacks of the barbarous kingdoms which had broken away and become independent, out at the hinge of the Empire.

"The Foundation, indeed, was able to conquer in its turn these short-lived kingdoms by means of the leadership of a series of wise and heroic men like Salvor Hardin and Hober Mallow who were able to interpret the Plan intelligently and to guide our land through its (She had written "intricacies" here also, but decided not to risk it a second time.) complications. All our planets still revere their memories although centuries have passed.

"Eventually, the Foundation established a commercial system which controlled a large portion of the Siwennian and Anacreonian sectors of the Galaxy, and even defeated the remnants of the old Empire under its last great general, Bel Riose. It seemed that nothing could now stop the workings of Seldon's plan. Every crisis that Seldon had planned had come at its appropriate time and had been solved, and with each solution the Foundation had taken another giant stride toward Second Empire and peace.

"And then,

(Her breath came short at this point, and she hissed the word, between her teeth, but the Transmitter simply wrote them calmly and gracefully.) with the last remnants of the dead First Empire gone and with only ineffectual warlords ruling over the splinters and remnants of the decayed colossus,

(She got *that* phrase out of a thriller on the video last week, but old Miss Erlking never listened to anything but symphonies and lectures, so *she'd* never know.) there came the Mule.

"This strange man was not allowed for in the Plan. He was a mutant, whose birth could not have been predicted. He had strange and mysterious power of controlling and manipulating human emotions and in this manner could bend all men to his will. With breath-taking swiftness, he became a conqueror and Empire-builder, until, finally, he even defeated the Foundation itself.

"Yet he never obtained universal dominion, since in his first overpowering lunge he was stopped by the wisdom and daring of a great woman (Now there was that old problem again. Father *would* insist that she never bring up the fact that she was the grandchild of Bayta Darell. Everyone knew it and Bayta was just about the greatest woman there ever was and she *had* stopped the Mule singlehanded.) in a manner the true story of which is known in its entirety to very few.

(There! If she had to read it to the class, that last could he said in a dark voice, and someone would be sure to ask what the true story was, and then – well, and then she couldn't *help* tell the truth if they asked her, could she? In her mind, she was already wordlessly whizzing through a hurt and eloquent explanation to a stern and questioning paternal parent.)

"After five years of restricted rule, another change took place, the reasons for which are not known, and the Mule abandoned all plans for further conquest. His last five years were those of an enlightened despot.

"It is said by some that the change in the Mule was brought about by the intervention of the Second Foundation. However, no man has ever discovered the exact location of this other Foundation, nor knows its exact function, so that theory remains unproven.

"A whole generation has passed since the death of the Mule. What of the future, then, now that he has come and gone? He interrupted Seldon's Plan and seemed to have burst it to fragments, yet as soon as he died, the Foundation rose again, like a nova from the dead ashes of a dying star.

(She had made that up herself.)

Once again, the planet Terminus houses the center of a commercial federation almost as great and as rich as before the conquest, and even more peaceful and democratic.

"Is this planned? Is Seldon's great dream still alive, and will a Second Galactic Empire yet be formed six hundred years from now? I, myself, believe so, because (This was the important part. Miss Erlking always had those large, ugly red-pencil scrawls that went: 'But this is only descriptive. What are your personal reactions? Think! Express yourself! Penetrate your own soul!' Penetrate your own soul. A lot *she* knew about souls, with her lemon face that never smiled in its life—) never at any time has the political situation been so favorable. The old Empire is completely dead and the period of the Mule's rule put an end to the era of warlords that preceded him. Most of the surrounding portions of the Galaxy are civilized and peaceful.

"Moreover the internal health of the Foundation is better than ever before. The despotic times of the pre-Conquest hereditary mayors have given way to the democratic elections of early times. There are no longer dissident worlds of independent Traders; no longer the injustices and dislocations that accompanied accumulations of great wealth in the hands of a few.

"There is no reason, therefore, to fear failure, unless it is true that the Second Foundation itself presents a danger. Those who think so have no evidence to back their claim, but merely vague fears and superstitions. I think that our confidence in ourselves, in our nation, and in Hari Seldon's great Plan should drive from our hearts and minds all uncertainties and (Hm-m-m. This was awfully corny, but something like this was expected at the end.) so I say—"

That is as far as "The Future of Seldon's Plan" got, at that moment, because there was the gentlest little tap on the window, and when Arcadia shot up to a balance on one arm of the chair, she found herself confronted by a smiling face beyond the glass, its even symmetry of feature interestingly accentuated by the short, vertical fine of a finger before its lips.

With the slight pause necessary to assume an attitude of bewilderment, Arcadia dismounted from the armchair, walked to the couch that fronted the wide window that held the apparition and, kneeling upon it, stared out thoughtfully.

The smile upon the man's face faded quickly. While the fingers of one hand tightened whitely upon the sill, the other made a quick gesture. Arcadia obeyed calmly, and closed the latch that moved the lower third of the window smoothly into its socket in the wall, allowing the warm spring air to interfere with the conditioning within.

"You can't get in," she said, with comfortable smugness. "The windows are all screened, and keyed only to people who belong here. If you come in, all sorts of alarms will break loose." A pause, then she added, "You look sort of silly balancing on that ledge underneath the window. If you're not careful, you'll fall and break your neck and a lot of valuable flowers."

"In that case," said the man at the window, who had been thinking that very thing – with a slightly different arrangement of adjectives– "will you shut off the screen and let me in?"

"No use in doing that'" said Arcadia. "You're probably thinking of a different house, because I'm not the kind of girl who lets strange men into their . . . her bedroom this time of night." Her eyes, as she said it, took on a heavy-lidded sultriness – or an unreasonable facsimile thereof.

All traces of humor whatever had disappeared from the young stranger's face. He muttered, "This is Dr. Darell's house, isn't it?"

"Why should I tell you?"

"Oh, Galaxy– Good-by–"

"If you jump off, young man, I will personally give the alarm." (This was intended as a refined and sophisticated thrust of irony, since to Arcadia's enlightened eyes, the intruder was an obviously mature thirty, at least – quite elderly, in fact.)

Quite a pause. Then, tightly, he said, "Well, now, look here, girlie, if you don't want me to stay, and don't want me to go, what *do* you want me to do?"

"You can come in, I suppose. Dr. Darell *does* live here. I'll shut off the screen now."

Warily, after a searching look, the young man poked his hand through the window, then hunched himself up and through it. He brushed at his knees with an angry, slapping gesture, and lifted a reddened face at her.

"You're quite sure that your character and reputation won't suffer when they find me here, are you?"

"Not as much as yours would, because just as soon as I hear footsteps outside, I'll just shout and yell and say you forced your way in here."

"Yes?" he replied with heavy courtesy, "And how do you intend to explain the shut-off protective screen?"

"Poof! That would be easy. There wasn't any there in the first place."

The man's eyes were wide with chagrin. "That was a bluff? How old are you, kid?"

"I consider that a very impertinent question, young man. And I am not accustomed to being addressed as 'kid.'"

"I don't wonder. You're probably the Mule's grandmother in disguise. Do you mind if I leave now before you arrange a lynching party with myself as star performer?"

"You had better not leave – because my father's expecting you."

The man's look became a wary one, again. An eyebrow shot up as he said, lightly, "Oh? Anyone with your father?"

"No."

"Anyone called on him lately?"

"Only tradespeople – and you."

"Anything unusual happen at all?"

"Only you."

"Forget me, will you? No, don't forget me. Tell me, how did you know your father was expecting me?"

"Oh, that was easy. Last week, he received a Personal Capsule, keyed to him personally, with a self-oxidizing message, you know. He threw the capsule shell into the Trash Disinto, and yesterday, he gave Poli – that's our maid, you see – a month's vacation so she could visit her sister in Terminus City, and this afternoon, he made up the bed in the spare room. So I knew he expected somebody that I wasn't supposed to know anything about. Usually, he tells me everything."

"Really! I'm surprised he has to. I should think you'd know everything before he tells you."

"I usually do." Then she laughed. She was beginning to feel very much at ease. The visitor was elderly, but very distinguished-looking with curly brown hair and very blue eyes. Maybe she could meet somebody like that again, sometimes, when she was old herself.

"And just how," he asked, "did you know it was I he expected."

"Well, who else *could* it be? He was expecting somebody in so secrecy a way, if you know what I mean – and then you come gumping around trying to sneak through windows, instead of walking through the front door, the way you would if you had any sense." She remembered a favorite line, and used it promptly. "Men are so stupid!"

"Pretty stuck on yourself, aren't you, kid? I mean, Miss. You could be wrong, you know. What if I told you that all this is a mystery to me and that as far as I know, your father is expecting someone else, not me."

"Oh, I don't think so. I didn't ask you to come in, until after I saw you drop your briefcase."

"My what?"

"Your briefcase, young man. I'm not blind. You didn't drop it by accident, because you looked down *first*, so as to make sure it would land right. Then you must have realized it would land just under the hedges and wouldn't be seen, so you dropped it and *didn't* look down afterwards. Now since you came to the window instead of the front door, it must mean that you were a little afraid to trust yourself in the house before investigating the place. And after you had a little trouble with me, you took care of your briefcase before taking care of yourself, which means that you consider whatever your briefcase has in it to be more valuable than your own safety, and *that* means that as long as you're in here and the briefcase is out there and we know that it's out there, you're probably pretty helpless."

She paused for a much-needed breath, and the man said, grittily, "Except that I think I'll choke you just about medium dead and get out of here, *with* the briefcase."

"Except, young man, that I happen to have a baseball bat under my bed, which I can reach in two seconds from where I'm sitting, and I'm very strong for a girl."

Impasse. Finally, with a strained courtesy, the "young man" said, "Shall I introduce myself, since we're being so chummy. I'm Pelleas Anthon. And your name?"

"I'm Arca– Arkady Darell. Pleased to meet you."

"And now Arkady, would you be a good little girl and call your father?"

Arcadia bridled. "I'm not a little girl. I think you're very rude – especially when you're asking a favor."

Pelleas Anthon sighed. "Very well. Would you be a good, kind, dear, little old lady, just chock full of lavender, and call your father?"

"That's not what I meant either, but I'll call him. Only not so I'll take my eyes off you, young man." And she stamped on the floor.

There came the sound of hurrying footsteps in the hall, and the door was flung open.

"Arcadia—" There was a tiny explosion of exhaled air, and Dr. Darell said, "Who are you, sir?"

Pelleas sprang to his feet in what was quite obviously relief. "Dr. Toran Darell? I am Pelleas Anthon. You've received word about me, I think. At least, your daughter says you have."

"My daughter says I have?" He bent a frowning glance at her which caromed harmlessly off the wide-eyed and impenetrable web of innocence with which she met the accusation.

Dr. Darell said, finally: "I have been expecting you. Would you mind coming down with me, please?" And he stopped as his eye caught a flicker of motion, which Arcadia caught simultaneously.

She scrambled toward her Transcriber, but it was quite useless, since her father was standing right next to it. He said, sweetly, "You've left it going all this time, Arcadia."

"Father," she squeaked, in real anguish, "it is very ungentlemanly to read another person's private correspondence, especially when it's talking correspondence."

"Ah," said her father, "but 'talking correspondence' with a strange man in your bedroom! As a father, Arcadia, I must protect you against evil."

"Oh, golly – it was nothing like *that*."

Pelleas laughed suddenly, "Oh, but it was, Dr. Darell. The young lady was going to accuse me of all sorts of things, and I must insist that you read it, if only to clear *my* name."

"Oh—" Arcadia held back her tears with an effort. Her own father didn't even trust her. And that darned Transcriber— If that silly fool hadn't come gooping at the window, and making her forget to turn it off. And now her father would be making long, gentle speeches about what young ladies aren't supposed to do. There just wasn't anything they were supposed to do, it looked like, except choke and die, maybe.

"Arcadia," said her father, gently, "it strikes me that a young lady—"

She knew it. She knew it.

"—should not be quite so impertinent to men older than she is.

"Well, what did he want to come peeping around my window for? A young lady has a right to privacy— Now I'll have to do my whole darned composition over."

"It's not up to you to question his propriety in coming to your window. You should simply not have let him in. You should have called me instantly – especially if you thought I was expecting him."

She said, peevishly, "It's just as well if you didn't see him – stupid thing. Hell give the whole thing away if he keeps on going to windows, instead of doors."

"Arcadia, nobody wants your opinion on matters you know nothing of."

"I do, too. It's the Second Foundation, that's what it is."

There was a silence. Even Arcadia felt a little nervous stirring in her abdomen.

Dr. Darell said, softly, "Where have you heard this?"

"Nowheres, but what else is there to be so secret about? And you don't have to worry that I'll tell anyone."

"Mr. Anthor," said Dr. Darell, "I must apologize for all this."

"Oh, that's all right," came Anthor's rather hollow response. "It's not your fault if she's sold herself to the forces of darkness. But do you mind if I ask her a question before we go. Miss Arcadia—"

"What do you want?"

"Why do you think it is stupid to go to windows instead of to doors?"

"Because you advertise what you're trying to hide, silly. If I have a secret, I don't put tape over my mouth and let everyone *know* I have a secret. I talk just as much as usual, only about something else. Didn't you ever read any of the sayings of Salvor Hardin? He was our first Mayor, you know."

"Yes, I know."

"Well, he used to say that only a he that wasn't ashamed of itself could possibly succeed. He also said that nothing had to *be* true, but everything had to *sound* true. Well, when you come in through a window, it's a lie that's ashamed of itself and it doesn't sound true."

"Then what would you have done?"

"If I had wanted to see my father on top secret business, I would have made his acquaintance openly and seen him about all sorts of strictly legitimate things. And then when everyone knew all about you and connected you with my father as a matter of course, you could be as top secret as you want and nobody would ever think of questioning it."

Anthor looked at the girl strangely, then at Dr. Darell. He said, "Let's go. I have a briefcase I want to pick up in the garden. Wait! Just one last question. Arcadia, you don't really have a baseball bat under your bed, do you?"

"No! I don't."

"Hah. I didn't think so."

Dr. Darell stopped at the door. "Arcadia," he said, "when you rewrite your composition on the Seldon Plan, don't be unnecessarily mysterious about your grandmother. There is no necessity to mention that part at all."

He and Pelleas descended the stairs in silence. Then the visitor asked in a strained voice, "Do you mind, sir? How old is she?"

"Fourteen, day before yesterday."

"Fourteen? Great Galaxy— Tell me, has she ever said she expects to marry some day?"

"No, she hasn't. Not to me."

Well, if she ever does, shoot him. The one she's going to marry, I mean." He stared earnestly into the older man's eyes. "I'm serious. Life could hold no greater horror than living with what shall be like when she's twenty. I don't mean to offend you, of course."

"You don't offend me. I think I know what you mean."

Upstairs, the object of their tender analyses faced the Transcriber with revolted weariness and said, dully: "Thefutureofseldonsplan." The Transcriber with infinite aplomb, translated that into elegantly, complicated script capitals as:

"The Future of Seldon's Plan."

8. SELDON'S PLAN

MATHEMATICS The synthesis of the calculus of n -variables and of n -dimensional geometry is the basis of what Seldon once called "my little algebra of humanity". . . .

ENCYCLOPEDIA GALACTICA

Consider a room!

The location of the room is not in question at the moment. It is merely sufficient to say that in that room, more than anywhere, the Second Foundation existed.

It was a room which, through the centuries, had been the abode of pure science — yet it had none of the gadgets with which, through millennia of association, science has come to be considered equivalent. It was a science, instead, which dealt with mathematical concepts only, in a manner similar to the speculation of ancient, ancient races in the primitive, prehistoric days before technology had come to be; before Man had spread beyond a single, now-unknown world.

For one thing, there was in that room — protected by a mental science as yet unassailable by the combined physical might of the rest of the Galaxy — the Prime Radiant, which held in its vitals the Seldon Plan — complete.

For another, there was a man, too, in that room — The First Speaker.

He was the twelfth in the line of chief guardians of the Plan, and his title bore no deeper significance than the fact that at the gatherings of the leaders of the Second Foundation, he spoke first.

His predecessor had beaten the Mule, but the wreckage of that gigantic struggle still littered the path of the Plan— For twenty-five years, he, and his administration, had been trying to force a Galaxy of stubborn and stupid human beings back to the path— It was a terrible task.

The First Speaker looked up at the opening door. Even while, in the loneliness of the room, he considered his quarter century of effort, which now so slowly and inevitably approached its climax; even while he had been so engaged, his mind had been considering the newcomer with a gentle expectation. A youth, a student, one of those who might take over, eventually.

The young man stood uncertainly at the door, so that the First Speaker had to walk to him and lead him in, with a friendly hand upon the shoulder.

The Student smiled shyly, and the First Speaker responded by saying, "First, I must tell you why you are here."

They faced each other now, across the desk. Neither was speaking in any way that could be recognized as such by any man in the Galaxy who was not himself a member of the Second Foundation.

Speech, originally, was the device whereby Man learned, imperfectly, to transmit the thoughts and emotions of his mind. By setting up arbitrary sounds and combinations of sounds to represent certain mental nuances, he developed a method of communication – but one which in its clumsiness and thick-thumbed inadequacy degenerated all the delicacy of the mind into gross and guttural signaling.

Down– down– the results can be followed; and all the suffering that humanity ever knew can be traced to the one fact that no man in the history of the Galaxy, until Hari Seldon, and very few men thereafter, could really understand one another. Every human being lived behind an impenetrable wall of choking mist within which no other but he existed. Occasionally there were the dim signals from deep within the cavern in which another man was located–so that each might grope toward the other. Yet because they did not know one another, and could not understand one another, and dared not trust one another, and felt from infancy the terrors and insecurity of that ultimate isolation – there was the hunted fear of man for man, the savage rapacity of man toward man.

Feet, for tens of thousands of years, had clogged and shuffled in the mud – and held down the minds which, for an equal time, had been fit for the companionship of the stars.

Grimly, Man had instinctively sought to circumvent the prison bars of ordinary speech. Semantics, symbolic logic, psychoanalysis – they had all been devices whereby speech could either be refined or by-passed.

Psychohistory had been the development of mental science, the final mathematicization thereof, rather, which had finally succeeded. Through the development of the mathematics necessary to understand the facts of neural physiology and the electrochemistry of the nervous system, which themselves had to be, *had to be*, traced down to nuclear forces, it first became possible to truly develop psychology. And through the generalization of psychological knowledge from the individual to the group, sociology was also mathematicized.

The larger groups; the billions that occupied planets; the trillions that occupied Sectors; the quadrillions that occupied the whole Galaxy, became, not simply human

beings, but gigantic forces amenable to statistical treatment – so that to Hari Seldon, the future became clear and inevitable, and the Plan could be set up.

The same basic developments of mental science that had brought about the development of the Seldon Plan, thus made it also unnecessary for the First Speaker to use words in addressing the Student.

Every reaction to a stimulus, however slight, was completely indicative of all the trifling changes, of all the flickering currents that went on in another's mind. The First Speaker could not sense the emotional content of the Student's instinctively, as the Mule would have been able to do – since the Mule was a mutant with powers not ever likely to become completely comprehensible to any ordinary man, even a Second Foundationer – rather he deduced them, as the result of intensive training.

Since, however, it is inherently impossible in a society based on speech to indicate truly the method of communication of Second Foundationers among themselves, the whole matter will be hereafter ignored. The First Speaker will be represented as speaking in ordinary fashion, and if the translation is not always entirely valid, it is at least the best that can be done under the circumstances.

It will be pretended therefore, that the First Speaker *did* actually say, "First, I must tell you why you are here," instead of smiling *just* so and lifting a finger *exactly* thus.

The First Speaker said, "You have studied mental science hard and well for most of your life. You have absorbed all your teachers could give you. It is time for you and a few others like yourself to begin your apprenticeship for Speakerhood."

Agitation from the other side of the desk.

"No – now you must take this phlegmatically. You had hoped you would qualify. You had feared you would not. Actually, both hope and fear are weaknesses. You *knew* you would qualify and you hesitate to admit the fact because such knowledge might stamp you as cocksure and therefore unfit. Nonsense! The most hopelessly stupid man is he who is not aware that he is wise. It is part of your qualification that you *knew* you would qualify."

Relaxation on the other side of the desk.

"Exactly. Now you feel better and your guard is down. You are fitter to concentrate and fitter to understand. Remember, to be truly effective, it is not necessary to hold the mind under a tight, controlling barrier which to the intelligent probe is as informative as a naked mentality. Rather, one should cultivate an innocence, an awareness of self, and an unself-consciousness of self which leaves one nothing to hide. My mind is open to you. Let this be so for both of us."

He went on. "It is not an easy thing to be a Speaker. It is not an easy thing to be a Psychohistorian in the first place; and not even the best Psychohistorian need necessarily qualify to be a Speaker. There is a distinction here. A Speaker must not only be aware of the mathematical intricacies of the Seldon Plan; he must have a sympathy for it and for its ends. He must *love* the Plan; to him it must be life and breath. More than that it must even be as a living friend.

"Do you know what this is?"

The First Speaker's hand hovered gently over the black, shining cube in the middle of the desk. It was featureless.

"No, Speaker, I do not."

"You have heard of the Prime Radiant?"

"This?" –Astonishment.

"You expected something more noble and awe-inspiring? Well, that is natural. It was created in the days of the Empire, by men of Seldon's time. For nearly four hundred years, it has served our needs perfectly, without requiring repairs or adjustment. And fortunately so, since none of the Second Foundation is qualified to handle it in any technical fashion." He smiled gently. "Those of the First Foundation might be able to duplicate this, but they must never know, of course."

He depressed a lever on his side of the desk and the room was in darkness. But only for a moment, since with a gradually livening flush, the two long walls of the room glowed to life. First, a pearly white, unrelieved, then a trace of faint darkness here and there, and finally, the fine neatly printed equations in black, with an occasional red hairline that wavered through the darker forest like a staggering rillet.

"Come, my boy, step here before the wall. You will not cast a shadow. This light does not radiate from the Radiant in an ordinary manner. To tell you the truth, I do not know even faintly by what medium this effect is produced, but you will not cast a shadow. I know that."

They stood together in the light. Each wall was thirty feet long, and ten high. The writing was small and covered every inch.

"This is not the whole Plan," said the First Speaker. "To get it all upon both walls, the individual equations would have to be reduced to microscopic size – but that is not necessary. What you now see represents the main portions of the Plan till now. You have learned about this, have you not?"

"Yes, Speaker, I have."

"Do you recognize any portion."

A slow silence. The student pointed a finger and as he did so, the line of equations marched down the wall, until the single series of functions he had thought of – one could scarcely consider the quick, generalized gesture of the finger to have been sufficiently precise – was at eye-level.

The First Speaker laughed softly, "You will find the Prime Radiant to be attuned to your mind. You may expect more surprises from the little gadget. What were you about to say about the equation you have chosen?"

"It," faltered the Student, "is a Rigellian integral, using a planetary distribution of a bias indicating the presence of two chief economic classes on the planet, or maybe a Sector, plus an unstable emotional pattern."

"And what does it signify?"

"It represents the limit of tension, since we have here" – he pointed, and again the equations veered – "a converging series."

"Good," said the First Speaker. "And tell me, what do you think of all this. A finished work of art, is it not?"

"Definitely!"

"Wrong! It is not." This, with sharpness. "It is the first lesson you must unlearn. The Seldon Plan is neither complete nor correct. Instead, it is merely the best that could be done at the time. Over a dozen generations of men have pored over these equations, worked at them, taken them apart to the last decimal place, and put them together again. They've done more than that. They've watched nearly four hundred years pass and against the predictions and equations, they've checked reality, and they have learned.

"They have learned more than Seldon ever knew, and if with the accumulated knowledge of the centuries we could repeat Seldon's work, we could do a better job. Is that perfectly clear to you?"

The Student appeared a little shocked.

"Before you obtain your Speakerhood," continued the First Speaker, "you yourself will have to make an original contribution to the Plan. It is not such great blasphemy. Every red mark you see on the wall is the contribution of a man among us who lived since Seldon. Why . . . why—" He looked upward, "There!"

The whole wall seemed to whirl down upon him.

"This," he said, "is mine." A fine red line encircled two forking arrows and included six square feet of deductions along each path. Between the two were a series of equations in red.

"It does not," said the Speaker, "seem to be much. It is at a point in the Plan which we will not reach yet for a time as long as that which has already passed. It is at the period of coalescence, when the Second Empire that is to be is in the grip of rival personalities who will threaten to pull it apart if the fight is too even, or clamp it into rigidity, if the fight is too uneven. Both possibilities are considered here, followed, and the method of avoiding either indicated.

"Yet it is all a matter of probabilities and a third course can exist. It is one of comparatively low likelihood – twelve point six four percent, to be exact – but even smaller chances have *already* come to pass and the Plan is only forty percent complete. This third probability consists of a possible compromise between two or more of the conflicting personalities being considered. This, I showed, would first freeze the Second Empire into an unprofitable mold, and then, eventually, inflict more damage through civil wars than would have taken place had a compromise never been made in the first place. Fortunately, that could be prevented, too. And that was my contribution."

"If I may interrupt, Speaker— How is a change made?"

"Through the agency of the Radiant. You will find in your own case, for instance, that your mathematics will be checked rigorously by five different boards; and that you will be required to defend it against a concerted and merciless attack. Two years will then pass, and your development will be reviewed again. It has happened more than once that a seemingly perfect piece of work has uncovered its fallacies only after an induction period of months or years. Sometimes, the contributor himself discovers the flaw.

"If, after two years, another examination, not less detailed than the first, still passes it, and – better still – if in the interim the young scientist has brought to light additional details, subsidiary evidence, the contribution will be added to the Plan. It was the climax of my career; it will be the climax of yours.

"The Prime Radiant can be adjusted to your mind, and all corrections and additions can be made through mental rapport. There will be nothing to indicate that the correction or addition is yours. In all the history of the Plan there has been no personalization. It is rather a creation of all of us together. Do you understand?"

"Yes, Speaker!"

"Then, enough of that." A stride to the Prime Radiant, and the walls were blank again save for the ordinary room-lighting region along the upper borders. "Sit down here at my desk, and let me talk to you. It is enough for a Psychohistorian, as such, to know his Biostatistics and his Neurochemical Electromathematics. Some know nothing else and are fit only to be statistical technicians. But a Speaker must be able to discuss the Plan without mathematics. If not the Plan itself, at least its philosophy and its aims.

"First of all, what is the aim of the Plan? Please tell me in your own words – and don't grope for fine sentiment. You won't be judged on polish and suavity, I assure you."

It was the Student's first chance at more than a bisyllable, and he hesitated before plunging into the expectant space cleared away for him. He said, diffidently: "As a result of what I have learned, I believe that it is the intention of the Plan to establish a human civilization based on an orientation entirely different from anything that ever before existed. An orientation which, according to the findings of Psychohistory, could never *spontaneously* come into being–"

"Stop!" The First Speaker was insistent. 'You must not say 'never.' That is a lazy slurring over of the facts. Actually, Psychohistory predicts only probabilities. A particular event may be infinitesimally probable, but the probability is always greater than zero."

"Yes, Speaker. The orientation desired, if I may correct myself, then, is well known to possess no significant probability of spontaneously coming to pass."

"Better. What is the orientation?"

"It is that of a civilization based on mental science. In all the known history of Mankind, advances have been made primarily in physical technology; in the capacity of handling the inanimate world about Man. Control of self and society has been left to chance or to the vague gropings of intuitive ethical systems based on inspiration and emotion. As a result, no culture of greater stability than about fifty-five percent has ever existed, and these only as the result of great human misery."

"And why is the orientation we speak of a nonspontaneous one?"

"Because a large minority of human beings are mentally equipped to take part in the advance of physical science, and all receive the crude and visible benefits thereof. Only an insignificant minority, however, are inherently able to lead Man through the greater involvements of Mental Science; and the benefits derived therefrom, while longer lasting, are more subtle and less apparent. Furthermore, since such an orientation would lead to the development of a benevolent dictatorship of the mentally best – virtually a

higher subdivision of Man – it would be resented and could not be stable without the application of a force which would depress the rest of Mankind to brute level. Such a development is repugnant to us and must be avoided."

"What, then, is the solution?"

"The solution is the Seldon Plan. Conditions have been so arranged and so maintained that in a millennium from its beginnings – six hundred years from now, a Second Galactic Empire will have been established in which Mankind will be ready for the leadership of Mental Science. In that same interval, the Second Foundation in *its* development, will have brought forth a group of Psychologists ready to assume leadership. Or, as I have myself often thought, the First Foundation supplies the physical framework of a single political unit, and the Second Foundation supplies the mental framework of a ready-made ruling class."

"I see. Fairly adequate. Do you think that *any* Second Empire, even if formed in the time set by Seldon, would do as a fulfillment of his Plan?"

"No, Speaker, I do not. There are several possible Second Empires that may be formed in the period of time stretching from nine hundred to seventeen hundred years after the inception of the Plan, but only one of these is *the* Second Empire."

"And in view of all this, why is it necessary that the existence of the Second Foundation be hidden – above all, from the First Foundation?"

The Student probed for a hidden meaning to the question and failed to find it. He was troubled in his answer, "For the same reason that the details of the Plan as a whole must be hidden from Mankind in general. The laws of Psychohistory are statistical in nature and are rendered invalid if the actions of individual men are not random in nature. If a sizable group of human beings learned of key details of the Plan, their actions would be governed by that knowledge and would no longer be random in the meaning of the axioms of Psychohistory. In other words, they would no longer be perfectly predictable. Your pardon, Speaker, but I feel that the answer is not satisfactory."

"It is well that you do. Your answer is quite incomplete. It is the Second Foundation itself which must be hidden, not simply the Plan. The Second Empire is not yet formed. We have still a society which would resent a ruling class of psychologists, and which would fear its development and fight against it. Do you understand that?"

"Yes, Speaker, I do. The point has never been stressed–"

"Don't minimize. It has never been made – in the classroom, though you should be capable of deducing it yourself. This and many other points we will make now and in the near future during your apprenticeship. You will see me again in a week. By that time, I would like to have comments from you as to a certain problem which I now set before you. I don't want complete and rigorous mathematical treatment. That would take a year for an expert, and not a week for you. But I do want an indication as to trends and directions"

"You have here a fork in the Plan at a period in time of about half a century ago. The necessary details are included. You will note that the path followed by the assumed reality diverges from all the plotted predictions; its probability being under one percent.

You will estimate for how long the divergence may continue before it becomes uncorrectable. Estimate also the probable end if uncorrected, and a reasonable method of correction."

The Student flipped the Viewer at random and looked stonily at the passages presented on the tiny, built-in screen.

He said: "Why this particular problem, Speaker? It obviously has significance other than purely academic."

"Thank you, my boy. You are as quick as I had expected. The problem is not supposititious. Nearly half a century ago, the Mule burst into Galactic history and for ten years was the largest single fact in the universe. He was unprovided for; uncalculated for. He bent the Plan seriously, but not fatally.

"To stop him before he *did* become fatal, however, we were forced to take active part against him. We revealed our existence, and infinitely worse, a portion of our power. The First Foundation has learned of us, and their actions are now predicated on that knowledge. Observe in the problem presented. Here. And here.

"Naturally, you will not speak of this to anyone."

There was an appalled pause, as realization seeped into the Student. He said: "Then the Seldon Plan has failed!"

"Not yet. It merely may have failed. The probabilities of success are *still* twenty-one point four percent, as of the last assessment."

9. THE CONSPIRATORS

For Dr. Darell and Pelleas Anthor, the evenings passed in friendly intercourse; the days in pleasant unimportance. It might have been an ordinary visit. Dr. Darell introduced the young man as a cousin from across space, and interest was dulled by the cliché.

Somehow, however, among the small talk, a name might be mentioned. There would be an easy thoughtfulness. Dr. Darell might say, "No," or he might say, "Yes." A call on the open Communi-wave issued a casual invitation, "Want you to meet my cousin."

And Arcadia's preparations proceeded in their own manner. In fact, her actions might be considered the least straightforward of all.

For instance, she induced Olynthus Dam at school to donate to her a home-built, self-contained sound-receiver by methods which indicated a future for her that promised peril to all males with whom she might come into contact. To avoid details, she merely exhibited such an interest in Olynthus' self-publicized hobby – he had a home workshop-combined with such a well-modulated transfer of this interest to Olynthus' own pudgy features, that the unfortunate youth found himself: 1) discoursing at great and animated length upon the principles of the hyperwave motor; 2) becoming dizzyingly aware of the great, absorbed eyes that rested so lightly upon his; and 3) forcing into her willing hands his own greatest creation, the aforesaid sound-receiver.

Arcadia cultivated Olynthus in diminishing degree thereafter for just long enough to remove all suspicion that the sound-receiver had been the cause of the friendship. For months afterwards, Olynthus felt the memory of that short period in his life over and over again with the tendrils of his mind, until finally, for lack of further addition, he gave up and let it slip away.

When the seventh evening came, and five men sat in the Darell living room with food within and tobacco without, Arcadia's desk upstairs was occupied by this quite unrecognizable home-product of Olynthus' ingenuity.

Five men then. Dr. Darell, of course, with graying hair and meticulous clothing, looking somewhat older than his forty-two years. Pelleas Anthor, serious and quick-eyed at the moment looking young and unsure of himself. And the three new men: Jole Turbor, visicaster, bulky and plump-lipped; Dr. Elvett Semic, professor-emeritus of physics at the University, scrawny and wrinkled, his clothes only half-filled; Homir Munn, librarian, lanky and terribly ill-at-ease.

Dr. Darell spoke easily, in a normal, matter-of-fact tone: "This gathering has been arranged, gentlemen, for a trifle more than merely social reasons. You may have guessed this. Since you have been deliberately chosen because of your backgrounds, you may also guess the danger involved. I won't minimize it, but I will point out that we are all condemned men, in any case.

"You will notice that none of you have been invited with any attempt at secrecy. None of you have been asked to come here unseen. The windows are not adjusted to non-insight. No screen of any sort is about the room. We have only to attract the attention of the enemy to be ruined; and the best way to attract that attention is to assume a false and theatrical secrecy.

(Hah, thought Arcadia, bending over the voices coming – a bit screechily – out of the little box.)

"Do you understand that?"

Elvett Semic twitched his lower lip and bared his teeth in the screwup, wrinkled gesture that preceded his every sentence. "Oh, get on with it. Tell us about the youngster."

Dr. Darell said, "Pelleas Anthor is his name. He was a student of my old colleague, Kleise, who died last year. Kleise sent me his brain-pattern to the fifth sublevel, before he died, which pattern has been now checked against that of the man before you. You know, of course, that a brain-pattern cannot be duplicated that far, even by men of the Science of Psychology. If you don't know that, you'll have to take my word for it."

Turbor said, purse-lipped, "We might as well make a beginning somewhere. We'll take your word for it, especially since you're the greatest electroneurologist in the Galaxy now that Kleise is dead. At least, that is the way I've described you in my visicast comment, and I even believe it myself. How old are you, Anthor?"

"Twenty-nine, Mr. Turbor."

"Hm-m-m. And are you an electroneurologist, too? A great one?"

"Just a student of the science. But I work hard, and I've had the benefit of Kleise's training."

Munn broke in. He had a slight stammer at periods of tension. "I . . . I wish you'd get started. I think everyone's talking too much."

Dr. Darell lifted an eyebrow in Munn's direction. "You're right, Homir. Take over, Pelleas."

"Not for a while," said Pelleas Anthor, slowly, "because before we can get started – although I appreciate Mr. Munn's sentiment – I must request brain-wave data."

Darell frowned. "What is this, Anthor? What brain-wave data do you refer to?"

"The patterns of all of you. You have taken mine, Dr. Darell. I must take yours and those of the rest of you. And I must take the measurements myself."

Turbor said, "There's no reason for him to trust us, Darell. The young man is within his rights."

"Thank you," said Anthor. "If you'll lead the way to your laboratory then, Dr. Darell, we'll proceed. I took the liberty this morning of checking your apparatus."

The science of electroencephalography was at once new and old. It was old in the sense that the knowledge of the microcurrents generated by nerve cells of living beings belonged to that immense category of human knowledge whose origin was completely lost. It was knowledge that stretched back as far as the earliest remnants of human history –

And yet it was new, too. The fact of the existence of microcurrents slumbered through the tens of thousands of years of Galactic Empire as one of those vivid and whimsical, but quite useless, items of human knowledge. Some had attempted to form classifications of waves into waking and sleeping, calm and excited, well and ill – but even the broadest conceptions had had their hordes of vitiating exceptions.

Others had tried to show the existence of brain-wave groups, analogous to the well-known blood groups, and to show that external environment was the defining factor. These were the race-minded people who claimed that Man could be divided into subspecies. But such a philosophy could make no headway against the overwhelming ecumenical drive involved in the fact of Galactic Empire – one political unit covering twenty million stellar systems, involving all of Man from the central world of Trantor – now a gorgeous and impossible memory of the great past – to the loneliest asteroid on the periphery.

And then again, in a society given over, as that of the First Empire was, to the physical sciences and inanimate technology, there was a vague but mighty sociological *push* away from the study of the mind. It was less respectable because less immediately useful; and it was poorly financed since it was less profitable.

After the disintegration of the First Empire, there came the fragmentation of organized science, back, back – past even the fundamentals of atomic power into the chemical power of coal and oil. The one exception to this, of course, was the First Foundation where the spark of science, revitalized and grown more intense was

maintained and fed to flame. Yet there, too, it was the physical that ruled, and the brain, except for surgery, was neglected ground.

Hari Seldon was the first to express what afterwards came to be accepted as truth.

"Neural microcurrents," he once said, "carry within them the spark of every varying impulse and response, conscious and unconscious. The brain-waves recorded on neatly squared paper in trembling peaks and troughs are the mirrors of the combined thought-pulses of billions of cells. Theoretically, analysis should reveal the thoughts and emotions of the subject, to the last and least. Differences should be detected that are due not only to gross physical defects, inherited or acquired, but also to shifting states of emotion, to advancing education and experience, even to something as subtle as a change in the subject's philosophy of life."

But even Seldon could approach no further than speculation.

And now for fifty years, the men of the First Foundation had been tearing at that incredibly vast and complicated storehouse of new knowledge. The approach, naturally, was made through new techniques – as, for example, the use of electrodes at skull sutures by a newly-developed means which enabled contact to be made directly with the gray cells, without even the necessity of shaving a patch of skull. And then there was a recording device which automatically recorded the brain-wave data as an overall total, and as separate functions of six independent variables.

What was most significant, perhaps, was the growing respect in which encephalography and the encephalographer was held. Kleise, the greatest of them, sat at scientific conventions on an equal basis with the physicist. Dr. Darell, though no longer active in the science, was known for his brilliant advances in encephalographic analysis almost as much as for the fact that he was the son of Bayta Darell, the great heroine of the past generation.

And so now, Dr. Darell sat in his own chair, with the delicate touch of the feathery electrodes scarcely hinting at pressure upon his skull, while the vacuum-incased needles wavered to and fro. His back was to the recorder – otherwise, as was well known, the sight of the moving curves induced an unconscious effort to control them, with noticeable results – but he knew that the central dial was expressing the strongly rhythmic and little-varying Sigma curve, which was to be expected of his own powerful and disciplined mind. It would be strengthened and purified in the subsidiary dial dealing with the Cerebellar wave. There would be the sharp, near-discontinuous leaps from the frontal lobe, and the subdued shakiness from the subsurface regions with its narrow range of frequencies–

He knew his own brain-wave pattern much as an artist might be perfectly aware of the color of his eyes.

Pelleas Anthor made no comment when Darell rose from the reclining chair. The young man abstracted the seven recordings, glanced at them with the quick, all-embracing eyes of one who knows exactly what tiny facet of near-nothingness is being looked for.

"If you don't mind, Dr. Semic."

Semic's age-yellowed face was serious. Electroencephalography was a science of his old age of which he knew little; an upstart that he faintly resented. He knew that he was old and that his wave-pattern would show it. The wrinkles on his face showed it, the stoop in his walk, the shaking of his hand – but *they* spoke only of his body. The brain-wave patterns might show that his mind was old, too. An embarrassing and unwarranted invasion of a man's last protecting stronghold, his own mind.

The electrodes were adjusted. The process did not hurt, of course, from beginning to end. There was just that tiny tingle, far below the threshold of sensation.

And then came Turbor, who sat quietly and unemotionally through the fifteen minute process, and Munn, who jerked at the first touch of the electrodes and then spent the session rolling his eyes as though he wished he could turn them backwards and watch through a hole in his occiput.

"And now—" said Darell, when all was done.

"And now," said Anthor, apologetically, "there is one more person in the house."

Darell, frowning, said: "My daughter?"

"Yes. I suggested that she stay home tonight, if you'll remember."

"For encephalographical analysis? What in the Galaxy for?"

"I cannot proceed without it."

Darell shrugged and climbed the stairs. Arcadia, amply warned, had the sound-receiver off when he entered; then followed him down with mild obedience. It was the first time in her life – except for the taking of her basic mind pattern as an infant, for identification and registration purposes – that she found herself under the electrodes.

"May I see," she asked, when it was over, holding out her hand.

Dr. Darell said, "You would not understand, Arcadia. Isn't it time for you to go to bed?"

"Yes, father," she said, demurely. "Good night, all."

She ran up the stairs and plumped into bed with a minimum of basic preparation. With Olynthus' sound-receiver propped beside her pillow, she felt like a character out of a book-film, and hugged every moment of it close to her chest in an ecstasy of "Spy-stuff."

The first words she heard were Anthor's and they were: "The analyses, gentlemen, are all satisfactory. The child's as well."

Child, she thought disgustedly, and bristled at Anthor in the darkness.

Anthor had opened his briefcase now, and out of it, he took several dozen brain-wave records. They were not originals. Nor had the briefcase been fitted with an ordinary lock. Had the key been held in any hand other than his own, the contents thereof would have silently and instantly oxidized to an indecipherable ash. Once removed from the briefcase, the records did so anyway after half an hour.

But during their short lifetime, Anthor spoke quickly. "I have the records here of several minor government officials at Anacreon. This is a psychologist at Locris University; this an industrialist at Siwenna. The rest are as you see."

They crowded closely. To all but Darell, they were so many quivers on parchment. To Darell, they shouted with a million tongues.

Author pointed lightly, "I call your attention, Dr. Darell, to the plateau region among the secondary Tauian waves in the frontal lobe, which is what all these records have in common. Would you use my Analytical Rule, sir, to check my statement?"

The Analytical Rule might be considered a distant relation – as a skyscraper is to a shack – of that kindergarten toy, the logarithmic Slide Rule. Darell used it with the wristflip of long practice. He made freehand drawings of the result and, as Author stated, there were featureless plateaus in frontal lobe regions where strong swings should have been expected.

"How would you interpret that, Dr. Darell?" asked Author.

"I'm not sure. Offhand, I don't see how it's possible. Even in cases of amnesia, there is suppression, but not removal. Drastic brain surgery, perhaps?"

"Oh, something's been cut out," cried Author, impatiently, "yes! Not in the physical sense, however. You know, the Mule could have done just that. He could have suppressed completely all capacity for a certain emotion or attitude of mind, and leave nothing but just such a flatness. Or else–"

"Or else the Second Foundation could have done it. Is that it?" asked Turbor, with a slow smile.

There was no real need to answer that thoroughly rhetorical question.

"What made you suspicious, Mr. Author?" asked Munn.

"It wasn't I. It was Dr. Kleise. He collected brain-wave patterns much as the Planetary Police do, but along different lines. He specialized in intellectuals, government officials and business leaders. You see, it's quite obvious that if the Second Foundation is directing the historical course of the Galaxy – of us – that they must do it subtly and in as minimal a fashion as possible. If they work through minds, as they must, it is the minds of people with influence; culturally, industrially, or politically. And with those he concerned himself."

"Yes," objected Munn, "but is there corroboration? How do these people act – I mean the ones with the plateau. Maybe it's all a perfectly normal phenomenon." He looked hopelessly at the others out of his, somehow, childlike blue eyes, but met no encouraging return.

"I leave that to Dr. Darell," said Author. "Ask him how many times he's seen this phenomenon in his general studies, or in reported cases in the literature over the past generation. Then ask him the chances of it being discovered in almost one out of every thousand cases among the categories Dr. Kleise studied."

"I suppose that there is no doubt," said Darell, thoughtfully, "that these are artificial mentalities. They have been tampered with. In a way, I have suspected this–"

"I know that, Dr. Darell," said Author. "I also know you once worked with Dr. Kleise. I would like to know why you stopped."

There wasn't actually hostility in his question. Perhaps nothing more than caution; but, at any rate, it resulted in a long pause. Darell looked from one to another of his guests, then said brusquely, "Because there was no point to Kleise's battle. He was competing with an adversary too strong for him. He was detecting what we – he and I –

knew he would detect – that we were not our own masters. *And I didn't want to know!* I had my self-respect. I liked to think that our Foundation was captain of its collective soul; that our forefathers had not quite fought and died for nothing. I thought it would be most simple to turn my face away as long as I was not quite sure. I didn't need my position since the Government pension awarded to my mother's family in perpetuity would take care of my uncomplicated needs. My home laboratory would suffice to keep boredom away, and life would some day end– Then Kleise died–"

Semic showed his teeth and said: "This fellow Kleise; I don't know him. How did he die?"

Anchor cut in: "He *died*. He thought he would. He told me half a year before that he was getting too close--"

"Now we're too c . . . close, too, aren't we?" suggested Munn, dry-mouthed, as his Adam's apple jiggled.

"Yes," said Anchor, flatly, "but we were, anyway – all of us. It's why you've all been chosen. I'm Kleise's student. Dr. Darell was his colleague. Jole Turbor has been denouncing our blind faith in the saving hand of the Second Foundation on the air, until the government shut him off – through the agency, I might mention, of a powerful financier whose brain shows what Kleise used to call the Tamper Plateau. Homir Munn has the largest home collection of Muliana – if I may use the phrase to signify collected data concerning the Mule – in existence, and has published some papers containing speculation on the nature and function of the Second Foundation. Dr. Semic has contributed as much as anyone to the mathematics of encephalographic analysis, though I don't believe he realized that his mathematics could be so applied."

Semic opened his eyes wide and chuckled gaspingly, "No, young fellow. I was analyzing intranuclear motions – the n-body problem, you know. I'm lost in encephalography."

"Then we know where we stand. The government can, of course, do nothing about the matter. Whether the mayor or anyone in his administration is aware of the seriousness of the situation, I don't know. But this I do know – we five have nothing to lose and stand to gain much. With every increase in our knowledge, we can widen ourselves in safe directions. We are but a beginning, you understand."

"How widespread," put in Turbor, "is this Second Foundation infiltration?"

"I don't know. There's a flat answer. All the infiltrations we have discovered were on the outer fringes of the nation. The capital world may yet be clean, though even that is not certain – else I would not have tested you. You were particularly suspicious, Dr. Darell, since you abandoned research with Kleise. Kleise never forgave you, you know. I thought that perhaps the Second Foundation had corrupted you, but Kleise always insisted that you were a coward. You'll forgive me, Dr. Darell, if I explain this to make my own position clear. I, personally, think I understand your attitude, and, if it was cowardice, I consider it venial."

Darell drew a breath before replying. "I ran away! Call it what you wish. I tried to maintain our friendship, however, yet he never wrote nor called me until the day he sent me your brainwave data, and that was scarcely a week before he died—"

"If you don't mind," interrupted Homir Munn, with a flash of nervous eloquence, "I d . . . don't see what you think you're doing. We're a p . . . poor bunch of conspirators, if we're just going to talk and talk and t . . . talk. And I don't see what else we can do, anyway. This is v . . . very childish. B . . . brain-waves and mumbo jumbo and all that. Is there just one thing you intend to *do*?"

Pelleas Author's eyes were bright, "Yes, there is. We need more information on the Second Foundation. It's the prime necessity. The Mule spent the first five years of his rule in just that quest for information and failed – or so we have all been led to believe. But then he stopped looking. Why? Because he failed? Or because he succeeded?"

"M . . . more talk," said Munn, bitterly. "How are we ever to know?"

"If you'll listen to me— The Mule's capital was on Kalgan. Kalgan was not part of the Foundation's commercial sphere of influence before the Mule and it is not part of it now. Kalgan is ruled, at the moment, by the man, Stettin, unless there's another palace revolution by tomorrow. Stettin calls himself First Citizen and considers himself the successor of the Mule. If there is any tradition in that world, it rests with the super-humanity and greatness of the Mule – a tradition almost superstitious in intensity. As a result, the Mule's old palace is maintained as a shrine. No unauthorized person may enter; nothing within has ever been touched."

"Well?"

"Well, why is that so? At times like these, nothing happens without a reason. What if it is not superstition only that makes the Mule's palace inviolate? What if the Second Foundation has so arranged matters? In short what if the results of the Mule's five-year search are within—"

"Oh, p . . . poppycock."

"Why not?" demanded Anthor. "Throughout its history the Second Foundation has hidden itself and interfered in Galactic affairs in minimal fashion only. I know that to us it would seem more logical to destroy the Palace or, at the least, to remove the data. But you must consider the psychology of these master psychologists. They are Seldons; they are Mules and they work by indirection, through the mind. They would never destroy or remove when they could achieve their ends by creating a state of mind. Eh?"

No immediate answer, and Anthor continued, "And you, Munn, are just the one to get the information we need."

"I?" It was an astounded yell. Munn looked from one to the other rapidly, "I can't do such a thing. I'm no man of action; no hero of any televue. I'm a librarian. If I can help you that way, all right, and I'll risk the Second Foundation, but I'm not going out into space on any qu . . . quixotic thing like that."

"Now, look," said Anthor, patiently, "Dr. Darell and I have both agreed that you're the man. It's the only way to do it naturally. You say you're a librarian. Fine! What is your main field of interest? Muliana! You already have the greatest collection of material on the

Mule in the Galaxy. It is natural for you to want more; more natural for you than for anyone else. You could request entrance to the Kalgan Palace without arousing suspicion of ulterior motives. You might be refused but you would not be suspected. What's more, you have a one-man cruiser. You're known to have visited foreign planets during your annual vacation. You've even been on Kalgan before. Don't you understand that you need only act as you always have?"

"But I can't just say, 'W . . . won't you kindly let me in to your most sacred shrine, M . . . Mr. First Citizen?'"

"Why not?"

"Because, by the Galaxy, he won't let me!"

"All right, then. So he won't. Then you'll come home and we'll think of something else."

Munn looked about in helpless rebellion. He felt himself being talked into something he hated. No one offered to help him extricate himself.

So in the end two decisions were made in Dr. Darell's house. The first was a reluctant one of agreement on the part of Munn to take off into space as soon as his summer vacation began.

The other was a highly unauthorized decision on the part of a thoroughly unofficial member of the gathering, made as she clicked off a sound-receiver and composed herself for a belated sleep. This second decision does not concern us just yet.

10. APPROACHING CRISIS

A week had passed on the Second Foundation, and the First Speaker was smiling once again upon the Student.

"You must have brought me interesting results, or you would not be so filled with anger."

The Student put his hand upon the sheaf of calculating paper he had brought with him and said, "Are you sure that the problem is a factual one?"

"The premises are true. I have distorted nothing."

"Then I *must* accept the results, and I do not want to."

"Naturally. But what have your wants to do with it? Well, tell me what disturbs you so. No, no, put your derivations to one side. I will subject them to analysis afterward. Meanwhile, *talk* to me. Let me judge your understanding."

"Well, then, Speaker— It becomes very apparent that a gross overall change in the basic psychology of the First Foundation has taken place. As long as they knew of the existence of a Seldon Plan, without knowing any of the details thereof, they were confident but uncertain. They knew they would succeed, but they didn't know when or how. There was, therefore, a continuous atmosphere of tension and strain – which was what Seldon desired. The First Foundation, in other words, could be counted upon to work at maximum potential."

"A doubtful metaphor," said the First Speaker, "but I understand you."

"But now, Speaker, they know of the existence of a Second Foundation in what amounts to detail, rather merely than as an ancient and vague statement of Seldon's. They have an inkling as to its function as the guardian of the Plan. They know that an agency exists which watches their every step and will not let them fall. So they abandon their purposeful stride and allow themselves to be carried upon a litter. Another metaphor, I'm afraid."

"Nevertheless, go on."

"And that very abandonment of effort; that growing inertia; that lapse into softness and into a decadent and hedonistic culture, means the ruin of the Plan. They *must* be self-propelled."

"Is that all?"

"No, there is more. The majority reaction is as described. But a great probability exists for a minority reaction. Knowledge of our guardianship and our control will rouse among a few, not complacency, but hostility. This follows from Korillov's Theorem—"

"Yes, yes. I know the theorem."

"I'm sorry, Speaker. It is difficult to avoid mathematics. In any case, the effect is that not only is the Foundation's effort diluted, but part of it is turned against us, actively against us."

"And is *that* all?"

"There remains one other factor of which the probability is moderately low---"

"Very good. What is that?"

"While the energies of the First Foundation were directed only to Empire; while their only enemies were huge and outmoded hulks that remained from the shambles of the past, they were obviously concerned only with the physical sciences. With us forming a new, large part of their environment, a change in view may well be imposed on them. They may try to become psychologists—"

"That change," said the First Speaker, coolly, "*has* already taken place."

The Student's lips compressed themselves into a pale line. "Then all is over. It is the basic incompatibility with the Plan. Speaker, would I have known of this if I had lived — outside?"

The First Speaker spoke seriously, "You feel humiliated, my young man, because, thinking you understood so much so well, you suddenly find that many very apparent things were unknown to you. Thinking you were one of the Lords of the Galaxy; you suddenly find that you stand near to destruction. Naturally, you will resent the ivory tower in which you lived; the seclusion in which you were educated; the theories on which you were reared.

"I once had that feeling. It is normal. Yet it was necessary that in your formative years you have no direct contact with the Galaxy, that you remain *here*, where all knowledge is filtered to you, and your mind carefully sharpened. We could have shown you this . . . this part-failure of the Plan earlier and spared you the shock now, but you

would not have understood the significance properly, as you now will. Then you find no solution at all to the problem?"

The Student shook his head and said hopelessly, "None!"

"Well, it is not surprising. Listen to me, young man. A course of action exists and has been followed for over a decade. It is not a usual course, but one that we have been forced into against our will. It involves low probabilities, dangerous assumptions— We have even been forced to deal with individual reactions at times, because that was the only possible way, and you know that Psychostatistics by its very nature has no meaning when applied to less than planetary numbers."

"Are we succeeding?" gasped the Student.

"There's no way of telling yet. We have kept the situation stable so far – but for the first time in the history of the Plan, it is possible for the unexpected actions of a single individual to destroy it. We have adjusted a minimum number of outsiders to a needful state of mind; we have our agents – but their paths are planned. They dare not improvise. That should be obvious to you. And I will not conceal the worst – if we are discovered, here, on this world, it will not only be the Plan that is destroyed, but ourselves, our physical selves. So you see, our solution is not very good."

"But the little you have described does not sound like a solution at all, but like a desperate guess."

"No. Let us say, an intelligent guess."

"When is the crisis, Speaker? When will we know whether we have succeeded or not?"

"Well within the year, no doubt."

The Student considered that, then nodded his head. He shook hands with the Speaker. "Well, it's good to know."

He turned on his heel and left.

The first Speaker looked out silently as the window gained transparency. Past the giant structures to the quite, crowding stars.

A year would pass quickly. Would any of them, any of Seldon's heritage, be alive at its end?

11. STOWAWAY

It was a little over a month before the summer could be said to have started. Started, that is, to the extent that Homir Munn had written his final financial report of the fiscal year, seen to it that the substitute librarian supplied by the Government was sufficiently aware of the subtleties of the post – last year's man had been quite unsatisfactory – and arranged to have his little cruiser the *Unimara* – named after a tender and mysterious episode of twenty years past – taken out of its winter cobwebbery.

He left Terminus in a sullen distemper. No one was at the port to see him off. That would not have been natural since no one ever had in the past. He knew very well that it

was important to have this trip in no way different from any he had made in the past, yet he felt drenched in a vague resentment. He, Homir Munn, was risking his neck in derring-doery of the most outrageous sort, and yet he left alone.

At least, so he thought.

And it was because he thought wrongly, that the following day was one of confusion, both on the *Unimara* and in Dr. Darell's suburban home.

It hit Dr. Darell's home first, in point of time, through the medium of Poli, the maid, whose month's vacation was now quite a thing of the past. She flew down the stairs in a flurry and stutter.

The good doctor met her and she tried vainly to put emotion into words but ended by thrusting a sheet of paper and a cubical object at him.

He took them unwillingly and said: "What's wrong, Poli?"

"She's gone, doctor."

"Who's gone?"

"Arcadia!"

"What do you mean, gone? Gone where? What are you talking about?"

And she stamped her foot: 'I don't know. She's gone, and there's a suitcase and some clothes gone with her and there's that letter. Why don't you read it, instead of just standing there? Oh, you men!'"

Dr. Darell shrugged and opened the envelope. The letter was not long, and except for the angular signature, "Arkady," was in the ornate and flowing handwriting of Arcadia's transcriber.

Dear Father:

It would have been simply too heartbreaking to say good-by to you in person. I might have cried like a little girl and you would have been ashamed of me. So I'm writing a letter instead to tell you how much I'll miss you, even while I'm having this perfectly wonderful summer vacation with Uncle Homir. I'll take good care of myself and it won't be long before I'm home again. Meanwhile, I'm leaving you something that's all my own. You can have it now.

Your loving daughter,

Arkady.

He read it through several times with an expression that grew blanker each time. He said stiffly, "Have you read this, Poli?"

Poli was instantly on the defensive. "I certainly can't be blamed for that, doctor. The envelope has 'Poli' written on the outside, and I had no way of telling there was a letter for you on the inside. I'm no snoop, doctor, and in the years I've been with—"

Darell held up a placating hand, "Very well, Poli. It's not important. I just wanted to make sure you understood what had happened."

He was considering rapidly. It was no use telling her to forget the matter. With regard to the enemy, "forget" was a meaningless word; and the advice, insofar as it made the matter more important, would have had an opposite effect.

He said instead, "She's a queer little girl, you know. Very romantic. Ever since we arranged to have her go off on a space trip this summer, she's been quite excited."

"And just why has no one told *me* about this space trip?"

"It was arranged while you were away, and we forgot. It's nothing more complicated than that."

Poli's original emotions now concentrated themselves into a single, overwhelming indignation, "Simple, is it? The poor chick has gone off with one suitcase, without a decent stitch of clothes to her, and alone at that. How long will she be away?"

"Now I won't have you worrying about it, Poli. There will be plenty of clothes for her on the ship. It's been all arranged. Will you tell Mr. Anthor, that I want to see him? Oh, and first – is this the object that Arcadia has left for me?" He turned it over in his hand.

Poli tossed her head. "I'm sure I don't know. The letter was on top of it and that's every bit I can tell you. Forget to tell me, indeed. If her mother were alive–"

Darell, waved her away. "Please call Mr. Anthor."

Anthor's viewpoint on the matter differed radically from that of Arcadia's father. He punctuated his initial remarks with clenched fists and torn hair, and from there, passed on to bitterness.

"Great Space, what are you waiting for? What are we both waiting for? Get the spaceport on the viewer and have them contact the *Unimara*."

"Softly, Pelleas, she's *my* daughter."

"But it's not your Galaxy."

"Now, wait. She's an intelligent girl, Pelleas, and she's thought this thing out carefully. We had better follow her thoughts while this thing is fresh. Do you know what this thing is?"

"No. Why should it matter what it is?"

"Because it's a sound-receiver."

"That thing?"

"It's homemade, but it will work. I've tested it. Don't you see? It's her way of telling us that she's been a party to our conversations of policy. She knows where Homir Munn is going and why. She's decided it would be exciting to go along."

"Oh, Great Space," groaned the younger man. "Another mind for the Second Foundation to pick."

"Except that there's no reason why the Second Foundation should, *a priori*, suspect a fourteen-year-old girl of being a danger – *unless* we do anything to attract attention to her, such as calling back a ship out of space for no reason other than to take

her off. Do you forget with whom we're dealing? How narrow the margin is that separates us from discovery? How helpless we are thereafter?"

"But we can't have everything depend on an insane child."

She's not insane, and we have no choice. She need not have written the letter, but she did it to keep us from going to the police after a lost child. Her letter suggests that we convert the entire matter into a friendly offer on the part of Munn to take an old friend's daughter off for a short vacation. And why not? He's been my friend for nearly twenty years. He's known her since she was three, when I brought her back from Trantor. It's a perfectly natural thing, and, in fact, ought to decrease suspicion. A spy does not carry a fourteen-year-old niece about with him."

"So. And what will Munn do when he finds her?"

Dr. Darell heaved his eyebrows once. "I can't say – but I presume she'll handle him."

But the house was somehow very lonely at night and Dr. Darell found that the fate of the Galaxy made remarkably little difference while his daughter's mad little life was in danger.

The excitement on the *Unimara*, if involving fewer people, was considerably more intense.

In the luggage compartment, Arcadia found herself, in the first place, aided by experience, and in the second, hampered by the reverse.

Thus, she met the initial acceleration with equanimity and the more subtle nausea that accompanied the inside-outness of the first jump through hyperspace with stoicism. Both had been experienced on space hops before, and she was tensed for them. She knew also that luggage compartments were included in the ship's ventilation-system and that they could even be bathed in wall-light. This last, however, she excluded as being too unconscionably unromantic. She remained in the dark, as a conspirator should, breathing very softly, and listening to the little miscellany of noises that surrounded Homir Munn.

They were undistinguished noises, the kind made by a man alone. The shuffling of shoes, the rustle of fabric against metal, the souging of an upholstered chair seat retreating under weight, the sharp click of a control unit, or the soft slap of a palm over a photoelectric cell.

Yet, eventually, it was the lack of experience that caught up with Arcadia. In the book films and on the videos, the stowaway seemed to have such an infinite capacity for obscurity. Of course, there was always the danger of dislodging something which would fall with a crash, or of sneezing – in videos you were almost sure to sneeze; it was an accepted matter. She knew all this, and was careful. There was also the realization that thirst and hunger might be encountered. For this, she was prepared with ration cans out of the pantry. But yet things remained that the films never mentioned, and it dawned upon Arcadia with a shock that, despite the best intentions in the world, she could stay hidden in the closet for only a limited time.

And on a one-man sports-cruiser, such as the *Unimara*, living space consisted, essentially, of a single room, so that there wasn't even the risky possibility of sneaking out of the compartment while Munn was engaged elsewhere.

She waited frantically for the sounds of sleep to arise. If only she knew whether he snored. At least she knew where the bunk was and she could recognize the rolling protest of one when she heard it. There was a long breath and then a yawn. She waited through a gathering silence, punctuated by the bunk's soft protest against a changed position or a shifted leg.

The door of the luggage compartment opened easily at the pressure of her finger, and her craning neck—

There was a definite human sound that broke off sharply.

Arcadia solidified. Silence! Still silence!

She tried to poke her eyes outside the door without moving her head and failed. The head followed the eyes.

Homir Munn was awake, of course — reading in bed, bathed in the soft, unspreading bed light, staring into the darkness with wide eyes, and groping one hand stealthily under the pillow.

Arcadia's head moved sharply back of itself. Then, the light went out entirely and Munn's voice said with shaky sharpness, "I've got a blaster, and I'm shooting, by the Galaxy—"

And Arcadia wailed, "It's only me. Don't shoot."

Remarkable what a fragile flower romance is. A gun with a nervous operator behind it can spoil the whole thing.

The light was back on — all over the ship — and Munn was sitting up in bed. The somewhat grizzled hair on his thin chest and the sparse one-day growth on his chin lent him an entirely fallacious appearance of disreputability.

Arcadia stepped out, yanking at her metallene jacket which was supposed to be guaranteed wrinkleproof.

After a wild moment in which he almost jumped out of bed, but remembered, and instead yanked the sheet up to his shoulders, Munn gargled, "W . . . wha . . . what—"

He was completely incomprehensible.

Arcadia said meekly, "Would you excuse me for a minute? I've got to wash my hands." She knew the geography of the vessel, and slipped away quickly. When she returned, with her courage oozing back, Homir Munn was standing before her with a faded bathrobe on the outside and a brilliant fury on the inside.

"What the black holes of Space are you d . . . doing aboard this ship? H . . . how did you get on here? What do you th . . . think I'm supposed to do with you? What's going on here?"

He might have asked questions indefinitely, but Arcadia interrupted sweetly, "I just wanted to come along, Uncle Homir."

"Why? I'm not going anywhere?"

"You're going to Kalgan for information about the Second Foundation."

And Munn let out a wild howl and collapsed completely. For one horrified moment, Arcadia thought he would have hysterics or beat his head against the wall. He was still holding the blaster and her stomach grew ice-cold as she watched it.

"Watch out– Take it easy–" was all she could think of to say.

But he struggled back to relative normality and threw the blaster on to the bunk with a force that should have set it off and blown a hole through the ship's hull.

"How did you get on?" he asked slowly, as though gripping each word with his teeth very carefully to prevent it from trembling before letting it out.

"It was easy. I just came into the hangar with my suitcase, and said, 'Mr. Munn's baggage!' and the man in charge just waved his thumb without even looking up."

"I'll have to take you back, you know," said Homir, and there was a sudden wild glee within him at the thought. By Space, this wasn't his fault.

"You can't," said Arcadia, calmly, "it would attract attention."

"What?"

"You know. The whole purpose of *your* going to Kalgan was because it was natural for you to go and ask for permission to look into the Mule's records. And you've got to be so natural that you're to attract no attention at all. If you go back with a girl stowaway, it might even get into the tele-news reports."

"Where did you g . . . get those notions about Kalgan? These . . . uh . . . childish–" He was far too flippant for conviction, of course, even to one who knew less than did Arcadia.

"I heard," she couldn't avoid pride completely, "with a sound-recorder. I know all about it – so you've got to let me come along."

"What about your father?" He played a quick trump. "For all he knows, you're kidnapped . . . dead."

"I left a note," she said, overtrumping, "and he probably knows he mustn't make a fuss, or anything. You'll probably get a space-gram from him."

To Munn the only explanation was sorcery, because the receiving signal sounded wildly two seconds after she finished.

She said: "That's my father, I bet," and it was.

The message wasn't long and it was addressed to Arcadia. It said: "Thank you for your lovely present, which I'm sure you put to good use. Have a good time."

"You see," she said, "that's instructions."

Homir grew used to her. After a while, he was glad she was there. Eventually, he wondered how he would have made it without her. She prattled! She was excited! Most of all, she was completely unconcerned. She knew the Second Foundation was the enemy, yet it didn't bother her. She knew that on Kalgan, he was to deal with a hostile officialdom, but she could hardly wait.

Maybe it came of being fourteen.

At any rate, the week-long trip now meant conversation rather than introspection. To be sure, it wasn't a very enlightening conversation, since it concerned, almost entirely,

the girl's notions on the subject of how best to treat the Lord of Kalgan. Amusing and nonsensical, and yet delivered with weighty deliberation.

Homir found himself actually capable of smiling as he listened and wondered out of just which gem of historical fiction she got her twisted notion of the great universe.

It was the evening before the last jump. Kalgan was a bright star in the scarcely-twinkling emptiness of the outer reaches of the Galaxy. The ship's telescope made it a sparkling blob of barely-perceptible diameter.

Arcadia sat cross-legged in the good chair. She was wearing a pair of slacks and a none-too-roomy shirt that belonged to Homir. Her own more feminine wardrobe had been washed and ironed for the landing.

She said, "I'm going to write historical novels, you know." She was quite happy about the trip. Uncle Homir didn't the least mind listening to her and it made conversation so much more pleasant when you could talk to a really intelligent person who was serious about what you said.

She continued: "I've read books and books about all the great men of Foundation history. You know, like Seldon, Hardin, Mallow, Devers and all the rest. I've even read most of what you've written about the Mule, except that it isn't much fun to read those parts where the Foundation loses. Wouldn't you rather read a history where they skipped the silly, tragic parts?"

"Yes, I would," Munn assured her, gravely. "But it wouldn't be a fair history, would it, Arkady? You'd never get academic respect, unless you give the whole story."

"Oh, poof. Who cares about academic respect?" She found him delightful. He hadn't missed calling her Arkady for days. "My novels are going to be interesting and are going to sell and be famous. What's the use of writing books unless you sell them and become well-known? I don't want just some old professors to know me. It's got to be everybody."

Her eyes darkened with pleasure at the thought and she wriggled into a more comfortable position. "In fact, as soon as I can get father to let me, I'm going to visit Trantor, so's I can get background material on the First Empire, you know. I was born on Trantor; did you know that?"

He did, but he said, "You were?" and put just the right amount of amazement into his voice. He was rewarded with something between a beam and a simper.

"Uh-huh. My grandmother . . . you know, Bayta Darell, you've heard of *her* . . . was on Trantor once with my grandfather. In fact, that's where they stopped the Mule, when all the Galaxy was at his feet; and my father and mother went there also when they were first married. I was born there. I even lived there till mother died, only I was just three then, and I don't remember much about it. Were you ever on Trantor, Uncle Homir?"

"No, can't say I was." He leaned back against the cold bulkhead and listened idly. Kalgan was very close, and he felt his uneasiness flooding back.

"Isn't it just the most *romantic* world? My father says that under Stannel V, it had more people than any *ten* worlds nowadays. He says it was just one big world of metals –

one big city – that was the capital of all the Galaxy. He's shown me pictures that he took on Trantor. It's all in ruins now, but it's still stupendous. I'd just *love* to see it again. In fact . . . Homir!"

"Yes?"

"Why don't we go there, when we're finished with Kalgan?"

Some of the fright hurtled back into his face. "What? Now don't start on that. This is business, not pleasure. Remember that."

"But it *is* business" she squeaked. "There might be incredible amounts of information on Trantor, don't you think so? "

"No, I don't He scrambled to his feet "Now untangle yourself from the computer. We've got to make the last jump, and then you turn in." One good thing about landing, anyway; he was about fed up with trying to sleep on an overcoat on the metal floor.

The calculations were not difficult. The "Space Route Handbook" was quite explicit on the Foundation-Kalgan route. There was the momentary twitch of the timeless passage through hyperspace and the final light-year dropped away.

The sun of Kalgan was a sun now – large, bright, and yellow-white; invisible behind the portholes that had automatically closed on the sun-lit side.

Kalgan was only a night's sleep away.

12. LORD

Of all the worlds of the Galaxy, Kalgan undoubtedly had the most unique history. That of the planet Terminus, for instance, was that of an almost uninterrupted rise. That of Trantor, once capital of the Galaxy, was that of an almost uninterrupted fall. But Kalgan–

Kalgan first gained fame as the pleasure world of the Galaxy two centuries before the birth of Hari Seldon. It was a pleasure world in the sense that it made an industry – and an immensely profitable one, at that – out of amusement.

And it was a stable industry. It was the most stable industry in the Galaxy. When all the Galaxy perished as a civilization, little by little, scarcely a feather's weight of catastrophe fell upon Kalgan. No matter how the economy and sociology of the neighboring sectors of the Galaxy changed, there was always an elite; and it is always the characteristic of an elite that it possesses leisure as *the* great reward of its elite-hood.

Kalgan was at the service, therefore, successively – and successfully – of the effete and perfumed dandies of the Imperial Court with their sparkling and libidinous ladies; of the rough and raucous warlords who ruled in iron the worlds they had gained in blood, with their unbridled and lascivious wenches; of the plump and luxurious businessmen of the Foundation, with their lush and flagitious mistresses.

It was quite indiscriminating, since they all had money. And since Kalgan serviced all and barred none; since its commodity was in unfailing demand; since it had the wisdom to interfere in no world's politics, to stand on no one's legitimacy, it prospered when nothing else did, and remained fat when all grew thin.

That is, until the Mule. Then, somehow, it fell, too, before a conqueror who was impervious to amusement, or to anything but conquest. To him all planets were alike, even Kalgan.

So for a decade, Kalgan found itself in the strange role of Galactic metropolis; mistress of the greatest Empire since the end of the Galactic Empire itself.

And then, with the death of the Mule, as sudden as the zoom, came the drop. The Foundation broke away. With it and after it, much of the rest of the Mule's dominions. Fifty years later there was left only the bewildering memory of that short space of power, like an opium dream. Kalgan never quite recovered. It could never return to the unconcerned pleasure world it had been, for the spell of power never quite releases its hold. It lived instead under a succession of men whom the Foundation called the Lords of Kalgan, but who styled themselves First Citizen of the Galaxy, in imitation of the Mule's only title, and who maintained the fiction that they were conquerors too.

The current Lord of Kalgan had held that position for five months. He had gained it originally by virtue of his position at the head of the Kalganian navy, and through a lamentable lack of caution on the part of the previous lord. Yet no one on Kalgan was quite stupid enough to go into the question of legitimacy too long or too closely. These things happened, and are best accepted.

Yet that sort of survival of the fittest in addition to putting a premium on bloodiness and evil, occasionally allowed capability to come to the fore as well. Lord Stettin was competent enough and not easy to manage.

Not easy for his eminence, the First Minister, who, with fine impartiality, had served the last lord as well as the present; and who would, if he lived long enough, serve the next as honestly.

Nor easy for the Lady Callia, who was Stettin's more than friend, yet less than wife.

In Lord Stettin's private apartments the three were alone that evening. The First Citizen, bulky and glistening in the admiral's uniform that he affected, scowled from out the unupholstered chair in which he sat as stiffly as the plastic of which it was composed. His First Minister Lev Meirus, faced him with a far-off unconcern, his long, nervous fingers stroking absently and rhythmically the deep line that curved from hooked nose along gaunt and sunken cheek to the point, nearly, of the gray-bearded chin. The Lady Callia disposed of herself gracefully on the deeply furred covering of a foamite couch, her full lips trembling a bit in an unheeded pout.

"Sir," said Meirus – it was the only title adhering to a lord who was styled only First Citizen, "you lack a certain view of the continuity of history. Your own life, with its tremendous revolutions, leads you to think of the course of civilization as something equally amenable to sudden change. But it is not."

"The Mule showed otherwise."

"But who can follow in his footsteps. He was more than man, remember. And he, too, was not entirely successful."

"Poochie," whimpered the Lady Callia, suddenly, and then shrank into herself at the furious gesture from the First Citizen.

Lord Stettin said, harshly, "Do not interrupt, Callia. Meirus, I am tired of inaction. My predecessor spent his life polishing the navy into a finely-turned instrument that has not its equal in the Galaxy. And he died with the magnificent machine lying idle. Am I to continue that? I, an Admiral of the Navy?"

"How long before the machine rusts? At present, it is a drain on the Treasury and returns nothing. Its officers long for dominion, its men for loot. All Kalgan desires the return of Empire and glory. Are you capable of understanding that?"

"These are but words that you use, but I grasp your meaning. Dominion, loot, glory – pleasant when they are obtained, but the process of obtaining them is often risky and always unpleasant. The first fine flush may not last. And in all history, it has never been wise to attack the Foundation. Even the Mule would have been wiser to refrain–"

There were tears in the Lady Callia's blue, empty eyes. Of late, Poochie scarcely saw her, and now, when he had promised the evening to her, this horrible, thin, gray man, who always looked through her rather than at her, had forced his way in. And Poochie let him. She dared not say anything; was frightened even of the sob that forced its way out.

But Stettin was speaking now in the voice she hated, hard and impatient. He was saying: "You're a slave to the far past. The Foundation is greater in volume and population, but they are loosely knit and will fall apart at a blow. What holds them together these days is merely inertia; an inertia I am strong enough to smash. You are hypnotized by the old days when only the Foundation had atomic power. They were able to dodge the last hammer blows of the dying Empire and then faced only the unbrained anarchy of the warlords who would counter the Foundation's atomic vessels only with hulks and relics.

"But the Mule, my dear Meirus, has changed that. He spread the knowledge, that the Foundation had hoarded to itself, through half the Galaxy and the monopoly in science is gone forever. We can match them."

"And the Second Foundation?" questioned Meirus, coolly.

"And the Second Foundation?" repeated Stettin as coolly. "Do you know its intentions? It took ten years to stop the Mule, if, indeed, it was the factor, which some doubt. Are you unaware that a good many of the Foundation's psychologists and sociologists are of the opinion that the Seldon Plan has been completely disrupted since the days of the Mule? If the Plan has gone, then a vacuum exists which I may fill as well as the next man."

"Our knowledge of these matters is not great enough to warrant the gamble."

"Our knowledge, perhaps, but we have a Foundation visitor on the planet. Did you know that? A Homir Munn – who, I understand, has written articles on the Mule, and has expressed exactly that opinion, that the Seldon Plan no longer exists."

The First Minister nodded, "I have heard of him, or at least of his writings. What does he desire?"

"He asks permission to enter the Mule's palace."

"Indeed? It would be wise to refuse. It is never advisable to disturb the superstitions with which a planet is held."

"I will consider that – and we will speak again."

Meirus bowed himself out.

Lady Callia said tearfully, "Are you angry with me, Poochie?" Stettin turned on her savagely. "Have I not told you before never to call me by that ridiculous name in the presence of others?"

"You *used* to like it."

"Well, I don't any more, and it is not to happen again."

He stared at her darkly. It was a mystery to him that he tolerated her these days. She was a soft, empty-headed thing, comfortable to the touch, with a pliable affection that was a convenient facet to a hard life. Yet, even that affection was becoming wearisome. She dreamed of marriage, of being First Lady.

Ridiculous!

She was all very well when he had been an admiral only – but now as First Citizen and future conqueror, he needed more. He needed heirs who could unite his future dominions, something the Mule had never had, which was why his Empire did not survive his strange nonhuman life. He, Stettin, needed someone of the great historic families of the Foundation with whom he could fuse dynasties.

He wondered testily why he did not rid himself of Callia now. It would be no trouble. She would whine a bit– He dismissed the thought. She had her points, occasionally.

Callia was cheering up now. The influence of Graybeard was gone and her Poochie's granite face was softening now. She lifted herself in a single, fluid motion and melted toward him.

"You're not going to scold me, are you?"

"No." He patted her absently. "Now just sit quietly for a while, will you? I want to think."

"About the man from the Foundation?"

"Yes."

"Poochie?" This was a pause.

"What?"

"Poochie, the man has a little girl with him, you said. Remember? Could I see her when she comes? I never–"

"Now what do you think I want him to bring his brat with him for? Is my audience room to be a grammar school? Enough of your nonsense, Callia."

"But I'll take care of her, Poochie. You won't even have to bother with her. It's just that I hardly ever see children, and you know how I love them."

He looked at her sardonically. She never tired of this approach. She loved children; i.e. *his* children; i.e. his *legitimate* children; i.e. marriage. He laughed.

"This particular little piece," he said, "is a great girl of fourteen or fifteen. She's probably as tall as you are."

Callia looked crushed. "Well, could I, anyway? She could tell me about the Foundation? I've always wanted to go there, you know. My grandfather was a Foundation man. Won't you take me there, sometime, Poochie?"

Stettin smiled at the thought. Perhaps he would, as conqueror. The good nature that the thought supplied him with made itself felt in his words, "I will, I will. And you can see the girl and talk Foundation to her all you want. But not near me, understand."

"I won't bother you, honestly. I'll have her in my own rooms." She was happy again. It was not very often these days that she was allowed to have her way. She put her arms about his neck and after the slightest hesitation, she felt its tendons relax and the large head come softly down upon her shoulder.

13. LADY

Arcadia felt triumphant. How life had changed since Pelleas Anthor had stuck his silly face up against her window – and all because she had the vision and courage to do what needed to be done.

Here she was on Kalgan. She had been to the great Central Theater – the largest in the Galaxy – and seen *in person* some of the singing stars who were famous even in the distant Foundation. She had shopped all on her own along the Flowered Path, fashion center of the gayest world in Space. And she had made her own selections because Homir just didn't know anything about it at all. The saleswomen raised no objections at all to long, shiny dresses with those vertical sweeps that made her look so tall – and Foundation money went a long, long way. Homir had given her a ten-credit bill and when she changed it to Kalganian "Kalganids," it made a terribly thick sheaf.

She had even had her hair redone – sort of half-short in back, with two glistening curls over each temple. And it was treated so that it looked goldier than ever; it just *shone*.

But *this*, this was best of all. To be sure, the Palace of Lord Stettin wasn't as grand and lavish as the theaters, or as mysterious and historical as the old palace of the Mule – of which, so far they had only glimpsed the lonely towers in their air flight across the planet – but, imagine, a real Lord. She was rapt in the glory of it.

And not only that. She was actually face to face with his Mistress. Arcadia capitalized the word in her mind, because she knew the role such women had played in history; knew their glamour and power. In fact, she had often thought of being an all-powerful and glittering creature, herself, but somehow mistresses weren't in fashion at the Foundation just then and besides, her father probably wouldn't let her, if it came to that.

Of course, the Lady Callia didn't quite come up to Arcadia's notion of the part. For one thing, she was rather plump, and didn't look at all wicked and dangerous. just sort of faded and near-sighted. Her voice was high, too, instead of throaty, and–

Callia said, "Would you like more tea, child?"

"I'll have another cup, thank you, your grace," – or was it your highness?

Arcadia continued with a connoisseur's condescension, "Those are lovely pearls you are wearing, my lady." (On the whole, "my lady" seemed best.)

"Oh? Do you think so?" Callia seemed vaguely pleased. She removed them and let them swing milkily to and fro. "Would you like them? You can have them, if you like."

"Oh, my— You really mean—" She found them in her hand, then, repelling them mournfully, she said, "Father wouldn't like it."

"He wouldn't like the pearls? But they're quite nice pearls."

"He wouldn't like my taking them, I mean. You're not supposed to take expensive presents from other people, he says."

"You aren't? But . . . I mean, this was a present to me from Poo . . . from the First Citizen. Was that wrong, do you suppose?"

Arcadia reddened. "I didn't mean--"

But Callia had tired of the subject. She let the pearls slide to the ground and said, "You were going to tell me about the Foundation. Please do so right now."

And Arcadia was suddenly at a loss. What does one say about a world dull to tears. To her, the Foundation was a suburban town, a comfortable house, the annoying necessities of education, the uninteresting eternities of a quiet life. She said, uncertainly, "It's just like you view in the book-films, I suppose."

"Oh, do you view book-films? They give me such a headache when I try. But do you know I always love video stories about your Traders – such big, savage men. It's always so exciting. Is your friend, Mr. Munn, one of them? He doesn't seem nearly savage enough. Most of the Traders had beards and big bass voices, and were so domineering with women – don't you think so?"

Arcadia smiled, glassily. "That's just part of history, my lady. I mean, when the Foundation was Young, the Traders were the pioneers pushing back the frontiers and bringing civilization to the rest of the Galaxy. We learned all about that in school. But that time has passed. We don't have Traders any more; just corporations and things."

"Really? What a shame. Then what does Mr. Munn do? I mean, if he's not a Trader."

"Uncle Homir's a librarian."

Callia put a hand to her lips and giggled. "You mean he takes care of book-films. Oh, my! It seems like such a silly thing for a grown man to do."

"He's a very good librarian, my lady. It is an occupation that is very highly regarded at the Foundation." She put down the little, iridescent teacup upon the milky-metaled table surface.

Her hostess was all concern. "But my dear child. I'm sure I didn't mean to offend you. He must be a very *intelligent* man. I could see it in his eyes as soon as I looked at him. They were so . . . so *intelligent*. And he must be brave, too, to want to see the Mule's palace."

"Brave?" Arcadia's internal awareness twitched. This was what she was waiting for. Intrigue! Intrigue! With great indifference, she asked, staring idly at her thumbtip: "Why must one be brave to wish to see the Mule's palace?"

"Didn't you know?" Her eyes were round, and her voice sank. "There's a curse on it. When he died, the Mule directed that no one ever enter it until the Empire of the Galaxy is established. Nobody on Kalgan would dare even to enter the grounds."

Arcadia absorbed that. "But that's superstition—"

"Don't say that," Callia was distressed. "Poochie always says that. He says it's useful to say it isn't though, in order to maintain his hold over the people. But I notice he's never gone in himself. And neither did Thallos, who was First Citizen before Poochie." A thought struck her and she was all curiosity again: "But why does Mr. Munn want to see the Palace?"

And it was here that Arcadia's careful plan could be put into action. She knew well from the books she had read that a ruler's mistress was the real power behind the throne, that she was the very well-spring of influence. Therefore, if Uncle Homir failed with Lord Stettin – and she was sure he would – she must retrieve that failure with Lady Callia. To be sure, Lady Callia was something of a puzzle. She didn't seem at *all* bright. But, well, all history proved—

She said, "There's a reason, my lady – but will you keep it in confidence?"

"Cross my heart," said Callia, making the appropriate gesture on the soft, billowing whiteness of her breast.

Arcadia's thoughts kept a sentence ahead of her words. "Uncle Homir is a great authority on the Mule, you know. He's written books and books about it, and he thinks that all of Galactic history has been changed since the Mule conquered the Foundation."

"Oh, my."

"He thinks the Seldon Plan—"

Callia clapped her hands. "I know about the Seldon Plan. The videos about the Traders were always all about the Seldon Plan. It was supposed to arrange to have the Foundation win all the time. Science had something to do with it, though I could never quite see how. I always get so restless when I have to listen to explanations. But you go right ahead, my dear. It's different when you explain. You make everything seem so clear."

Arcadia continued, "Well, don't you see then that when the Foundation was defeated by the Mule, the Seldon Plan didn't work and it hasn't worked since. So who will form the Second Empire?"

"The Second Empire?"

"Yes, one must be formed some day, but how? That's the problem, you see. And there's the Second Foundation."

"The *Second* Foundation?" She was quite completely lost.

"Yes, they're the planners of history that are following in the footsteps of Seldon. They stopped the Mule because he was premature, but now, they may be supporting Kalgan."

"Why?"

"Because Kalgan may now offer the best chance of being the nucleus for a new Empire."

Dimly, Lady Callia seemed to grasp that. "You mean *Poochie* is going to make a new Empire."

"We can't tell for sure. Uncle Homir thinks so, but hell have to see the Mule's records to find out."

"It's all very complicated," said Lady Callia, doubtfully.

Arcadia gave up. She had done her best.

Lord Stettin was in a more-or-less savage humor. The session with the milksop from the Foundation had been quite unrewarding. It had been worse; it had been embarrassing. To be absolute ruler of twenty-seven worlds, master of the Galaxy's greatest military machine, owner of the universe's most vaulting ambition – and left to argue nonsense with an antiquarian.

Damnation!

He was to violate the customs of Kalgan, was he? To allow the Mule's palace to be ransacked so that a fool could write another book? The cause of science! The sacredness of knowledge! Great Galaxy! Were these catchwords to be thrown in his face in all seriousness? Besides – and his flesh prickled slightly – there was the matter of the curse. He didn't believe in it; no intelligent man could. But if he was going to defy it, it would have to be for a better reason than any the fool had advanced.

"What do *you* want?" he snapped, and Lady Callia cringed visibly in the doorway.

"Are you busy?"

"Yes. I am busy."

"But there's nobody here, Poochie. Couldn't I even speak to you for a minute?"

"Oh, Galaxy! What do you want? Now hurry."

Her words stumbled. "The little girl told me they were going into the Mule's palace. I thought we could go with her. It must be gorgeous inside."

"She told you that, did she? Well, she isn't and we aren't. Now go tend your own business. I've had about enough of you."

"But, Poochie, why not? Aren't you going to let them? The little girl said that you were going to make an Empire!"

"I don't care what she said– What was that?" He strode to Callia, and caught her firmly above the elbow, so that his fingers sank deeply into the soft flesh, "What did she tell you?"

"You're hurting me. I can't remember what she said, if you're going to look at me like that."

He released her, and she stood there for a moment, rubbing vainly at the red marks. She whimpered, "The little girl made me promise not to tell."

"That's too bad. Tell me! *Now!*"

"Well, she said the Seldon Plan was changed and that there was another Foundation somewheres that was arranging to have you make an Empire. That's all. She said Mr. Munn was a very important scientist and that the Mule's palace would have proof of all that. That's every bit of what she said. Are you angry?"

But Stettin did not answer. He left the room, hurriedly, with Callia's cowlike eyes staring mournfully after him. Two orders were sent out over the official seal of the First Citizen before the hour was up. One had the effect of sending five hundred ships of the line into space on what were officially to be termed as "war games." The other had the effect of throwing a single man into confusion.

Homir Munn ceased his preparations to leave when that second order reached him. It was, of course, official permission to enter the palace of the Mule. He read and reread it with anything but joy.

But Arcadia was delighted. She knew what had happened.

Or, at any rate, she thought she did.

14. ANXIETY

Poli placed the breakfast on the table, keeping one eye on the table news-recorder which quietly disgorged the bulletins of the day. It could be done easily enough without loss of efficiency, this one-eye-absent business. Since all items of food were sterily packed in containers which served as discardable cooking units, her duties vis-a-vis breakfast consisted of nothing more than choosing the menu, placing the items on the table, and removing the residue thereafter.

She clacked her tongue at what she saw and moaned softly in retrospect.

"Oh, people are so wicked," she said, and Darell merely hemmed in reply.

Her voice took on the high-pitched rasp which she automatically assumed when about to bewail the evil of the world. "Now why do these terrible Kalganese" – she accented the second syllable and gave it a long "a" – "do like that? You'd think they'd give a body peace. But no, it's just trouble, trouble, all the time.

"Now look at that headline: 'Mobs Riot Before Foundation Consulate. ' Oh, would I like to give them a piece of my mind, if I could. That's the trouble with people; they just don't remember. They just *don't* remember, Dr. Darell – got no memory at all. Look at the last war after the Mule died – of course I was just a little girl then – and oh, the fuss and trouble. My own uncle was killed, him being just in his twenties and only two years married, with a baby girl. I remember him even yet – blond hair he had, and a dimple in his chin. I have a trimensional cube of him somewheres–

"And now his baby girl has a son of her own in the navy and most like if anything happens–

"And we had the bombardment patrols, and all the old men taking turns in the stratospheric defense – I could imagine what they would have been able to do if the Kalganese had come that far. My mother used to tell us children about the food rationing and the prices and taxes. A body could hardly make ends meet–

"You'd think if they had sense people would just never want to start it again; just have nothing to do with it. And I suppose it's not people that do it, either; I suppose even Kalganese would rather sit at home with their families and not go fooling around in ships

and getting killed. It's that awful man, Stettin. It's a wonder people like that are let live. He kills the old man – what's his name – Thallo, and now he's just spoiling to be boss of everything.

"And why he wants to fight us, I don't know. He's bound to lose – like they always do. Maybe it's all in the Plan, but sometimes I'm sure it must be a wicked plan to have so much fighting and killing in it, though to be sure I haven't a word to say about Hari Seldon, who I'm sure knows much more about that than I do and perhaps I'm a fool to question him. And the *other* Foundation is as much to blame. *They* could stop Kalgan now and make everything fine. They'll do it anyway in the end, and you'd think they'd do it before there's any damage done."

Dr. Darell looked up. "Did you say something, Poli?"

Poli's eyes opened wide, then narrowed angrily. "Nothing, doctor, nothing at all. I haven't got a word to say. A body could as soon choke to death as say a word in this house. It's jump here, and jump there, but just try to say a word—" and she went off simmering.

Her leaving made as little impression on Darell as did her speaking.

Kalgan! Nonsense! A merely physical enemy! Those had always been beaten!

Yet he could not divorce himself of the current foolish crisis. Seven days earlier, the mayor had asked him to be Administrator of Research and Development. He had promised an answer today.

Well—

He stirred uneasily. Why, himself! Yet could he refuse? It would seem strange, and he dared not seem strange. After all, what did he care about Kalgan. To him there was only one enemy. Always had been.

While his wife had lived, he was only too glad to shirk the task; to hide. Those long, quiet days on Trantor, with the ruins of the past about them! The silence of a wrecked world and the forgetfulness of it all!

But she had died. Less than five years, all told, it had been; and after that he knew that he could live only by fighting that vague and fearful enemy that deprived him of the dignity of manhood by controlling his destiny; that made life a miserable struggle against a foreordained end; that made all the universe a hateful and deadly chess game.

Call it sublimation; he, himself did can it that – but the fight gave meaning to his life.

First to the University of Santanni, where he had joined Dr. Kleise. It had been five years well-spent.

And yet Kleise was merely a gatherer of data. He could not succeed in the real task – and when Darell had felt that as certainty, he knew it was time to leave.

Kleise may have worked in secret, yet he had to have men working for him and with him. He had subjects whose brains he probed. He had a University that backed him. All these were weaknesses.

Kleise could not understand that; and he, Darell, could not explain that. They parted enemies. It was well; they had to. He *had* to leave in surrender – in case someone watched.

Where Kleise worked with charts; Darell worked with mathematical concepts in the recesses of his mind. Kleise worked with many; Darell with none. Kleise in a University; Darell in the quiet of a suburban house.

And he was almost there.

A Second Founder is not human as far as his cerebrum is concerned. The cleverest physiologist, the most subtle neurochemist might detect nothing – yet the difference must be there.

And since the difference was one of the mind, it was *there* that it must be detectable.

Given a man like the Mule – and there was no doubt that the Second Founders had the Mule's powers, whether inborn or acquired – with the power of detecting and controlling human emotions, deduce from that the electronic circuit required, and deduce from that the last details of the encephalograph on which it could not help but be betrayed.

And now Kleise had returned into his life, in the person of his ardent young pupil, Anthor.

Folly! Folly! With his graphs and charts of people who had been tampered with. He had learned to detect that years ago, but of what use was it. He wanted the arm; not the tool. Yet he had to agree to join Anthor, since it was the quieter course.

Just as now he would become Administrator of Research and Development. It was the quieter course! And so he remained a conspiracy within a conspiracy.

The thought of Arcadia teased him for a moment, and he shuddered away from it. Left to himself, it would never have happened. Left to himself, no one would ever have been endangered but himself. Left to himself–

He felt the anger rising-against the dead Kleise, the living Anthor, all the well-meaning fools–

Well, she could take care of herself. She was a very mature little girl.

She could take care of herself!

It was a whisper in his mind–

Yet could she?

At the moment, that Dr. Darell told himself mournfully that she could, she was sitting in the coldly austere anteroom of the Executive Offices of the First Citizen of the Galaxy. For half an hour she had been sitting there, her eyes sliding slowly about the walls. There had been two armed guards at the door when she had entered with Homir Munn. They hadn't been there the other times.

She was alone, now, yet she sensed the unfriendliness of the very furnishings of the room. And for the first time.

Now, why should that be?

Homir was with Lord Stettin. Well, was that wrong?

It made her furious. In similar situations in the book-films and the videos, the hero foresaw the conclusion, was prepared for it when it came, and she – she just sat there. *Anything* could happen. *Anything!* And she just sat there.

Well, back again. Think it back. Maybe something would come.

For two weeks, Homir had nearly lived inside the Mule's palace. He had taken her once, with Stettin's permission. It was large and gloomily massive, shrinking from the touch of life to lie sleeping within its ringing memories, answering the footsteps with a hollow boom or a savage clatter. She hadn't liked it.

Better the great, gay highways of the capital city; the theaters and spectacles of a world essentially poorer than the Foundation, yet spending more of its wealth on display.

Homir would return in the evening, awed–

"It's a dream-world for me," he would whisper. "If I could only chip the palace down stone by stone, layer by layer of the aluminum sponge. If I could carry it back to Terminus– What a museum it would make."

He seemed to have lost that early reluctance. He was eager, instead; glowing. Arcadia knew that by the one sure sign; he practically never stuttered throughout that period.

One time, he said, "There are abstracts of the records of General Pritcher–"

"I know him. He was the Foundation renegade, who combed the Galaxy for the Second Foundation, wasn't he?"

"Not exactly a renegade, Arkady. The Mule had Converted him."

"Oh, it's the same thing."

"Galaxy, that combing you speak of was a hopeless task. The original records of the Seldon Convention that established both Foundations five hundred years ago, make only one reference to the Second Foundation. They say it's located 'at the other end of the Galaxy at Star's End.' That's all the Mule and Pritcher had to go on. They had no method of recognizing the Second Foundation even if they found it. What madness!

"They have records" – he was speaking to himself, but Arcadia listened eagerly – "which must cover nearly a thousand worlds, yet the number of worlds available for study must have been closer to a million. And we are no better off–"

Arcadia broke in anxiously, "*Shhh-h*" in a tight hiss.

Homir froze, and slowly recovered. "Let's not talk," he mumbled.

And now Homir was with Lord Stettin and Arcadia waited outside alone and felt the blood squeezing out of her heart for no reason at all. That was more frightening than anything else. That there seemed no reason.

On the other side of the door, Homir, too, was living in a sea of gelatin. He was fighting, with furious intensity, to keep from stuttering and, of course, could scarcely speak two consecutive words clearly as a result.

Lord Stettin was in full uniform, six-feet-six, large-jawed, and hard-mouthed. His balled, arrogant fists kept a powerful time to his sentences.

"Well, you have had two weeks, and you come to me with tales of nothing. Come, sir, tell me the worst. Is my Navy to be cut to ribbons? Am I to fight the ghosts of the Second Foundation as well as the men of the First?"

"I . . . I repeat, my lord, I am no p . . . pre . . . predictor. I . . . I am at a complete . . . loss."

"Or do you wish to go back to warn your countrymen? To deep Space with your play-acting. I want the truth or I'll have it out of you along with half your guts."

"I'm t . . . telling only the truth, and I'll have you re . . . remember, my l . . . lord, that I am a citizen of the Foundation. Y . . . you cannot touch me without harvesting m . . . m . . . more than you count on."

The Lord of Kalgan laughed uproariously. "A threat to frighten children. A horror with which to beat back an idiot. Come, Mr. Munn, I have been patient with you. I have listened to you for twenty minutes while you detailed wearisome nonsense to me which must have cost you sleepless nights to compose. It was wasted effort. I know you are here not merely to rake through the Mule's dead ashes and to warm over the cinders you find you come here for more than you have admitted. Is that not true?"

Homir Munn could no more have quenched the burning horror that grew in his eyes than, at that moment, he could have breathed. Lord Stettin saw that, and clapped the Foundation man upon his shoulder so that he and the chair he sat on reeled under the impact.

"Good. Now let us be frank. You are investigating the Seldon Plan. You know that it no longer holds. You know, perhaps, that I am the inevitable winner now; I and my heirs. Well, man, what matters it who established the Second Empire, so long as it is established. History plays no favorites, eh? Are you afraid to tell me? You see that I know your mission."

Munn said thickly, "What is it y . . . you w . . . want?"

"Your presence. I would not wish the Plan spoiled through overconfidence. You understand more of these things than I do; you can detect small flaws that I might miss. Come, you will be rewarded in the end; you will have your fair glut of the loot. What can you expect at the Foundation? To turn the tide of a perhaps inevitable defeat? To lengthen the war? Or is it merely a patriotic desire to die for your country?"

"I . . . I—" He finally spluttered into silence. Not a word would come.

"You will stay," said the Lord of Kalgan, confidently. "You have no choice. Wait" — an almost forgotten afterthought — "I have information to the effect that your niece is of the family of Bayta Darell."

Homir uttered a startled: "Yes." He could not trust himself at this point to be capable of weaving anything but cold truth.

"It is a family of note on the Foundation?"

Homir nodded, "To whom they would certainly b . . . brook no harm."

"Harm! Don't be a fool, man; I am meditating the reverse. How old is she?"

"Fourteen."

"Sol Well, not even the Second Foundation, or Hari Seldon, himself, could stop time from passing or girls from becoming women."

With that, he turned on his heel and strode to a draped door which he threw open violently.

He thundered, "What in Space have you dragged your shivering carcass here for?"

The Lady Callia blinked at him, and said in a small voice, "I didn't know anyone was with you."

"Well, there is. I'll speak to you later of this, but now I want to see your back, and quickly."

Her footsteps were a fading scurry in the corridor.

Stettin returned, "She is a remnant of an interlude that has lasted too long. It will end soon. Fourteen, you say?"

Homir stared at him with a brand-new horror!

Arcadia started at the noiseless opening of a door – jumping at the jangling sliver of movement it made in the corner of her eye. The finger that crooked frantically at her met no response for long moments, and then, as if in response to the cautions enforced by the very sight of that white, trembling figure, she tiptoed her way across the floor.

Their footsteps were a taut whisper in the corridor. It was the Lady Callia, of course, who held her hand so tightly that it hurt, and for some reason, she did not mind following her. Of the Lady Callia, at least, she was not afraid.

Now, why was that?

They were in a boudoir now, all pink fluff and spun sugar. Lady Callia stood with her back against the door.

She said, "This was our private way to me . . . to my room, you know, from his office. His, you know." And she pointed with a thumb, as though even the thought of him were grinding her soul to death with fear.

"It's so lucky . . . it's so lucky—" Her pupils had blackened out the blue with their size.

"Can you tell me—" began Arcadia timidly.

And Callia was in frantic motion. "No, child, no. There is no time. Take off your clothes. Please. Please. I'll get you more, and they won't recognize you."

She was in the closet, throwing useless bits of flummery in reckless heaps upon the ground, looking madly for something a girl could wear without becoming a living invitation to dalliance.

"Here, this will do. It will have to. Do you have money? Here, take it all – and this." She was stripping her ears and fingers. "Just go home – go home to your Foundation."

"But Homir . . . my uncle." She protested vainly through the muffling folds of the sweet-smelling and luxurious spun-metal being forced over her head.

"He won't leave. Poochie will hold him forever, but you mustn't stay. Oh, dear, don't you understand?"

"No." Arcadia forced a standstill, "I *don't* understand."

Lady Callia squeezed her hands tightly together. "You must go back to warn your people there will be war. Isn't that clear?" Absolute terror seemed paradoxically to have lent a lucidity to her thoughts and words that was entirely out of character. "Now come!"

Out another way! Past officials who stared after them, but saw no reason to stop one whom only the Lord of Kalgan could stop with impunity. Guards clicked heels and presented arms when they went through doors.

Arcadia breathed only on occasion through the years the trip seemed to take – yet from the first crooking of the white finger to the time she stood at the outer gate, with people and noise and traffic in the distance was only twenty-five minutes.

She looked back, with a sudden frightened pity. "I . . . I . . . don't know why you're doing this, my lady, but thanks– What's going to happen to Uncle Homir?"

"I don't know," wailed the other. "Can't you leave? Go straight to the spaceport. Don't wait. He may be looking for you this very minute."

And still Arcadia lingered. She would be leaving Homir; and, belatedly, now that she felt the free air about her, she was suspicious. "But what do you care if he does?"

Lady Callia bit her lower lip and muttered, "I can't explain to a little girl like you. It would be improper. Well, you'll be growing up and I . . . I met Poochie when I was sixteen. I can't have you about, you know." There was a half-ashamed hostility in her eyes.

The implications froze Arcadia. She whispered: "What will he do to you when he finds out?"

And she whimpered back: "I don't know," and threw her arm to her head as she left at a half-run, back along the wide way to the mansion of the Lord of Kalgan.

But for one eternal second, Arcadia *still* did not move, for in that last moment before Lady Callia left, Arcadia had seen something. Those frightened, frantic eyes had momentarily – flashingly – lit up with a cold amusement.

A vast, inhuman amusement.

It was much to see in such a quick flicker of a pair of eyes, but Arcadia had no doubt of what she saw.

She was running now – running wildly – searching madly for an unoccupied public booth at which one could press a button for public conveyance.

She was not running from Lord Stettin; not from him or from all the human hounds he could place at her heels – not from all his twenty-seven worlds rolled into a single gigantic phenomenon, hallooing at her shadow.

She was running from a single, frail woman who had helped her escape. From a creature who had loaded her with money and jewels; who had risked her own life to save her. From an entity she knew, certainly and finally, to be a woman of the Second Foundation.

An air-taxi came to a soft clicking halt in the cradle. The wind of its coming brushed against Arcadia's face and stirred at the hair beneath the softly-furred hood Callia had given her.

"Where'll it be, lady?"

She fought desperately to low-pitch her voice to make it not that of a child. "How many spaceports in the city?"

"Two. Which one ya want?"

"Which is closer?"

He stared at her: "Kalgan Central, lady."

"The other one, please. I've got the money." She had a twenty-Kalganid note in her hand. The denomination of the note made little difference to her, but the taxi-man grinned appreciatively.

"Anything ya say, lady. Sky-line cabs take ya anywhere."

She cooled her cheek against the slightly musty upholstery. The lights of the city moved leisurely below her.

What should she do? *What should she do?*

It was in that moment that she knew she was a *stupid*, stupid little girl, away from her father, and frightened. Her eyes were full of tears, and deep down in her throat, there was a small, soundless cry that hurt her insides.

She wasn't afraid that Lord Stettin would catch her. Lady Callia would see to that. Lady Callia! Old, fat, stupid, but she held on to her lord, somehow. Oh, it was clear enough, now. *Everything* was clear.

That tea with Callia at which she had been so smart. Clever little Arcadia! Something inside Arcadia choked and hated itself. That tea had been maneuvered, and then Stettin had probably been maneuvered so that Homir was allowed to inspect the Palace after all. *She*, the foolish Callia, has wanted it so, and arranged to have smart little Arcadia supply a foolproof excuse, one which would arouse no suspicions in the minds of the victims, and yet involve a minimum of interference on her part.

Then why was she free? Homir was a prisoner, of course—

Unless—

Unless she went back to the Foundation as a decoy – a decoy to lead others into the hands of . . . of *them*.

So she couldn't return to the Foundation—

"Spaceport, lady." The air-taxi had come to a halt. Strange! She hadn't even noticed.

What a dream-world it was.

"Thanks," she pushed the bill at him without seeing anything and was stumbling out the door, then running across the springy pavement.

Lights. Unconcerned men and women. Large gleaming bulletin boards, with the moving figures that followed every single spaceship that arrived and departed.

Where was she going? She didn't care. She only knew that she wasn't going to the Foundation! Anywhere else at all would suit.

Oh, thank Seldon, for that forgetful moment – that last split-second when Callia wearied of her act because she had to do only with a child and had let her amusement spring through.

And then something else occurred to Arcadia, something that had been stirring and moving at the base of her brain ever since the flight began – something that forever killed the fourteen in her.

And she knew that she *must* escape.

That above all. Though they located every conspirator on the Foundation; though they caught her own father; she could not dare not, risk a warning. She could not risk her own life – not in the slightest – for the entire realm of Terminus. She was the most important person in the Galaxy. She was the *only* important person in the Galaxy.

She knew that even as she stood before the ticket-machine and wondered where to go.

Because in all the Galaxy, she and she alone, except for *they*, themselves, knew the location of the Second Foundation.

15. THROUGH THE GRID

TRANTOR By the middle of the Interregnum, Trantor was a shadow. In the midst of the colossal ruins, there lived a small community of farmers. . . .

ENCYCLOPEDIA GALACTICA

There is nothing, never has been anything, quite like a busy spaceport on the outskirts of a capital city of a populous planet. There are the huge machines resting mightily in their cradles. If you choose your time properly, there is the impressive sight of the sinking giant dropping to rest or, more hair-raising still, the swiftening departure of a bubble of steel. All processes involved are nearly noiseless. The motive power is the silent surge of nucleons shifting into more compact arrangements.

In terms of area, ninety-five percent of the port has just been referred to. Square miles are reserved for the machines, and for the men who serve them and for the calculators that serve both.

Only five percent of the port is given over to the floods of humanity to whom it is the way station to all the stars of the Galaxy. It is certain that very few of the anonymous many-headed stop to consider the technological mesh that knits the spaceways. Perhaps some of them might itch occasionally at the thought of the thousands of tons represented by the sinking steel that looks so small off in the distance. One of those cyclopean cylinders could, conceivably, miss the guiding beam and crash half a mile from its expected landing point – through the glassite roof of the immense waiting room perhaps – so that only a thin organic vapor and some powdered phosphates would be left behind to mark the passing of a thousand men.

It could never happen, however, with the safety devices in use; and only the badly neurotic would consider the possibility for more than a moment.

Then what *do* they think about? It is not just a crowd, you see. It is a crowd with a purpose. That purpose hovers over the field and thickens the atmosphere. Lines queue up; parents herd their children; baggage is maneuvered in precise masses – people are *going* somewheres.

Consider then the complete psychic isolation of a single unit of this terribly intent mob that does not know where to go; yet at the same time feels more intensely than any of the others possibly can, the necessity of going somewheres; anywhere! Or almost anywhere!

Even lacking telepathy or any of the crudely definite methods of mind touching mind, there is a sufficient clash in atmosphere, in intangible mood, to suffice for despair.

To suffice? To overflow, and drench, and drown.

Arcadia Darell, dressed in borrowed clothes, standing on a borrowed planet in a borrowed situation of what seemed even to be a borrowed life, wanted earnestly the safety of the womb. She didn't know that was what she wanted. She only knew that the very openness of the open world was a great danger. She wanted a closed spot somewhere – somewhere far – somewhere in an unexplored nook of the universe – where no one would ever look.

And there she was, age fourteen plus, weary enough for eighty plus, frightened enough for five minus.

What stranger of the hundreds that brushed past her – actually brushed past her, so that she could feel their touch – was a Second Foundationer? What stranger could not help but instantly destroy her for her guilty knowledge – her unique knowledge – of knowing where the Second Foundation was?

And the voice that cut in on her was a thunderclap that iced the scream in her throat into a voiceless slash.

"Look, miss," it said, irritably, "are you using the ticket machine or are you just standing there?"

It was the first she realized that she was standing in front of a ticket machine. You put a high denomination bill into the clipper which sank out of sight. You pressed the button below your destination and a ticket came out together with the correct change as determined by an electronic scanning device that never made a mistake. It was a very ordinary thing and there is no cause for anyone to stand before it for five minutes.

Arcadia plunged a two-hundred credit into the clipper, and was suddenly aware of the button labeled "Trantor." Trantor, dead capital of the dead Empire – the planet on which she was born. She pressed it in a dream. Nothing happened, except that the red letters flicked on and off, reading 172.18– 172.18– 172.18–

It was the amount she was short. Another two-hundred credit. The ticket was spit out towards her. It came loose when she touched it, and the change tumbled out afterward.

She seized it and ran. She felt the man behind her pressing close, anxious for his own chance at the machine, but she twisted out from before him and did not look behind.

Yet there was nowhere to run. They were all her enemies.

Without quite realizing it, she was watching the gigantic, glowing signs that puffed into the air: *Steffani, Anacreon, Fermus*— There was even one that ballooned, *Terminus*, and she longed for it, but did not dare—

For a trifling sum, she could have hired a notifier which could have been set for any destination she cared and which would, when placed in her purse, make itself heard only to her, fifteen minutes before take-off time. But such devices are for people who are reasonably secure, however; who can pause to think of them.

And then, attempting to look both ways simultaneously, she ran head-on into a soft abdomen. She felt the startled outbreath and grunt, and a hand come down on her arm. She writhed desperately but lacked breath to do more than mew a bit in the back of her throat.

Her captor held her firmly and waited. Slowly, he came into focus for her and she managed to look at him. He was rather plump and rather short. His hair was white and copious, being brushed back to give a pompadour effect that looked strangely incongruous above a round and ruddy face that shrieked its peasant origin.

"What's the matter?" he said finally, with a frank and twinkling curiosity. "You look scared."

"Sorry," muttered Arcadia in a frenzy. "I've got to go. Pardon me."

But he disregarded that entirely, and said, "Watch out, little girl. You'll drop your ticket." And he lifted it from her resistless white fingers and looked at it with every evidence of satisfaction.

"I thought so," he said, and then bawled in bull-like tones, "*Mommuh!*"

A woman was instantly at his side, somewhat more short, somewhat more round, somewhat more ruddy. She wound a finger about a stray gray lock to shove it beneath a well-outmoded hat.

"Pappa," she said, reprovingly, "why do you shout in a crowd like that? People look at you like you were crazy. Do you think you are on the farm?"

And she smiled sunnily at the unresponsive Arcadia, and added, "He has manners like a bear." Then, sharply, "Pappa, let go the little girl. What are you doing?"

But Pappa simply waved the ticket at her. "Look," he said, "she's going to Trantor."

Mamma's face was a sudden beam, "You're from Trantor? Let go her arm, I say, Pappa." She turned the overstuffed valise she was carrying onto its side and forced Arcadia to sit down with a gentle but unrelenting pressure. "Sit down," she said, "and rest your little feet. It will be no ship yet for an hour and the benches are crowded with sleeping loafers. You are from Trantor?"

Arcadia drew a deep breath and gave in. Huskily, she said, "I was born there."

And Mamma clapped her hands gleefully, "One month we've been here and till now we met nobody from home. This is very nice. Your parents—" she looked about vaguely.

"I'm not with my parents," Arcadia said, carefully.

"All alone? A little girl like you?" Mamma was at once a blend of indignation and sympathy, "How does that come to be?"

"Mamma," Pappa plucked at her sleeve, "let me tell you. There's something wrong. I think she's frightened." His voice, though obviously intended for a whisper was quite plainly audible to Arcadia. "She was running – I was watching her – and not looking where she was going. Before I could step out of the way, she bumped into me. And you know what? I think she's in trouble."

"So shut your mouth, Pappa. Into you, anybody could bump." But she joined Arcadia on the valise, which creaked wearily under the added weight and put an arm about the girl's trembling shoulder. "You're running away from somebody, sweetheart? Don't be afraid to tell me. I'll help you."

Arcadia looked across at the kind gray eyes of the woman and felt her lips quivering. One part of her brain was telling her that here were people from Trantor, with whom she could go, who could help her remain on that planet until she could decide what next to do, where next to go. And another part of her brain, much the louder, was telling her in jumbled incoherence that she did not remember her mother, that she was weary to death of fighting the universe, that she wanted only to curl into a little hall with strong, gentle arms about her, that if her mother had lived, she might . . . she might–

And for the first time that night, she was crying; crying like a little baby, and glad of it; clutching tightly at the old-fashioned dress and dampening a corner of it thoroughly, while soft arms held her closely and a gentle hand stroked her curls.

Pappa stood helplessly looking at the pair, fumbling futilely for a handkerchief which, when produced, was snatched from his hand. Mamma glared an admonition of quietness at him. The crowds surged about the little group with the true indifference of disconnected crowds everywhere. They were effectively alone.

Finally, the weeping trickled to a halt, and Arcadia smiled weakly as she dabbed at red eyes with the borrowed handkerchief. "Golly," she whispered,

"*Shh. Shh.* Don't talk," said Mamma, fussily, "just sit and rest for a while. Catch your breath. Then tell us what's wrong, and you'll see, we'll fix it up, and everything will be all right."

Arcadia scrabbled what remained of her wits together. She could not tell them the truth. She could tell nobody the truth– And yet she was too worn to invent a useful lie.

She said, whisperingly, "I'm better, now."

"Good," said Mamma. "Now tell me why you're in trouble. You did nothing wrong? Of course, whatever you did, we'll help you; but tell us the truth."

"For a friend from Trantor, anything," added Pappa, expansively, "eh, Mamma?"

"Shut your mouth, Pappa," was the response, without rancor.

Arcadia was groping in her purse. That, at least, was still hers, despite the rapid clothes-changing forced upon her in Lady Callia's apartments. She found what she was looking for and handed it to Mamma.

"These are my papers," she said, diffidently. It was shiny, synthetic parchment which had been issued her by the Foundation's ambassador on the day of her arrival and

which had been countersigned by the appropriate Kalganian official. It was large, florid, and impressive. Mamma looked at it helplessly, and passed it to Pappa who absorbed its contents with an impressive pursing of the lips.

He said, "You're from the Foundation?"

"Yes. But I was born in Trantor. See it says that—"

"Ah-hah. It looks all right to me. You're named Arcadia, eh? That's a good Trantorian name. But where's your uncle? It says here you came in the company of Homir Munn, uncle."

"He's been arrested," said Arcadia, dreadily.

"Arrested!" – from the two of them at once. "What for?" asked Mamma. "He did something?"

She shook her head. "I don't know. We were just on a visit. Uncle Homir had business with Lord Stettin but—" She needed no effort to act a shudder. It was there.

Pappa was impressed. "With Lord Stettin. Mm-m-m, your uncle must be a big man."

"I don't know what it was all about, but Lord Stettin wanted *me* to stay—" She was recalling the last words of Lady Callia, which had been acted out for her benefit. Since Callia, as she now knew, was an expert, the story could do for a second time.

She paused, and Mamma said interestedly, "And why you?"

"I'm not sure. He . . . he wanted to have dinner with me all alone, but I said no, because I wanted Uncle Homir along. He looked at me funny and kept holding my shoulder."

Pappa's mouth was a little open, but Mamma was suddenly red and angry. "How old are you, Arcadia?"

"Fourteen and a half, almost."

Mamma drew a sharp breath and said, "That such people should be let live. The dogs in the streets are better. You're running from him, dear, is not?"

Arcadia nodded.

Mamma said, "Pappa, go right to Information and find out exactly when the ship to Trantor comes to berth. Hurry!"

But Pappa took one step and stopped. Loud metallic words were booming overhead, and five thousand pairs of eyes looked startledly upwards.

"Men and women," it said, with sharp force. "The airport is being searched for a dangerous fugitive, and it is now surrounded. No one can enter and no one can leave. The search will, however, be conducted with great speed and no ships will reach or leave berth during the interval, so you will not miss your ship. I repeat, no one will miss his ship. The grid will descend. None of you will move outside your square until the grid is removed, as otherwise we will be forced to use our neuronics whips."

During the minute or less in which the voice dominated the vast dome of the spaceport's waiting room, Arcadia could not have moved if all the evil in the Galaxy had concentrated itself into a ball and hurled itself at her.

They could mean only her. It was not even necessary to formulate that idea as a specific thought. But why—

Callia had engineered her escape. And Callia was of the Second Foundation. Why, then, the search now? Had Callia failed? *Could* Callia fail? Or was this part of the plan, the intricacies of which escaped her?

For a vertiginous moment, she wanted to jump up and shout that she gave up, that she would go with them, that . . . that—

But Mamma's hand was on her wrist. "Quick! "Quick! We'll go to the lady's room before they start."

Arcadia did not understand. She merely followed blindly. They oozed through the crowd, frozen as it was into clumps, with the voice still booming through its last words.

The grid was descending now, and Pappa, openmouthed, watched it come down. He had heard of it and read of it, but had never actually been the object of it. It glimmered in the air, simply a series of cross-hatched and tight radiation-beams that set the air aglow in a harmless network of flashing light.

It always was so arranged as to descend slowly from above in order that it might represent a falling net with all the terrific psychological implications of entrapment.

It was at waist-level now, ten feet between glowing lines in each direction. In his own hundred square feet, Pappa found himself alone, yet the adjoining squares were crowded. He felt himself conspicuously isolated but knew that to move into the greater anonymity of a group would have meant crossing one of those glowing lines, stirring an alarm, and bringing down the neuronc whip.

He waited.

He could make out over the heads of the eerily quiet and waiting mob, the far-off stir that was the line of policemen covering the vast floor area, lighted square by lighted square.

It was a long time before a uniform stepped into his square and carefully noted its coordinates into an official notebook.

"Papers!"

Pappa handed them over, and they were flipped through in expert fashion.

"You're Preem Palver, native of Trantor, on Kalgan for a month, returning to Trantor. Answer, yes or no."

"Yes, yes."

"What's your business on Kalgan?"

"I'm trading representative of our farm co-operative. I've been negotiating terms with the Department of Agriculture on Kalgan."

"Um-m-m. Your wife is with you? Where is she? She is mentioned in your papers."

"Please. My wife is in the—" He pointed.

"Hanto," roared the policeman. Another uniform joined him.

The first one said, dryly, "Another dame in the can, by the Galaxy. The place must be busting with them. Write down her name." He indicated the entry in the papers which gave it.

"Anyone else with you?"

"My niece."

"She's not mentioned in the papers."

"She came separately."

"Where is she? Never mind, I know. Write down the niece's name, too, Hanto.

What's her name? Write down Arcadia Palver. You stay right here, Palver. We'll take care of the women before we leave."

Pappa waited interminably. And then, long, long after, Mamma was marching toward him, Arcadia's hand firmly in hers, the two policemen trailing behind her.

They entered Pappa's square, and one said, "Is this noisy old woman your wife?"

"Yes, sir," said Pappa, placatingly.

"Then you'd better tell her she's liable to get into trouble if she talks the way she does to the First Citizen's police." He straightened his shoulders angrily. "Is this your niece?"

"Yes, sir."

"I want her papers."

Looking straight at her husband, Mamma slightly, but no less firmly, shook her head.

A short pause, and Pappa said with a weak smile, "I don't think I can do that."

"What do you mean you can't do that?" The policeman thrust out a hard palm. "Hand it over."

"Diplomatic immunity," said Pappa, softly.

"What do you mean?"

"I said I was trading representative of my farm co-operative. I'm accredited to the Kalganian government as an official foreign representative and my papers prove it. I showed them to you and now I don't want to be bothered any more."

For a moment, the policeman was taken aback. "I got to see your papers. It's orders."

"You go away," broke in Mamma, suddenly. "When we want you, we'll send for you, you . . . you *bum*."

The policeman's lips tightened. "Keep your eye on them, Hanto. I'll get the lieutenant."

"Break a leg!" called Mamma after him. Someone laughed, and then choked it off suddenly.

The search was approaching its end. The crowd was growing dangerously restless. Forty-five minutes had elapsed since the grid had started falling and that is too long for best effects. Lieutenant Dirige threaded his way hastily, therefore, toward the dense center of the mob.

"Is this the girl?" he asked wearily. He looked at her and she obviously fitted the description. All this for a child.

He said, "Her papers, if you please?"

Pappa began, "I have already explained—"

"I know what you have explained, and I'm sorry," said the lieutenant, "but I have my orders, and I can't help them. If you care to make a protest later, you may. Meanwhile, if necessary, I must use force."

There was a pause, and the lieutenant waited patiently.

Then Pappa said, huskily, "Give me your papers, Arcadia."

Arcadia shook her head in panic, but Pappa nodded his head. "Don't be afraid. Give them to me."

Helplessly she reached out and let the documents change hands. Pappa fumbled them open and looked carefully through them, then handed them over. The lieutenant in his turn looked through them carefully. For a long moment, he raised his eyes to rest them on Arcadia, and then he closed the booklet with a sharp snap.

"All in order," he said. "All right, men."

He left, and in two minutes, scarcely more, the grid was gone, and the voice above signified a back-to-normal. The noise of the crowd, suddenly released, rose high.

Arcadia said: "How . . . how—"

Pappa said, "*Sh-h*. Don't say a word. Let's better go to the ship. It should be in the berth soon."

They were on the ship. They had a private stateroom and a table to themselves in the dining room. Two light-years already separated them from Kalgan, and Arcadia finally dared to broach the subject again.

She said, "But they were after me, Mr. Palver, and they must have had my description and all the details. Why did he let me go?"

And Pappa smiled broadly over his roast beef. "Well, Arcadia, child, it was easy. When you've been dealing with agents and buyers and competing co-operatives, you learn some of the tricks. I've had twenty years or more to learn them in. You see, child, when the lieutenant opened your papers, he found a five hundred credit bill inside, folded up small. Simple, no?"

"I'll pay you back—Honest, I've got lots of money."

"Well," Pappa's broad face broke into an embarrassed smile, as he waved it away. "For a country-woman—"

Arcadia desisted. "But what if he'd taken the money and turned me in anyway. And accused me of bribery."

"And give up five hundred credits? I know these people better than you do, girl."

But Arcadia knew that he did not know people better. Not *these* people. In her bed that night, she considered carefully, and *knew* that no bribe would have stopped a police lieutenant in the matter of catching her unless that had been planned. They *didn't* want to catch her, yet had made every motion of doing so, nevertheless.

Why? To make sure she left? And for Trantor? Were the obtuse and soft-hearted couple she was with now only a pair of tools in the hands of the Second Foundation, as helpless as she herself?

They must be!

Or were they?

It was all so useless. How could she fight them. Whatever she did, it might only be what those terrible omnipotents wanted her to do.

Yet she had to outwit them. *Had to. Had to! Had to!!*

16. BEGINNING OF WAR

For reason or reasons unknown to members of the Galaxy at the time of the era under discussion, Intergalactic Standard Time defines its fundamental unit, the second, as the time in which light travels 299,776 kilometers. 86,400 seconds are arbitrarily set equal to one Intergalactic Standard Day; and 365 of these days to one Intergalactic Standard Year.

Why 299,776?– Or 86,400?– Or 365?

Tradition, says the historian, begging the question. Because of certain and various mysterious numerical relationships, say the mystics, cultists, numerologists, metaphysicists. Because the original home-planet of humanity had certain natural periods of rotation and revolution from which those relationships could be derived, say a very few.

No one really knew.

Nevertheless, the date on which the Foundation cruiser, the *Hober Mallow* met the Kalganian squadron, headed by the *Fearless*, and, upon refusing to allow a search party to board, was blasted into smoldering wreckage was 185; 11692 G.E. That is, it was the 185th day of the 11,692nd year of the Galactic Era which dated from the accession of the first Emperor of the traditional Kamble dynasty. It was also 185; 419 A.S. – dating from the birth of Seldon – or 185; 348 Y.F. – dating from the establishment of the Foundation. On Kalgan it was 185; 56 F.C. – dating from the establishment of the First Citizenship by the Mule. In each case, of course, for convenience, the year was so arranged as to yield the same day number regardless of the actual day upon which the era began.

And, in addition, to all the millions of worlds of the Galaxy, there were millions of local times, based on the motions of their own particular heavenly neighbors.

But whichever you choose: 185; 11692-419-348-56 – or anything – it was this day which historians later pointed to when they spoke of the start of the Stettinian war.

Yet to Dr. Darell, it was none of these at all. It was simply and quite precisely the thirty-second day since Arcadia had left Terminus.

What it cost Darell to maintain stolidity through these days was not obvious to everyone.

But Elvett Semic thought he could guess. He was an old man and fond of saying that his neuronc sheaths had calcified to the point where his thinking processes were stiff and unwieldy. He invited and almost welcomed the universal underestimation of his decaying powers by being the first to laugh at them. But his eyes were none the less seeing for being faded; his mind none the less experienced and wise, for being no longer agile.

He merely twisted his pinched lips and said, "Why don't you do something about it?"

The sound was a physical jar to Darell, under which he winced. He said, gruffly, "Where were we?"

Semic regarded him with grave eyes. "You'd better do something about the girl." His sparse, yellow teeth showed in a mouth that was open in inquiry.

But Darell replied coldly, "The question is: Can you get a Symes-Molff Resonator in the range required?"

Well, I said I could and you weren't listening—

"I'm sorry, Elvett. It's like this. What we're doing now can be more important to everyone in the Galaxy than the question of whether Arcadia is safe. At least, to everyone but Arcadia and myself, and I'm willing to go along with the majority. How big would the Resonator be?"

Semic looked doubtful, "I don't know. You can find it somewhere in the catalogues."

"About how big. A ton? A pound? A block long?"

"Oh, I thought you meant exactly. It's a little jigger." He indicated the first joint of his thumb. "About that."

"All right, can you do something like this?" He sketched rapidly on the pad he held in his lap, then passed it over to the old physicist, who peered at it doubtfully, then chuckled.

"Y'know, the brain gets calcified when you get as old as I am. What are you trying to do?"

Darell hesitated. He longed desperately, at the moment, for the physical knowledge locked in the other's brain, so that he need not put his thought into words. But the longing was useless, and he explained.

Semic was shaking his head. "You'd need hyper-relays. The only things that would work fast enough. A thundering lot of them."

"But it can be built?"

"Well, sure."

"Can you get all the parts? I mean, without causing comment? In line with your general work."

Semic lifted his upper lip. "Can't get fifty hyper-relays? I wouldn't use that many in my whole life."

"We're on a defense project, now. Can't you think of something harmless that would use them? We've got the money."

"Hm-m-m. Maybe I can think of something."

"How small can you make the whole gadget?"

"Hyper-relays can be had micro-size . . . wiring . . . tubes – Space, you've got a few hundred circuits there."

"I know. How big?"

Semic indicated with his hands.

"Too big," said Darell. "I've got to swing it from my belt"

Slowly, he was crumpling his sketch into a tight ball. When it was a hard, yellow grape, he dropped it into the ash tray and it was gone with the tiny white flare of molecular decomposition.

He said, "Who's at your door?"

Semic leaned over his desk to the little milky screen above the door signal. He said, "The young fellow, Anthor. Someone with him, too."

Darell scraped his chair back. "Nothing about this, Semic, to the others yet. It's deadly knowledge, if they find out, and two lives are enough to risk."

Pelleas Anthor was a pulsing vortex of activity in Semic's office, which, somehow, managed to partake of the age of its occupant. In the slow turgor of the quiet room, the loose, summery sleeves of Anthor's tunic seemed still a-quiver with the outer breezes.

He said, "Dr. Darell, Dr. Semic – Orum Dirige."

The other man was tall. A long straight nose that lent his thin face a saturnine appearance. Dr. Darell held out a hand.

Anthor smiled slightly. "Police Lieutenant Dirige," he amplified. Then, significantly, "Of Kalgan."

And Darell turned to stare with force at the young man. "Police Lieutenant Dirige of Kalgan," he repeated, distinctly. "And you bring him here. Why?"

"Because he was the last man on Kalgan to see your daughter. Hold, man."

Anthor's look of triumph was suddenly one of concern, and he was between the two, struggling violently with Darell. Slowly, and not gently, he forced the older man back into the chair.

"What are you trying to do?" Anthor brushed a lock of brown hair from his forehead, tossed a hip lightly upon the desk, and swung a leg, thoughtfully. "I thought I was bringing you good news."

Darell addressed the policeman directly, "What does he mean by calling you the last man to see my daughter? Is my daughter dead? Please tell me without preliminary." His face was white with apprehension.

Lieutenant Dirige said expressionlessly, "'Last man on Kalgan' was the phrase. She's not on Kalgan now. I have no knowledge past that."

"Here," broke in Anthor, "let me put it straight. Sorry if I overplayed the drama a bit, Doc. You're so inhuman about this, I forget you have feelings. In the first place, Lieutenant Dirige is one of us. He was born on Kalgan, but his father was a Foundation man brought to that planet in the service of the Mule. I answer for the lieutenant's loyalty to the Foundation.

"Now I was in touch with him the day after we stopped getting the daily report from Munn—"

"Why?" broke in Darell, fiercely. "I thought it was quite decided that we were not to make a move in the matter. You were risking their lives and ours."

"Because," was the equally fierce retort, "I've been involved in this game for longer than you. Because I know of certain contacts on Kalgan of which you know nothing. Because I act from deeper knowledge, do you understand?"

"I think you're completely mad."

"Will you listen?"

A pause, and Darell's eyes dropped.

Anchor's lips quirked into a half smile, "All right, Doc. Give me a few minutes. Tell him, Dirige."

Dirige spoke easily: "As far as I know, Dr. Darell, your daughter is at Trantor. At least, she had a ticket to Trantor at the Eastern Spaceport. She was with a Trading Representative from that planet who claimed she was his niece. Your daughter seems to have a queer collection of relatives, doctor. That was the second uncle she had in a period of two weeks, eh? The Trantorian even tried to bribe me – probably thinks that's why they got away." He smiled grimly at the thought.

"How was she?"

"Unharmful, as far as I could see. Frightened. I don't blame her for that. The whole department was after her. I still don't know why."

Darell drew a breath for what seemed the first time in several minutes. He was conscious of the trembling of his hands and controlled them with an effort. "Then she's all right. This Trading Representative, who was he? Go back to him. What part does he play in it?"

"I don't know. Do you know anything about Trantor?"

"I lived there once."

"It's an agricultural world, now. Exports animal fodder and grains, mostly. High quality! They sell them all over the Galaxy. There are a dozen or two farm co-operatives on the planet and each has its representatives overseas. Shrewd sons of guns, too— I knew this one's record. He'd been on Kalgan before, usually with his wife. Perfectly honest. Perfectly harmless."

"Um-m-m," said Anchor. "Arcadia was born in Trantor, wasn't she, Doc?"

Darell nodded.

"It hangs together, you see. She wanted to go away – quickly and far – and Trantor would suggest itself. Don't you think so?"

Darell said: "Why not back here?"

"Perhaps she was being pursued and felt that she had to double off in a new angle, eh?"

Dr. Darell lacked the heart to question further. Well, then, let her be safe on Trantor, or as safe as one could be anywhere in this dark and horrible Galaxy. He groped toward the door, felt Anchor's light touch on his sleeve, and stopped, but did not turn.

"Mind if I go home with you, Doc?"

"You're welcome," was the automatic response.

By evening, the exteriormost reaches of Dr. Darell's personality, the ones that made immediate contact with other people had solidified once more. He had refused to

eat his evening meal and had, instead, with feverish insistence, returned to the inchwise advance into the intricate mathematics of encephalographic analysis.

It was not till nearly midnight, that he entered the living room again.

Pelleas Anthor was still there, twiddling at the controls of the video. The footsteps behind him caused him to glance over his shoulder.

"Hi. Aren't you in bed yet? I've been spending hours on the video, trying to get something other than bulletins. It seems the *F.S. Hober Mallow* is delayed in course and hasn't been heard from"

"Really? What do they suspect?"

"What do you think? Kalganian skulduggery. There are reports that Kalganian vessels were sighted in the general space sector in which the *Hober Mallow* was last heard from?"

Darell shrugged, and Anthor rubbed his forehead doubtfully.

"Look doc," he said, "why don't you go to Trantor?"

"Why should I?"

"Because "You're no good to us here. You're not yourself. You can't be. And you could accomplish a purpose by going to Trantor, too. The old Imperial Library with the complete records of the Proceedings of the Seldon Commission are there—"

"No! The Library has been picked clean and it hasn't helped anyone."

"It helped Ebling Mis once."

"How do you know? Yes, he *said* he found the Second Foundation, and my mother killed him five seconds later as the only way to keep him from unwittingly revealing its location to the Mule. But in doing so, she also, you realize, made it impossible ever to tell whether Mis *really* did know the location. After all, no one else has ever been able to deduce the truth from those records."

"Ebling Mis, if you'll remember, was working under the driving impetus of the Mule's mind."

"I know that, too, but *Mis'* mind was, by that very token, in an abnormal state. Do you and I know anything about the properties of a mind under the emotional control of another; about its abilities and shortcomings? In any case, I will not go to Trantor."

Anthor frowned, "Well, why the vehemence? I merely suggested it as – well, by Space, I don't understand you. You look ten years older. You're obviously having a hellish time of it. You're not doing anything of value here. If I were you, I'd go and get the girl."

"Exactly! It's what I want to do, too. *That's why I won't do it.* Look, Anthor, and try to understand. You're playing – we're both playing – with something completely beyond our powers to fight. In cold blood, if you have any, you know that, whatever you may think in your moments of quixoticism.

"For fifty years, we've known that the Second Foundation is the real descendent and pupil of Seldonian mathematics. What that means, and you know that, too, is that nothing in the Galaxy happens which does not play a part in their reckoning. To us, all life is a series of accidents, to be met with by improvisations To them, all life is purposive and should be met by precalculation.

"But they have their weakness. Their work is statistical and only the mass action of humanity is truly inevitable. Now how *I* play a part, as an individual, in the foreseen course of history, I don't know. Perhaps I have no definite part, since the Plan leaves individuals to indeterminacy and free will. But I am important and they – *they*, you understand – may at least have calculated my probable reaction. So I distrust, my impulses, my desires, my probable reactions.

"I would rather present them with an improbable reaction. I will stay here, despite the fact that I yearn very desperately to leave. "No! *Because* I yearn very desperately to leave."

The younger man smiled sourly. "You don't know your own mind as well as *they* might. Suppose that – knowing you – they might count on what you think, merely *think*, is the improbable reaction, simply by knowing in advance what your line of reasoning would be."

"In that case, there is no escape. For if I follow the reasoning you have just outlined and go to Trantor, they may have foreseen that, too. There is an endless cycle of double-double-double-double-crosses. No matter how far I follow that cycle, I can only either go or stay. The intricate act of luring my daughter halfway across the Galaxy cannot be meant to make me stay where I am, since I would most certainly have stayed if they had done nothing. It can only be to make me move, and so I will stay.

"And besides, Anthor, not everything bears the breath of the Second Foundation; not all events are the results of their puppeting. They may have had nothing to do with Arcadia's leave-taking, and she may be safe on Trantor when all the rest of us are dead."

"No," said Anthor, sharply, "now you are off the track."

"You have an alternative interpretation?"

"I have – if you'll listen."

"Oh, go ahead. I don't lack patience."

"Well, then – how well do you know your own daughter?"

"How well can any individual know any other? Obviously, my knowledge is inadequate."

"So is mine on that basis, perhaps even more so – but at least, I viewed her with fresh eyes. Item one: She is a ferocious little romantic, the only child of an ivory-tower academician, growing up in an unreal world of video and book-film adventure. She lives in a weird self-constructed fantasy of espionage and intrigue. Item two: She's intelligent about it; intelligent enough to outwit us, at any rate. She planned carefully to overhear our first conference and succeeded. She planned carefully to go to Kalgan with Munn and succeeded. Item three: She has an unholy hero-worship of her grandmother – your mother – who defeated the Mule.

"I'm right so far, I think? All right, then. Now, unlike you, I've received a complete report from Lieutenant Dirige and, in addition, my sources of information on Kalgan are rather complete, and all sources check. We know, for instance, that Homir Munn, in conference with the Lord of Kalgan was refused admission to the Mule's Palace, and that

this refusal was suddenly abrogated after Arcadia had spoken to Lady Callia, the First Citizen's very good friend."

Darell interrupted. "And how do you know all this?"

"For one thing, Munn was interviewed by Dirige as part of the police campaign to locate Arcadia. Naturally, we have a complete transcript of the questions and answers.

"And take Lady Callia herself. It is rumored that she has lost Stettin's interest, but the rumor isn't borne out by facts. She not only remains unreplaced; is not only able to mediate the lord's refusal to Munn into an acceptance; but can even engineer Arcadia's escape openly. Why, a dozen of the soldiers about Stettin's executive mansion testified that they were seen together on the last evening. Yet she remains unpunished. This despite the fact that Arcadia was searched for with every appearance of diligence."

"But what is your conclusion from all this torrent of ill-connection?"

"That Arcadia's escape was arranged."

"As I said."

"With this addition. That Arcadia must have known it was arranged; that Arcadia, the bright little girl who saw cabals everywhere, saw this one and followed your own type of reasoning. They wanted her to return to the Foundation, and so she went to Trantor, instead. But why Trantor?"

"Well, why?"

"Because that is where Bayta, her idolized grandmother, escaped when *she* was in flight. Consciously or unconsciously, Arcadia imitated that. I wonder, then, if Arcadia was fleeing the same enemy."

"The Mule?" asked Darell with polite sarcasm.

"Of course not. I mean, by the enemy, a mentality that she could not fight. She was running from the Second Foundation, or such influence thereof as could be found on Kalgan."

"What influence is this you speak of?"

"Do you expect Kalgan to be immune from that ubiquitous menace? We both have come to the conclusion, somehow, that Arcadia's escape was arranged. Right? She was searched for and found, but deliberately allowed to slip away by Dirige. By Dirige, do you understand? But how was that? Because he was our man. But how did they know that? Were they counting on him to be a traitor? Eh, doc?"

"Now you're saying that they honestly meant to recapture her. Frankly, you're tiring me a bit, Anthor. Finish your say; I want to go to bed."

"My say is quickly finished." Anthor reached for a small group of photo-records in his inner pocket. It was the familiar wiggings of the encephalograph. "Dirige's brainwaves," Anthor said, casually, "taken since he returned."

It was quite visible to Darell's naked eye, and his face was gray when he looked up. "He is Controlled."

"Exactly. He allowed Arcadia to escape not because he was our man but because he was the Second Foundation's."

"Even after he knew she was going to Trantor, and not to Terminus."

Author shrugged. "He had been geared to let her go. There was no way *he* could modify that. He was only a tool, you see. It was just that Arcadia followed the least probable course, and is probably safe. Or at least safe until such time as the Second Foundation can modify the plans to take into account this changed state of affairs—"

He paused. The little signal light on the video set was flashing. On an independent circuit, it signified the presence of emergency news. Darell saw it, too, and with the mechanical movement of long habit turned on the video. They broke in upon the middle of a sentence but before its completion, they knew that the *Hober Mallow*, or the wreck thereof, had been found and that, for the first time in nearly half a century, the Foundation was again at war.

Author's jaw was set in a hard line. "All right, doc, you heard that. Kalgan has attacked; and Kalgan is under the control of the Second Foundation. Will you follow your daughter's lead and move to Trantor?"

"No. I will risk it. Here."

"Dr. Darell. You are not as intelligent as your daughter. I wonder how far you can be trusted." His long level stare held Darell for a moment, and then without a word, he left.

And Darell was left in uncertainty and – almost – despair.

Unheeded, the video was a medley of excited sight-sound, as it described in nervous detail the first hour of the war between Kalgan and the Foundation.

17. WAR

The mayor of the Foundation brushed futilely at the picket fence of hair that rimmed his skull. He sighed. "The years that we have wasted; the chances we have thrown away. I make no recriminations, Dr. Darell, but we deserve defeat."

Darell said, quietly, "I see no reason for lack of confidence in events, sir."

"Lack of confidence! Lack of confidence! By the Galaxy, Dr. Darell, on what would you base any other attitude? Come here—"

He half-led half-forced Darell toward the limpid ovoid cradled gracefully on its tiny force-field support. At a touch of the mayor's hand, it glowed within – an accurate three-dimensional model of the Galactic double-spiral.

"In yellow," said the mayor, excitedly, "we have that region of Space under Foundation control; in red, that under Kalgan."

What Darell saw was a crimson sphere resting within a stretching yellow fist that surrounded it on all sides but that toward the center of the Galaxy.

"Galactography," said the mayor, "is our greatest enemy. Our admirals make no secret of our almost hopeless, strategic position. Observe. The enemy has inner lines of communication. He is concentrated; can meet us on all sides with equal ease. He can defend himself with minimum force."

"We are expanded. The average distance between inhabited systems within the Foundation is nearly three times that within Kalgan. To go from Santanni to Locris, for instance, is a voyage of twenty-five hundred parsecs for us, but only eight hundred parsecs for them, if we remain within our respective territories—"

Darell said, "I understand all that, sir."

"And you do not understand that it may mean defeat."

"There is more than distance to war. I say we cannot lose. It is quite impossible."

"And why do you say that?"

"Because of my own interpretation of the Seldon Plan."

"Oh," the mayor's lips twisted, and the hands behind his back flapped one within the other, "then you rely, too, on the mystical help of the Second Foundation."

"No. Merely on the help of inevitability – and of courage and persistence."

And yet behind his easy confidence, he wondered—

What if—

Well— What if Anthor were right, and Kalgan were a direct tool of the mental wizards. What if it was their purpose to defeat and destroy the Foundation. No! It made no sense!

And yet—

He smiled bitterly. Always the same. Always that peering and peering through the opaque granite which, to the enemy, was so transparent.

Nor were the galactographic verities of the situation lost upon Stettin.

The Lord of Kalgan stood before a twin of the Galactic model which the mayor and Darell had inspected. Except that where the mayor frowned, Stettin smiled.

His admiral's uniform glistened imposingly upon his massive figure. The crimson sash of the Order of the Mule awarded him by the former First Citizen whom six months later he had replaced somewhat forcefully, spanned his chest diagonally from right shoulder to waist. The Silver Star with Double Comets and Swords sparkled brilliantly upon his left shoulder.

He addressed the six men of his general staff whose uniforms were only less grandiloquent than his own, and his First Minister as well, thin and gray – a darkling cobweb, lost in the brightness.

Stettin said, "I think the decisions are clear. We can afford to wait. To them, every day of delay will be another blow at their morale. If they attempt to defend all portions of their realm, they will be spread thin and we can strike through in two simultaneous thrusts here and here." He indicated the directions on the Galactic model – two lances of pure white shooting through the yellow fist from the red ball it inclosed, cutting Terminus off on either side in a tight arc. "In such a manner, we cut their fleet into three parts which can be defeated in detail. If they concentrate, they give up two-thirds of their dominions voluntarily and will probably risk rebellion."

The First Minister's thin voice alone seeped through the hush that followed. "In six months," he said, "the Foundation will grow six months stronger. Their resources are

greater, as we all know, their navy is numerically stronger; their manpower is virtually inexhaustible. Perhaps a quick thrust would be safer."

His was easily the least influential voice in the room. Lord Stettin smiled and made a flat gesture with his hand. "The six months – or a year, if necessary – will cost us nothing. The men of the Foundation cannot prepare; they are ideologically incapable of it. It is in their very philosophy to believe that the Second Foundation will save them. But not this time, eh?"

The men in the room stirred uneasily.

"You lack confidence, I believe," said Stettin, frigidly. "Is it necessary once again to describe the reports of our agents in Foundation territory, or to repeat the findings of Mr. Homir Munn, the Foundation agent now in our . . . uh . . . service? Let us adjourn, gentlemen."

Stettin returned to his private chambers with a fixed smile still on his face. He sometimes wondered about this Homir Munn. A queer water-spined fellow who certainly did not bear out his early promise. And yet he crawled with interesting information that carried conviction with it – particularly when Callia was present.

His smile broadened. That fat fool had her uses, after all. At least, she got more with her wheedling out of Munn than he could, and with less trouble. Why not give her to Munn? He frowned. Callia. She and her stupid jealousy. Space! If he still had the Darell girl- Why hadn't he ground her skull to powder for that?

He couldn't quite put his finger on the reason.

Maybe because she got along with Munn. And he needed Munn. It was Munn, for instance, who had demonstrated that, at least in the belief of the Mule, there was no Second Foundation. His admirals needed that assurance.

He would have liked to make the proofs public, but it was better to let the Foundation believe in their nonexistent help. Was it actually Callia who had pointed that out? That's right. She had said–

Oh, nonsense! She couldn't have said anything.

And yet–

He shook his head to clear it and passed on.

18. GHOST OF A WORLD

Trantor was a world in dregs and rebirth. Set like a faded jewel in the midst of the bewildering crowd of suns at the center of the Galaxy – in the heaps and clusters of stars piled high with aimless prodigality – it alternately dreamed of past and future.

Time had been when the insubstantial ribbons of control had stretched out from its metal coating to the very edges of stardom. It had been a single city, housing four hundred billion administrators; the mightiest capital that had ever been.

Until the decay of the Empire eventually reached it and in the Great Sack of a century ago, its drooping powers had been bent back upon themselves and broken

forever. In the blasting ruin of death, the metal shell that circled the planet wrinkled and crumpled into an aching mock of its own grandeur.

The survivors tore up the metal plating and sold it to other planets for seed and cattle. The soil was uncovered once more and the planet returned to its beginnings. In the spreading areas of primitive agriculture, it forgot its intricate and colossal past.

Or would have but for the still mighty shards that heaped their massive ruins toward the sky in bitter and dignified silence.

Arcadia watched the metal rim of the horizon with a stirring of the heart. The village in which the Palvers lived was but a huddle of houses to her – small and primitive. The fields that surrounded it were golden-yellow, wheat-clogged tracts.

But there, just past the reaching point was the memory of the past, still glowing in unruined splendor, and burning with fire where the sun of Trantor caught it in gleaming highlights. She had been there once during the months since she had arrived at Trantor. She had climbed onto the smooth, unjointed pavement and ventured into the silent dust-streaked structures, where the light entered through the jags of broken walls and partitions.

It had been solidified heartache. It had been blasphemy.

She had left, clangingly – running until her feet pounded softly on earth once more.

And then she could only look back longingly. She dared not disturb that mighty brooding once more.

Somewhere on this world, she knew, she had been born – near the old Imperial Library, which was the veriest Trantor of Trantor. It was the sacred of the sacred; the holy of holies! Of all the world, it alone had survived the Great Sack and for a century it had remained complete and untouched; defiant of the universe.

There Hari Seldon and his group had woven their unimaginable web. There Ebling Mis pierced the secret, and sat numbed in his vast surprise, until he was killed to prevent the secret from going further.

There at the Imperial Library, her grandparents had lived for ten years, until the Mule died, and they could return to the reborn Foundation.

There at the Imperial Library, her own father returned with his bride to find the Second Foundation once again, but failed. There, she had been born and there her mother had died.

She would have liked to visit the Library, but Preem Palver shook his round head. "It's thousands of miles, Arkady, and there's so much to do here. Besides, it's not good to bother there. You know; it's a shrine–"

But Arcadia knew that he had no desire to visit the Library; that it was a case of the Mule's Palace over again. There was this superstitious fear on the part of the pygmies of the present for the relies of the giants of the past.

Yet it would have been horrible to feel a grudge against the funny little man for that. She had been on Trantor now for nearly three months and in all that time, he and she – Pappa and Mamma – had been wonderful to her–

And what was her return? Why, to involve them in the common ruin. Had she warned them that she was marked for destruction, perhaps? No! She let them assume the deadly role of protectors.

Her conscience panged unbearably – yet what choice had she?

She stepped reluctantly down the stairs to breakfast. The voices reached her.

Preem Palver had tucked the napkin down his shirt collar with a twist of his plump neck and had reached for his poached eggs with an uninhibited satisfaction.

"I was down in the city yesterday, Mamma," he said, wielding his fork and nearly drowning the words with a capacious mouthful.

"And what is down in the city, Pappa?" asked Mamma indifferently, sitting down, looking sharply about the table, and rising again for the salt.

"Ah, not so good. A ship came in from out Kalgan-way with newspapers from there. It's war there."

"War! So! Well, let them break their heads, if they have no more sense inside. Did your pay check come yet? Pappa, I'm telling you again. You warn old man Cosker this isn't the only cooperative in the world. It's bad enough they pay you what I'm ashamed to tell my friends, but at least on time they could be!"

"Time; shmime," said Pappa, irritably. "Look, don't make me silly talk at breakfast, it should choke me each bite in the throat," and he wreaked havoc among the buttered toast as he said it. He added, somewhat more moderately, "The fighting is between Kalgan and the Foundation, and for two months, they've been at it."

His hands lunged at one another in mock-representation of a space fight.

"Um-m-m. And what's doing?"

"Bad for the Foundation. Well, you saw Kalgan; all soldiers. They were ready. The Foundation was not, and so – *poof!*"

And suddenly, Mamma laid down her fork and hissed, "Fool!"

"Huh?"

"Dumb-head! Your big mouth is always moving and wagging."

She was pointing quickly and when Pappa looked over his shoulder, there was Arcadia, frozen in the doorway.

She said, "The Foundation is at war?"

Pappa looked helplessly at Mamma, then nodded.

"And they're losing?"

Again the nod.

Arcadia felt the unbearable catch in her throat, and slowly approached the table. "Is it over?" she whispered.

"Over?" repeated Pappa, with false heartiness. "Who said it was over? In war, lots of things can happen. And . . . and–"

"Sit down, darling," said Mamma, soothingly. "No one should talk before breakfast. You're not in a healthy condition with no food in the stomach."

But Arcadia ignored her. "Are the Kalganians on Terminus?"

"No," said Pappa, seriously. "The news is from last week, and Terminus is still fighting. This is honest. I'm telling the truth. And the Foundation is still strong. Do you want me to get you the newspapers?"

"Yes!"

She read them over what she could eat of her breakfast and her eyes blurred as she read. Santanni and Korell were gone – without a fight. A squadron of the Foundation's navy had been trapped in the sparsely-sunned Ifni sector and wiped out to almost the last ship.

And now the Foundation was back to the Four-Kingdom core – the original Realm which had been built up under Salvor Hardin, the first mayor. But still it fought – and still there might be a chance-and whatever happened, she must inform her father. She must somehow reach his ear. She *must!*

But how? With a war in the way.

She asked Pappa after breakfast, "Are you going out on a new mission soon, Mr. Palver?"

Pappa was on the large chair on the front lawn, sunning himself. A fat cigar smoldered between his plump fingers and he looked like a beatific pug-dog.

"A mission?" he repeated, lazily. "Who knows? It's a nice vacation and my leave isn't up. Why talk about new missions? You're restless, Arkady?"

"Me? No, I like it here. You're very good to me, you and Mrs. Palver."

He waved his hand at her, brushing away her words.

Arcadia said, "I was thinking about the war."

"But don't think about it. What can you do? If it's something you can't help, why hurt yourself over it?"

"But I was thinking that the Foundation has lost most of its farming worlds. They're probably rationing food there."

Pappa looked uncomfortable. "Don't worry. It'll be all right."

She scarcely listened. "I wish I could carry food to them, that's what. You know after the Mule died, and the Foundation rebelled, Terminus was just about isolated for a time and General Han Pritcher, who succeeded the Mule for a while was laying siege to it. Food was running awfully low and my father says that *his* father told him that they only had dry amino-acid concentrates that tasted terrible. Why, one egg cost two hundred credits. And then they broke the siege just in time and food ships came through from Santanni. It must have been an awful time. Probably it's happening all over, now."

There was a pause, and then Arcadia said, "You know, I'll bet the Foundation would be willing to pay smuggler's prices for food now. Double and triple and more. Gee, if any co-operative, f'r instance, here on Trantor took over the job, they might lose some ships, but, I'll bet they'd be war millionaires before it was over. The Foundation Traders in the old days used to do that all the time. There'd be a war, so they'd sell whatever was needed bad and take their chances. Golly, they used to make as much as two million dollars out of one trip – *profit*. That was just out of what they could carry on one ship, too."

Pappa stirred. His cigar had gone out, unnoticed. "A deal for food, huh? Hm-m-m— But the Foundation is so far away."

"Oh, I know. I guess you couldn't do it from here. If you took a regular liner you probably couldn't get closer than Massena or Smushyk, and after that you'd have to hire a small scoutship or something to slip you through the lines."

Pappa's hand brushed at his hair, as he calculated.

Two weeks later, arrangements for the mission were completed. Mamma railed for most of the time— First, at the incurable obstinacy with which he courted suicide. Then, at the incredible obstinacy with which he refused to allow her to accompany him.

Pappa said, "Mamma, why do you act like an old lady. I can't take you. It's a man's work. What do you think a war is? Fun? Child's play?"

"Then why do you go? Are you a man, you old fool – with a leg and half an arm in the grave. Let some of the young ones go – not a fat bald-head like you?"

"I'm not a bald-head," retorted Pappa, with dignity. "I got yet lots of hair. And why should it not be me that gets the commission? Why, a young fellow? Listen, this could mean millions?"

She knew that and she subsided.

Arcadia saw him once before he left.

She said, "Are you going to Terminus?"

"Why not? You say yourself they need bread and rice and potatoes. Well, I'll make a deal with them, and they'll get it."

"Well, then – just one thing: If you're going to Terminus, could you . . . would you see my father?"

And Pappa's face crinkled and seemed to melt into sympathy, "Oh – and I have to wait for you to tell me. Sure, I'll see him. I'll tell him you're safe and everything's O.K., and when the war is over, I'll bring you back."

"Thanks. I'll tell you how to find him. His name is Dr. Toran Darell and he lives in Stanmark. That's just outside Terminus City, and you can get a little commuting plane that goes there. We're at 55 Channel Drive."

"Wait, and I'll write it down."

"No, no," Arcadia's arm shot out. "You mustn't write anything down. You must remember – and find him without anybody's help."

Pappa looked puzzled. Then he shrugged his shoulders. "All right, then. It's 55 Channel Drive in Stanmark, outside Terminus City, and you commute there by plane. All right?"

"One other thing."

"Yes?"

"Would you tell him something from me?"

"Sure."

"I want to whisper it to you."

He leaned his plump cheek toward her, and the little whispered sound passed from one to the other.

Pappa's eyes were round. "That's what you want me to say? But it doesn't make sense."

"He'll know what you mean. Just say I sent it and that I said he would know what it means. And you say it exactly the way I told you. No different. You won't forget it?"

"How can I forget it? Five little words. Look—"

"No, no." She hopped up and down in the intensity of her feelings. "Don't repeat it. Don't ever repeat it to anyone. Forget all about it except to my father. Promise me."

Pappa shrugged again. "I promise! All right!"

"All right," she said, mournfully, and as he passed down the drive to where the air taxi waited to take him to the spaceport, she wondered if she had signed his death warrant. She wondered if she would ever see him again.

She scarcely dared to walk into the house again to face the good, kind Mamma. Maybe when it was all over, she had better kill herself for what she had done to them.

19. END OF WAR

QUORISTON, BATTLE OF Fought on 9, 17, 377 F.E. between the forces of the Foundation and those of Lord Stettin of Kalgan, it was the last battle of consequence during the Interregnum

ENCYCLOPEDIA GALACTICA

Jole Turbor, in his new role of war correspondent, found his bulk incased in a naval uniform, and rather liked it. He enjoyed being back on the air, and some of the fierce helplessness of the futile fight against the Second Foundation left him in the excitement of another sort of fight with substantial ships and ordinary men.

To be sure, the Foundation's fight had not been remarkable for victories, but it was still possible to be philosophic about the matter. After six months, the hard core of the Foundation was untouched, and the hard core of the Fleet was still in being. With the new additions since the start of the war, it was almost as strong numerically, and stronger technically, than before the defeat at Ifni.

And meanwhile, planetary defenses were being strengthened; the armed forces better trained; administrative efficiency was having some of the water squeezed out of it – and much of the Kalganian's conquering fleet was being wallowed down through the necessity of occupying the "conquered" territory.

At the moment, Turbor was with the Third Fleet in the outer reaches of the Anacreonian sector. In line with his policy of making this a "little man's war," he was interviewing Fennel Leemor, Engineer Third Class, volunteer.

"Tell us a little about yourself, sailor," said Turbor.

"Ain't much to tell," Leemor shuffled his feet and allowed a faint, bashful smile to cover his face, as though he could see all the millions that undoubtedly could see him at the moment. I'm a Locrian. Got a job in an air-car factory; section head and good pay. I'm

married; got two kids, both girls. Say, I couldn't say hello to them, could I – in case they're listening."

"Go ahead, sailor. The video is all yours."

"Gosh, thanks." He burred, "Hello, Milla, in case you're listening, I'm fine. Is Sunni all right? And Tomma? I think of you all the time and maybe I'll be back on furlough after we get back to port. I got your food parcel but I'm sending it back. We get our regular mess, but they say the civilians are a little tight. I guess that's all."

"I'll look her up next time I'm on Locris, sailor, and make sure she's not short of food. O.K.?"

The young man smiled broadly and nodded his head. "Thank you, Mr. Turbor. I'd appreciate that."

"All right. Suppose you tell us, then– You're a volunteer, aren't you?"

"Sure am. If anyone picks a fight with me, I don't have to wait for anyone to drag me in. I joined up the day I heard about the *Hober Mallow*."

"That's a fine spirit. Have you seen much action? I notice "You're wearing two battle stars."

"*Ptah*." The sailor spat. "Those weren't battles, they were chases. The Kalganians don't fight, unless they have odds of five to one or better in their favor. Even then they just edge in and try to cut us up ship by ship. Cousin of mine was at Ifni and he was on a ship that got away, the old *Ebling Mis*. He says it was the same there. They had their Main Fleet against just a wing division of ours, and down to where we only had five ships left, they kept stalking instead of fighting. We got twice as many of their ships at *that* fight."

"Then you think we're going to win the war?"

Sure bet; now that we aren't retreating. Even if things got too bad, that's when I'd expect the Second Foundation to step in. We still got the Seldon Plan – and *they* know it, too."

Turbor's lips curled a bit. "You're counting on the Second Foundation, then?"

The answer came with honest surprise. "Well, doesn't everyone?"

Junior Officer Tippellum stepped into Turbor's room after the visicast. He shoved a cigarette at the correspondent and knocked his cap back to a perilous balance on the occiput.

"We picked up a prisoner," he said.

"Yes?"

"Little crazy fellow. Claims to be a neutral – diplomatic immunity, no less. I don't think they know what to do with him. His name's Palvro, Palver, something like that, and he says he's from Trantor. Don't know what in space he's doing in a war zone."

But Turbor had swung to a sitting position on his bunk and the nap he had been about to take was forgotten. He remembered quite well his last interview with Darell, the day after war had been declared and he was shoving off.

"Preem Palver," he said. It was a statement.

Tippellum paused and let the smoke trickle out the sides of his mouth. "Yeah," he said, "how in space did you know?"

"Never mind. Can I see him?"

"Space, I can't say. The old man has him in his own room for questioning. Everyone figures he's a spy."

"You tell the old man that I know him, if he's who he claims he is. I'll take the responsibility."

Captain Dixyl on the flagship of the Third Fleet watched unremittingly at the Grand Detector. No ship could avoid being a source of subatomic radiation – not even if it were lying an inert mass – and each focal point of such radiation was a little sparkle in the three-dimensional field.

Each one of the Foundation's ships were accounted for and no sparkle was left over, now that the little spy who claimed to be a neutral had been picked up. For a while, that outside ship had created a stir in the captain's quarters. The tactics might have needed changing on short notice. As it was–

"Are you sure you have it?" he asked.

Commander Cenn nodded. "I will take my squadron through hyperspace: radius, 10.00 parsecs; theta, 268.52 degrees; phi, 84.15 degrees. Return to origin at 1330. Total absence 11.83 hours."

"Right. Now we are going to count on pin-point return as regards both space and time. Understand?"

"Yes, captain." He looked at his wrist watch, "My ships will be ready by 0140."

"Good," said Captain Dixyl.

The Kalganian squadron was not within detector range now, but they would be soon. There was independent information to that effect. Without Cenn's squadron the Foundation forces would be badly outnumbered, but the captain was quite confident. *Quite* confident.

Preem Palver looked sadly about him. First at the tall, skinny admiral; then at the others, everyone in uniform; and now at this last one, big and stout, with his collar open and no tie – not like the rest – who said he wanted to speak to him.

Jole Turbor was saying: "I am perfectly aware, admiral, of the serious possibilities involved here, but I tell you that if I can be allowed to speak to him for a few minutes, I may be able to settle the current uncertainty."

"Is there any reason why you can't question him before me?"

Turbor pursed his lips and looked stubborn. "Admiral," he said, "while I have been attached to your ships, the Third Fleet has received an excellent press. You may station men outside the door, if you like, and you may return in five minutes. But, meanwhile, humor me a bit, and your public relations will not suffer. Do you understand me?"

He did.

Then Turbor in the isolation that followed, turned to Palver, and said, "Quickly – what is the name of the girl you abducted."

And Palver could simply stare round-eyed, and shake his head.

"No nonsense," said Turbor. "If you do not answer, you will be a spy and spies are blasted without trial in war time."

"Arcadia Darell!" gasped Palver.

"Well! All right, then. Is she safe?"

Palver nodded.

"You had better be sure of that, or it won't be well for you."

"She is in good health, perfectly safe," said Palver, palely.

The admiral returned, "Well?"

"The man, sir, is not a spy. You may believe what he tells you. I vouch for him."

"That so?" The admiral frowned. "Then he represents an agricultural co-operative on Trantor that wants to make a trade treaty with Terminus for the delivery of grains and potatoes. Well, all right, but he can't leave now."

"Why not?" asked Palver, quickly.

"Because we're in the middle of a battle. After it is over – assuming we're still alive – we'll take you to Terminus."

The Kalganian fleet that spanned through space detected the Foundation ships from an incredible distance and were themselves detected. Like little fireflies in each other's Grand Detectors, they closed in across the emptiness.

And the Foundation's admiral frowned and said, "This must be their main push. Look at the numbers." Then, "They won't stand up before us, though; not if Cenn's detachment can be counted on."

Commander Cenn had left hours before – at the first detection of the coming enemy. There was no way of altering the plan now. It worked or it didn't, but the admiral felt quite comfortable. As did the officers. As did the men.

Again watch the fireflies.

Like a deadly ballet dance, in precise formations, they sparked.

The Foundation fleet edged slowly backwards. Hours passed and the fleet veered slowly off, teasing the advancing enemy slightly off course, then more so.

In the minds of the dictators of the battle plan, there was a certain volume of space that must be occupied by the Kalganian ships. Out from that volume crept the Foundationers; into it slipped the Kalganians. Those that passed out again were attacked, suddenly and fiercely. Those that stayed within were not touched.

It all depended on the reluctance of the ships of Lord Stettin to take the initiative themselves – on their willingness to remain where none attacked.

Captain Dixyl stared frigidly at his wrist watch. It was 1310, "We've got twenty minutes," he said.

The lieutenant at his side nodded tensely, "It looks all right so far, captain. We've got more than ninety percent of them boxed. If we can keep them that way–"

"Yes! If–"

The Foundation ships were drifting forward again – very slowly. Not quick enough to urge a Kalganian retreat and just quickly enough to discourage a Kalganian advance. They preferred to wait.

And the minutes passed.

At 1325, the admiral's buzzer sounded in seventy-five ships of the Foundation's line, and they built up to a maximum acceleration towards the front-plane of the Kalganian fleet, itself three hundred strong. Kalganian shields flared into action, and the vast energy beams flicked out. Every one of the three hundred concentrated in the same direction, towards their mad attackers who bore down relentlessly, uncaringly and—

At 1330, fifty ships under Commander Cenn appeared from nowhere, in one single bound through hyperspace to a calculated spot at a calculated time – and were spaced in tearing fury at the unprepared Kalganian rear.

The trap worked perfectly.

The Kalganians still had numbers on their side, but they were in no mood to count. Their first effort was to escape and the formation once broken was only the more vulnerable, as the enemy ships bumped into one another's path.

After a while, it took on the proportions of a rat hunt.

Of three hundred Kalganian ships, the core and pride of their fleet, some sixty or less, many in a state of near-hopeless disrepair, reached Kalgan once more. The Foundation loss was eight ships out of a total of one hundred twenty-five.

Preem Palver landed on Terminus at the height of the celebration. He found the furore distracting, but before he left the planet, he had accomplished two things, and received one request.

The two things accomplished were: 1) the conclusion of an agreement whereby Palver's co-operative was to deliver twenty shiploads of certain foodstuffs per month for the next year at a war price, without, thanks to the recent battle, a corresponding war risk, and 2) the transfer to Dr. Darell of Arcadia's five short words.

For a startled moment, Darell had stared wide-eyed at him, and then he had made his request. It was to carry an answer back to Arcadia. Palver liked it; it was a simple answer and made sense. It was: "Come back now. There won't be any danger."

Lord Stettin was in raging frustration. To watch his every weapon break in his hands; to feel the firm fabric of his military might part like the rotten thread it suddenly turned out to be – would have turned phlegmaticism itself into flowing lava. And yet he was helpless, and knew it.

He hadn't really slept well in weeks. He hadn't shaved in three days. He had canceled all audiences. His admirals were left to themselves and none knew better than the Lord of Kalgan that very little time and no further defeats need elapse before he would have to contend with internal rebellion.

Lev Meirus, First Minister, was no help. He stood there, calm and indecently old, with his thin, nervous finger stroking, as always, the wrinkled line from nose to chin.

"Well," shouted Stettin at him, "contribute something. We stand here defeated, do you understand? *Defeated!* And why? I don't know why. There you have it. I don't know why. Do you know why?"

"I think so," said Meirus, calmly.

"Treason!" The word came out softly, and other words followed as softly. "You've known of treason, and you've kept quiet. You served the fool I ejected from the First

Citizenship and you think you can serve whatever foul rat replaces me. If you have acted so, I will extract your entrails for it and burn them before your living eyes."

Meirus was unmoved. "I have tried to fill you with my own doubts, not once, but many times. I have dinned it in your ears and you have preferred the advice of others because it stuffed your ego better. Matters have turned out not as I feared, but even worse. If you do not care to listen now, say so, sir, and I shall leave, and, in due course, deal with your successor, whose first act, no doubt, will be to sign a treaty of peace."

Stettin stared at him red-eyed, enormous fists slowly clenching and unclenching. "Speak, you gray slug. *Speak!*"

"I have told you often, sir, that you are not the Mule. You may control ships and guns but you cannot control the minds of your subjects. Are you aware, sir, of who it is you are fighting? You fight the Foundation, which is never defeated – the Foundation, which is protected by the Seldon Plan – the Foundation, which is destined to form a new Empire."

"There is no Plan. No longer. Munn has said so."

"Then Munn is wrong. And if he were right, what then? You and I, sir, are not the people. The men and women of Kalgan and its subject worlds believe utterly and deeply in the Seldon Plan as do all the inhabitants of this end of the Galaxy. Nearly four hundred years of history teach the fact that the Foundation cannot be beaten. Neither the kingdoms nor the warlords nor the old Galactic Empire itself could do it."

"The Mule did it."

"Exactly, and he was beyond calculation – and you are not. What is worse, the people know that you are not. So your ships go into battle fearing defeat in some unknown way. The insubstantial fabric of the Plan hangs over them so that they are cautious and look before they attack and wonder a little too much. While on the other side, that same insubstantial fabric fills the enemy with confidence, removes fear, maintains morale in the face of early defeats. Why not? The Foundation has always been defeated at first and has always won in the end.

"And your own morale, sir? You stand everywhere on enemy territory. Your own dominions have not been invaded; are still not in danger of invasion – yet you are defeated. You don't believe in the possibility, even, of victory, because you know there is none.

"Stoop, then, or you will be beaten to your knees. Stoop voluntarily, and you may save a remnant. You have depended on metal and power and they have sustained you as far as they could. You have ignored mind and morale and they have failed you. Now, take my advice. You have the Foundation man, Homir Munn. Release him. Send him back to Terminus and he will carry your peace offers."

Stettin's teeth ground behind his pale, set lips. But what choice had he?

On the first day of the new year, Homir Munn left Kalgan again. More than six months had passed since he had left Terminus and in the interim, a war had raged and faded.

He had come alone, but he left escorted. He had come a simple man of private life; he left the unappointed but nevertheless, actual, ambassador of peace.

And what had most changed was his early concern over the Second Foundation. He laughed at the thought of that: and pictured in luxuriant detail the final revelation to Dr. Darell, to that energetic, young competent, Anthor, to all of them—

He knew. He, Homir Munn, finally knew the truth.

20. "I KNOW . . . "

The last two months of the Stettinian war did not lag for Homir. In his unusual office as Mediator Extraordinary, he found himself the center of interstellar affairs, a role he could not help but find pleasing.

There were no further major battles – a few accidental skirmishes that could scarcely count – and the terms of the treaty were hammered out with little necessity for concessions on the part of the Foundation. Stettin retained his office, but scarcely anything else. His navy was dismantled; his possessions outside the home system itself made autonomous and allowed to vote for return to previous status, full independence or confederation within the Foundation, as they chose.

The war was formally ended on an asteroid in Terminus' own stellar system; site of the Foundation's oldest naval base. Lev Meirus signed for Kalgan, and Homir was an interested spectator.

Throughout all that period he did not see Dr. Darell, nor any of the others. But it scarcely mattered. His news would keep – and, as always, he smiled at the thought.

Dr. Darell returned to Terminus some weeks after VK day, and that same evening, his house served as the meeting place for the five men who, ten months earlier, had laid their first plans.

They lingered over dinner and then over wine as though hesitating to return again to the old subject.

It was Jole Turbor, who, peering steadily into the purple depths of the wineglass with one eye, muttered, rather than said, "Well, Homir, you are a man of affairs now, I see. You handled matters well."

"I?" Munn laughed loudly and joyously. For some reason, he had not stuttered in months. "I hadn't a thing to do with it. It was Arcadia. By the by, Darell, how is she? She's coming back from Trantor, I heard?"

"You heard correctly," said Darell, quietly. "Her ship should dock within the week." He looked, with veiled eyes, at the others, but there were only confused, amorphous exclamations of pleasure. Nothing else.

Turbor said, "Then it's over, really. Who would have predicted all this ten months ago. Munn's been to Kalgan and back. Arcadia's been to Kalgan and Trantor and is coming back. We've had a war and won it, by Space. They tell you that the vast sweeps of history can be predicted, but doesn't it seem conceivable that all that has just happened,

with its absolute confusion to those of us who lived through it, couldn't possibly have been predicted."

"Nonsense," said Anthon, acidly. "What makes you so triumphant, anyway? You talk as though we have really won a war, when actually we have won nothing but a petty brawl which has served only to distract our minds from the real enemy."

There was an uncomfortable silence, in which only Homir Munn's slight smile struck a discordant note.

And Anthon struck the arm of his chair with a balled and furyfilled fist, "Yes, I refer to the Second Foundation. There is no mention of it and, if I judge correctly, every effort to have no thought of it. Is it because this fallacious atmosphere of victory that palls over this world of idiots is so attractive that you feel you must participate? Turn somersaults then, handspring your way into a wall, pound one another's back and throw confetti out the window. Do whatever you please, only get it out of your system – and when you are quite done and you are yourselves again, return and let us discuss that problem which exists now precisely as it did ten months ago when you sat here with eyes cocked over your shoulders for fear of you knew not what. Do you really think that the Mind-masters of the Second Foundation are less to be feared because you have beat down a foolish wielder of spaceships."

He paused, red-faced and panting.

Munn said quietly, "Will you hear *me* speak now, Anthon? Or do you prefer to continue your role as ranting conspirator?"

"Have your say, Homir," said Darell, "but let's all of us refrain from over-picturesqueness of language. It's a very good thing in its place, but at present, it bores me."

Homir Munn leaned back in his armchair and carefully refilled his glass from the decanter at his elbow.

"I was sent to Kalgan," he said, "to find out what I could from the records contained in the Mule's Palace. I spent several months doing so. I seek no credit for that accomplishment. As I have indicated, it was Arcadia whose ingenuous intermeddling obtained the entry for me. Nevertheless, the fact remains that to my original knowledge of the Mule's life and times, which, I submit, was not small, I have added the fruits of much labor among primary evidence which has been available to no one else.

"I am, therefore, in a unique position to estimate the true danger of the Second Foundation; much more so than is our excitable friend here."

"And," grated Anthon, "what is your estimate of that danger?"

"Why, zero."

A short pause, and Elvett Semic asked with an air of surprised disbelief, "You mean zero danger?"

"Certainly. Friends, there is no Second Foundation!"

Anthon's eyelids closed slowly and he sat there, face pale and expressionless.

Munn continued, attention-centering and loving it, "And what is more, there was never one."

"On what," asked Darell, "do you base this surprising conclusion?"

"I deny," said Munn, "that it is surprising. You all know the story of the Mule's search for the Second Foundation. But what do you know of the intensity of that search – of the single-mindedness of it. He had tremendous resources at his disposal and he spared none of it. He was single-minded – and yet he failed. No Second Foundation was found."

"One could scarcely expect it to be found," pointed out Turbor, restlessly. "It had means of protecting itself against inquiring minds."

"Even when the mind that is inquiring is the Mule's mutant mentality? I think not. But come, you do not expect me to give you the gist of fifty volumes of reports in five minutes. All of it, by the terms of the peace treaty will be part of the Seldon Historical Museum eventually, and you will all be free to be as leisurely in your analysis as I have been. You will find his conclusion plainly stated, however, and that I have already expressed. There is not, and has never been, any Second Foundation."

Semic interposed, "Well, what stopped the Mule, then?"

"Great Galaxy, what do you suppose stopped him? Death did; as it will stop all of us. The greatest superstition of the age is that the Mule was somehow stopped in an all-conquering career by some mysterious entities superior even to himself. It is the result of looking at everything in wrong focus."

"Certainly no one in the Galaxy can help knowing that the Mule was a freak, physical as well as mental. He died in his thirties because his ill-adjusted body could no longer struggle its creaking machinery along. For several years before his death he was an invalid. His best health was never more than an ordinary man's feebleness. All right, then. He conquered the Galaxy and, in the ordinary course of nature, proceeded to die. It's a wonder he proceeded as long and as well as he did. Friends, it's down in the very clearest print. You have only to have patience. You have only to try to look at all facts in new focus."

Darell said, thoughtfully, "Good, let us try that Munn. It would be an interesting attempt and, if nothing else, would help oil our thoughts. These tampered men – the records of which Anthor brought to us nearly a year ago, what of them? Help us to see them in focus."

"Easily. How old a science is encephalographic analysis? Or, put it another way, how well-developed is the study of neuronc pathways."

"We are at the beginning in this respect. Granted," said Darell.

"Right. How certain can we be then as to the interpretation of what I've heard Anthor and yourself call the Tamper Plateau. You have your theories, but how certain can you be. Certain enough to consider it a firm basis for the existence of a mighty force for which all other evidence is negative? It's always easy to explain the unknown by postulating a superhuman and arbitrary will."

"It's a very human phenomenon. There have been cases all through Galactic history where isolated planetary systems have reverted to savagery, and what have we learned there? In every case, such savages attribute the to-them-incomprehensible forces

of Nature – storms, pestilences, droughts – to sentient beings more powerful and more arbitrary than men.

"It is called anthropomorphism, I believe, and in this respect, we are savages and indulge in it. Knowing little of mental science, we blame anything we don't know on supermen – those of the Second Foundation in this case, based on the hint thrown us by Seldon."

"Oh," broke in Anthon, "then you *do* remember Seldon. I thought you had forgotten. Seldon did say there was a Second Foundation. Get *that* in focus."

"And are you aware then of all Seldon's purposes. Do you know what necessities were involved in his calculations? The Second Foundation may have been a very necessary scarecrow, with a highly specific end in view. How did we defeat Kalgan, for instance? What were you saying in your last series of articles, Turbor?"

Turbor stirred his bulk. "Yes, I see what you're driving at. I was on Kalgan towards the end, Darell, and it was quite obvious that morale on the planet was incredibly bad. I looked through their news-records and – well. they expected to be beaten. Actually, they were completely unmanned by the thought that eventually the Second Foundation would take a hand, on the side of the First, naturally."

"Quite right," said Munn. "I was there all through the war. I told Stettin there was no Second Foundation and he believed me. *He* felt safe. But there was no way of making the people suddenly disbelieve what they had believed all their lives, so that the myth eventually served a very useful purpose in Seldon's cosmic chess game."

But Anthon's eyes opened, quite suddenly, and fixed themselves sardonically on Munn's countenance. "*I say you lie.*"

Homir turned pale, "I don't see that I have to accept, much less answer, an accusation of that nature."

"I say it without any intention of personal offense. You cannot help lying; you don't realize that you are. But you lie just the same."

Semic laid his withered hand on the young man's sleeve. "Take a breath, young fella."

Anthon shook him off, none too gently, and said, "I'm out of patience with all of you. I haven't seen this man more than half a dozen times in my life, yet I find the change in him unbelievable. The rest of you have known him for years, yet pass it by. It is enough to drive one mad. Do you call this man you've been listening to Homir Munn? He is not the Homir Munn I knew."

A medley of shock; above which Munn's voice cried, "You claim me to be an impostor?"

"Perhaps not in the ordinary sense," shouted Anthon above the din, "but an impostor nonetheless. Quiet, everyone! I demand to be heard."

He frowned them ferociously into obedience. "Do any of you remember Homir Munn as I do – the introverted librarian who never talked without obvious embarrassment; the man of tense and nervous voice, who stuttered out his uncertain sentences? Does *this*

man sound like him? He's fluent, he's confident, he's fun of theories, and, by Space, he doesn't stutter. *Is he the same person?*"

Even Munn looked confused, and Pelleas Anthor drove on. "Well, shall we test him?"

"How?" asked Darell.

"You ask how? There is the obvious way. You have his encephalographic record of ten months ago, haven't you? Run one again, and compare."

He pointed at the frowning librarian, and said violently, "I dare him to refuse to subject himself to analysis."

"I don't object," said Munn, defiantly. "I am the man I always was."

"Can you know?" said Anthor with contempt. "I'll go further. I trust no one here. I want everyone to undergo analysis. There has been a war. Munn has been on Kalgan; Turbor has been on board ship and all over the war areas. Darell and Semic have been absent, too – I have no idea where. Only I have remained here in seclusion and safety, and I no longer trust any of the rest of you. And to play fair, I'll submit to testing as well. Are we agreed then? Or do I leave now and go my own way?"

Turbor shrugged and said, "I have no objection."

"I have already said I don't," said Munn.

Semic moved a hand in silent assent, and Anthor waited for Darell. Finally, Darell nodded his head.

"Take me first," said Anthor.

The needles traced their delicate way across the cross-hatchings as the young neurologist sat frozen in the reclining seat, with lidded eyes brooding heavily. From the files, Darell removed the folder containing Anthor's old encephalographic record. He showed them to Anthor.

"That's your own signature, isn't it?"

"Yes, yes. It's my record. Make the comparison."

The scanner threw old and new on to the screen. All six curves in each recording were there, and in the darkness, Munn's voice sounded in harsh clarity. "Well, now, look there. There's a change."

"Those are the primary waves of the frontal lobe. It doesn't mean a thing, Homir. Those additional jags you're pointing to are just anger. It's the others that count."

He touched a control knob and the six pairs melted into one another and coincided. The deeper amplitude of primaries alone introduced doubling.

"Satisfied?" asked Anthor.

Darell nodded curtly and took the seat himself. Semic followed him and Turbor followed him. Silently the curves were collected; silently they were compared.

Munn was the last to take his seat. For a moment, he hesitated, then, with a touch of desperation in his voice, he said, "Well now, look, I'm coming in last and I'm under tension. I expect due allowance to be made for that."

"There will be," Darell assured him. "No conscious emotion of yours will affect more than the primaries and they are not important."

It might have been hours, in the utter silence that followed.

And then in the darkness of the comparison, Anthor said huskily: "Sure, sure, it's only the onset of a complex. Isn't that what he told us? No such thing as tampering; it's all a silly anthropomorphic notion – but look at it! A coincidence I suppose."

"What's the matter?" shrieked Munn.

Darell's hand was tight on the librarian's shoulder. "Quiet, Munn – you've been handled; you've been adjusted by *them*."

Then the light went on, and Munn was looking about him with broken eyes, making a horrible attempt to smile.

"You can't be serious, surely. There is a purpose to this. You're testing me."

But Darell only shook his head. "No, no, Homir. It's true."

The librarian's eyes were filled with tears, suddenly. "I don't feel any different. I can't believe it." With sudden conviction: "You are all in this. It's a conspiracy."

Darell attempted a soothing gesture, and his hand was struck aside. Munn snarled, "You're planning to kill me. By Space, you're planning to kill me."

With a lunge, Anthor was upon him. There was the sharp crack of bone against bone, and Homir was limp and flaccid with that look of fear frozen on his face.

Anthor rose shakily, and said, "We'd better tie and gag him. Later, we can decide what to do." He brushed his long hair back.

Turbor said, "How did you guess there was something wrong with him?"

Anthor turned sardonically upon him. "It wasn't difficult. You see, *I happen to know where the Second Foundation really is.*"

Successive shocks have a decreasing effect–

It was with actual mildness that Semic asked, "Are you sure? I mean we've just gone through this sort of business with Munn–"

This isn't quite the same," returned Anthor. "Darell, the day the war started, I spoke to you most seriously. I tried to have you leave Terminus. I would have told you then what I will tell you now, if I had been able to trust you."

"You mean you have known the answer for half a year?" smiled Darell.

"I have known it from the time I learned that Arcadia had left for Trantor."

And Darell started to his feet in sudden consternation. "What had Arcadia to do with it? What are you implying?"

"Absolutely nothing that is not plain on the face of all the events we know so well. Arcadia goes to Kalgan and flees in terror to the very center of the Galaxy, rather than return home. Lieutenant Dirige, our best agent on Kalgan is tampered with. Homir Munn goes to Kalgan and *he* is tampered with. The Mule conquered the Galaxy, but, queerly enough, he made Kalgan his headquarters, and it occurs to me to wonder if he was conqueror or, perhaps, tool. At every turn, we meet with Kalgan, Kalgan – nothing but Kalgan, the world that somehow survived untouched all the struggles of the warlords for over a century."

"Your conclusion, then."

"Is obvious," Anthor's eyes were intense. "The Second Foundation is on Kalgan."

Turbor interrupted. "I was on Kalgan, Anthon. I was there last week. If there was any Second Foundation on it, I'm mad. Personally, I think you're mad."

The young man whirled on him savagely. "Then you're a fat fool. What do you expect the Second Foundation to be? A grammar school? Do you think that Radiant Fields in tight beams spell out 'Second Foundation' in green and purple along the incoming spaceship routes? Listen to me, Turbor. Wherever they are, they form a tight oligarchy. They must be as well hidden on the world on which they exist, as the world itself is in the Galaxy as a whole."

Turbor's jaw muscles writhed. "I don't like your attitude, Anthon."

"That certainly disturbs me," was the sarcastic response. "Take a look about you here on Terminus. We're at the center – the core – the origin of the First Foundation with all its knowledge of physical science. Well, how many of the population are physical scientists? Can you operate an Energy Transmitting Station? What do you know of the operation of a hyperatomic motor? Eh? The number of real scientists on Terminus – even on Terminus – can be numbered at less than one percent of the population."

"And what then of the Second Foundation where secrecy must be preserved. There will still be less of the cognoscenti, and these will be hidden even from their own world."

"Say," said Semic, carefully. "We just licked Kalgan—"

"So we did. So we did," said Anthon, sardonically. "Oh, we celebrate that victory. The cities are still illuminated; they are still shooting off fireworks; they are still shouting over the televisions. But now, now, when the search is on once more for the Second Foundation, where is the last place we'll look; where is the last place anyone will look? Right!" Kalgan!

"We haven't hurt them, you know; not really. We've destroyed some ships, killed a few thousands, torn away their Empire, taken over some of their commercial and economic power – but that all means nothing. I'll wager that not one member of the real ruling class of Kalgan is in the least discomfited. On the contrary, they are now safe from curiosity. But not from my curiosity. What do you say, Darell?"

Darell shrugged his shoulders. "Interesting. I'm trying to fit it in with a message I received from Arcadia a few months since."

"Oh, a message?" asked Anthon. "And what was it?"

"Well, I'm not certain. Five short words. But it's interesting."

"Look," broke in Semic, with a worried interest, "there's something I don't understand."

"What's that?"

Semic chose his words carefully, his old upper lip lifting with each word as if to let them out singly and reluctantly. "Well, now, Homir Munn was saying just a while ago that Hari Seldon was faking when he said that he had established a Second Foundation. Now you're saying that it's not so; that Seldon wasn't faking, eh?"

"Right, he wasn't faking. Seldon said he had established a Second Foundation and so he had."

"All right, then, but he said something else, too. He said he established the two Foundations at opposite ends of the Galaxy. Now, young man, was *that* a fake – because Kalgan isn't at the opposite end of the Galaxy."

Author seemed annoyed, "That's a minor point. That part may well have been a cover up to protect them. But after all, think– What real use would it serve to have the Mind-masters at the opposite end of the Galaxy? What is their function? To help preserve the Plan. Who are the main card players of the Plan? We, the First Foundation. Where can they best observe us, then, and serve their own ends? At the opposite end of the Galaxy? Ridiculous! They're within fifty parsecs, actually, which is much more sensible."

"I like that argument," said Darell. "It makes sense. Look here, Munn's been conscious for some time and I propose we loose him. He can't do any harm, really."

Author looked rebellious, but Homir was nodding vigorously. Five seconds later he was rubbing his wrists just as vigorously.

"How do you feel?" asked Darell.

"Rotten," said Munn, sulkily, "but never mind. There's something I want to ask this bright young thing here. I've heard what he's had to say, and I'd just like permission to wonder what we do next."

There was a queer and incongruous silence.

Munn smiled bitterly. "Well, suppose Kalgan *is* the Second Foundation. *Who* on Kalgan are they? How are you going to find them? How are you going to tackle them *if* you find them, eh?"

"Ah," said Darell, "I can answer that, strangely enough. Shall I tell you what Semic and I have been doing this past half-year? It may give you another reason, Author, why I was anxious to remain on Terminus all this time."

"In the first place," he went on, "I've been working on encephalographic analysis with more purpose than any of you may suspect. Detecting Second Foundation minds is a little more subtle than simply finding a Tamper Plateau – and I did not actually succeed. But I came close enough."

"Do you know, any of you, how emotional control works? It's been a popular subject with fiction writers since the time of the Mule and much nonsense has been written, spoken, and recorded about it. For the most part, it has been treated as something mysterious and occult. Of course, it isn't. That the brain is the source of a myriad, tiny electromagnetic fields, everyone knows. Every fleeting emotion varies those fields in more or less intricate fashion, and everyone should know that, too."

"Now it is possible to conceive a mind which can sense these changing fields and even resonate with them. That is, a special organ of the cerebrum can exist which can take on whatever field-pattern it may detect. Exactly how it would do this, I have no idea, but that doesn't matter. if I were blind, for instance, I could still learn the significance of photons and energy quanta and it could be reasonable to me that the absorption of a photon of such energy could create chemical changes in some organ of the body such that its presence would be detectable. But, of course, I would not be able, thereby, to understand color."

"Do all of you follow?"

There was a firm nod from Anthor; a doubtful nod from the others.

"Such a hypothetical Mind Resonating Organ, by adjusting itself to the Fields emitted by other minds could perform what is popularly known as 'reading emotion' or even 'reading minds,' which is actually something even more subtle. It is but an easy step from that to imagining a similar organ which could actually force an adjustment on another mind. It could orient with its stronger Field the weaker one of another mind – much as a strong magnet will orient the atomic dipoles in a bar of steel and leave it magnetized thereafter.

"I solved the mathematics of Second Foundationism in the sense that I evolved a function that would predict the necessary combination of neuron paths that would allow for the formation of an organ such as I have just described – but, unfortunately, the function is too complicated to solve by any of the mathematical tools at present known. That is too bad, because it means that I can never detect a Mind-worker by his encephalographic pattern alone.

"But I could do something else. I could, with Semic's help, construct what I shall describe as a Mental Static device. It is not beyond the ability of modern science to create an energy source that will duplicate an encephalograph-type pattern of electromagnetic field. Moreover, it can be made to shift at complete random, creating, as far as this particular mind-sense is concerned, a sort of 'noise' or 'static' which masks other minds with which it may be in contact.

"Do you still follow?"

Semic chuckled. He had helped create blindly, but he had guessed, and guessed correctly. The old man had a trick or two left–

Anthor said, "I think I do."

"The device," continued Darell, "is a fairly easy one to produce, and I had all the resources of the Foundation under my control as it came under the heading of war research. And now the mayor's offices and the Legislative assemblies are surrounded with Mental Static. So are most of our key factories. So is this building. Eventually, any place we wish can be made absolutely safe from the Second Foundation or from any future Mule. And that's it."

He ended quite simply with a flat-palmed gesture of the hand.

Turbor seemed stunned. "Then it's all over. Great Seldon, it's all over."

"Well," said Darell, "not exactly."

"How, not exactly? Is there something more?"

"Yes, we haven't located the Second Foundation yet!"

"What," roared Anthor, "are you trying to say–"

"Yes, I am. Kalgan is not the Second Foundation."

"How do you know?"

"It's easy," grunted Darell. "You see *I happen to know where the Second Foundation really is.*"

21. THE ANSWER THAT SATISFIED

Turbor laughed suddenly – laughed in huge, windy gusts that bounced ringingly off the walls and died in gasps. He shook his head, weakly, and said, "Great Galaxy, this goes on all night. One after another, we put up our straw men to be knocked down. We have fun, but we don't get anywhere. Space! Maybe all planets are the Second Foundation. Maybe they have no planet, just key men spread on all the planets. And what does it matter, since Darell says we have the perfect defense?"

Darell smiled without humor. "The perfect defense is not enough, Turbor. Even my Mental Static device is only something that keeps us in the same place. We cannot remain forever with our fists doubled, frantically staring in all directions for the unknown enemy. We must know not only *how* to win, but whom to defeat. And there *is* a specific world on which the enemy exists."

"Get to the point," said Anthor, wearily. "What's your information?"

"Arcadia," said Darell, "sent me a message, and until I got it, I never saw the obvious. I probably would never have seen the obvious. Yet it was a simple message that went: 'A circle has no end.' Do you see?"

"No," said Anthor, stubbornly, and he spoke, quite obviously, for the others.

"A circle has no end," repeated Munn, thoughtfully, and his forehead furrowed.

"Well," said Darell, impatiently, "it was clear to me— What is the one absolute fact we know about the Second Foundation, eh? I'll tell you! We know that Hari Seldon located it at the opposite end of the Galaxy. Homir Munn theorized that Seldon lied about the existence of the Foundation. Pelleas Anthor theorized that Seldon had told the truth that far, but lied about the location of the Foundation. But I tell you that Hari Seldon lied in no particular; that he told the absolute truth.

"*But*, what is the other end? The Galaxy is a flat, lens-shaped object. A cross section along the flatness of it is a circle, and a circle had no end – as Arcadia realized. We – we, the First Foundation – are located on Terminus at the rim of that circle. We are at an end of the Galaxy, by definition. Now follow the rim of that circle and find the other end. Follow it, follow it, follow it, and you will find no other end. You will merely come back to your starting point—

"And *there* you will find the Second Foundation."

"There?" repeated Anthor. "Do you mean *here*?"

"Yes, I mean here!" cried Darell, energetically. "Why, where else could it possibly be? You said yourself that if the Second Foundationers were the guardians of the Seldon Plan, it was unlikely that they could be located at the so-called other end of the Galaxy, where they would be as isolated as they could conceivably be. You thought that fifty parsecs distance was more sensible. I tell you that that is also too far. That no distance at all is more sensible. And where would they be safest? Who would look for them here? Oh, it's the old principle of the most obvious place being the least suspicious.

"Why was poor Ebling Mis so surprised and unmanned by his discovery of the location of the Second Foundation? There he was, looking for it desperately in order to

warn it of the coming of the Mule, only to find that the Mule had already captured both Foundations at a stroke. And why did the Mule himself fail. in his search? Why not? If one is searching for an unconquerable menace, one would scarcely look among the enemies already conquered. So the Mind-masters, in their own leisurely time, could lay their plans to stop the Mule, and succeeded in stopping him.

"Oh, it is maddeningly simple. For here we are with our plots and our schemes, thinking that we are keeping our secrecy – when all the time we are in the very heart and core of our enemy's stronghold. It's humorous."

Author did not remove the skepticism from his face, "You honestly believe this theory, Dr. Darell?"

"I honestly believe it."

"Then any of our neighbors, any man we pass in the street might be a Second Foundation superman, with his mind watching yours and feeling the pulse of its thoughts."

"Exactly."

"And we have been permitted to proceed all this time, without molestation?"

"Without molestation? Who told you we were not molested? You, yourself, showed that Munn has been tampered with. What makes you think that we sent him to Kalgan in the first place entirely of our own volition – or that Arcadia overheard us and followed him on her own volition? Hah! We have been molested without pause, probably. And after all, why should they do more than they have? It is far more to their benefit to mislead us, than merely to stop us."

Author buried himself in meditation and emerged therefrom with a dissatisfied expression. "Well, then, I don't like it. Your Mental Static isn't worth a thought. We can't stay in the house forever and as soon as we leave, we're lost, with what we now think we know. Unless you can build a little machine for every inhabitant in the Galaxy."

"Yes, but we're not quite helpless, Author. These men of the Second Foundation have a special sense which we lack. It is their strength and also their weakness. For instance, is there any weapon of attack that will be effective against a normal, sighted man which is useless against a blind man?"

"Sure," said Munn, promptly. "A light in the eyes."

"Exactly," said Darell. "A good, strong blinding light."

"Well, what of it?" asked Turbor.

"But the analogy is clear. I have a Mind Static device. It sets up an artificial electromagnetic pattern, which to the mind of a man of the Second Foundation would be like a beam of light to us. But the Mind Static device is kaleidoscopic. It shifts quickly and continuously, faster than the receiving mind can follow. All right then, consider it a flickering light; the kind that would give you a headache, if continued long enough. Now intensify that light or that electromagnetic field until it is blinding – and it will become a pain, an unendurable pain. But only to those with the proper sense; *not* to the unsensed."

"Really?" said Author, with the beginnings of enthusiasm. "Have you tried this?"

"On whom? Of course, I haven't tried it. But it will work."

"Well, where do you have the controls for the Field that surrounds the house? I'd like to see this thing."

"Here." Darell reached into his jacket pocket. It was a small thing, scarcely bulging his pocket. He tossed the black, knob-studded cylinder to the other.

Anchor inspected it carefully and shrugged his shoulders. "It doesn't make me any smarter to look at it. Look Darell, what mustn't I touch? I don't want to turn off the house defense by accident, you know."

"You won't," said Darell, indifferently. "That control is locked in place." He flicked at a toggle switch that didn't move.

"And what's this knob?"

"That one varies rate of shift of pattern. Here – this one varies the intensity. It's that which I've been referring to."

"May I—" asked Anchor, with his finger on the intensity knob. The others were crowding close.

"Why not?" shrugged Darell. "It won't affect us."

Slowly, almost wincingly, Anchor turned the knob, first in one direction, then in another. Turbor was gritting his teeth, while Munn blinked his eyes rapidly. It was as though they were keening their inadequate sensory equipment to locate this impulse which could not affect them.

Finally, Anchor shrugged and tossed the control box back into Darell's lap. "Well, I suppose we can take your word for it. But it's certainly hard to imagine that anything was happening when I turned the knob."

"But naturally, Pelleas Anchor," said Darell, with a tight smile. "The one I gave you was a dummy. You see I have another." He tossed his jacket aside and seized a duplicate of the control box that Anchor had been investigating, which swung from his belt.

"You see," said Darell, and in one gesture turned the intensity knob to maximum.

And with an unearthly shriek, Pelleas Anchor sank to the floor. He rolled in his agony; whitened, gripping fingers clutching and tearing futilely at his hair.

Munn lifted his feet hastily to prevent contact with the squirming body, and his eyes were twin depths of horror. Semic and Turbor were a pair of plaster casts; stiff and white.

Darell, somber, turned the knob back once more. And Anchor twitched feebly once or twice and lay still. He was alive, his breath racking his body.

"Lift him on to the couch," said Darell, grasping the young man's head. "Help me here."

Turbor reached for the feet. They might have been lifting a sack of flour. Then, after long minutes, the breathing grew quieter, and Anchor's eyelids fluttered and lifted. His face was a horrid yellow; his hair and body was soaked in perspiration, and his voice, when he spoke, was cracked and unrecognizable.

"Don't," he muttered, "don't! Don't do that again! You don't know— You don't know— Oh-h-h." It was a long, trembling moan.

"We won't do it again," said Darell, "if you will tell us the truth. You are a member of the Second Foundation?"

"Let me have some water," pleaded Anthor.

"Get some, Turbor," said Darell, "and bring the whiskey bottle."

He repeated the question after pouring a jigger of whiskey and two glasses of water into Anthor. Something seemed to relax in the young man—

"Yes," he said, wearily. "I am a member of the Second Foundation."

"Which," continued Darell, "is located on Terminus – here?"

"Yes, yes. You are right in every particular, Dr. Darell."

"Good! Now explain what's been happening this past half year. Tell us!"

"I would like to sleep," whispered Anthor.

"Later! Speak now!"

A tremulous sigh. Then words, low and hurried. The others bent over him to catch the sound, "The situation was growing dangerous. We knew that Terminus and its physical scientists were becoming interested in brain-wave patterns and that the times were ripe for the development of something like the Mind Static device. And there was growing enmity toward the Second Foundation. We had to stop it without ruining Seldon's Plan.

"We . . . we tried to control the movement. We tried to join it. It would turn suspicion and efforts away from us. We saw to it that Kalgan declared war as a further distraction. That's why I sent Munn to Kalgan. Stettin's supposed mistress was one of us. She saw to it that Munn made the proper moves—"

"Callia is—" cried Munn, but Darell waved him silent.

Anthor continued, unaware of any interruption, "Arcadia followed. We hadn't counted on that – can't foresee everything – so Callia maneuvered her to Trantor to prevent interference. That's all. Except that we lost."

"You tried to get me to go to Trantor, didn't you?" asked Darell.

Anthor nodded, "Had to get you out of the way. The growing triumph in your mind was clear enough. You were solving the problems of the Mind Static device."

"Why didn't you put me under control?"

"Couldn't . . . couldn't. Had my orders. We were working according to a Plan. If I improvised, I would have thrown everything off. Plan only predicts probabilities . . . you know that . . . like Seldon's Plan." He was talking in anguished pants, and almost incoherently. His head twisted from side to side in a restless fever. "We worked with individuals . . . not groups . . . very low probabilities involved . . . lost out. Besides . . . if control you . . . someone else invent device . . . no use . . . had to control *times* . . . more subtle . . . First Speaker's own plan . . . don't know all angles . . . except . . . didn't work a-a-a—" He ran down.

Darell shook him roughly, "You can't sleep yet. How many of you are there?"

"Huh? Whatjasay . . . oh . . . not many . . . be surprised fifty . . . don't need more."

"All here on Terminus?"

"Five . . . six out in Space . . . like Callia . . . got to sleep."

He stirred himself suddenly as though to one giant effort, and his expressions gained in clarity. It was a last attempt at self-justification, at moderating his defeat.

"Almost got you at the end. Would have turned off defenses and seized you. Would have seen who was master. But you gave me dummy controls . . . suspected me all along—"

And finally he was asleep.

Turbor said, in awed tones, "How long did you suspect him, Darell?"

"Ever since he first came here," was the quiet response. "He came from Kleise, he said. But I knew Kleise; and I knew on what terms we parted. He was a fanatic on the subject of the Second Foundation and I had deserted him. My own purposes were reasonable, since I thought it best and safest to pursue my own notions by myself. But I couldn't tell Kleise that; and he wouldn't have listened if I had. To him, I was a coward and a traitor, perhaps even an agent of the Second Foundation. He was an unforgiving man and from that time almost to the day of his death he had no dealings with me. Then, suddenly, in his last few weeks of life, he writes me – as an old friend – to greet his best and most promising pupil as a co-worker and begin again the old investigation.

"It was out of character. How could he possibly do such a thing without being under outside influence, and I began to wonder if the only purpose might not be to introduce into my confidence a real agent of the Second Foundation. Well, it was so—"

He sighed and closed his own eyes for a moment.

Semic put in hesitantly, "What will we do with all of them . . . these Second Foundation fellas?"

"I don't know," said Darell, sadly. "We could exile them, I suppose. There's Zoranel, for instance. They can be placed there and the planet saturated with Mind Static. The sexes can be separated, or, better still, they can be sterilized – and in fifty years, the Second Foundation will be a thing of the past. Or perhaps a quiet death for all of them would be kinder."

"Do you suppose," said Turbor, "we could learn the use of this sense of theirs. Or are they born with it, like the Mule."

"I don't know. I think it is developed through long training, since there are indications from encephalography that the potentialities of it are latent in the human mind. But what do you want that sense for? It hasn't helped *them*."

He frowned.

Though he said nothing, his thoughts were shouting.

It had been too easy – too easy. They had fallen, these invincibles, fallen like book-villains, and he didn't like it.

Galaxy! When can a man know he is not a puppet? *How* can a man know he is not a puppet?

Arcadia was coming home, and his thoughts shuddered away from that which he must face in the end.

She was home for a week, then two, and he could not loose the tight check upon those thoughts. How could he? She had changed from child to young woman in her absence, by some strange alchemy. She was his link to life; his fink to a bittersweet marriage that scarcely outlasted his honeymoon.

And then, late one evening, he said as casually as he could, "Arcadia, what made you decide that Terminus contained both Foundations?"

They had been to the theater; in the best seats with private trimensional viewers for each; her dress was new for the occasion, and she was happy.

She stared at him for a moment, then tossed it off. "Oh, I Don't know, Father. It just came to me."

A layer of ice thickened about Dr. Darell's heart.

"Think," he said, intensely. "This is important. What made you decide both Foundations were on Terminus."

She frowned slightly. "Well, there was Lady Callia. I knew *she* was a Second Foundationer. Anthon said so, too."

"But she was on Kalgan," insisted Darell. "*What made you decide on Terminus?*"

And now Arcadia waited for several minutes before she answered. What *had* made her decide? What had made her decide?

She had the horrible sensation of something slipping just beyond her grasp.

She said, "She knew about things – Lady Callia did – and must have had her information from Terminus. Doesn't that sound right, Father?"

But he just shook his head at her.

"Father," she cried, "I *knew*. The more I thought, the surer I was. It just made sense."

There was that lost look in her father's eyes, "It's no good, Arcadia. Its no good. Intuition is suspicious when concerned with the Second Foundation. You see that, don't you? It *might* have been intuition – and it might have been control!"

"Control! You mean they changed me? Oh, no. No, they couldn't." She was backing away from him. "But didn't Anthon say I was right? He admitted it. He admitted everything. And you've found the whole bunch right here on Trantor. Didn't you? Didn't you?" She was breathing quickly.

"I know, but– Arcadia, will you let me make an encephalographic analysis of your brain?"

She shook her head violently, "No, no! I'm too scared."

"Of me, Arcadia? There's nothing to be afraid of. But we must know. You see that, don't you?"

She interrupted him only once, after that. She clutched at his arm just before the last switch was thrown. "What if I *am* different, Father? What will you have to do?"

"I won't have to do anything, Arcadia. If you're different, well leave. Well go back to Trantor, you and I, and . . . and we won't care about anything else in the Galaxy."

Never in Darell's life had an analysis proceeded so slowly, cost him so much, and when it was over, Arcadia huddled down and dared not look. Then she heard him laugh and that was information enough. She jumped up and threw herself into his opened arms.

He was babbling wildly as they squeezed one another, "The house is under maximum Mind Static and your brain-waves are normal. We really have trapped them, Arcadia, and we can go back to living."

"Father," she gasped, "can we let them give us medals now?"

"How did you know I'd asked to be left out of it?" He held her at arm's mind; you know everything. All right, you can have your medal on a platform, with speeches."

"And Father?"

"Yes?"

"Can you call me Arkady from now on."

"But— Very well, Arkady."

Slowly the magnitude of the victory was soaking into him and saturating him. The Foundation – the First Foundation – now the only Foundation – was absolute master of the Galaxy. No further barrier stood between themselves and the Second Empire – the final fulfillment of Seldon's Plan.

They had only to reach for it—

Thanks to—

22. THE ANSWER THAT WAS TRUE

An unlocated room on an unlocated world!

And a man whose plan had worked.

The First Speaker looked up at the Student, "Fifty men and women," he said. "Fifty martyrs! They knew it meant death or permanent imprisonment and they could not even be oriented to prevent weakening – since orientation might have been detected. Yet they did not weaken. They brought the plan through, because they loved the greater Plan."

"Might they have been fewer?" asked the Student, doubtfully.

The First Speaker slowly shook his head, "It was the lower limit. Less could not possibly have carried conviction. In fact, pure objectivism would have demanded seventy-five to leave margin for error. Never mind. Have you studied the course of action as worked out by the Speakers' Council fifteen years ago?"

"Yes, Speaker."

"And compared it with actual developments?"

"Yes, Speaker." Then, after a pause—

"I was quite amazed, Speaker."

"I know. There is always amazement. If you knew how many men labored for how many months – years, in fact – to bring about the polish of perfection, you would be less amazed. Now tell me what happened – in words. I want your translation of the mathematics."

"Yes, Speaker." The young man marshaled his thoughts. "Essentially, it was necessary for the men of the First Foundation to be thoroughly convinced that they had located *and destroyed* the Second Foundation. In that way, there would be reversion to the intended original. To all intents, Terminus would once again know nothing about us; include us in none of their calculations. We are hidden once more, and safe – at the cost of fifty men."

"And the purpose of the Kalganian war?"

"To show the Foundation that they could beat a physical enemy – to wipe out the damage done to their self-esteem and self-assuredness by the Mule."

"There you are insufficient in your analysis. Remember, the population of Terminus regarded us with distinct ambivalence. They hated and envied our supposed superiority; yet they relied on us implicitly for protection. If we had been 'destroyed' before the Kalganian war, it would have meant panic throughout the Foundation. They would then never have had the courage to stand up against Stettin, when he *then* attacked; and he would have. Only in the full flush of victory could the 'destruction' have taken place with minimum ill-effects. Even waiting a year, thereafter, might have meant a too-great cooling off spirit for success."

The Student nodded. "I see. Then the course of history will proceed without deviation in the direction indicated by the Plan."

"Unless," pointed out the First Speaker, "further accidents, unforeseen and individual, occur."

"And for that," said the Student, "we still exist. Except– Except– One facet of the present state of affairs worries me, Speaker. The First Foundation is left with the Mind Static device – a powerful weapon against us. That, at least, is not as it was before."

"A good point. But they have no one to use it against. It has become a sterile device; just as without the spur of our own menace against them, encephalographic analysis will become a sterile science. Other varieties of knowledge will once again bring more important and immediate returns. So this first generation of mental scientists among the First Foundation will also be the last – and, in a century, Mind Static will be a nearly forgotten item of the past."

"Well–" The Student was calculating mentally. "I suppose you're right."

But what I want you most to realize, young man, for the sake of your future in the Council is the consideration given to the tiny intermeshings that were forced into our plan of the last decade and a half simply because we dealt with individuals. There was the manner in which Anthor had to create suspicion against himself in such a way that it would mature at the right time, but that was relatively simple.

"There was the manner in which the atmosphere was so manipulated that to no one on Terminus would it occur, prematurely, that Terminus itself might be the center they were seeking. That knowledge had to be supplied to the young girl, Arcadia, who would be heeded by no one but her own father. She had to be sent to Trantor, thereafter, to make certain that there would be no premature contact with her father. Those two were the two poles of a hyperatomic motor; each being inactive without the other. And

the switch had to be thrown – contact had to be made – at just the right moment. I saw to that!

"And the final battle had to be handled properly. The Foundation's fleet had to be soaked in self-confidence, while the fleet of Kalgan made ready to run. I saw to that, also!"

Said the Student, "It seems to me, Speaker, that you . . . I mean, all of us . . . were counting on Dr. Darell not suspecting that Arcadia was our tool. According to *my* check on the calculations, there was something like a thirty percent probability that he *would* so suspect. What would have happened then?"

"We had taken care of that. What have you been taught about Tamper Plateaus? What are they? Certainly not evidence of the introduction of an emotional bias. That can be done without any chance of possible detection by the most refined conceivable encephalographic analysis. A consequence of Leffert's Theorem, you know. It is the removal, the cutting-out, of previous emotional bias, that shows. It *must* show.

"And, of course, Anthon made certain that Darell knew all about Tamper Plateaus.

"However– When can an individual be placed under Control without showing it? Where there is no previous emotional bias to remove. In other words, when the individual is a new-born infant with a blank slate of a mind. Arcadia Darell was such an infant here on Trantor fifteen years ago, when the first line was drawn into the structure of the plan. She will never know that she has been Controlled, and will be all the better for it, since her Control involved the development of a precocious and intelligent personality."

The First Speaker laughed shortly, "In a sense, it is the irony of it all that is most amazing. For four hundred years, so many men have been blinded by Seldon's words 'the other end of the Galaxy.' They have brought their own peculiar, physical-science thought to the problem, measuring off the other end with protractors and rulers, ending up eventually either at a point in the periphery one hundred eighty degrees around the rim of the Galaxy, or back at the original point.

"Yet our very greatest danger lay in the fact that there was a possible solution based on physical modes of thought. The Galaxy, you know, is not simply a flat ovoid of any sort; nor is the periphery a closed curve. Actually, it is a double spiral, with at least eighty percent of the inhabited planets on the Main Arm. Terminus is the extreme outer end of the spiral arm, and we are at the other – since, what is the opposite end of a spiral? Why, the center.

"But that is trifling. It is an accidental and irrelevant solution. The solution could have been reached immediately, if the questioners had but remembered that Hari Seldon was a social scientist not a physical scientist and adjusted their thought processes accordingly. What *could* 'opposite ends' mean to a social scientist? Opposite ends on the map? Of course not. That's the mechanical interpretation only.

"The First Foundation was at the periphery, where the original Empire was weakest, where its civilizing influence was least, where its wealth and culture were most nearly absent. And where is the *social opposite end of the Galaxy*? Why, at the place

where the original Empire was strongest, where its civilizing influence was most, where its wealth and culture were most strongly present.

"Here! At the center! At Trantor, capital of the Empire of Seldon's time.

"And it is so inevitable. Hari Seldon left the Second Foundation behind him to maintain, improve, and extend his work That has been known, or guessed at, for fifty years. But where could that best be done? At Trantor, where Seldon's group had worked, and where the data of decades had been accumulated. And it was the purpose of the Second Foundation to protect the Plan against enemies. That, too, was known! And where was the source of greatest danger to Terminus and the Plan?

"Here! Here at Trantor, where the Empire dying though it was, could, for three centuries, still destroy the Foundation, if it could only have decided to do so.

"Then when Trantor fell and was sacked and utterly destroyed, a short century ago, we were naturally able to protect our headquarters, and, on all the planet, the Imperial Library and the grounds about it remained untouched. This was well-known to the Galaxy, but even that apparently overwhelming hint passed them by.

"It was here at Trantor that Ebling Mis discovered us; and here that we saw to it that he did not survive the discovery. To do so, it was necessary to arrange to have a normal Foundation girl defeat the tremendous mutant powers of the Mule. Surely, such a phenomenon might have attracted suspicion to the planet on which it happened– It was here that we first studied the Mule and planned his ultimate defeat. It was here that Arcadia was born and the train of events begun that led to the great return to the Seldon Plan.

"And all those flaws in our secrecy; those gaping holes; remained unnoticed because Seldon had spoken of 'the other end' in his way, and they had interpreted it in their way."

The First Speaker had long since stopped speaking to the Student. It was an exposition to himself, really, as he stood before the window, looking up at the incredible blaze of the firmament, at the huge Galaxy that was now safe forever.

"Hari Seldon called Trantor, 'Star's End,'" he whispered, "and why not that bit of poetic imagery. All the universe was once guided from this rock; all the apron strings of the stars led here. 'All roads lead to Trantor,' says the old proverb, 'and that is where all stars end.'"

Ten months earlier, the First Speaker had viewed those same crowding stars – nowhere as crowded as at the center of that huge cluster of matter Man calls the Galaxy – with misgivings; but now there was a somber satisfaction on the round and ruddy face of Preem Palver – First Speaker.

FOUNDATION'S EDGE

1982

It is 498 years since the establishment of the First Foundation. The threat of the Mule has been rebuffed; on Trantor it is a period of calm and prosperity. But an unexpected appearance by psychohistorian Hari Seldon raises some interesting questions and the young Councilman who asks them finds himself exiled into space in search of answers: Does the Second Foundation still exist? And does it continue to control human history from a secret Galactic refuge? At issue-the destiny of humankind.

FOUNDATION'S EDGE is the most eagerly anticipated science fiction novel of our time. It is the first science fiction novel from the Master in a decade-a stirring blend of actions and ideas with future technology and hyperspace travel. The sequel to The Foundation Trilogy has all the wisdom, humor, and intrigue that have made its predecessors the most widely read science fiction series of all time. Asimov has done his classic threesome one better.

PROLOGUE

THE FIRST GALACTIC EMPIRE WAS FALLING. IT HAD BEEN DECAYING and breaking down for centuries and only one man fully realized that fact.

He was Hari Seldon the last great scientist of the First Empire, and it was he who perfected psychohistory-the science of human behavior reduced to mathematical equations.

The individual human being is unpredictable, but the reactions of human mobs, Seldon found, could be treated statistically. The larger the mob, the greater the accuracy that could be achieved. And the size of the human masses that Seldon worked with was no less than the population of all the inhabited millions of worlds of the Galaxy.

Seldon's equations told him that, left to itself, the Empire would fall and that thirty thousand years of human misery and agony would elapse before a Second Empire would arise from the ruins. And yet, if one could adjust some of the conditions that existed, that Interregnum could be decreased to a single millennium-just one thousand years.

It was to insure this that Seldon set up two colonies of scientists that he called "Foundations." With deliberate intention, he set them up "at opposite ends of the Galaxy." The First Foundation, which centered on physical science, was set up in the full daylight of publicity. The existence of the other, the Second Foundation, a world of psychohistorical and "mentalic" scientists, was drowned in silence.

In The Foundation Trilogy, the story of the first four centuries of the Interregnum is told. The First Foundation (commonly known as simply "The Foundation," since the existence of another was unknown to almost all) began as a small community lost in the emptiness of the Outer Periphery of the Galaxy. Periodically it faced a crisis in which the variables of human intercourse -and of the social and economic currents of the time- constricted about it. Its freedom to move lay along only one certain line and when it moved in that direction a new horizon of development opened before it. All had been planned by Hari Seldon, long dead now.

The First Foundation with its superior science, took over the barbarized planets that surrounded it. It faced the anarchic warlords who broke away from, a dying, empire and beat them. It faced the remnant of the Empire itself under its last strong Emperor and its last strong general-and beat it.

It seemed as though the "Seldon Plan" was going through smoothly and that nothing would prevent the Second Empire from being established or, time-and with a minimum of intermediate devastation.

But psychohistory is a statistical science. Always there is a small chance that something will go wrong, and something did-something which Hari Seldon could not have foreseen. One man, called the Mule, appeared from nowhere. He had mental powers in a Galaxy that lacked them. He could mold men's emotions and shape their minds so that his bitterest opponents were made into his devoted servants. Aries could

not, would not, fight him. The First Foundation fell and Seldon's Plan seemed to lie in ruins.

There was left the mysterious Second Foundation, which had been caught unprepared by the sudden appearance of the Mule, but which was now slowly working out a counterattack. Its great defense was the fact of its unknown location. The Mule sought it in order to make his conquest of the Galaxy complete. The faithful of what was left of the First Foundation sought it to obtain help.

Neither found it. The Mule was stopped first by the action of a woman, Bayta Darell and that bought enough time for the Second Foundation to organize the proper action and, with that, to stop the Mule permanently. Slowly they prepared to reinstate the Seldon Plan.

But, in a way, the cover of the Second Foundation was gone. The First Foundation knew of the second's existence, and the First did not want a future in which they, were overseen by the mentalists. The First Foundation was the superior in physical force, while the Second Foundation was hampered not only by that fact, but by being faced by a double task: it had not only to stop the First Foundation but had also to regain its anonymity.

This the Second Foundation, under its greatest "First Speaker," Preem salver, manages to do. The First Foundation was allowed to seem to win, to seem to defeat the Second Foundation, and it moved on to greater and greater strength in the Galaxy, totally ignorant that the Second Foundation still existed.

It is now four hundred and ninety-eight years after the First Foundation had come into existence. It is at the peak of its strength, but one man does not accept appearances-

1. COUNCILMAN

"I DON'T BELIEVE IT, OF COURSE," SAID GOLAN TREVIZE STANDING ON the wide steps of Seldon Hall and looking out over the city as it sparkled in the sunlight.

Terminus was a mild planet, with a high water/land ratio. The introduction of weather control had made it all the more comfortable and considerably less interesting, Trevize often thought.

"I don't believe any of it," he repeated and smiled. His white, even teeth gleamed out of his youthful face.

His companion and fellow Councilman, Munn Li Compur who had adopted a middle name in defiance of Terminus tradition, shook his head uneasily. "What don't you believe? That we saved the city?"

"Oh, I believe that. We did, didn't we? And Seldon said that we would, and he said we would be right to do so, and that he knew all about it five hundred years ago."

Compur's voice dropped and he said in a half-whisper, "Look, I don't mind your talking like this to me, because I take it as just talk, but if you shout it out in crowds others will hear and, frankly, I don't want to be standing near you when the lightning strikes. I'm not sure how precise the aim will be."

Trevize's smile did not waver. He said, "Is there harm in saying that the city is saved? And that we did it without a war?"

"There was no one to fight," said Compur. He had hair of a buttery yellow, eyes of a sky blue, and he always resisted the impulse to alter those unfashionable hues.

"Have you never heard of civil war, Compur?" said Trevize. He was tall, his hair was black, with a gentle wave to it, and he had a habit of walking with his thumbs hitched into the soft-fibered sash he always wore.

"A civil war over the location of the capital?"

"The question was enough to bring on a Seldon Crisis. It destroyed Hannis's political career. It put you and me into the Council last election and the issue hung-" He heisted one hand slowly, back and forth, like a balance coming to rest on the level.

He paused on the steps, ignoring the other members of the government and the media, as well as the fashionable society types who had finagled an invitation to witness Seldon's return (or the return of his image, at any rate).

All were walking down the stairs, talking, laughing, glorying in the correctness of everything, and basking in Seldon's approval.

Trevize stood still and let the crowd swirl past him. Compur, having walked two steps ahead, paused-an invisible cord stretching between them. He said, "Aren't you coming?"

"There's no hurry. They won't start the Council meeting until Mayor Branno has reviewed the situation in her usual flat-footed, one-syllable-at-a-time way. I'm in no hurry to endure another ponderous speech. -Look at the city!"

"I see it. I saw it yesterday, too."

"Yes, but did you see it five hundred years ago when it was founded?"

"Four hundred ninety-eight," Compore corrected him automatically. "Two years from now, they'll have the hemimillennial celebration and Mayor Branno will still be in the office at the time, barring events of, we hope, minor probability."

"We hope," said Trevize dryly. "But what was it like five hundred years ago when it was founded? One city! One small city, occupied by a group of men preparing an Encyclopedia that was never finished!"

"Of course it was finished."

"Are you referring to the Encyclopedia Galactica we have now? What we have isn't what they were working on. What we have is in a computer and it's revised daily. Have you ever looked at the uncompleted original?"

"You mean in the Hardin Museum?"

"The Salvor Hardin Museum of Origins. Let's have the full name, please, since you're so careful about exact dates. Have you looked at it?"

"No. Should I?"

"No, it isn't worth it. But anyway-there they were-a group of Encyclopedists, forming the nucleus of a town-one small town in a world virtually without metals, circling a sun isolated from the rest of the Galaxy, at the edge, the very edge. And now, five hundred years later, we're a suburban world. The whole place is one big park, with all the metal we want. We're at the center of everything now?"

"Not really," said Compore. "We're still circling a sun isolated from the rest of the Galaxy. Still at the very edge of the Galaxy."

"Ah no, you're saying that without thinking. That was the whole point of this little Seldon Crisis. We are more than the single world of Terminus. We are the Foundation, which sends out its tentacles Galaxy-wide and rules that Galaxy from its position at the very edge. We can do it because we're not isolated, except in position, and that doesn't count."

"All right. I'll accept that." Compore was clearly uninterested and took another step downward. The invisible cord between them stretched farther.

Trevize reached out a hand as though to haul his companion up the steps again. "Don't you see the significance, Compore? There's this enormous change, but we don't accept it. In our hearts we want the small Foundation, the small one-world operation we had in the old days-the days of iron heroes and noble saints that are gone forever."

"Come on!"

"I mean it. Look at Seldon Hall. To begin with, in the first crises in Salvor Hardin's day, it was just the Time Vault, a small auditorium in which the holographic image of Seldon appeared. That was a11. Now it's a colossal mausoleum, but is there a force-field ramp in the place? A slideway? A gravitic lift? -No, just these steps, and we walk down them and we walk up them as Hardin would have had to do. At odd and unpredictable times, we cling in fright to the past."

He flung his arm outward passionately. "Is there any structural component visible that is metal? Not one. It wouldn't do to have any, since in Salvor Hardin's day there was no native metal to speak of and hardly any imported metal. We even installed old plastic, pink with age, when we built this huge pile, so that visitors from other worlds can stop and say, 'Galaxy! What lovely old plastics' I tell you, Compor, it's a sham."

"Is that what you don't believe, then? Seldon Hall?"

"And all its contents," said Trevize in a fierce whisper. "I don't really believe there's any sense in hiding here at the edge of the Universe, just because our ancestors did. I believe we ought to be out there, in the middle of everything."

"But Seldon says you're wrong. The Seldon Plan is working out as it should."

"I know. I know. And every child on Terminus is brought up to believe that Hari Seldon formulated a Plan, that he foresaw everything five centuries ago, that he set up the Foundation in such a way that he could spot certain crises, and that his image would appear holographically at those crises, and tell us the minimum we had to know to go on to the next crisis, and thus lead us through a thousand years of history until we could safely build a Second and Greater Galactic Empire on the ruins of the old decrepit structure that was falling apart five centuries ago and had disintegrated completely by two centuries ago."

"Why are you telling me all this, Golan?"

"Because I'm telling you it's a sham. It's all a sham. -Or if it was real to begin with, it's a sham now! We are not our own masters. It is not we who are following the Plan."

Compor looked at the other searchingly. "You've said things like this before, Golan, but I've always thought you were just saying ridiculous things to stir me up. By the Galaxy, I actually think you're serious."

"Of course I'm serious!"

"You can't be. Either this is some complicated piece of fun at my expense or you're out of your mind."

"Neither. Neither," said Trevize, quiet now, hitching his thumbs into his sash as though he no longer needed the gestures of hands to punctuate passion. "I speculated on it before, I admit, but that was just intuition. That farce in there this morning, however, has made it suddenly all. quite plain to me and I intend, in turn, to make it quite plain to the Council."

Compor said, "You are crazy!"

"All right. Come with me and listen."

The two walked down the stairs. They were the only ones left-the last to complete the descent. And as Trevize moved slightly to the fore, Compor's lips moved silently, casting a voiceless word in the direction of the other's back: "Fool!"

Mayor Harla Branno called the session of the Executive Council to order. Her eyes had looked with no visible sign of interest at the gathering; yet no one there doubted that she had noted all who were present and all who had not yet arrived.

Her gray hair was carefully arranged in a style that was neither markedly feminine nor imitation masculine. It was simply the way she wore it, no more. Her matter-of-fact

face was not notable for beauty, but somehow it was never for beauty that one searched there.

She was the most capable administrator on the planet. No one could, or did, accuse her of the brilliance of the Salvor Hardins and the Hober Mallows whose histories enlivened the first two centuries of the Foundation's existence, but neither would anyone associate her with the follies of the hereditary Indburs who had ruled the Foundation just prior to the time of the Mule.

Her speeches did not stir men's minds, nor did she have a gift for the dramatic gesture, but she had a capacity for making quiet decisions and sticking by them as long as she was convinced she was right. Without any obvious charisma, she had the knack of persuading the voters those quiet decisions would be right.

Since by the Seldon doctrine, historical change is to a large degree difficult to swerve (always barring the unpredictable, something most Seldonists forget, despite the wrenching incident of the Mule), the Foundation might have retained its capital on Terminus under any conditions. That is a "might," however. Seldon, in his just finished appearance as a five-century-old simulacrum, had calmly placed the probability of remaining on Terminus at 87.2 percent.

Nevertheless, even to Seldonists, that meant there was a 12.8 percent chance that the shift to some point closer to the center of the Foundation Federation would have been made, with all the dire consequences that Seldon had outlined. That this one-out-of-eight chance did not take place was surely due to Mayor Branno.

It was certain she would not have allowed it. Through periods of considerable unpopularity, she had held to her decision that Terminus was the traditional seat of the Foundation and there it would remain. Her political enemies had caricatured her strong jaw (with some effectiveness, it had to be admitted) as an underslung granite block.

And now Seldon had backed her point of view and, for the while at least, that would give her an overwhelming political advantage. She had been reported to have said a year earlier that if in the coming appearance Seldon did back her, she would consider her task successfully completed. She would then retire and take up the role of elder statesperson, rather than risk the dubious results of further political wars.

No one had really believed her. She was at home in the political wars to an extent few before her had been, and now that Seldon's image had come and gone there was no hint of retirement about her.

She spoke in a perfectly clear voice with an unashamed Foundation accent (she had once served as Ambassador to Mandrels, but had not adopted the old Imperial style of speech that was so fashionable now-and was part of what had been a quasi-Imperial drive to the Inner Provinces).

She said, "The Seldon Crisis is over and it is a tradition, and a wise one, that no reprisals of any kind-either in deed or in speech -be taken against those who supported the wrong side. Many honest people believed they had good reason for wanting that which Seldon did not want. There is no point in humiliating them to the point where they can retrieve their self-respect only by denouncing the Seldon Plan itself. In turn, it is a

strong and desirable custom that those who supported the lost side accept the loss cheerfully and without further discussion. The issue is behind us, on both sides, forever."

She paused, gazed levelly at the assembled faces for a moment, then went on, "Half the time has passed, people of the Council- half the thousand-year stretch between Empires. It has been a time of difficulties, but we have come a fang way. We are, indeed, almost a Galactic Empire already and there remain no external enemies of consequence.

"The Interregnum would have endured thirty thousand years, were it not for the Seldon Plan. After thirty thousand years of disintegration, it might be there would be no strength left with which to form an Empire again. There might be left only isolated and probably dying worlds.

"What we have today we owe to Hari Seldon and it is upon his long-dead mind that we must rely far the rest. The danger henceforward, Councillors, is ourselves, and from this point on there must be no official doubt of the value of the Plan. Let us agree nosy, quietly and firmly, that there are to be no official doubts, criticisms, or condemnations of the Plan. We must support it completely. It has proved itself over five centuries. It is the security o€ humanity and it must not be tampered with. Is it agreed?"

There was a quiet murmur. The Mayor hardly looked up to seek visual proof of agreement. She knew every member of the Council and how each would react. In the wake of the victory, there would be no objection now. Next year perhaps. Not now. She would tackle the problems of next year next year.

Always except for-

"Thought control, Mayor Branno?" asked Golan Trevize, striding down the aisle and speaking loudly, as though to make up for the silence of the rest. He did not bother to take his seat which, since he was a new member, was in fine back row.

Branno still did not look up. She said, "Your views, Councilman Trevize?"

"That the government cannot impose a ban on free speech; that all individuals- most certainly including Councilmen and Councilwomen who have been elected for the purpose-have a right to discuss the political issues of the day; and that no political issue can possibly be divorced from the Seldon Plan:"

Branno folded her hands and looked up. Her face was expressionless. She said, "Councilman Trevize, you have entered this debate irregularly and were out of order in doing so. However, I asked you to state your views and I will now answer you.

"There is no limit to free speech within the context of the Seldon Plan. It is only the Plan itself that limits us by its very nature. There can be many ways of interpreting events before the image makes the final decision, but once he makes that decision it can be questioned no further in Council. Nor may it be questioned in advance as though one were to say, 'If Hari Seldon were to state thus-and-so, he would be wrong. ' "

"And yet if one honestly felt so, Madam Mayor?"

"Then one could say so, if one were a private individual, discussing fine matter in a private context."

"You mean, then, that the limitations on free speech which you propose are to apply entirely and specifically to government officials?"

"Exactly. This is not a new principle of Foundation law. It has been applied before by Mayors of all parties. A private point of view means nothing; an official expression of opinion carries weight and can be dangerous. We have not come this far to risk danger now."

"May I point out, Madam Mayor, that this principle of yours has been applied, sparsely and occasionally, to specific acts of Council. It has never been applied to something as vast and indefinable as the Seldon Plan."

"The Seldon Plan needs the protection most, for it is precisely there that questioning can be most fatal."

"Will you not consider, Mayor Branno-" Trevize turned, addressing now the seated rows of Council members, who seemed one and all to have caught their breath, as though awaiting the outcome of a duel. "Will you not consider, Council members, that there is every reason to think that there is no Seldon Plan at all?"

"We have all witnessed its workings today," said Mayor Branno, even more quietly as Trevize became louder and more oratorical.

"It is precisely because we have seen its workings today, Councilmen and Councilwomen, that we can see that the Seldon Plan, as we have been taught to believe it to be, cannot exist."

"Councilman Trevize, you are out of order and must not continue along these lines."

"I have the privilege of office, Mayor."

"That privilege has been withdrawn, Councilman."

"You cannot withdraw the privilege. Your statement limiting free speech cannot, in itself, have the force of law. There has been no formal vote in Council, Mayor, and even if there were I would have the right to question its legality."

"The withdrawal, Councilman, has nothing to do with my statement protecting the Seldon Plan."

"On what, then, does it depend?"

"You are accused of treason, Councilman. I wish to do the Council the courtesy of not arresting you within the Council Chamber, but waiting at the door are members of Security who will take you into custody as you leave. I will ask you now to leave quietly. If you make any ill-considered move, then, of course, that will be considered a present danger and Security will enter the Chamber. I trust you will not make that necessary."

Trevize frowned. There was absolute silence in the hall. (Did everyone expect this - everyone but himself and Compore?) He looked back at the exit. He saw nothing, but he had no doubt that Mayor Branno was not bluffing.

He stammered in rage. "I represent an important constituency, Mayor Branno-"

"No doubt, they will be disappointed in you."

"On what evidence do you bring forth this wild charge?"

"That will appear in due course, but be assured that we have all we need. You are a most indiscreet young man and should realize that someone may be your friend and yet not be willing to accompany you into treason:"

Trevize whirled to meet Compore's blue eyes. They met his stonily.

Mayor Branno said calmly, "I call upon all to witness that when I made my last statement, Councilman Trevize turned to look at Councilman Compore. Will you leave now, Councilman, or will you force us to engage in the indignity of an arrest within the Chamber?"

Golan Trevize turned, mounted the steps again, and, at the door, two men in uniform, well armed, fell in on either side.

And Harla Branno, looking after him impassively, whispered through barely parted lips, "Fool!"

Liono Kodell had been Director of Security through all of Mayor Branno's administration. It was not a backbreaking job, as he liked to say, but whether he was lying or not, one could not, of course, tell. He didn't look like a liar, but that did not necessarily mean anything.

He looked comfortable and friendly, and it might well be that this was appropriate for the job. He was rather below the average height, rather above the average weight, had a bushy mustache (most unusual for a citizen of Terminus) that was now more white than gray, bright brown eyes, and a characteristic patch of primary color marking the outer breast pocket of his drab coverall.

He said, "Sit down, Trevize. Let us keep this on a friendly basis if we can."

"Friendly? With a traitor?" Trevize hooked both his thumbs in his sash and remained standing.

"With an accused traitor. We have not yet come to the point where accusation—even by the Mayor herself—is the equivalent of conviction. I trust we never do. My job is to clear you, if I can. I would much rather do so now while no harm is done—except, perhaps, to your pride—rather than be forced to make it all a matter of a public trial. I hope you are with me in this."

Trevize didn't soften. He said, "Let's not bother with ingratiation. Your job is to badger me as though I were a traitor. I am not one, and I resent the necessity of having to have that point demonstrated to your satisfaction. Why should you not have to prove your loyalty to my satisfaction?"

"In principle, none. The sad fact, however, is that I have power on my side, and you have none on yours. Because of that, it is my privilege to question, and not yours. If any suspicion of disloyalty or treason fell upon me, by the way, I imagine I would find myself replaced, and I would then be questioned by someone else, who, I earnestly hope, would treat me no worse than I intend to treat you."

"And how do you intend to treat me?"

"Like, I trust, a friend and an equal, if you will so treat me."

"Shall I stand you a drink?" asked Trevize bitterly.

"Later, perhaps, but for now, please sit down. I ask it as a friend."

Trevize hesitated, then sat. Any further defiance suddenly seemed meaningless to him. "What now?" he said.

"Now, may I ask that you will answer my questions truthfully and completely and without evasion?"

"And if not? What is the threat behind it? A Psychic Probe?"

"I trust not."

"I trust not, too. Not on a Councilman. It will reveal no treason, and when I am then acquitted, I will have your political head and the Mayor's too, perhaps. It might almost be worth making you try a Psychic Probe."

Kodell frowned and shook his head slightly. "Oh no. Oh no. Too much danger of brain damage. It's slow healing sometimes, and it would not be worth your while. Definitely. You know, sometimes, when the Probe is used in exasperation-

"A threat, Kodell?"

"A statement of fact, Trevize. -Don't mistake me, Councilman. If I must use the Probe I will, and even if you are innocent you will have no recourse."

"What do you want to know?"

Kodell closed a switch on the desk before him. He said, "What I ask and what you answer to my questions will be recorded, both sight and sound. I do not want any volunteered statements from you, or anything nonresponsive. Not at this time. You understand that, I am sure."

"I understand that you will record only what you please," said Trevize contemptuously.

"That is right, but again, don't mistake me. I will not distort anything you say. I will use it or not use it, that is all. But you will know what I will not use and you will not waste my time and yours.

"We'll see."

"We have reason to think, Councilman Trevize"-and somehow the touch of added formality in his voice was evidence enough that he was recording-"that you have stated openly, and on a number of occasions, that you do not believe in the existence of the Seldon Plan."

Trevize said slowly, "If I have said so openly, and on a number of occasions, what more do you need?"

"Let us not waste time with quibbles, Councilman. You know that what I want is an open admission in your own voice, characterized by its own voiceprints, under conditions where you are clearly in perfect command of yourself."

"Because, I suppose, the use of any hypno-effect, chemical or otherwise, would alter the voiceprints?"

"Quite noticeably."

"And you are anxious to demonstrate that you have made use of no illegal methods in questioning a Councilman? I don't blame you ..

"I'm glad you do not blame me, Councilman. Then let us continue. You have stated openly, and on a number of occasions, that you do not believe in the existence of the Seldon Plan. Do you admit that?"

Trevize said slowly, choosing his words, "I do not believe that what we call Seldon's Plan has the significance we usually apply to it.

"A vague statement. Would you care to elaborate?"

"My view is that the usual concept that Hari Seldon, five hundred years ago, making use of the mathematical science of psychohistory, worked out the course of human events to the last detail and that we are following a course designed to take us from the First Galactic Empire to the Second Galactic Empire along the line of maximum probability, is naive. It cannot be so."

"Do you mean that, in your opinion, Hari Seldon never existed?"

"Not at all. Of course he existed."

"That he never evolved the science of psychohistory?"

"No, of course I don't mean any such thing. See here, Director, I would have explained this to the Council if I had been allowed to, and I will explain it to you. The truth of what I am going to say is so plain--"

The Director of Security had quietly, and quite obviously, turned off the recording device.

Trevize paused and frowned. "Why did you do that?"

"You are wasting my time, Councilman. I am not asking you for speeches."

"You are asking me to explain my views, aren't you?"

"Not at all. I am asking you to answer questions--simply, directly, and straightforwardly. Answer only the questions and offer nothing that I do not ask for. Do that and this won't take long."

Trevize said, "You mean you will elicit statements from me that will reinforce the official version of what I am supposed to have done."

"We ask you only to make truthful statements, and I assure you we will not distort them. Please, let me try again. We were talking about Hari Seldon." The recording device was in action once more and Kodell repeated calmly, "That he never evolved the science of psychohistory?"

"Of course he evolved the science that we call psychohistory," said Trevize, failing to mask his impatience, and gesturing with exasperated passion.

"Which you would define--how?"

"Galaxy! It is usually defined as that branch of mathematics that deals with the overall reactions of large groups of human beings to given stimuli under given conditions. In other words, it is supposed to predict social and historical changes"

"You say 'supposed to': Do you question that from the standpoint of mathematical expertise?"

"No," said Trevize. "I am not a psychohistorian. Nor is any member of the Foundation government, nor any citizen of Terminus, nor any--"

Kodell's hand raised. He said softly, "Councilman, please!" and Trevize was silent.

Kodell said, "Have you any reason to suppose that Hari Seldon did not make the necessary analysis that would combine, as efficiently as possible, the factors of maximum probability and shortest duration in the path leading from the First to the Second Empire by way of the Foundation?"

"I wasn't there," said Trevize sardonically. "How can I know?"

"Can you know he didn't?" No.

"Do you deny, perhaps, that the holographic image of Hari Seldon that has appeared during each of a number of historical crises over the past five hundred years is, in actual fact, a reproduction of Hari Seldon himself, made in the last year of his life, shortly before the establishment of the Foundation?"

"I suppose I can't deny that."

"You 'suppose.' Would you care to say that it is a fraud, a hoax devised by someone in past history for some purpose?"

Trevize sighed. "No. I am not maintaining that."

"Are you prepared to maintain that the messages that Hari Seldon delivers are in any way manipulated by anyone at all?"

"No. I have no reason to think that such manipulation is either possible or useful."

"I see. You witnessed this most recent appearance of Seldon's image. Did you find that his analysis-prepared five hundred years ago-did not match the actual conditions of today quite closely?"

"On the contrary," said Trevize with sudden glee. "It matched very closely."

Kodell seemed indifferent to the other's emotion. "And yet, Councilman, after the appearance of Seldon, you still maintain that the Seldon Plan does not exist."

"Of course I do. I maintain it does not exist precisely because the analysis matched so perfectly-"

Kodell had turned off the recorder. "Councilman," he said, shaking his head, "you put me to the trouble of erasing. I ask if you still maintain this odd belief of yours and you start giving me reasons. Let me repeat my question."

He said, "And yet, Councilman, after the appearance of Seldon, you still maintain that the Seldon Plan does not exist."

"How do you know that? No one had a chance to speak to my informer friend, Compor, after the appearance."

"Let us say we guessed, Councilman. And let us say you have already answered, 'Of course I do: If you will say that once more without volunteering added information, we can get on with it. ' "

"Of course I do," said Trevize ironically.

"Well," said Kodell, "I will choose whichever of the 'Of course I do's' sounds more natural. Thank you, Councilman," and the recording device was turned off again.

Trevize said, "Is that it?"

"For what I need, yes."

"What you need, quite clearly, is a set of questions and answers that you can present to Terminus and to all the Foundation Federation which it rules, in order to show

that I accept the legend of the Seldon Plan totally. That will make any denial of it that I later make seem quixotic or outright insane."

"Or even treasonable in the eyes of an excited multitude which sees the Plan as essential to the Foundation's safety. It will perhaps not be necessary to publicize this, Councilman Trevize, if we can come to some understanding, but if it should prove necessary we will see to it that the Federation hears."

"Are you fool enough, sir," said Trevize, frowning, "to be entirely uninterested in what I really have to say?"

"As a human being I am very interested, and if an appropriate time comes I will listen to you with interest and a certain amount of skepticism. As Director of Security, however, I have, at the present moment, exactly what I want"

"I hope you know that this will do you, and the Mayor, no good."

"Oddly enough, I am not at all of that opinion. You will now leave. Under guard, of course."

"Where am I to be taken?"

Kodell merely smiled. "Good-bye, Councilman. You were not perfectly co-operative, but it would have been unrealistic to have expected you to be."

He held out his hand.

Trevize, standing up, ignored it. He smoothed the creases out of his sash and said, "You only delay the inevitable. Others must think as I do now, or will come to think that way later. To imprison me or to kill me will serve to inspire wonder and, eventually, accelerate such thinking. In the end the truth and I shall win."

Kodell took back his hand and shook his head slowly. "Really, Trevize," he said. "You are a fool."

It was not till midnight that two guards came to remove Trevize from what was, he had to admit, a luxurious room at Security Headquarters. Luxurious but locked. A prison cell by any name.

Trevize had over four hours to second-guess himself bitterly, striding restlessly across the floor for much of the period.

Why did he trust Compore?

Why not? He had seemed so clearly in agreement. -No, not that. He had seemed so ready to be argued into agreement. -No, not that, either. He had seemed so stupid, so easily dominated, so surely lacking a mind and opinions of his own that Trevize enjoyed the chance of using him as a comfortable sounding board. Compore had helped Trevize improve and hone his opinions. He had been useful and Trevize had trusted him for no other reason than that it had been convenient to do so.

But it was useless now to try to decide whether he ought to have seen through Compore. He should have followed the simple generalization: Trust nobody.

Yet can one go through life trusting nobody?

Clearly one had to.

And who would have thought that Branno would have had the audacity to pluck a Councilman out of the Council-and that not one of the other Councilmen would move to

protect one of their own? Though they had disagreed with Trevize to their very hearts; though they would have been ready to bet their blood, drop by drop, on Branno's rightness; they should still, on principle, have interposed themselves against this violation of their prerogatives. Branno the Bronze she was sometimes called, and she certainly acted with metallic rigor--

Unless she herself was already in the grip-

No! That way led to paranoia!

And yet-

His mind tiptoed in circles, and had not broken out of uselessly repetitive thought when the guards came.

"You will have to come with us, Councilman," the senior of the two said with unemotional gravity. His insignia showed him to be a lieutenant. He had a small scar on his right cheek, and he looked tired, as though he had been at his Job too long and had done too little-as might be expected of a soldier whose people had been at peace for over a century.

Trevize did not budge. "Your name, Lieutenant."

"I am Lieutenant Evander Sopellor, Councilman."

"You realize you are breaking the law, Lieutenant Sopellor. You cannot arrest a Councilman."

The lieutenant said, "We have our direct orders, sir."

"That does not matter. You cannot be ordered to arrest a Councilman. You must understand that you will be liable for court-martial as a result."

The lieutenant said, "You are not being arrested, Councilman."

"Then I don't have to go with you, do I?"

"We have been instructed to escort you to your home."

"I know the way."

"And to protect you en route."

"From what? -Or from whom?"

"From any mob that may gather."

"At midnight?"

"It is why we have waited for midnight, sir. -And now, sir, for your protection we must ask you to come with us. May I say-not as a threat but as a matter of information-that we are authorized to use force if necessary."

Trevize was aware of the neuronics whips with which they were armed. He rose with what he hoped was dignity. "To my home, then. -Or will I find out that you are going to take me to prison?"

"We have not been instructed to lie to you, sir," said the lieutenant with a pride of his own. Trevize became aware that he was in the presence of a professional man who would require a direct order before he would lie-and that even then his expression and his tone of voice would give him away.

Trevize said, "I ask your pardon, Lieutenant. I did not mean to imply that I doubted your word."

A ground-car was waiting for them outside. The street was empty and there was no sign of any human being, let alone a mob-but the lieutenant had been truthful. He had not said there was a mob outside or that one would form. He had referred to "any mob that may gather." He had only said "may."

The lieutenant had carefully kept Trevize between himself and the car. Trevize could not have twisted away and made a run for it. The lieutenant entered immediately after him and sat beside him in the back.

The car moved off.

Trevize said, "Once I am home, I presume I may then go about my business freely-that I may leave, for instance, if I choose."

"We have no order to interfere with you, Councilman, in any way, except insofar as we are ordered to protect you."

"Insofar? What does that mean in this case?"

"I am instructed to tell you that once you are home, you may not leave it. The streets are not safe for you and I am responsible for your safety."

"You mean I am under house arrest."

"I am not a lawyer, Councilman. I do not know what that means."

He gazed straight ahead, but his elbow made contact with Trevize's side. Trevize could not have moved, however slightly, without the lieutenant becoming aware of it.

The car stopped before Trevize's small house in the suburb of Flexner. At the moment, he lacked a housemate-Flavella having wearied of the erratic life that Council membership had forced upon him-so he expected no one to be waiting for him.

"Do I get out now?" Trevize asked.

"I will get out first, Councilman. We will escort you in."

"For my safety?"

"Yes, sir."

There were two guards waiting inside his front door. A night-light was gleaming, but the windows had been opacified and it was not visible from outside.

For a moment, he was indignant at the invasion and then he dismissed it with an inward shrug. If the Council could not protect him in the Council Chamber itself, then surely his house could not serve as his castle.

Trevize said, "How many of you do I have in here altogether? A regiment?"

"No, Councilman," came a voice, hard and steady. "Just one person aside from those you see, and I have been waiting for you long enough."

Harla Branno, Mayor of Terminus, stood in the door that led into the living room. "Time enough, don't you think, for us to talk?"

Trevize stared. "All this rigmarole to-"

But Branno said in a low, forceful voice. "Quiet, Councilman. -And you four, outside. Outside! -All will be well in here."

The four guards saluted and turned on their heels. Trevize and Branno were alone.

2. MAYOR

BRANNO HAD BEEN WAITING FOR AN HOUR, THINKING WEARILY. Technically speaking, she was guilty of breaking and entering. What's more, she had violated, quite unconstitutionally, the rights of a Councilman. By the strict laws that held Mayors to account since the days of Indbur III and the Mute, nearly two centuries before-she was impeachable.

On this one day, however, for twenty-four hours she could do no wrong.

But it would pass. She stirred restlessly.

The first two centuries had been the Golden Age of the Foundation, the Heroic Era-at least in retrospect, if not to the unfortunates who had lived in that insecure time. Salvor Hardin and Hober Mallow had been the two great heroes, semideified to the point of rivaling the incomparable Hari Seldon himself. The three were a tripod on which all Foundation legend (and even Foundation history) rested.

In those days, though, the Foundation had been one puny world, with a tenuous hold on the Four Kingdoms and with only a dim awareness of the extent to which the Seldon Plan was holding its protective hand over it, caring for it even against the remnant of the mighty Galactic Empire.

And the more powerful the Foundation grew as a political and commercial entity, the less significant its rulers and fighters had come to seem. Lathan Devers was almost forgotten. If he was remembered at all, it was for his tragic death in the slave mines, rather than for his unnecessary but successful fight against Bel Riose.

As for Bel Riose, the noblest of the Foundation's adversaries, he too was nearly forgotten, overshadowed by the Mule, who alone among enemies had broken the Seldon Plan and defeated and ruled the Foundation. He alone was the Great Enemy-indeed, the last of the Greats.

It was little remembered that the Mule had been, in essence, defeated by one person-a woman, Bayta Darell-and that she had accomplished the victory without the help of anyone, -without even the support of the Seldon Plan. So, too, was it almost forgotten that her son and granddaughter, Toran and Arkady Darrell, had defeated the Second Foundation, leaving the Foundation, the First Foundation, supreme.

These latter-day victors were no longer heroic figures. The times had become too expansive to do anything but shrink heroes into ordinary mortals. Then, too, Arkady's biography of her grandmother had reduced her from a heroine to a figure of romance.

And since then there had been no heroes-not even figures of romance. The Kalganian war had been the last moment of violence engulfing the Foundation and that had been a minor conflict. Nearly two centuries of virtual peace! A hundred and twenty years without so much as a ship scratched.

It had been a good peace-Branno would not deny that-a profitable peace. The Foundation had not established a Second Galactic Empire-it was only halfway there by

the Seldon Plan-but, as the Foundation Federation, it held a strong economic grip on over a third of the scattered political units of the Galaxy, and influenced what it didn't control. There were few places where "I am of the Foundation" was not met with respect. There was no one who ranked higher in all the millions of inhabited worlds than the Mayor of Terminus.

That was still the title. It was inherited from the leader of a single small and almost disregarded city on a lonely world on the far edge of civilization, some five centuries before, but no one would dream of changing it or of giving it one atom more glory-in-sound. As it was, only the all-but-forgotten title of Imperial Majesty could rival it in awe.

-Except on Terminus itself, where the powers of the Mayor were carefully limited. The memory of the Indburs still remained. It was not their tyranny that people could not forget but the fact that they had lost to the Mule.

And here she was, Harla Branno, the strongest to rule since the Mule's death (she knew that) and only the fifth woman to do so. On this day only had she been able to use her strength openly.

She had fought for her interpretation of what was right and what should be-against the dogged opposition of those who longed for the prestige-filled Interior of the Galaxy and for the aura of Imperial power-and she had won.

Not yet, she had said. Not yet! Jump too soon for the Interior and you will lose far this reason and for that. And Seldon had appeared and had supported her in language almost identical with her own.

It made her, for a time, in the eyes of all fine Foundation, as wise as Seldon himself. She knew they could forget that any hour, however.

And this young man dared to challenge her on this day of days.

And he dared to be right?

That was the danger of it. He was right? And by being right, he might destroy the Foundation!

And now she faced him and they were alone.

She said sadly, "Could you not have come to see me privately? Did you have to shout it all out in the Council Chamber in your idiotic desire to make a fool of me? What have you done, you mindless boy?"

Trevize felt himself flushing and fought to control his anger. The Mayor was an aging woman who would be sixty-three on her next birthday. He hesitated to engage in a shouting match with someone nearly twice his age.

Besides, she was well practiced in the political wars and knew that if she could place her opponent off-balance at the start then the battle was half-won. But it took an audience to make such a tactic effective and there was no audience before whom one might be humiliated. There were just the two of them.

So he ignored her words and did his best to survey her dispassionately. She was an old woman wearing the unisex fashions which had prevailed for two generations now. They did not become her. The Mayor, the leader of the Galaxy-if leader there could be-was just a plain old woman who might easily have been mistaken for an old man, except

that her iron-gray hair was tied tightly back, instead of being worn free in the traditional male style.

Trevize smiled engagingly. However much an aged opponent strove to make the epithet "boy" sound like an insult, this particular "boy" had the advantage of youth and good looks-and the full awareness of both.

He said, "It's true. I'm thirty-two and, therefore, a boy-in a manner of speaking. And I'm a Councilman and, therefore, ex officio, mindless. The first condition is unavoidable. For the second, I can only say I'm sorry."

"Do you know what you've done? Don't stand there and strive for wit. Sit down. Put your mind into gear, if you can, and answer me rationally."

"I know what I've done. I've told the truth as I've seen it."

"And on this day you try to defy me with it? On this one day when my prestige is such that I could pluck you out of the Council Chamber and arrest you, with no one daring to protest?"

"The Council will recover its breath and it will protest. They may be protesting now. And they will listen to me all the more for the persecution to which you are subjecting me."

"No one will listen to you, because if I thought you would continue what you have been doing, I would continue to treat you as a traitor to the full extent of the law."

"I would then have to be tried.. I'd have my day in court."

"Don't count on that. A Mayor's emergency powers are enormous, even if they are rarely used."

"On what grounds would you declare an emergency?"

"I'll invent the grounds. I have that much ingenuity left, and I do not fear taking the political risk. Don't push me, young man. We are going to come to an agreement here or you will never be free again. You will be imprisoned for the rest of your life. I guarantee it.

They stared at each other: Branno in gray, Trevize in multishade brown.

Trevize said, "What kind of an agreement?"

"Ah. You're curious. That's better. Then we can engage in conversation instead of confrontation. What is your point of view?"

"You know it well. You have been crawling in the mud with Councilman Compore, have you not?"

"I want to hear it from you-in the light of the Seldon Crisis just passed."

"Very well, if that's what you want-Madam Mayor!" (He had been on the brink of saying "old woman.") "The image of Seldon was too correct, too impossibly correct after five hundred years. It's the eighth time he has appeared, I believe. On some occasions, no one was there to hear him. On at least one occasion, in the time of Indbur III, what he had to say was utterly out of synchronization with reality but that was in the time of the Mule, wasn't it? But when, on any of those occasions, was he as correct as he was now?"

Trevize allowed himself a small smile. "Never before, Madam Mayor, as far as our recordings of the past are concerned, has Seldon managed to describe the situation so perfectly, in all its smallest details."

Branno said, "Is it your suggestion that the Seldon appearance, the holographic image, is faked; that the Seldon recordings have been prepared by a contemporary such as myself, perhaps; that an actor was playing the Seldon role?"

"Not impossible, Madam Mayor, but that's not what I mean. The truth is far worse. I believe that it is Seldon's image we see, and that his description of the present moment in history is the description he prepared five hundred years ago. I have said as much to your man, Kodell, who carefully guided me through a charade in which I seemed to support the superstitions of the unthinking Foundationer."

"Yes. The recording will be used, if necessary, to allow the Foundation to see that you were never really in the opposition."

Trevize spread his arms. "But I am. There is no Seldon Plan in the sense that we believe there is, and there hasn't been for perhaps two centuries. I have suspected that for years now, and what we went through in the Time Vault twelve hours ago proves it."

"Because Seldon was too accurate?"

"Precisely. Don't smile. That is the final proof."

"I'm not smiling, as you can see. Go on."

"How could he have been so accurate? Two centuries ago, Seldon's analysis of what was then the present was completely wrong. Three hundred years had passed since the Foundation was set up and he was wide of the mark. Completely!"

"That, Councilman, you yourself explained a few moments ago. It was because of the Mule. The Mule was a mutant with intense mental power and there had been no way of allowing for him in the Plan."

"But he was there just the same-allowed or not. The Seldon Plan was derailed. The Mule didn't rule for long and he had no successor. The Foundation regained its independence and its domination, but how could the Seldon Plan have gotten back on target after so enormous a tearing of its fabric?"

Branno looked grim and her aging hands clasped together tightly. "You know the answer to that. They were one of two Foundations. You've read the history books."

"I've read Arkady's biography of her grandmother-required reading in school, after all-and I've read her novels, too. I've read the official view of the history of the Mule and afterward. Am I to be allowed to doubt them?"

"In what way?"

"Officially we, the First Foundation, were to retain the knowledge of the physical sciences and to advance them. We were to operate openly, our historical development following-whether we knew it or not-the Seldon Plan. There was, however, also the Second Foundation, which was to preserve and further develop the psychological sciences, including psychohistory, and their existence was to be a secret even from us. The Second Foundation was the fine-tuning agency of the Plan, acting to adjust the currents of Galactic history, when they turned from the paths outlined by the Plan."

"Then you answer yourself," said the Mayor. "Bayta Darell defeated the Mule, perhaps under the inspiration of the Second Foundation, although her granddaughter insists that was not so. It was the Second Foundation without doubt, however, which

labored to bring Galactic history back to the Plan after the Mule died and, quite obviously, they succeeded. -What on Terminus, then, are you talking about, Councilman?"

"Madam Mayor, if we follow Arkady Darell's account, it is clear that the Second Foundation, in making the attempt to correct Galactic history, undermined Seldon's entire scheme, since in their attempt to correct they destroyed their own secrecy. We, the First Foundation, realized that our mirror image, the Second Foundation, existed, and we could not live with the knowledge that we were being manipulated. We therefore labored to find the Second Foundation and to destroy it."

Branno nodded. "And we succeeded, according to Arkady Darell's account, but quite obviously, not until the Second Foundation had placed Galactic history firmly on track again after its disruption by the Mule. It is still on track."

"Can you believe that? The Second Foundation, according to the account, was located and its various members dealt with. That was in 378 F.E., a hundred twenty years ago. For five generations, they have supposedly been operating without the Second Foundation, and yet have remained so close to target where the Plan is concerned that you and the image of Seldon spoke almost identically."

"This might be interpreted to mean that I have seen into the significance of developing history with keen insight."

"Forgive me. I do not intend to cast doubt upon your keen insight, but to me it seems that the more obvious explanation is that the Second Foundation was never destroyed. It still rules us. It still manipulates us. -And that is why we have returned to the track of the Seldon Plan."

If the Mayor was shocked by the statement, she showed no sign of it.

It was past 1 A.m. and she wanted desperately to bring an end to it, and yet could not hasten. The young man had to be played and she did not want to have him break the fishing line. She did not want to have to dispose of him uselessly, when he might first be made to serve a function.

She said, "Indeed? You say then that Arkady's tale of the Kalganian war and the destruction of the Second Foundation was false? Invented? A game? A lie?"

Trevize shrugged. "It doesn't have to be. That's beside the point. Suppose Arkady's account were completely true, to the best of her knowledge. Suppose all took place exactly as Arkady said it did; that the nest of Second Foundationers was discovered, and that they were disposed of. How can we possibly say, though, that we got every last one of them? The Second Foundation was dealing with the entire Galaxy. They were not manipulating the history of Terminus alone or even of the Foundation alone. Their responsibilities involved more than our capital world or our entire Federation. There were bound to be some Second Foundationers that were a thousand -or more-parsecs away. Is it likely we would have gotten them all?"

"And if we failed to get them all, could we say we had won? Could the Mule have said it in his time? He took Terminus, and with it all the worlds it directly controlled-but the Independent Trading Worlds still stood. He took the Trading Worlds-yet three

fugitives remained: Ebling Mis, Bayta Darell, and her husband. He kept both men under control and left Bayta-only Bayta-uncontrolled. He did this out of sentiment, if we are to believe Arkady's romance. And that was enough. According to Arkady's account, one person-only Bayta-was left to do as she pleased, and because of her actions the Mule was not able to locate the Second Foundation and was therefore defeated.

"One person left untouched, and all was Lost! That's the importance of one person, despite all the legends that surround Seldon's Plan to the effect that the individual is nothing and the mass is all.

"And if we left not just one Second Foundationer behind, but several dozen, as seems perfectly likely, what then? Would they not gather together, rebuild their fortunes, take up their careers again, multiply their numbers by recruitment and training, and once more make us all pawns?"

Branno said gravely, "Do you believe that?"

"I am sure of it."

"But tell me, Councilman? Why should they bother? Why should the pitiful remnant continue to cling desperately to a duty no one welcomes? What drives them to keep the Galaxy along its path to the Second Galactic Empire? And if the small band insists on fulfilling its mission, why should we care? Why not accept the path of the Plan and be thankful that they will see to it that we do not stray or lose our way?"

Trevize put his hand over his eyes and rubbed them. Despite his youth, he seemed the more tired of the two. He stared at the Mayor and said, "I can't believe you. Are you under the impression that the Second Foundation is doing this for us? That they are some sort of idealists? Isn't it clear to you from your knowledge of politics-of the practical issues of power and manipulation-that they are doing it for themselves?"

"We are the cutting edge. We are the engine, the force. We labor and sweat and bleed and weep. They merely control-adjusting an amplifier here, closing a contact there, and doing it all with ease and without risk to themselves. Then, when it is all done and when, after a thousand years of heaving and straining, we have set up the Second Galactic Empire, the people of the Second Foundation will move in as the ruling elite."

Branno said, "Do you want to eliminate the Second Foundation then? Having moved halfway to the Second Empire, do you want to take the chance of completing the task on our own and serving as our own elite? Is that it?"

"Certainly! Certainly! Shouldn't that be what you want, too? You and I won't live to see it, but you have grandchildren and someday I may, and they will have grandchildren, and so on. I want them to have the fruit of our labors and I want them to look back to us as the source, and to praise us for what we have accomplished. I don't want it all to fall to a hidden conspiracy devised by Seldon-who is no hero of mine. I tell you he is a greater threat than the Mule-if we allow his Plan to go through. By the Galaxy, I wish the Mule had disrupted the Plan altogether-and forever. We would have survived him. He was one of a kind and very mortal. The Second Foundation seems to be immortal."

"But you would like to destroy the Second Foundation, is that not so?"

"If I knew how!"

"Since you don't know how, don't you think it quite likely they will destroy you?"

Trevize looked contemptuous. "I have had the thought that even you might be under their control. Your accurate guess as to what Seldon's image would say and your subsequent treatment of me could be all Second Foundation. You could be a hollow shell with a Second Foundation content."

"Then why are you talking to me as you are?"

"Because if you are under Second Foundation control, I am lost in any case and I might as well expel some of the anger within me and because, in actual fact, I am gambling that you are not under their control, that you are merely unaware of what you do."

Branno said, "You win that gamble, at any rate. I am not under anyone's control but my own. Still, can you be sure I am telling the truth? Were I under control of the Second Foundation, would I admit it? Would I even myself know that I was under their control?"

"But there is no profit in such questions. I believe I am not under control and you have no choice but to believe it, too. Consider this, however. If the Second Foundation exists, it is certain that their biggest need is to make sure that no one in the Galaxy knows they exist. The Seldon Plan only works well if the pawns-we are not aware of how the Plan works and of how we are manipulated. It was because the Mule focused the attention of the Foundation on the Second Foundation that the Second Foundation was destroyed in Arkady's time. -Or should I say nearly destroyed, Councilman?"

"From this we can deduce two corollaries. First, we can reasonably suppose that they interfere grossly as little as they can. We can assume it would be impossible to take us all over. Even the Second Foundation, if it exists, must have limits to its power. To take over some and allow others to guess the fact would introduce distortions to the Plan. Consequently, we come to the conclusion that their interference is as delicate, as indirect, as sparse as is possible-and therefore I am not controlled. Nor are you:"

Trevize said, "That is one corollary and I tend to accept it-out of wishful thinking, perhaps. What is the other?"

"A simpler and more inevitable one. If the Second Foundation exists and wishes to guard the secret of that existence, then one thing is sure. Anyone who thinks it still exists, and talks about it, and announces it, and shouts it to all the Galaxy must, in some subtle way, be removed by them at once, wiped out, done away with. Wouldn't that be your conclusion, too?"

Trevize said, "Is that why you have taken me into custody, Madam Mayor? To protect me from the Second Foundation?"

"In a way. To an extent. Liono Kodell's careful recording of your beliefs must be publicized not only in order to keep the people of Terminus and the Foundation from being unduly disturbed by your silly talk-but to keep the Second Foundation from being disturbed. If it exists, I do not want to have its attention drawn to you."

"Imagine that," said Trevize with heavy irony. "For my sake? For my lovely brown eyes?"

Branno stirred and then, quite without warning, laughed quietly. She said, "I am not so old, Councilman, that I am not unaware that you have lovely brown eyes and, thirty years ago, that might have been motive enough. At this time, however, I wouldn't move a millimeter to save them-or all the rest of you-if only your eyes were involved. But if the Second Foundation exists, and if their attention, is drawn to you, they may not stop with you. There's my life to consider, and that of a number of others far more intelligent and valuable than you-and all the plans we have made."

"Oh? Do you believe the Second Foundation exists, then, that you react so carefully to the possibility of their response?"

Branno brought her fist down upon the table before her. "Of course I do, you consummate fool! If I didn't know the Second Foundation exists, and if I weren't fighting them as hard and as effectively as I could, would I care what you say about such a subject? If the Second Foundation did not exist, would it matter that you are announcing they do? I've wanted for months to shut you up before you went public, but lacked the political power to deal roughly with a Councilman. Seldon's appearance made me look good and gave me the power-if only temporarily-and at that moment, you did go public. I moved at once, and now I will have you killed without a twinge of conscience or a microsecond of hesitation-if you don't do exactly as you're told.

"Our entire conversation now, at an hour in which I would much rather be in bed and asleep, was designed to bring you to the point of believing me when I tell you this. I want you to know that the problem of the Second Foundation, which I was careful to have you outline, gives me reason enough and inclination to have you brainstopped without trial."

Trevize half-rose from his seat.

Branno said, "Oh, don't make any moves. I'm only an old woman, as you're undoubtedly telling yourself, but before you could place a hand on me, you'd be dead. We are under observation, foolish young man, by my people."

Trevize sat down. He said, just a bit shakily, "You make no sense. If you believed the Second Foundation existed, you wouldn't be speaking of it so freely. You wouldn't expose yourself to the dangers to which you say I am exposing myself."

"You recognize, then, that I have a bit more good sense than you do. In other words, you believe the Second Foundation exists, yet you speak freely about it, because you are foolish. I believe it exists, and I speak freely, too-but only because I have taken precautions. Since you seem to have read Arkady's history carefully, you may recall that she speaks of her father having invented what she called a 'Mental Static Device.' It serves as a shield to the kind of mental power the Second Foundation has. It still exists and has been improved on, too, under conditions of the greatest secrecy. This house is, for the moment, reasonably safe against their prying. With that understood, let me tell you what you are to do."

"What's that?"

"You are to find out whether what you and I think is so is indeed so. You are to find out if the Second Foundation still exists and, if so, where. That means you will have to leave Terminus and go I know not where-even though it may in the end turn out, as in Arkady's day, that the Second Foundation exists among us. It means you will not return till you have something to tell us; and if you have nothing to tell us, you will never return, and the population of Terminus will be less one fool."

Trevize found himself stammering. "How on Terminus can I look for them without giving away the fact? They will simply arrange a death for me, and you will be none the wiser."

"Then don't look for them, you naive child. Look for something else. Look for something else with all your heart and mind, and if, in the process, you come across them because they have not bothered to pay you any attention, then goods You may, in that case, send us the information by shielded and coded hyperwave, and you may then return as a reward."

"I suppose you have something in mind that I should look for."

"Of course I do. Do you know Janov Pelorat?"

"Never heard of him."

"You will meet him tomorrow. He will tell you what you are looking for and he will leave with you in one of our most advanced ships. There will be just the two of you, for two are quite enough to risk. And if you ever try to return without satisfying us that you have the knowledge we want, then you will be blown out of space before you come within a parsec of Terminus. That's all. This conversation is over."

She arose, looked at her bare hands, then slowly drew on her gloves. She turned toward the door, and through it came two guards, weapons in hand. They stepped apart to let her pass.

At the doorway she turned. "There are other guards outside. Do nothing that disturbs them or you will save us all the trouble of your existence."

"You will also then lose the benefits I might bring you," said Trevize and, with an effort, lie managed to say it lightly.

"We'll chance that," said Branno with an unamused smile.

Outside Liono Kodell was waiting for her. He said, "I listened to the whole thing, Mayor. You were extraordinarily patient."

"And I am extraordinarily tired. I think the day has been seventy-two hours long. You take over now."

"I will, but tell me- Was there really a Mental Static Device about the house?"

"Oh, Kodell," said Branno wearily. "You know better than that. What was the chance anyone was watching? Do you imagine the Second Foundation is watching everything, everywhere, always? I'm not the romantic young Trevize is; he might think that, but I don't. And even if that were the case, if Second Foundational eyes and ears were everywhere, would not the presence of an MSD have given us away at once? For

that matter, would not its use have shown the Second Foundation a shield against its powers existed-once they detected a region that was mentally opaque? Isn't the secret of such a shield's existence-until we are quite ready to use it to the full - something worth not only more than Trevize, but more than you and I together? And yet-"

They were in the ground-car, with Kodell driving. "And yet-" said Kodell.

"And yet what?" said Branno. "-Oh yes. And yet that young man is intelligent. I called him a fool in various ways half a dozen times just to keep him in his place, but he isn't one. He's young and he's read too many of Arkady Darell's novels, and they have made him think that that's the way the Galaxy is-but he has a quick insight about him and it will be a pity to lose him."

"You are sure then that he will be lost?"

"Quite sure," said Branno sadly. "Just the same, it is better that way. We don't need young romantics charging about blindly and smashing in an instant, perhaps, what it has taken us years to build. Besides, he will serve a purpose. He will surely attract the attention of the Second Foundationers-always assuming they exist and are indeed concerning themselves with us. And while they are attracted to him, they will, perchance, ignore us. Perhaps we can gain even more than the good fortune of being ignored. They may, we can hope, unwittingly give themselves away to us in their concern with Trevize, and let us have an opportunity and time to devise countermeasures."

"Trevize, then, draws the lightning."

Branno's lips twitched. "Ah, the metaphor I've been looking for. He is our lightning rod, absorbing the stroke and protecting us from harm."

"And this Pelorat, who wilt also be in the path of the lightning bolt?"

"He may suffer, too. That can't be helped."

Kodell nodded. "Well, you know what Salvor Hardin used to say- 'Never let your sense of morals keep you from doing what is right.'"

"At the moment, I haven't got a sense of morals," muttered Branno. "I have a sense of bone-weariness. And yet-I could name a number of people I would sooner lose than Golan Trevize. He is a handsome young man. -And, of course, he knows it." Her tact words slurred as she closed her eyes and fell into a light sleep.

3. HISTORIAN

JANOV PELORAT WAS WHITE-HAIRED AND HIS FACE, IN REPOSE, LOOKED rather empty. It was rarefy in anything but repose. He was of average height and weight and tended to move without haste and to speak with deliberation. He seemed considerably older than his fifty-two years.

He had never left Terminus, something that was most unusual, especially for one of his profession. He himself wasn't sure whether his sedentary ways were because of-or in spite of-his obsession with history.

The obsession had come upon him quite suddenly at the age of fifteen when, during some indisposition, he was given a book of early legends. In it, he found the repeated motif of a world that was alone and isolated - a world that was not even aware of its isolation, since it had never known anything else.

His indisposition began to clear up at once. Within two days, he had read the book three times and was out of bed. The day after that he was at his computer terminal, checking for any records that the Terminus University Library might have on similar legends.

It was precisely such legends that had occupied him ever since. The Terminus University Library had by no means been a great resource in this respect but, when he grew older, he discovered the joys of interlibrary loans. He had printouts in his possession which had been taken off hyper-radiational signals from as far away as Ifnia.

He had become a professor of ancient history and was now beginning his first sabbatical - one for which he had applied with the idea of taking a trip through space (his first) to Trantor itself - thirty-seven years later.

Pelorat was quite aware that it was most unusual for a person of Terminus to have never been in space. It had never been his intention to be notable in this particular way. It was just that whenever he might have gone into space, some new book, some new study, some new analysis came his way. He would delay his projected trip until he had wrung the new matter dry and had added, if possible, one more item of fact, or speculation, or imagination to the mountain he had collected. In the end, his only regret was that the particular trip to Trantor had never been made.

Trantor had been the capital of the First Galactic Empire. It had been the seat of Emperors for twelve thousand years and, before that, the capital of one of the most important pre-Imperial kingdoms, which had, little by little, captured or otherwise absorbed the other kingdoms to establish the Empire.

Trantor had been a world-girdling city, a metal-coated city. Pelorat had read of it in the works of Gaal Dornick, who had visited it in the time of Hari Seldon himself. Dornick's volume no longer circulated and the one Pelorat owned might have been sold for half the historian's annual salary. A suggestion that he might part with it would have horrified the historian.

Of course, what Pelorat cared about, as far as Trantor was concerned, was the Galactic Library, which in Imperial times (when it was the Imperial Library) had been the largest in the Galaxy. Trantor was the capital of the largest and most populous Empire humanity had ever seen. It had been a single worldwide city with a population well in excess of forty billion, and its Library had been the gathered record of all the creative (and not-so-creative) work of humanity, the full summary of its knowledge. And it was all computerized in so complex a manner that it took experts to handle the computers.

What was more, the Library had survived. To Pelorat, that was the amazing thing about it. When Trantor had fallen and been sacked, nearly two and a half centuries before, it had undergone appalling destruction, and the tales of human misery and death would not bear repeating-yet the Library had survived, protected (it was said) by the University students, who used ingeniously devised weapons. (Some thought the defense by the students might well have been thoroughly romanticized.)

In any case, the Library had endured through the period of devastation. Ebling Mis had done his work in an intact Library in a ruined world when he had almost located the Second Foundation (according to the story which the people of the Foundation still believed, but which historians have always treated with reserve). The three generations of Darells-Bayta, Toran, and Arkady-had each, at one time or another, been on Trantor. However, Arkady had not visited the Library, and since her time the Library had not impinged on Galactic history.

No Foundationer had been on Trantor in a hundred and twenty years, but there was no reason to believe the Library was not still there. That it had made no impingement was the surest evidence in favor of its being there. Its destruction would surely have made a noise.

The Library was outmoded and archaic-it had been so even in Ebling Mis's time-but that was all to the good. Pelorat always rubbed his hands with excitement when he thought of an old and outmoded Library. The older and the more outmoded, the more likely it was to have what he needed. In his dreams, he would enter the Library and ask in breathless alarm, "Has the Library been modernized? Have you thrown out the old tapes and computerizations?" And always he imagined the answer from dusty and ancient librarians, "As it has been, Professor, so is it still."

And now his dream would come true. The Mayor herself had assured him of that. How she had known of his work, he wasn't quite sure. He had not succeeded in publishing many papers. Little of what he had done was solid enough to be acceptable for publication and what had appeared had left no mark. Still, they said Branno the Bronze knew all that went on in Terminus and had eyes at the end of every finger and toe. Pelorat could almost believe it, but if she knew of his work, why on Terminus didn't she see its importance and give him a little financial support before this?

Somehow, he thought, with as much bitterness as he could generate, the Foundation had its eyes fixed firmly on the future. It was the Second Empire and their destiny that absorbed them. They had no time, no desire, to peer back into the past-and they were irritated by those who did.

The more fools they, of course, but he could not single-handedly wipe out folly. And it might be better so. He could hug the great pursuit to his own chest and the day would come when he would be remembered as the great Pioneer of the Important.

That meant, of course (and he was too intellectually honest to refuse to perceive it), that he, too, was absorbed in the future—a future in which he would be recognized, and in which he would be a hero on a par with Hari Seldon. In fact, he would be the greater, for how could the working out of a clearly visualized future a millennium long stand comparison with the working out of a lost past at least twenty-five millennia old.

And this was the day; this was the day.

The Mayor had said it would be the day after Seldon's image made its appearance. That was the only reason Pelorat had been interested in the Seldon Crisis that for months had occupied every mind on Terminus and indeed almost every mind in the Federation.

It had seemed to him to make the most trifling difference as to whether the capital of the Foundation had remained here at Terminus, or had been shifted somewhere else. And now that the crisis had been resolved, he remained unsure as to which side of the matter Hari Seldon had championed, or if the matter under dispute had been mentioned at all.

It was enough that Seldon had appeared and that now this was the day.

It was a little after two in the afternoon that a ground-car slid to a halt in the driveway of his somewhat isolated house just outside Terminus proper.

A rear door slid back. A guard in the uniform of the Mayoralty Security Corps stepped out, then a young man, then two more guards.

Pelorat was impressed despite himself. The Mayor not only knew of his work but clearly considered it of the highest importance. The person who was to be his companion was given an honor guard, and he had been promised a first-class vessel which his companion would be able to pilot. Most flattering! Most—

Pelorat's housekeeper opened the door. The young man entered and the two guards positioned themselves on either side of the entrance. Through the window, Pelorat saw that the third guard remained outside and that a second ground-car had now pulled up. Additional guards!

Confusing!

He turned to find the young man in his room and was surprised to find that he recognized him. He had seen him on holocasts. He said, "You're that Councilman. You're Trevize!"

"Golan Trevize. That's right. You are Professor Janov Pelorat?"

"Yes, yes," said Pelorat. "Are you he who will—"

"We are going to be fellow travelers," said Trevize woodenly. "Or so I have been told."

"But you're not a historian."

"No, I'm not. As you said, I'm a Councilman, a politician."

"Yes— Yes— But what am I thinking about? I am a historian, therefore what need for another? You can pilot a spaceship."

"Yes, I'm pretty good at that."

"Well, that's what we need, then. Excellent! I'm afraid I'm not one of your practical thinkers, young man, so if it should happen that you are, we'll make a good team."

Trevize said, "I am not, at the moment, overwhelmed with the excellence of my own thinking, but it seems we have no choice but to try to make it a good team."

"Let's hope, then, that I can overcome my uncertainty about space. I've never been in space, you know, Councilman. I am a groundhog, if that's the term. Would you like a glass of tea, by the way? I'll have Moda prepare us something. It is my understanding that it will be some hours before we leave, after all. I am prepared right now, however. I have what is necessary for both of us. The Mayor has been most co-operative. Astonishing-her interest in the project."

Trevize said, "You've known about this, then? How long?"

"The Mayor approached me" (here Pelorat frowned slightly and seemed to be making certain calculations) "two, or maybe three, weeks ago. I was delighted. And now that I have got it clear in my head that I need a pilot and not a second historian, I am also delighted that my companion will be you, my dear fellow."

"Two, maybe three, weeks ago," repeated Trevize, sounding a little dazed. "She was prepared all this time, then. And I-" He faded out.

"Pardon me?"

"Nothing, Professor. I have a bad habit of muttering to myself. It is something you will have to grow accustomed to, if our trip extends itself."

"It will. It will," said Pelorat, bustling the other to the dining room table, where an elaborate tea was being; prepared by his housekeeper. "Quite open-ended. The Mayor said we were to take as long as we liked and that the Galaxy lay all before us and, indeed, that wherever we went we could call upon Foundation funds. She said, of course, that we would have to be reasonable. I promised that much." He chuckled and rubbed his hands: "Sit down, my good fellow, sit down. This may be our last meal on Terminus for a very long time."

Trevize sat down. He said, "Do you have a family, Professor?"

"I have a son. He's on the faculty at Santanni University. A chemist, I believe, or something like that. He took after his mother's side. She hasn't been with me for a long time, so you see I have no responsibilities, no active hostages to fortune. I trust you have none - help yourself to the sandwiches, my boy."

"No hostages at the moment. A few women. They come and go."

"Yes. Yes. Delightful when it works out. Even more delightful when you find it need not be taken seriously. -No children, I take it."

"None."

"Good! You know, I'm in the most remarkable good humor. I was taken aback when you first came in. I admit it. But I find you quite exhilarating now. What I need is youth and enthusiasm and someone who can find his way about the Galaxy. We're on a search, you know. A remarkable search." Pelorat's quiet face and quiet voice achieved an

unusual animation without any particular change in either expression or intonation. "I wonder if you have been told about this.

Trevize's eyes narrowed. "A remarkable search?"

"Yes indeed. A pearl of great price is hidden among the tens of millions of inhabited worlds in the Galaxy and we have nothing but the faintest clues to guide us. Just the same, it will be an incredible prize if we can find it. If you and I can carry it off, my boy - Trevize, I should say, for I don't mean to patronize - our names will ring down the ages to the end of time."

"The prize you speak of - this pearl of great price -"

"I sound like Arkady Darell - the writer, you know - speaking of the Second Foundation, don't I? No wonder you look astonished." Pelorat leaned his head back as though he were going to break into loud laughter but he merely smiled. "Nothing so silly and unimportant, I assure you."

Trevize said, "If you are not speaking of the Second Foundation, Professor, what are you speaking of?"

Pelorat was suddenly grave, even apologetic. "Ah, then the Mayor has not told you? - It is odd, you know. I've spent decades resenting the government and its inability to understand what I'm doing, and now Mayor Branno is being remarkably generous."

"Yes," said Trevize, not trying to conceal an intonation of irony, "she is a woman of remarkable hidden philanthropy, but she has not told me what this is all about."

"You are not aware of my research, then?"

"No. I'm sorry."

"No need to excuse yourself. Perfectly all right. I have not exactly made a splash. Then let me tell you. You and I are going to search for - and find, for I have an excellent possibility in mind - Earth."

Trevize did not sleep well that night.

Over and over, he thrashed about the prison that the old woman had built around him. Nowhere could he find a way out.

He was being driven into exile and he could do nothing about it. She had been calmly inexorable and did not even take the trouble to mask the unconstitutionality of it all. He had relied on his rights as a Councilman and as a citizen of the Federation, and she hadn't even paid them lip service.

And now this Pelorat, this odd academic who seemed to be located in the world without being part of it, told him that the fearsome old woman had been making arrangements for this for weeks.

He felt like the "boy" that she had called him.

He was to be exiled with a historian who kept "dear fellowing" him and who seemed to be in a noiseless fit of joy over beginning a Galactic search for Earth?

What in the name of the Mule's grandmother was Earth?

He had asked. Of course! He had asked upon the moment of its mention.

He had said, "Pardon me, Professor. I am ignorant of your specialty and I trust you won't be annoyed if I ask for an explanation in simple terms. What is Earth?"

Pelorat stared at him gravely while twenty seconds moved slowly past. He said, "It is a planet. The original planet. The one on which human beings first appeared, my dear fellow."

Trevize stared. "First appeared? From where?"

"From nowhere. It's the planet on which humanity developed through evolutionary processes from lower animals."

Trevize thought about it, then shook his head. "I don't know what you mean."

An annoyed expression crossed Pelorat's face briefly. He cleared his throat and said, "There was a time when Terminus had no human beings upon it. It was settled by human beings from other worlds. You know that, I suppose?"

"Yes, of course," said Trevize impatiently. He was irritated at the other's sudden assumption of pedagogy.

"Very well. This is true of all the other worlds. Anacreon, Santanni, Kalgan - all of them. They were all, at some time in the past, founded. People arrived there from other worlds. It's true even of Trantor. It may have been a great metropolis for twenty thousand years, but before that it wasn't."

"Why, what was it before that?"

"Empty? At least of human beings."

"That's hard to believe."

"It's true. The old records show it."

"Where did the people come from who first settled Trantor?"

"No one is certain. There are hundreds of planets which claim to have been populated in the dim mists of antiquity and whose people present fanciful tales about the nature of the first arrival of humanity. Historians tend to dismiss such things and to brood over the 'Origin Question."

"What is that? I've never heard of it."

"That doesn't surprise me. It's not a popular historical problem now, I admit, but there was a time during the decay of the Empire when it roused a certain interest among intellectuals. Salvor Hardin mentions it briefly in his memoirs. It's the question of the identity and location of the one Planet from which it all started. If we look backward in time, humanity flows inward from the most recently established worlds to older ones, to still older ones, until all concentrates on one-the original."

Trevize thought at once of the obvious flaw in the argument. "Might there not have been a large number of originals?"

"Of course not. All human beings all over the Galaxy are of a single species. A single species cannot originate on more than one planet. Quite impossible."

"How do you know?"

"In the first place-" Pelorat ticked off the first finger of his left hand with the first finger of his right, and then seemed to think better of what would undoubtedly have been a long and intricate exposition. He put both hands at his side and said with great earnestness, "My dear fellow, I give you my word of honor."

Trevize bowed formally and said, "I would not dream of doubting it, Professor Pelorat. Let us say, then, that there is one planet of origin, but might there not be hundreds who lay claim to the honor?"

"There not only might be, there are. Yet every claim is without merit. Not one of those hundreds that aspire to the credit of priority shows any trace of a prehyperspatial society, let alone any trace of human evolution from prehuman organisms."

"Then are you saying that there is a planet of origin, but that, for some reason, it is not making the claim?"

"You have hit it precisely."

"And you are going to search for it?"

"We are. That is our mission. Mayor Branno has arranged it all. You will pilot our ship to Trantor."

"To Trantor? It's not the planet of origin. You said that much a while ago."

"Of course Trantor isn't. Earth is."

"Then why aren't you telling me to pilot the ship to Earth?"

"I am not making myself clear. Earth is a legendary name. It is enshrined in ancient myths. It has no meaning we can be certain of, but it is convenient to use the word as a one-syllable synonym for 'the planet of origin of the human species.' just which planet in real space is the one we are defining as 'Earth' is not known."

"Will they know on Trantor?"

"I hope to find information there, certainly. Trantor possesses the Galactic Library, the greatest in the system."

"Surely that Library has been searched by those people you said were interested in the 'Origin Question' in the time of the First Empire."

Pelorat nodded thoughtfully, "Yes, but perhaps not well enough. I have learned a great deal about the 'Origin Question' that perhaps the Imperials of five centuries back did not know. I might search the old records with greater understanding, you see. I have been thinking about this for a long time and I have an excellent possibility in mind."

"You have told Mayor Branno all this, I imagine, and she approves?"

"Approves? My dear fellow, she was ecstatic. She told me that Trantor was surely the place to find out all I needed to know."

"No doubt," muttered Trevize.

That was part of what occupied him that night. Mayor Branno was sending him out to find out what he could about the Second Foundation. She was sending him with Pelorat so that he might mask his real aim with the pretended search for Earth—a search that could carry him anywhere in the Galaxy. It was a perfect cover, in fact, and he admired the Mayor's ingenuity.

But Trantor? Where was the sense in that? Once they were on Trantor, Pelorat would find his way into the Galactic Library and would never emerge. With endless stacks of books, films, and recordings, with innumerable computerizations and symbolic representations, he would surely never want to leave.

Besides that -

Ebling Mis had once gone to Trantor, in the Mule's time. The story was that he had found the location of the Second Foundation there and had died before he could reveal it. But then, so had Arkady Darell, and she had succeeded in locating the Second Foundation. But the location she had found was on Terminus itself, and there the nest of Second Foundationers was wiped out. Wherever the Second Foundation was now would be elsewhere, so what more had Trantor to tell? If be were looking for the Second Foundation, it was best to go anywhere but Trantor.

Besides that -

What further plans Branno had, he did not know, but he was not in the mood to oblige her. Branno had been ecstatic, had she, about a trip to Trantor? Well, if Branno wanted Trantor, they were not going to Trantor! -Anywhere else. -But not Trantor!

And worn out, with the night verging toward dawn, Trevize fell at last into a fitful slumber.

Mayor Branno had had a good day on the one following the arrest of Trevize. She had been extolled far beyond her deserts and the incident was never mentioned.

Nevertheless, she knew well that the Council would soon emerge from its paralysis and that questions would be raised. She would have to act quickly. So, putting a great many matters to one side, she pursued the matter of Trevize.

At the time when Trevize and Pelorat were discussing Earth, Branno was facing Councilman Munn Li Compur in the Mayoralty Office. As he sat across the desk from her, perfectly at ease, she appraised him once again.

He was smaller and slighter than Trevize and only two years older. Both were freshmen Councilmen, young and brash, and that must have been the only thing that held them together, for they were different in all other respects.

Where Trevize seemed to radiate a glowering intensity, Compur shone with an almost serene self-confidence. Perhaps it was his blond hair and blue eyes, not at all common among Foundationers. They lent him an almost feminine delicacy that (Branno judged) made him less attractive to women than Trevize was. He was clearly vain of his looks, though, and made the most of them, wearing his hair rather long and making sure that it was carefully waved. He wore a faint blue shadowing under his eyebrows to accentuate the eye color. (Shadowing of various tints had become common among men these last ten years.)

He was no womanizer. He lived sedately with his wife, but had not yet registered parental intent and was not known to have a clandestine second companion. That, too, was different from Trevize, who changed housemates as often as he changed the loudly colored sashes for which he was notorious.

There was little about either young Councilman that Kodell's department had not uncovered, and Kodell himself sat quietly in one corner of the room, exuding a comfortable good cheer as always.

Branno said, "Councilman Compur, you have done the Foundation good service, but unfortunately for yourself, it is not of the sort that can be praised in public or repaid in ordinary fashion."

Compor smiled. He had white and even teeth, and Branno idly wondered, for one flashing moment if all the inhabitants of the Sirius Sector looked like that. Compor's tale of stemming from that particular, rather peripheral, region went back to his maternal grandmother, who had also been blond-haired and blue-eyed and who had maintained that her mother was from the Sirius Sector. According to Kodell, however, there was no hard evidence in favor of that.

Women being what they were, Kodell had said, she might well have claimed distant and exotic ancestry to add to her glamour and her already formidable attractiveness.

"Is that how women are?" Branno had asked drily, and Kodell had smiled and muttered that he was referring to ordinary women, of course.

Compor said, "It is not necessary that the people of the Foundation know of my service-only that you do."

"I know and I will not forget. What I also will not do is to let you assume that your obligations are now over. You have embarked on a complicated course and you must continue. We want more about Trevize."

"I have told you all I know concerning him."

"That may be what you would have me believe. That may even be what you truly believe yourself. Nevertheless, answer my questions. Do you know a gentleman named Janov Pelorat?"

For just a moment Compor's forehead creased, then smoothed itself almost at once. He said carefully, "I might know him if I were to see him, but the name does not seem to cause any association within me."

"He is a scholar."

Compor's mouth rounded into a rather contemptuous but unsounded "Oh?" as though he were surprised that the Mayor would expect him to know scholars.

Branno said, "Pelorat is an interesting person who, for reasons of his own, has the ambition of visiting Trantor. Councilman Trevize will accompany him. Now, since you have been a good friend of Trevize and perhaps know his system of thinking, tell me- Do you think Trevize will consent to go to Trantor?"

Compor said, "If you see to it that Trevize gets on the ship, and if the ship is piloted to Trantor, what can he do but go there? Surely you don't suggest he will mutiny and take over the ship."

"You don't understand. He and Pelorat will be alone on the ship and it will be Trevize at the controls."

"You are asking whether he would go voluntarily to Trantor?"

"Yes, that is what I am asking."

"Madam Mayor, how can I possibly know what he will do?"

"Councilman Compor, you have been close to Trevize. You know his belief in the existence of the Second Foundation. Has he never spoken to you of his theories as to where it might exist, where it might be found?"

"Never, Madam Mayor."

"Do you think he will find it?"

Comporg chuckled. "I think the Second Foundation, whatever it was and however important it might have been, was wiped out in the time of Arkady Darell. I believe her story."

"Indeed? In that case, why did you betray your friend? If he were searching for something that does not exist, what harm could he have done by propounding his quaint theories?"

Comporg said, "It is not the truth alone that can harm. His theories may have been merely quaint, but they might have succeeded in unsettling the people of Terminus and, by introducing doubts and fears as to the Foundation's role in the great drama of Galactic history, have weakened its leadership of the Federation and its dreams of a Second Galactic Empire. Clearly you thought this yourself, or you would not have seized him on the floor of the Council, and you would not now be forcing him into exile without trial. Why have you done so, if I may ask, Mayor?"

"Shall we say that I was cautious enough to wonder if there were some faint chance that he might be right, and that the expression of his views might be actively and directly dangerous?"

Comporg said nothing.

Branno said, "I agree with you, but I am forced by the responsibilities of my position to consider the possibility. Let me ask you again if you have any indication as to where he might think the Second Foundation exists, and where he might go."

"I have none."

"He has never given you any hints in that direction?"

"No, of course not."

"Never? Don't dismiss the thought easily. Think! Never?"

"Never," said Comporg firmly.

"No hints? No joking remarks? No doodles? No thoughtful abstractions at moments that achieve significance as you look back on them?"

"None. I tell you, Madam Mayor, his dreams of the Second Foundation are the most nebulous starshine. You know it, and you but waste your time and your emotions in your concern over it."

"You are not by some chance suddenly changing sides again and protecting the friend you delivered into my hands?"

"No," said Comporg. "I turned him over to you for what seemed to me to be good and patriotic reasons. I have no reason to regret the action, or to change my attitude."

"Then you can give me no hint as to where he might go once he has a ship at his disposal?"

"As I have already said—"

"And yet, Councilman," and here the lines of the Mayor's face so folded as to make her seem wistful, "I would like to know where he goes."

"In that case, I think you ought to place a hyper-relay on his ship."

"I have thought of that, Councilman. He is, however, a suspicious man and I suspect he will find it-however cleverly it might be placed. Of course, it might be placed in such a way that he cannot remove it without crippling the ship, and he might therefore be forced to leave it in place-

"An excellent notion."

"Except that," said Branno, "he would then be inhibited. He might not go where he would go if he felt himself free and untrammelled. The knowledge I would gain would be useless to me."

"In that case, it appears you cannot find out where he will go."

"I might, for I intend to be very primitive. A person who expects the completely sophisticated and who guards against it is quite apt never to think of the primitive. -I'm thinking of having Trevize followed."

"Followed?"

"Exactly. By, another pilot in another spaceship. See how astonished you are at the thought? He would be equally astonished. He might not think of scouring space for an accompanying mass and, in any case, we will see to it that his ship is not equipped with our latest mass-detection devices."

Comporg said, "Madam Mayor, I speak with all possible respect, but I must point out that you lack experience in space flight. To have one ship followed by another is never done-because it won't work. Trevize will escape with the first hyperspatial jump. Even if he doesn't know he is being followed, that first jump will be his path to freedom. If he doesn't have a hyper-relay on board ship, he can't be traced."

"I admit my lack of experience. Unlike you and Trevize, I have had no naval training. Nevertheless, I am told by my advisers-who have had such training-that if a ship is observed immediately prior to a jump, its direction, speed, and acceleration make it possible to guess what the jump might be-in a general way. Given a good computer and an excellent sense of judgment, a follower might duplicate the jump closely enough to pick up the trail at the other end -especially if the follower has a good mass-detector."

"That might happen once," said Comporg energetically, "even twice if the follower is very lucky, but that's it. You can't rely on such things."

"Perhaps we can. -Councilman Comporg, you have hyper-raced in your time. You see, I know a great deal about you. You are an excellent pilot and have done amazing things when it comes to following a competitor through a jump."

Comporg's eyes widened. He almost squirmed in his chair. "I was in college then. I am older now."

"Not too old. Not yet thirty-five. Consequently you are going to follow Trevize, Councilman. Where he goes, you will follow, and you will report back to me. You will leave soon after Trevize does, and he will be leaving in a few hours. If you refuse the task, Councilman, you will be imprisoned for treason. If you take the ship that we will provide for you, and if you fail to follow, you need not bother coming back. You will be shot out of space if you try."

Compor rose sharply- to his feet. "I have a life to live. I have work to do. I have a wife. I cannot leave it all."

"You will have to. Those of us who choose to serve the Foundation must be prepared at all times to serve it in a prolonged and uncomfortable fashion, if that should become necessary."

"My wife must go with me, of course."

"Do you take me for an idiot? She stays here, of course."

"As a hostage?"

"If you like the word. I prefer to say that you will be taking yourself into danger and my kind heart wants her to stay here where she will not be in danger. -There is no room for discussion. You are as much under arrest as Trevize is, and I am sure you understand I must act quickly - before the euphoria enveloping Terminus wears off. I fear my star will soon be in the descendant."

Kodell said, "You were not easy on him, Madam Mayor."

The Mayor said with a sniff, "Why should I have been? He betrayed a friend."

"That was useful to us."

"Yes, as it happened. His next betrayal, however, might not be."

"Why should there be another?"

"Come, Liono," said Branno impatiently, "don't play games with me. Anyone who displays a capacity for double-dealing must forever be suspected of being capable of displaying it again."

"He may use the capability to combine with Trevize once again. Together, they may-"

"You don't believe that. With all his folly and naivete, Trevize goes straight for his goal. He does not understand betrayal and he will never, under any circumstances, trust Compor a second time."

Kodell said, "Pardon me, Mayor, but let me make sure I follow your thinking. How far, then, can you trust Compor? How do you know he will follow Trevize and report honestly? Do you count on his fears for the welfare of his wife as a restraint? His longing to return to her?"

"Both are factors, but I don't entirely rely on that. On Compor's ship there will be a hyper-relay. Trevize would suspect pursuit and would search for one. However Compor - being the pursuer-will, I assume, not suspect pursuit and will not search for one. -Of course, if he does, and if he finds it, then we must depend on the attractions of his wife."

Kodell laughed. "To think I once had to give you lessons. And the purpose of the pursuit?"

"A double layer of protection. If Trevize is caught, it may be that Compor will carry on and give us the information that Trevize will not be able to."

"One more question. What if, by some chance, Trevize finds the Second Foundation, and we learn of it through him, or through Compor, or if we gain reason to suspect its existence-despite the deaths of both?"

"I'm hoping the Second Foundation does exist, Liono," she said. "In any case, the Seldon Plan is not going to serve us much longer. The great Hari Seldon devised it in the dying days of the Empire, when technological advance had virtually stopped. Seldon was a product of his times, too, and however brilliant this semimythical science of psychohistory must have been, it could not rise out of its roots. It surely would not allow for rapid technological advance. The Foundation has been achieving that, especially in this last century. We have mass-detection devices of a kind undreamed of earlier, computers that can respond to thought, and-most of all-mental shielding. The Second Foundation cannot control us for much longer, if they can do so now. I want, in my final years in power, to be the one to start Terminus on a new path."

"And if there is, in fact, no Second Foundation?"

"Then we start on a new path at once."

The troubled sleep that had finally come to Trevize did not last long. A touch on his shoulder was repeated a second time.

Trevize started up, bleary and utterly failing to understand why he should be in a strange bed. "What - What-?"

Pelorat said to him apologetically, "I'm sorry, Councilman Trevize. You are my guest and I owe you rest, but the Mayor is here." He was standing at the side of the bed in flannel pajamas and shivering slightly. Trevize's senses leaped to a weary wakefulness and he remembered.

The Mayor was in Pelorat's living room, looking as composed as always. Kodell was with her, rubbing lightly at his white mustache.

Trevize adjusted his sash to the proper snugness and wondered how long the two of them-Branno and Kodell - were ever apart.

Trevize said mockingly, "Has the Council recovered yet? Are its members concerned over the absence of one of them?"

The Mayor said, "There are signs of life, yes, but not enough to do you any good. There is no question but that I still have the power to force you to leave. You will be taken to Ultimate Spaceport-"

"Not Terminus Spaceport, Madam Mayor? Am I to be deprived of a proper farewell from weeping thousands?"

"I see you have recovered your penchant for teenage silliness, Councilman, and I am pleased. It stills what might otherwise be a certain rising twinge of conscience. At Ultimate Spaceport, you and Professor Pelorat will leave quietly."

"And never return?"

"And perhaps never return. Of course," and here she smiled briefly, "if you discover something of so great an importance and usefulness that even I will be glad to have you back with your information, you will return. You may even be treated with honor."

Trevize nodded casually, "That may happen."

"Almost anything may happen. -In any case, you will be comfortable. You are being assigned a recently completed pocket-cruiser, the Far Star, named for Hober

Mallow's cruiser. One person can handle it, though it will hold as many as three with reasonable comfort."

Trevize was jolted out of his carefully assumed mood of light irony. "Fully armed?"

"Unarmed but otherwise fully equipped. Wherever you go, you will be citizens of the Foundation and there will always be a consul to whom you can turn, so you will not require arms. You will be able to draw on funds at need. -Not unlimited funds, I might add."

"You are generous."

"I know that, Councilman. But, Councilman, understand me. You are helping Professor Pelorat search for Earth. Whatever you think you are searching for, you are searching for Earth. All whom you meet must understand that. And always remember that the Far Star is not armed."

"I am searching for Earth;" said Trevize. "I understand that perfectly."

"Then you will go now."

"Pardon me, but surely there is more to all of this than we have discussed. I have piloted ships in my time, but I have had no experience with a late-model pocket-cruiser. What if I cannot pilot it?"

"I am told that the Far Star is thoroughly computerized. -And before you ask, you don't have to know how to handle a late-model ship's computer. It will itself tell you anything you need to know. Is there anything else you need?"

Trevize looked down at himself ruefully. "A change of clothing."

"You will find them on board ship. Including those girdles you wear, or sashes, whichever they are called. The professor is also supplied with what he needs. Everything reasonable is already aboard, although I hasten to add that this does not include female companions."

"Too bad," said Trevize. "It would be pleasant, but then, I have no likely candidate at the moment, as it happens. Still, I presume the Galaxy is populous and that once away from here I may do as I Please."

"With regard to companions? Suit yourself."

She rose heavily. "I will not take you to the spaceport," she said, "but there are those who will, and you must make no effort to do anything you are not told to do. I believe they will kill you if you make an effort to escape. The fact that I will not be with them will remove any inhibition."

Trevize said, "I will make no unauthorized effort, Madam Mayor, but one thing-"

"Yes?"

Trevize searched his mind rapidly and finally said with a smile that he very much hoped looked unforced, "The time may come, Madam Mayor, when you will ask me for an effort. I will then do as I choose, but I will remember the past two days."

Mayor Branno sighed. "Spare me the melodrama. If the time comes, it will come, but for now-I am asking for nothing."

4. SPACE

THE SHIP LOOKED EVEN MORE IMPRESSIVE THAN TREVIZE - WITH HIS memories of the time when the new cruiser-class had been glowingly publicized-had expected.

It was not the size that was impressive-for it was rather small. It was designed for maneuverability and speed, for totally gravitic engines, and most of all for advanced computerization. It didn't need size-size would have defeated its purpose.

It was a one-man device that could replace, with advantage, the older ships that required a crew of a dozen or more. With a second or even a third person to establish shifts of duty, one such ship could fight off a flotilla of much larger non-Foundation ships. In addition, it could outspeed and escape from any other ship in existence.

There was a sleekness about it-not a wasted line, not a superfluous curve inside or out. Every cubic meter of volume was used to its maximum, so as to leave a paradoxical aura of spaciousness within. Nothing the Mayor might have said about the importance of his mission could have impressed Trevize more than the ship with which he was asked to perform it.

Branno the Bronze, he thought with chagrin, had maneuvered him into a dangerous mission of the greatest significance. He might not have accepted with such determination had she not so arranged matters that he wanted to show her what he could do.

As for Pelorat, he was transported with wonder. "Would you believe," he said, placing a gentle finger on the hull before he had climbed inside, "that I've never been close to a spaceship?"

"I'll believe it, of course, if you say so, Professor, but how did you manage it?"

"I scarcely know, to be honest with you, dear fel-, I mean, my dear Trevize. I presume I was overly concerned with my research. When one's home has a really excellent computer capable of reaching other computers anywhere in the Galaxy, one scarcely needs to budge, you know. -Somehow I expected spaceships to be larger than this."

"This is a small model, but even so, it's much larger inside than any other ship of this size."

"How can that be? You are making fun of my ignorance."

"No, no. I'm serious. This is one of the first ships to be completely graviticized."

"What does that mean? -But please don't explain if it requires extensive physics. I will take your word, as you took mine yesterday in connection with the single species of humanity and the single world of origin."

"Let's try, Professor Pelorat. Through all the thousands of years of space flight, we've had chemical motors and ionic motors and hyperatomic motors, and all these things have been bulky. The old Imperial Navy had ships five hundred meters long with

no more living space in them than would fit into a small apartment. Fortunately the Foundation has specialized in miniaturization through all the centuries of its existence, thanks to its lack of material resources. This ship is the culmination. It makes use of antigravity and the device that makes that possible takes up virtually no space and is actually included in the hull. If it weren't that we still need the hyperatomic-

A Security guard approached. "You will have to get on, gentlemen!"

The sky was grooving light, though sunrise was still half an hour off.

Trevize looked about. "Is my baggage loaded?"

"Yes, Councilman, you will find the ship fully equipped."

"With clothing, I suppose, that is not my size or to my taste."

The guard smiled, quite suddenly and almost boyishly. "I think it is," he said. "The Mayor had us working overtime these last thirty or forty hours and we've matched what you had closely. Money no object. Listen," he looked about as though to make sure no one noticed his sudden fraternization, "you two are lucky. Best ship in the world. Fully equipped, except for armament. You're swimming in cream."

"Sour cream, possibly," said Trevize. "Well, Professor, are you ready?"

"With this I am," Pelorat said and held up a square wafer about twenty centimeters to the side and encased in a jacket of silvery plastic. Trevize was suddenly aware that Pelorat had been holding it since they had left his home, shifting it from hand to hand and never putting it down, even when they had stopped for a quick breakfast.

"What's that, Professor?"

"My library. It's indexed by subject matter and origin and I've gotten it all into one wafer. If you think this ship is a marvel, how about this wafer? A whole library! Everything I have collected! Wonderful! Wonderful!"

"Well," said Trevize, "we are swimming in cream."

Trevize marveled at the inside of the ship. The utilization of space was ingenious. There was a storeroom, with supplies of food, clothing, films, and games. There was a gym, a parlor, and two nearly identical bedrooms.

"This one," said Trevize, "must be yours, Professor. At least, it contains an FX Reader."

"Good," said Pelorat with satisfaction. "What an ass I have been to avoid space flight as I have. I could live here, my dear Trevize, in utter satisfaction."

"Roomier than I expected," said Trevize with pleasure.

"And the engines are really in the hull, as you said?"

"The controlling devices are, at any rate. We don't have to store fuel or make use of it on the spot. We're making use of the fundamental energy store of the Universe, so that the fuel and the engines are all-out there." He gestured vaguely.

"Well, now that I think of it-what if something goes wrong?"

Trevize shrugged. "I've been trained in space navigation, but not on these ships. If something goes wrong with the gravitics, I'm afraid there's nothing I can do about it."

"But can you run this ship? Pilot it?"

"I'm wondering that myself."

Pelorat said, "Do you suppose this is an automated ship? Might we not merely be passengers? We might simply be expected to sit here."

"They have such things in the case of ferries between planets and space stations within a stellar system, but I never heard of automated hyperspace travel. At least, not so far. -Not so far."

He looked about again and there was a trickle of apprehension within him. Had that harridan Mayor managed to maneuver that far ahead of him? Had the Foundation automated interstellar travel, too, and was he going to be deposited on Trantor quite against his will, and with no more to say about it than any of the rest of the furniture aboard ship?

He said with a cheerful animation he didn't feel, "Professor, you sit down. The Mayor said this ship was completely computerized. If your room has the FX Reader, mine ought to have a computer in it. Make yourself comfortable and let me look around a bit on my own."

Pelorat looked instantly anxious. "Trevize, my dear chap- You're not getting off the ship, are you?"

"Not my plan at all, Professor. And if I tried, you can count on my being stopped. It is not the Mayor's intention to allow me off. All I'm planning to do is to learn what operates the Far Star." He smiled, "I won't desert you, Professor."

He was still smiling as he entered, what he felt to be his own bedroom, but his face grew sober as he closed the door softly behind him. Surely there must be some means of communicating with a planet in the neighborhood of the ship. It was impossible to imagine a ship deliberately sealed off from its surroundings and, therefore, somewhere - perhaps in a wall recess-there would have to be a Reacher. He could use it to call the Mayor's office to ask about controls.

Carefully he inspected the walls, the headboard of the bed, and the neat, smooth furniture. If nothing turned up here, he would go through the rest of the ship.

He was about to turn away when his eye caught a glint of light on the smooth, light brown surface of the desk. A round circle of light, with neat lettering that read: COMPUTER INSTRUCTIONS.

Ah!

Nevertheless his heart beat rapidly. There were computers and computers, and there were programs that took a long time to master. Trevize had never made the mistake of underestimating his own intelligence, but, on the other hand, he was not a Grand Master. There were those who had a knack for using a computer, and those who had not - and Trevize knew very well into which class he fell.

In his hitch in the Foundation Navy, he had reached the rank of lieutenant and had, on occasion, been officer of the day and had had occasion to use the ship's computer. He had never been in sole charge of it, however, and he had never been expected to know anything more than the routine maneuvers being officer of the day required.

He remembered, with a sinking feeling, the volumes taken up by a fully described program in printout, and he could recall the behavior of Technical Sergeant Krasnet at the

console of the ship's computer. He played it as though it were the most complex musical instrument in the Galaxy, and did it all with an air of nonchalance, as though he were bored at its simplicity-yet even he had had to consult the volumes at times, swearing at himself in embarrassment.

Hesitantly Trevize placed a finger on the circle of light and at once the light spread out to cover the desk top. On it were the outline of two hands: a right and a left. With a sudden, smooth movement, the desk top tilted to an angle of forty-five degrees.

Trevize took the seat before the desk. No words were necessary. It was clear what he was expected to do.

He placed his hands on the outlines on the desk, which were positioned for him to do so without strain. The desk top seemed soft, nearly velvety, where he touched it-and his hands sank in.

He stared at his hands with astonishment, for they had not sunk in at all. They were on the surface, his eyes told him. Yet to his sense of touch it was as though the desk surface had given way, and as though something were holding his hands softly and warmly.

Was that all?

Now what?

He looked about and then closed his eyes in response to a suggestion.

He had heard nothing. He had heard nothing!

But inside his brain, as though it were a vagrant thought of his own, there was the sentence, "Please close your eyes. Relax. We will make connection."

Through the hands?

Somehow Trevize had always assumed that if one were going to communicate by thought with a computer, it would be through a hood placed over the head and with electrodes against the eyes and skull.

The hands?

But why not the hands? Trevize found himself floating away, almost drowsy, but with no loss of mental acuity. Why not the hands?

The eyes were no more than sense organs. The brain was no more than a central switchboard, encased in bone and removed from the working surface of the body. It was the hands that were the working surface, the hands that felt and manipulated the Universe.

Human beings thought with their hands. It was their hands that were the answer of curiosity, that felt and pinched and turned and lifted and hefted. There were animals that had brains of respectable size, but they had no hands and that made all the difference.

And as he and the computer held hands, their thinking merged and it no longer mattered whether his eyes were open or closed. Opening them did not improve his vision nor did closing them dim it.

Either way, he saw the room with complete clarity-not just in the direction in which he was looking, but all around and above and below.

He saw every room in the spaceship and he saw outside as well. The sun had risen and its brightness was dimmed in the morning mist, but he could look at it directly without being dazzled, for the computer automatically filtered the light waves.

He felt the gentle wind and its temperature, and the sounds of the world about him. He detected the planet's magnetic field and the tiny electrical charges on the wall of the ship.

He became aware of the controls of the ship, without even knowing what they were in detail. He knew only that if he wanted to lift the ship, or turn it, or accelerate it, or make use of any of its abilities, the process was the same as that of performing the analogous process to his body. He had but to use his will.

Yet his will was not unalloyed. The computer itself could override. At the present moment, there was a formed sentence in his head and he knew exactly when and how the ship would take off. There was no flexibility where that was concerned. Thereafter, he knew just as surely, he would himself be able to deride.

He found-as he cast the net of his computer-enhanced consciousness outward-that he could sense the condition of the upper atmosphere; that he could see the weather patterns; that he could detect the other ships that were swarming upward and the others that were settling downward. All of this had to be taken into account and the computer was taking it into account. If the computer had not been doing so, Trevize realized, he need only desire the computer to do so-and it would be done.

So much for the volumes of programming; there were none. Trevize thought of Technical Sergeant Krasnet and smiled. He had read often enough of the immense revolution that gravities would make in the world, but the fusion of computer and mind was still a state secret. It would surely produce a still greater revolution.

He was aware of time passing. He knew exactly what time it was by Terminus Local and by Galactic Standard.

How did he let go?

And even as the thought entered his mind, his hands were released and the desk top moved back to its original position-and Trevize was left with his own unaided senses.

He felt blind and helpless as though, for a time, he had been held and protected by a superbeing and now was abandoned. Had he not known that he could make contact again at any time, the feeling might have reduced him to tears.

As it was he merely struggled for re-orientation, for adjustment to limits, then rose uncertainly to his feet and walked out of the room.

Pelorat looked up. He had adjusted his Reader, obviously, and he said, "It works very well. It has an excellent Search Program. -Did you find the controls, my boy?"

"Yes, Professor. All is well."

"In that case, shouldn't we do something about takeoff? I mean, self-protection? Aren't we supposed to strap ourselves in or something? I looked about for instructions, but I didn't find anything and that made me nervous. I had to turn to my library. Somehow when I am at my work-"

Trevize had been pushing his hands at the professor as though to dam and stop the flood of words. Now he had to speak loudly in order to override him. "None of that is necessary, Professor. Antigravity is the equivalent of noninertia. There is no feeling of acceleration when velocity changes, since everything on the ship undergoes the change simultaneously."

"You mean, we won't know when we are off the planet and out in space?"

"It's exactly what I mean, because even as I speak to you, we have taken off. We will be cutting through the upper atmosphere in a very few minutes and within half an hour we will be in outer space."

Pelorat seemed to shrink a little as he stared at Trevize. His long rectangle of a face grew so blank that, without showing any emotion at all, it radiated a vast uneasiness.

Then his eyes shifted right-Left.

Trevize remembered how he had felt on his own first trip beyond the atmosphere.

He said, in as matter-of-fact a manner as he could, "Janov," (it was the first time he had addressed the professor familiarly, but in this case experience was addressing inexperience and it was necessary to seem the older of the two) "we are perfectly safe here. We are in the metal womb of a warship of the Foundation Navy. We are not fully armed, but there is no place in the Galaxy where the name of the Foundation will not protect us. Even if some ship went mad and attacked, we could move out of its reach in a moment. And I assure you I have discovered that I can handle the ship perfectly."

Pelorat said, "It is the thought, Go-Golan, of nothingness-"

"Why, there's nothingness all about Terminus. There's just a thin layer of very tenuous air between ourselves on the surface and the nothingness just above. All we're doing is to go past that inconsequential layer."

"It may be inconsequential, but we breathe it."

"We breathe here, too. The air on this ship is cleaner and purer, and will indefinitely remain cleaner and purer than the natural atmosphere of Terminus."

"And the meteorites?"

"What about meteorites?"

"The atmosphere protects us from meteorites. Radiation, too, for that matter."

Trevize said, "Humanity has been traveling through space for twenty millennia, I believe-"

"Twenty-two. If we go by the Hallblockian chronology, it is quite plain that, counting the-"

"Enough! Have you heard of meteorite accidents or of radiation deaths? -I mean, recently? -I mean, in the case of Foundation ships?"

"I have not really followed the news in such matters, but I am a historian, my boy, and-"

"Historically, yes, there have been such things, but technology improves. There isn't a meteorite large enough to damage us that can possibly approach us before we take the necessary evasive action. Four meteorites-coming at us simultaneously from the four directions drawn from the vertices of a tetrahedron-might conceivably pin us down,

but calculate the chances of that and you'll find that you'll die of old. age a trillion trillion times over before you will have a fifty-fifty chance of observing so interesting a phenomenon."

"You mean, if you were at the computer?"

"No," said Trevize in Scorn. "If I were running the computer on the basis of my own senses and responses, we would be hit before I ever knew what was happening. It is the computer itself that is at work, responding millions of times faster than you or I could." He held out his hand abruptly. "Janov, come let me show you what the computer can do, and let me show you what space is like."

Pelorat stared, goggling a bit. Then he laughed briefly. "I'm not sure I wish to know, Golan."

"Of course you're not sure, Janov, because you don't know what it is that is waiting there to be known. Chance it! Come! Into my room!"

Trevize held the other's hand, half leading him, half drawing him. He said, as he sat down at the computer, "Have you ever seen the Galaxy, Janov? Have you ever looked at it?"

Pelorat said, "You mean in the sky?"

"Yes, certainly. Where else?"

"I've seen it. Everyone has seen it. If one looks up, one sees it."

"Have you ever stared at it on a dark, clear night, when the Diamonds are below the horizon?"

The "Diamonds" referred to those few stars that were luminous enough and close enough to shine with moderate brightness in the night sky of Terminus. They- were a small group that spanned a width of no more than twenty degrees, and for large parts of the night they were all below the horizon. Aside from he group, there was a scattering of dim stars just barely visible to the unaided eye. There was nothing more but the faint milkiness of the Galaxy-the view one might expect when one dwelt on a world like Terminus which was at the extreme edge of the outermost spiral of the Galaxy.

"I suppose so, but why stare? It's a common sight."

"Of course it's a common sight," said Trevize. "That's why no one sees it. Why see it if you can always see it? But now you'll see it, and not from Terminus, where the mist and the clouds are forever interfering. You'll see it as you'd never see it from Terminus-no matter how you stared, and no matter how clear and dark the night. How I wish I had never been in space before, so that-like you-I could see the Galaxy in its bare beauty for the first time."

He pushed a chair in Pelorat's direction. "Sit there, Janov. This may take a little time. I have to continue to grow accustomed to the computer. From what I've already felt, I know the viewing is holographic, so we won't need a screen of any sort. It makes direct contact with my brain, but I think I can have it produce an objective image that you will see, too. -Put out the light, will you? -No, that's foolish of me. I'll have the computer do it. Stay where you are."

Trevize made contact with the computer, holding hands warmly and intimately.

The light dimmed, then went out completely, and in the darkness, Pelorat stirred.

Trevize said, "Don't get nervous, Janov. I may have a little trouble trying to control the computer, but I'll start easy and you'll have to be patient with me. Do you see it? The crescent?"

It hung in the darkness before them. A little dim and wavering at first, but getting sharper and brighter.

Pelorat's voice sounded awed. "Is that Terminus? Are we that far from it?"

"Yes, the ship's moving quickly."

The ship was curving into the night shadow of Terminus, which appeared as a thick crescent of bright light. Trevize had a momentary urge to send the ship in a wide arc that would carry them over the daylight side of the planet to show it in all its beauty, but he held back.

Pelorat might find novelty in this, but the beauty would be tame. There were too many photographs, too many reaps, too many globes. Every child knew what Terminus looked like. A water planet more so than most-rich in water and poor in minerals, good in agriculture and poor in heavy industry, but the best in the Galaxy in high technology and in miniaturization.

If he could have the computer use microwaves and translate it into a visible model, they would see every one of Terminus's ten thousand inhabited islands, together with the only one of them large enough to be considered a continent, the one that bore Terminus City and turn away!

It was just a thought, an exercise of the will, but the view shifted at once. The lighted crescent moved off toward the borders of vision and rolled off the edge. The darkness of starless space filled his eyes.

Pelorat cleared his throat. "I wish you would bring back Terminus, my boy. I feel as though I've been blinded." There was a tightness in his voice.

"You're not blind. Look!"

Into the field of vision came a filmy fog of pale translucence. It spread and became brighter, until the whole room seemed to glow.

Shrink!

Another exercise of will and the Galaxy drew off, as though seen through a diminishing telescope that was steadily growing more powerful in its ability to diminish. The Galaxy contracted and became a structure of varying luminosity.

Brighten!

It grew more luminous without changing size, and because the stellar system to which Terminus belonged was above the Galactic plane, the Galaxy was not seen exactly edge-on. It was a strongly foreshortened double spiral, with curving dark-nebula rifts streaking the glowing edge of the Terminus side. The creamy haze of the nucleus-far off and shrunken by the distance-looked unimportant.

Pelorat said in an awed whisper, "You are right. I have never seen it like this. I never dreamed it had so much detail."

"How could you? You can't see the outer half when Terminus's atmosphere is between you and it. You can hardly see the nucleus from Terminus's surface."

"What a pity we're seeing it so nearly head-on."

"We don't have to. The computer can show it in any orientation. I just have to express the wish-and not even aloud."

Shift coordinates!

This exercise of will was by no means a precise command. Yet as the image of Galaxy began to undergo a slow change, his mind guided the computer and had it do what he wished.

Slowly the Galaxy was turning so that it could be seen at right angles to the Galactic plane. It spread out like a gigantic, glowing whirlpool, with curves of darkness, and knots of brightness, and a central all-but-featureless blaze.

Pelorat asked, "How can the computer see it from a position in space that must be more than fifty thousand parsecs from this place?" Then he added, in a choked whisper, "Please forgive me that I ask. I know nothing about all this."

Trevize said, "I know almost as little about this computer as you do. Even a simple computer, however, can adjust coordinates and show the Galaxy in any position, starting with what it can sense in the natural position, the one, that is, that would appear from the computer's local position in space. Of course, it makes use only of the information it can sense to begin with, so when it changes to the broadside view we would find gaps and blurs in what it would show. In this case, though-

"Yes?"

"We have an excellent view. I suspect that the computer is outfitted with a complete map of the Galaxy and can therefore view it from any angle with equal ease."

"How do you mean, a complete map?"

"The spatial coordinates of every star in it must be in the computer's memory banks."

"Every star?" Pelorat seemed awed.

"Well, perhaps not all three hundred billion. It would include the stars shining down on populated planets, certainly, and probably every star of spectral class K and brighter. That means about seventy-five billion, at least."

"Every star of a populated system?"

"I wouldn't want to be pinned down; perhaps not all. There were, after all, twenty-five million inhabited systems in the time of Hari Seldon-which sounds like a lot but is only one star out of every twelve thousand. And then, in the five centuries since Seldon, the general breakup of the Empire didn't prevent further colonization. I should think it would have encouraged it. There are still plenty of habitable planets to expand into, so there may be thirty million now. It's possible that not all the new ones are in the Foundation's records."

"But the old ones? Surely they must all be there without exception."

"I imagine so. I can't guarantee it, of course, but I would be surprised if any long-established inhabited system were missing from the records. Let me show you something—if my ability to control the computer will go far enough."

Trevize's hands stiffened a bit with the effort and they seemed to sink further into the clasp of the computer. That might not have been necessary; he might only have had to think quietly and casually: Terminus!

He did think that and there was, in response, a sparkling red diamond at the very edge of the whirlpool.

"There's our sun," he said with excitement. "That's the star that Terminus circles."

"Ah," said Pelorat with a low, tremulous sigh.

A bright yellow dot of light sprang into life in a rich cluster of stars deep in the heart of the Galaxy but well to one side of the central haze. It was rather closer to the Terminus edge of the Galaxy than to the other side.

"And that," said Trevize, "is Trantor's sun."

Another sigh, then Pelorat said, "Are you sure? They always speak of Trantor as being located in the center of the Galaxy."

"It is, in a way. it's as close to the center as a planet can get and still be habitable. It's closer than any other major populated system. The actual center of the Galaxy consists of a black hole with a mass of nearly a million stars, so that the center is a violent place. As far as we know, there is no life in the actual center and maybe there just can't be any life there. Trantor is in the innermost subring of the spiral arms and, believe me, if you could see its night sky, you would think it was in the center of the Galaxy. It's surrounded by an extremely rich clustering of stars."

"Have you been on Trantor, Golan?" asked Pelorat in clear envy.

"Actually no, but I've seen holographic representations of its sky."

Trevize stared at the Galaxy somberly. In the great search for the Second Foundation during the time of the Mule, how everyone had played with Galactic maps—and how many volumes had been written and filmed on the subject.

And all because Hari Seldon had said, at the beginning, that the Second Foundation would be established "at the other end of the Galaxy," calling the place "Star's End."

At the other end of the Galaxy! Even as Trevize thought it, a thin blue line sprang into view, stretching from Terminus, through the Galaxy's central black hole, to the other end. Trevize nearly jumped. He had not directly ordered the line, but he had thought of it quite clearly and that had been enough for the computer.

But, of course, the straight-line route to the opposite side of the Galaxy was not necessarily an indication of the "other end" that Seldon had spoken of. It was Arkady Darell (if one could believe her autobiography) who had made use of the phrase "a circle has no end" to indicate what everyone now accepted as truth.

And though Trevize suddenly tried to suppress the thought, the computer was too quick for him. The blue line vanished and was replaced with a circle that neatly rimmed the Galaxy in blue and that passed through the deep red dot of Terminus's sun.

A circle has no end, and if the circle began at Terminus, then if we searched for the other end, it would merely return to Terminus, and there the Second Foundation had indeed been found, inhabiting the same world as the First.

But if, in reality, it had not been found-if the so-called finding of the Second Foundation had been an illusion-what then? What beside a straight line and a circle would make sense in this connection?

Pelorat said, "Are you creating illusions? Why is there a blue circle?"

"I was just testing my controls. -Would you like to locate Earth?"

There was silence for a moment or two, then Pelorat said, "Are you joking?"

"No. I'll try."

He did. Nothing happened.

"Sorry," said Trevize.

"It's not there? No Earth?"

"I suppose I might have misthought my command, but that doesn't seem likely. I suppose it's more likely that Earth isn't listed in the computer's vitals."

Pelorat said, "It may be listed under another name."

Trevize jumped at that quickly, "What other name, Janov?"

Pelorat said nothing and, in the darkness, Trevize smiled. It occurred to him that things might just possibly be falling into place. Let it go for a while. Let it ripen. He deliberately changed the subject and said, "I wonder if we can manipulate time."

"Time! How can we do that?"

"The Galaxy is rotating. It takes nearly half a billion years for Terminus to move about the grand circumference of the Galaxy once. Stars that are closer to the center complete the journey much more quickly, of course. The motion of each star, relative to the central black hole, might be recorded in the computer and, if so, it may be possible to have the computer multiply each motion by millions of times and make the rotational effect visible. I can try to have it done."

He did and he could not help his muscles tightening with the effort of will he was exerting-as though he were taking hold of the Galaxy and accelerating it, twisting it, forcing it to spin against terrible resistance.

The Galaxy was moving. Slowly, mightily, it was twisting in the direction that should be working to tighten the spiral arms.

Time was passing incredibly rapidly as they watched-a false, artificial time-and, as it did so, stars became evanescent things.

Some of the larger ones-here and there-reddened and grew brighter as they expanded into red giants. And then a star in the central clusters blew up soundlessly in a blinding blaze that, for a tiny fraction of a second, dimmed the Galaxy and then was gone. Then another in one of the spiral arms, then still another not very far away from it.

"Supernovas," said Trevize a little shakily.

Was it possible that the computer could predict exactly which stars would explode and when? Or was it just using a simplified model that served to show the starry future in general terms, rather than precisely?

Pelorat said in a husky whisper, "The Galaxy looks like a living thing, crawling through space."

"It does," said Trevize, "but I'm growing tired. Unless I learn to do this less tensely, I'm not going to be able to play this kind of game for long."

Ire let go. The Galaxy slowed, then halted, then tilted, until it was in the view-from-the-side from which they had seen it at the start.

Trevize closed his eyes and breathed deeply. He was aware of Terminus shrinking behind them, with the last perceptible wisps of atmosphere gone from their surroundings. He was aware of all the ships filling Terminus's near-space.

It did not occur to him to check whether there was anything special about any one of those ships. Was there one that was gravitic like his own and matched his trajectory more closely than chance would allow?

5. SPEAKER

TRANTOR!

For eight thousand years, it was the capital of a large and mighty political entity that spanned an ever-growing union of planetary systems. For twelve thousand years after that, it was the capital of a political entity that spanned the entire Galaxy. It was the center, the heart, the epitome of the Galactic Empire.

It was impossible to think of the Empire without thinking of Trantor.

Trantor did not reach its physical peak until the Empire was far gone in decay. In fact, no one noticed that the Empire had lost its drive, its forward look, because Trantor gleamed in shining metal.

Its growth had peaked at the point where it was a planet-girdling city. Its population was stabilized (by law) at forty-five billion and the only surface greenery was at the Imperial Palace and the Galactic University/Library complex.

Trantor's land surface was metal-coated. Its deserts and its fertile areas were alike engulfed and made into warrens of humanity, administrative jungles, computerized elaborations, vast storehouses of food and replacement parts. Its mountain ranges were beaten down; its chasms filled in. The city's endless corridors burrowed under the continental shelves and the oceans were turned into huge underground aquacultural cisterns-the only (and insufficient) native source of food and minerals.

The connections with the Outer Worlds, from which Trantor obtained the resources it required, depended upon its thousand spaceports, its ten thousand warships, its hundred thousand merchant ships, its million space freighters.

No city so vast was ever recycled so tightly. No planet in the Galaxy had ever made so much use of solar power or went to such extremes to rid itself of waste heat. Glittering radiators stretched up into the thin upper atmosphere upon the nightside and were withdrawn into the metal city on the dayside. As the planet turned, the radiators rose as night progressively fell around the world and sank as day progressively broke. So Trantor always had an artificial asymmetry that was almost its symbol.

At this peak, Trantor ran the Empire?

It ran it poorly, but nothing could have run the Empire well. The Empire was too large to be run from a single world-even under the most dynamic of Emperors. How could Trantor have helped but run it poorly when, in the ages of decay, the Imperial crown was traded back and forth by sly politicians and foolish incompetents and the bureaucracy had become a subculture of corruptibles?

But even at its worst, there was some self-propelled worth to the machinery. The Galactic Empire could not have been run without Trantor.

The Empire crumbled steadily, but as long as Trantor remained Trantor, a core of the Empire remained and it retained an air of pride, of millennia, of tradition and power and-exaltation.

Only when the unthinkable happened-when Trantor finally fell and was sacked; when its citizens were killed by the millions and left to starve by the billions; when its mighty metal coating was scarred and punctured and fused by the attack of the "barbarian" fleet-only then was the Empire considered to have fallen. The surviving remnants on the once-great world undid further what had been left and, in a generation, Trantor was transformed from the greatest planet the human race had ever seen to an inconceivable tangle of ruins.

That had been nearly two and a half centuries ago. In the rest of the Galaxy, Trantor-as-it-had-been still was not forgotten. It would live forever as the favored site of historical novels, the favored symbol and memory of the past, the favored word for sayings such as "All starships land on Trantor,"

"Like looking for a person in Trantor," and "No more alike than this and Trantor."

In all the rest of the Galaxy -

But that was not true on Trantor itself! Here the old Trantor was forgotten. The surface metal seas gone, almost everywhere. Trantor was now a sparsely settled world of self-sufficient farmers, a place where trading ships rarely came and were not particularly welcome when they did come. The very word "Trantor," though still in official use, had dropped out of popular speech. By present-day Trantorians, it was called "Name," which in their dialect was what would be called "Home" in Galactic Standard.

Quindor Shandess thought of all this and much more as he sat quietly in a welcome state of half-drowse, in which he could allow his mind to run along a self-propelled and unorganized stream of thought.

He had been First Speaker of the Second Foundation for eighteen years, and he might well bold on for ten or twelve years more if his mind remained reasonably vigorous and if he could continue to fight the political wars.

He was the analog, the mirror image, of the Mayor of Terminus, who ruled over the First Foundation, but how different they were in every respect. The Mayor of Terminus was known to all the Galaxy and the First Foundation was therefore simply "the Foundation" to all the worlds. The First Speaker of the Second Foundation was known only to his associates.

And yet it was the Second Foundation, under himself and his predecessors, who held the real power. The First Foundation was supreme in the realm of physical power, of technology, of war weapons. The Second Foundation was supreme in the realm of mental power, of the mind, of the ability to control. In any conflict between the two, what would it matter how many ships and weapons the First Foundation disposed of, if the Second Foundation could control the minds of those who controlled the ships and weapons?

But how long could he revel in this realization of secret power?

He was the twenty-fifth First Speaker and his incumbency was already a shade longer than average. Ought he, perhaps, not be too keen on holding on and keeping out the younger aspirants? There was Speaker Gendibal, the keenest and newest at the Table. Tonight they would spend time together and Shandess looked forward to it. Ought he look forward also to Gendibal's possible accession some day?

The answer to the question was that Shandess had no real thought of leaving his post. He enjoyed it too much.

He sat there, in his old age, still perfectly capable of performing his duties. His hair was gray, but it had always been light in color and he wore it cut an inch long so that the color scarcely mattered. His eyes were a faded blue and his clothing conformed to the drab styling of the Trantorian farmers.

The First Speaker could, if he wished, pass among the Hamish people as one of them, but his hidden power nevertheless existed. He could choose to focus his eyes and mind at any time and they would then act according to his will and recall nothing about it afterward.

It rarely happened. Almost never. The Golden Rule of the Second Foundation was, "Do nothing unless you must, and when you must act - hesitate."

The First Speaker sighed softly. Living in the old University, with the brooding grandeur of the ruins of the Imperial Palace not too far distant, made one wonder on occasion how Golden the Rule might be.

In the days of the Great Sack, the Golden Rule had been strained to the breaking point. There was no way of saving Trantor without sacrificing the Seldon Plan for establishing a Second Empire. It would have been humane to spare the forty-five billion, but they could not have been spared without retention of the core of the First Empire and that would have only delayed the reckoning. It would have led to a greater destruction some centuries later and perhaps no Second Empire ever.

The early First Speakers had worked over the clearly foreseen Sack for decades but had found no solution-no way of assuring both the salvation of Trantor and the eventual establishment of the Second Empire. The lesser evil had to be chosen and Trantor had died!

The Second Foundationers of the time had managed-by the narrowest of margins-to save the University/Library complex and there had been guilt forever after because of that, too. Though no one had ever demonstrated that saving the complex had led to the of the Mule, there was always the intuition that there was a connection.

How nearly that had wrecked everything!

Yet following the decades of the Sack and the Mule came the Golden Age of the Second Foundation.

Prior to that, for over two and a half centuries after Seldon's death, the Second Foundation had burrowed like moles into the Library, intent only on staying out of the way of the Imperials. They served as librarians in a decaying society that cared less and less for the ever-more-misnamed Galactic Library, which fell into the desuetude that best suited the purpose of the Second Foundationers.

It was an ignoble life. They merely conserved the Plan, while out at the end of the Galaxy, the First Foundation fought for its life against always greater enemies with neither help from the Second Foundation nor any real knowledge of it.

It was the Great Sack that liberated the Second Foundation - another reason (young Gendibal - who had courage-had recently said that it was the chief reason) why the Sack was allowed to proceed.

After the Great Sack, the Empire was gone and, in all the later times, the Trantorian survivors never trespassed on Second Foundation territory uninvited. The Second Foundationers saw to it that the University/Library complex which had survived the Sack also survived the Great Renewal. The ruins of the Palace were preserved, too. The metal was gone over almost all the rest of the world. The great and endless corridors were covered up, filled in, twisted, destroyed, ignored; all under rock and soil-all except here, where metal still surrounded the ancient open places.

It might be viewed as a grand memorial of greatness, the sepulcher of Empire, but to the Trantorians - the Hamish people-these were haunted places, filled with ghosts, not to be stirred. Only the Second Foundationers ever set foot in the ancient corridors or touched the titanium gleam.

And even so, all had nearly come to nothing because of the Mule.

The Mule had actually been on Trantor. What if he had found out the nature of the world he had been standing on? His physical weapons were far greater than those at the disposal of the Second Foundation, his mental weapons almost as great. The Second Foundation would have been hampered always by the necessity of doing nothing but what they must, and by the knowledge that almost any hope of tinning the immediate fight might portend a greater eventual loss.

Had it not been for Banta Darell and her swift moment of action- And that, too, had been without the help of the Second Foundation?

And then-the Golden Age, when somehow the First Speakers of the time found ways of becoming active, stopping the Mule in his career of conquest, controlling his mind at last; and then stopping the First Foundation itself when it grew wary and overcurious concerning the nature and identity of the Second Foundation. There was Preem Palver, nineteenth First Speaker and greatest of them all, who had managed to put an end to all danger-not without terrible sacrifice - and who had rescued the Seldon Plan.

Now, for a hundred and twenty years, the Second Foundation was again as it once had been, hiding in a haunted portion of Trantor. They were hiding no longer from the Imperials, but from the First Foundation still-a First Foundation almost as large as the Galactic Empire had been and even greater in technological expertise.

The First Speaker's eyes closed in the pleasant warmth and he passed into that never-never state of relaxing hallucinatory experiences that were not quite dreams and not quite conscious thought.

Enough of gloom. All would be well. Trantor was still capital of the Galaxy, for the Second Foundation was here and it was mightier and more in control than ever the Emperor had been.

The First Foundation would be contained and guided and would move correctly. However formidable their ships and weapons, they could do nothing as long as key leaders could be, at need, mentally controlled.

And the Second Empire would come, but it would not be like the first. It would be a Federated Empire, with its parts possessing considerable self-rule, so that there would be none of the apparent strength and actual weakness of a unitary, centralized government. The new Empire would be looser, more pliant, more flexible, more capable of withstanding strain, and it would be guided always-always-by the hidden men and women of the Second Foundation. Trantor would then be still the capital, more powerful with its forty thousand psychohistorians than ever it had been with its forty-five billion.

The First Speaker snapped awake. The sun was lower in the sky. Had he been mumbling? Had he said anything aloud?

If the Second Foundation had to know much and say little, the ruling Speakers had to know mere and say less, and the First Speaker lead to know mist and say least.

He smiled wryly. It was always so tempting to become a Trantorian patriot-to see the whole purpose of the Second Empire as that of bringing about Trantorian hegemony. Seldon had warned of it; he had foreseen even that, five centuries before it could come to pass.

The First Speaker had not slept too long, however. It was not yet time for Gendibal's audience.

Shandess was looking forward to that private meeting. Gendibal was young enough to look at the Plan with new eyes, and keen enough to see what others might not. And it was not beyond possibility that Shandess would learn from what the youngster had to say.

No one would ever be certain how much Preem Palver - the great Palver himself - had profited from that day when the young Kol Benjoam, not yet thirty, came to talk to him about possible ways of handling the First Foundation. Benjoam, who was later recognized as the greatest theorist since Seldon, never spoke of that audience in later years, but eventually he became the twenty-first First Speaker. There were some who credited Benjoam, rather than Palver, for the great accomplishments of Palver's administration.

Shandess amused himself with the thought of what Gendibal might say. It was traditional that keen youngsters, confronting the First Speaker alone for the first time, would place their entire thesis in the first sentence. And surely they would not ask for that precious first audience for something trivial-something that might ruin their entire subsequent career by convincing the First Speaker they were lightweights.

Four hours later, Gendibal faced him. The young man showed no sign of nervousness. He waited calmly for Shandess to speak first.

Shandess said, "You have asked for a private audience, Speaker, on a matter of importance. Could you please summarize the matter for me?"

And Gendibal, speaking quietly, almost as though he were describing what he had just eaten at dinner, said, "First Speaker, the Seldon Plan is meaningless!"

Stor Gendibal did not require the evidence of others to give him a sense of worth. He could not recall a time when he did not !:now himself to be unusual. He had been

recruited for the Second Foundation when he was only a ten-year-old boy by an agent who had recognized the potentialities of his mind.

He had then done remarkably well at his studies and had taken to psychohistory as a spaceship responds to a gravitational field. Psychohistory had pulled at him and he had curved toward it, reading Seldon's text on the fundamentals when others his age were merely trying to handle differential equations.

When he was fifteen, he entered Trantor's Galactic University (as the University of Trantor had been officially renamed), after an interview during which, when asked what his ambitions were, he had answered firmly, "To be First Speaker before I am forty."

He had not bothered to aim for the First Speaker's chair without qualification. To gain it, one way or another, seemed to him to be a certainty. It was to do it in youth that seemed to him to be the goal. Even Preem Palver had been forty-two on his accession.

The interviewer's expression had flickered when Gendibal had said that, but the young man already had the feel of psycholanguage and could interpret that flicker. He knew, as certainly as though the interviewer had announced it, that a small notation would go on his records to the effect that he would be difficult to handle.

Well, of course!

Gendibal intended to be difficult to handle.

He was thirty now. He would be thirty-one in a matter of two months and he was already a member of the Council of Speakers. He had nine years, at most, to become First Speaker and he knew he would make it. This audience with the present First Speaker was crucial to his plans and, laboring to present precisely the proper impression, he had spared no effort to polish his command of psycholanguage.

When two Speakers of the Second Foundation communicate with each other, the language is like no other in the Galaxy. It is as much a language of fleeting gestures as of words, as much a matter of detected mental-change patterns as anything else.

An outsider would hear little or nothing, but in a short time, much in the way of thought would be exchanged and the communication would be unreportable in its literal form to anyone but still another Speaker.

The language of Speakers had its advantage in speed and in infinite delicacy, but it had the disadvantage of making it almost impossible to mask true opinion.

Gendibal knew his own opinion of the First Speaker. He felt the First Speaker to be a man past his mental prime. The First Speaker -in Gendibal's assessment-expected no crisis, was not trained to meet one, and lacked the sharpness to deal with one if it appeared. With all Shandess's goodwill and amiability, he was the stuff of which disaster was made.

All of this Gendibal had to hide not merely from words, gestures, and facial expressions, but even from his thoughts. He knew no way of doing so efficiently enough to keep the First Speaker from catching a whiff of it.

Nor could Gendibal avoid knowing something of the First Speaker's feeling toward him. Through bonhomie and goodwill - quite apparent and reasonably sincere-Gendibal

could feel the distant edge of condescension and amusement, and tightened his own mental grip to avoid revealing any resentment in return-or as little as possible.

The First Speaker smiled and leaned back in his chair. He did not actually lift his feet to the desk top, but he got across just the right mixture of self-assured ease and informal friendship-just enough of each to leave Gendibal uncertain as to the effect of his statement.

Since Gendibal had not been invited to sit down, the actions and attitudes available to him that might be designed to minimize the uncertainty were limited. It was impossible that the First Speaker did not understand this.

Shandess said, "The Seldon Plan is meaningless? What a remarkable statement! Have you looked at the Prime Radiant lately, Speaker Gendibal?"

"I study it frequently, First Speaker. It is my duty to do so and my pleasure as well."

"Do you, by any chance, study only those portions of it that fall under your purview, now and then? Do you observe it in micro-fashion-an equation system here, an adjustment rivulet there? Highly important, of course, but I have always thought it an excellent occasional exercise to observe the whole course. Studying the Prime Radiant, acre by acre, has its uses-but observing it as a continent is inspirational. To tell you the truth, Speaker, I have not done it for a long time myself. Would you join me?"

Gendibal dared not pause too long. It had to be done, and it must be done easily and pleasantly or it might as well not be done. "It would be an honor and a pleasure, First Speaker."

The First Speaker depressed a lever on the side of his desk. There was one such in the office of every Speaker and the one in Gendibal's office was in no way inferior to that of the First Speaker. The Second Foundation was an equalitarian society in all its surface manifestations-the unimportant ones. In fact, the only official prerogative of the First Speaker was that which was explicit in his title he always spoke first.

The room grew dark with the depression of the lever but, almost at once, the darkness lifted into a pearly dimness. Both long walls turned faintly creamy, then brighter and whiter, and finally there appeared neatly printed equations-so small that they could not be easily read.

"If you have no objections," said the First Speaker, making it quite clear that there would be none allowed, "we will reduce the magnification in order to see as much at one time as we can."

The neat printing shrank down into fine hairlines, faint black meanderings over the pearly background.

The First Speaker touched the keys of the small console built into the arm of his chair. "We'll bring it back to the start-to the lifetime of Hari Seldon - and we'll adjust it to a small forward movement. We'll shutter it so that we can only see a decade of development at a time. It gives one a wonderful feeling of the flow of history, with no distractions by the details. I wonder if you have ever done this."

"Never exactly this way, First Speaker."

"You should. It's a marvelous feeling. Observe the sparseness of the black tracery at the start. There was not much chance for alternatives in the first few decades. The branch points, however, increase exponentially with time. Were it not for the fact that, as soon as a particular branch is taken, there is an extinction of a vast array of others in its future, all would soon become unmanageable. Of course, in dealing with the future, we must be careful what extinctions we rely upon."

"I know, First Speaker." There was a touch of dryness in Gendibal's response that he could not quite remove.

The First Speaker did not respond to it. "Notice the winding lines of symbols in red. There is a pattern to them. To all appearances, they should exist randomly, as even-Speaker earns his place by adding refinements to Seldon's original Plan. It would seem there is no way, after all, of predicting where a refinement can be added easily or where a particular Speaker will find his interests or his ability tending, and yet I have long suspected that the admixture of Seldon Black and Speaker Red follows a strict law that is strongly dependent on time and on very little else."

Gendibal watched as the years passed and as the black and red hairlines made an almost hypnotic interlacing pattern. The pattern meant nothing in itself, of course. What counted were the symbols of which it was composed.

Here and there a bright-blue rivulet made its appearance, bellying out; branching, and becoming prominent, then falling in upon itself and fading into the black or red.

The First Speaker said, "Deviation Blue," and the feeling of distaste, originating in each, filled the space between them. "We catch it over and over, and we'll be coming to the Century of Deviations eventually."

They did. One could tell precisely when the shattering phoneme- non of the Mule momentarily filled the Galaxy, as the Prime Radiant suddenly grew thick with branching rivulets of blue-more starting than could be closed down-until the room itself seemed to turn blue as the lines thickened and marked the wall with brighter and brighter pollution. (It was the only word.)

It reached its peak and then faded, thinned, and came together for a long century before it trickled to its end at last. When it was gone, and when the Plan had returned to black and red, it was clear that Preem Palver's hand had been there.

Onward, onward.

"That's the present," said the First Speaker comfortably.

Onward, onward.

Then a narrowing into a veritable knot of close-knit black with little red in it.

"That's the establishment of the Second Empire," said the First Speaker.

He shut off the Prime Radiant and the room was bathed in ordinary light.

Gendibal said, "That was an emotional experience."

"Yes," smiled the First Speaker, "and you are careful not to identify the emotion, as far as you can manage to fail to identify it. It doesn't matter. Let me make the points I wish to make."

"You will notice, first, the all-but-complete absence of Deviation Blue after the time of Preem Palver - over the last twelve decades, in other words. You will notice that there are no reasonable probabilities of Deviations above the fifth-class over the next five centuries. You will notice, too, that we have begun extending the refinements of psychohistory beyond the establishment of the Second Empire. As you undoubtedly know, Hari Seldon - although a transcendent genius-is not, and could not, be all-knowing. We have improved on him. We know more about psychohistory than he could possibly have known.

"Seldon ended his calculations with the Second Empire and we have continued beyond it. Indeed, if I may say so without offense, the new Hyper-Plan that goes past the establishment of the Second Empire is very largely my doing and has earned me my present post.

"I tell you all this so that you can spare me unnecessary talk. With all this, how do you manage to conclude that the Seldon Plan is meaningless? It is without flaw. The mere fact that it survived the Century of Deviations-with all due respect to Palver's genius-is the best evidence we have that it is without flaw. Where is its weakness, young man, that you should brand the Plan as meaningless?"

Gendibal stood stiffly upright. "You are right, First Speaker. The Seldon Plan has no flaw."

"You withdraw your remark, then?"

"No, First Speaker. Its lack of flaw is its flaw. Its flawlessness is fatal!"

The First Speaker regarded Gendibal with equanimity. He had learned to control his expressions and it amused him to watch Gendibal's ineptness in this respect. At every exchange, the young man did his best to hide his feelings, but each time, he exposed them completely.

Shandess studied him dispassionately. He was a thin young man, not much above the middle height, with thin lips and bony, restless hands. He had dark, humorless eyes that tended to smolder.

He would be, the First Speaker knew, a hard person to talk out of his convictions.

"You speak in paradoxes, Speaker," he said.

"It sounds like a paradox, First Speaker, because there is so much about Seldon's Plan that we take for granted and accept in so unquestioning a manner."

"And what is it you question, then?"

"The Plan's very basis. We all know that the Plan will not work if its nature-or even its existence-is known to too many of those whose behavior it is designed to predict."

"I believe Hari Seldon understood that. I even believe he made it one of his two fundamental axioms of psychohistory."

"He did not anticipate the Mule, First Speaker, and therefore he could not anticipate the extent to which the Second Foundation would become an obsession with the people of the First Foundation, once they had been shown its importance by the Mule."

"Hari Seldon-" and for one moment, the First Speaker shuddered and fell silent.

Hari Seldon's physical appearance was known to all the members of the Second Foundation. Reproductions of him in two and in three dimensions, photographic and holographic, in bas-relief and in the round, sitting and standing, were ubiquitous. They all represented him in the last few years of his life. All were of an old and benign man, face wrinkled with the wisdom of the aged, symbolizing the quintessence of well-ripened genius.

But the First Speaker now recalled seeing a photograph reputed to be Seldon as a young man. The photograph was neglected, since the thought of a young Seldon was almost a contradiction in terms. Yet Shandess had seen it, and the thought had suddenly come to him that Stor Gendibal looked remarkably like the young Seldon.

Ridiculous? It was the sort of superstition that afflicted everyone, now and then, however rational they might be. He was deceived by a fugitive similarity. If he had the photograph before him, he would see at once that the similarity was an illusion. Yet why should that silly thought have occurred to him now?

He recovered. It had been a momentary quaver—a transient derailment of thought—too brief to be noticed by anyone but a Speaker. Gendibal might interpret it as he pleased.

"Hari Seldon," he said very firmly the second time, "knew well that there were an infinite number of possibilities he could not foresee, and it was for that reason that he set up the Second Foundation. We did not foresee the Mule either, but he recognized him once he was upon us and we stopped him. We did not foresee the subsequent obsession of the First Foundation with ourselves, but we saw it when it came and we stopped it. What is it about this that you can possibly find fault with?"

"For one thing," said Gendibal, "the obsession of the First Foundation with us is not yet over."

There was a distinct ebb in the deference with which Gendibal had been speaking. He had noted the quaver in the First Speaker's voice (Shandess decided) and had interpreted it as uncertainty. That had to be countered.

The First Speaker said briskly, "Let me anticipate. There would be people on the First Foundation, who—comparing the hectic difficulties of the first nearly four centuries of existence with the placidity of the last twelve decades—will come to the conclusion that this cannot be unless the Second Foundation is taking good care of the Plan—and, of course, they will be right in so concluding. They will decide that the Second Foundation may not have been destroyed after all—and, of course, they will be right in so deciding. In fact, we've received reports that there is a young man on the First Foundation's capital world of Terminus, an official of their government, who is quite convinced of all this. —I forget his name—"

"Golan Trevize," said Gendibal softly. "It was I who first noted the matter in the reports, and it was I who directed the matter to your office."

"Oh?" said the First Speaker with exaggerated politeness. "And how did your attention come to be focused on him?"

"One of our agents on Terminus sent in a tedious report on the newly elected members of their Council—a perfectly routine matter usually sent to and ignored by all Speakers. This one caught my eye because of the nature of the description of one new Councilman, Golan Trevize. From the description, he seemed unusually self-assured and combative."

"You recognized a kindred spirit, did you?"

"Not at all," said Gendibal, stiffly. "He seemed a reckless person who enjoyed doing ridiculous things, a description which does not apply to me. In any case, I directed an in-depth study. It did not take long for me to decide that he would have made good material for us if he had been recruited at an early age."

"Perhaps," said the First Speaker, "but you know that we do not recruit on Terminus."

"I know that well. In any case, even without our training, he has an unusual intuition. It is, of course, thoroughly undisciplined. I was, therefore, not particularly surprised that he had grasped the fact that the Second Foundation still exists. I felt it important enough, however, to direct a memo on the matter to your office."

"And I take it from your manner that there is a new development?"

"Having grasped the fact that we still exist, thanks to his highly developed intuitive abilities, he then used it in a characteristically undisciplined fashion and has, as a result, been exiled from Terminus."

The First Speaker lifted his eyebrows. "You stop suddenly. You want me to interpret the significance. Without using my computer, let me mentally apply a rough approximation of Seldon's equations and guess that a shrewd Mayor, capable of suspecting that the Second Foundation exists, prefers not to have an undisciplined individual shout it to the Galaxy and thus alert said Second Foundation to the danger. I take it Branno the Bronze decided that Terminus is safer with Trevize off the planet."

"She might have imprisoned Trevize or had him quietly assassinated."

"The equations are not reliable when applied to individuals, as you well know. They deal only with humanity in mass. Individual behavior is therefore unpredictable and it is possible to assume that the Mayor is a humane individual who feels imprisonment, let alone assassination, is unmerciful."

Gendibal said nothing for a while. It was an eloquent nothing, and he maintained it just long enough for the First Speaker to grow uncertain of himself but not so long as to induce a defensive anger.

He timed it to the second and then he said, "That is not my interpretation. I believe that Trevize, at this moment, represents the cutting edge of the greatest threat to the Second Foundation in its history—a greater danger even than the Mule!"

Gendibal was satisfied. The force of the statement had worked well. The First Speaker had not expected it and was caught off-balance. From this moment, the whip hand was Gendibal's. If he had any doubt of that at all, it vanished with Shandess's next remark.

"Does this have anything to do with your contention that Seldon's Plan is meaningless?"

Gendibal gambled on complete certainty, driving in with a didacticism that would not allow the First Speaker to recover. He said, "First Speaker, it is an article of faith that it was Preem Palver who restored the Plan to its course after the wild aberrance of the Century of Deviations. Study the Prime Radiant and you will see that the Deviations did not disappear till two decades after Palver's death and that not one Deviation has appeared since. The credit might rest with the First Speakers since Palver, but that is improb-

"Improbable? Granted none of us have been Palvers, but-why? "

"Will you allow me to demonstrate, First Speaker? Using the mathematics of psychohistory, I can clearly show that the chances of total disappearance of Deviation are too microscopically small to have taken place through anything the Second Foundation can do. You need not allow me if you lack the time or the desire for the demonstration, which will take half an hour of close attention. I can, as an alternative, call for a full meeting of the Speaker's Table and demonstrate it there. But that would mean a loss of time for me and unnecessary controversy."

"Yes, and a possible loss of face for me. -Demonstrate the matter to me now. But a word of warning." The First Speaker was making a heroic effort to recover. "If what you show me is worthless, I will not forget that."

"If it proves worthless," said Gendibal with an effortless pride that overrode the other, "you will have my resignation on the spot."

It took, actually, considerably more than half an hour, for the First Speaker questioned the mathematics with near-savage intensity.

Gendibal made up some of the time by his smooth use of his MicroRadiant. The device-which could locate any portion of the vast Plan holographically and with required n either wall nor desk sized console-had come into use only a decade ago and the First Speaker had never learned the knack of handling it. Gendibal was aware of that. The First Speaker knew that he was.

Gendibal hooked it over his right thumb and manipulated it with his four fingers, using his hand deliberately as though it were a musical instrument. (Indeed, he had written a small paper on the analogies.)

The equations Gendibal produced (and found with sure ease) moved back and forth snakily to accompany his commentary. He could obtain definitions, if necessary; set up axioms; and produce graphics, both two-dimensional and three-dimensional (to say nothing of projections of multidimensional relationships).

Gendibal's commentary was clear and incisive and the First Speaker abandoned the game. He was won over and said, "I do not recall having seen an analysis of this nature. Whose work is it?"

"First Speaker, it is my own. I have published the basic mathematics involved."

"Very clever, Speaker Gendibal. Something like this will put you in line for the First Speakership, should I die-or retire."

"I have given that matter no thought, First Speaker-but since there's no chance of your believing that, I withdraw the comment. I have given it thought and I hope I will be First Speaker, since whoever succeeds to the post must follow a procedure that only I see clearly."

"Yes," said the First Speaker, "inappropriate modesty can be very dangerous. What procedure? Perhaps the present First Speaker may follow it, too. If I am too old to have made the creative leap you have, I am not so old that I cannot follow your direction."

It was a graceful surrender and Gendibal's heart warned, rather unexpectedly, toward the older man, even as he realized that this was precisely the First Speaker's intention.

"Thank you, First Speaker, for I will need your help badly. I cannot expect to sway the Table without your enlightened leadership." (Grace for grace.) "I assume, then, that you have already seen from what I have demonstrated that it is impossible for the Century of Deviations to have been corrected under our policies or for all Deviations to have ceased since then."

"This is clear to me," said the First Speaker. "If your mathematics is correct, then in order for the Plan to have recovered as it did and to work as perfectly as it seems to be working, it would be necessary for us to be able to predict the reactions of small groups of people - even of individuals-with some degree of assurance."

"Quite so. Since the mathematics of psychohistory does not allow this, the Deviations should not have vanished and, even more so, should not have remained absent. You see, then, what I meant when I said earlier that the flaw in the Seldon Plan was its flawlessness."

The First Speaker said, "Either the Seldon Plan does possess Deviations, then, or there is something wrong in your mathematics. Since I must admit that the Seldon Plan has not shown Deviations in a century and more, it follows that there is something wrong with your mathematics-except that I detected no fallacies or missteps."

"You do wrong," said Gendibal, "to exclude a third alternative. It is quite possible for the Seldon Plan to possess no Deviations and yet for there to be nothing wrong in my mathematics when it predicts that to be impossible."

"I fail to see the third alternative."

"Suppose the Seldon Plan is being controlled by means of a psychohistorical method so advanced that the reactions of small groups of people-even perhaps of individual persons-can be predicted, a method that we of the Second Foundation do not possess. Then, and only then, my mathematics would predict that the Seldon Plan should indeed experience no Deviations?"

For a while (by Second Foundation standards) the First Speaker made no response. He said, "There is no such advanced psychohistorical method that is known to me or, I am certain from your manner, to you. If you and I know of none, the chance that any other Speaker, or any group of Speakers, has developed such a micropsychohistory-if I may call

it that-and has kept it secret from the rest of the Table is infinitesimally small. Don't you agree?"

"I agree."

"Then either your analysis is wrong or else micropsychohistory is in the hands of some group outside the Second Foundation."

"Exactly, First Speaker, the latter alternative must be correct."

"Can you demonstrate the truth of such a statement?"

"I cannot, in any formal way; but consider- Has there not already been a person who could affect the Seldon Plan by dealing with individual people?"

"I presume you are referring to the Mule."

"Yes, certainly."

"The Mule could only disrupt. The problem here is that the Seldon Plan is working too well, considerably closer to perfection than your mathematics would allow. You would need an Anti-Mule-someone who is as capable of overriding the Plan as the Mule was, but who acts for the opposite motive-overriding not to disrupt but to perfect."

"Exactly, First Speaker. I wish I had thought of that expression. What was the Mule? A mutant. But where did he come from? How did he come to be? No one really knows. Might there not be more?"

"Apparently not. The one thing that is best known about the Mule is that he was sterile. Hence his name. Or do you think that is a myth?"

"I am not referring to descendants of the Mule. Might it not be that the Mule was an aberrant member of what is-or has now become-a sizable group of people with Mulish powers who-for some reason of their own-are not disrupting the Seldon Plan but supporting it?"

"Why in the Galaxy should they support it?"

"Why do we support it? We plan a Second Empire in which we -or, rather, our intellectual descendants-will be the decision makers. If, some other group is supporting the Plan even more efficiently than we are, they cannot be planning to leave the decision-making to us. They will make the decisions-but to what end? Ought we not try to find out what kind of a Second Empire they are sweeping us into?"

"And how do you propose to find out?"

"Well, why has the Mayor of Terminus exiled Golan Trevize? By doing so, she allows a possibly dangerous person to move freely about the Galaxy. That she does it out of motives of humanity, I cannot believe. Historically the rulers of the First Foundation have always acted realistically, which means, usually, without regard for 'morality.' One of their heroes-Salvor Hardin-counseled against morality, in fact. No, I think the Mayor acted under compulsion from agents of the Anti-Mules, to use your phrase. I think Trevize has been recruited by them and I think he is the spearhead of danger to us. Deadly danger."

And the First Speaker said, "By Seldon, you may be right. But how will we ever convince the Table of this?"

"First Speaker, you underestimate your eminence."

6. EARTH

TREVIZE WAS HOT AND ANNOYED. HE AND PELORAT WERE SITTING IN the small dining area, having just completed their midday meal.

Pelorat said, "We've only been in space two days and I find myself quite comfortable, although I miss fresh air, nature, and all that. Strange! Never seemed to notice all that sort of thing when it was all round me. Still between my wafer and that remarkable computer of yours, I have my entire library with me-or all that matters, at any rate. And I don't feel the least bit frightened of being out in space now. Astonishing!"

Trevize made a noncommittal sound. His eyes were inwardly focused.

Pelorat said gently, "I don't mean to intrude, Golan, but I don't really think you're listening. Not that I'm a particularly interesting person always been a bit of a bore, you know. Still, you seem preoccupied in another way. -Are we in trouble? Needn't be afraid to tell me, you know. Not much I could do, I suppose, but I won't go into panic, dear fellow."

"In trouble?" Trevize seemed to come to his senses, frowning slightly.

"I mean the ship. It's a new model, so I suppose there could be something wrong:" Pelorat allowed himself a small, uncertain smile.

Trevize shook his head vigorously. "Stupid of me to leave you in such uncertainty, Janov. There's nothing wrong at all with the ship. It's working perfectly. It's just that I've been looking for a hyper-relay."

"Ah, I see. -Except that I don't. What is a hyper-relay?"

"Well, let me explain, Janov. I am in communication with Terminus. At least, I can be anytime I wish and Terminus can, in reverse, be in communication with us. They know the ship's location, having observed its trajectory. Even if they had not, they could locate us by scanning near-space for mass, which would warn them of the presence of a ship or, possibly, a meteoroid. But they could further detect an energy pattern, which would not only distinguish a ship from a meteoroid but would identify a particular ship, for no two ships make use of energy in quite the same way. In some way, our pattern remains characteristic, no matter what appliances or instruments we turn on and off. The ship may be unknown, of course, but if it is a ship whose energy pattern is on record in Terminus-as ours is-it can be identified as soon as detected:'

Pelorat said, "It seems to me, Golan, that the advance of civilization is nothing but an exercise in the limiting of privacy."

"You may be right. Sooner or later, however, we must move through hyperspace or we will be condemned to remain within a parsec or two of Terminus for the rest of our lives. We will then be unable to engage in interstellar travel to any but the slightest degree. In passing through hyperspace, on the other hand, we undergo a discontinuity in ordinary space. We pass from here to there-and I mean across a gap of hundreds of parsecs sometimes-in an instant of experienced time. We are suddenly enormously far

away in a direction that is very difficult to predict and, in a practical sense, we can no longer be detected."

"I see that. Yes."

"Unless, of course, they have planted a hyper-relay on board. A hyperrelay sends out a signal through hyperspace - a signal characteristic of this ship-and the authorities on Terminus would know where we are at all times. That answers your question, you see. There would be nowhere in the Galaxy we could hide and no combination of jumps through hyperspace would make it possible for us to evade their instruments:"

"But, Golan," bald Pelorat softly, "don't 13'e want Foundation protection?"

"Yes, Janov, but only when we ask for it. You said the advance of civilization meant the continuing restriction of privacy. -Well. I don't want to be that advanced. I want freedom to move undetected as I wish - unless and until I want protection So I would feel better, a great deal better, if there weren't a hyper-relay on board."

"Have you found one, Golan?"

"No, I have not. If I had, I might be able to render it inoperative somehow."

"Would you know one if you saw it?"

"That's one of the difficulties. I might not be able to recognize it. I know what a hyper-relay looks like generally and I know ways of testing a suspicious object-but this is a late-model ship, designed for special tasks. A hyper-relay may have been incorporated into its design in such a way as to show no signs of its presence."

"On the other hand, maybe there is no hyper-relay present and that's why you haven't found it."

"I don't dare assume that and I don't like the thought of making a jump until I know."

Pelorat looked enlightened. "That's why we've just been drifting through space. I've been wondering why we haven't jumped. I've heard about jumps, you know. Been a little nervous about it, actually-been wandering when you'd order me to strap myself in or take a pill or something like that."

Trevize managed a smile. "No need for apprehension. These aren't ancient times. On a ship like this, you just leave it all to the computer. You give it your instructions and it does the rest. You won't know that anything has happened at all, except that the view of space will suddenly change. If you've ever seen a slide show, you'll know what happens when one slide is suddenly projected in place of another. Well, that's what the jump will seem like."

"Dear me. One won't feel anything? Odd! I find that somewhat disappointing."

"I've never felt anything and the ships I've been in haven't been as advanced as this baby of ours. -But it's not because of the hyperrelay that we haven't jumped. We have to get a bit further away from Terminus-and from the sun, too. The farther we are from any massive object, the easier to control the jump, to make re-emergence into space at exactly desired coordinates. In an emergency, you might risk a jump when you're only two hundred kilometers off the surface of a planet and just trust to luck that you'll end up safely. Since there is much more safe than unsafe volume in the Galaxy, you can

reasonably count on safety. Still, there's all-ways the possibility that random factors will cause you to re-emerge within a few million kilometers of a large star or in the Galactic core-and you will find yourself fried before you can blink. The further away you are from mass, the smaller those factors and the less likely it is that anything untoward will happen."

"In that case, I commend your caution. We're not in a tearing hurry,"

"Exactly. -Especially since I would dearly love to find the hyperrelay before I make a move. -Or find a way of convincing myself there is no hyper-relay."

Trevize seemed to drift off again into his private concentration and Pelorat said, raising his voice a little to surmount the preoccupation barrier, "How much longer do we have?"

"What?"

"I mean, when would you make the jump if you had no concerns over the hyper-relay, my dear chap?"

"At our present speed and trajectory, I should say on our fourth day out. I'll work out the proper time on the computer."

"Well, then, you still have two days for your search. May I make a suggestion?"

"Go ahead."

"I have always found in my own work-quite different from yours, of course, but possibly we may generalize-that zeroing in tightly on a particular problem is self-defeating. Why not relax and talk about something else, and your unconscious mind-not laboring under the weight of concentrated thought-may solve the problem for you."

Trevize looked momentarily annoyed and then laughed. "Well, why not? -Tell me, Professor, what got you interested in Earth? What brought up this odd notion of a particular planet from which we all started?"

"Ah!" Pelorat nodded his head reminiscently. "That's going back a while. Over thirty years. I planned to be a biologist when I was going to college. I was particularly interested in the variation of species on different worlds. The variation, as you know-well, maybe you don't know, so you won't mind if I tell you-is very small. All forms of life throughout the Galaxy-at least all that we have yet encountered-share a water-based protein/nucleic acid chemistry."

Trevize said, "I went to military college, which emphasized nucleonics and gravities, but I'm not exactly a narrow specialist. I know a bit about the chemical basis of life. We were taught that water, proteins, and nucleic acids are the only possible basis for life."

"That, I think, is an unwarranted conclusion. It is safer to say that no other form of life has yet been found-or, at any rate, been recognized - and let it go at that. What is more surprising is that indigenous species - that is, species found on only a single planet and no other-are few in number. Most of the species that exist, including Homo sapiens in particular, are distributed through all or most of the inhabited worlds of the Galaxy and are closely related biochemically, physiologically, and morphologically. The indigenous

species, on the other hand, are widely separated in characteristics from both the widespread forms and from each other."

"Well, what of that?"

"The conclusion is that one world in the Galaxy-one world-is different from the rest. Tens of millions of worlds in the Galaxy-no one knows exactly how many-have developed life. It was simple life, sparse life, feeble life-not very variegated, not easily maintained, and not easily spread. One world, one world alone, developed life in millions of species-easily millions-some of it very specialized, highly developed, very prone to multiplication and to spreading, and including us. We were intelligent enough to form a civilization, to develop hyperspatial flight, and to colonize the Galaxy-and, in spreading through the Galaxy, we took many other forms of lifeforms related to each other and to ourselves-along with us."

"If you stop to think of it," said Trevize rather indifferently, "I suppose that stands to reason. I mean, here we are in a human Galaxy. If we assume that it all started on some one world, then that one world would have to be different. But why not? The chances of life developing in that riotous fashion must be very slim indeed - perhaps one in a hundred million-so the chances are that it happened in one life-bearing world out of a hundred million. It had to be one."

"But what is it that made that particular one world so different from the others?" said Pelorat excitedly. "What were the conditions that made it unique?"

"Merely chance, perhaps. After all, human beings and the lifeforms they brought with them now exist on tens of millions of planets, all of which can support life, so all those worlds must be good enough."

"No! Once the human species had evolved, once it had developed a technology, once it had toughened itself in the hard struggle for survival, it could then adapt to life on any world that is in the least hospitable-on Terminus, for instance. But can you imagine intelligent life having developed on Terminus? When Terminus was first occupied by human beings in the days of the Encyclopedists, the highest form of plant life it produced was a mosslike growth on rocks; the highest forms of animal life were small coral-like growths in the ocean and insectlike flying organisms on land. We just about wiped them out and stocked sea and land with fish and rabbits and goats and grass and grain and trees and so on. We have nothing left of the indigenous life, except for what exists in zoos and aquaria."

"Hmm," said Trevize.

Pelorat stared at him for a full minute, then sighed and said, "You don't really care, do you? Remarkable! I find no one who does, somehow. My fault, I think. I cannot make it interesting, even though it interests me so much."

Trevize said, "It's interesting. It is. But-but-so what?"

"It doesn't strike you that it might be interesting scientifically to study a world that gave rise to the only really flourishing indigenous ecological balance the Galaxy has ever seen?"

"Maybe, if you're a biologist. -I'm not, you see. You must forgive me."

"Of course, dear fellow. It's just that I never found any biologists who were interested, either. I told you I was a biology major. I took it up with my professor and he wasn't interested. He told me to turn to some practical problem. That so disgusted me I took up history instead-which had been rather a hobby of mine from my teenage years, in any case-and tackled the 'Origin Question' from that angle."

Trevize said, "But at least it has given you a lifework, so you must be pleased that your professor was so unenlightened."

"Yes, I suppose one might look at it that way. And the lifework is an interesting one, of which I have never tired. -But I do wish it interested you. I hate this feeling of forever talking to myself."

Trevize leaned his head back and laughed heartily.

Pelorat's quiet face took on a trace of hurt. "Why are you laughing at me?"

"Not you, Janov," said Trevize. "I was laughing at my own stupidity. Where you're concerned, I am completely grateful. You were perfectly right, you know,"

"To take up the importance of human origins?"

"No, no. -Well, yes, that too. -But I meant you were right to tell me to stop consciously thinking of my problem and to turn my mind elsewhere. It worked. When you were talking about the manner in which life evolved, it finally occurred to me that I knew how to find that hyperrelay-if it existed."

"Oh, that!"

"Yes, that! That's my monomania at the moment. I've been looking for that hyper-relay as though I were on my old scow of a training ship, studying every part of the ship by eye, looking for something that stood out from the rest. I had forgotten that this ship is a developed product of thousands of years of technological evolution. Don't you see?"

"No, Golan."

"We have a computer aboard. How could I have forgotten?"

He waved his hand and passed into his own room, urging Pelorat along with him.

"I need only try to communicate," he said, placing his hands onto the computer contact.

It was a matter of trying to reach Terminus, which was now some thousands of kilometers behind.

Reach! Speak! It was as though nerve endings sprouted and extended, reaching outward with bewildering speed-the speed of light, of course - to make contact.

Trevize felt himself touching-well, not quite touching, but sensing - well, not quite sensing, but-it didn't matter, for there wasn't a word for it.

He was aware of Terminus within reach and, although the distance between himself and it was lengthening by some twenty kilometers per second, contact persisted as though planet and ship were motionless and separated by a few meters.

He said nothing. He clamped shut. He was merely testing the principle of communication; he was not actively communicating.

Out beyond, eight parsecs away, was Anacreon, the nearest large planet-in their backyard, by Galactic standards. To send a message by the same light-speed system that

had just worked for Terminus - and to receive an answer as well-would take fifty-two years.

Reach for Anacreon! Think Anacreon! Think it as clearly as you can. You know its position relative to Terminus and the Galactic core; you've studied its planetography and history; you've solved military problems where it was necessary to recapture Anacreon (in the impossible case - these days-that it was taken by an enemy).

Space! You've been on Anacreon.

Picture it! Picture it! You will sense being on it via hyper-relay.

Nothing! His nerve endings quivered and came to rest nowhere.

Trevize pulled loose. "There's no hyper-relay on board the Far Star, Janov. I'm positive. -And if I hadn't followed your suggestion, I wonder how long it would have taken me to reach this point."

Pelorat, without moving a facial muscle, positively glowed. "I'm so pleased to have been of help. Does this mean we jump?"

"No, we still wait two more days, to be safe. We have to get away from mass, remember? -Ordinarily, considering that I have a new and untried ship with which I am thoroughly unacquainted, it would probably take me two days to calculate the exact procedure - the proper hyperthrust for the first jump, in particular. I have a feeling, though, the computer will do it all."

"Dear me! That leaves us facing a rather boring stretch of time, it seems to me."

"Boring?" Trevize smiled broadly. "Anything but! You and I, Janov, are going to talk about Earth."

Pelorat said, "Indeed? You are trying to please an old man? That is kind of you. Really it is."

"Nonsense! I'm trying to please myself. Janov, you have made a convert. As a result of what you have told me, I realize that Earth is the most important and the most devouringly interesting object in the Universe."

It must surely have struck Trevize at the moment that Pelorat had presented his view of Earth. It was only because his mind was reverberating with the problem of the hyper-relay that he hadn't responded at once. And the instant the problem had gone, he had responded.

Perhaps the one statement of Hari Seldon's that was most often repeated was his remark concerning the Second Foundation being "at the other end of the Galaxy" from Terminus. Seldon had even named the spot. It was to be "at Star's End."

This had been included in Gaal Dornick's account of the day of the trial before the Imperial court. "The other end of the Galaxy" - those were the words Seldon had used to Dornick and ever since that day their significance had been debated.

What was it that connected one end of the Galaxy with "the other end"? Was it a straight line, a spiral, a circle, or what?

And now, luminously, it was suddenly clear to Trevize that it was no line and no curve that should-or could-be drawn on the map of the Galaxy. It was more subtle than that.

It was perfectly clear that the one end of the Galaxy was Terminus. It was at the edge of the Galaxy, yes-our Foundation's edge -which gave the word "end" a literal meaning. It was, however, also the newest world of the Galaxy at the time Seldon was speaking, a world that was about to be founded, that had not as yet been in existence for a single moment.

What would be the other end of the Galaxy, in that light? The other Foundation's edge? Why, the oldest world of the Galaxy? And according to the argument Pelorat had presented-without knowing what he was presenting-that could only be Earth. The Second Foundation might well be on Earth.

Yet Seldon had said the other end of the Galaxy was "at Star's End." Who could say he was not speaking metaphorically? Trace the history of humanity backward as Pelorat did and the line would stretch back from each planetary system, each star that shone down on an inhabited planet, to some other planetary system, some other star from which the first migrants had come, then back to a star before that-until finally, all the lines stretched back to the planet on which humanity had originated. It was the star that shone upon Earth that was "Star's End:"

Trevize smiled and said almost lovingly, "Tell me more about Earth, Janov."

Pelorat shook his head. "I have told you all there is, really. We will find out more on Trantor."

Trevize said, "No, we won't, Janov. We'll find out nothing there. Why? Because we're not going to Trantor. I control this ship and I assure you we're not."

Pelorat's mouth fell open. He struggled for breath for a moment and then said, woebegone, "Oh, my dear fellow!"

Trevize said, "Come on, Janov. Don't look like that. We're going to find Earth."

"But it's only on Trantor that - "

"No, it's not. Trantor is just someplace you can study brittle films and dusty documents and turn brittle and dusty yourself."

"For decades, I've dreamed-"

"You've dreamed of finding Earth."

"But it's only-"

Trevize stood up, leaned over, caught the slack of Pelorat's tunic, and said, "Don't repeat that, Professor. Don't repeat it. When you first told me we were going to look for Earth, before ever we got onto this ship, you said we were sure to find it because, and I quote your own words, 'I have an excellent possibility in mind: Now I don't ever want to hear you say 'Trantor' again. I just want you to tell me about this excellent possibility.'"

"But it must be confirmed. So far, it's only a thought, a hope, a vague possibility."

"Good! Tell me about it!"

"You don't understand. You simply don't understand. It is not a field in which anyone but myself has done research. There is nothing historical, nothing firm, nothing

real. People talk about Earth as though it's a fact, and also as though it's a myth. There are a million contradictory tales-

"Well then, what has your research consisted of?"

"I've been forced to collect every tale, every bit of supposed history, every legend, every misty myth. Even fiction. Anything that includes the name of Earth or the idea of a planet of origin. For over thirty years, I've been collecting everything I could find from every planet of the Galaxy. Now if I could only get something more reliable than all of these from the Galactic Library at- But you don't want me to say the word."

"That's right. Don't say it. Tell me instead that one of these items has caught your attention, and tell me your reasons for thinking why it, of them all, should be legitimate."

Pelorat shook his head. "There, Golan, if you will excuse my saying so, you talk like a soldier or a politician. That is not the way history works."

Trevize took a deep breath and kept his temper. "Tell me how it works, Janov. We've got two days. Educate me."

"You can't rely on any one myth or even on any one group. I've had to gather them all, analyze them, organize them, set up symbols to represent different aspects of their content-tales of impossible weather, astronomic details of planetary systems at variance with what actually exists, place of origin of culture heroes specifically stated not to be native, quite literally hundreds of other items. No use going through the entire list. Even two days wouldn't be enough. I spent over thirty years, I tell you."

"I then worked up a computer program that searched through all these myths for common components and sought a transformation that would eliminate the true impossibilities. Gradually I worked up a model of what Earth must have been like. After all, if human beings all originated on a single planet, that single planet must represent the one fact that all origin myths, all culture-hero tales, have in common. -Well, do you want me to go into mathematical detail?"

Trevize said, "Not at the moment, thank you, but how do you know you won't be misled by your mathematics? We know for a fact that Terminus was founded only five centuries ago and that the first human beings arrived as a colony from Trantor but had been assembled from dozens-if not hundreds-of other worlds. Yet someone who did not know this could assume that Hari Seldon and Salvor Hardin, neither of whom were born on Terminus, came from Earth and that Trantor was really a name that stood for Earth. Certainly, if the Trantor as described in Seldon's time were searched for -a world with all its land surface coated with metal-it would not be found and it might be considered an impossible myth."

Pelorat looked pleased. "I withdraw my earlier remark about soldiers and politicians, my dear fellow. You have a remarkable intuitive sense. Of course, I had to set up controls. I invented a hundred falsities based on distortions of actual history and imitating myths of the type I had collected. I then attempted to incorporate my inventions into the model. One of my inventions was even based on Terminus's early history. The computer rejected them all. Every one. To be sure, that might have meant I simply lacked the fictional talents to make up something reasonable, but I did my best"

"I'm sure you did, Janov. And what did your model tell you about Earth?"

"A number of things of varying degrees of likelihood. A kind of profile. For instance, about 90 percent of the inhabited planets in the Galaxy have rotation periods of between twenty-two and twenty-six Galactic Standard Hours. Well - "

Trevize cut in. "I hope you didn't pay any attention to that, Janov. There's no mystery there. For a planet to be habitable, you don't want it to rotate so quickly that air circulation patterns produce impossibly stormy conditions or so slowly that temperature variation patterns are extreme. It's a property that's self-selective. Human beings prefer to live on planets with suitable characteristics, and then when all habitable planets resemble each other in these characteristics, some say, 'What an amazing coincidence,' when it's not amazing at all and not even a coincidence."

"As a matter of fact," said Pelorat calmly, "that's a well-known phenomenon in social science. In physics, too, I believe-but I'm not a physicist and I'm not certain about that. In any case, it is called the 'anthropic principle: The observer influences the events he observes by the mere act of observing them or by being there to observe them. But the question is: Where is the planet that served as a model? Which planet rotates in precisely one Galactic Standard Day of twenty-four Galactic Standard Hours?"

Trevize looked thoughtful and thrust out his lower lip. "You think that might be Earth? Surely Galactic Standard could have been based on the local characteristics of any world, might it not?"

"Not likely. It's not the human way. Trantor was the capital world of the Galaxy for twelve thousand years-the most populous world for twenty thousand years-yet it did not impose its rotation period of 1.08 Galactic Standard Days on all the Galaxy. And Terminus's rotation period is 0.91 GSD and we don't enforce ours on the planets dominated by us. Every planet makes use of its own private calculations in its own Local Planetary Day system, and for matters of interplanetary importance converts-with the help of computers-back and forth between LPD and GSD. The Galactic Standard Day must come from Earth"

"Why is it a must?"

"For one thing, Earth was once the only inhabited world, so naturally its day and year would be standard and would very likely remain standard out of social inertia as other worlds were populated. Then, too, the model I produced was that of an Earth that rotated on its axis in just twenty-four Galactic Standard Hours and that revolved about its sun in just one Galactic Standard Year."

"Might that not be coincidence?"

Pelorat laughed. "Now it is you who are talking coincidence. Would you care to lay a wager on such a thing happening by coincidence?"

"Well well," muttered Trevize.

"In fact, there's more to it. There's an archaic measure of time that's called the month-"

"I've heard of it."

"It, apparently, about fits the period of revolution of Earth's satellite about Earth. However-"

"Yes?"

"Well, one rather astonishing factor of the model is that the satellite I just mentioned is huge-over one quarter the diameter of the Earth itself."

"Never heard of such a thing, Janov. There isn't a populated planet in the Galaxy with a satellite like that."

"But that's good," said Pelorat with animation. "If Earth is a unique world in its production of variegated species and the evolution of intelligence, then we want some physical uniqueness."

"But what could a large satellite have to do with variegated species, intelligence, and all that?"

"Well now, there you hit a difficulty. I don't really know. But it's worth examination, don't you think?"

Trevize rose to his feet and folded his arms across his chest. "But what's the problem, then? Look up the statistics on inhabited planets and find one that has a period of rotation and of revolution that are exactly one Galactic Standard Day and one Galactic Standard Year in length, respectively. And if it also has a gigantic satellite, you'd have what you want. I presume, from your statement that you 'have an excellent possibility in mind,' that you've done just this, and that you have your world."

Pelorat looked disconcerted. "Well, now, that's not exactly what happened. I did look through the statistics, or at least I had it done by the astronomy department and-well, to put it bluntly, there's no such world."

Trevize sat down again abruptly. "But that means your whole argument falls to the ground."

"Not quite, it seems to me."

"What do you mean, not quite? You produce a model with all sorts of detailed descriptions and you can't find anything that fits. Your model is useless, then. You must start from the beginning."

"No. It just means that the statistics on populated planets are incomplete. After all, there are tens of millions of them and some are very obscure worlds. For instance, there is no good data on the population of nearly half. And concerning six hundred and forty thousand populated worlds there is almost no information other than their names and sometimes the location. Some galactographers have estimated that there may be up to ten thousand inhabited planets that aren't listed at all. The worlds prefer it that way, presumably. During the Imperial Era, it might have helped them avoid taxation."

"And in the centuries that followed," said Trevize cynically. "It might have helped them serve as home bases for pirates, and that might have, on occasion, proved more enriching than ordinary trade."

"I 'wouldn't know about that," said Pelorat doubtfully.

Trevize said, "Just the same, it seems to me that Earth would have to be on the list of inhabited planets, whatever its own desires. It would be the oldest of them all, by

definition, and it could not have been overlooked in the early centuries of Galactic civilization. And once on the list, it would stay on. Surely we could count on social inertia there."

Pelorat hesitated and looked anguished. "Actually, there-there is a planet named Earth on the list of inhabited planets."

Trevize stared. "I'm under the impression that you told me a while ago that Earth was not on the list?"

"As Earth, it is not. There is, however, a planet named Gaia."

"What has that got to do with it? Gahyah?"

"It's spelled GA-I-A. It means 'Earth.' "

"Why should it mean Earth, Janov, any more than anything else? The name is meaningless to me."

Pelorat's ordinarily expressionless face came close to a grimace. "I'm not sure you'll believe this- If I go by my analysis of the myths, there were several different, mutually unintelligible, languages on Earth."

"What?"

"Yes. After all, we have a thousand different ways of speaking across the Galaxy-

"Across the Galaxy, there are certainly dialectical variations, but these are not mutually unintelligible. And even if understanding some of them is a matter of difficulty, we all share Galactic Standard."

"Certainly, but there is constant interstellar travel. What if some world was in isolation for a prolonged period?"

"But you're talking of Earth. A single planet. Where's the isolation?"

"Earth is the planet of origin, don't forget, where humanity must at one time have been primitive beyond imagining. Without interstellar travel, without computers, without technology at all, struggling up from nonhuman ancestors."

"This is so ridiculous."

Pelorat hung his head in embarrassment at that. "There is perhaps no use discussing this, old chap. I never have managed to make it convincing to anyone. My own fault, I'm sure."

Trevize was at once contrite. "Janov, I apologize. I spoke without thinking. These are views, after all, to which I am not accustomed. You have been developing your theories for over thirty years, while I've been introduced to them all at once. You must make allowances. -Look, I'll imagine that we have primitive people on Earth who speak two completely different, mutually unintelligible, languages. "

"Half a dozen, perhaps," said Pelorat diffidently. "Earth may have been divided into several large land masses and it may be that there were, at first, no communications among them. The inhabitants of each land mass might have developed an individual language."

Trevize said with careful gravity, "And on each of these land masses, once they grew cognizant of one another, they might have argued an 'origin Question' and wondered on which one human beings had first arisen from other animals."

"They might very well, Golan. It would be a very natural attitude for them to have."

"And in one of those languages, Gaia means Earth. And the word 'Earth' itself is derived from another one of those languages."

"Yes, yes: "

"And while Galactic Standard is the language that descended from the particular language in which 'Earth' means 'Earth,' the people of Earth for some reason call their planet 'Gala' from another of their languages."

"Exactly! You are indeed quick, Golan."

"But it seems to me that there's no need to make a mystery of this. If Gaia is really Earth, despite the difference in names, then Gala, by your previous argument, ought to have a period of rotation of just one Galactic Day, a period of revolution of just one Galactic Year, and a giant satellite that revolves about it in just one month."

"Yes, it would have to be so."

"Well then, does it or doesn't it fulfill these requirements?"

"Actually I can't say. The information isn't given in the tables."

"Indeed? Well, then, Janov, shall we go to Gaia and time its periods and stare at its satellite?"

"I would like to, Golan," Pelorat hesitated. "The trouble is that the location isn't given exactly, either."

"You mean, all you have is the name and nothing more, and that is your excellent possibility?"

"But that is just why I want to visit the Galactic Library!"

"Well, wait. You say the table doesn't give the location exactly. Does it give any information at all?"

"It lists it in the Sayshell Sector-and adds a question mark."

"Well, then- Janov, don't be downcast. We will go to the Sayshell Sector and somehow we will find Gaia!"

7. FARMER

STOR GENDIBAL JOGGED ALONG THE COUNTRY ROAD OUTSIDE THE UNIVERSITY. It was not common practice for Second Foundationers to venture into the farming world of Trantor. They could do so, certainly, but when they did, they did not venture either far or for long.

Gendibal was an exception and he had, in times past, wondered why. Wondering meant exploring his own mind, something that Speakers, in particular, were encouraged to do. Their minds were at once their weapons and their targets, and they had to keep both offense and defense well honed.

Gendibal had decided, to his own satisfaction, that one reason he was different was because he had come from a planet that was both colder and more massive than the average inhabited planet. When he was brought to Trantor as a boy (through the net that was quietly cast throughout the Galaxy by agents of the Second Foundation on the lookout for talent), he found himself, therefore, in a lighter gravitational field and a delightfully mild climate. Naturally he enjoyed being in the open more than some of the others might.

In his early years on Trantor, he grew conscious of his puny, undersized frame, and he was afraid that settling back into the comfort of a benign world would turn him flabby indeed. He therefore undertook a series of self-developing exercises that had left him still puny in appearance but kept him wiry and with a good wind. Part of his regimen were these long walks and joggings-about which some at the Speaker's Table muttered. Gendibal disregarded their chattering.

He kept his own ways, despite the fact that he was first-generation. All the others at the Table were second- and third-generation, with parents and grandparents who had been Second Foundationers. And they were all older than he, too. What, then, was to be expected but muttering?

By long custom, all minds at the Speaker's Table were open (supposedly altogether, though it was a rare Speaker who didn't maintain a corner of privacy somewhere-in the long run, ineffectively, of course) and Gendibal knew that what they felt was envy. So did they; just as Gendibal knew his own attitude was defensive, overcompensating ambition. And so did they.

Besides (Gendibal's mind reverted to the reasons for his ventures into the hinterland) he had spent his childhood in a whole world-a large and expansive one, with grand and variegated scenery-and in a fertile valley of that world, surrounded by what he believed to be the most beautiful mountain ranges in the Galaxy. They were unbelievably spectacular in the grim winter of that world. He remembered his former world and the glories of a now-distant childhood. He dreamed about it often. How could he bring himself to be confined to a few dozen square miles of ancient architecture?

He looked about disparagingly as he jogged. Trantor was a mild and pleasant world, but it was not a rugged and beautiful one. Though it was a farming world, it was not a fertile planet.

It never had been. Perhaps that, as much as any other factor, had led to its becoming the administrative center of, first, an extensive union of planets and then of a Galactic Empire. There was no strong push to have it be anything else. It wasn't extraordinarily good for anything else.

After the Great Sack, one thing that kept Trantor going was its enormous supply of metal. It was a great mine, supplying half a hundred worlds with cheap alloy steel, aluminum, titanium, copper, magnesium - returning, in this way, what it had collected over thousands of years; depleting its supplies at a rate hundreds of times faster than the original rate of accumulation.

There were still enormous metal supplies available, but they were underground and harder to obtain. The Hamish farmers (who never called themselves "Trantorians," a term they considered ill-omened and which the Second Foundationers therefore reserved for themselves) had grown reluctant to deal with the metal any further. Superstition, undoubtedly.

Foolish of them. The metal that remained underground might well be poisoning the soil and further lowering its fertility. And yet, on the other hand, the population was thinly spread and the land supported them. And there were some sales of metal, always.

Gendibal's eyes roved over the fiat horizon. Trantor was alive geologically, as almost all inhabited planets were, but it had been a hundred million years, at least, since the last major geological mountain-building period had occurred. What uplands existed had been eroded into gentle hills. Indeed, many of them had been leveled during the great metal-coating period of Trantor's history.

Off to the south, well out of sight, was the shore of Capital Bay, and beyond that, the Eastern Ocean, both of which had been re-established after the disruption of the underground cisterns.

To the north were the towers of Galactic University, obscuring the comparatively squat-but-wide Library (most of which was underground), and the remains of the Imperial Palace still farther north.

Immediately on either side were farms, on which there was an occasional building. He passed groups of cattle, goats, chickens-the wide variety of domesticated animals found on any Trantorian farm. None of them paid him any mind.

Gendibal thought casually that anywhere in the Galaxy, on any of the vast number of inhabited worlds, he would see these animals and that on no two worlds would they be exactly alike. He remembered the goats of home and his own tame nanny whom he had once milked. They were much larger and more resolute than the small and philosophical specimens that had been brought to Trantor and established there since the Great Sack. Over the inhabited worlds of the Galaxy, there were varieties of each of these animals, in numbers almost beyond counting, and there was no sophisticate on any world who didn't

swear by his favorite variety, whether for meat, milk, eggs, wool, or anything else they could produce.

As usual, there were no Hamish in view. Gendibal had the feeling that the farmers avoided being seen by those whom they referred to as "scowlers" (a mispronunciation- perhaps deliberately-of the word "scholars" in their dialect). -Superstition, again.

Gendibal glanced up briefly at Trantor's sun. It was quite high in the sky, but its heat was not oppressive. In this location, at this latitude, the warmth saved mild and the cold never bit. (Gendibal ever missed the biting cold sometimes or so he imagined. He had never revisited his native world. Perhaps, he admitted to himself, because he didn't want to be disillusioned.)

He had the pleasant feel of muscles that were sharpened and tightened to keenness and he decided he had jogged just long enough. He settled down to a walk, breathing deeply.

He would be ready for the upcoming Table meeting and for one last push to force a change in policy, a new attitude that would recognize the growing danger from the First Foundation and elsewhere and that would put an end to the fatal reliance on the "perfect" working of the Plan. When would they realize that the very perfection was the surest sign of danger?

Had anyone but himself proposed it, he knew, it would have gone through without trouble. As things stood now, there would be trouble, but it would go through, just the same, for old Shandess was supporting him and would undoubtedly continue to do so. He would not wish to enter the history books as the particular First Speaker under whom the Second Foundation had withered.

Hamish!

Gendibal was startled. He became aware of the distant tendril of mind well before he saw the person. It was Hamish mind-a farmer -coarse and unsubtle. Carefully Gendibal withdrew, leaving a touch so light as to be undetectable. Second Foundation policy was very firm in this respect. The farmers were the unwitting shields of the Second Foundation. They must be left as untouched as possible.

No one who came to Trantor for trade or tourism ever saw anything other than the farmers, plus perhaps a few unimportant scholars living in the past. Remove the farmers or merely tamper with their innocence and the scholars would become more noticeable-with catastrophic results. (That was one of the classic demonstrations which neophytes at the University were expected to work out for themselves. The tremendous Deviations displayed on the Prime Radiant when the farmer minds were even slightly tampered with were astonishing.)

Gendibal saw him. It was a farmer, certainly, Hamish to the core. He was almost a caricature of what a Trantorian farmer should be tall and wide, brown-skinned, roughly dressed, arms bare, dark-haired, dark-eyed, a long ungainly stride. Gendibal felt as though he could smell the barnyard about him. (Not too much scorn, he thought. Preem Palver had not minded playing the role of farmer, when that was necessary to his plans.

Some farmer he was-short and plump and soft. It was his mind that had fooled the teenaged Arkady, never his body.)

The farmer was approaching him, clumping down the road, staring at him openly-something that made Gendibal frown. No Hamish man or woman had ever looked at him in this manner. Even the children ran away and peered from a distance.

Gendibal did not slow his own stride. There would be room enough to pass the other with neither comment nor glance and that would be best. He determined to stay away from the farmer's mind.

Gendibal drifted to one side, but the farmer was not going to have that. He stopped, spread his legs wide, stretched out his large arms as though to block passage, and said, "Ho! Be you scowler?"

Try as he might, Gendibal could not refrain from sensing the wash of pugnacity in the approaching mind. He stopped. It would be impossible to attempt to pass by without conversation and that would be, in itself, a weary task. Used as one was to the swift and subtle interplay of sound and expression and thought and mentality that combined to make up the communication between Second Foundationers, it was wearisome to resort to word combination alone. It was like prying up a boulder by arm and shoulder, with a crowbar lying nearby.

Gendibal said, quietly and with careful lack of emotion, "I am a scholar. Yes."

"Ho! You am a scowler. Don't we speak outlandish now? And cannot I see that you be one or am one?" He ducked his head in a mocking bow. "Being, as you be, small and weazen and pale and upnosed."

"What is it you want of me, Hamishman?" asked Gendibal, unmoved.

"I be titled Rufirant. And Karoll be my previous." His accent became noticeably more Hamish. His r's rolled throatily.

Gendibal said, "What is it you want with me, Karoll Rufirant?"

"And how be you titled, scowler?"

"Does it matter? You may continue to call me 'scholar'."

"If I ask, it matters that I be answered, little up-nosed scowler."

"Well then, I am titled Stor Gendibal and I will now go about my business."

"What be your business?"

Gendibal felt the hair prickling on the back of his neck. There were other minds present. He did not have to turn to know there were three more Hamishmen behind him. Off in the distance, there were others. The farmer smell was strong.

"My business, Karoll Rufirant, is certainly none of yours."

"Say you so?" Rufirant's voice rose. "Mates, he says his business be not ours."

There was a laugh from behind him and a voice sounded. "Right he be, for his business be book-mucking and 'puter-rubbing, and that be naught for true men."

"Whatever my business is," said Gendibal firmly, "I will be about it now."

"And how will you do that, wee scowler?" said Rufirant.

"By passing you."

"You would try? You would not fear arm-stopping?"

"By you and all your mates? Or by you alone?" Gendibal suddenly dropped into thick Hamish dialect. "Art not feared alone?"

Strictly speaking, it was not proper to prod him in this manner, but it would stop a mass attack and that had to be stopped, lest it force a still greater indiscretion on his part.

It worked. Rufirant's expression grew lowering. "If fear there be, bookboy, th'art the one to be full of it. Mates, make room. Stand back and let him pass that he may see if I be feared alane."

Rufirant lifted his great arms and moved them about. Gendibal did not fear the farmer's pugilistic science; but there was always a chance that a goodly blow might land.

Gendibal approached cautiously, working with delicate speed within Rufirant's mind. Not much-just a touch, unfelt-but enough to slow reflexes that crucial notch. Then out, and into all the others, who were now gathering in greater numbers. Gendibal's Speaker mind darted back and forth with virtuosity, never resting in one mind long enough to leave a mark, but just long enough for the detection of something that might be useful.

He approached the farmer catlike, watchful, aware and relieved that no one was making a move to interfere.

Rufirant struck suddenly, but Gendibal saw it in his mind before any muscle had begun to tighten and he stepped to one side. The blow whistled past, with little room to spare. Yet Gendibal still stood there, unshaken. There was a collective sigh from the others.

Gendibal made no attempt to either parry or return a blow. It would be difficult to parry without paralyzing his own arm and to return a blow would be of no use, for the farmer would withstand it without trouble.

He could only maneuver the man as though he were a bull, forcing him to miss. That would serve to break his morale as direct opposition would not.

Bull-like and roaring, Rufirant charged. Gendibal was ready and drifted to one side just sufficiently to allow the farmer to miss his clutch. Again the charge. Again the miss.

Gendibal felt his own breath begin to whistle through his nose. The physical effort was small, but the mental effort of trying to control without controlling was enormously difficult. He could not keep it up long.

He said-as calmly as he could while batting lightly at Rufirant's fear-depressant mechanism, trying to rouse in a minimalist manner what must surely be the farmer's superstitious dread of scholars-"I will now go about my business."

Rufirant's face distorted with rage, but for a moment he did not move. Gendibal could sense his thinking. The little scholar had melted away like magic. Gendibal could feel the other's fear rise and for a moment.

But then the Hamish rage surged higher and drowned the fear.

Rufirant shouted, "Mates! Scowler he dancer. He do duck on nimble toes and scorns the rules of honest Hamish blow-for-blow. Seize him. Hold him. We will trade blow for blow, then. He may be firststriker, gift of me, and I-I will be last-striker."

Gendibal found the gaps among those who now surrounded him. His only chance was to maintain a gap long enough to get through, then to run, trusting to his own wind and to his ability to dull the farmers' will.

Back and forth he dodged, with his mind cramping in effort.

It would not work. There were too many of them and the necessity of abiding within the rules of Trantorian behavior was too constricting.

He felt hands on his arms. He was held.

He would have to interfere with at least a few of the minds. It would be unacceptable and his cancer would be destroyed. But his life-his very life-was at hazard.

How had this happened?

The meeting of the Table was not complete.

It was not the custom to wait if any Speaker were late. Nor, thought Shandess, was the Table in a mood to wait, in any case. Still Gendibal was the youngest and far from sufficiently aware of the fact. He acted as though youth were in itself a virtue and age a matter of negligence on the part of those who should know better. Gendibal was not popular with the other Speakers. He was not, in point of fact, entirely popular with Shandess himself. But popularity was not at issue here.

Delora Delarmi broke in on his reverie. She was looking at him out of wide blue eyes, her round face-with its accustomed air of innocence and friendliness-masking an acute mind (to all but other Second Foundationers of her own rank) and ferocity of concentration.

She said, smiling, "First Speaker, do we wait longer?" (The meeting had not yet been formally called to order so that, strictly speaking, she could open the conversation, though another might have waited for Shandess to speak first by right of his title.)

Shandess looked at her disarmingly, despite the slight breach in courtesy. "Ordinarily we would not, Speaker Delarmi, but since the Table meets precisely to hear Speaker Gendibal, it is suitable to stretch the rules."

"Where is he, First Speaker?"

"That, Speaker Delarmi, I do not know."

Delarmi looked about the rectangle of faces. There was the First Speaker and what should have been eleven other Speakers. -Only twelve. Through five centuries, the Second Foundation had expanded its powers and its duties, but all attempts to expand the Table beyond twelve had failed.

Twelve it had been after Seldon's death, when the second First Speaker (Seldon himself had always been considered as having been the first of the line) had established it, and twelve it still was.

Why twelve? That number divided itself easily into groups of identical size. It was small enough to consult as a whole and large enough to do work in subgroups. More would have been too unwieldy; fewer, too inflexible.

So went the explanations. In fact, no one knew why the number had been chosen-or why it should be immutable. But then, even the Second Foundation could find itself a slave to tradition.

It took Delarmi only a flashing moment to have her mind twiddle the matter as she looked from face to face, and mind to mind, and then, sardonically, at the empty seat-the junior seat.

She was satisfied that there was no sympathy at all with Gendibal. The young man, she had always felt, had all the charm of a centipede and was best treated as one. So far, only his unquestioned ability and talent had kept anyone from openly proposing trial for expulsion. (Only two Speakers had been impeached-but not convicted-in the hemimillennial history of the Second Foundation.)

The obvious contempt, however, of missing a meeting of the Table was worse than many an offense and Delarmi was pleased to sense that the mood for trial had moved forward rather more than a notch.

She said, "First Speaker, if you do not know the whereabouts of Speaker Gendibal, I would be pleased to tell you."

"Yes, Speaker?"

"Who among us does not know that this young man" (she used no honorific in speaking of him, and it was something that everyone noted, of course) "finds business among the Hamish continually? What that business might be, I do not ask, but he is among them now and his concern with them is clearly important enough to take precedence over this Table."

"I believe," said another of the Speakers, "that he merely walks or jogs as a form of physical exercise."

Delarmi smiled again. She enjoyed smiling. It cost her nothing. "The University, the Library, the Palace, and the entire region surrounding these are ours. It is small in comparison with the planet itself, but it contains room enough, I think, for physical exercise. -First Speaker, might we not begin?"

The First Speaker sighed inwardly. He had the full power to keep the Table waiting-or, indeed, to adjourn the meeting until a time when Gendibal was present.

No First Speaker could long function smoothly, however, without at least the passive support of the other Speakers and it was never wise to irritate them. Even Preem Palver had occasionally been forced into cajolery to get his way. -Besides, Gendibal's absence was annoying, even to the First Speaker. The young Speaker might as well learn he was not a law unto himself.

And now, as First Speaker, he did speak first, saying, "We will begin. Speaker Gendibal has presented some startling deductions from Prime Radiant data. He believes that there is some organization that is working to maintain the Seldon Plan more efficiently than we can and that it does so for its own purpose. We must, in his view therefore, learn more about it out of self-defense. You all have been informed of this, and this meeting is to allow you all a chance to question Speaker Gendibal, in order that we may come to some conclusion as to future policy."

It was, in fact, even unnecessary to say this much. Shandess held his mind open, so they all knew. Speaking was a matter of courtesy.

Delarmi looked about swiftly. The other ten seemed content to allow her to take on the role of anti-Gendibal spokesperson. She said, "Yet Gendibal" (again the omission of the honorific) "does not know and cannot say what or who this other organization is."

She phrased it unmistakably as a statement, which skirted the edge of rudeness. It was as much as to say: I can analyze your mind; you need not bother to explain.

The First Speaker recognized the rudeness and made the swift decision to ignore it. "The fact that Speaker Gendibal" (he punctiliously avoided the omission of the honorific and did not even point up the fact by stressing it) "does not know and cannot say what the other organization is, does not mean it does not exist. The people of the First Foundation, through most of their history, knew virtually nothing about us and, in fact, know next to nothing about us now. Do you question our existence?"

"It does not follow," said Delarmi, "that because we are unknown and yet exist, that anything, in order to exist, need only be unknown." And she laughed lightly.

"True enough. That is why Speaker Gendibal's assertion must be examined most carefully. It is based on rigorous mathematical deduction, which I have gone over myself and which I urge you all to consider. It is" (he searched for a cast of mind that best expressed his views) "not unconvincing."

"And this First Founder, Golan Trevize, who hovers in your mind but whom you do not mention?" (Another rudeness and this time the First Speaker flushed a bit.) "What of him?"

The First Speaker said, "It is Speaker Gendibal's thought that this man, Trevize, is the tool-perhaps an unwitting one-of this organization and that we must not ignore him."

"If," said Delarmi, sitting back in her chair and pushing her graying hair backward and out of her eyes, "this organization-whatever it is - exists and if it is dangerously powerful in its mental capabilities and is so hidden, is it likely to be maneuvering so openly by way of someone as noticeable as an exiled Councilman of the First Foundation?"

The First Speaker said gravely, "One would think not. And yet I have noticed something that is most disquieting. I do not understand it." Almost involuntarily he buried the thought in his mind, ashamed that others might see it.

Each of the Speakers noted the mental action and, as was rigorously required, respected the shame. Delarmi did, too, but she did so impatiently. She said, in accordance with the required formula, "May we request that you let us know your thoughts, since we understand and forgive any shame you may feel?"

The First Speaker said, "Like you, I do not see on what grounds one should suppose Councilman Trevize to be a tool of the other organization, or what purpose he could possibly serve if he were. Yet Speaker Gendibal seems sure of it, and one cannot ignore the possible value of intuition in anyone who has qualified for Speaker. I therefore attempted to apply the Plan to Trevize."

"To a single person?" said one of the Speakers in low voiced surprise, and then indicated his contrition at once for having accompanied the question with a thought that was clearly the equivalent of: What a fool!

"To a single person," said the First Speaker, "and you are right. What a fool I am! I know very well that the Plan cannot possibly apply to individuals, not even to small groups of individuals. Nevertheless, I was curious. I extrapolated the Interpersonal Intersections far past the reasonable limits, but I did it in sixteen different ways and chose a region rather than a point. I then made use of all the details we know about Trevize - a Councilman of the First Foundation does not go completely unnoticed-and of the Foundation's Mayor. I then threw it all together, rather higgledy-piggledy, I'm afraid." He paused.

"Well?" said Delarmi. "I gather you- Were the results surprising?"

"There weren't any results, as you might all expect," said the First Speaker.

"Nothing can be done with a single individual, and yet-and yet-"

"And yet?"

"I have spent forty years analyzing results and I have grown used to obtaining a clear feeling of what the results would be before they were analyzed-and I have rarely been mistaken. In this case, even though there were no results, I developed the strong feeling that Gendibal was right and that Trevize should not be left to himself."

"Why not, First Speaker?" asked Delarmi, clearly taken aback at the strong feeling in the First Speaker's mind.

"I am ashamed," said the First Speaker, "that I have let myself be tempted into using the Plan for a purpose for which it is not fit. I am further ashamed now that I am allowing myself to be influenced by something that is purely intuitive. -Yet I must, for I feel this very strongly. If Speaker Gendibal is right-if we are in danger from an unknown direction-then I feel that when the time comes that our affairs are at a crisis, it will be Trevize who will hold and play the deciding card."

"On what basis do you feel this?" said Delarmi, shocked.

First Speaker Shandess looked about the table miserably, "I have no basis. The psychohistorical mathematics produces nothing, but as I watched the interplay of relationships, it seemed to me that Trevize is the key to everything. Attention must be paid to this young man."

Gendibal knew that he would not get back in time to join the meeting of the Table. It might be that he would not get back at all.

He was held firmly and he tested desperately about him to see how he could best manage to force them to release him.

Rufirant stood before him now, exultant. "Be you ready now, scowler? Blow for blow, strike for strike, Hamish-fashion. Come then, art the smaller; strike then first."

Gendibal said, "Will someone hold thee, then, as I be held?"

Rufirant said, "Let him go. Nah nah. His arms alane. Leave arms free, but hold legs strong. We want no dancing."

Gendibal felt himself pinned to the ground. His arms were free.

"Strike, scowler," said Rufirant. "Give us a blow."

And then Gendibal's probing mind found something that answered - indignation, a sense of injustice and pity. He had no choice; he would have to run the risk of outright

strengthening and then improvising on the basis of There was no need! He had not touched this new mind, yet it reacted as he would have wished. Precisely.

He suddenly became aware of a small figure-stocky, with long, tangled black hair and arms thrust outward-careening madly into his field of view and pushing madly at the Hamish farmer.

The figure was that of a woman. Gendibal thought grimly that it was a measure of his tension and preoccupation that he had not noted this till his eyes told him so.

"Karoll Rufirant!" She shrieked at the farmer. "Art bully and coward! Strike for strike, Hamish-fashion? You be two times yon scowler's size. You'll be in more sore danger attacking me. Be there renown in pashing yon poor spalp? There be shame, I'm thinking. It will be a fair heap of finger-pointing and there'll be full saying, 'Yon be Rufirant, renowned baby-smasher.' It'll be laughter, I'm thinking, and no decent Hamishman will be drinking with you-and no decent Hamishwoman will be ought with you."

Rufirant was trying to stem the torrent, warding off the blows she was aiming at him, attempting weakly to answer with a placating, "Now, Sura. Now, Sura."

Gendibal was aware that hands no longer grasped him, that Rufirant no longer glared at him, that the minds of all were no longer concerned with him.

Sura was not concerned with him, either; her fury was concentrated solely on Rufirant. Gendibal, recovering, now looked to take measures to keep that fury alive and to strengthen the uneasy shame flooding Rufirant's mind, and to do both so lightly and skillfully as to leave no mark. Again, there was no need.

The woman said, "All of you back-step. Look here. If it be not sufficient that this Karoll-heap be like giant to this starveling, there must be five or six more of you ally-friends to share in shame and go back to farm with glorious tale of dewing-do in baby-smashing. 'I held the spalp's arm,' you'll say, 'and giant Rufirant-block pashed him in face when he was not to back-strike.' And you'll say, 'But I held his foot, so give me also-glory.' And Rufirant-chunk will say, 'I could not have kiln on his lane, so my furrow-mates pinned him and, with help of all six, I gloried on him.'"

"But Sura," said Rufirant, almost whining, "I told scowler he might have first-shrike."

"And fearful you were of the mighty blows of his thin arms, not so, Rufirant thickhead. Come. Let him go where he be going, and the rest of you to your homes back-crawl, if so be those homes will still find a welcome-making for you. You had all best hope the grand deeds of this day be forgotten. And they will not be, for I be spreading them far-wide, if you do make me any the more fiercely raging than I be raging now."

They trooped off quietly, heads hanging, not looking back.

Gendibal stared after them, then back at the woman. She was dressed in blouse and trousers, with roughmade shoes on her feet. Her face was wet with perspiration and she breathed heavily. Her nose was rather large, her breasts heavy (as best Gendibal could tell through the looseness of her blouse), and her bare arms muscular. -But then, the Hamishwomen worked in the fields beside their men.

She was looking at him sternly, arms akimbo. "Well, scowler, why be lagging? Go on to Place of Scowlers. Be you feared? Shall I company you?"

Gendibal could smell the perspiration on clothes that were clearly not freshly laundered, but under the circumstances it would be most discourteous to show any repulsion.

"I thank you, Miss Sura-

"The name be Novi," she said gruffly. "Sura Novi. You may say Novi. It be unneeded to moresay."

"I thank you, Novi. You have been very helpful. You be welcome to company me, not for fear o€ mine but for company-pleasure in you." And he bowed gracefully, as he might have bowed to one of the young women at the University.

Novi flushed, seemed uncertain, and then tried to imitate his gesture. "Pleasure-be mine," she said, as though searching for words that would adequately express her pleasure and lend an air of culture.

They walked together. Gendibal knew well that each leisurely step made him the more unforgiveably late for the Table meeting, but by now he had had a chance to think on the significance of what had taken place and he was icily content to let the lateness grow.

The University buildings were looming ahead of them when Sura Novi stopped and said hesitantly, "Master Scowler?"

Apparently, Gendibal thought, as she approached what she called the "Place of Scowlers," she grew mare polite. He had a momentary urge to say, "Address you not yon poor spalp?" -But that would embarrass her beyond reason.

"Yes, Novi?"

"Be it very fine like and rich in Place of Scowlers?"

"It's nice," said Gendibal.

"I once dreamed I be in Place. And-and I be scowler."

"Someday," said Gendibal politely, "I'll show it thee."

Her look at him showed plainly she didn't take it for mere politeness. She said, "I can write. I be taught by schoolmaster. If I write letter to thee," she tried to make it casual, "how do I mark it so it come to thee?"

"Just say, 'Speaker's House, Apartment 27,' and it will come to me. But I must go, Novi."

He bowed again, and again she tried to imitate the action. They moved off in opposite directions and Gendibal promptly put her out of his mind. He thought instead of the Table meeting and, in particular, of Speaker Delora Delarmi. His thoughts were not gentle.

8. FARMWOMAN

THE SPEAKERS SAT ABOUT THE TABLE, FROZEN IN THEIR MENTAL shielding. It was as though all-with one accord-had hidden their minds to avoid irrevocable insult to the First Speaker after his statement concerning Trevize. Surreptitiously they glanced toward Delarmi and even that gave away much. Of them all, she was best known for her irreverence -Even Gendibal paid more lip service to convention.

Delarmi was aware of the glances and she knew that she had no choice but to face up to this impossible situation. In fact, she did not want to duck the issue. In all the history of the Second Foundation, no First Speaker had ever been impeached for misanalysis (and behind the term, which she had invented as cover-up, was the unacknowledged incompetence). Such impeachment now became possible. She would not hang back.

"First Speaker!" she said softly, her thin, colorless lips more nearly invisible than usual in the general whiteness of her face. "You yourself say you have no basis for your opinion, that the psychohistorical mathematics show nothing. Do you ask us to base a crucial decision on a mystical feeling?"

The First Speaker looked up, his forehead corrugated. He was aware of the universal shielding at the Table. He knew what it meant. He said coldly, "I do not hide the lack of evidence. I present you with nothing falsely. What I offer is the strongly intuitive feeling of a First Speaker, one with decades of experience who has spent nearly a lifetime in the close analysis of the Seldon Plan." He looked about him with a proud rigidity he rarely displayed, and one by one the mental shields softened and dropped. Delarmi's (when he turned to stare at her) was the last.

She said, with a disarming frankness that filled her mind as though nothing else had ever been there, "I accept your statement, of course, First Speaker. Nevertheless, I think you might perhaps want to reconsider. As you think about it now, having already expressed shame at having to fall back on intuition, would you wish your remarks to be stricken from the record if, in your judgment they should be-"

And Gendibal's voice cut in. "What are these remarks that should be stricken from the record?"

Every pair of eyes turned in unison. Had their shields not been up during the crucial moments before, they would have been aware of his approach long before he was at the door.

"All shields up a moment ago? All unaware of my entrance?" said Gendibal sardonically. "What a commonplace meeting of the Table we have here. Was no one on their guard for my coming? Or did you all fully expect that I would not arrive?"

This outburst was a flagrant violation of all standards. For Gendibal to arrive late was bad enough. For him to then enter unannounced was worse. For him to speak before the First Speaker had acknowledged his attendance was worst of all.

The First Speaker turned to him. All else was superceded. The question of discipline came first.

"Speaker Gendibal," he said, "you are late. You arrive unannounced. You speak. Is there any reason why you should not be suspended from your seat for thirty days?"

"Of course. The move for suspension should not be considered until first we consider who it was that made it certain I would be late-and why." Gendibal's words were cool and measured, but his mind clothed his thoughts with anger and he did not care who sensed it.

Certainly Delarmi sensed it. She said forcefully, "This man is mad."

"Mad? This woman is mad to say so. Or aware of guilt. -First Speaker, I address myself to you and move a point of personal privilege," said Gendibal.

"Personal privilege of what nature, Speaker?"

"First Speaker, I accuse someone here of attempted murder."

The room exploded as every Speaker rose to his or her feet in a simultaneous babble of words, expression, and mentality.

The First Speaker raised his arms. He cried, "The Speaker must have his chance to express his point of personal privilege." He found himself forced to intensify his authority, mentally, in a manner most inappropriate to the place-yet there was no choice.

The babble quieted.

Gendibal waited unmoved until the silence was both audibly and mentally profound. He said, "On my way here, moving along a Hamish road at a distance and approaching at a speed that would have easily assured my arrival in good time for the meeting, I was stopped by several farmers and narrowly escaped being beaten, perhaps being killed. As it was, I was delayed and have but just arrived. May I point out, to begin with, that I know of no instance since the Great Sack that a Second Foundationer has been spoken to disrespectfully-let alone manhandled-by one of these Hamish people."

"Nor do I," said the First Speaker.

Delarmi cried out, "Second Foundationers do not habitually walk alone in Hamish territory! You invite this by doing so?"

"It is true," said Gendibal, "that I habitually walk alone in Hamish territory. I have walked there hundreds of times in every direction. Yet I have never been accosted before. Others do not walk with the freedom that I do, but no one exiles himself from the world or imprisons himself in the University and no one has ever been accosted. I recall occasions when Delarmi-" and then, as though remembering the honorific too late, he deliberately converted it into a deadly insult. "I mean to say, I recall when Speakeress Delarmi was in Hamish territory, at one time or another, and yet she was not accosted."

"Perhaps," said Delarmi, with eyes widened into a glare, "because I did not speak to them first and because I maintained my distance. Because I behaved as though I deserved respect, I was accorded it."

"Strange," said Gendibal, "and I was about to say that it was because you presented a more formidable appearance than I did. After all, few dare approach you even here. -But tell me, why should it be that of all times for interference, the Hamish

would choose this day to face me, when I am to attend an important meeting of the Table?"

"If it were not because of your behavior, then it must 'have been chance," said Delarmi. "I have not heard that even all of Seldon's mathematics has removed the role of chance from the Galaxy - certainly not in the case of individual events. Or are you, too, speaking from intuitional inspiration?" (There was a soft mental sigh from one or two Speakers at this sideways thrust at the First Speaker.)

"It was not my behavior. It was not chance. It was deliberate interference," said Gendibal.

"How can we know that?" asked the First Speaker gently. He could not help but soften toward Gendibal as a result of Delarmi's last remark.

"My mind is open to you, First Speaker. I give you-and all the Table-my memory of events."

The transfer took but a few moments. The First Speaker said, "Shocking! You behaved very well, Speaker, under circumstances of considerable pressure. I agree that the Hamish behavior is anomalous and warrants investigation. In the meantime, please join our meeting-"

"A moments" cut in Delarmi. "How certain are we that the Speaker's account is accurate?"

Gendibal's nostrils flared at the insult, but he retained his level composure. "My mind is open:"

"I have known open minds that were not open."

"I have no doubt of that, Speaker," said Gendibal, "since you, like the rest of us, must keep your own mind under inspection at all times. My mind, when open, however, is open."

The First Speaker said, "Let us have no further-"

"A point of personal privilege, First Speaker, with apologies for the interruption," said Delarmi.

"Personal privilege of what nature, Speaker?"

"Speaker Gendibal has accused one of us of attempted murder, presumably by instigating the farmer to attack him. As long as the accusation is not withdrawn, I must be viewed as a possible murderer, as would every person in this room-including you, First Speaker."

The First Speaker said, "Would you withdraw the accusation, Speaker Gendibal?"

Gendibal took his seat and put his hands down upon its arms, gripping them tightly, as though taking ownership of it, and said, "I will do so, as soon as someone explains why a Hamish farmer, rallying several others, should deliberately set out to delay me on my way to this meeting."

"A thousand reasons, perhaps," said the First Speaker. "I repeat that this event will be investigated. Will you, for now, Speaker Gendibal, and in the interest of continuing the present discussion, withdraw your accusation?"

"I cannot, First Speaker. I spent long minutes trying, as delicately as I might, to search his mind for ways to alter his behavior without damage and failed. His mind lacked the give it should have had. His emotions were fixed, as though by an outside mind."

Delarmi said with a sudden little smile, "And you think one of us was the outside mind? Might it not have been your mysterious organization that is competing with us, that is more powerful than we are?"

"It might," said Gendibal.

"In that case, we-who are not members of this organization that only you know of-are not guilty and you should withdraw your accusation. Or can it be that you are accusing someone here of being under the control of this strange organization? Perhaps one of us here is not quite what he or she seems?"

"Perhaps," said Gendibal stolidly, quite aware that Delarmi was feeding him rope with a noose at the end of it.

"It might seem," said Delarmi, reaching the noose and preparing to tighten it, "that your dream of a secret, unknown, hidden, mysterious organization is a nightmare of paranoia. It would fit in with your paranoid fantasy that Hamish farmers are being influenced, that Speakers are under hidden control. I am willing, however, to follow this peculiar thought line of yours for a while longer. Which of us here, Speaker, do you think is under control? Might it be me?"

Gendibal said, "I would not think so, Speaker. If you were attempting to rid yourself of me in so indirect a manner, you would not so openly advertise your dislike for me."

"A double-double-cross, perhaps?" said Delarmi. She was virtually purring. "That would be a common conclusion in a paranoid fantasy."

"So it might be. You are more experienced in such matters than I."

Speaker Lestim Gianni interrupted hotly. "See here, Speaker Gendibal, if you are exonerating Speaker Delarmi, you are directing your accusations the more tightly at the rest of us. What grounds would any of us have to delay your presence at this meeting, let alone wish you dead?"

Gendibal answered quickly, as though he had been waiting for the question. "When I entered, the point under discussion was the striking of remarks from the record, remarks made by the First Speaker. I was the only Speaker not in a position to hear those remarks. Let me know what they were and I rather think I will tell you the motive for delaying me."

The First Speaker said, "I had stated-and it was something to which Speaker Delarmi and others took serious exception-that I had decided, on the basis of intuition and of a most inappropriate use of psychohistorical mathematics, that the entire future of the Plan may rest on the exile of First Founder Golan Trevize:"

Gendibal said, "What other Speakers may think is up to them. For my part, I agree with this hypothesis. Trevize is the key. I find his sudden ejection by the First Foundation too curious to be innocent."

Delarmi said, "Would you care to say, Speaker Gendibal, that Trevize is in the grip of this mystery organization-or that the people who exiled him are? Is perhaps everyone and everything in their control except you and the First Speaker-and me, whom you have declared to be uncontrolled?"

Gendibal said, "These ravings require no answer. Instead let me ask if there is any Speaker here who would like to express agreement on this matter with the First Speaker and myself? You have read, I presume, the mathematical treatment that I have, with the First Speaker's approval, circulated among you."

There was silence.

"I repeat my request," said Gendibal. "Anyone?"

There was silence.

Gendibal said, "First Speaker, you now have the motive for delaying me."

The First Speaker said, "State it explicitly."

"You have expressed the need to deal with Trevize, with this First Founder. It represents an important initiative in policy and if the Speakers had read my treatment, they would have known in a general way what was in the wind. If, nevertheless, they had unanimously disagreed with you-unanimously-then, by traditional self-limitation, you would have been unable to go forward. If even one Speaker backed you, then you would be able to implement this new policy. I was the one Speaker who would back you, as anyone who had read my treatment would know, and it was necessary that I must, at all costs, be kept from the Table. That trick proved nearly successful, but I am now here and I back the First Speaker. I agree with him and he can, in accordance with tradition, disregard the disagreement of the ten other Speakers."

Delarmi struck the table with her fist. "The implication is that someone knew in advance what the First Speaker would advise, knew in advance that Speaker Gendibal would support it and that all the rest would not-that someone knew what he could not have known. There is the further implication that this initiative is not to the liking of Speaker Gendibal's paranoia-inspired organization and that they are fighting to prevent it and that, therefore, one or more of us is under the control of that organization:"

"The implication is there," agreed Gendibal. "Your analysis is masterly."

"Whom do you accuse?" cried out Delarmi.

"No one. I call upon the First Speaker to take up the matter. It is clear that there is someone in our organization who is working against us. I suggest that everyone working for the Second Foundation should undergo a thorough mental analysis. Everyone, including the Speakers themselves. Even including myself-and the First Speaker."

The meeting of the Table broke up in greater confusion and greater excitement than any on record.

And when the First Speaker finally spoke the phrase of adjournment, Gendibal-without speaking to anyone-made his way back to his room. He knew well that he had not one friend among the Speakers, that even whatever support the First Speaker could give him would be half-hearted at best.

He could not tell whether he feared for himself or for the entire Second Foundation. The taste of doom was sour in his mouth.

Gendibal did not sleep well. His waking thoughts and his sleeping dreams were alike engaged in quarreling with Delora Delarmi. In one passage of one dream, there was even a confusion between her and the Hamish farmer, Rufirant, so that Gendibal found himself facing an out-of-proportion Delarmi advancing upon him with enormous fists and a sweet smile that revealed needlelike teeth.

He finally woke, later than usual, with no sensation of having rested and with the buzzer on his night table in muted action. He turned over to bring his hand down upon the contact.

"Yes? What is it?"

"Speaker!" The voice was that of the floor proctor, rather less than suitably respectful. "A visitor wishes to speak to you:"

"A visitor?" Gendibal punched his appointment schedule and the screen showed nothing before noon. He pushed the time button; it was 8:30 A.m. He said peevishly, "Who in space and time is it?"

"Will not give a name, Speaker." Then, with clear disapproval, "One of these Hamishers, Speaker. Arrived at your invitation." The last sentence was said with even clearer disapproval.

"Let him wait in the reception room till I come down. It will take time."

Gendibal did not hurry. Throughout the morning ablutions, he remained lost in thought. That someone was using the Hamish to hamper his movements made sense-but he would like to know who that someone was. And what was this new intrusion of the Hamish into his very quarters? A complicated trap of some sort?

How in the name of Seldon would a Hamish farmer get into the University? What reason could he advance? What reason could he really have?

For one fleeting moment, Gendibal wondered if he ought to arm himself. He decided against it almost at once, since he felt contemptuously certain of being able to control any single farmer on the University grounds without any danger to himself-and without any unacceptable marking of a Hamish mind.

Gendibal decided he had been too strongly affected by the incident with Karoll Rufirant the day before. -Was it the very farmer, by the way? No longer under the influence, perhaps-of whatever or whoever it was he might well have come to Gendibal to apologize for what he had done and with apprehension of punishment. -But how would Rufirant know where to go? Whom to approach?

Gendibal swung down the corridor resolutely and entered the waiting room. He stopped in astonishment, then fumed to the proctor, who was pretending to be busy in his glass-walled cubicle.

"Proctor, you did not say the visitor was a woman."

The proctor said quietly, "Speaker, I said a Hamisher. You did not ask further."

"Minimal information, Proctor? I must remember that as one of your characteristics." (And he must check to see if the proctor was a Delarmi appointee. And

he must remember, from now on, to note the functionaries who surrounded him, "Lowlies" whom it was too easy to ignore from the height of his still-new Speakership.) "Are any of the conference rooms available?"

The proctor said, "Number 4 is the only one available, Speaker. It will be free for three hours." He glanced briefly at the Hamishwoman, then at Gendibal, with blank innocence.

"We will use Number 4, Proctor, and I would advise you to mind your thoughts." Gendibal struck, not gently, and the proctor's shield closed far too slowly. Gendibal knew well it was beneath his dignity to manhandle a lesser mind, but a person who was incapable of shielding an unpleasant conjecture against a superior ought to learn not to indulge in one. The proctor would have a mild headache for a few hours. It was well deserved.

Her name did not spring immediately to mind and Gendibal was in no mood to delve deeper. She could scarcely expect him to remember, in any case.

He said peevishly, "You are-"

"I be Novi, Master Scowler," she said in what was almost a gasp. "My previous be Sura, but I be called Novi plain."

"Yes. Novi. We met yesterday; I remember now. I have not forgotten that you came to my defense." He could not bring himself to use the Hamish accent on the very University grounds. "Now how did you get here?"

"Master, you said I might write letter. You said, it should say, 'Speaker's House, Apartment 27-' I self-bring it and I show the writing - my own writing, Master." She said it with a kind of bashful pride. "They ask, 'For whom be this writing?' I heared your calling when you said it to that oafish bane-top, Rufirant. I say it be for Stor Gendibal, Master Scowler."

"And they let you pass, Novi? Didn't they ask to see the letter?"

"I be very frightened. I think maybe they feel gentle-sorry. I said, 'Scowler Gendibal promise to show me Place of Scowlers,' and they smile. One of them at gate-door say to other, 'And that not all he be show her.' And they show me where to go, and say not to go elseplace at all or I be thrown out moment-wise."

Gendibal reddened faintly. By Seldon, if he felt the need for Hamish amusement, it would not be in so open a fashion and his choice would have been made more selectively. He looked at the Trantorian woman with an inward shake of his head.

She seemed quite young, younger perhaps than hard work had made her appear. She could not be more than twenty-five, at which age Hamishwomen were usually already married. She wore her dark hair in the braids that signified her to be unmarried-virginal, in fact-and he was not surprised. Her performance yesterday showed her to have enormous talent as a shrew and he doubted that a Hamishman could easily be found who would dare be yoked to her tongue and her ready fist. Nor was her appearance much of an attraction. Though she had gone to pains to make herself look presentable, her face was angular and plain, her hands red and knobby. What he could see of her figure seemed built for endurance rather than for grace.

Her lower lip began to tremble under his scrutiny. He could sense her embarrassment and fright quite plainly and felt pity. She had, indeed, been of use to him yesterday and that was what counted.

He said, in an attempt to be genial and soothing, "So you have come to see the uh-Place of Scholars?"

She opened her dark eyes wide (they were rather fine) and said, "Master, be not ired with me, but I come to be scowler own-self."

"You want to be a scholar?" Gendibal was thunderstruck. "My good woman-"

He paused. How on Trantor could one explain to a completely unsophisticated farmwoman the level of intelligence, training, and mental stamina required to be what Trantorians called a "scowler"?

But Sura Novi drove on fiercely. "I be a writer and a reader. I have read whole books to end and from beginning, too. And I have wish to be scowler. I do not wish to be farmer's wife. I be no person for farm. I will not wed farmer or have farmer children." She lifted her head and said proudly, "I be asked. Many times. I always say, 'Nay! Politely, but 'Nay.'"

Gendibal could see plainly enough that she was lying. She had not been asked, but he kept his face straight. He said, "What will you do with your life if you do not marry?"

Novi brought her hand down on the table, palm flat. "I will be scowler. I not be farmwoman."

"What if I cannot make you a scholar?"

"Then I be nothing and I wait to die. I be nothing in life if I be not a scowler."

For a moment there was the impulse to search her mind and find out the extent of her motivation. But it would be wrong to do so. A Speaker did not amuse one's self by rummaging through the helpless minds of others. There was a code to the science and technique of mental control-mentals-as to other professions. Or there should be. (He was suddenly regretful he had struck out at the proctor.)

He said, "Why not be a farmwoman, Novi?" With a little manipulation, he could make her content with that and manipulate some Hamish lout into being happy to marry her-and she to marry him. It would do no harm. It would be a kindness. -But it was against the law and thus unthinkable.

She said, "I not be. A farmer is a clod. He works with earthlumps, and he becomes earth-lump. If I be farmwoman, I be earthlump, too. I will be timeless to read and write, and I will forget. My head," she put her hand to her temple, "will grow sour and stale. No! A scowler be different. Thoughtful!" (She meant by the word, Gendibal noted, "intelligent" rather than "considerate.")

"A scowler," she said, "live with books and with-with-I forget what they be name-said." She made a gesture as though she were making some sort of vague manipulations that would have meant nothing to Gendibal-if he did not have her mind radiations to guide him.

"Microfilms," he said. "How do you know about microfilms?"

"In books, I read of many things," she said proudly.

Gendibal could no longer fight off the desire to know more. This was an unusual Hamisher; he had never heard of one like this. The Hamish were never recruited, but if Novi were younger, say ten years old.

What a waste? He would not disturb her; he would not disturb her in the least, but of what use was it to be a Speaker if one could not observe unusual minds and learn from them?

He said, "Novi, I want you to sit there for a moment. Be very quiet. Do not say anything. Do not think of saying anything. just think of falling asleep: Do you understand?"

Her fright returned at once, "Why must ' do this, Master?"

"Because I wish to think how you might become a scholar."

After all, no matter what she had read, there was no possible way in which she could know what being a "scholar" truly meant. It was therefore necessary to find out what she thought a scholar was.

Very carefully and with infinite delicacy he probed her mind; sensing without actually touching-like placing one's hand on a polished metal surface without leaving fingerprints. To her a scholar was someone who always read books. She had not the slightest idea of why one read books. For herself to be a scholar-the picture in her mind was that of doing the labor she knew-fetching, carrying, cooking, cleaning, following orders - but on the University grounds where books were available and where she would have time to read them and, very vaguely, "to become learned." What it amounted to was that she wanted to be a servant-his servant.

Gendibal frowned. A Hamishwoman servant-and one who was plain, graceless, uneducated, barely literate. Unthinkable.

He would simply have to divert her. There would have to be some way of adjusting her desires to make her content to be a farmwoman, some way that would leave no mark, some way about which even Delarmi could not complain.

-Or had she been sent by Delarmi? Was all this a complicated plan to lure him into tampering with a Hamish mind, so that he might be caught and impeached?

Ridiculous. He was in danger of growing paranoid. Somewhere in the simple tendrils of her uncomplicated mind, a trickle of mental current needed to be diverted. It would only take a tiny push.

It was against the letter of the law, but it would do no harm and no one would ever notice.

He paused.

Back. Back. Back.

Space! He had almost missed it!

Was he the victim of an illusion?

No! Now that his attention was drawn. to it, he could make it out clearly. There was the tiniest tendril disarrayed-an abnormal disarray. Yet it was so delicate, so ramification-free.

Gendibal emerged from her mind. He said gently, "Novi."

Her eyes focused. She said, "Yes, Master?"

Gendibal said, "You may work with me. I will make you a scholar."

Joyfully, eyes blazing, she said, "Master."

He detected it at once. She was going to throw herself at his feet. He put his hands on her shoulders and held her tightly. "Don't move, Novi. Stay where you are. -Stay!"

He might have been talking to a half-trained animal. When he could see the order had penetrated, he let her go. He was conscious of the hard muscles along her upper arms.

He said, "If you are to be a scholar, you must behave like one. That means you will have to be always quiet, always soft-spoken, always doing what I tell you to do. And you must try to learn to talk as I do. You will also have to meet other scholars. Will you be afraid?"

"I be not afeared - afraid, Master, if you be with me."

"I wilt be with you. But now, first- I must find you a room, arrange to have you assigned a lavatory, a place in the dining room, and clothes, too. You will have to wear clothes more suitable to a scholar, Novi."

"These be all I-" she began miserably.

"We will supply others."

Clearly he would have to get a woman to arrange for a new supply of clothing for Novi. He would also need someone to teach the Hamisher the rudiments of personal hygiene. After all, though the clothes she wore were probably her best and though she had obviously spruced herself up, she still had a distinct odor that was faintly unpleasant.

And he would have to make sure that the relationship between them was understood. It was always an open secret that the men (and women, too) of the Second Foundation made occasional forays among the Hamish for their pleasure. If there was no interference with Hamish minds in the process, no one dreamed of making a fuss about it. Gendibal himself had never indulged in this, and he liked to think it was because he felt no need for sex that might be coarser and more highly spiced than was available at the University. The women of the Second Foundation might be pallid in comparison to the Hamish, but they were clean and their skins were smooth.

But even if the matter were misunderstood and there were sniggers at a Speaker who not only turned to the Hamish but brought one into his quarters, he would have to endure the embarrassment. As it stood, this farmwoman, Sura Novi, was his key to victory in the inevitable forthcoming duel with Speaker Delarmi and the rest of the Table.

Gendibal did not see Novi again till after dinnertime, at which time she was brought to him by the woman to whom he had endlessly explained the situation-at least, the nonsexual character of the situation. She had understood-or, at least, did not dare show any indication of failure to understand, which was perhaps just as good.

Novi stood before him now, bashful, proud, embarrassed, triumphant - all at once, in an incongruous mixture.

He said, "You look very nice, Novi."

The clothes they had given her fit surprisingly well and there was no question that she did not look at all ludicrous. Had they pinched in her waist? Lifted her breasts? Or had that just been not particularly noticeable in her farmwoman clothing?

Her buttocks were prominent, but not displeasingly so. Her face, of course, remained plain, but when the tan of outdoor life faded and she learned how to care for her complexion, it would not look downright ugly.

By the Old Empire, that woman did think Novi was to be his mistress. She had tried to make her beautiful for him.

And then he thought: Well, why not?

Novi would have to face the Speaker's Table-and the more attractive she seemed, the more easily he would be able to get his point across.

It was with this thought that the message from the First Speaker reached him. It had the kind of appropriateness that was common in a mentalic society. It was called, more or less informally, the "Coincidence Effect." If you think vaguely of someone when someone is thinking vaguely of you, there is a mutual, escalating stimulation which in a matter of seconds makes the two thoughts sharp, decisive, and, to all appearances, simultaneous.

It can be startling even to those who understand it intellectually, particularly if the preliminary vague thoughts were so dim-on one side or the other (or both)-as to have gone consciously unnoticed.

"I can't be with you this evening, Novi," said Gendibal. "I have scholar work to do. I will take you to your room. There will be some books there and you can practice your reading. I will show you how to use the signal if you need help with anything-and I will see you tomorrow."

Gendibal said politely, "First Speaker?"

Shandess merely nodded. He looked dour and fully his age. He looked as though he were a man who did not drink, but who could use a stiff one. He said finally, "I 'called' you-"

"No messenger. I presumed from the direct 'call' that it was important."

"It is. Your quarry-the First Foundationer-Trevize-"

"Yes?"

"He is not coming to Trantor."

Gendibal did not look surprised. "Why should he? The information we received was that he was leaving with a professor of ancient history who was seeking Earth."

"Yes, the legendary Primal Planet. And that is why he should be coming to Trantor. After all, does the professor know where Earth is? Do you? Do I? Can we be sure it exists at all, or ever existed? Surely they would have to come to this Library to obtain the necessary information-if it were to be obtained anywhere. I have until this hour felt that the situation was not at crisis level-that the First Foundationer would come here and that we would, through him, learn what we need to know."

"Which would certainly be the reason he is not allowed to come here."

"But where is he going, then?"

"We have not yet found out, I see."

The First Speaker said pettishly, "You seem calm about it."

Gendibal said, "I wonder if it is not better so. You want him to come to Trantor to keep him safe and use him as a source of information. Will he not, however, prove a source of more important information, involving others still more important than himself, if he goes where he wants to go and does what he wants to do-provided we do not lose sight of him?"

"Not enough!" said the First Speaker. "you have persuaded me of the existence of this new enemy of ours and now I cannot rest. Worse, I have persuaded myself that we must secure Trevize or we have lost everything. I cannot rid myself of the feeling that he-and nothing else-is the key."

Gendibal said intensely, "Whatever happens, we will not lose, First Speaker. That would only have been possible, if these Anti-Mules, to use your phrase again, had continued to burrow beneath us unnoticed. But we know they are there now. We no longer work blind. At the next meeting of the Table, if we can work together, we shall begin the counterattack."

The First Speaker said, "It was not the matter of Trevize that had me send out the call to you. The subject came up first only because it seemed to me a personal defeat. I had misanalyzed that aspect of the situation. I was wrong to place personal pique above general policy and I apologize. There is something else."

"More serious, First Speaker?"

"More serious, Speaker Gendibal." The First Speaker sighed and drummed his fingers on the desk while Gendibal stood patiently before it and waited.

The First Speaker finally said, in a mild way, as though that would ease the blow, "At an emergency meeting of the Table, initiated by Speaker Delarmi-

"Without your consent, First Speaker?"

"For what she wanted, she needed the consent of only three other Speakers, not including myself. At the emergency meeting that was then called, you were impeached, Speaker Gendibal. You have been accused as being unworthy of the post of Speaker and you must be tried. This is the first time in over three centuries that a bill of impeachment has been carried out against a Speaker-"

Gendibal said, fighting to keep down any sign of anger, "Surely you did not vote for my impeachment yourself."

"I did not, but I was alone. The rest of the Table was unanimous and the vote was ten to one for impeachment. The requirement for impeachment, as you know, is eight votes including the First Speaker-or ten without him."

"But T was not present."

"You would not have been able to vote."

"I might have spoken in my defense."

"Not at that stage. The precedents are few, but clear. Your defense will be at the trial, which will come as soon as possible, naturally."

Gendibal bowed his head in thought. Then he said, "This does not concern me overmuch, First Speaker. Your initial instinct, I think, was right. The matter of Trevize takes precedence. May I suggest you delay the trial on that ground?"

The First Speaker held up his hand. "I don't blame you for not understanding the situation, Speaker. Impeachment is so rare an event that I myself have been forced to look up the legal procedures involved. Nothing takes precedence. We are forced to move directly to the trial, postponing everything else."

Gendibal placed his fists on the desk and leaned toward the First Speaker. "You are not serious?"

"It is the law."

"The law can't be allowed to stand in the way of a clear and present danger."

"To the Table, Speaker Gendibal, you are the clear and present danger. -No, listen to me! The law that is involved is based on the conviction that nothing can be more important than the possibility of corruption or the misuse of power on the part of a Speaker."

"But I am guilty of neither, First Speaker, and you knew it. This is a matter of a personal vendetta on the part of Speaker Delarmi. If there is misuse of power, it is on her part. My crime is that I have never labored to make myself popular-I admit that much-and I have paid too little attention to fools who are old enough to be senile but young enough to have power."

"Like myself, Speaker?"

Gendibal sighed. "You see, I've done it again. I don't refer to you, First Speaker. - Very well, then, let us have an instant trial, then. Let us have it tomorrow. Better yet, tonight. Let us get it over with and then pass on to the matter of Trevize. We dare not wait."

The First Speaker said, "Speaker Gendibal. I don't think you understand the situation. We have had impeachments before-not many, just two. Neither of those resulted in a conviction. You, however, will be convicted! You will then no longer be a member of the Table and you will no longer have a say in public policy. You will not, in fact, even have a vote at the annual meeting of the Assembly."

"And you will not act to prevent that?"

"I cannot. I will be voted down unanimously. I will then lie forced to resign, which I think is what the Speakers would like to see."

"And Delarmi will become First Speaker?"

"That is certainly a strong possibility."

"But that must not be allowed to happen!"

"Exactly! Which is why I will have to vote for your conviction."

Gendibal drew a deep breath. "I still demand an instant trial."

"You must have time to prepare your defense."

"What defense? They will listen to no defense. Instant trial!"

"The Table must have time to prepare their case."

"They have no case and will want none. They have me convicted in their minds and will require nothing more. In fact, they would rather convict me tomorrow than the day after-and tonight rather than tomorrow. Put it to them."

The First Speaker rose to his feet. They faced each other across the desk. The First Speaker said, "Why are you in such a hurry?"

"The matter of Trevize will not wait."

"Once you are convicted and I am rendered feeble in the face of a Table united against me, what will have been accomplished?"

Gendibal said in an intense whisper, "Have no fears! Despite everything, I will not be convicted."

9. HYPERSPACE

TREVIZE SAID, "ARE YOU READY, JANOV?"

Pelorat looked up from the book he was viewing and said, "You mean, for the jump, old fellow?"

"For the hyperspatial jump. Yes."

Pelorat swallowed. "Now, you're sure that it will be in no way uncomfortable. I know it is a silly thing to fear, but the thought of having myself reduced to incorporeal tachyons, which no one has ever seen or detected-"

"Come, Janov, it's a perfected thing. Upon my honor! The jump has been in use for twenty-two thousand years, as you explained, and I've never beard of a single fatality in hyperspace. We might come out of hyperspace in an uncomfortable place, but then the accident would happen in space-not while we are composed of tachyons."

"Small consolation, it seems to me."

"We won't come out in error, either. To tell you the truth, I was thinking of carrying it through without telling you, so that you would never know it had happened. On the whole, though, I felt it would be better if you experienced it consciously, saw that it was no problem of any kind, and could forget it totally henceforward."

"Well " said Pelorat dubiously. "I suppose you're right, but honestly I'm in no hurry."

"I assure you-"

"No no, old fellow, I accept your assurances unequivocally. It's just that - Did you ever read Sanerestil Matt?"

"Of course. I'm not illiterate."

"Certainly. Certainly. I should not have asked. Do you remember it?"

"Neither am I an amnesiac."

"I seem to have a talent for offending. All I mean is that I keep thinking of the scenes where Sanerestil and his friend, Ban, have gotten away from Planet 17 and are lost in space. I think of those perfectly hypnotic scenes among the stars, lazily moving along in deep silence, in changelessness, in- Never believed it, you know. I loved it and I was moved by it, but I never really believed it. But now-after I got used to just the notion of being in space, I'm experiencing it and-it's silly, I know-but I don't want to give it up. It's as though I'm Sanerestil-"

"And I'm Ban," said Trevize with just an edge of impatience.

"In a way. The small scattering of dim stars out there are motionless, except our sun, of course, which must be shrinking but which we don't see. The Galaxy retains its dim majesty, unchanging. Space is silent and I have no distractions-"

"Except me."

"Except you. -But then, Golan, dear chap, talking to you about Earth and trying to teach you a bit of prehistory has its pleasures, too. I don't want that to come to an end, either."

"It won't. Not immediately, at any rate. You don't suppose we'll take the jump and come through on the surface of a planet, do you? We'll still be in space and the jump will have taken no measurable time at all. It may well be a week before we make surface of any kind, so do relax."

"By surface, you surely don't mean Gaia. We may be nowhere near Gaia when we come out of the jump."

"I know that, Janov, but we'll be in the right sector, if your information is correct. If it isn't well--"

Pelorat shook his head glumly. "How will being in the right sector help if we don't know Gaia's coordinates?"

Trevize said, "Janov, suppose you were on Terminus, heading for the town of Argyropol, and you didn't know where that town was except that it was somewhere on the isthmus. Once you were on the isthmus, what would you do?"

Pelorat waited cautiously, as though feeling there must be a terribly sophisticated answer expected of him. Finally giving up, he said, "I suppose I'd ask somebody."

"Exactly! What else is there to do? -Now, are you ready?"

"You mean, now?" Pelorat scrambled to his feet, his pleasantly unemotional face coming as near as it might to a look of concern. "What am I supposed to do? Sit? Stand? What?"

"Time and Space, Pelorat, you don't do anything. Just come with me to my room so I can use the computer, then sit or stand or turn cartwheels-whatever will make you most comfortable. My suggestion is that you sit before the viewscreen and watch it. It's sure to be interesting. Come!"

They stepped along the short corridor to Trevize's room and he seated himself at the computer. "Would you like to do this, Janov?" he asked suddenly. "I'll give you the figures and all you do is think them. The computer will do the rest."

Pelorat said, "No thank you. The computer doesn't work well with me, somehow. I know you say I just need practice, but I don't believe that. There's something about your mind, Golan--"

"Don't be foolish."

"No, no. That computer just seems to fit you. You and it seem to be a single organism when you're hooked up. When I'm hooked up, there are two objects involved--Janov Pelorat and a computer. It's just not the same."

"Ridiculous," said Trevize, but he was vaguely pleased at the thought and stroked the hand-rests of the computer with loving fingertips.

"So I'd rather watch," said Pelorat. "I mean, I'd rather it didn't happen at all, but as long as it will, I'd rather watch." He fixed his eyes anxiously on the viewscreen and on the foggy Galaxy with the thin powdering of dim stars in the foreground. "Let me know when it's about to happen." Slowly he backed against the wall and braced himself.

Trevize smiled. He placed his hands on the rests and felt the mental union. It came more easily day by day, and more intimately, too, and however he might scoff at what Pelorat said-he actually felt it. It seemed to him he scarcely needed to think of the coordinates in any conscious way. It almost seemed the computer knew what he wanted, without the conscious process of "telling." It lifted the information out of his brain for itself.

But Trevize "told" it and then asked for a two-minute interval before the jump.

"All right, Janov. We have two minutes: 120 - 115 - 110 Just watch the viewscreen."

Pelorat did, with a slight tightness about the corners of his mouth and with a holding of his breath.

Trevize said softly, "15 - 10 - 5 - 4 - 3 - Z - 1 - o "

With no perceptible motion, no perceptible sensation, the view on the screen changed. There was a distinct thickening of the starfield and the Galaxy vanished.

Pelorat started and said, "Was that it?"

"Was what it? You flinched. But that was your fault. You felt nothing. Admit it."

"I admit it."

"Then that's it. Way back when hyperspatial travel was relatively new - according to the books, anyway-there would be a queer internal sensation and some people felt dizziness or nausea. It was perhaps psychogenic, perhaps not. In any case, with more and more experience with hyperspatiality and with better equipment, that decreased. With a computer like the one on board this vessel, any effect is well below the threshold of sensation. At least, I find it so."

"And I do, too, I must admit. Where are we, Golan?"

"Just a step forward. In the Kalganian region. There's a long way to go yet and before we make another move, we'll have to check the accuracy of the jump."

"What bothers me is-where's the Galaxy?"

"All around us, Janov. We're weal inside it, now. If we focus the viewscreen properly, we can see the more distant parts of it as a luminous band across the sky."

"The Milky Way!" Pelorat cried out joyfully. "Almost every world describes it in their sky, but it's something we don't see on Terminus. Show it to me, old fellow!"

The viewscreen tilted, giving the effect of a swimming of the starfield across it, and then there was a thick, pearly luminosity nearly filling the field. The screen followed it around, as it thinned, then swelled again.

Trevize said, "It's thicker in the direction of the center of the Galaxy. Not as thick or as bright as it might be, however, because of the dark clouds in the spiral arms. You see something like this from most inhabited worlds."

"And from Earth, too."

"That's no distinction. That would not be an identifying characteristic."

"Of course not. But you know- You haven't studied the history of science, have you?"

"Not really, though I've picked up some of it, naturally. Still, if you have questions to ask, don't expect me to be an expert."

"It's just that making this jump has put me in mind of something that has always puzzled me. It's possible to work out a description of the Universe in which hyperspatial travel is impossible and in which the speed of light traveling through a vacuum is the absolute maximum where speed is concerned."

"Certainly."

"Under those conditions, the geometry of the Universe is such that it is impossible to make the trip we have just undertaken in less time than a ray of light would make it. And if we did it at the speed of light, our experience of duration would not match that of the Universe generally. If this spot is, say, forty parsecs from Terminus, then if we had gotten here at the speed of light, we would have felt no time lapse-but on Terminus and in the entire Galaxy, about a hundred and thirty years would have passed. Now we have made a trip, not at the speed of light but at thousands of times the speed of light actually, and there has been no time advance anywhere. At least, I hope not."

Trevize said, "Don't expect me to give you the mathematics of the Olanjen Hyperspatial Theory to you. All I can say is that if you had traveled at the speed of light within normal space, time would indeed have advanced at the rate of 3.26 years per parsec, as you described. The so-called relativistic Universe, which humanity has understood as far back as we can probe inter prehistory-though that's your department, I think-remains, and its laws have not been repealed. In our hyperspatial jumps, however, we do something out side the conditions under which relativity operates and the rules are different. Hyperspatially the Galaxy is a tiny object-ideally a nondimensional dot-and there are no relativistic effects at all.

"In fact, in the mathematical formulations of cosmology, there are two symbols for the Galaxy: Gr for the "relativistic Galaxy," where the speed of light is a maximum, and Gh for the "hyperspatial Galaxy," where speed does not really have a meaning. Hyperspatially the value of all speed is zero and we do not move with reference to space itself, speed is infinite. I can't explain things a bit more than that.

"Oh, except that one of the beautiful catches in theoretical physics is to place a symbol or a value that has meaning in Gr into an equation dealing with G11-or vice versa-and leave it there for a student to deal with. The chances are enormous that the student falls into the trap and generally remains there, sweating and panting, with nothing seeming to work, till some kindly elder helps him out. I was neatly caught that way, once."

Pelorat considered that gravely for a while, then said in a perplexed sort of way, "But which is the true Galaxy?"

"Either, depending on what you're doing. If you're back on Terminus, you can use a car to cover distance on land and a ship to cover distance across the sea. Conditions are different in every way, so which is the true Terminus, the land or the sea?"

Pelorat nodded. "Analogies are always risky," he said, "but I'd rather accept that one than risk my sanity by thinking about hyperspace any further. I'll concentrate on what we're doing now."

"Look upon what we just did," said Trevize, "as our first stop toward Earth."

And, he thought to himself, toward what else, I wonder.

"Well," said Trevize. "I've wasted a day."

"Oh?" Pelorat looked up from his careful indexing. "In what way?"

Trevize spread his arms. "I didn't trust the computer. I didn't dare to, so I checked our present position with the position we had aimed at in the jump. The difference was not measurable. There was no detectable error."

"That's good, isn't it?"

"It's more than good. It's unbelievable. I've never heard of such a thing. I've gone through jumps and I've directed them, in all kinds of ways and with all kinds of devices. In school, I had to work one out with a hand computer and then I sent off a hyper-relay to check results. Naturally I couldn't send a real ship, since-aside from the expense-I could easily have placed it in the middle of a star at the other end.

"I never did anything that bad, of course," Trevize went on, "but there would always be a sizable error. There's always some error, even with experts. There's got to be, since there are so many variables. Put it this way-the geometry of space is too complicated to handle and hyperspace compounds all those complications with a complexity of its own that we can't even pretend to understand. That's why we have to go by steps, instead of making one big jump from here to Sayshell. The errors would grow worse with distance."

Pelorat said, "But you said this computer didn't make an error."

"It said it didn't make an error. I directed it to check our actual position with our precalculated position-'what is' against 'what was asked for.' It said that the two were identical within its limits of measurement and I thought: What if it's lying?"

Until that moment, Pelorat had held his printer in his hand. He now put it down and looked shaken. "Are you joking? A computer can't lie. Unless you mean you thought it might be out of order."

"No, that's not what I thought. Space! I thought it was lying. This computer is so advanced I can't think of it as anything but human - superhuman, maybe. Human enough to have pride-and to lie, perhaps. I gave it directions-to work out a course through hyperspace to a position near Sayshell Planet, the capital of the Sayshell Union. It did, and charted a course in twenty-nine steps, which is arrogance of the worst sort."

"Why arrogance?"

"The error in the first jump makes the second jump that much less certain, and the added error then makes the third jump pretty wobbly and untrustworthy, and so on. How do you calculate twenty-nine steps all at once? The twenty-ninth could end up anywhere in the Galaxy, anywhere at all. So I directed it to make the first step only. Then we could check that before proceeding."

"The cautious approach," said Pelorat warmly. "I approve!"

"Yes, but having made the first step, might the computer not feel wounded at my having mistrusted it? Would it then be forced to salve its pride by telling me there was no

error at all when I asked it? Would it find it impossible to admit a mistake, to own up to imperfection? If that were so, we might as well not have a computer."

Pelorat's long and gentle face saddened. "What can we do in that case, Golan?"

"We can do what I did-waste a day. I checked the position of several of the surrounding stars by the most primitive possible methods: telescopic observation, photography, and manual measurement. I compared each actual position with the position expected if there had been no error. The work of it took me all day and wore me down to nothing."

"Yes, but what happened?"

"I found two whopping errors and checked them over and found them in my calculations. I had made the mistakes myself. I corrected the calculations, then ran them through the computer from scratch-just to see if it would come up with the same answers independently. Except that it worked them out to several more decimal places, it turned out that my figures were right and they showed that the computer had made no errors. The computer may be an arrogant son-of-the-Mule, but it's got something to be arrogant about."

Pelorat exhaled a long breath. "Well, that's good."

"Yes indeed! So I'm going to let it take the other twenty-eight steps."

"All at once? But-"

"Not all at once. Don't worry. I haven't become a daredevil just yet. It will do them one after the other-but after each step it will check the surroundings and, if that is where it is supposed to be within tolerable limits, it can take the next one. Any time it finds the error too great-and, believe me, I didn't set the limits generously at all-it will have to stop and recalculate the remaining steps."

"When are you going to do this?"

"When? Right now. -Look, you're working on indexing your Library-"

"Oh, but this is the chance to do it, Golan. I've been meaning to do it for years, but something always seemed to get in the way."

"I have no objections. You go on and do it and don't worry. Concentrate on the indexing. I'll take care of everything else."

Pelorat shook his head. "Don't be foolish. I can't relax till this is over. I'm scared stiff."

"I shouldn't have told you, then-but I had to tell someone and you're the only one here. Let me explain frankly. There's always the chance that we'll come to rest in a perfect position in interstellar space and that that will happen to be the precise position which a speeding meteoroid is occupying, or a mini-black hole, and the ship is wrecked, and ;we're dead. Such things could-in theory - happen."

"The chances are very small, however. After all, you could be at home, Janov - in your study and working on your films or in your bed sleeping-and a meteroid could be streaking toward you through Terminus's atmosphere and hit you right in the head and you'd be dead. But the chances are small."

"In fact, the chance of intersecting the path of something fatal, but too small for the computer to know about, in the course of a hyperspatial jump is far, far smaller than that of being hit by a meteor in your home. I've never heard of a ship being lost that way in all the history of hyperspatial travel. Any other type of risk-like ending in the middle of a star-is even smaller."

Pelorat said, "Then why do you tell me all this, Golan?"

Trevize paused, then bent his head in thought, and finally said, "I don't know. -Yes, I do. What I suppose it is, is that however small the chance of catastrophe might be, if enough people take enough chances, the catastrophe must happen eventually. No matter how sure I am that nothing will go wrong, there's a small nagging voice inside me that says, 'Maybe it will happen this time.' And it makes me feel guilty. -I guess that's it. Janov, if something goes wrong, forgive me!"

"But Golan, my dear chap, if something goes wrong, we will both be dead instantly. I will not be able to forgive, nor you to receive forgiveness."

"I understand that, so forgive me now, will you?"

Pelorat smiled. "I don't know why, but this cheers me up. There's something pleasantly humorous about it. Of course, Golan, I'll forgive you. There are plenty of myths about some form of afterlife in world literature and if there should happen to be such a place - about the same chance as landing on a mini-black hole, I suppose, or less-and we both turn up in the same one, then I will bear witness that you did your honest best and that my death should not be laid at your door."

"Thank you! Now I'm relieved. I'm willing to take my chance, but I did not enjoy the thought of you taking my chance as well."

Pelorat wrung the other's hand. "You know, Golan, I've only known you less than a week and I suppose I shouldn't make hasty judgments in these matters, but I think you're an excellent chap. -And now let's do it and get it over with."

"Absolutely! All I have to do is touch that little contact. The computer has its instructions and it's just waiting for me to say: 'Starts' Would you like to-"

"Never! It's all yours? It's your computer."

"Very well. And it's my responsibility. I'm still trying to duck it, you see. Keep your eye on the screen!"

With a remarkably steady hand and with his smile looking utterly genuine, Trevize made contact.

There was a momentary pause and then the starfield changed-and again-and again. The stars spread steadily thicker and brighter over the viewscreen.

Pelorat was counting under his breath. At "15" there was a halt, as though some piece of apparatus had jammed.

Pelorat whispered, clearly afraid that any noise might jar the mechanism fatally. "What's wrong? What's happened?"

Trevize shrugged. "I imagine it's recalculating. Some object in space is adding a perceptible bump to the general shape of the overall gravitational field-some object not taken into account-some uncharted dwarf star or rogue planet-"

"Dangerous?"

"Since we're still alive, it's almost certainly not dangerous. A planet could be a hundred million kilometers away and still introduce a large enough gravitational modification to require recalculation. A dwarf star could be ten billion kilometers away and-

The screen shifted again and Trevize fell silent. It shifted again-and again- Finally, when Pelorat said, "a8," there was no further motion.

Trevize consulted the computer. "We're here," he said.

"I counted the first jump as 'r.' and in this series I started with 'z': That's twenty-eight jumps altogether. You said twenty-nine."

"The recalculation at jump i5 probably saved us one jump. I can check with the computer if you wish, but there's really no need. We're in the vicinity of Sayshell Planet. The computer says so and I don't doubt it. If I were to orient the screen properly, we'd see a nice, bright sun, but there's no point in placing a needless strain on its screening capacity. Sayshell Planet is the fourth one out and it's about 3.2 million kilometers away from our present position, which is about as close as we want to be at a jump conclusion. We can get there in three days-two, if we hurry."

Trevize drew a deep breath and tried to let the tension drain.

"Do you realize what this means, Janov?" he said. "Every ship I've ever been in-or heard of-would have made those jumps with at least a day in between for painstaking calculation and re-checking, even with a computer. The trip would have taken nearly a month.

"Or perhaps two or three weeks, if they were willing to be reckless about it. We did it in half an hour. When every ship is equipped with a computer like this one-

Pelorat said, "I wonder why the Mayor let us have a ship this advanced. It must be incredibly expensive."

"It's experimental," said Trevize dryly. "Maybe fine good woman was perfectly willing to have us try it out and see what deficiencies might develop."

"Are you serious?"

"Don't get nervous. After all, there's nothing to worry about. We haven't found any deficiencies. I wouldn't put it past her, though. Such a thing would put no great strain on her sense of humanity. Besides, she hasn't trusted us with offensive weapons and that cuts the expense considerably."

Pelorat said thoughtfully, "It's the computer I'm thinking about. It seems to be adjusted so well for you-and it can't be adjusted that well for everyone. It just barely works with me."

"So much the better for us, that it works so well with one of us."

"Yes, but is that merely chance?"

"What else, Janov?"

"Surely the Mayor knows you pretty well."

"I think she does, the old battlecraft."

"Might she not have had a computer designed particularly for you?"

"I just wonder if we're not going where the computer wants to take us."

Trevize stared. "You mean that while I'm connected to the computer, it is the computer-and not me-who is in real charge?"

"I just wonder."

"That is ridiculous. Paranoid. Come on, Janov."

Trevize turned back to the computer to focus Sayshell Planet on the screen and to plot a normal-space course to it.

Ridiculous!

But why had Pelorat put the notion into his head?

10. TABLE

TWO DAYS HAD PASSED AND GENDIBAL FOUND HIMSELF NOT SO MUCH heavyhearted as enraged. There was no reason why there could not have been an immediate hearing. Had he been unprepared-had he needed time-they would have forced an immediate hearing on him, he was sure.

But since there was nothing more facing the Second Foundation than the greatest crisis since the Mule, they wasted time-and to no purpose but to irritate him.

They did irritate him and, by Seldon, that would make his counterstroke the heavier. He was determined on that.

He looked about him. The anteroom was empty. It had been like that for two days now. He was a marked man, a Speaker whom all knew would-by means of an action unprecedented in the five-century history of the Second Foundation-soon lose his position. He would be demoted to the ranks, demoted to the position of a Second Founder, plain and simple.

It was one thing, however-and a very honored thing-to be a Second Founder of the ranks, particularly if one held a respectable title, as Gendibal might even after the impeachment. It would be quite another thing to have once been a Speaker and to have been demoted.

It won't happen though, thought Gendibal savagely, even though for two days he had been avoided. Only Sura Novi treated him as before, but she was too naive to understand the situation. To her, Gendibal was still "Master."

It irritated Gendibal that he found a certain comfort in this. He felt ashamed when he began to notice that his spirits rose when he noticed her gazing at him worshipfully. Was he becoming grateful for gifts that small?

A clerk emerged from the Chamber to tell him that the Table was ready for him and Gendibal stalked in. The clerk was one Gendibal knew well; he was one who knew-to the tiniest fraction-the precise gradation of civility that each Speaker deserved. At the moment, that accorded Gendibal was appallingly low. Even the clerk thought him as good as convicted.

They were all sitting about the Table gravely, wearing the black robes of judgment. First Speaker Shandess looked a bit uncomfortable, but he did not allow his face to crease into the smallest touch of friendliness. Delarmi - one of the three Speakers who were women-did not even look at him.

The First Speaker said, "Speaker Stor Gendibal, you have been impeached for behaving in a manner unbecoming a Speaker. You have, before us all, accused the Table-vaguely and without evidence-of treason and attempted murder. You have implied that all Second Founders-including the Speakers and the First Speaker-require a thorough mental analysis to ascertain who among them are no longer to be trusted. Such behavior breaks the bonds of community, without which the Second Foundation cannot

control an intricate and potentially hostile Galaxy and without which they cannot build, with surety, a viable Second Empire.

"Since we have all witnessed those offenses, we will forego the presentation of a formal case for the prosecution. We will therefore move directly to the next stage. Speaker Stor Gendibal, do you have a defense?"

Now Delarmi-still not looking at him-allowed herself a small catlike smile.

Gendibal said, "If truth be considered a defense, I have one. There are grounds for suspecting a breach of security. That breach may involve the mental control of one or more Second Foundationers-not excluding members here present-and this has created a deadly crisis for the Second Foundation. If, indeed, you hasten this trial because you cannot waste time, you may all perhaps dimly recognize the seriousness of the crisis, but in that case, why have you wasted two days after I had formally requested an immediate trial? I submit that it is this deadly crisis that has forced me to say what I have said. I would have behaved in a manner unbecoming a Speaker -had I not done so."

"He but repeats the offense, First Speaker," said Delarmi softly.

Gendibal's seat was further removed from the Table than that of the others-a clear demotion already. He pushed it farther back, as though he cared nothing for that, and rose.

He said, "Will you convict me now, out of hand, in defiance of law-or may I present my defense in detail?"

The First Speaker said, "This is not a lawless assemblage, Speaker. Without much in fine way of precedent to guide us, we will lean in your direction, recognizing that if our too-human abilities should cause us to deviate from absolute justice, it is better to allow the guilty to go free than to convict the innocent. Therefore, although the case before us is so grave that we may not lightly allow the guilty to go free, we will permit you to present your case in such manner as you wish and for as long as you require, until it is decided by unanimous vote, including my own" (and he raised his voice at that phrase) "that enough has been heard."

Gendibal said, "Let me begin, then, by saying that Golan Trevize -the First Foundationer who has been driven from Terminus and whom the First Speaker and I believe to be the knife-edge of the gathering crisis has moved off in an unexpected direction."

"Point of information," said Delarmi softly. "How does the speaker" (the intonation clearly indicated that the word was not capitalized) "know this?"

"I was informed of this by the First Speaker," said Gendibal, "but I confirm it of my own knowledge. Under the circumstances, however, considering my suspicions concerning the level of the security of the Chamber, I must be allowed to keep my sources of information secret."

The First Speaker said, "I will suspend judgment on that. Let us proceed without that item of information but if, in the judgment of the Table, the information must be obtained, Speaker Gendibal will have to yield it."

Delarmi said, "If the speaker does not yield the information now, it is only fair to say that I assume he has an agent serving him-an agent who is privately employed by him and who is not responsible to the Table generally. We cannot be sure that such an agent is obeying the rules of behavior governing Second Foundation personnel.

The First Speaker said with some displeasure, "I see all the implications, Speaker Delarmi. There is no need to spell them out for me."

"I merely mention it for the record, First Speaker, since this aggravates the offense and it is not an item mentioned in the bill of impeachment, which, I would like to say, has not been read in full and to which I move this item be added."

"The clerk is directed to add the item," said the First Speaker, "and the precise wording will be adjusted at the appropriate time. -Speaker Gendibal" (he, at least, capitalized) "your defense is indeed a step backward. Continue."

Gendibal said, "Not only has this Trevize moved in an unexpected direction, but at an unprecedented speed. My information, which the First Speaker does not yet have, is that he has traveled nearly ten thousand parsecs in well under an hour."

"In a single jump?" said one of the Speakers incredulously.

"In over two dozen jumps, one after the other, with virtually no time intervening," said Gendibal, "something that is even more difficult to imagine than a single jump. Even if he is now located, it will take time to follow him and, if he detects us and really means to flee us, we will not be able to overtake him. -And you spend your time in games of impeachment and allow two days to pass so that you might savor them the more."

The First Speaker managed to mask his anguish. "Please tell us, Speaker Gendibal, what you think the significance of this might be."

"It is an indication, First Speaker, of the technological advances that are being made by the First Foundation, who are far more powerful now than they were in the time of Preem Palver. We could not stand up against them if they found us and were free to act."

Speaker Delarmi rose to her feet. She said, "First Speaker, our time is being wasted with irrelevancies. We are not children to be frightened with tales by Grandmother Spacewarp. It does not matter how impressive the machinery of the First Foundation is when, in any crisis, their minds will be in our control."

"What do you have to say to that, Speaker Gendibal?" asked the First Speaker.

"Merely that we will come to the matter of minds in due course. For the moment, I merely wish to stress the superior-and increasing technological might of the First Foundation."

The First Speaker said, "Pass on to the next point, Speaker Gendibal. Your first point, I must tell you, does not impress me as very pertinent to the matter contained in the bill of impeachment."

There was a clear gesture of agreement from the Table generally.

Gendibal said, "I pass on. Trevize has a companion in his present journey" (he paused momentarily to consider pronunciation) "one Janov Pelorat, a rather ineffectual scholar who has devoted his life to tracking down myths and legends concerning Earth."

"You know all this about him? Your hidden source, I presume?" said Delarmi, who had settled into her role of prosecutor with a clear feeling of comfort.

"Yes, I know all this about him," said Gendibal stolidly. "A few months ago, the Mayor of Terminus, an energetic and capable woman, grew interested in this scholar for no clear reason, and so I grew interested, too, as a matter of course. Nor have I kept this to myself. All the information I have gained has been made available to the First Speaker."

"I bear witness to that," said the First Speaker in a low voice.

An elderly Speaker said, "What is this Earth? Is it the world of origin we keep coming across in fables? The one they made a fuss about in old Imperial times?"

Gendibal nodded. "In the tales of Grandmother Spacewarp, as Speaker Delarmi would say. -I suspect it was Pelorat's dream to come to Trantor to consult the Galactic Library, in order to find information concerning Earth that he could not obtain in the interstellar library service available on Terminus.

"When he left Terminus with Trevize, he must have been under the impression that that dream was to be fulfilled. Certainly we were expecting the two and counted on having the opportunity to examine them-to our own profit. As it turns out-and as you all know by now-they are not coming. They have turned off to some destination that is not yet clear and for some reason that is not yet known."

Delarmi's round face looked positively cherubic as she said, "And why is this disturbing? We are no worse off for their absence, surely. Indeed, since they dismiss us so easily, we can deduce that the First Foundation does not know the true nature of Trantor and we can applaud the handiwork of Preem Palver."

Gendibal said, "If we thought no further, we might indeed come to such a comforting solution. Could it be, though, that the turnoff was not the result of any failure to see the importance of Trantor? Could it be that the turnoff resulted from anxiety lest Trantor, by examining these two men, see the importance of Earth?"

There was a stir about the Table.

"Anyone," said Delarmi coldly, "can invent formidable-sounding propositions and couch them in balanced sentences. But do they make sense when you do invent them? Why should anyone care what we of the Second Foundation think of Earth? Whether it is the true planet of origin, or whether it is a myth, or whether there is no one place of origin to begin with, is surely something that should interest only historians, anthropologists, and folk-tale collectors, such as this Pelorat of yours. Why us?"

"Why indeed?" said Gendibal. "How is it, then, that there are no references to Earth in the Library?"

For the first time, something in the atmosphere that was other than hostility made itself felt about the Table.

Delarmi said, "Aren't there?"

Gendibal said quite calmly, "When word first reached me that Trevize and Pelorat might be coming here in search of information concerning Earth, I, as a matter of course, had our Library computer make a listing of documents containing such information. I was

mildly interested when it turned up nothing. Not minor quantities. Not very little. -
Nothing?

"But then you insisted I wait for two days before this hearing could take place, and at the same time, my curiosity was further piqued by the news that the First Foundationers were not coming here after all. I had to amuse myself somehow. While the rest of you therefore were, as the saying goes, sipping wine while the house was falling, I went through some history books in my own possession. I came across passages that specifically mentioned some of the investigations on the 'Origin Question' in late-Imperial times. Particular documents-both printed and filmed-were referred to and quoted from. I returned to the Library and made a personal check for those documents. I assure you there was nothing."

Delarmi said, "Even if this is so, it need not be surprising. If Earth is indeed a myth-
"

"Then I would find it in mythological references. If it were a story of Grandmother Spacewarp, I would find it in the collected tales of Grandmother Spacewarp. If it were a figment of the diseased mind, I would find it under psychopathology. The fact is that something about Earth exists or you would not all have heard of it and, indeed, immediately recognized it as the name of the putative planet of origin of the human species. Why, then, is there no reference to it in the Library, anywhere?"

Delarmi was silent for a moment and another Speaker interposed. He was Leonis Cheng, a rather small man with an encyclopedic knowledge of the minutiae of the Seldon Plan and a rather myopic attitude toward the actual Galaxy. His eyes tended to blink rapidly when he spoke.

He said, "It is well known that the Empire in its final days attempted to create an Imperial mystique by soft-pedaling all interest in pre-Imperial times."

Gendibal nodded. "Soft-pedaled is the precise term, Speaker Cheng. That is not equivalent to destroying evidence. As you should know better than anyone, another characteristic of Imperial decay was a sudden interest in earlier-and presumably better-times. I have just referred to the interest in the 'Origin Question' in Hari Seldon's time."

Cheng interrupted with a formidable clearing of the throat. "I know this very well, young man, and know far more of these social problems of Imperial decay than you seem to think I do. The process of 'Imperialization' overtook these dilettantish games concerning Earth. Under Cleon II, during the Empire's last resurgence, two centuries after Seldon, Imperialization reached its peak and all speculation on the question of Earth came to an end. There was even a directive in Cleon's time concerning this, referring to the interest in such things as (and I think I quote it correctly) 'stale and unproductive speculation that tends to undermine the people's love of the Imperial throne'."

Gendibal smiled. "Then it was in the time of Cleon II, Speaker Cheng, that you would place the destruction of all reference to Earth?"

"I draw no conclusions. I have simply stated what I have stated."

"It is shrewd of you to draw no conclusions. By Cleon's time, the Empire may have been resurgent, but the University and Library, at least, were in our hands or, at any rate,

in those of our predecessors. It would have been impossible for any material to be removed from the Library without the Speakers of the Second Foundation knowing it. In fact, it would have been the Speakers to whom the task would have had to be entrusted, though the dying Empire would not have known that."

Gendibal paused, but Cheng, saying nothing, looked over the other's head.

Gendibal said, "It follows that the Library could not have been emptied of material on Earth during Seldon's time, since the 'Origin Question' was then an active preoccupation. It could not have been emptied afterward because the Second Foundation was in charge. Yet the Library is empty of it now. How can this be?"

Delarmi broke in impatiently, "You may stop weaving the dilemma, Gendibal. We see it. What is it that you suggest as a solution? That you have removed the documents yourself?"

"As usual, Delarmi, you penetrate to the heart." And Gendibal bent his head to her in sardonic respect (at which she allowed herself a slight lifting of the lip). "One solution is that the cleansing was done by a Speaker of the Second Foundation, someone who would know how to use curators without leaving a memory behind -and computers without leaving a record behind:"

First Speaker Shandess turned red. "Ridiculous, Speaker Gendibal. I cannot imagine a Speaker doing this. What would the motivation be? Even if, for some reason, the material on Earth were removed, why keep it from the rest of the Table? Why risk a complete destruction of one's career by tampering with the Library when the chances of its being discovered are so great? Besides, I don't think that even the most skillful Speaker could perform the task without leaving a trace."

"Then it must be, First Speaker, that you disagree with Speaker Delarmi in her suggestion that I did it"

"I certainly do," said the First Speaker. "Sometimes I doubt your judgment, but I have yet to consider you downright insane."

"Then it must never have happened, First Speaker. The material on Earth must still be in the Library, for we now seem to have eliminated all the possible ways in which it could have been removed-and yet the material is not there."

Delarmi said with an affectation of weariness, "Well well, let us finish. Again, what is it you suggest as a solution? I am sure you think you have one."

"If you are sure, Speaker, we may all be sure as well. My suggestion is that the Library was cleansed by someone of the Second Foundation who was under the control of a subtle force from outside the Second Foundation. The cleansing went unnoticed because that same force saw to it that it was not noticed."

Delarmi laughed. "Until you found out. You-the uncontrolled. and uncontrollable. If this mysterious force existed, how did you find out about the absence of material from the Library? Why weren't you controlled?"

Gendibal said may feel, as we gravely, "It's not a laughing matter, Speaker. They feel, that all tampering should be held to a minimum. When my life was in danger a few days ago, I was more concerned with refraining from fiddling with a Hamish mind than

with protecting myself. So it might be with these others-as soon as they felt it was safe they ceased tampering. That is the danger, the deadly danger. The fact that I could find out what has happened may mean they no longer care that I do. The fact that they no longer care may mean that they feel they have already won. And we continue to play our games here!"

"But what aim do they have in all this? What conceivable aim?" demanded Delarmi, shuffling her feet and biting her lips. She felt her power fading as the Table grew more interested-concerned.

Gendibal said, "Consider- The First Foundation, with its enormous arsenal of physical power, is searching for Earth. They pretend to send out two exiles, hoping we will think that is all they are, but would they equip them with ships of unbelievable power-ships that can move ten thousand parsecs in less than an hour-if that was all that they were?"

"As for the Second Foundation, we have not been searching for Earth and, clearly, steps have been taken without our knowledge to keep any information of Earth away from us. The First Foundation is now so close to finding Earth and we are so far from doing so, that-"

Gendibal paused and Delarmi said, "That what? Finish your childish tale. Do you know anything or don't you?"

"I don't know everything, Speaker. I have not penetrated the total depth of the web that is encircling us, but I know the web is there. I don't know what the significance of finding Earth might be, but I am certain the Second Foundation is in enormous danger and, with it, the Seldon Plan and the future of all humanity."

Delarmi rose to her feet. She was not smiling and she spoke in a tense but tightly controlled voice. "Trash? First Speaker, put an end to this! What is at issue is the accused's behavior. What he tells us is not only childish but irrelevant. He cannot extenuate his behavior by building a cobwebbery of theories that makes sense only in his own mind. I call for a vote on the matter now-a unanimous vote for conviction."

"Wait," said Gendibal sharply. "I have been told I would have an opportunity to defend myself, and there remains one more item-one more. Let me present that, and you may proceed to a vote with no further objection from me."

The First Speaker rubbed his eyes wearily. "You may continue, Speaker Gendibal. Let me point out to the Table that the conviction of an impeached Speaker is so weighty and, indeed, unprecedented an action that we dare not give the appearance of not allowing a full defense. Remember, too, that even if the verdict satisfies us, it may not satisfy those who come after us, and I cannot believe that a Second Foundationer of any level-let alone the Speakers of the Table-would not have a full appreciation of the importance of historical perspective. Let us so act that we can be certain of the approval of the Speakers who will follow us in the coming centuries."

Delarmi said bitterly, "We run the risk, First Speaker, of having posterity laugh at us for belaboring the obvious. To continue the defense is your decision."

Gendibal drew a deep breath. "In line with your decision, then, First Speaker, I wish to call a witness-a young woman I met three days ago and without whom I might not have reached the Table meeting at all, instead of merely being late."

"Is the woman you speak of known to the Table?" asked the First Speaker.

"No, First Speaker. She is native to this planet."

Delarmi's eyes opened wide. "A Hamishwoman?"

"Indeed! Just so!"

Delarmi said, "What have we to do with one of those? Nothing they say can be of any importance. They don't exist!"

Gendibal's lips drew back tightly over his teeth in something that could not possibly have been mistaken for a smile. He said sharply, "Physically all the Hamish exist. They are human beings and play their part in Seldon's Plan. In their indirect protection of the Second Foundation, they play a crucial part. I wish to dissociate myself from Speaker Delarmi's inhumanity and hope that her remark will be retained in the record and be considered hereafter as evidence for her possible unfitness for the position of Speaker. - Will the rest of the Table agree with the Speaker's incredible remark and deprive me of my witness?"

The First Speaker said, "Call your witness, Speaker."

Gendibal's lips relaxed into the normal expressionless features of a Speaker under pressure. His mind was guarded and fenced in, but behind this protective barrier, he felt that the danger point had passed and that he had won.

Sura Novi looked strained. Her eyes were wide and her lower lip was faintly trembling. Her hands were slowly clenching and unclenching and her chest was heaving slightly. Her hair had been pulled back and braided into a bun; her sun-darkened face twitched now and then. Her hands fumbled at the pleats of her long skirt. She looked hastily around the Table-from Speaker to Speaker-her wide eyes filled with awe.

They glanced back at her with varying degrees of contempt and discomfort. Delarmi kept her eyes well above the top of Novi's head, oblivious to her presence.

Carefully Gendibal touched the skin of her mind, soothing and relaxing it. He might have done the same by patting her hand or stroking her cheek, but here, under these circumstances, that was impossible, of course.

He said, "First Speaker, I am numbing this woman's conscious awareness so that her testimony wilt not be distorted by fear. Will you please observe-will the rest of you, if you wish, join me and observe that I will, in no way, modify her mind?"

Novi had started back in terror at Gendibal's voice, and Gendibal was not surprised at that. He realized that she had never heard Second Foundationers of high rank speak among themselves. She had never experienced that odd swift combination of sound, tone, expression and thought. The terror, however, faded as quickly as it came, as he gentled her mind.

A look of placidity crossed her face.

"There is a chair behind you, Novi," Gendibal said. "Please sit down."

Novi curtsied in a small and clumsy manner and sat down, holding herself stiffly.

She talked quite clearly, but Gendibal made her repeat when her Hamish accent became too thick. And because he kept his own speech formal in deference to the Table, he occasionally had to repeat his own questions to her.

The tale of the fight between himself and Rufirant was described quietly and well.

Gendibal said, "Did you see all this yourself, Novi?"

"Nay, Master, or I would have sooner-stopped it. Rufirant be good fellow, but not quick in head."

"But you described it all. How is that possible if you did not see it all?"

"Rufirant be telling me thereof, on questioning. He be ashamed."

"Ashamed? Have you ever known him to behave in this manner in earlier times?"

"Rufirant? Nay, Master. He be gentle, though he be large. He be no fighter and he be afeared of scowlers. He say often they are mighty and possessed of power."

"Why didn't he feel this way when he met me?"

"It be strange. It be not understood." She shook her head. "He be not his ain self. I said to him, 'Thou blubber-head. Be it your place to assault scowler?' And he said, 'I know not how it happened. It be like I am to one side, standing and watching not-I.'"

Speaker Cheng interrupted. "First Speaker, of what value is it to have this woman report what a man has told her? Is not the man available for questioning?"

Gendibal said, "He is. If, on completion of this woman's testimony, the Table wishes to hear more evidence, I will be ready to call Karoll Rufirant-my recent antagonist-to the stand. If not, the Table can move directly to judgment when I am done with this witness."

"Very well," said the First Speaker. "Proceed with your witness."

Gendibal said, "And you, Novi? Was it like you to interfere in a fight in this manner?"

Novi did not say anything for a moment. A small frown appeared between her thick eyebrows and then disappeared. She said, "I know not. I wish no harm to scowlers. I be, driven, and without thought I iniddled myself." A pause, then., "I be do it over if need arise."

Gendibal said, "Novi, you will sleep now. You will think of nothing. You will rest and you will not even dream."

Novi mumbled for a moment. Her eyes closed and her head fell back against the headrest of her chair.

Gendibal waited a moment, then said, "First Speaker, with respect, follow me into this woman's mind. You will find it remarkably simple and symmetrical, which is fortunate, for what you will see might not have been visible otherwise. -Here-here! Do you observe? -If the rest of you will enter-it will be easier if it is done one at a time."

There was a rising buzz about the Table.

Gendibal said, "Is there any doubt among you?"

Delarmi said, "I doubt it, for-" She paused on the brink of what was-even for her-unsayable.

Gendibal said it for her. "You think I deliberately tampered with this mind in order to present false evidence? You think, therefore, that I am capable of bringing about so delicate an adjustment-one mental fiber clearly out of shape with nothing about it or its surroundings that is in the least disturbed? If I could do that, what need would I have to deal with any of you in this manner? Why subject myself to the indignity of a trial? Why labor to convince you? If I could do what is visible in this woman's mind, you would all be helpless before me unless you were well prepared. -The blunt fact is that none of you could manipulate a mind as this woman's has been manipulated. Neither can I. Yet it has been done."

He paused, looking at all the Speakers in turn, then fixing his gaze on Delarmi. He spoke slowly. "Now, if anything more is required, I will call in the Hamish farmer, Karoll Rufirant, whom I have examined and whose mind has also been tampered with in this manner."

"That will not be necessary," said the First Speaker, who was wearing an appalled expression. "What we have seen is mindshaking."

"In that case," said Gendibal, "may I rouse this Hamishwoman and dismiss her? I have arranged for there to be those outside who will see to her recovery."

When Novi had left, directed by Gendibal's gentle hold on her elbow, he said, "Let me quickly summarize. Minds can be-and have been altered in ways that are beyond our power. In this way, the curators themselves could have been influenced to remove Earth material from the Library-without our knowledge or their own. We see how it was arranged that I should be delayed in arriving at a meeting of the Table. I was threatened; I was rescued. The result was that I was impeached. The result of this apparently natural concatenation of events is that I may be removed from a position of power-and the course of action which I champion and which threatens these people, whoever they are, may be negated."

Delarmi leaned forward. She was clearly shaken. "If this secret organization is so clever, how were you able to discover all this?"

Gendibal felt free to smile, now. "No credit to me," he said. "I lay no claim to expertise superior to that of other Speakers; certainly not to the First Speaker. However, neither are these Anti-Mules-as the First Speaker has rather engagingly called them-infinately wise or infinitely immune to circumstance. Perhaps they chose this particular Hamishwoman as their instrument precisely because she needed very little adjustment. She was, of her own character, sympathetic to what she calls 'scholars,' and admired them intensely.

"But then, once this was over, her momentary contact with me strengthened her fantasy of becoming a 'scholar' herself. She came to me the next day with that purpose in mind. Curious at this peculiar ambition of hers, I studied her mind-which I certainly would not otherwise have done-and, more by accident than anything else, stumbled upon the adjustment and noted its significance. Had another woman been chosen-one with a less natural pro-scholar bias-the Anti-Mules might have had to labor more at the adjustment, but the consequences might well not have followed and I would have remained ignorant

of all this. The Anti-Mules miscalculated-or could not sufficiently allow for the unforeseen. That they can stumble so is heartening."

Delarmi said, "The First Speaker and you call this-organization -the 'Anti-Mules,' I presume, because they seem to labor to keep tile Galaxy in the path of the Seldon Plan, rather than to disrupt it as the Male himself did. If the Anti-Mines do this, why are they dangerous?"

"Why should then labor, if not for some purpose? We don't know what that purpose as. A cynic might say that they intend to step in at some future time and thin the current in another direction, one tat mar please them far more than it would please ifs. That is my own feeling, even though I do riot major in cynicism. Is Speaker Delarmi prepared to maintain, out of the love and trust that we all know form so great a part of her character, that these are cosmic altruists, doing our work for us, without dream of reward?"

There was a gentle susurrantion of laughter about the Table at this and Gendibal knew that he had won. And Delarmi knew that she had lost, for there was a wash of rage that showed through her harsh mentalic control like a momentary ray of ruddy sunlight through a thick canopy of leaves.

Gendibal said, "When I first experienced the incident with the Hamish farmer, I leaped to the conclusion that another Speaker was behind it. When I noted the adjustment of the Hamishwoman's mind, I knew that I was right as to the plot but wrong as to the plotter. I apologize for the misinterpretation and I plead the circumstances as an extenuation."

The First Speaker said, "I believe this may be construed as an apology"

Delarmi interrupted. She was quite placid again-her face was friendly, her voice downright saccharine. "With total respect, First Speaker, if I may interrupt- Let us drop this matter of impeachment. At this moment, I would not vote for conviction and I imagine no one will. I would even suggest the impeachment be stricken from the Speaker's unblemished record. Speaker Gendibal has exonerated himself ably. I congratulate him on that-and for uncovering a crisis that the rest of us might well have allowed to smolder on indefinitely, with incalculable results. I offer the Speaker my wholehearted apologies for my earlier hostility."

She virtually beamed at Gendibal, who felt a reluctant admiration for the manner in which she shifted direction instantly in order to cut her losses. He also felt that all this was but preliminary to an attack from a new direction.

He was certain that what was coming would not be pleasant.

When she exerted herself to be charming, Speaker Delora Delarmi had a way of dominating the Speaker's Table. Her voice grew soft, her smile indulgent, her eyes sparkling, all of her sweet. No one cared to interrupt her and everyone waited for the blow to fall.

She said, "Thanks to Speaker Gendibal, I think we all now understand what we must do. We do not see the Anti-Mules; we know nothing about them, except for their fugitive touches on the minds of people right here in the stronghold of the Second

Foundation itself. We do not know what the power center of the First Foundation is planning. We may face an alliance of the Anti-Mules and the First Foundation. We don't know.

"We do know that this Golan Trevize and his companion, whose name escapes me at the moment, are going we know not where—and that the First Speaker and Gendibal feel that Trevize holds the key to the outcome of this great crisis. What, then, are we to do? Clearly we must find out everything we can about Trevize; where he is going, what he is thinking, what his purpose may be; or, indeed, whether he has any destination, any thought, any purpose; whether he might not, in fact, be a mere tool of a force greater than he. "

Gendibal said, "He is under observation. "

Delarmi pursed her lips in an indulgent smile. "By whom? By one of our outworld agents? Are such agents to be expected to stand against those with the powers we have seen demonstrated here? Surely not. In the Mule's time, and later on, too, the Second Foundation did not hesitate to send out—and even to sacrifice—volunteers from among the best we had, since nothing less would do. When it was necessary to restore the Seldon Plan, Preem Palver himself scoured the Galaxy as a Trantorian trader in order to bring back that girl, Arkady. We cannot sit here and wait, now, when the crisis may be greater than in either previous case. We cannot rely on minor functionaries—watchers and messenger boys. "

Gendibal said, "Surely you are not suggesting that the First Speaker leave Trantor at this time? "

Delarmi said, "Certainly not. We need him badly here. On the other hand, there is you, Speaker Gendibal. It is you who have correctly sensed and weighed the crisis. It is you who detected the subtle outside interference with the Library and with Hamish minds. It is you who have maintained your views against the united opposition of the Table—and won. No one here has seen as clearly as you have and no one can be trusted, as you can, to continue to see clearly. It is you who must, in my opinion, go out to confront the enemy. May I have the sense of the Table? "

There was no formal vote needed to reveal that sense. Each Speaker felt the minds of the others and it was clear to a suddenly appalled Gendibal that, at the moment of his victory and Delarmi's defeat, this formidable woman was managing to send him irrevocably into exile on a task that might occupy him for some indefinite period, while she remained behind to control the Table and, therefore, the Second Foundation and, therefore, the Galaxy—sending all alike, perhaps, to their doom.

And if Gendibal-in-exile should, somehow, manage to gather the information that would enable the Second Foundation to avert the gathering crisis, it would be Delarmi who would have the credit for having arranged it, and his success would but confirm her power. The quicker Gendibal would be, the more efficiently he succeeded, the more surely he would confirm her power.

It was a beautiful maneuver, an unbelievable recovery.

And so clearly was she dominating the Table even now that she was virtually usurping the First Speaker's role. Gendibal's thought to that effect was overtaken by the rage he sensed from the First Speaker.

He turned. The First Speaker was making no effort to hide his anger—and it soon was clear that another internal crisis was building to replace the one that had been resolved.

Quindor Shandess, the twenty-fifth First Speaker, had no extraordinary illusions about himself.

He knew he was not one of those few dynamic First Speakers who had illuminated the five-century-long history of the Second Foundation—but then, he didn't have to be. He controlled the Table in a quiet period of Galactic prosperity and it was not a time for dynamism. It had seemed to be a time to play a holding game and he had been the man for this role. His predecessor had chosen him for that reason.

"You are not an adventurer, you are a scholar, " the twenty-fourth First Speaker had said. "You will preserve the Plan, where an adventurer might ruin it. Preserve! Let that be the key word for your Table. "

He had tried, but it had meant a passive First Speakership and this had been, on occasion, interpreted as weakness. There had been recurrent rumors that he meant to resign and there had been open intrigue to assure the succession in one direction or another.

There was no doubt in Shandess's mind that Delarmi had been a leader in the fight. She was the strongest personality at the Table and even Gendibal, with all the fire and folly of youth, retreated before her, as he was doing right now.

But, by Seldon, passive he might be, or even weak, but there was one prerogative of the First Speaker that not one in the line had ever given up, and neither would he do so.

He rose to speak and at once there was a hush about the Table. 'When the First Speaker rose to speak, there could be no interruptions. Even Delarmi or Gendibal would not dare to interrupt.

He said, "Speakers! I agree that we face a dangerous crisis and that we must take strong measures. It is I who should go out to meet the enemy. Speaker Delarmi, with the gentleness that characterizes her, excuses me from the task by stating that I am needed here. The truth, however, is that I am needed neither here nor there. I grow old; I grow weary. There has long been expectation I would someday resign and perhaps I ought to. When this crisis is successfully surmounted, I shall resign.

"But, of course, it is the privilege of the First Speaker to choose his successor. I am going to do so now. There is one Speaker who has long dominated the proceedings of the Table; one Speaker who, by force of personality, has- often supplied the leadership that I could not. You all know I am speaking of Speaker Delarmi. "

He paused, then said, "You alone, Speaker Gendibal, are registering disapproval. May I ask why? "

He sat down, so that Gendibal might have the right to answer.

"I do not disapprove, First Speaker, " said Gendibal in a low voice. "It is your prerogative to choose your successor. "

"And so I will. 'When you return—having succeeded in initiating the process that will put an end to this crisis—it will be time for my resignation. My successor will then be directly in charge of conducting whatever policies may be required to carry on and complete that process. —Do you have anything to say, Speaker Gendibal? "

Gendibal said quietly, "When you make Speaker Delarmi your successor, First Speaker, I hope you will see fit to advise her to—"

The First Speaker interrupted him roughly. "I have spoken of Speaker Delarmi, but I have not named her as my successor. Now what do you have to say? "

"My apologies, First Speaker. I should have said, assuming you make Speaker Delarmi your successor upon my return from this mission, would you see fit to advise her to—"

"Nor will I make her my successor in the future, under any conditions. Now what do you have to say? "

The First Speaker was unable to make this announcement without a stab of satisfaction at the blow he was delivering to Delarmi. He could not have done it in a more humiliating fashion.

"Well, Speaker Gendibal, " he said, "what do you have to say? "

"That I am confused. "

The First Speaker rose again. He said, "Speaker Delarmi has dominated and led, but that is not all that is needed for the post of First Speaker. Speaker Gendibal has seen what we have not seen. He has faced the united hostility of the Table, and forced it to rethink matters, and has dragged it into agreement with him. I have my suspicions as to the motivation of Speaker Delarmi in placing the responsibility of the pursuit of Golan Trevize on the shoulders of Speaker Gendibal, but that is where the burden belongs. I know he will succeed—I trust my intuition in this—and when he returns, Speaker Gendibal will become the twenty-sixth First Speaker. "

He sat down abruptly and each Speaker began to make clear his opinion in a bedlam of sound, tone, thought, and expression. The First Speaker paid no attention to the cacophony, but stared indifferently before him. Now that it was done, he realized—with some surprise—the great comfort there was in laying down the mantle of responsibility. He should have done it before this—but he couldn't have.

It was not till now that he had found his obvious successor.

And then, somehow, his mind caught that of Delarmi and he looked up at her.

By Seldon! She was calm and smiling. Her desperate disappointment did not show—she had not given up. He wondered if he had played into her hands. 'What was there left for her to do?

Debra Delarmi would freely have shown her desperation and disappointment, if that would have proven of any use whatever.

It would have given her a great deal of satisfaction to strike out at that senile fool who controlled the Table or at that juvenile idiot with whom Fortune had conspired—but satisfaction wasn't what she wanted. She wanted something more.

She wanted to be First Speaker.

And while there was a card left to play, she would play it.

She smiled gently, and managed to lift her hand as though she were about to speak, and then held the pose just long enough to insure that when she did speak, all would be not merely normal, but radiantly quiet.

She said, "First Speaker, as Speaker Gendibal said earlier, I do not disapprove. It is your prerogative to choose your successor. If I speak now, it is in order that I may contribute—I hope—to the success of what has now become Speaker Gendibal's mission. May I explain my thoughts, First Speaker? "

"Do so, " said the First Speaker curtly. She was entirely too smooth, too pliant, it seemed to him.

Delarmi bent her head gravely. She no longer smiled. She said, "We have ships. They are not as technologically magnificent as those of the First Foundation, but they will carry Speaker Gendibal. He knows how to pilot one, I believe, as do we all. We have our representatives on every major planet in the Galaxy, and he will be welcomed everywhere. Moreover, he can defend himself against even these Anti-Mules, now that he is thoroughly aware of the danger. Even when we were unaware, I suspect they have preferred to work through the lower classes and even the Hamish farmers. We will, of course, thoroughly inspect the minds of all the Second Foundationers, including the Speakers, but I am sure they have remained inviolate. The Anti-Mules did not dare interfere with us.

"Nevertheless, there is no reason why Speaker Gendibal should risk more than he must. He is not intending to engage in derring-do and it will be best if his mission is to some extent disguised—if he takes them unaware. It will be useful if he goes in the role of a Hamish trader. Preem Palver, we all know, went off into the Galaxy as a supposed trader. "

The First Speaker said, "Preem Palver had a specific purpose in doing so; Speaker Gendibal has not. If it appears a disguise of some sort is necessary, I am sure he will be ingenious enough to adopt one. "

"With respect, First Speaker, I wish to point out a subtle disguise. Preem Palver, you will remember, took with him his wife and companion of many years. Nothing so thoroughly established the rustic nature of his character as the fact that he was traveling with his wife. It allayed all suspicion. "

Gendibal said, "I have no wife. I have had companions, but none who would now volunteer to assume the marital role. "

"This is well known, Speaker Gendibal, " said Delarmi, "but then people will take the role for granted if any woman is with you. Surely some volunteer can be found. And if you feel the need to be able to present documentary evidence, that can be provided. I think a woman should come with you. "

For a moment, Gendibal was breathless. Surely she did not mean— Could it be a ploy to achieve a share in the success? Could she be playing for a joint—or rotating—occupation of the First Speakership?

Gendibal said grimly, "I am flattered that Speaker Delarmi should feel that she—"

And Delarmi broke into an open laugh and looked at Gendibal with what was almost true affection. He had fallen into the trap and looked foolish for having done so. The Table would not forget that.

She said, "Speaker Gendibal, I would not have the impertinence to attempt to share in this task. It is yours and yours alone, as the post of First Speaker will be yours and yours alone. I would not have thought you wanted me with you. Really, Speaker, at my age, I no longer think of myself as a charmer—"

There were smiles around the Table and even the First Speaker tried to hide one.

Gendibal felt the stroke and labored not to compound the loss by failing to match her lightness. It was labor lost.

He said, as unsavagely as he could, "Then what is it you would suggest? It was not in my thoughts, I assure you, that you would wish to accompany me. You are at your best at the Table and not in the hurly-burly of Galactic affairs, I know. "

"I agree, Speaker Gendibal, I agree, " said Delarmi. "My suggestion, however, refers back to your role as Hamish trader. To make it indisputably authentic, what better companion need you ask but a Hamishwoman? "

"A Hamishwoman? " For a second time in rapid succession, Gendibal was caught by surprise and the Table enjoyed it.

"The Hamishwoman, " Delarmi went on. "The one who saved you from a beating. The one who gazes at you worshipfully. The one whose mind you probed and who then, quite unwittingly, saved you a second time from considerably more than a beating. I suggest you take her. "

Gendibal's impulse was to refuse, but he knew that she expected that. It would mean more enjoyment for the Table. It was clear now that the First Speaker, anxious to strike out at Delarmi, had made a mistake by naming Gendibal his successor—or, at the very least, that Delarmi had quickly converted it into one.

Gendibal was the youngest of the Speakers. He had angered the Table and had then avoided conviction by them. In a very real way, he had humiliated them. None could see him as the heir apparent without resentment.

That would have been hard enough to overcome, but now they would remember how easily Delarmi had twitched him into ridicule and how much they had enjoyed it. She would use that to convince them, all too easily, that he lacked the age and experience for the role of First Speaker. Their united pressure would force the First Speaker into changing his decision while Gendibal was off on his mission. Or, if the First Speaker held fast, Gendibal would eventually find himself with an office that would be forever helpless in the face of united opposition.

He saw it all in an instant and was able to answer as though with out hesitation.-

He said, "Speaker Delarmi, I admire your insight. I had thought to surprise you all. It was indeed my intention to take the Hamishwoman, though not quite for the very good reason you suggest. It was for her mind that I wished to take her with me. You have all examined that mind. You saw it for what it was: surprisingly intelligent but, more than that, clear, simple, utterly without guile. No touch upon it by others would go unnoticed, as I'm sure you all concluded.

"I wonder if it occurred to you, then, Speaker Delarmi, that she would serve as an excellent early-warning system. I would detect the first symptomatic presence of mentalism by way of her mind, earlier, I think, than by way of mine. "

There was a kind of astonished silence at that, and he said, lightly. "Ah, none of you saw that. Well well, not important! And I will take my leave now. There's no time to lose. "

"Wait, " said Delarmi, her initiative lost a third time. "What do you intend to do? "

Gendibal said with a small shrug. "Why go into details? The less the Table knows, the less the Anti-Mules are likely to attempt to disturb it. "

He said it as though the safety of the Table was his prime concern. He filled his mind with that, and let it show.

It would flatter them. More than that, the satisfaction it would bring might keep them from wondering whether, in fact, Gendibal knew exactly what it was he intended to do.

The First Speaker spoke to Gendibal alone that evening.

"You were right, " he said. "I could not help brushing below the surface of your mind. I saw you considered the announcement a mistake and it was. It was my eagerness to wipe that eternal smile off her face and to strike back at the casual way in which she so frequently usurps my role. "

Gendibal said gently, "It might have been better if you had told me privately and had then waited for my return to go further. "

"That would not have allowed me to strike out at her. —Poor motivation for a First Speaker, I know. "

"This won't stop her, First Speaker. She will still intrigue for the post and perhaps with good reason. I'm sure there are some who would argue that I should have refused your nomination. It would not be hard to argue that Speaker Delarmi has the best mind at the Table and would make the best First Speaker. "

"The best mind at the Table, not away from it, " grumbled Shandess. "She recognizes no real enemies, except for other Speakers. She ought never to have been made a Speaker in the first place. —See here, shall I forbid you to take the Hamishwoman? She maneuvered you into that, I know. "

"No no, the reason I advanced for taking her is a true one. She will be an early-warning system and I am grateful to Speaker Delarmi for pushing me into realizing that. The woman will prove very useful, I'm convinced. "

"Good, then. By the way, I wasn't lying, either. I am truly certain that you will accomplish whatever is needed to end this crisis—if you can trust my intuition. "

"I think I can trust it, for I agree with you. I promise you that whatever happens, I will return better than I receive. I will come back to be First Speaker, whatever the Anti-Mules—or Speaker Delarmi—can do. "

Gendibal studied his own satisfaction even as he spoke. Why was he so pleased, so insistent, on this one-ship venture into space? Ambition, of course. Preem Palver had once done just this sort of thing —and he was going to show that Stor Gendibal could do it, too. No one could withhold the First Speakership from him after that. And yet was there more than ambition? The lure of combat? The generalized desire for excitement in one who had been confined to a hidden patch on a backward planet all his adult life? — He didn't entirely know, but he knew he was desperately intent on going.

11. SAYSHELL

JANOV PELORAT WATCHED, FOR THE FIRST TIME IN HIS LIFE, AS THE bright star graduated into an orb after what Trevize had called a "micro-Jump. " The fourth planet—the habitable one and their immediate destination, Sayshell—then grew in size and prominence more slowly—over a period of days.

A map of the planet had been produced by the computer and was displayed on a portable screening device, which Pelorat held in his lap.

Trevize—with the aplomb of someone who had, in his time, touched down upon several dozen worlds—said, "Don't start watching too hard too soon, Janov. We have to go through the entry station first and that can be tedious. "

Pelorat looked up. "Surely that's just a formality."

"It is. But it can still be tedious."

"But it's peacetime."

"Of course. That means we'll be passed through. First, though, there's a little matter of the ecological balance. Every planet has its own and they don't want it upset. So they make a natural point of checking the ship for undesirable organisms, or infections. It's a reasonable precaution."

"We don't have such things, it seems to me."

"No, we don't and they'll find that out. Remember, too, that Sayshell is not a member of the Foundation Federation, so there's certain to be some leaning over backward to demonstrate their independence."

A small ship came out to inspect them and a Sayshellian Customs official boarded. Trevize was brisk, not having forgotten his military days.

"The Far Star, out of Terminus," he said. "Ship's papers. Unarmed. Private vessel. My passport. There is one passenger. His passport. We are tourists."

The Customs official wore a garish uniform in which crimson was the dominating color. Cheeks and upper lip were smooth-shaven, but he wore a short beard parted in such a way that tufts thrust out to both sides of his chin. He said, "Foundation ship?"

He pronounced it "Foundaysun sip," but Trevize was careful neither to correct him nor to smile. There were as many varieties of dialects to Galactic Standard as there were planets, and you just spoke your own. As long as there was cross-comprehension, it didn't matter.

"Yes, sir," said Trevize. "Foundation ship. Privately owned."

"Very nice. —Your lading, if you please."

"My what?"

"Your lading. What are you carrying?"

"Ah, my cargo. Here is the itemized list. Personal property only. We are not here to trade. As I told you, we are simply tourists."

The Customs official looked about curiously. "This is rather an elaborate vessel for tourists."

"Not by Foundation standards," said Trevize with a display of good humor. "And I'm well off and can afford this."

"Are you suggesting that I might be richified?" The official looked at him briefly, then looked away.

Trevize hesitated a moment in order to interpret the meaning of the word, then another moment to decide his course of action. He said, "No, it is not my intention to bribe you. I have no reason to bribe you—and you don't look like the kind of person who could be bribed, if that were my intention. You can look over the ship, if you wish."

"No need," said the official, putting away his pocket recorder. "You have already been examined for specific contraband infection and have passed. The ship has been assigned a radio wavelength that will serve as an approach beam."

He left. The whole procedure had taken fifteen minutes.

Pelorat said in a low voice. "Could he have made trouble? Did he really expect a bribe?"

Trevize shrugged. "Tipping the Customs man is as old as the Galaxy and I would have done it readily if he had made a second try for it. As it is—well, I presume he prefers not to take a chance with a Foundation ship, and a fancy one, at that. The old Mayor, bless her cross-grained hide, said the name of the Foundation would protect us wherever we went and she wasn't wrong. —It could have taken a great deal longer."

"Why? He seemed to find out what he wanted to know."

"Yes, but he was courteous enough to check us by remote radioscanning. If he had wished, he could have gone over the ship with a hand-machine and taken hours. He could have put us both in a field hospital and kept us days."

"What? My dear fellow!"

"Don't get excited. He didn't do it. I thought he might, but he didn't. Which means we're free to land. I'd like to go down gravitically—which could take us fifteen minutes—but I don't know where the permitted landing sites might be and I don't want to cause trouble. That means we'll have to follow the radio beam—which will take hours—as we spiral down through the atmosphere."

Pelorat looked cheerful. "But that's excellent, Golan. Will we be going slowly enough to watch the terrain?" He held up his portable viewscreen with the map spread out on it at low magnification.

"After a fashion. We'd have to get beneath the cloud deck, and we'll be moving at a few kilometers per second. It won't be ballooning through the atmosphere, but you'll spot the planetography."

"Excellent! Excellent!"

Trevize said thoughtfully, "I'm wondering, though, if we'll be on Sayshell Planet long enough to make it worth our while to adjust the ship's clock to local time."

"It depends on what we plan to do, I suppose. What do you think we'll be doing, Golan?"

"Our job is to find Gaia and I don't know how long that will take."

Pelorat said, "We can adjust our wrist-strips and leave the ship's clock as is."

"Good enough," said Trevize. He looked down at the planet spreading broadly beneath them. "No use waiting any longer. I'll adjust the computer to our assigned radio beam and it can use the gravities to mimic conventional flight. So! —Let's go down, Janov, and see what we can find."

He stared at the planet thoughtfully as the ship began to move on its smoothly adjusted gravitational potential-curve.

Trevize had never been in the Sayshell Union, but he knew that over the last century it had been steadfastly unfriendly to the Foundation. He was surprised—and a little dismayed—they had gotten through Customs so quickly.

It didn't seem reasonable.

The Customs official's name was Jogoroth Sobhaddartha and he had been serving on the station on and off for half his life.

He didn't mind the life, for it gave him a chance—one month out of three—to view his books, to listen to his music, and to be away from his wife and growing son.

Of course, during the last two years the current Head of Customs had been a Dreamer, which was irritating. There is no one so insufferable as a person who gives no other excuse for a peculiar action than saying he had been directed to it in a dream.

Personally Sobhaddartha decided he believed none of it, though he was careful not to say so aloud, since most people on Sayshell rather disapproved of antipsychic doubts. To become known as a materialist might put his forthcoming pension at risk.

He stroked the two tufts of hair at his chin, one with his right hand and the other with his left, cleared his throat rather loudly, and then, with inappropriate casualness, said, "Was that the ship, Head?"

The Head, who bore the equally Sayshellian name of Namarath Godhisavatta, was concerned with a matter involving some computer-born data and did not look up. "What ship?" he said.

"The Far Star. The Foundation ship. The one I just sent past. The one that was holographed from every angle. Was that the one you dreamed of?"

Godhisavatta looked up now. He was a small man, with eyes that were almost black and that were surrounded by fine wrinkles that had not been produced by any penchant for smiling. He said, "Why do you ask?"

Sobhaddartha straightened up and allowed his dark and luxuriant eyebrows to approach each other. "They said they were tourists, but I've never seen a ship like that before and my own opinion is they're Foundation agents." -

Godhisavatta sat back in his chair. "See here, my man, try as I might I cannot recall asking for your opinion."

"But Head, I consider it my patriotic duty to point out that—"

Godhisavatta crossed his arms over his chest and stared hard at the underling, who (though much the more impressive in physical stature and bearing) allowed himself to droop and take on a somehow bedraggled appearance under the gaze of his superior.

Godhisavatta said, "My man, if you know what is good for you, you will do your job without comment—or I'll see to it that there will be no pension when you retire, which will be soon if I hear any more on a subject that does not concern you."

In a low voice, Sobhaddartha said, "Yes, sir." Then, with a suspicious degree of subservience in his voice, he added, "Is it within the range of my duties, sir, to report that a second ship is in range of our screens?"

"Consider it reported," Godhisavatta said irritably, returning to his work.

"With," said Sobhaddartha even more humbly, "characteristics very similar to the one I just sent through."

Godhisavatta placed his hands on the desk and lifted himself to his feet. "A second one?"

Sobhaddartha smiled inwardly. That sanguinary person born of an irregular union (he was referring to the Head) had clearly not dreamed of two ships. He said, "Apparently, sir! I will now return to my post and await orders and I hope, sir—"

"Yes?"

Sobhaddartha could not resist, pension-risk notwithstanding. "And I hope, sir, we didn't send the wrong one through."

The Far Star moved rapidly across the face of Sayshell Planet and Pelorat watched with fascination. The cloud layer was thinner and more scattered than upon Terminus and, precisely as the map showed, the land surfaces were more compact and extensive—including broader desert areas, to judge by the rusty color of much of the continental expanse.

There were no signs of anything living. It seemed a world of sterile desert, gray plain, of endless wrinkles that might have represented mountainous areas, and, of course, of ocean.

"It looks lifeless," muttered Pelorat.

"You don't expect to see any life-signs at this height," said Trevize. "As we get lower, you'll see the land turn green in patches. Before that, in fact, you'll see the twinkling landscape on the night side. Human beings have a penchant for lighting their worlds when darkness falls; I've never heard of a world that's an exception to that rule. In other words, the first sign of life you'll see will not only be human but technological."

Pelorat said thoughtfully, "Human beings are diurnal in nature, after all. It seems to me that among the very first tasks of a developing technology would be the conversion of night to day. In fact, if a world lacked technology and developed one, you ought to be able to follow the progress of technological development by the increase in light upon the darkened surface. How long would it take, do you suppose, to go from uniform darkness to uniform light?"

Trevize laughed. "You have odd thoughts, but I suppose that comes from being a mythologist. I don't think a world would ever achieve a uniform glow. Night light would follow the pattern of population density, so that the continents would spark in knots and strings. Even Trantor at its height, when it was one huge structure, let light escape that structure only at scattered points."

The land turned green as Trevize had predicted and, on the last circling of the globe, he pointed out markings that he said were cities. "It's not a very urban world. I've never been in the Sayshell Union before, but according to the information the computer gives me, they tend to cling to the past. Technology, in the eyes of all the Galaxy, has been associated with the Foundation, and wherever the Foundation is unpopular, there is a tendency to cling to the past— except, of course, as far as weapons of war are concerned. I assure you Sayshell is quite modern in that respect."

"Dear me, Golan, this is not going to be unpleasant, is it? We are Foundationers, after all, and being in enemy territory—"

"It's not enemy territory, Janov. They'll be perfectly polite, never fear. The Foundation just isn't popular, that's all. Sayshell is not part of the Foundation Federation. Therefore, because they're proud of their independence and because they don't like to remember that they are much weaker than the Foundation and remain independent only because we're willing to let them remain so, they indulge in the luxury of disliking us." -

"I fear it will still be unpleasant, then," said Pelorat despondently. "Not at all," said Trevize. "Come on, Janov. I'm talking about the official attitude of the Sayshellian government. The individual people on the planet are just people, and if we're pleasant and don't act as though we're Lords of the Galaxy, they'll be pleasant, too. We're not coming to Sayshell in order to establish Foundation mastery. We're just tourists, asking the kind of questions about Sayshell that any tourist would ask."

"And we can have a little legitimate relaxation, too, if the situation permits. There's nothing wrong with staying here a few days and experiencing what they have to offer. They may have an interesting culture, interesting scenery, interesting food, and—if all else fails—interesting women. We have money to spend."

Pelorat frowned, "Oh, my dear chap."

"Come on," said Trevize. "You're not that old. Wouldn't you be interested?"

"I don't say there wasn't a time when I played that role properly, but surely this isn't the time for it. We have a mission. We want to reach Gaia. I have nothing against a good time—I really don't—but if we start involving ourselves, it might be difficult to pull free." He shook his head and said mildly, "I think you feared that I might have too good a time at the Galactic Library on Trantor and would be unable to pull free. Surely, what the Library is to me, an attractive dark-eyed damsel—or five or six—might be to you."

Trevize said, "I'm not a rakehell, Janov, but I have no intention of being ascetic, either. Very well, I promise you we'll get on with this business of Gaia, but if something pleasant comes my way, there's no reason in the Galaxy I ought not to respond normally."

"If you'll just put Gaia first—"

"I will. Just remember, though, don't tell anyone we're from the Foundation. They'll know we are, because we've got Foundation credits and we speak with strong Terminus accents, but if we say nothing about it, they can pretend we are placeless strangers and be friendly. If we make a point of being Foundationers, they will speak

politely enough, but they will tell us nothing, show us nothing, take us nowhere, and leave us strictly alone."

Pelorat sighed. "I will never understand people."

"There's nothing to it. All you have to do is take a close look at yourself and you will understand everyone else. We're in no way different ourselves. How would Seldon have worked out his Plan—and I don't care how subtle his mathematics was—if he didn't understand people; and how could he have done that if people weren't easy to understand? You show me someone who can't understand people and I'll show you someone who has built up a false image of himself—no offense intended."

"None taken. I'm willing to admit I'm inexperienced and that I've spent a rather self-centered and constricted life. It may be that I've never really taken a good look at myself, so I'll let you be my guide and adviser where people are concerned."

"Good. Then take my advice now and just watch the scenery. We'll be landing soon and I assure you you'll feel nothing. The computer and I will take care of everything."

"Golan, don't be annoyed. If a young woman should—"

"Forget it! Just let me take care of the landing."

Pelorat turned to look at the world at the end of the ship's contracting spiral. It would be the first foreign world upon which he would ever stand. This thought somehow filled him with foreboding, despite the fact that all the millions of inhabited planets in the Galaxy had been colonized by people who had not been born upon them.

All but one, he thought with a shudder of trepidation/delight.

The spaceport was not large by Foundation standards, but it was well kept. Trevize watched the Far Star moved into a berth and locked in place. They were given an elaborate coded receipt.

Pelorat said in a low voice, "Do we just leave it here?"

Trevize nodded and placed his hand on the other's shoulder in reassurance. "Don't worry," he said in an equally low voice.

They stepped into the ground-car they had rented and Trevize plugged in the map of the city, whose towers he could see on the horizon.

"Sayshell City," he said, "the capital of the planet. City—planet—star—all named Sayshell."

"I'm worried about the ship," insisted Pelorat.

"Nothing to worry about," said Trevize. "We'll be back tonight, because it will be our sleeping quarters if we have to stay here more than a few hours. You have to understand, too, that there's an interstellar code of spaceport ethics that—as far as I know—has never been broken, even in wartime. Spaceships that come in peace are inviolate. If that were not so, no one would be safe and trade would be impossible. Any world on which that code was broken would be boycotted by the space pilots of the Galaxy. I assure you, no world would risk that. Besides—"

"Besides?"

"Well, besides, I've arranged with the computer that anyone who doesn't look and sound like one of us will be killed if he—or she— tries to board the ship. I've taken the liberty of explaining that to the Port Commander. I told him very politely that I would love to turn off that particular facility out of deference to the reputation that the Sayshell City Spaceport holds for absolute integrity and security—throughout the Galaxy, I said—but the ship is a new model and I didn't know how to turn it off."

"He didn't believe that, surely."

"Of course not! But he had to pretend he did, as otherwise he would have no choice but to be insulted. And since there would be nothing he could do about that, being insulted would only lead to humiliation. And since he didn't want that, the simplest path to follow was to believe what I said."

"And that's another example of how people are?"

"Yes. You'll get used to this."

"How do you know this ground-car isn't bugged?"

"I thought it might be. So when they offered me one, I took another one at random. If they're all bugged—well, what have we been saying that's so terrible?"

Pelorat looked unhappy. "I don't know how to say this. It seems rather impolite to complain, but I don't like the way it smells. There's an—odor."

"In the ground-car?"

"Well, in the spaceport, to begin with. I suppose that's the way spaceports smell, but the ground-car carries the odor with it. Could we open the windows?"

Trevize laughed. "I suppose I could figure out which portion of the control panel will do that trick, but it won't help. This planet stinks. Is it very bad?"

"It's not very strong, but it's noticeable—and somewhat repulsive. Does the whole world smell this way?"

"I keep forgetting you've never been on another world. Every inhabited world has its own odor. It's the general vegetation, mostly, though I suppose the animals and even the human beings contribute. And as far as I know, nobody ever likes the smell of any world when he first lands on it. But you'll get used to it, Janov. In a few hours, I promise you won't notice."

"Surely you don't mean that all worlds smell like this."

"No. As I said, each has its own. If we really paid attention or if our noses were a little keener—like those of Anacreonian dogs—we could probably tell which world we were on with one sniff. When I first entered the Navy I could never eat the first day on a new world; then I learned the old spacer trick of sniffing a handkerchief with the world-scent on it during the landing. By the time you get out into the open world, you don't smell it. And after a while, you get hardened to the whole thing; you just learn to disregard it. —The worst of it is returning home, in fact."

"Why?"

"Do you think Terminus doesn't smell?"

"Are you telling me it does?"

"Of course it does. Once you get acclimated to the smell of another world, such as Sayshell, you'll be surprised at the stench of Terminus. In the old days, whenever the locks opened on Terminus after a sizable tour of duty, all the crew would call out, 'Back home to the crap.'"

Pelorat looked revolted.

The towers of the city were perceptibly closer, but Pelorat kept his eyes fixed on their immediate surroundings. There were other ground-cars moving in both directions and an occasional air-car above, but Pelorat was studying the trees.

He said, "The plant life seems strange. Do you suppose any of it is indigenous?"

"I doubt it," said Trevize absently. He was studying the map and attempting to adjust the programming of the car's computer. "There's not much in the way of indigenous life on any human planet. Settlers always imported their own plants and animals— either at the time of settling or not too long afterward."

"It seems strange, though."

"You don't expect the same varieties from world to world, Janov.

I was once told that the Encyclopedia Galactica people put out an atlas of varieties which ran to eighty-seven fat computer-discs and was incomplete even so—and outdated anyway, by the time it was finished."

The ground-car moved on and the outskirts of the city gaped and engulfed them. Pelorat shivered slightly, "I don't think much of their city architecture."

"To each his own," said Trevize with the indifference of the seasoned space traveler.

"Where are we going, by the way?"

"Well," said Trevize with a certain exasperation, "I'm trying to get the computer to guide this thing to the tourist center. I hope the computer knows the one-way streets and the traffic regulations, because I don't."

"What do we do there, Golan?"

"To begin with, we're tourists, so that's the place where we'd naturally go, and we want to be as inconspicuous and natural as we can. And secondly, where would you go to get information on Gaia?"

Pelorat said, "To a university—or an anthropological society—or a museum— Certainly not to a tourist center."

"Well, you're wrong. At the tourist center, we will be intellectual types who are eager to have a listing of the universities in the city and the museums and so on. We'll decide where to go to first and there we may find the proper people to consult concerning ancient history, galactography, mythology, anthropology, or anything else you can think of. —But the whole thing starts at the tourist center."

Pelorat was silent and the ground-car moved on in a tortuous manner as it joined and became part of the traffic pattern. They plunged into a sub-road and drove past signs that might have represented directions and traffic instructions but were in a style of lettering that made them all-but-unreadable.

Fortunately the ground-car behaved as though it knew the way, and when it stopped and drew itself into a parking spot, there was a sign that said: SAYSHELL OUT-WORLD MILIEU in the same difficult printing, and under it: SAYSHELL TOURIST CENTER in straightforward, easy-to-read Galactic Standard lettering.

They walked into the building, which was not as large as the façade had led them to believe. It was certainly not busy inside.

There were a series of waiting booths, one of which was occupied by a man reading the news-strips emerging from a small ejector; another contained two women who seemed to be playing some intricate game with cards and tiles. Behind a counter too large for him, with winking computer controls that seemed far too complex for him, was a bored-looking Sayshellian functionary wearing what looked like a multicolored checkerboard.

Pelorat stared and whispered, "This is certainly a world of extroverted garb."

"Yes," said Trevize, "I noticed. Still, fashions change from world to world and even from region to region within a world sometimes. And they change with time. Fifty years ago, everyone on Sayshell might have worn black, for all we know. Take it as it comes, Janov."

"I suppose I'll have to," said Pelorat, "but I prefer our own fashions. At least, they're not an assault upon the optic nerve."

"Because so many of us are gray on gray? That offends some people. I've heard it referred to as 'dressing in dirt.' Then too, it's Foundation colorlessness that probably keeps these people in their rainbows—just to emphasize their independence. It's all what you're accustomed to, anyway. —Come on, Janov."

The two headed toward the counter and, as they did so, the man in the booth forsook his news items, rose, and came to meet them, smiling as he did so. His clothing was in shades of gray.

Trevize didn't look in his direction at first, but when he did he stopped dead.

He took a deep breath, "By the Galaxy— My friend, the traitor!"

12. AGENT

MUNN LI COMPOR, COUNCILMAN OF TERMINUS, LOOKED UNCERTAIN as he extended his right hand to Trevize.

Trevize looked at the hand sternly and did not take it. He said, apparently to open air, "I am in no position to create a situation in which I may find myself arrested for disturbing the peace on a foreign planet, but I will do so anyway if this individual comes a step closer."

Comporg stopped abruptly, hesitated, and finally said in a low voice after glancing uncertainly at Pelorat, "Am I to have a chance to talk? To explain? Will you listen?"

Pelorat looked from one to the other with a slight frown on his long face. He said, "What's all this, Golan? Have we come to this far world and at once met someone you know?"

Trevize's eyes remained firmly fixed on Comporg, but he twisted his body slightly to make it clear that he was talking to Pelorat. Trevize said, "This—human being—we would judge that much from his shape—was once a friend of mine on Terminus. As is my habit with my friends, I trusted him. I told him my views, which were perhaps not the kind that should have received a general airing. He told them to the authorities in great detail, apparently, and did not take the trouble to tell me he had done so. For that reason, I walked neatly into a trap and now I find myself in exile. And now this—human being—wishes to be recognized as a friend."

He turned to Comporg full on and brushed his fingers through his hair, succeeding only in disarranging the curls further. "See here, you. I do have a question for you. What are you doing here? Of all the worlds in the Galaxy on which you could be, why are you on this one? And why now?"

Comporg's hand, which had remained outstretched throughout Trevize's speech, now fell to his side and the smile left his face. The air of self-confidence, which was ordinarily so much a part of him, was gone and in its absence he looked younger than his thirty-four years and a bit woebegone. "I'll explain," he said, "but only from the start!"

Trevize looked about briefly. "Here? You really want to talk about it here? In a public place? You want me to knock you down here after I've listened to enough of your lies?"

Comporg lifted both hands now, palms facing each other. "It's the safest place, believe me." And then, checking himself and realizing what the other was about to say, added hurriedly, "Or don't believe me, it doesn't matter. I'm telling the truth. I've been on the planet several hours longer than you and I've checked it out. This is some particular day they have here on Sayshell. It's a day for meditation, for some reason. Almost everyone is at home—or should be. —You see how empty this place is. You don't suppose it's like this every day."

Pelorat nodded and said, "I was wondering why it was so empty, at that." He leaned toward Trevize's ear and whispered, "Why not let him talk, Golan? He looks miserable, poor chap, and he may be trying to apologize. It seems unfair not to give him the chance to do so.'

Trevize said, "Dr. Pelorat seems anxious to hear you. I'm willing to oblige him, but you'll oblige me if you're brief about it. This may be a good day on which to lose my temper. If everyone is meditating, any disturbance I cause may not produce the guardians of the law. I may not be so lucky tomorrow. Why waste an opportunity?"

Comporg said in a strained voice, "Look, if you want to take a poke at me, do so. I won't even defend myself, see? Go ahead, hit me—but listen!"

"Go ahead and talk, then. I'll listen for a while."

"In the first place, Golan—"

"Address me as Trevize, please. I am not on first-name terms with you."

"In the first place, Trevize, you did too good a job convincing me of your views—"

"You hid that well. I could have sworn you were amused by me."

"I tried to be amused to hide from myself the fact that you were being extremely disturbing. —Look, let us sit down up against the wall. Even if the place is empty, some few may come in and I don't think we ought to be needlessly conspicuous."

Slowly the three men walked most of the length of the large room. Comporg was smiling tentatively again, but remained carefully at more than arm's length from Trevize.

They sat each on a seat that gave as their weight was placed upon it and molded itself into the shape of their hips and buttocks. Pelorat looked surprised and made as though to stand up.

"Relax, Professor," said Comporg. "I've been through this already. They're in advance of us in some ways. It's a world that believes in small comforts."

He turned to Trevize, placing one arm over the back of his chair and speaking easily now. "You disturbed me. You made me feel the Second Foundation did exist, and that was deeply upsetting. Consider the consequences if they did. Wasn't it likely that they might take care of you somehow? Remove you as a menace? And if I behaved as though I believed you, I might be removed as well. Do you see my point?"

"I see a coward."

"What good would it do to be storybook brave?" said Comporg warmly, his blue eyes widening in indignation. "Can you or I stand up to an organization capable of molding our minds and emotions? The only way we could fight effectively would be to hide our knowledge to begin with."

"So you hid it and were safe? —Yet you didn't hide it from Mayor Branno, did you? Quite a risk there."

"Yes! But I thought that was worth it. Just talking between ourselves might do nothing more than get ourselves mentally controlled—or our memories erased altogether. If I told the Mayor, on the other hand— She knew my father well, you know. My father and I were immigrants from Smyrno and the Mayor had a grandmother who—"

"Yes yes," said Trevize impatiently, "and several generations farther back you can trace ancestry to the Sirius Sector. You've told all that to everyone you know. Get on with it, Compor!"

"Well, I had her ear. If I could convince the Mayor that there was danger, using your arguments, the Federation might take some action. We're not as helpless as we were in the days of the Mule and—at the worst—this dangerous knowledge would be spread more widely and we ourselves would not be in as much specific danger."

Trevize said sardonically, "Endanger the Foundation, but keep ourselves safe. That's good patriotic stuff."

"That would be at the worst. I was counting on the best." His forehead had become a little damp. He seemed to be straining against Trevize's immovable contempt.

"And you didn't tell me of this clever plan of yours, did you?"

"No, I didn't and I'm sorry about that, Trevize. The Mayor ordered me not to. She said she wanted to know everything you knew but that you were the sort of person who would freeze if you knew that your remarks were being passed on."

"How right she was!"

"I didn't know—I couldn't guess—I had no way of conceiving that she was planning to arrest you and throw you off the planet."

"She was waiting for the right political moment, when my status as Councilman would not protect me. You didn't foresee that?"

"How could I? You yourself did not."

"Had I known that she knew my views, I would have." Compor said with a sudden trace of insolence, "That's easy enough to say—in hindsight."

"And what is it you want of me here? Now that you have a bit of hindsight, too."

"To make up for all this. To make up for the harm I unwittingly—unwittingly—did you."

"Goodness," said Trevize dryly. "How kind of you! But you haven't answered my original question. How did you come to be here? How do you happen to be on the very planet I am on?"

Compor said, "There's no complicated answer necessary for that. I followed you!"

"Through hyperspace? With my ship making Jumps in series?" Compor shook his head. "No mystery. I have the same kind of a ship you do, with the same kind of computer. You know I've always had this trick of being able to guess in which direction through hyperspace a ship would go. It's not usually a very good guess and I'm wrong two times out of three, but with the computer I'm much better. And you hesitated quite a bit at the start and gave me a chance to evaluate the direction and speed in which you were going before entering hyperspace. I fed the data—together with my own intuitive extrapolations—into the computer and it did the rest."

"And you actually got to the city ahead of me?"

"Yes. You didn't use gravitics and I did. I guessed you would come to the capital city, so I went straight down, while you—" Compor made a short spiral motion with his finger as though it were a ship riding a directional beam.

"You took a chance on a run-in with Sayshellian officialdom."

"Well—" Compore's face broke into a smile that lent it an undeniable charm and Trevize felt himself almost warming to him. Compore said, "I'm not a coward at all times and in all things."

Trevize steeled himself. "How did you happen to get a ship like mine?"

"In precisely the same way you got a ship like yours. The old lady —Mayor Branno—assigned it to me."

"Why?"

"I'm being entirely frank with you. My assignment was to follow you. The Mayor wanted to know where you were going and what you would be doing."

"And you've been reporting faithfully to her, I suppose. —Or have you been faithless to the Mayor also?"

"I reported to her. I had no choice, actually. She placed a hyperrelay on board ship, which I wasn't supposed to find, but which I did find."

"Well?"

"Unfortunately it's hooked up so that I can't remove it without immobilizing the vessel. At least, there's no way I can remove it. Consequently she knows where I am—and she knows where you are."

"Suppose you hadn't been able to follow me. Then she wouldn't have known where I was. Had you thought of that?"

"Of course I did. I thought of just reporting I had lost you—but she wouldn't have believed me, would she? And I wouldn't have been able to get back to Terminus for who knows how long. And I'm not like you, Trevize. I'm not a carefree person without attachments. I have a wife on Terminus—a pregnant wife—and I want to get back to her. You can afford to think only of yourself. I can't. —Besides, I've come to warn you. By Seldon, I'm trying to do that and you won't listen. You keep talking about other things."

"I'm not impressed by your sudden concern for me. What can you warn me against? It seems to me that you are the only thing I need be warned about. You betray me, and now you follow me in order to betray me again. No one else is doing me any harm."

Compore said earnestly, "Forget the dramatics, man. Trevize, you're a lightning rod! You've been sent out to draw Second Foundation response—if there is such a thing as the Second Foundation. I have an intuitive sense for things other than hyperspatial pursuit and I'm sure that's what she's planning. If you try to find the Second Foundation, they'll become aware of it and they'll act against you. If they do, they are very likely to tip their hand. And when they do, Mayor Branno will go for them."

"A pity your famous intuition wasn't working when Branno was planning my arrest."

Compore flushed and muttered, "You know it doesn't always work."

"And now it tells you she's planning to attack the Second Foundation. She wouldn't dare."

"I think she would. But that's not the point. The point is that right now she is throwing you out as bait."

"So?"

"So by all the black holes in space, don't search for the Second Foundation. She won't care if you're killed in the search, but I care. I feel responsible for this and I care."

"I'm touched," said Trevize coldly, "but as it happens I have another task on hand at the moment."

"You have?"

"Pelorat and I are on the track of Earth, the planet that some think was the original home of the human race. Aren't we, Janov?"

Pelorat nodded his head. "Yes, it's a purely scientific matter and a long-standing interest of mine."

Comporg looked blank for a moment. Then, "Looking for Earth? But why?"

"To study it," said Pelorat. "As the one world on which human beings developed—presumably from lower forms of life, instead of, as on all others, merely arriving ready-made—it should be a fascinating study in uniqueness."

"And," said Trevize, "as a world where, just possibly, I may learn more of the Second Foundation. —Just possibly."

Comporg said, "But there isn't any Earth. Didn't you know that?"

"No Earth?" Pelorat looked utterly blank, as he always did when he was preparing to be stubborn. "Are you saying there was no planet on which the human species originated?"

"Oh no. Of course, there was an Earth. There's no question of that! But there isn't any Earth now. No inhabited Earth. It's gone!"

Pelorat said, unmoved, "There are tales—"

"Hold on, Janov," said Trevize. "Tell me, Comporg, how do you know this?"

"What do you mean, how? It's my heritage. I trace my ancestry from the Sirius Sector, if I may repeat that fact without boring you. We know all about Earth out there. It exists in that sector, which means it's not part of the Foundation Federation, so apparently no one on Terminus bothers with it. But that's where Earth is, just the same."

"That is one suggestion, yes," said Pelorat. "There was considerable enthusiasm for that 'Sirius Alternative,' as they called it, in the days of the Empire."

Comporg said vehemently. "It's not an alternative. It's a fact."

Pelorat said, "What would you say if I told you I know of many different places in the Galaxy that are called Earth—or were called Earth—by the people who lived in its stellar neighborhood?"

"But this is the real thing," said Comporg. "The Sirius Sector is the longest-inhabited portion of the Galaxy. Everyone knows that."

"The Sirians claim it, certainly," said Pelorat, unmoved.

Comporg looked frustrated. "I tell you—"

But Trevize said, "Tell us what happened to Earth. You say it's not inhabited any longer. Why not?"

"Radioactivity. The whole planetary surface is radioactive because of nuclear reactions that went out of control, or nuclear explosions—I'm not sure—and now no life is possible there."

The three stared at each other for a while and then Compore felt it necessary to repeat. He said, "I tell you, there's no Earth. There's no use looking for it."

Janov Pelorat's face was, for once, not expressionless. It was not that there was passion in it—or any of the more unstable emotions. It was that his eyes had narrowed—and that a kind of fierce intensity had filled every plane of his face.

He said, and his voice lacked any trace of its usual tentative quality, "How did you say you know all this?"

"I told you," said Compore. "It's my heritage."

"Don't be silly, young man. You are a Councilman. That means you must be born on one of the Federation worlds—Smyrna, I think you said earlier."

"That's right."

"Well then, what heritage are you talking about? Are you telling me that you possess Sirian genes that fill you with inborn knowledge of the Sirian myths concerning Earth."

Compore looked taken aback. "No, of course not."

"Then what are you talking about?"

Compore paused and seemed to gather his thoughts. He said quietly, "My family has old books of Sirian history. An external heritage, not an internal one. It's not something we talk about outside, especially if one is intent on political advancement. Trevize seems to think I am, but, believe me, I mention it only to good friends."

There was a trace of bitterness in his voice. "Theoretically all Foundation citizens are alike, but those from the old worlds of the Federation are more alike than those from the newer ones—and those that trace from worlds outside the Federation are least alike of all. But, never mind that. Aside from the books, I once visited the old worlds. Trevize—hey, there—"

Trevize had wandered off toward one end of the room, looking out a triangular window. It served to let in a view of the sky and to diminish the view of the city—more light and more privacy. Trevize stretched upward to look down.

He returned through the empty room. "Interesting window design," he said. "You called me, Councilman?"

"Yes. Remember the postcollegiate tour I took?"

"After graduation? I remember very well. We were pals. Pals forever. Foundation of trust. Two against the world. You went off on your tour. I joined the Navy, full of patriotism. Somehow I didn't think I wanted to tour with you—some instinct told me not to. I wish the instinct had stayed with me."

Compore did not rise to the bait. He said, "I visited Comporellon. Family tradition said that my ancestors had come from there—at least on my father's side. We were of the ruling family in ancient times before the Empire absorbed us, and my name is derived

from the world—or so the family tradition has it. We had an old, poetic name for the star Comporellon circled—Epsilon Eridani."

"What does that mean?" asked Pelorat.

Comporellon shook his head. "I don't know that it has any meaning. Just tradition. They live with a great deal of tradition. It's an old world. They have long, detailed records of Earth's history, but no one talks about it much. They're superstitious about it. Every time they mention the word, they lift up both hands with first and second fingers crossed to ward off misfortune."

"Did you tell this to anyone when you came back?"

"Of course not. Who would be interested? And I wasn't going to force the tale on anyone. No, thank you! I had a political career to develop and the last thing I want is to stress my foreign origin."

"What about the satellite? Describe Earth's satellite," said Pelorat sharply.

Comporellon looked astonished. "I don't know anything about that."

"Does it have one?"

"I don't recall reading or hearing about it. But I'm sure if you'll consult the Comporellonian records, you can find out."

"But you know nothing?"

"Not about the satellite. Not that I recall."

"Huh! How did Earth come to be radioactive?"

Comporellon shook his head and said nothing.

Pelorat said, "Think! You must have heard something."

"It was seven years ago, Professor. I didn't know then you'd be questioning me about it now. There was some sort of legend—they considered it history—"

"What was the legend?"

"Earth was radioactive-ostracized and mistreated by the Empire, its population dwindling—and it was going to destroy the Empire somehow."

"One dying world was going to destroy the whole Empire?" interposed Trevize.

Comporellon said defensively, "I said it was a legend. I don't know the details. Bel Arvardan was involved in the tale, I know."

"Who was he?" asked Trevize.

"A historical character. I looked him up. He was an honest-to-Galaxy archaeologist back in the early days of the Empire and he maintained that Earth was in the Sirius Sector."

"I've heard the name," said Pelorat.

"He's a folk hero in Comporellon. Look, if you want to know these things—go to Comporellon. It's no use hanging around here."

Pelorat said, "Just how did they say Earth planned to destroy the Empire?"

"Don't know." A certain sullenness was entering Comporellon's voice.

"Did the radiation have anything to do with it?"

"Don't know. There were tales of some mind-expander developed on Earth—a Synapsifier or something."

"Did it create superminds?" said Pelorat in deepest tones of incredulity.

"I don't think so. What I chiefly remember is that it didn't work. People became bright and died young."

Trevize said, "It was probably a morality myth. If you ask for too much, you lose even that which you have."

Pelorat turned on Trevize in annoyance. "What do you know of morality myths?"

Trevize raised his eyebrows. "Your field may not be my field, Janov, but that doesn't mean I'm totally ignorant."

"What else do you remember about what you call the Synapsifier, Councilman Compor?" asked Pelorat.

"Nothing, and I won't submit to any further cross-examination. Look, I followed you on orders from the Mayor. I was not ordered to make personal contact with you. I have done so only to warn you that you were followed and to tell you that you had been sent out to serve the Mayor's purposes, whatever those might be. There was nothing else I should have discussed with you, but you surprised me by suddenly bringing up the matter of Earth. Well, let me repeat:

Whatever there has existed there in the past—Bel Arvandan, the Synapsifier, whatever—that has nothing to do with what exists now. I'll tell you again: Earth is a dead world. I strongly advise you to go to Comporellon, where you'll find out everything you want to know. Just get away from here."

"And, of course, you will dutifully tell the Mayor that we're going to Comporellon—and you'll follow us to make sure. Or maybe the Mayor knows already. I imagine she has carefully instructed and rehearsed you in every word you have spoken to us here because, for her own purposes, it's in Comporellon that she wants us. Right?"

Compor's face paled. He rose to his feet and almost stuttered in his effort to control his voice. "I've tried to explain. I've tried to be helpful. I shouldn't have tried. You can drop yourself into a black hole, Trevize."

He turned on his heel and walked away briskly without looking back.

Pelorat seemed a bit stunned. "That was rather tactless of you, Golan, old fellow. I could have gotten more out of him."

"No, you couldn't," said Trevize gravely. "You could not have gotten one thing out of him that he was not ready to let you have. Janov, you don't know what he is—Until today, I didn't know what he is."

Pelorat hesitated to disturb Trevize. Trevize sat motionless in his chair, deep in thought.

Finally Pelorat said, "Are we just sitting here all night, Golan?"

Trevize started. "No, you're quite right. We'll be better off with people around us. Come!"

Pelorat rose. He said, "There won't be people around us. Compor said this was some sort of meditation day."

"Is that what he said? Was there traffic when we came along the road in our ground-car?"

"Yes, some."

"Quite a bit, I thought. And then, when we entered the city, was it empty?"

"Not particularly. —Still, you've got to admit that this place has been empty."

"Yes, it has. I noticed that particularly. —But come, Janov, I'm hungry. There's got to be someplace to eat and we can afford to find something good. At any rate, we can find a place in which we can try some interesting Sayshellian novelty or, if we lose our nerve, good standard Galactic fare. —Come, once we're safely surrounded, I'll tell you what I think really happened here."

Trevize leaned back with a pleasant feeling of renewal. The restaurant was not expensive by Terminus standards, but it was certainly novel. It was heated, in part, by an open fire over which food was prepared. Meat tended to be served in bite-sized portions—in a variety of pungent sauces—which were picked up by fingers that were protected from grease and heat by smooth, green leaves that were cold, damp, and had a vaguely minty taste.

It was one leaf to each meat-bit and the whole was taken into the mouth. The waiter had carefully explained how it had to be done. Apparently accustomed to off-planet guests, he had smiled paternally as Trevize and Pelorat gingerly scooped at the steaming bits of meat, and was clearly delighted at the foreigners' relief at finding that the leaves kept the fingers cool and cooled the meat, too, as one chewed.

Trevize said, "Delicious!" and eventually ordered a second helping. So did Pelorat.

They sat over a spongy, vaguely sweet dessert and a cup of coffee that had a caramelized flavor at which they shook dubious heads. They added syrup, at which the waiter shook his head.

Pelorat said, "Well, what happened back there at the tourist center?"

"You mean with Compor?"

"Was there anything else there we might discuss?"

Trevize looked about. They were in a deep alcove and had a certain limited privacy, but the restaurant was crowded and the natural hum of noise was a perfect cover.

He said in a low voice, "Isn't it strange that he followed us to Sayshell?"

"He said he had this intuitive ability."

"Yes, he was all-collegiate champion at hypertracking. I never questioned that till today. I quite see that you might be able to judge where someone was going to Jump by how he prepared for it if you had a certain developed skill at it, certain reflexes—but I don't see how a tracker can judge a Jump series. You prepare only for the first one; the computer does all the others. The tracker can judge that first one, but by what magic can he guess what's in the computer's vitals?"

"But he did it, Golan."

"He certainly did," said Trevize, "and the only possible way I can imagine him doing so is by knowing in advance where we were going to go. By knowing, not judging."

Pelorat considered that. "Quite impossible, my boy. How could he know? We didn't decide on our destination till after we were on board the Far Star."

"I know that. —And what about this day of meditation?"

"Comporg didn't lie to us. The waiter said it was a day of meditation when we came in here and asked him."

"Yes, he did, but he said the restaurant wasn't closed. In fact, what he said was: 'Sayshell City isn't the backwoods. It doesn't close down.' People meditate, in other words, but not in the big town, where everyone is sophisticated and there's no place for small-town piety. So there's traffic and it's busy—perhaps not quite as busy as on ordinary days—but busy."

"But, Golan, no one came into the tourist center while we were there. I was aware of that. Not one person entered."

"I noticed that, too. I even went to the window at one point and looked out and saw clearly that the streets around the center had a good scattering of people on foot and in vehicles—and yet not one person entered. The day of meditation made a good cover. We would not have questioned the fortunate privacy we had if I simply hadn't made up my mind not to trust that son of two strangers."

Pelorat said, "What is the significance of all this, then?"

"I think it's simple, Janov. We have here someone who knows where we're going as soon as we do, even though he and we are in separate spaceships, and we also have here someone who can keep a public building empty when it is surrounded by people in order that we might talk in convenient privacy."

"Would you have me believe he can perform miracles?"

"Certainly. If it so happens that Comporg is an agent of the Second Foundation and can control minds; if he can read yours and mine in a distant spaceship; if he can influence his way through a customs station at once; if he can land gravitically, with no border patrol outraged at his defiance of the radio beams; and if he can influence minds in such a way as to keep people from entering a building he doesn't want entered."

"By all the stars," Trevize went on with a marked air of grievance, "I can even follow this back to graduation. I didn't go on the tour with him. I remember not wanting to. Wasn't that a matter of his influence? He had to be alone. Where was he really going?"

Pelorat pushed away the dishes before him, as though he wanted to clear a space about himself in order to have room to think. It seemed to be a gesture that signaled the busboy-robot, a self-moving table that stopped near them and waited while they placed their dishes and cutlery upon it.

When they were alone, Pelorat said, "But that's mad. Nothing has happened that could not have happened naturally. Once you get it into your head that somebody is controlling events, you can interpret everything in that light and find no reasonable certainty anywhere. Come on, old fellow, it's all circumstantial and a matter of interpretation. Don't yield to paranoia."

"I'm not going to yield to complacency, either."

"Well, let us look at this logically. Suppose he was an agent of the Second Foundation. Why would he run the risk of rousing our suspicions by keeping the tourist center empty? What did he say that was so important that a few people at a distance—

who would have been wrapped in their own concerns anyway—would have made a difference?"

"There's an easy answer to that, Janov. He would have to keep our minds under close observation and he wanted no interference from other minds. No static. No chance of confusion."

"Again, just your interpretation. What was so important about his conversation with us? It would make sense to suppose, as he himself insisted, that he met us only in order to explain what he had done, to apologize for it, and to warn us of the trouble that might await us. Why would we have to look further than that?"

The small card-receptacle at the farther rim of the table glittered unobtrusively and the figures representing the cost of the meal flashed briefly. Trevize groped beneath his sash for his credit card which, with its Foundation imprint, was good anywhere in the Galaxy—or anywhere a Foundation citizen was likely to go. He inserted it in the appropriate slot. It took a moment to complete the transaction and Trevize (with native caution) checked on the remaining balance before returning it to its pocket.

He looked about casually to make sure there was no undesirable interest in him on the faces of any of the few who still sat in the restaurant and then said, "Why look further than that? Why look further? That was not all he talked about. He talked about Earth. He told us it was dead and urged us very strongly to go to Comporellon. Shall we go?"

"It's something I've been considering, Golan," admitted Pelorat.

"Just leave here?"

"We can come back after we check Out the Sirius Sector."

"It doesn't occur to you that his whole purpose in seeing us was to deflect us from Sayshell and get us out of here? Get us anywhere but here?"

"Why?"

"I don't know. See here, they expected us to go to Trantor. That was what you wanted to do and maybe that's what they counted on us doing. I messed things up by insisting we go to Sayshell, which is the last thing they wanted, and so now they have to get us out of here."

Pelorat looked distinctly unhappy. "But Golan, you are just making statements. Why don't they want us on Sayshell?"

"I don't know, Janov. But it's enough for me that they want us out. I'm staying here. I'm not going to leave."

"But—but— Look, Golan, if the Second Foundation wanted us to leave, wouldn't they just influence our minds to make us want to leave? Why bother reasoning with us?"

"Now that you bring up the point, haven't they done that in your case, Professor?" and Trevize's eyes narrowed in sudden suspicion. "Don't you want to leave?"

Pelorat looked at Trevize in surprise. "I just think there's some sense to it."

"Of course you would, if you've been influenced."

"But I haven't been—"

"Of course you would swear you hadn't been if you had been."

Pelorat said, "If you box me in this way, there is no way of disproving your bare assertion. What are you going to do?"

"I will remain in Sayshell. And you'll stay here, too. You can't navigate the ship without me, so if Comporell has influenced you, he has influenced the wrong one."

"Very well, Golan. We'll stay in Sayshell until we have independent reasons to leave. The worst thing we can do, after all—worse than either staying or going—is to fall out with each other. Come, old chap, if I had been influenced, would I be able to change my mind and go along with you cheerfully, as I plan to do now?"

Trevize thought for a moment and then, as though with an inner shake, smiled and held out his hand. "Agreed, Janov. Now let's get back to the ship and make another start tomorrow. —If we can think of one."

Munn Li Comporell did not remember when he had been recruited. For one thing, he had been a child at the time; for another, the agents of the Second Foundation were meticulous in removing their traces as far as that was possible.

Comporell was an "Observer" and, to a Second Foundationer, he was instantly recognizable as such.

It meant that Comporell was acquainted with mentalics and could converse with Second Foundationers in their own fashion to a degree, but he was in the lowest rank of the hierarchy. He could catch glimpses of minds, but he could not adjust them. The education he had received had never gone that far. He was an Observer, not a Doer.

It made him second-class at best, but he did not mind—much. He knew his importance in the scheme of things.

During the early centuries of the Second Foundation, it had underestimated the task before it. It had imagined that its handful of members could monitor the entire Galaxy and that Seldon's Plan, to be maintained, would require only the most occasional, the lightest touch, here and there.

The Mule had stripped them of these delusions. Coming from nowhere, he had caught the Second Foundation (and, of course, the First—though that didn't matter) utterly by surprise and had left them helpless. It took five years before a counterattack could be organized, and then only at the cost of a number of lives.

With Palver a full recovery was made, again at a distressing cost, and he finally took the appropriate measures. The operations of the Second Foundation, he decided, must be enormously expanded without at the same time increasing the chances of detection unduly, so he instituted the corps of Observers.

Comporell did not know how many Observers were in the Galaxy or even how many there were on Terminus. It was not his business to know. Ideally there should be no detectable connection between any two Observers, so that the loss of one would not entail the loss of any other. All connections were with the upper echelons on Trantor.

It was Comporell's ambition to go to Trantor someday. Though he thought it extremely unlikely, he knew that occasionally an Observer might be brought to Trantor and promoted, but that was rare. The qualities that made for a good Observer were not those that pointed toward the Table.

There was Gendibal, for instance, who was four years younger than Compor. He must have been recruited as a boy, just as Compor was, but he had been taken directly to Trantor and was now a Speaker. Compor had no illusions as to why that should be. He had been much in contact with Gendibal of late and he had experienced the power of that young man's mind. He could not have stood up against it for a second.

Compor was not often conscious of a lowly status. There was almost never occasion to consider it. After all (as in the case of other Observers, he imagined) it was only lowly by the standards of Trantor. On their own non-Trantorian worlds, in their own nonmentalic societies, it was easy for Observers to obtain high status.

Compor, for instance, had never had trouble getting into good schools or finding good company. He had been able to use his mentalics in a simple way to enhance his natural intuitive ability (that natural ability had been why he had been recruited in the first place, he was sure) and, in this way, to prove himself a star at hyperspatial pursuit. He became a hero at college and this set his foot on the first rung of a political career. Once this present crisis was over, there was no telling how much farther he might advance.

If the crisis resolved itself successfully, as surely it would, would it not be recalled that it was Compor who had first noted Trevize—not as a human being (anyone could have done that) but as a mind?

He had encountered Trevize in college and had seen him, at first, only as a jovial and quick-witted companion. One morning, however, he had stirred sluggishly out of slumber and, in the stream of consciousness that accompanied the never-never land of half-sleep, he felt what a pity it was that Trevize had never been recruited.

Trevize couldn't have been recruited, of course, since he was Terminus-born and not, like Compor, a native of another world. And even with that aside, it was too late. Only the quite young are plastic enough to receive an education into mentalics; the painful introduction of that art—it was more than a science—into adult brains, set rustily in their mold, was a thing of the first two generations after Seldon only.

But then, if Trevize had been ineligible for recruiting in the first place and had outlived the possibility in the second, what had roused Compor's concern over the matter?

On their next meeting, Compor had penetrated Trevize's mind deeply and discovered what it was that must have initially disturbed him. Trevize's mind had characteristics that did not fit the rules he had been taught. Over and over, it eluded him. As he followed its workings, he found gaps—No, they couldn't be actual gaps—actual leaps of nonexistence. They were places where Trevize's manner of mind dove too deeply to be followed.

Compor had no way of determining what this meant, but he watched Trevize's behavior in the light of what he had discovered and he began to suspect that Trevize had an uncanny ability to reach right conclusions from what would seem to be insufficient data.

Did this have something to do with the gaps? Surely this was a matter for mentalism beyond his own powers—for the Table itself, perhaps. He had the uneasy feeling that Trevize's powers of decision were unknown, in their full, to the man himself, and that he might be able to— To do what? Compore's knowledge did not suffice. He could almost see the meaning of what Trevize possessed—but not quite. There was only the intuitive conclusion—or perhaps just a guess—that Trevize might be, potentially, a person of the utmost importance.

He had to take the chance that this might be so and to risk seeming to be less than qualified for his post. After all, if he were correct— He was not sure, looking back on it, how he had managed to find the courage to continue his efforts. He could not penetrate the administrative barriers that ringed the Table. He had all but reconciled himself to a broken reputation. He had worked himself down (despairingly) to the most junior member of the Table and, finally, Stor Gendibal had responded to his call.

Gendibal had listened patiently and from that time on there had been a special relationship between them. It was on Gendibal's behalf that Compore had maintained his relationship with Trevize and on Gendibal's direction that he had carefully set up the situation that had resulted in Trevize's exile. And it was through Gendibal that Compore might yet (he was beginning to hope) achieve his dream of promotion to Trantor.

All preparations, however, had been designed to send Trevize to Trantor. Trevize's refusal to do this had taken Compore entirely by surprise and (Compore thought) had been unforeseen by Gendibal as well.

At any rate, Gendibal was hurrying to the spot, and to Compore, that deepened the sense of crisis.

Compore sent out his hypersignal.

Gendibal was roused from his sleep by the touch on his mind. It was effective and not in the least disturbing. Since it affected the arousal center directly, he simply awoke.

He sat up in bed, the sheet falling from his well-shaped and smoothly muscular torso. He had recognized the touch; the differences were as distinctive to mentalists as were voices to those who communicated primarily by sound.

Gendibal sent out the standard signal, asking if a small delay were possible, and the "no emergency" call returned.

Without undue haste, then, Gendibal attended to the morning routine. He was still in the ship's shower—with the used water draining into the recycling mechanisms—when he made contact again.

"Compore?"

"Yes, Speaker."

"Have you spoken with Trevize and the other one."

"Pelorat. Janov Pelorat. Yes, Speaker."

"Good. Give me another five minutes and I'll arrange visuals." He passed Sura Novi on his way to the controls. She looked at him questioningly and made as though to speak, but he placed a finger on his lips and she subsided at once. Gendibal still felt a bit

uncomfortable at the intensity of adoration/respect in her mind, but it was coming to be a comfortingly normal part of his environment somehow.

He had hooked a small tendril of his mind to hers and there would now be no way to affect his mind without affecting hers. The simplicity of her mind (and there was an enormous aesthetic pleasure to be found in contemplating its unadorned symmetry, Gendibal couldn't help thinking) made it impossible for any extraneous mind field to exist in their neighborhood without detection. He felt a surge of gratitude for the courteous impulse that had moved him that moment they had stood together outside the University, and that had led her to come to him precisely when she could be most useful.

He said, "Compor?"

"Yes, Speaker."

"Relax, please. I must study your mind. No offense is intended."

"As you wish, Speaker. May I ask the purpose?"

"To make certain you are untouched."

Compor said, "I know you have political adversaries at the Table, Speaker, but surely none of them—"

"Do not speculate, Compor. Relax. —Yes, you are untouched. Now, if you will cooperate with me, we will establish visual contact."

What followed was, in the ordinary sense of the word, an illusion, since no one but someone who was aided by the mentalic power of a well-trained Second Foundationer would have been able to detect anything at all, either by the senses or by any physical detecting device.

It was the building up of a face and its appearance from the contours of a mind, and even the best mentalist could succeed in producing only a shadowy and somewhat uncertain figure. Compor's face was there in mid-space, as though it were seen through a thin but shifting curtain of gauze, and Gendibal knew that his own face appeared in an identical manner in front of Compor.

By physical hyperwave, communication could have been established through images so clear that speakers who were a thousand parsecs apart might judge themselves to be face-to-face. Gendibal's ship was equipped for the purpose.

There were, however, advantages to the mentalist-vision. The chief was that it could not be tapped by any device known to the First Foundation. Nor, for that matter, could one Second Foundationer tap the mentalist-vision of another. The play of mind might be followed, but not the delicate change of facial expression that gave the communication its finer points.

As for the Anti-Mules— Well, the purity of Novi's mind was sufficient to assure him that none were about.

He said, "Tell me precisely, Compor, the talk you had with Trevize and with this Pelorat. Precisely, to the level of mind."

"Of course, Speaker," said Compor.

It didn't take long. The combination of sound, expression, and mentalism compressed matters considerably, despite the fact that there was far more to tell at the level of mind than if there had been a mere parroting of speech.

Gendibal watched intently. There was little redundancy, if any, in mentalist-vision. In true vision, or even in physical hypervision across the parsecs, one saw enormously more in the way of information bits than was absolutely necessary for comprehension and one could miss a great deal without losing anything significant.

Through the gauze of mentalist-vision, however, one bought absolute security at the price of losing the luxury of being able to miss bits. Every bit was significant.

There were always horror tales that passed from instructor to student on Trantor, tales that were designed to impress on the young the importance of concentration. The most often repeated was certainly the least reliable. It told of the first report on the progress of the Mule before he had taken over Kalgan—of the minor official who received the report and who had no more than the impression of a horselike animal because he did not see or understand the small flick that signified "personal name." The official therefore decided that the whole thing was too unimportant to pass on to Trantor. By the time the next message came, it was too late to take immediate action and five more bitter years had to pass.

The event had almost certainly never happened, but that didn't matter. It was a dramatic story and it served to motivate every student into the habit of intent concentration. Gendibal remembered his own student days when he made an error in reception that seemed, in his own mind, to be both insignificant and understandable. His teacher—old Kendast, a tyrant to the roots of his cerebellum—had simply sneered and said, "A horselike animal, Cub Gendibal?" and that had been enough to make him collapse in shame.

Compor finished.

Gendibal said, "Your estimate, please, of Trevize's reaction. You know him better than I do, better than anyone does."

Compor said, "It was clear enough. The mentalic indications were unmistakable. He thinks my words and actions represent my extreme anxiety to have him go to Trantor or to the Sirius Sector or to any place but where, in fact, he is actually going. It meant, in my opinion, that he would remain firmly where he was. The fact that I attached great importance to his shifting his position, in short, forced him to give it the same importance, and since he feels his own interests to be diametrically opposed to mine, he will deliberately act against what he interprets to be my wish."

"You are certain of that?"

"Quite certain."

Gendibal considered this and decided that Compor was correct. He said, "I am satisfied. You have done well. Your tale of Earth's radioactive destruction was cleverly chosen to help produce the proper reaction without the need for direct manipulation of the mind. Commendable!"

Comporg seemed to struggle with himself a short moment. "Speaker," he said, "I cannot accept your praise. I did not invent the tale. It is true. There really is a planet called Earth in the Sirius Sector and it really is considered to be the original home of humanity. It was radioactive, either to begin with or eventually, and this grew worse till the planet died. There was indeed a mind-enhancing invention that came to nothing. All this is considered history on the home planet of my ancestors."

"So? Interesting!" said Gendibal with no obvious conviction. "And better yet. To know when a truth will do is admirable, since no nontruth can be presented with the same sincerity. Palver once said, 'The closer to the truth, the better the lie, and the truth itself, when it can be used, is the best lie.'"

Comporg said, "There is one thing more to say. In following instructions to keep Trevize in the Sayshell Sector until you arrived—and to do so at all costs—I had to go so far in my efforts that it is clear that he suspects me of being under the influence of the Second Foundation."

Gendibal nodded. "That, I think, is unavoidable under the circumstances. His monomania on the subject would be sufficient to have him see Second Foundation even where it was not. We must simply take that into account."

"Speaker, if it is absolutely necessary that Trevize stay where he is until you can reach him, it would simplify matters if I came to meet you, took you aboard my ship, and brought you back. It would take less than a day—"

"No, Observer," said Gendibal sharply. "You will not do this. The people on Terminus know where you are. You have a hyper-relay on your ship which you cannot remove, have you not?"

"Yes, Speaker."

"And if Terminus knows you have landed on Sayshell, their ambassador on Sayshell knows of it—and the ambassador knows also that Trevize has landed. Your hyper-relay will tell Terminus that you have left for a specific point hundreds of parsecs away and returned; and the ambassador will inform them that Trevize has, however, remained in the sector. From this, how much will the people at Terminus guess? The Mayor of Terminus is, by all accounts, a shrewd woman and the last thing we want to do is to alarm her by presenting her with an obscure puzzle. We don't want her to lead a section of her fleet here. The chances of that are, in any case, uncomfortably high."

Comporg said, "With respect, Speaker—What reason do we have to fear a fleet if we can control a commander?"

"However little reason there might be, there is still less reason to fear if the fleet is not here. You stay where you are, Observer. 'When I reach you, I will join you on your ship and then—"

"And then, Speaker?"

"Why, and then I will take over."

Gendibal sat in place after he dismantled the mentalist-vision—and stayed there for long minutes—considering.

During this long trip to Sayshell, unavoidably long in this ship of his which could in no way match the technological advancement of the products of the First Foundation, he had gone over every single report on Trevize. The reports had stretched over nearly a decade.

Seen as a whole and in the light of recent events, there was no longer any doubt Trevize would have been a marvelous recruit for the Second Foundation, if the policy of never touching the Terminus-born had not been in place since Palver's time.

There was no telling how many recruits of highest quality had been lost to the Second Foundation over the centuries. There was no way of evaluating every one of the quadrillions of human beings populating the Galaxy. None of them was likely to have had more promise than Trevize, however, and certainly none could have been in a more sensitive spot.

Gendibal shook his head slightly. Trevize should never have been overlooked, Terminus-born or not. —And credit to Observer Compore for seeing it, even after the years had distorted him.

Trevize was of no use to them now, of course. He was too old for the molding, but he still had that inborn intuition, that ability to guess a solution on the basis of totally inadequate information, and something—something— Old Shandess—who, despite being past his prime, was First Speaker and had, on the whole, been a good one—saw something there, even without the correlated data and the reasoning that Gendibal had worked out in the course of this trip. Trevize, Shandess had thought, was the key to the crisis.

'Why was Trevize here at Sayshell? 'What was he planning? What was he doing?

And he couldn't be touched! Of that Gendibal was sure. Until it was known precisely what Trevize's role was, it would be totally wrong to try to modify him in any way. With the Anti-Mules— whoever they were—whatever they might be—in the field, a wrong move with respect to Trevize (Trevize, above all) might explode a wholly unexpected micro-sun in their faces.

He felt a mind hovering about his own and absently brushed at it as he might at one of the more annoying Trantorians— though with mind rather than hand. He felt the instant wash of other-pain and looked up.

Sura Novi had her palm to her furrowed brow. "Your pardon, Master, I be struck with sudden head-anguish."

Gendibal was instantly contrite. "I'm sorry, Novi. I wasn't thinking-or I was thinking too intently." Instantly—and gently—he smoothed the ruffled mind tendrils.

Novi smiled with sudden brightness. "It passed with sudden vanishing. The kind sound of your words, Master, works well upon me."

Gendibal said, "Coed! Is something wrong? Why are you here?" He forbore to enter her mind in greater detail in order to find out for himself. More and more, he felt a reluctance to invade her privacy.

Novi hesitated. She leaned toward him slightly. "I be concerned. You were looking at nothing and making sounds and your face was twitching. I stayed there, stick-frozen, afeared you were declining— ill—and unknowing what to do."

"It was nothing, Novi. You are not to fear." He patted her nearer hand. "There is nothing to fear. Do you understand?"

Fear—or any strong emotion—twisted and spoiled the symmetry of her mind somewhat. He preferred it calm and peaceful and happy, but he hesitated at the thought of adjusting it into that position by outer influence. She had felt the previous adjustment to be the effect of his words and it seemed to him that he preferred it that way.

He said, "Novi, why don't I call you Sura?"

She looked up at him in sudden woe. "Oh, Master, do not do so."

"But Rufirant did so on that day that we met. I know you well enough now—"

"I know well he did so, Master. It be how a man speak to girl who have no man, no betrothed, who is—not complete. You say her previous. It is more honorable for me if you say 'Novi' and I be proud that you say so. And if I have not man now, I have master and I be pleased. I hope it be not offensive to you to say 'Novi.'"

"It certainly isn't, Novi."

And her mind was beautifully smooth at that and Gendibal was pleased. Too pleased. Ought he to be so pleased?

A little shamefacedly, he remembered that the Mule was supposed to have been affected in this manner by that woman of the First Foundation, Bayta Darell, to his own undoing.

This, of course, was different. This Hamishwoman was his defense against alien minds and he wanted her to serve that purpose most efficiently.

No, that was not true— His function as a Speaker would be compromised if he ceased to understand his own mind or, worse, if he deliberately misconstrued it to avoid the truth. The truth was that it pleased him when she was calm and peaceful and happy endogenously—without his interference—and that it pleased him simply because she pleased him; and (he thought defiantly) there was nothing wrong with that.

He said, "Sit down, Novi."

She did so, balancing herself precariously at the edge of the chair and sitting as far away as the confines of the room allowed. Her mind was flooded with respect.

He said, "When you saw me making sounds, Novi, I was speaking at a long distance, scholar-fashion."

Novi said sadly, her eyes cast down, "I see, Master, that there be much to scowler-fashion I understand not and imagine not. It be difficult mountain-high art. I be ashamed to have come to you to be made scowler. How is it, Master, you did not be-laugh me?"

Gendibal said, "It is no shame to aspire to something even if it is beyond your reach. You are now too old to be made a scholar after my fashion, but you are never too old to learn more than you already know and to become able to do more than you already can. I will teach you something about this ship. By the time we reach our destination, you will know quite a bit about it."

He felt delighted. Why not? He was deliberately turning his back on the stereotype of the Hamish people. What right, in any case, had the heterogeneous group of the Second Foundation to set up such a stereotype? The young produced by them were only occasionally suited to become high-level Second Foundationers themselves. The children of Speakers almost never qualified to be Speakers. There were the three generations of Linguesters three centuries ago, but there was always the suspicion that the middle Speaker of that series did not really belong. And if that were true, who were the people of the University to place themselves on so high a pedestal?

He watched Novi's eyes glisten and was pleased that they did.

She said, "I try hard to learn all you teach me, Master."

"I'm sure you will," he said—and then hesitated. It occurred to him that, in his conversation with Compore, he had in no way indicated at any time that he was not alone. There was no hint of a companion.

A woman could be taken for granted, perhaps; at least, Compore would no doubt not be surprised. —But a Hamishwoman?

For a moment, despite anything Gendibal could do, the stereotype reigned supreme and he found himself glad that Compore had never been on Trantor and would not recognize Novi as a Hamishwoman.

He shook it off. It didn't matter if Compore knew or knew not-or if anyone did. Gendibal was a Speaker of the Second Foundation and he could do as he pleased within the constraints of the Seldon Plan—and no one could interfere.

Novi said, "Master, once we reach our destination, will we part?"

He looked at her and said, with perhaps more force than he intended, "We will not be separated, Novi."

And the Hamishwoman smiled shyly and looked for all the Galaxy as though she might have been—any woman.

13. UNIVERSITY

PELORAT WRINKLED HIS NOSE WHEN HE AND TREVIZE RE-ENTERED THE Far Star.

Trevize shrugged. "The human body is a powerful dispenser of odors. Recycling never works instantaneously and artificial scents merely overlay—they do not replace."

"And I suppose no two ships smell quite alike, once they've been occupied for a period of time by different people."

"That's right, but did you smell Sayshell Planet after the first hour?"

"No," admitted Pelorat.

"Well, you won't smell this after a while, either. In fact, if you live in the ship long enough, you'll welcome the odor that greets you on your return as signifying home. And by the way, if you become a Galactic rover after this, Janov, you'll have to learn that it is impolite to comment on the odor of any ship or, for that matter, any world to those who live on that ship or world. Between us, of course, it is all right."

"As a matter of fact, Golan, the funny thing is I do consider the Far Star home. At least it's Foundation-made." Pelorat smiled. "You know, I never considered myself a patriot. I like to think I recognize only humanity as my nation, but I must say that being away from the Foundation fills my heart with love for it."

Trevize was making his bed. "You're not very far from the Foundation, you know. The Sayshell Union is almost surrounded by Federation territory. We have an ambassador and an enormous presence here, from consuls on down. The Sayshellians like to oppose us in words, but they are usually very cautious about doing anything that gives us displeasure. —Janov, do turn in. We got nowhere today and we have to do better tomorrow."

Still, there was no difficulty in hearing between the two rooms, however, and when the ship was dark, Pelorat, tossing restlessly, finally said in a not very loud voice, "Golan?"

"Yes."

"You're not sleeping?"

"Not while you're talking."

"We did get somewhere today. Your friend, Compor—"

"Ex-friend," growled Trevize.

"Whatever his status, he talked about Earth and told us something I hadn't come across in my researches before. Radioactivity!"

Trevize lifted himself to one elbow. "Look, Golan, if Earth is really dead, that doesn't mean we return home. I still want to find Gaia."

Pelorat made a puffing noise with his mouth as though he were blowing away feathers. "My dear chap, of course. So do I. Nor do I think Earth is dead. Compor may have been telling what he felt was the truth, but there's scarcely a sector in the Galaxy

that doesn't have some tale or other that would place the origin of humanity on some local world. And they almost invariably call it Earth or some closely equivalent name.

"We call it 'globocentrism' in anthropology. People have a tendency to take it for granted that they are better than their neighbors; that their culture is older and superior to that of other worlds; that what is good in other worlds has been borrowed from them, while what is bad is distorted or perverted in the borrowing or invented elsewhere. And the tendency is to equate superiority in quality with superiority in duration. If they cannot reasonably maintain their own planet to be Earth or its equivalent—and the beginnings of the human species—they almost always do the best they can by placing Earth in their own sector, even when they cannot locate it exactly."

Trevize said, "And you're telling me that Comporg was just following the common habit when he said Earth existed in the Sirius Sector. —Still, the Sirius Sector does have a long history, so every world in it should be well known and it should be easy to check the matter, even without going there."

Pelorat chuckled. "Even if you were to show that no world in the Sirius Sector could possibly be Earth, that wouldn't help. You underestimate the depths to which mysticism can bury rationality, Golan. There are at least half a dozen sectors in the Galaxy where respectable scholars repeat, with every appearance of solemnity and with no trace of a smile, local tales that Earth—or whatever they choose to call it—is located in hyperspace and cannot be reached, except by accident."

"And do they say anyone has ever reached it by accident?"

"There are always tales and there is always a patriotic refusal to disbelieve, even though the tales are never in the least credible and are never believed by anyone not of the world that produces them."

"Then, Janov, let's not believe them ourselves. Let's enter our own private hyperspace of sleep."

"But, Golan, it's this business of Earth's radioactivity that interests me. To me, that seems to bear the mark of truth—or a kind of truth."

"What do you mean, a kind of truth?"

"Well, a world that is radioactive would be a world in which hard radiation would be present in higher concentration than is usual. The rate of mutation would be higher on such a world and evolution would proceed more quickly—and more diversely. I told you, if you remember, that among the points on which almost all the tales agree is that life on Earth was incredibly diverse: millions of species of all kinds of life. It is this diversity of life—this explosive development—that might have brought intelligence to the Earth, and then the surge outward into the Galaxy. If Earth were for some reason radioactive—that is, more radioactive than other planets—that might account for everything else about Earth that is—or was—unique."

Trevize was silent for a moment. Then, "In the first place, we have no reason to believe Comporg was telling the truth. He may well have been lying freely in order to induce us to leave this place and go chasing madly off to Sirius. I believe that's exactly

what he was doing. And even if he were telling the truth, what he said was that there was so much radioactivity that life became impossible."

Pelorat made the blowing gesture again. "There wasn't too much radioactivity to allow life to develop on Earth and it is easier for life to maintain itself—once established—than to develop in the first place. Granted, then, that life was established and maintained on Earth. Therefore the level of radioactivity could not have been incompatible with life to begin with and it could only have fallen off with time. There is nothing that can raise the level."

"Nuclear explosions?" suggested Trevize.

"What would that have to do with it?"

"I mean, suppose nuclear explosions took place on Earth?"

"On Earth's surface? Impossible. There's no record in the history of the Galaxy of any society being so foolish as to use nuclear explosions as a weapon of war. We would never have survived. During the Trigellian insurrections, when both sides were reduced to starvation and desperation and when Jendippurus Khoratt suggested the initiation of a fusion reaction in—"

"He was hanged by the sailors of his own fleet. I know Galactic history. I was thinking of accident."

"There's no record of accidents of that sort that are capable of significantly raising the intensity of radioactivity of a planet, generally." He sighed. "I suppose that when we get around to it, we'll have to go to the Sirius Sector and do a little prospecting there."

"Someday, perhaps, we will. But for now—"

"Yes, yes, I'll stop talking."

He did and Trevize lay in the dark for nearly an hour considering whether he had attracted too much attention already and whether it might not be wise to go to the Sirius Sector and then return to Gaia when attention—everyone's attention—was elsewhere.

He had arrived at no clear decision by the time he fell asleep. His dreams were troubled.

They did not arrive back in the city till midmorning. The tourist center was quite crowded this time, but they managed to obtain the necessary directions to a reference library, where in turn they received instruction in the use of the local models of data-gathering computers.

They went carefully through the museums and universities, beginning with those that were nearest, and checked out whatever information was available on anthropologists, archaeologists, and ancient historians.

Pelorat said, "Ah!"

"Ah?" said Trevize with some asperity. "Ah, what?"

"This name, Quintesetz. It seems familiar."

"You know him?"

"No, of course not, but I may have read papers of his. Back at the ship, where I have my reference collection—"

"We're not going back, Janov. If the name is familiar, that's a starting point. If he can't help us, he will undoubtedly be able to direct us further." He rose to his feet. "Let's find a way of getting to Sayshell University. And since there will be nobody there at lunchtime, let's eat first."

It was not till late afternoon that they had made their way out to the university, worked their way through its maze, and found themselves in an anteroom, waiting for a young woman who had gone off in search of information and who might—or might not—lead them to Quintesetz.

"I wonder," said Pelorat uneasily, "how much longer we'll have to wait. It must be getting toward the close of the schoolday."

And, as though that were a cue, the young lady whom they had last seen half an hour before, walked rapidly toward them, her shoes glinting red and violet and striking the ground with a sharp musical tone as she walked. The pitch varied with the speed and force of her steps.

Pelorat winced. He supposed that each world had its own ways of assaulting the senses, just as each had its own smell. He wondered if, now that he no longer noticed the smell, he might also learn not to notice the cacophony of fashionable young women when they walked.

She came to Pelorat and stopped. "May I have your full name, Professor?"

"It's Janov Pelorat, miss."

"Your home planet?"

Trevize began to lift one hand as though to enjoin silence, but Pelorat, either not seeing or not regarding, said, "Terminus."

The young woman smiled broadly, and looked pleased. "When I told Professor Quintesetz that a Professor Pelorat was inquiring for him, he said he would see you if you were Janov Pelorat of Terminus, but not otherwise."

Pelorat blinked rapidly. "You—you mean, he's heard of me?"

"It certainly seems so."

And, almost creakily, Pelorat managed a smile as he turned to Trevize. "He's heard of me. I honestly didn't think—I mean, I've written very few papers and I didn't think that anyone—" He shook his head. "They weren't really important."

"Well then," said Trevize, smiling himself, "stop hugging yourself in an ecstasy of self-underestimation and let's go." He turned to the woman. "I presume, miss, there's some sort of transportation to take us to him?"

"It's within walking distance. We won't even have to leave the building complex and I'll be glad to take you there. —Are both of you from Terminus?" And off she went.

The two men followed and Trevize said, with a trace of annoyance, "Yes, we are. Does that make a difference?"

"Oh no, of course not. There are people on Sayshell that don't like Foundationers, you know, but here at the university, we're more cosmopolitan than that. Live and let live is what I always say. I mean, Foundationers are people, too. You know what I mean?"

"Yes, I know what you mean. Lots of us say that Sayshellians are people."

"That's just the way it should be. I've never seen Terminus. It must be a big city."

"Actually it isn't," said Trevize matter-of-factly. "I suspect it's smaller than Sayshell City."

"You're tweaking my finger," she said. "It's the capital of the Foundation Federation, isn't it? I mean, there isn't another Terminus, is there?"

"No, there's only one Terminus, as far as I know, and that's where we're from—the capital of the Foundation Federation."

"Well then, it must be an enormous city. —And you're coming all the way here to see the professor. We're very proud of him, you know. He's considered the biggest authority in the whole Galaxy."

"Really?" said Trevize. "On what?"

Her eyes opened wide again, "You are a teaser. He knows more about ancient history than—than I know about my own family." And she continued to walk on ahead on her musical feet.

One can only be called a teaser and a finger-tweaker so often without developing an actual impulse in that direction. Trevize smiled and said, "The professor knows all about Earth, I suppose?"

"Earth?" She stopped at an office door and looked at them blankly.

"You know. The world where humanity got its start."

"Oh, you mean the planet-that-was-first. I guess so. I guess he should know all about it. After all, it's located in the Sayshell Sector. Everyone knows that! —This is his office. Let me signal him."

"No, don't," said Trevize. "Not for just a minute. Tell me about Earth."

"Actually I never heard anyone call it Earth. I suppose that's a Foundation word. We call it Gaia, here."

Trevize cast a swift look at Pelorat. "Oh? And where is it located?"

"Nowhere. It's in hyperspace and there's no way anyone can get to it. When I was a little girl, my grandmother said that Gaia was once in real space, but it was so disgusted at the—"

"Crimes and stupidities of human beings," muttered Pelorat, "that, out of shame, it left space and refused to have anything more to do with the human beings it had sent out into the Galaxy."

"You know the story, then. See? —A girlfriend of mine says it's superstition. Well, I'll tell her. If it's good enough for professors from the Foundation—"

A glittering section of lettering on the smoky glass of the door read: SOTAYN QUINTESETZ ABT in the hard-to-read Sayshellian calligraphy—and under it was printed, in the same fashion: DEPARTMENT OF ANCIENT HISTORY.

The woman placed her finger on a smooth metal circle. There was no sound, but the smokiness of the glass turned a milky white for a moment and a soft voice said, in an abstracted sort of way, "Identify yourself, please."

"Janov Pelorat of Terminus," said Pelorat, "with Golan Trevize of the same world." The door swung open at once.

The man who stood up, walked around his desk, and advanced to meet them was tall and well into middle age. He was light brown in skin color and his hair, which was set in crisp curls over his head, was iron-gray. He held out his hand in greeting and his voice was soft and low. "I am S.Q. I am delighted to meet you, Professors."

Trevize said, "I don't own an academic title. I merely accompany Professor Pelorat. You may call me simply Trevize. I am pleased to meet you, Professor Abt."

Quintesetz held up one hand in clear embarrassment. "No, no. Abt is merely a foolish title of some sort that has no significance outside of Sayshell. Ignore it, please, and call me S.Q. We tend to use initials in ordinary social intercourse on Sayshell. I'm so pleased to meet two of you when I had been expecting but one."

He seemed to hesitate a moment, then extended his right hand after wiping it unobtrusively on his trousers.

Trevize took it, wondering what the proper Sayshellian manner of greeting was.

Quintesetz said, "Please sit down. I'm afraid you'll find these chairs to be lifeless ones, but I, for one, don't want my chairs to hug me. It's all the fashion for chairs to hug you nowadays, but I prefer a hug to mean something, hey?"

Trevize smiled and said, "Who would not? Your name, S.Q., seems to be of the Rim Worlds and not Sayshellian. I apologize if the remark is impertinent."

"I don't mind. My family traces back, in part, to Askone. Five generations back, my great-great-grandparents left Askone when Foundation domination grew too heavy."

Pelorat said, "And we are Foundationers. Our apologies."

Quintesetz waved his hand genially, "I don't hold a grudge across a stretch of five generations. Not that such things haven't been done, more's the pity. Would you like to have something to eat? To drink? Would you like music in the background?"

"If you don't mind," said Pelorat, "I'd be willing to get right to business, if Sayshellian ways would permit."

"Sayshellian ways are not a barrier to that, I assure you. —You have no idea how remarkable this is, Dr. Pelorat. It was only about two weeks ago that I came across your article on origin myths in the *Archaeological Review* and it struck me as a remarkable synthesis— all too brief."

Pelorat flushed with pleasure. "How delighted I am that you have read it. I had to condense it, of course, since the *Review* would not print a full study. I have been planning to do a treatise on the subject."

"I wish you would. In any case, as soon as I had read it, I had this desire to see you. I even had the notion of visiting Terminus in order to do so, though that would have been hard to arrange—"

"Why so?" asked Trevize.

Quintesetz looked embarrassed. "I'm sorry to say that Sayshell is not eager to join the Foundation Federation and rather discourages any social communication with the Foundation. We've a tradition of neutralism, you see. Even the Mule didn't bother us, except to extort from us a specific statement of neutrality. For that reason, any application for permission to visit Foundation territory generally— and particularly Terminus—is

viewed with suspicion, although a scholar such as myself, intent on academic business, would probably obtain his passport in the end. —But none of that was necessary; you have come to me. I can scarcely believe it. I ask myself: Why? Have you heard of me, as I have heard of you?"

Pelorat said, "I know your work, S.Q., and in my records I have abstracts of your papers. It is why I have come to you. I am exploring both the matter of Earth, which is the reputed planet of origin of the human species, and the early period of the exploration and settlement of the Galaxy. In particular, I have come here to inquire as to the founding of Sayshell."

"From your paper," said Quintesetz, "I presume you are interested in myths and legends."

"Even more in history—actual facts—if such exist. Myths and legends, otherwise."

Quintesetz rose and walked rapidly back and forth the length of his office, paused to stare at Pelorat, then walked again.

Trevize said impatiently, "Well, sir."

Quintesetz said, "Odd! Really odd! It was only yesterday—"

Pelorat said, "What was only yesterday?"

Quintesetz said, "I told you, Dr. Pelorat—may I call you J.P., by the way? I find using a full-length name rather unnatural"

"Please do."

"I told you, J.P., that I had admired your paper and that I had wanted to see you. The reason I wanted to see you was that you clearly had an extensive collection of legends concerning the beginnings of the worlds and yet didn't have ours. In other words, I wanted to see you in order to tell you precisely what you have come to see me to find out."

"What has this to do with yesterday, S.Q.?" asked Trevize.

"We have legends. A legend. An important one to our society, for it has become our central mystery—"

"Mystery?" said Trevize.

"I don't mean a puzzle or anything of that sort. That, I believe, would be the usual meaning of the word in Galactic Standard. There's a specialized meaning here. It means 'something secret'; something only certain adepts know the full meaning of; something not to be spoken of to outsiders. —And yesterday was the day."

"The day of what, S.Q.?" asked Trevize, slightly exaggerating his air of patience.

"Yesterday was the Day of Flight."

"Ah," said Trevize, "a day of meditation and quiet, when everyone is supposed to remain at home."

"Something like that, in theory, except that in the larger cities, the more sophisticated regions, there is little observance in the older fashion. —But you know about it, I see."

Pelorat, who had grown uneasy at Trevize's annoyed tone, put in hastily, "We heard a little of it, having arrived yesterday."

"Of all days," said Trevize sarcastically. "See here, S.Q. As I said, I'm not an academic, but I have a question. You said you were speaking of a central mystery, meaning it was not to be spoken of to outsiders. Why, then, are you speaking of it to us? We are outsiders."

"So you are. But I'm not an observer of the day and the depth of my superstition in this matter is slight at best. J.P.'s paper, however, reinforced a feeling I have had for a long time. A myth or legend is simply not made up out of a vacuum. Nothing is-or can be. Somehow there is a kernel of truth behind it, however distorted that might be, and I would like the truth behind our legend of the Day of Flight."

Trevize said, "Is it safe to talk about it?"

Quintesezt shrugged. "Not entirely, I suppose. The conservative elements among our population would be horrified. However, they don't control the government and haven't for a century. The secularists are strong and would be stronger still, if the conservatives didn't take advantage of our—if you'll excuse me—anti-Foundation bias. Then, too, since I am discussing the matter out of my scholarly interest in ancient history, the League of Academicians will support me strongly, in case of need."

"In that case," said Pelorat, "would you tell us about your central mystery, S.Q.?"

"Yes, but let me make sure we won't be interrupted or, for that matter, overheard. Even if one must stare the bull in the face, one needn't slap its muzzle, as the saying goes."

He flicked a pattern on the work-face of an instrument on his desk and said, "We're incommunicado now."

"Are you sure you're not bugged?" asked Trevize.

"Bugged?"

"Tapped! Eavesdropped! —Subjected to a device that will have you under observation—visual or auditory or both."

Quintesezt looked shocked. "Not here on Sayshell!"

Trevize shrugged. "If you say so."

"Please go on, S.Q.," said Pelorat.

Quintesezt pursed his lips, leaned back in his chair (which gave slightly under the pressure) and put the tips of his fingers together. He seemed to be speculating as to just how to begin.

He said, "Do you know what a robot is?"

"A robot?" said Pelorat. "No."

Quintesezt looked in the direction of Trevize, who shook his head slowly.

"You know what a computer is, however?"

"Of course," said Trevize impatiently.

"Well then, a mobile computerized tool—"

"Is a mobile computerized tool." Trevize was still impatient. "There are endless varieties and I don't know of any generalized term for it except mobile computerized tool."

"—that looks exactly like a human being is a robot." S.Q. completed his definition with equanimity. "The distinction of a robot is that it is humaniform."

"Why humaniform?" asked Pelorat in honest amazement. "I'm not sure. It's a remarkably inefficient form for a tool, I grant you, but I'm just repeating the legend. 'Robot' is an old word from no recognizable language, though our scholars say it bears the connotation of 'work.'"

"I can't think of any word," said Trevize skeptically, "that sounds even vaguely like 'robot' and that has any connection with 'work.'"

"Nothing in Galactic, certainly," said Quintesetz, "but that's what they say."

Pelorat said, "It may have been reverse etymology. These objects were used for work, and so the word was said to mean 'work.' —In any case, why do you tell us this?"

"Because it is a firmly fixed tradition here on Sayshell that when Earth was a single world and the Galaxy lay all uninhabited before it, robots were invented and devised. There were then two sorts of human beings: natural and invented, flesh and metal, biological and mechanical, complex and simple—"

Quintesetz came to a halt and said with a rueful laugh, "I'm sorry. It is impossible to talk about robots without quoting from the Book of Flight. The people of Earth devised robots—and I need say no more. That's plain enough."

"And why did they devise robots?" asked Trevize.

Quintesetz shrugged. "Who can tell at this distance in time? Perhaps they were few in numbers and needed help, particularly in the great task of exploring and populating the Galaxy."

Trevize said, "That's a reasonable suggestion. Once the Galaxy was colonized, the robots would no longer be needed. Certainly there are no humanoid mobile computerized tools in the Galaxy today."

"In any case," said Quintesetz, "the story is as follows—if I may vastly simplify and leave out many poetic ornamentations which, frankly, I don't accept, though the general population does or pretends to. Around Earth, there grew up colony worlds circling neighboring stars and these colony worlds were far richer in robots than was Earth itself. There was more use for robots on raw, new worlds. Earth, in fact, retreated, wished no more robots, and rebelled against them."

"What happened?" asked Pelorat.

"The Outer Worlds were the stronger. With the help of their robots, the children defeated and controlled Earth—the Mother. Pardon me, but I can't help slipping into quotation. But there were those from Earth who fled their world—with better ships and stronger modes of hyperspatial travel. They fled to far distant stars and worlds, far beyond the closer worlds earlier colonized. New colonies were founded—without robots—in which human beings could live freely. Those were the Times of Flight, so-called, and the day upon which the first Earthmen reached the Sayshell Sector— this very planet, in fact—is the Day of Flight, celebrated annually for many thousands of years."

Pelorat said, "My dear chap, what you are saying, then, is that Sayshell was founded directly from Earth."

Quintesetz thought and hesitated for a moment. Then he said, "That is the official belief."

"Obviously," said Trevize, "you don't accept it."

"It seems to me—" Quintesetz began and then burst out, "Oh, Great Stars and Small Planets, I don't! It is entirely too unlikely, but it's official dogma and however secularized the government has become, lip service to that, at least, is essential. —Still, to the point. In your article, J.P., there is no indication that you're aware of this story—of robots and of two waves of colonization, a lesser one with robots and a greater one without."

"I certainly was not," said Pelorat. "I hear it now for the first time and, my dear S.Q., I am eternally grateful to you for making this known to me. I am astonished that no hint of this has appeared in any of the writings—"

"It shows," said Quintesetz, "how effective our social system is. It's our Sayshellian secret—our great mystery."

"Perhaps," said Trevize dryly. "Yet the second wave of colonization—the robotless wave—must have moved out in all directions. Why is it only on Sayshell that this great secret exists?"

Quintesetz said, "It may exist elsewhere and be just as secret. Our own conservatives believe that only Sayshell was settled from Earth and that all the rest of the Galaxy was settled from Sayshell. That, of course, is probably nonsense."

Pelorat said, "These subsidiary puzzles can be worked out in time. Now that I have the starting point, I can seek out similar information on other worlds. What counts is that I have discovered the question to ask and a good question is, of course, the key by which infinite answers can be educed. How fortunate that I—"

Trevize said, "Yes, Janov, but the good S.Q. has not told us the whole story, surely. What happened to the older colonies and their robots? Do your traditions say?"

"Not in detail, but in essence. Human and humanoid cannot live together, apparently. The worlds with robots died. They were not viable."

"And Earth?"

"Humans left it and settled here and presumably (though the conservatives would disagree) on other planets as well."

"Surely not every human being left Earth. The planet was not deserted."

"Presumably not. I don't know."

Trevize said abruptly, "Was it left radioactive?"

Quintesetz looked astonished. "Radioactive?"

"That's what I'm asking."

"Not to my knowledge. I never heard of such a thing."

Trevize put a knuckle to his teeth and considered. Finally he said, "S.Q., it's getting late and we have trespassed sufficiently on your time, perhaps." (Pelorat made a motion as though he were about to protest, but Trevize's hand was on the other's knee and his grip tightened—so Pelorat, looking disturbed, subsided.)

Quintesetz said, "I was delighted to be of use."

"You have been and if there's anything we can do in exchange, name it."

Quintesetz laughed gently. "If the good J.P. will be so kind as to refrain from mentioning my name in connection with any writing he does on our mystery, that will be sufficient repayment."

Pelorat said eagerly, "You would be able to get the credit you deserve—and perhaps be more appreciated—if you were allowed to visit Terminus and even, perhaps, remain there as a visiting scholar at our university for an extended period. We might arrange that. Sayshell might not like the Federation, but they might not like refusing a direct request that you be allowed to come to Terminus to attend, let us say, a colloquium on some aspect of ancient history."

The Sayshellian half-rose. "Are you saying you can pull strings to arrange that?"

Trevize said, "Why, I hadn't thought of it, but J.P. is perfectly right. That would be feasible—if we tried. And, of course, the more grateful you make us, the harder we will try."

Quintesetz paused, then frowned. "What do you mean, sir?"

"All you have to do is tell us about Gaia, S.Q.," said Trevize. And all the light in Quintesetz's face died.

Quintesetz looked down at his desk. His hand stroked absent-mindedly at his short, tightly curled hair. Then he looked at Trevize and pursed his lips tightly. It was as though he were determined not to speak.

Trevize lifted his eyebrows and waited and finally Quintesetz said in a strangled sort of way, "it is getting indeed late—quite glemmering."

Until then he had spoken in good Galactic, but now his words took on a strange shape as though the Sayshellian mode of speech were pushing past his classical education.

"Glemmering, S.Q.?"

"It is nearly full night."

Trevize nodded. "I am thoughtless. And I am hungry, too. Could you please join us for an evening meal, S.Q., at our expense? We could then, perhaps, continue our discussion—about Gaia."

Quintesetz rose heavily to his feet. He was taller than either of the two men from Terminus, but he was older and pudgier and his height did not lend him the appearance of strength. He seemed more weary than when they had arrived.

He blinked at them and said, "I forget my hospitality. You are Outworlders and it would not be fitting that you entertain me. Come to my home. It is on campus and not far and, if you wish to carry on a conversation, I can do so in a more relaxed manner there than here. My only regret" (he seemed a little uneasy) "is that I can offer you only a limited meal. My wife and I are vegetarians and if you are meat-eating, I can Only express my apologies and regrets."

Trevize said, "J.P. and I will be quite content to forego our carnivorous natures for one meal. Your conversation will more than make up for it—I hope."

"I can promise you an interesting meal, whatever the conversation," said Quintesetz, "if your taste should run to our Sayshellian spices. My wife and I have made a rare study of such things."

"I look forward to any exoticism you choose to supply, S.Q.," said Trevize coolly, though Pelorat looked a little nervous at the prospect.

Quintesetz led the way. The three left the room and walked down an apparently endless corridor, with the Sayshellian greeting students and colleagues now and then, but making no attempt to introduce his companions. Trevize was uneasily aware that others stared curiously at his sash, which happened to be one of his gray ones. A subdued color was not something that was de rigueur in campus clothing, apparently.

Finally they stepped through the door and out into the open. It was indeed dark and a little cool, with trees bulking in the distance and a rather rank stand of grass on either side of the walkway.

Pelorat came to a halt—with his back to the glimmer of lights that came from the building they had just left and from the glows that lined the walks of the campus. He looked straight upward.

"Beautiful!" he said. "There is a famous phrase in a verse by one of our better poets that speaks of 'the speckle-shine of Sayshell's soaring sky.'"

Trevize gazed appreciatively and said in a low voice, "Vie are from Terminus, S.Q., and my friend, at least, has seen no other skies. On Terminus, we see only the smooth dim fog of the Galaxy and a few barely visible stars. You would appreciate your own sky even more, had you lived with ours."

Quintesetz said gravely, "We appreciate it to the full, I assure you. It's not so much that we are in an uncrowded area of the Galaxy, but that the distribution of stars is remarkably even. I don't think that you will find, anywhere in the Galaxy, first-magnitude stars so generally distributed. —And yet not too many, either. I have seen the skies of worlds that are inside the outer reaches of a globular cluster and there you will see too many bright stars. It spoils the darkness of the night sky and reduces the splendor considerably."

"I quite agree with that," said Trevize.

"Now I wonder," said Quintesetz, "if you see that almost regular pentagon of almost equally bright stars. The Five Sisters, we call them. It's in that direction, just above the line of trees. Do you see it?"

"I see it," said Trevize. "Very attractive."

"Yes," said Quintesetz. "It's supposed to symbolize success in love —and there's no love letter that doesn't end in a pentagon of dots to indicate a desire to make love. Each of the five stars stands for a different stage in the process and there are famous poems which have vied with each other in making each stage as explicitly erotic as possible. In my younger days, I attempted versifying on the subject myself and I wouldn't have thought that the time would come when I would grow so indifferent to the Five Sisters, though I suppose it's the common fate. —Do you see the dim star just about in the center of the Five Sisters."

"That," said Quintesetz, "is supposed to represent unrequited love. There is a legend that the star was once as bright as the rest, but faded with grief." And he walked on rapidly.

The dinner, Trevize had been forced to admit to himself, was delightful. There was endless variety and the spicing and dressing were subtle but effective.

Trevize said, "All these vegetables—which have been a pleasure to eat, by the way—are part of the Galactic dietary, are they not, S.Q.?"

"Yes, of course."

"I presume, though, that there are indigenous forms of life, too."

"Of course. Sayshell Planet was an oxygen world when the first settlers arrived, so it had to be life-bearing. And we have preserved some of the indigenous life, you may be sure. We have quite extensive natural parks in which both the flora and the fauna of Old Sayshell survive."

Pelorat said sadly, "There you are in advance of us, S.Q. There was little land life on Terminus when human beings arrived and I'm afraid that for a long time no concerted effort was made to preserve the sea life, which had produced the oxygen that made Terminus habitable. Terminus has an ecology now that is purely Galactic in nature."

"Sayshell," said Quintesetz, with a smile of modest pride, "has a long and steady record of life-valuing."

And Trevize chose that moment to say, "When we left your office, S.Q., I believe it was your intention to feed us dinner and then tell us about Gaia."

Quintesetz's wife, a friendly woman—plump and quite dark, who had said little during the meal—looked up in astonishment, rose, and left the room without a word.

"My wife," said Quintesetz uneasily, "is quite a conservative, I'm afraid, and is a bit uneasy at the mention of—the world. Please excuse her. But why do you ask about it?"

"Because it is important for J.P.'s work, I'm afraid."

"But why do you ask it of me? We were discussing Earth, robots, the founding of Sayshell. What has all this to do with—what you ask?"

"Perhaps nothing, and yet there are so many oddnesses about the matter. Why is your wife uneasy at the mention of Gaia? Why are you uneasy? Some talk of it easily enough. We have been told only today that Gaia is Earth itself and that it has disappeared into hyperspace because of the evil done by human beings."

A look of pain crossed Quintesetz's face. "Who told you that gibberish?"

"Someone I met here at the university."

"That's just superstition."

"Then it's not part of the central dogma of your legends concerning the Flight?"

"No, of course not. It's just a fable that arose among the ordinary, uneducated people."

"Are you sure?" asked Trevize coldly.

Quintesetz sat back in his chair and stared at the remnant of the meal before him. "Come into the living room," he said. "My wife will not allow this room to be cleared and set to rights while we are here and discussing—this."

"Are you sure it is just a fable?" repeated Trevize, once they had seated themselves in another room, before a window that bellied upward and inward to give a clear view of Sayshell's remarkable night sky. The lights within the room glimmered down to avoid competition and Quintesetz's dark countenance melted into the shadow.

Quintesetz said, "Aren't you sure? Do you think that any world can dissolve into hyperspace? You must understand that the average person has only the vaguest notion of what hyperspace is."

"The truth is," said Trevize, "that I myself have only the vaguest notion of what hyperspace is and I've been through it hundreds of times."

"Let me speak realities, then. I assure you that Earth—wherever it is—is not located within the borders of the Sayshell Union and that the world you mentioned is not Earth."

"But even if you don't know where Earth is, S.Q., you ought to know where the world I mentioned is. It is certainly within the borders of the Sayshell Union. We know that much, eh, Pelorat?"

Pelorat, who had been listening stolidly, started at being suddenly addressed and said, "If it comes to that, Golan, I know where it is."

Trevize turned to look at him. "Since when, Janov?"

"Since earlier this evening, my dear Golan. You showed us the Five Sisters, S.Q., on our way from your office to your house. You pointed out a dim star at the center of the pentagon. I'm positive that's Gaia."

Quintesetz hesitated—his face, hidden in the dimness, was beyond any chance of interpretation. Finally he said, "Well, that's what our astronomers tell us—privately. It is a planet that circles that star."

Trevize gazed contemplatively at Pelorat, but the expression on the professor's face was unreadable. Trevize turned to Quintesetz, "Then tell us about that star. Do you have its coordinates?"

"I? No." He was almost violent in his denial. "I have no stellar coordinates here. You can get it from our astronomy department, though I imagine not without trouble. No travel to that star is permitted."

"Why not? It's within your territory, isn't it?"

"Spaciographically, yes. Politically, no."

Trevize waited for something more to be said. When that didn't come, he rose. "Professor Quintesetz," he said formally, "I am not a policeman, soldier, diplomat, or thug. I am not here to force information out of you. Instead, I shall, against my will, go to our ambassador. Surely, you must understand that it is not I, for my own personal interest, that request this information. This is Foundation business and I don't want to make an interstellar incident out of this. I don't think the Sayshell Union would want to, either."

Quintesetz said uncertainly, "What is this Foundation business?"

"That's not something I can discuss with you. If Gaia is not something you can discuss with me, then we will transfer it all to the government level and, under the circumstances, it may be the worse for Sayshell. Sayshell has kept its independence of the Federation and I have no objection to that. I have no reason to wish Sayshell ill and I do

not wish to approach our ambassador. In fact, I will harm my own career in doing so, for I am under strict instruction to get this information without making a government matter of it. Please tell me, then, if there is some firm reason why you cannot discuss Gaia. Will you be arrested or otherwise punished, if you speak? Will you tell me plainly that I have no choice but to go to the ambassadorial height?"

"No no," said Quintesetz, who sounded utterly confused. "I know nothing about government matters. We simply don't speak of that world."

"Superstition?"

"Well, yes! Superstition! —Skies of Sayshell, in what way am I better than that foolish person who told you that Gaia was in hyperspace—or than my wife who won't even stay in a room where Gaia is mentioned and who may even have left the house for fear it will be smashed by—"

"Lightning?"

"By some stroke from afar. And I, even I, hesitate to pronounce the name. Gaia! Gaia! The syllables do not hurt! I am unharmed! Yet I hesitate. —But please believe me when I say that I honestly don't know the coordinates for Gaia's star. I can try to help you get it, if that will help, but let me tell you that we don't discuss the world here in the Union. We keep hands and minds off it. I can tell you what little is known—really known, rather than supposed—and I doubt that you can learn anything more anywhere in these worlds of the Union.

"We know Gaia is an ancient world and there are some who think it is the oldest world in this sector of the Galaxy, but we are not certain. Patriotism tells us Sayshell Planet is the oldest; fear tells us Gaia Planet is. The only way of combining the two is to suppose that Gaia is Earth, since it is known that Sayshell was settled by Earthpeople.

"Most historians think—among themselves—that Gaia Planet was founded independently. They think it is not a colony of any world of our Union and that the Union was not colonized by Gaia. There is no consensus on comparative age, whether Gaia was settled before or after Sayshell was."

Trevize said, "So far, what you know is nothing, since every possible alternative is believed by someone or other."

Quintesetz nodded ruefully. "It would seem so. It was comparatively late in our history that we became conscious of the existence of Gaia. We had been preoccupied at first in forming the Union, then in fighting off the Galactic Empire, then in trying to find our proper role as an Imperial province and in limiting the power of the Viceroys.

"It wasn't till the days of Imperial weakness were far advanced that one of the later Viceroys, who was under very weak central control by then, came to realize that Gaia existed and seemed to maintain its independence from the Sayshellian province and even from the Empire itself. It simply kept to itself in isolation and secrecy, so that virtually nothing was known about it, anymore than is now known. The Viceroy decided to take it over. We have no details what happened, but his expedition was broken and few ships returned. In those days, of course, the ships were neither very good nor very well led.

"Sayshell itself rejoiced at the defeat of the Viceroy, who was considered an Imperial oppressor, and the debacle led almost directly to the re-establishment of our independence. The Sayshell Union snapped its ties with the Empire and we still celebrate the anniversary of that event as Union Day. Almost out of gratitude we left Gaia alone for nearly a century, but the time came when we were strong enough to begin to think of a little imperialistic expansion of our own. Why not take over Gaia? Why not at least establish a Customs Union? We sent out a fleet and it was broken, too.

"Thereafter, we confined ourselves to an occasional attempt at trade—attempts that were invariably unsuccessful. Gaia remained in firm isolation and never—to anyone's knowledge—made the slightest attempt to trade or communicate with any other world. It certainly never made the slightest hostile move against anyone in any direction. And then—"

Quintesetz turned up the light by touching a control in the arm of his chair. In the light, Quintesetz's face took on a clearly sardonic expression. He went on, "Since you are citizens of the Foundation, you perhaps remember the Mule."

Trevize flushed. In five centuries of existence, the Foundation had been conquered only once. The conquest had been only temporary and had not seriously interfered with its climb toward Second Empire, but surely no one who resented the Foundation and wished to puncture its self-satisfaction would fail to mention the Mule, its one conqueror. And it was likely (thought Trevize) that Quintesetz had raised the level of light in order that he might see Foundational self-satisfaction punctured.

He said, "Yes, we of the Foundation remember the Mule."

"The Mule," said Quintesetz, "ruled an Empire for a while, one that was as large as the Federation now controlled by the Foundation. He did not, however, rule us. He left us in peace. He passed through Sayshell at one time, however. We signed a declaration of neutrality and a statement of friendship. He asked nothing more. We were the only ones of whom he asked nothing more in the days before illness called a halt to his expansion and forced him to wait for death. He was not an unreasonable man, you know. He did not use unreasonable force, he was not bloody, and he ruled humanely."

"It was just that he was a conqueror," said Trevize sarcastically.

"Like the Foundation," said Quintesetz.

Trevize, with no ready answer, said irritably, "Do you have more to say about Gaia?"

"Just a statement that the Mule made. According to the account of the historic meeting between the Mule and President Kallo of the Union, the Mule is described as having put his signature to the document with a flourish and to have said, "You are neutral even toward Gaia by this document, which is fortunate for you. Even I will not approach Gaia."

Trevize shook his head. "Why should he? Sayshell was eager to pledge neutrality and Gaia had no record of ever troubling anyone. The Mule was planning the conquest of the entire Galaxy at the time, so why delay for trifles? Time enough to turn on Sayshell and Gaia, when that was done."

"Perhaps, perhaps," said Quintesetz, "but according to one witness at the time, a person we tend to believe, the Mule put down his pen as he said, 'Even I will not approach Gaia.' His voice then dropped and, in a whisper not meant to be heard, he added 'again.'"

"Not meant to be heard, you say. Then how was it he was heard?"

"Because his pen rolled off the table when he put it down and a Sayshellian automatically approached and bent to pick it up. His ear was close to the Mule's mouth when the word 'again' was spoken and he heard it. He said nothing until after the Mule's death."

"How can you prove it was not an invention."

"The man's life is not the kind that makes it probable he would invent something of this kind. His report is accepted."

"And if it is?"

"The Mule was never in—or anywhere near—the Sayshell Union except on this one occasion, at least after he appeared on the Galactic scene. If he had ever been on Gaia, it had to be before he appeared on the Galactic scene."

"Well?"

"Well, where was the Mule born?"

"I don't think anyone knows," said Trevize.

"In the Sayshell Union, there is a strong feeling he was born on Gaia."

"Because of that one word?"

"Only partly. The Mule could not be defeated because he had strange mental powers. Gaia cannot be defeated either."

"Gaia has not been defeated as yet. That does not necessarily prove it cannot be."

"Even the Mule would not approach. Search the records of his Overlordship. See if any region other than the Sayshell Union was so gingerly treated. And do you know that no one who has ever gone to Gaia for the purpose of peaceful trade has ever returned? Why do you suppose we know so little about it?"

Trevize said, "Your attitude seems much like superstition."

"Call it what you will. Since the time of the Mule, we have wiped Gaia out of our thinking. We don't want it to think of us. We only feel safe if we pretend it isn't there. It may be that the government has itself secretly initiated and encouraged the legend that Gaia has disappeared into hyperspace in the hope that people will forget that there is a real Star of that name."

"You think that Gaia is a world of Mules, then?"

"It may be. I advise you, for your good, not to go there. If you do, you will never return. If the Foundation interferes with Gaia, it will show less intelligence than the Mule did. You might tell your ambassador that."

Trevize said, "Get me the coordinates and I will be off your world at once. I will reach Gaia and I will return."

Quintesetz said, "I will get you the coordinates. The astronomy department works nights, of course, and I will get it for you now, if I can. —But let me suggest once more that you make no attempt to reach Gaia."

Trevize said, "I intend to make that attempt."

And Quintesetz said heavily, "Then you intend suicide."

14. FORWARD!

JANOV PELORAT LOOKED OUT AT THE DIM LANDSCAPE IN THE GRAYING dawn with an odd mixture of regret and uncertainty.

"We aren't staying long enough, Golan. It seems a pleasant and interesting world. I would like to learn more about it."

Trevize looked up from the computer with a wry smile. "You don't think I would like to? We had three proper meals on the planet—totally different and each excellent. I'd like more. And the only women we saw, we saw briefly—and some of them looked quite enticing, for—well, for what I've got in mind."

Pelorat wrinkled his nose slightly. "Oh, my dear chap. Those cowbells they call shoes, and all wrapped around in clashing colors, and whatever do they do to their eyelashes. Did you notice their eyelashes?"

"You might just as well believe I noticed everything, Janov. What you object to is superficial. They can easily be persuaded to wash their faces and, at the proper time, off come the shoes and the colors."

Pelorat said, "I'll take your word for that, Janov. However, I was thinking more of investigating the matter of Earth further. 'What we've been told about Earth, thus far, is so unsatisfactory, so contradictory—radiation according to one person, robots according to another."

"Death in either case."

"True," said Pelorat reluctantly, "but it may be that one is true and not the other, or that both are true to some extent, or that neither is true. Surely, Janov, when you hear tales that simply shroud matters in thickening mists of doubt, surely you must feel the itch to explore, to find out."

"I do," said Golan. "By every dwarf star in the Galaxy, I do. The problem at hand, however, is Gaia. Once that is straightened out, we can go to Earth, or come back here to Sayshell for a more extended stay. But first, Gaia."

Pelorat nodded, "The problem at hand! If we accept what Quintesetz told us, death is waiting for us on Gaia. Ought we to be going?"

Trevize said, "I ask myself that. Are you afraid?"

Pelorat hesitated as though he were probing his own feelings. Then he said in a quite simple and matter-of-fact manner. "Yes. Terribly!"

Trevize sat back in his chair and swiveled to face the other. He said, just as quietly and matter-of-factly, "Janov, there's no reason for you to chance this. Say the word and I'll let you off on Sayshell with your personal belongings and with half our credits. I'll pick you up when I return and it will be on to Sirius Sector, if you wish, and Earth, if that's where it is. If I don't return, the Foundation people on Sayshell will see to it that you get back to Terminus. No hard feelings if you stay behind, old friend."

Pelorat's eyes blinked rapidly and his lips pressed together for a few moments. Then he said, rather huskily, "Old friend? We've known each other what? A week or so? Isn't it strange that I'm going to refuse to leave the ship? I am afraid, but I want to remain with you."

Trevize moved his hands in a gesture of uncertainty. "But why? I honestly don't ask it of you."

"I'm not sure why, but I ask it of myself. It's—it's— Golan, I have faith in you. It seems to me you always know what you're doing. I wanted to go to Trantor where probably—as I now see— nothing would have happened. You insisted on Gaia and Gaia must somehow be a raw nerve in the Galaxy. Things seem to happen in connection with it. And if that's not enough, Golan, I watched you force Quintesetz to give you the information about Gaia. That was such a skillful bluff. I was lost in admiration."

"You have faith in me, then."

Pelorat said, "Yes, I do."

Trevize put his hand on the other's upper arm and seemed, for a moment, to be searching for words. Finally he said, "Janov, will you forgive me in advance if my judgment is wrong, and if you in one way or another meet with—whatever unpleasant may be awaiting us?"

Pelorat said, "Oh, my dear fellow, why do you ask? I make the decision freely for my reasons, not yours. And, please—let us leave quickly. I don't trust my cowardice not to seize me by the throat and shame me for the rest of my life."

"As you say, Janov," said Trevize. "We'll leave at the earliest moment the computer will permit. This time, we'll be moving gravitically—straight up—as soon as we can be assured the atmosphere above is clear of other ships. And as the surrounding atmosphere grows less and less dense, we'll put on more and more speed. Well within the hour, we'll be in open space."

"Good," Pelorat said and pinched the tip off a plastic coffee container. The opened orifice almost at once began steaming. Pelorat put the nipple to his mouth and sipped, allowing just enough air to enter his mouth to cool the coffee to a bearable temperature.

Trevize grinned. "You've learned how to use those things beautifully. You're a space veteran, Janov."

Pelorat stared at the plastic container for a moment and said, "Now that we have ships that can adjust a gravitational field at will, surely we can use ordinary containers, can't we?"

"Of course, but you're not going to get space people to give up their space-centered apparatus. How is a space rat going to put distance between himself and surface worms if he uses an openmouthed cup? See those rings on the walls and ceilings? Those have been traditional in spacecraft for twenty thousand years and more, but they're absolutely useless in a gravitic ship. Yet they're there and I'll bet the entire ship to a cup of coffee that your space rat will pretend he's being squashed into asphyxiation on

takeoff and will then sway back and forth from those rings as though he's under zero-grav when its gee-one—normal-grav, that is—on both occasions."

"You're joking."

"Well, maybe a little, but there's always social inertia to everything—even technological advance. Those useless wall rings are there and the cups they supply us have nipples."

Pelorat nodded thoughtfully and continued to sip at his coffee. Finally he said, "And when do we take off?"

Trevize laughed heartily and said, "Got you. I began talking about wall rings and you never noticed that we were taking off right at that time. We're a mile high right now."

"You don't mean it."

"Look out."

Pelorat did and then said, "But I never felt a thing."

"You're not supposed to."

"Aren't we breaking the regulations? Surely we ought to have followed a radio beacon in an upward spiral, as we did in a downward spiral on landing?"

"No reason to, Janov. No one will stop us. No one at all."

"Coming down, you said—"

"That was different. They weren't anxious to see us arrive, but they're ecstatic to see us go."

"Why do you say that, Golan? The only person who talked to us about Gaia was Quintesetz and he begged us not to go."

"Don't you believe it, Janov. That was for form. He made sure we'd go to Gaia. — Janov, you admired the way I bluffed the information out of Quintesetz. I'm sorry, but I don't deserve the admiration. If I had done nothing at all, he would have offered the information. If I had tried to plug my ears, he would have shouted it at me."

"Why do you say that, Golan? That's crazy."

"Paranoid? Yes, I know." Trevize turned to the computer and extended his sense intently. He said, "We're not being stopped. No ships in interfering distance, no warning messages of any kind."

Again he swiveled in the direction of Pelorat. He said, "Tell me, Janov, how did you find out about Gaia? You knew about Gaia while we were still on Terminus. You knew it was in the Sayshell Sector. You knew the name was, somehow, a form of Earth. Where did you hear all this?"

Pelorat seemed to stiffen. He said, "If I were back in my office on Terminus, I might consult my files. I have not brought everything with me—certainly not the dates on which I first encountered this piece of data or that."

"Well, think about it," said Trevize grimly. "Consider that the Sayshellians themselves are close-mouthed about the matter. They are so reluctant to talk about Gaia as it really is that they actually encourage a superstition that has the common people of the sector believing that no such planet exists in ordinary space. In fact, I can tell you something else. Watch this!"

Trevize swung to the computer, his fingers sweeping across the direction hand-rests with the ease and grace of long practice. When he placed his hands on the manuals, he welcomed their warm touch and enclosure. He felt, as always, a bit of his will oozing outward.

He said, "This is the computer's Galactic map, as it existed within its memory banks before we landed on Sayshell. I am going to show you that portion of the map that represents the night sky of Sayshell as we saw it this past night."

The room darkened and a representation of a night sky sprang out onto the screen.

Pelorat said in a low voice, "As beautiful as we saw it on Sayshell."

"More beautiful," said Trevize, impatiently. "There is no atmospheric interference of any kind, no clouds, no absorption at the horizon. But wait, let me make an adjustment"

The view shifted steadily, giving the two the uncomfortable impression that it was they who were moving. Pelorat instinctively took hold of the arms of his chair to steady himself.

"There!" said Trevize. "Do you recognize that?"

"Of course. Those are the Five Sisters—the pentagon of stars that Quintesetz pointed out. It is unmistakable."

"Yes indeed. But where is Gaia?"

Pelorat blinked. There was no dim star at the center.

"It's not there," he said.

"That's right. It's not there. And that's because its location is not included in the data banks of the computer. Since it passes the bounds of likelihood that those data banks were deliberately made incomplete in this respect for our benefit, I conclude that to the Foundation Gaiactographers who designed those data banks—and who had tremendous quantities of information at their disposal— Gaia was unknown."

"Do you suppose if we had gone to Trantor—" began Pelorat.

"I suspect we would have found no data on Gaia there, either. Its existence is kept a secret by the Sayshellians—and even more so, I suspect, by the Gaians themselves. You yourself said a few days ago it was not entirely uncommon that some worlds deliberately stayed out of sight to avoid taxation or outside interference."

"Usually," said Pelorat, "when mapmakers and statisticians come across such a world, they are found to exist in thinly populated sections of the Galaxy. It's isolation that makes it possible for them to hide. Gaia is not isolated."

"That's right. That's another of the things that makes it unusual. So let's leave this map on the screen so that you and I might continue to ponder the ignorance of our Gaiactographers—and let me ask you again— In view of this ignorance on the part of the most knowledgeable of people, how did you come to hear of Gaia?"

"I have been gathering data on Earth myths, Earth legends, and Earth histories for over thirty years, my good Golan. Without my complete records, how could I possibly—"

"We can begin somewhere, Janov. Did you learn about it in, say, the first fifteen years of your research or in the last fifteen?"

"Oh! Well, if we're going to be that broad, it was later on."

"You can do better than that. Suppose I suggest that you learned of Gaia only in the last couple of years."

Trevize peered in Pelorat's direction, felt the absence of any ability to read an unseen expression in the dimness, and raised the light level of the room a bit. The glory of the representation of the night sky on the screen dimmed in proportion. Pelorat's expression was stony and revealed nothing.

"Well?" said Trevize.

"I'm thinking," said Pelorat mildly. "You may be right. I wouldn't swear to it. When I wrote Jimbor of Ledbet University, I didn't mention Gaia, though in that case it would have been appropriate to do so, and that was in—let's see—in ' and that was three years ago. I think you're right, Golan."

"And how did you come upon it?" asked Trevize. "In a communication? A book? A scientific paper? Some ancient song? How? —Come on!"

Pelorat sat back and crossed his arms. He fell into deep thought and didn't move. Trevize said nothing and waited.

Finally Pelorat said, "In a private communication. —But it's no use asking me from whom, my dear chap. I don't remember."

Trevize moved his hands over his sash. They felt clammy as he continued his efforts to elicit information without too clearly forcing words into the other's mouth. He said, "From a historian? From an expert in mythology? From a Gaiactographer?"

"No use. I cannot match a name to the communication."

"Because, perhaps, there was none."

"Oh no. That scarcely seems possible."

"Why? Would you have rejected an anonymous communication?"

"I suppose not."

"Did you ever receive any?"

"Once in a long while. In recent years, I had become well known in certain academic circles as a collector of particular types of myths and legends and some of my correspondents were occasionally kind enough to forward material they had picked up from nonacademic sources. Sometimes these might not be attributed to anyone in particular."

Trevize said, "Yes, but did you ever receive anonymous information directly, and not by way of some academic correspondent?"

"That sometimes happened—but very rarely."

"And can you be certain that this was not so in the case of Gaia?"

"Such anonymous communications took place so rarely that I should think I would remember if it had happened in this case. Still, I can't say certainly that the information was not of anonymous origin. Mind, though, that's not to say that I did receive the information from an anonymous source."

"I realize that. But it remains a possibility, doesn't it?"

Pelorat said, very reluctantly, "I suppose it does. But what's all this about?"

"I'm not finished," said Trevize peremptorily. "Where did you get the information from—anonymous or not? What world?"

Pelorat shrugged. "Come now, I haven't the slightest idea."

"Could it possibly have been from Sayshell?"

"I told you. I don't know."

"I'm suggesting you did get it from Sayshell."

"You can suggest all you wish, but that does not necessarily make it so."

"No? When Quintesetz pointed out the dim Star at the center of the Five Sisters, you knew at once it was Gaia. You said so later on to Quintesetz, identifying it before he did. Do you remember?"

"Yes, of course."

"How was that possible? How did you recognize at once that the dim star was Gaia?"

"Because in the material I had on Gaia, it was rarely referred to by that name. Euphemisms were common, many different ones. One of the euphemisms, several times repeated, was 'the little Brother of the Five Sisters.' Another was 'the Pentagon's Center' and sometimes it was called 'o Pentagon.' When Quintesetz pointed out the Five Sisters and the central star, the allusions came irresistibly to mind."

"You never mentioned those allusions to me earlier."

"I didn't know what they meant and I didn't think it would have been important to discuss the matter with you, who were a—" Pelorat hesitated.

"A nonspecialist?"

"You realize, I hope, that the pentagon of the Five Sisters is an entirely relative form."

"What do you mean?"

Trevize laughed affectionately. "You surface worm. Do you think the sky has an objective shape of its own? That the stars are nailed in place? The pentagon has the shape it has from the surface of the worlds of the planetary system to which Sayshell Planet belongs—and from there only. From a planet circling any other star, the appearance of the Five Sisters is different. They are seen from a different angle, for one thing. For another, the five stars of the pentagon are at different distances from Sayshell and, seen from other angles, there could be no visible relationship among them at all. One or two stars might be in one half of the sky, the others in the other half. See here—"

Trevize darkened the room again and leaned over the computer. "There are eighty-six populated planetary systems making up the Sayshell Union. Let us keep Gaia—or the spot where Gaia ought to be—in place" (as he said that, a small red circle appeared in the center of the pentagon of the Five Sisters) "and shift to the skies as seen from any of the other eighty-six worlds taken at random."

The sky shifted and Pelorat blinked. The small red circle remained at the center of the screen, but the Five Sisters had disappeared. There were bright stars in the

neighborhood but no tight pentagon. Again the sky shifted, and again, and again. It went on shifting. The red circle remained in place always, but at no time did a small pentagon of equally bright stars appear. Sometimes what might be a distorted pentagon of stars—unequally bright—appeared, but nothing like the beautiful asterism Quintesetz had pointed out.

"Had enough?" said Trevize. "I assure you, the Five Sisters can never be seen exactly as we have seen it from any populated world but the worlds of the Sayshell planetary system."

Pelorat said, "The Sayshellian view might have been exported to other planets. There were many proverbs in Imperial times—some of which linger into our own, in fact—that are Trantor-centered."

"With Sayshell as secretive about Gaia as we know it to be? And why should worlds outside the Sayshell Union be interested? Why would they care about a 'little Brother of the Five Sisters' if there were nothing in the skies at which to point?"

"Maybe you're right."

"Then don't you see that your original information must have come from Sayshell itself? Not just from somewhere in the Union, but precisely from the planetary system to which the capital world of the Union belongs."

Pelorat shook his head. "You make it sound as though it must, but it's not something I remember. I simply don't."

"Nevertheless, you do see the force of my argument, don't you?"

"Yes, I do."

"Next—When do you suppose the legend could have originated?"

"Anytime. I should suppose it developed far back in the Imperial Era. It has the feel of an ancient—"

"You are wrong, Janov. The Five Sisters are moderately close to Sayshell Planet, which is why they're so bright. Four of them have high proper motions in consequence and no two are part of a family, so that they move in different directions. Watch what happens as I shift the map backward in time slowly."

Again the red circle that marked the site of Gaia remained in place, but the pentagon slowly fell apart, as four of the stars drifted in different directions and the fifth shifted slightly.

"Look at that, Janov," said Trevize. "Would you say that was a regular pentagon?"

"Clearly lopsided," said Pelorat.

"And is Gaia at the center?"

"No, it's well to the side."

"Very well. That is how the asterism looked one hundred and fifty years ago. One and a half centuries, that's all. —The material you received concerning 'the Pentagon's Center' and so on made no real sense till this century anywhere, not even in Sayshell. The material you received had to originate in Sayshell and sometime in this century, perhaps in the last decade. And you got it, even though Sayshell is so close-mouthed about Gaia."

Trevize put the lights on, turned the star map off, and sat there staring sternly at Pelorat.

Pelorat said, "I'm confused. What's this about?"

"You tell me. Consider! Somehow I got the idea into my head that the Second Foundation still existed. I was giving a talk during my election campaign. I started a bit of emotional byplay designed to squeeze votes out of the undecided with a dramatic 'If the Second Foundation still existed—' and later that day I thought to myself: What if it did still exist? I began reading history books and within a week, I was convinced. There was no real evidence, but I have always felt that I had the knack of snatching the right conclusion out of a welter of speculation. This time, though—"

Trevize brooded a bit, then went on. "And look at what has happened since. Of all people, I chose Compore as my confidant and he betrayed me. Whereupon Mayor Branno had me arrested and sent into exile. Why into exile, rather than just having me imprisoned, or trying to threaten me into silence? And why in a very late-model ship which gives me extraordinary powers of Jumping through the Galaxy? And why, of all things, does she insist I take you and suggest that I help you search for Earth?

"And why was I so certain that we should not go to Trantor? I was convinced you had a better target for our investigations and at once you come up with the mystery world of Gaia, concerning which, as it now turns out, you gained information under very puzzling circumstances.

"We go to Sayshell—the first natural stop—and at once we encounter Compore, who gives us a circumstantial story about Earth and its death. He then assures us its location is in the Sirius Sector and urges us to go there."

Pelorat said, "There you are. You seem to be implying that all circumstances are forcing us toward Gaia, but, as you say, Compore tried to persuade us to go elsewhere."

"And in response, I was determined to continue on our original line of investigation out of my sheer distrust for the man. Don't you suppose that that was what he might have been counting on? He may have deliberately told us to go elsewhere just to keep us from doing so."

"That's mere romance," muttered Pelorat.

"Is it? Let's go on. We get in touch with Quintesetz simply because he was handy—"

"Not at all," said Pelorat. "I recognized his name."

"It seemed familiar to you. You had never read anything he had written—that you could recall. Why was it familiar to you? —In any case, it turned out he had read a paper of yours and was overwhelmed by it—and how likely was that? You yourself admit your work is not widely known.

"What's more, the young lady leading us to him quite gratuitously mentions Gaia and goes on to tell us it is in hyperspace, as though to be sure we keep it in mind. When we ask Quintesetz about it, he behaves as though he doesn't want to talk about it, but he doesn't throw us out—even though I am rather rude to him. He takes us to his home instead and, on the way there, goes to the trouble of pointing out the Five Sisters. He

even makes sure we note the dim star at the center. Why? Is not all this an extraordinary concatenation of coincidence?"

Pelorat said, "If you list it like that—"

"List it any way you please," said Trevize. "I don't believe in extraordinary concatenations of coincidence."

"What does all this mean, then? That we are being maneuvered to Gaia?"

"By whom?"

Trevize said, "Surely there can be no question about that. Who is capable of adjusting minds, of giving gentle nudges to this one or that, of managing to divert progress in this direction or that?"

"You're going to tell me it's the Second Foundation."

"Well, what have we been told about Gaia? It is untouchable. Fleets that move against it are destroyed. People who reach it do not return. Even the Mule didn't dare move against it—and the Mule, in fact, was probably born there. Surely it seems that Gaia is the Second Foundation—and finding that, after all, is my ultimate goal.

Pelorat shook his head. "But according to some historians, the Second Foundation stopped the Mule. How could he have been one of them?"

"A renegade, I suppose."

"But why should we be so relentlessly maneuvered toward the Second Foundation by the Second Foundation?"

Trevize's eyes were unfocused, his brow furrowed. He said, "Let's reason it out. It has always seemed important to the Second Foundation that as little information as possible about it should be available to the Galaxy. Ideally it wants its very existence to remain unknown. We know that much about them. For a hundred twenty years, the Second Foundation was thought to be extinct and that must have suited them right down to the Galactic core. Yet when I began to suspect that they did exist, they did nothing. Compor knew. They might have used him to shut me up one way or another—had me killed, even. Yet they did nothing."

Pelorat said, "They had you arrested, if you want to blame that on the Second Foundation. According to what you told me, that resulted in the people of Terminus not knowing about your views. The people of the Second Foundation accomplished that much without violence and they may be devotees of Salvor Hardin's remark that 'Violence is the last refuge of the incompetent.'"

"But keeping it from the people of Terminus accomplishes nothing. Mayor Branno knows my view and—at the very least—must wonder if I am correct. So now, you see, it is too late for them to harm us. If they had gotten rid of me to begin with, they would be in the clear. If they had left me alone altogether, they might have still remained in the clear, for they might have maneuvered Terminus into believing I was an eccentric, perhaps a madman. The prospective ruin of my political career might even have forced me into silence as soon as I saw what the announcement of my beliefs would mean.

"And now it is too late for them to do anything. Mayor Branno was suspicious enough of the situation to send Compor after me and—having no faith in him either,

being wiser than I was—she placed a hyper-relay on Compor's ship. In consequence, she knows we are on Sayshell. And last night, while you were sleeping, I had our computer place a message directly into the computer of the Foundation ambassador here on Sayshell, explaining that we were on our way to Gaia. I took the trouble of giving its coordinates, too. If the Second Foundation does anything to us now, I am certain that Branno will have the matter investigated—and the concentrated attention of the Foundation must surely be what they don't want."

"Would they care about attracting the Foundation's attention, if they are so powerful?"

"Yes," said Trevize forcefully. "They lie hidden because, in some ways, they must be weak and because the Foundation is technologically advanced perhaps beyond even what Seldon himself might have foreseen. The very quiet, even stealthy, way in which they've been maneuvering us to their world would seem to show their eager desire to do nothing that will attract attention. And if so, then they have already lost, at least in part—for they've attracted attention and I doubt they can do anything to reverse the situation."

Pelorat said, "But why do they go through all this? Why do they ruin themselves—if your analysis is correct—by angling for us across the Galaxy? What is it they want of us?"

Trevize stared at Pelorat and flushed. "Janov," he said, "I have a feeling about this. I have this gift of coming to a correct conclusion on the basis of almost nothing. There's a kind of sureness about me that tells me when I'm right—and I'm sure now. There's something I have that they want—and want enough to risk their very existence for. I don't know what it can be, but I've got to find out, because if I've got it and if it's that powerful, then I want to be able to use it for what I feel is right." He shrugged slightly. "Do you still want to come along with me, old friend, now that you see how much a madman I am?"

Pelorat said, "I told you I had faith in you. I still do."

And Trevize laughed with enormous relief. "Marvelous! Because another feeling I have is that you are, for some reason, also essential to this whole thing. In that case, Janov, we move on to Gaia, full speed. Forward!"

Mayor Harla Branno looked distinctly older than her sixty-two years. She did not always look older, but she did now. She had been sufficiently wrapped up in thought to forget to avoid the mirror and had seen her image on her way into the map room. So she was aware of the haggardness of her appearance.

She sighed. It drained the life out of one. Five years a Mayor and for twelve years before that the real power behind two figureheads. All of it had been quiet, all of it successful, all of it—draining. How would it have been, she wondered, if there had been strain—failure —disaster.

Not so bad for her personally, she suddenly decided. Action would have been invigorating. It was the horrible knowledge that nothing but drift was possible that had worn her out.

It was the Seldon Plan that was successful and it was the Second Foundation that made sure it would continue to be. She, as the strong hand at the helm of the Foundation

(actually the First Foundation, but no one on Terminus ever thought of adding the adjective) merely rode the crest.

History would say little or nothing about her. She merely sat at the controls of a spaceship, while the spaceship was maneuvered from without.

Even Indbur III, who had presided over the Foundation's catastrophic fall to the Mule, had done something. He had, at least, collapsed.

For Mayor Branno there would be nothing!

Unless this Golan Trevize, this thoughtless Councilman, this lightning rod, made it possible— She looked at the map thoughtfully. It was not the kind of structure produced by a modern computer. It was, rather, a three-dimensional cluster of lights that pictured the Galaxy holographically in midair. Though it could not be made to move, to turn, to expand, or to contract, one could move about it and see it from any angle.

A large section of the Galaxy, perhaps a third of the whole (excluding the core, which was a "no-life's land") turned red when she touched a contact. That was the Foundation Federation, the more than seven million inhabited worlds ruled by the Council and by herself—the seven million inhabited worlds who voted for and were represented in the House of Worlds, which debated matters of minor importance, and then voted on them, and never, by any chance, dealt with anything of major importance.

Another contact and a faint pink jutted outward from the edges of the Federation, here and there. Spheres of influence! This was not Foundation territory, but the regions, though nominally independent, would never dream of resistance to any Foundation move.

There was no question in her mind that no power in the Galaxy could oppose the Foundation (not even the Second Foundation, if one but knew where it was), that the Foundation could, at will, reach out its fleet of modern ships and simply set up the Second Empire.

But only five centuries had passed since the beginning of the Plan. The Plan called for ten centuries before the Second Empire could be set up and the Second Foundation would make sure the Plan would hold. The Mayor shook her sad, gray head. If the Foundation acted now, it would somehow fail. Though its ships were irresistible, action now would fail.

Unless Trevize, the lightning rod, drew the lightning of the Second Foundation—and the lightning could be traced back to its source.

She looked about. Where was Kodell? This was no time for him to be late.

It was as though her thought had called him, for he came striding in, smiling cheerfully, looking more grandfatherly than ever with his gray-white mustache and tanned complexion. Grandfatherly, but not old. To be sure, he was eight years younger than she was.

How was it he showed no marks of strain? Did not fifteen years as Director of Security leave its scar?

Kodell nodded slowly in the formal greeting that was necessary in initiating a discussion with the Mayor. It was a tradition that had existed since the bad days of the Indburs. Almost everything had changed, but etiquette least of all.

He said, "Sorry I'm late, Mayor, but your arrest of Councilman Trevize is finally beginning to make its way through the anesthetized skin of the Council."

"Oh?" said the Mayor phlegmatically. "Are we in for a palace revolution?"

"Not the least chance. We're in control. But there'll be noise."

"Let them make noise. It will make them feel better, and I—I shall stay out of the way. I can count, I suppose, on general public opinion?"

"I think you can. Especially away from Terminus. No one outside Terminus cares what happens to a stray Councilman."

"I do."

"Ah? More news?"

"Liono," said the Mayor, "I want to know about Sayshell."

"I'm not a two-legged history book," said Liono Kodell, smiling.

"I don't want history. I want the truth. Why is Sayshell independent? —Look at it." She pointed to the red of the Foundation on the holographic map and there, well into the inner spirals, was an in-pocketing of white.

Branno said, "We've got it almost encapsulated—almost sucked in—yet it's white. Our map doesn't even show it as a loyal-ally-inpink."

Kodell shrugged. "It's not officially a loyal ally, but it never bothers us. It is neutral."

"All right. See this, then." Another touch at the controls. The red sprang out distinctly further. It covered nearly half the Galaxy. "That," said Mayor Branno, "was the Mule's realm at the time of his death. If you'll peer in among the red, you'll find the Sayshell Union, completely surrounded this time, but still white. It is the only enclave left free by the Mule."

"It was neutral then, too."

"The Mule had no great respect for neutrality."

"He seems to have had, in this case."

"Seems to have had. What has Sayshell got?"

Kodell said, "Nothing! Believe me, Mayor, she is ours any time we want her."

"Is she? Yet somehow she isn't ours."

"There's no need to want her."

Branno sat back in her chair and, with a sweep of her arm over the controls, turned the Galaxy dark. "I think we now want her."

"Pardon, Mayor?"

"Liono, I sent that foolish Councilman into space as a lightning rod. I felt that the Second Foundation would see him as a greater danger than he was and see the Foundation itself as the lesser danger. The lightning would strike him and reveal its origin to us."

"Yes, Mayor!"

"My intention was that he go to the decayed ruins of Trantor to fumble through what—if anything—was left of its Library and search for the Earth. That's the world, you remember, that these wearisome mystics tell us was the site of origin of humanity, as though that matters, even in the unlikely case it is true. The Second Foundation couldn't possibly have believed that was really what he was after and they would have moved to find out what he was really looking for."

"But he didn't go to Trantor."

"No. Quite unexpectedly, he has gone to Sayshell. Why?"

"I don't know. But please forgive an old bloodhound whose duty it is to suspect everything and tell me how you know he and this Pelorat have gone to Sayshell. I know that Compore reports it, but how far can we trust Compore?"

"The hyper-relay tells us that Compore's ship has indeed landed on Sayshell Planet."

"Undoubtedly, but how do you know that Trevize and Pelorat have? Compore may have gone to Sayshell for his own reasons and may not know—or care—where the others are."

"The fact is, that our ambassador on Sayshell has informed us of the arrival of the ship on which we placed Trevize and Pelorat. I am not ready to believe the ship arrived at Sayshell without them. What is more, Compore reports having talked to them and, if he cannot be trusted, we have other reports placing them at Sayshell University, where they consulted with a historian of no particular note."

"None of this," said Kodell mildly, "has reached me."

Branno sniffed. "Do not feel stepped on. I am dealing with this personally and the information has now reached you—with not much in the way of delay, either. The latest news—just received—is from the ambassador. Our lightning rod is moving on. He stayed on Sayshell Planet two days, then left. He is heading for another planetary system, he says, some ten parsecs away. He gave the name and the Galactic coordinates of his destination to the ambassador, who passed them on to us."

"Is there anything corroborative from Compore?"

"Compore's message that Trevize and Pelorat have left Sayshell came even before the ambassador's message. Compore has not yet determined where Trevize is going. Presumably he will follow."

Kodell said, "We are missing the why's of the situation." He popped a pastille into his mouth and sucked at it meditatively. "Why did Trevize go to Sayshell? Why did he leave?"

"The question that intrigues me most is: Where? Where is Trevize going?"

"You did say, Mayor, did you not, that he gave the name and coordinates of his destination to the ambassador. Are you implying that he lied to the ambassador? Or that the ambassador is lying to us?"

"Even assuming everyone told the truth all round and that no one made any errors, there is a name that interests me. Trevize told the ambassador he was going to Gaia. That's C-A-I-A. Trevize was careful to spell it."

Kodell said, "Gaia? I never heard of it."

"Indeed? That's not strange." Branno pointed to the spot in the air where the map had been. "Upon the map in this room, I can set up, at a moment's notice, every star—supposedly—around which there circles an inhabited world and many prominent stars with uninhabited systems. Over thirty million stars can be marked out—if I handle the controls properly—in single units, in pairs, in clusters. I can mark them out in any of five different colors, one at a time, or all together. What I cannot do is locate Gaia on the map. As far as the map is concerned, Gaia does not exist."

Kodell said, "For every star the map shows, there are ten thousand it doesn't show."

"Granted, but the stars it doesn't show lack inhabited planets and why would Trevize want to go to an uninhabited planet?"

"Have you tried the Central Computer? It has all three hundred billion Galactic stars listed."

"I've been told it has, but does it? We know very well, you and I, that there are thousands of inhabited planets that have escaped listing on any of our maps—not only on the one in this room, but even on the Central Computer. Gaia is apparently one of them."

Kodell's voice remained calm, even coaxing. "Mayor, there may well be nothing at all to be concerned about. Trevize may be off on a wild goose chase or he may be lying to us and there is no star called Gaia—and no star at all at the coordinates he gave us. He is trying to throw us off his scent, now that he has met Comporg and perhaps guesses he is being traced."

"How will this throw us off the scent? Comporg will still follow. No, Liono, I have another possibility in mind, one with far greater potentiality for trouble. Listen to me—"

She paused and said, "This room is shielded, Liono. Understand that. We cannot be overheard by anyone, so please feel free to speak. And I will speak freely, as well."

"This Gaia is located, if we accept the information, ten parsecs from Sayshell Planet and is therefore part of the Sayshell Union. The Sayshell Union is a well-explored portion of the Galaxy. All its star systems—inhabited or not inhabited—are recorded and the inhabited ones are known in detail. Gaia is the one exception. Inhabited or not, none have heard of it; it is present in no map. Add to this that the Sayshell Union maintains a peculiar state of independence with respect to the Foundation Federation, and did so even with respect to the Mule's former realm. It has been independent since the fall of the Galactic Empire."

"What of all this?" asked Kodell cautiously.

"Surely the two points I have made must be connected. Sayshell incorporates a planetary system that is totally unknown and Sayshell is untouchable. The two cannot be independent. Whatever Gaia is, it protects itself. It sees to it that there is no knowledge of its existence outside its immediate surroundings and it protects those surroundings so that outsiders cannot take over."

"You are telling me, Mayor, that Gaia is the seat of the Second Foundation?"

"I am telling you that Gaia deserves inspection."

"May I mention an odd point that might be difficult to explain by this theory?"

"Please do."

"If Gaia is the Second Foundation and if, for centuries, it has protected itself physically against intruders, protecting all of the Sayshell Union as a broad, deep shield for itself, and if it has even prevented knowledge of itself leaking into the Galaxy—then why has all that protection suddenly vanished? Trevize and Pelorat leave Terminus and, even though you had advised them to go to Trantor, they go immediately and without hesitation to Sayshell and now to Gaia. What is more, you can think of Gaia and speculate on it. Why are you not somehow prevented from doing So?"

Mayor Branno did not answer for a long time. Her head was bent and her gray hair gleamed dully in the light. Then she said, "Because I think Councilman Trevize has somehow upset things. He has done something—or is doing something—that is in some way endangering the Seldon Plan."

"That surely is impossible, Mayor."

"I suppose everything and everyone has its flaws. Even Hari Seldon was not perfect, surely. Somewhere the Plan has a flaw and Trevize has stumbled upon it, perhaps without even knowing that he has. We must know what is happening and we must be on the spot."

Finally Kodell looked grave. "Don't make decisions on your own, Mayor. We don't want to move without adequate consideration."

"Don't take me for an idiot, Liono. I'm not going to make war. I'm not going to land an expeditionary force on Gaia. I just want to be on the spot—or near it, if you prefer. Liono, find out for me—I hate talking to a war office that is as ridiculously hidebound as one is sure to be after one hundred and twenty years of peace, but you don't seem to mind—just how many warships are stationed close to Sayshell. Can we make their movements seem routine and not like a mobilization?"

"In these piping times of peace, there are not many ships in the vicinity, I am sure. But I will find out."

"Even two or three will be sufficient, especially if one is of the Supernova class."

"What do you want to do with them?"

"I want them to nudge as close to Sayshell as they can—without creating an incident—and I want them sufficiently close to each other to offer mutual support."

"What's all this intended for?"

"Flexibility. I want to be able to strike if I have to."

"Against the Second Foundation? If Gaia can keep itself isolated and untouchable against the Mule, it can surely withstand a few ships now."

Branno said, with the gleam of battle in her eyes, "My friend, I told you that nothing and no one is perfect, not even Hari Seldon. In setting up his Plan, he could not help being a person of his times. He was a mathematician of the days of the dying Empire, when technology was moribund. It followed that he could not have made sufficient allowance in his Plan for technological advance. Gravities, for instance, is a

whole new direction of advance he could not possibly have guessed at. And there are other advances, too.

"Gaia might also have advanced."

"In isolation? Come. There are ten quadrillion human beings within the Foundation Federation, from among whom contributors to technological advance can step forward. A single isolated world can do nothing in comparison. Our ships will advance and I will be with them."

"Pardon me, Mayor. What was that?"

"I will be going myself to the ships that will gather at the borders of Sayshell. I wish to see the situation for myself."

Kodell's mouth fell open for a moment. He swallowed and made a distinct noise as he did so. "Mayor, that is—not wise." If ever a man clearly intended a stronger remark, Kodell did.

"Wise or not," said Branno violently, "I will do it. I am tired of Terminus and of its endless political battles, its infighting, its alliances and counteralliances, its betrayals and renewals. I've had seventeen years at the center of it and I want to do something else—anything else. Out there," she waved her hand in a direction taken at random, "the whole history of the Galaxy may be changing and I want to take part in the process."

"You know nothing about such things, Mayor."

"Who does, Liono?" She rose stiffly to her feet. "As soon as you bring me the information I need on the ships and as soon as I can make arrangements for carrying on with the foolish business at home, I will go. —And, Liono, don't try to maneuver me out of this decision in any way or I'll wipe out our long friendship in a stroke and break you. I can still do that."

Kodell nodded. "I know you can, Mayor, but before you decide, may I ask you to reconsider the power of Seldon's Plan? What you intend may be suicide."

"I have no fears on that score, Liono. It was wrong with respect to the Mule, whom it could not anticipate—and a failure to anticipate at one time implies the possibility of failure at another."

Kodell sighed. "Well then, if you are really determined, I will support you to the best of my ability and with complete loyalty."

"Good. I warn you once again that you had better mean that remark with all your heart. And with that in mind, Liono, let us move on to Gaia. Forward!"

15. GAIA-S

SURA NOVI NOW STEPPED INTO THE CONTROL ROOM OF THE SMALL AND rather old-fashioned ship that was carrying Stor Gendibal and herself across the parsecs in deliberate Jumps.

She had clearly been in the compact cleaning room, where oils, warm air, and a minimum of water freshened her body. She had a robe wrapped about her and was holding it tightly to herself in an agony of modesty. Her hair was dry but tangled.

She said in a low voice, "Master?"

Gendibal looked up from his charts and from his computer. "Yes, Novi?"

"I be sorrow-laden—" She paused and then said slowly, "I am very sorry to bother you, Master" (then she slipped again) "but I be loss-ridden for my clothing."

"Your clothing?" Gendibal stared at her blankly for a moment and then rose to his feet in an access of contrition. "Novi, I forgot. They needed cleaning and they're in the detergent-hamper. They're cleaned, dried, folded, all set. I should have taken them out and placed them in clear sight. I forgot."

"I did not like to—to—" (she looked down at herself) "offend."

"You don't offend," said Gendibal cheerily. "Look, I promise you that when this is over I shall see to it that you have a great deal of clothing—new and in the latest fashion. We left in a hurry and it never occurred to me to bring a supply, but really, Novi, there are only the two of us and we'll be together for some time in very close quarters and it's needless to be—to be—so concerned—about—" He gestured vaguely, became aware of the horrified look in her eyes, and thought: Well, she's only a country girl after all and has her standards; probably wouldn't object to improprieties of all kinds—but with her clothes on.

Then he felt ashamed of himself and was glad that she was no "scholar" who could sense his thoughts. He said, "Shall I get your clothes for you?"

"Oh no, Master. It be not for you—I know where they are."

He next saw her properly dressed and with her hair combed. There was a distinct shyness about her. "I am ashamed, Master, to have behaved so improper—ly. I should have found them for myself."

"No matter," said Gendibal. "You are doing very well with your Galactic, Novi. You are picking up the language of scholars very quickly."

Novi smiled suddenly. Her teeth were somewhat uneven, but that scarcely detracted from the manner in which her face brightened and grew almost sweet under praise, thought Gendibal. He told himself that it was for that reason that he rather liked to praise her.

The Hamish will think little of me when I am back home," she said. "They will say I be—am a word-chopper. That is what they call someone who speaks—odd. They do not like such."

"I doubt that you will be going back to the Hamish, Novi," said Gendibal. "I am sure there will continue to be a place for you in the complex—with the scholars, that is—when this is over."

"I would like that, Master."

"I don't suppose you would care to call me 'Speaker Gendibal' or just— No, I see you wouldn't," he said, responding to her look of scandalized objection. "Oh well."

"It would not be fitting, Master. —But may I ask when this will be over?"

Gendibal shook his head. "I scarcely know. Right now, I must merely get to a particular place as quickly as I can. This ship, which is a very good ship for its kind, is slow and 'as quickly as I can' is not very quick. You see" (he gestured at the computer and the charts) "I must work out ways to get across large stretches of space, but the computer is limited in its abilities and I am not very skillful."

"Must you be there quickly because there is danger, Master?"

"What makes you think there is danger, Novi?"

"Because I watch you sometimes when I don't think you see me and your face looks—I do not know the word. Not afeared—I mean, frightened—and not bad-expecting, either."

"Apprehensive," muttered Gendibal.

"You look—concerned. Is that the word?"

"It depends. What do you mean by concerned, Novi?"

"I means you look as though you are saying to yourself, 'What am I going to do next in this great trouble?'"

Gendibal looked astonished. "That is 'concerned,' but do you see that in my face, Novi? Back in the Place of Scholars, I am extremely careful that no one should see anything in my face, but I did think that, alone in space—except for you—I could relax and let it sit around in its underwear, so to speak. —I'm sorry. That has embarrassed you.. What I'm trying to say is that if you're so perceptive, I shall have to be more careful. Every once in a while I have to relearn the lesson that even nonmentals can make shrewd guesses."

Novi looked blank. "I don't understand, Master."

"I'm talking to myself, Novi. Don't be concerned. —See, there's that word again."

"But is there danger?"

"There's a problem, Novi. I do not know what I shall find when I reach Sayshell—that is the place to which we are going. I may find myself in a situation of great difficulty."

"Does that not mean danger?"

"No, because I will be able to handle it."

"How can you tell this?"

"Because I am a—scholar. And I am the best of them. There is nothing in the Galaxy I cannot handle."

"Master," and something very like agony twisted Novi's face, "I do not wish to offensify—I mean, give offense—and make you angry. I have seen you with that oafish

Rufirant and you were in danger then—and he was only a Hamish farmer. Now I do not know what awaits you—and you do not, either."

Gendibal felt chagrined, "Are you afraid, Novi?"

"Not for myself, Master. I fear—I am afraid—for you."

"You can say, 'I fear,'" muttered Gendibal. "That is good Galactic, too."

For a moment he was engaged in thought. Then he looked up, took Sura Novi's rather coarse hands in his, and said, "Novi, I don't want you to fear anything. Let me explain. You know how you could tell there was-or rather might be—danger from the look on my face—almost as though you could read my thoughts?"

"Yes?"

"I can read thoughts better than you can. That is what scholars learn to do and I am a very good scholar."

Novi's eyes widened and her hand pulled loose from his. She seemed to be holding her breath. "You can read my thoughts?"

Gendibal held up a finger hurriedly. "I don't, Novi. I don't read your thoughts, except when I must. I do not read your thoughts."

(He knew that, in a practical sense, he was lying. It was impossible to be with Sura Novi and not understand the general tenor of some of her thoughts. One scarcely needed to be a Second Foundationer for that. Gendibal felt himself to be on the edge of blushing. But even from a Hamishwoman, such an attitude was flattering.

—And yet she had to be reassured-out of common humanity—)

He said, "I can also change the way people think. I can make people feel hurt. I can—"

But Novi was shaking her head. "How can you do all that, Master? Rufirant—"

"Forget Rufirant," said Gendibal testily. "I could have stopped him in a moment. I could have made him fall to the ground. I could have made all the Hamish—" He stopped suddenly and felt uneasily that he was boasting, that he was trying to impress this provincial woman. And she was shaking her head still.

"Master," she said, "you are trying to make me not afraid, but I am not afraid except for you, so there is no need. I know you are a great scholar and can make this ship fly through space where it seems to me that no person could do aught but—I mean, anything but—be lost. And you use machines I cannot understand—and that no Hamish person could understand. But you need not tell me of these powers of mind, which surely cannot be so, since all the things you say you could have done to Rufirant, you did not do, though you were in danger."

Gendibal pressed his lips together. Leave it at that, he thought. If the woman insists she is not afraid for herself, let it go at that. Yet he did not want her to think of him as a weakling and braggart. He simply did not.

He said, "If I did nothing to Rufirant, it was because I did not wish to. We scholars must never do anything to the Hamish. We are guests on your world. Do you understand that?"

"You are our masters. That is what we always say."

For a moment Gendibal was diverted. "How is it, then, that this Rufirant attacked me?"

"I do not know," she said simply. "I don't think he knew. He must have been mind-wandering—uh, out of his mind."

Gendibal grunted. "In any case, we do not harm the Hamish. If I had been forced to stop him by—hurting him, I might have been poorly thought of by the other scholars and might perhaps have lost my position. But to save myself being badly hurt, I might have had to handle him just a small bit—the smallest possible."

Novi drooped. "Then I need not have come rushing in like a great fool myself."

"You did exactly right," said Gendibal. "I have just said I would have done ill to have hurt him. You made it unnecessary to do so. You stopped him and that was well done. I am grateful."

She smiled again—blissfully. "I see, then, why you have been so kind to me."

"I was grateful, of course," said Gendibal, a little flustered, "but the important thing is that you must understand there is no danger. I can handle an army of ordinary people. Any scholar can—especially the important ones—and I told you I am the best of all of them. There is no one in the Galaxy who can stand against me."

"If you say so, Master, I am sure of it."

"I do say so. Now, are you afraid for me?"

"No, Master, except— Master, is it only our scholars who can read minds and— Are there other scholars, other places, who can oppose you?"

For a moment Gendibal was staggered. The woman had an astonishing gift of penetration.

It was necessary to lie. He said, "There are none."

"But there are so many stars in the sky. I once tried to count them and couldn't. If there are as many worlds of people as there are stars, wouldn't some of them be scholars? Besides the scholars on our own world, I mean?"

"What if there are?"

"They would not be as strong as I am."

"What if they leap upon you suddenly before you are aware?"

"They cannot do that. If any strange scholar were to approach, I would know at once. I would know it long before he could harm me."

"Could you run?"

"I would not have to run. —But" (anticipating her objection) "if I had to, I could be in a new ship soon—better than any in the Galaxy. They would not catch me."

"Might they not change your thoughts and make you stay?"

"No."

"There might be many of them. You are but one."

"As soon as they are there, long before they can imagine it would be possible, I would know they were there and I would leave. Our whole world of scholars would then turn against them and they would not stand. And they would know that, so they would

not dare do anything against me. In fact, they would not want me to know of them at all—and yet I will."

"Because you are so much better than they?" said Novi, her face shining with a doubtful pride.

Gendibal could not resist. Her native intelligence, her quick understanding was such that it was simple joy to be with her. That softvoiced monster, Speaker Debra Delarmi, had done him an incredible favor when she had forced this Hamish farmwoman upon him.

He said, "No, Novi, not because I am better than they, although I am. It is because I have you with me."

"I?"

"Exactly, Novi. Had you guessed that?"

"No, Master," she said, wondering. "What is it I could do?"

"It is your mind." He held up his hand at once. "I am not reading your thoughts. I see merely the outline of your mind and it is a smooth outline, an unusually smooth outline."

She put her hand to her forehead. "Because I am unlearned, Master? Because I am so foolish?"

"No, dear." He did not notice the manner of address. "It is because you are honest and possess no guile; because you are truthful and speak your mind; because you are warm of heart and—and other things. If other scholars send out anything to touch our minds—yours and mine—the touch will be instantly visible on the smoothness of your mind. I will be aware of that even before I would be aware of a touch on my own mind—and I will then have time for counteractive strategy; that is, to fight it off."

There was a silence for long moments after that. Gendibal realized that it was not just happiness in Novi's eyes, but exultation and pride, too. She said softly, "And you took me with you for that reason?"

Gendibal nodded. "That was an important reason. Yes."

Her voice sank to a whisper. "How can I help as much as possible, Master?"

He said. "Remain calm. Don't be afraid. And just—just stay as you are."

She said, "I will stay as I am. And I will stand between you and danger, as I did in the case of Rufirant."

She left the room and Gendibal looked after her.

It was strange how much there was to her. How could so simple a creature hold such complexity? The smoothness of her mind structure had, beneath it, enormous intelligence, understanding, and courage. What more could he ask of anyone?

Somehow, he caught an image of Sura Novi—who was not a Speaker, not even a Second Foundationer, not even educated—grimly at his side, playing a vital auxiliary role in the drama that was coming.

Yet he could not see the details clearly. —He could not yet see precisely what it was that awaited them.

"A single Jump," muttered Trevize, "and there it is."

"Gaia?" asked Pelorat, looking over Trevize's shoulder at the screen.

"Gaia's sun," said Trevize. "Call it Gaia-S, if you like, to avoid confusion. Gaiactographers do that sometimes."

"And where is Gaia itself, then? Or do we call it Gaia-P—for planet?"

"Gaia would be sufficient for the planet. We can't see Gaia yet, however. Planets aren't as easy to see as stars are and we're still a hundred microparsecs away from Gaia-S. Notice that it's only a star, even though a very bright one. We're not close enough for it to show as a disc. —And don't stare at it directly, Janov. It's still bright enough to damage the retina. I'll throw in a filter, once I'm through with my observations. Then you can stare."

"How much is a hundred microparsecs in units which a mythologist can understand, Golan?"

"Three billion kilometers; about twenty times the distance of Terminus from our own sun. Does that help?"

"Enormously. —But shouldn't we get closer?"

"No!" Trevize looked up in surprise. "Not right away. After what we've heard about Gaia, why should we rush? It's one thing to have guts; it's another to be crazy. Let's take a look first."

"At what, Golan? You said we can't see Gaia yet?"

"Not at a glance, no. But we have telescopic viewers and we have an excellent computer for rapid analysis. We can certainly study Gaia-S, to begin with, and we can perhaps make a few other observations. —Relax, Janov" He reached out and slapped the other's shoulder with an avuncular flourish.

After a pause Trevize said, "Gaia-S is a single star or, if it has a companion, that companion is much farther away from it than we are at the present moment and it is, at best, a red dwarf, which means we need not be concerned with it. Gaia-S is a G4 star, which means it is perfectly capable of having a habitable planet, and that's good. If it were an A or an M, we would have to turn around and leave right now."

Pelorat said, "I may be only a mythologist, but couldn't we have determined the spectral class of Gaia-S from Sayshell?"

"We could and we did, Janov, but it never hurts to check at closer quarters. — Gaia-S has a planetary system, which is no surprise. There are two gas giants in view and one of them is nice and large—if the computer's distance estimate is accurate. There could easily be another on the other side of the star and therefore not easily detectable, since we happen—by chance—to be somewhat close to the planetary plane. I can't make out anything in the inner regions, which is also no surprise."

"Is that bad?"

"Not really. It's expected. The habitable planets would be of rock and metal and would be much smaller than the gas giants and much closer to the star, if they're to be warm enough—and on both counts they would be much harder to see from out here. It means we'll have to get in considerably closer in order to probe the area within four microparsecs of Gaia-S."

"I'm ready."

"I'm not. We'll make the Jump tomorrow."

"Why tomorrow?"

"Why not? Let's give them a day to come out and get us—and for us to get away, perhaps, if we spot them coming and don't like what we see."

It was a slow and cautious process. During the day that passed, Trevize grimly directed the calculation of several different approaches and tried to choose between them. Lacking hard data, he could depend only on intuition, which unfortunately told him nothing. He lacked that "sureness" he sometimes experienced.

Eventually he punched in directions for a Jump that moved them far out of the planetary plane.

"That will give us a better view of the region as a whole," he said, "since we will see the planets in every part of their orbit at maximum apparent distance from the sun. And they—whoever they may be—might not be quite as watchful over regions outside the plane. —I hope."

They were now as close to Gaia-S as the nearest and largest of the gas giants was and they were nearly half a billion kilometers from it. Trevize placed it under full magnification on the screen for Pelorat's benefit. It was an impressive sight, even if the three sparse and narrow rings of debris were left out of account.

"It has the usual train of satellites," said Trevize, "but at this distance from Gaia-S, we know that none of them are habitable. Nor are any of them settled by 'human beings who survive, let us say, under a glass dome or under other strictly artificial conditions.'"

"How can you tell?"

"There's no radio noise with characteristics that point them out as of intelligent origin. Of course," he added, qualifying his statement at once, "it is conceivable that a scientific outpost might go to great pains to shield its radio signals and the gas giant produces radio noise that could mask what I was looking for. Still, our radio reception is delicate and our computer is an extraordinarily good one. I'd say the chance of human occupation of those satellites is extremely small."

"Does that mean there's no Gaia?"

"No. But it does mean that if there is a Gaia, it hasn't bothered to settle those satellites. Perhaps it lacks the capacity to do so—or the interest."

"Well, is there a Gaia?"

"Patience, Janov. Patience."

Trevize considered the sky with a seemingly endless supply of patience. He stopped at one point to say, "Frankly, the fact that they haven't come out to pounce on us is disheartening, in a way. Surely, if they had the capacities they were described as having, they would have reacted to us by now."

"It's conceivable, I suppose," said Pelorat glumly, "that the whole thing is a fantasy."

"Call it a myth, Janov," said Trevize with a wry smile, "and it will be right up your alley. Still, there's a planet moving through the ecosphere, which means it might be habitable. I'll want to observe it for at least a day."

"Why?"

"To make sure it's habitable, for one thing."

"You just said it was in the ecosphere, Golan."

"Yes, at the moment it is. But its orbit could be very eccentric, and could eventually carry it within a microparsec of the star, or out to fifteen microparsecs, or both. We'll have to determine and compare the planet's distance from Gaia-S with its orbital speed—and it would help to note the direction of its motion."

Another day.

"The orbit is nearly circular," Trevize said finally, "which means that habitability becomes a much safer bet. Yet no one's coming out to get us even now. We'll have to try a closer look."

Pelorat said, "Why does it take so long to arrange a Jump? You're just taking little ones."

"Listen to the man. Little Jumps are harder to control than big ones. Is it easier to pick up a rock or a fine grain of sand? Besides, Gaia-S is nearby and space is sharply curved. That complicates the calculations even for the computer. Even a mythologist should see that."

Pelorat grunted.

Trevize said, "You can see the planet with the unaided eye now. Right there. See it? The period of rotation is about twenty-two Galactic Hours and the axial inclination is twelve degrees. It is practically a textbook example of a habitable planet and it is life-bearing."

"How can you tell?"

"There are substantial quantities of free oxygen in the atmosphere. You can't have that without well-established vegetation."

"What about intelligent life?"

"That depends on the analysis of radio-wave radiation. Of course, there could be intelligent life that has abandoned technology, I suppose, but that seems very unlikely."

"There have been cases of that," said Pelorat.

"I'll take your word for it. That's your department. However, it's not likely that there would be nothing but pastoral survivors on a planet that frightened off the Mule."

Pelorat said, "Does it have a satellite?"

"Yes, it does," said Trevize casually.

"How big?" Pelorat said in a voice that was suddenly choking. "Can't tell for sure. Perhaps a hundred kilometers across."

"Dear me," said Pelorat wistfully. "I wish I had some worthier set of expletives on instant call, my dear chap, but there was just that one little chance—"

"You mean, if it had a giant satellite, it might be Earth itself?"

"Yes, but it clearly isn't."

"Well, if Compor is right, Earth wouldn't be in this Galactic region, anyway. It would be over Sirius way. —Really, Janov, I'm sorry."

"Oh well."

"Look, we'll wait, and risk one more small Jump. If we find no signs of intelligent life, then it should be safe to land—except that there will then be no reason to land, will there?"

After the next Jump, Trevize said in an astonished voice, "That does it, Janov. It's Gaia, all right. At least, it possesses a technological civilization."

"Can you tell that from the radio waves?"

"Better than that. There's a space station circling the planet. Do you see that?"

There was an object on display on the viewscreen. To Pelorat's unaccustomed eye, it didn't seem very remarkable, but Trevize said, "Artificial, metallic, and a radio-source."

"What do we do now?"

"Nothing, for a while. At this stage of technology, they cannot fail to detect us. If, after a while, they do nothing, I will beam a radio message at them. If they still do nothing, I will approach cautiously."

"What if they do do something?"

"It will depend on the 'something.' If I don't like it, then I'll have to take advantage of the fact that it is very unlikely that they have anything that can match the facility with which this ship can make a Jump."

"You mean we'll leave?"

"Like a hyperspatial missile."

"But we'll leave no wiser than we came."

"Not at all. At the very least we'll know that Gaia exists, that it has a working technology, and that it's done something to scare us."

"But, Golan, let's not be too easily scared."

"Now, Janov, I know that you want nothing more in the Galaxy than to learn about Earth at any cost, but please remember that I don't share your monomania. We are in an unarmed ship and those people down there have been isolated for centuries. Suppose they have never heard of the Foundation and don't know enough to be respectful of it. Or suppose this is the Second Foundation and once we're in their grip—if they're annoyed with us—we may never be the same again. Do you want them to wipe your mind clear and find you are no longer a mythologist and know nothing about any legends whatever?"

Pelorat looked grim. "If you put it that way— But what do we do once we leave?"

"Simple. We get back to Terminus with the news. —Or as near to Terminus as the old woman will allow. Then we might return to Gaia once again—more quickly and without all this inching along— and we return with an armed ship or an armed fleet. Things may well be different then."

They waited. It had grown to be a routine. They had spent far more time waiting in the approaches to Gaia than they had spent in all the flight from Terminus to Sayshell.

Trevize set the computer to automatic alarm and was even nonchalant enough to doze in his padded chair.

This meant he woke with a start when the alarm chimed. Pelorat came into Trevize's room, just as startled. He had been interrupted while shaving.

"Have we received a message?" asked Pelorat.

"No," said Trevize energetically. "We're moving."

"Moving? Where?"

"Toward the space station."

"Why is that?"

"I don't know. The motors are on and the computer doesn't respond to me—but we're moving. —Janov, we've been seized. We've come a little too close to Gaia."

16. CONVERGENCE

WHEN STOR GENDIBAL FINALLY MADE OUT COMPOR'S SHIP ON HIS viewscreen, it seemed like the end of an incredibly long journey. Yet, of course, it was not the end, but merely the beginning. The journey from Trantor to Sayshell had been nothing but prologue.

Novi looked awed. "Is that another ship of space, Master?"

"Spaceship, Novi. It is. It's the one we have been striving to reach. It is a larger ship than this one—and a better one. It can move through space so quickly that if it fled from us, this ship could not possibly catch it—or even follow it."

"Faster than a ship of the masters?" Sura Novi seemed appalled by the thought.

Gendibal shrugged. "I may be, as you say, a master, but I am not a master in all things. We scholars do not have ships like these, nor do we have many of the material devices that the owners of those ships have."

"But how can scholars lack such things, Master?"

"Because we are masters in what is important. The material advances that these others have are trifles."

Novi's brows bent together in thought. "It seems to me that to go so quickly that a master cannot follow is no trifle. Who are these people who are wonder-having—who have such things?"

Gendibal was amused. "They call themselves the Foundation. Have you ever heard of the Foundation?"

(He caught himself wondering what the Hamish knew or did not know of the Galaxy and why it never occurred to the Speakers to wonder about such things. —Or was it only he who had never wondered about such things—only he who assumed that the Hamish cared for nothing more than grubbing in the soil.)

Novi shook her head thoughtfully. "I have never heard of it, Master. When the schoolmaster taught me letter-lore—how to read, I mean—he told me there were many other worlds and told me the names of some. He said our Hamish world had the proper name of Trantor and that it once ruled all the worlds. He said Trantor was covered with gleaming iron and had an Emperor who was an allmaster."

Her eyes looked up at Gendibal with a shy merriment. "I unbelieve most of it, though. There are many stories the wordspinners tell in the meeting-halls in the time of longer nights. When I was a small girl, I believed them all, but as I grew older, I found that many of them were not true. I believe very few now; perhaps none. Even schoolmasters tell unbelievables."

"Just the same, Novi, that particular story of the schoolmaster is true—but it was long ago. Trantor was indeed covered by metal and had indeed an Emperor who ruled all the Galaxy. Now, however, it is the people of the Foundation who will someday rule all the worlds. They grow stronger all the time."

"They will rule all, Master?"

"Not immediately. In five hundred years."

"And they will master the masters as well?"

"No, no. They will rule the worlds. We will rule them—for their safety and the safety of all the worlds."

Novi was frowning again. She said, "Master, do these people of the Foundation have many of these remarkable ships?"

"I imagine so, Novi."

"And other things that are very—astonishing?"

"They have powerful weapons of all kinds."

"Then, Master, can they not take all the worlds now?"

"No, they cannot. It is not yet time."

"But why can they not? Would the masters stop them?"

"We wouldn't have to, Novi. Even if we did nothing, they could not take all the worlds."

"But what would stop them?"

"You see," began Gendibal, "there is a plan that a wise man once devised—"

He stopped, smiled slightly, and shook his head. "It is hard to explain, Novi. Another time, perhaps. In fact, when you see what will happen before we ever see Trantor again, you may even understand without my explaining."

"What will happen, Master?"

"I am not sure, Novi. But all will happen well."

He turned away and prepared to make contact with Compor. And, as he did so, he could not quite keep an inner thought from saying: At least I hope so.

He was instantly angry with himself, for he knew the source of that foolish and weakening drift of thought. It was the picture of the elaborate and enormous Foundation might in the shape of Compor's ship and it was his chagrin at Novi's open admiration of it.

Stupid! How could he let himself compare the possession of mere strength and power with the possession of the ability to guide events? It was what generations of Speakers had called "the fallacy of the hand at the throat."

To think that he was not yet immune to its allures.

Munn Li Compor was not in the least sure as to how he ought to comport himself. For most of his life, he had had the vision of allpowerful Speakers existing just beyond his circle of experience—Speakers, with whom he was occasionally in contact and who had, in their mysterious grip, the whole of humanity.

Of them all, it had been Stor Gendibal to whom, in recent years, he had turned for direction. It was not even a voice he had encountered most times, but a mere presence in his mind—hyperspeech without a hyper-relay.

In this respect, the Second Foundation had gone far beyond the Foundation. Without material device, but just by the educated and advanced power of the mind alone, they could reach across the par. sees in a manner that could not be tapped, could

not be infringed upon. It was an invisible, undetectable network that held all the worlds fast through the mediation of a relatively few dedicated individuals.

Comporg had, more than once, experienced a kind of uplifting at the thought of his role. How small the band of which he was one; how enormous an influence they exerted.—And how secret it all was. Even his wife knew nothing of his hidden life.

And it was the Speakers who held the strings—and this one Speaker, this Gendibal, who might (Comporg thought) be the next First Speaker, the more-than-Emperor of a more-than-Empire.

Now Gendibal was here, in a ship of Trantor, and Comporg fought to stifle his disappointment at not having such a meeting take place on Trantor itself.

Could that be a ship of Trantor? Any of the early Traders who had carried the Foundation's wares through a hostile Galaxy would have had a better ship than that. No wonder it had taken the Speaker so long to cover the distance from Trantor to Sayshell.

It was not even equipped with a undock mechanism that would have welded the two ships into one when the crosstransfer of personnel was desired. Even the contemptible Sayshellian fleet was equipped with it. Instead, the Speaker had to match velocities and then cast a tether across the gap and swing along it, as in Imperial days.

That was it, thought Comporg gloomily, unable to repress the feeling. The ship was no more than an old-fashioned Imperial vessel—and a small one at that.

Two figures were moving across the tether—one of them so clumsily that it was clear it had never attempted to maneuver through space before.—

Finally they were on board and removed their space suits. Speaker Stor Gendibal was of moderate height and of unimpressive appearance; he was not large and powerful, nor did he exude an air of learning. His dark, deep-set eyes were the only indication of his wisdom. But now the Speaker looked about with a clear indication of being in awe himself.

The other was a woman as tall as Gendibal, plain in appearance. Her mouth was open in astonishment as she looked about.

Moving across the tether had not been an entirely unpleasant experience for Gendibal. He was not a spaceman—no Second Foundationer was—but neither was he a complete surface worm, for no Second Foundationer was allowed to be that. The possible need for space flight was, after all, always looming above them, though every Second Foundationer hoped the need would arise only infrequently. (Preem Palver—the extent of whose space travels was legendary—had once said, ruefully, that the measure of the success of a Speaker was the fewness of the times he was compelled to move through space in order to assure the success of the Plan.)

Gendibal had had to use a tether three times before. This was his fourth use and even if he had felt tension over the matter, it would have disappeared in his concern for Sura Novi. He needed no mentalics to see that stepping into nothingness had totally upset her.

"I be afeared, Master," she said when he explained what would have to be done. "It be naughtness into which I will make footstep." If nothing else, her sudden descent into thick Hamish dialect showed the extent of her disturbance.

Gendibal said gently, "I cannot leave you on board this ship, Novi, for I will be going into the other and I must have you with me. There is no danger, for your space suit will protect you from all harm and there is no place for you to fall to. Even if you lose your grip on the tether, you will remain nearly where you are and I will be within arm's reach so that I can gather you in. Come, Novi, show me that you are brave enough—as well as bright enough—to become a scholar."

She made no further objection and Gendibal, unwilling to do anything that might disturb the smoothness of her mind-set, nevertheless managed to inject a soothing touch upon the surface of her mind.

"You can still speak to me," he said, after they were each enclosed in a space suit. "I can hear you if you think hard. Think the words hard and clearly, one by one. You can hear me now, can't you?"

"Yes, Master," she said.

He could see her lips move through the transparent faceplate and he said, "Say it without moving your lips, Novi. There is no radio in the kind of suits that scholars have. It is all done with the mind."

Her lips did not move and her look grew more anxious: Can you hear me, Master?

Perfectly well, thought Gendibal—and his lips did not move either: Do you hear me?

I do, Master.

Then come with me and do as I do.

They moved across. Gendibal knew the theory of it, even if he could handle the practice only moderately well. The trick was to keep one's legs extended and together and to swing them from the hips alone. That kept the center of gravity moving in a straight line as the arms swung forward in steady alternation. He had explained this to Sura Novi and, without turning to look at her, he studied the stance of her body from the set of the motor areas of her brain.

For a first-timer, she did very well, almost as well as Gendibal was managing to do. She repressed her own tensions and she followed directions. Gendibal found himself, once again, very pleased with her.

She was, however, clearly glad to be on board ship again—and so was Gendibal. He looked about as he removed his space suit and was rather dumbfounded at the luxury and style of the equipment. He recognized almost nothing and his heart sank at the thought that he might have very little time to learn how to handle it all. He might have to transfer expertise directly from the man already on board, something that was never quite as satisfactory as true learning.

Then he concentrated on Compor. Compor was tall and lean, a few years older than himself, rather handsome in a slightly weak way, with tightly waved hair of a startling buttery yellow.

And it was clear to Gendibal that this person was disappointed in, and even contemptuous of, the Speaker he was now meeting for the first time. What was more, he was entirely unsuccessful in hiding the fact.

Gendibal did not mind such things, on the whole. Compor was not a Trantorian—nor a full Second Foundationer—and he clearly had his illusions. Even the most superficial scan of his mind showed that. Among these was the illusion that true power was necessarily related to the appearance of power. He might, of course, keep his illusions as long as they did not interfere with what Gendibal needed, but at the present moment, this particular illusion did so interfere.

What Gendibal did was the mentalic equivalent of a snap of the fingers. Compor staggered slightly under the impress of a sharp but fleeting pain. There was an impress of enforced concentration that puckered the skin of his thought and left the man with the awareness of a casual but awesome power that could be utilized if the Speaker chose.

Compor was left with a vast respect for Gendibal.

Gendibal said pleasantly, "I am merely attracting your attention, Compor, my friend. Please let me know the present whereabouts of your friend, Golan Trevize, and his friend, Janov Pelorat."

Compor said hesitantly, "Shall I speak in the presence of the woman, Speaker?"

"The woman, Compor, is an extension of myself. There is no reason, therefore, why you should not speak openly."

"As you say, Speaker. Trevize and Pelorat are now approaching a planet known as Gaia."

"So you said in your last communication the other day. Surely they have already landed on Gaia and perhaps left again. They did not stay long on Sayshell Planet."

"They had not yet landed during the time I followed them, Speaker. They were approaching the planet with great caution, pausing substantial periods between micro-Jumps. It is clear to me they have no information about the planet they are approaching and therefore hesitate."

"Do you have information, Compor?"

"I have none, Speaker," said Compor, "or at least my ship's computer has none."

"This computer?" Gendibal's eyes fell upon the control panel and he asked in sudden hope, "Can it aid usefully in running the ship?"

"It can run the ship completely, Speaker. One need merely think into it."

Gendibal felt suddenly uneasy. "The Foundation has gone that far?"

"Yes, but clumsily. The computer does not work well. I must repeat my thoughts several times and even then I get but minimal information."

Gendibal said, "I may be able to do better than that."

"I am sure of it, Speaker," said Compor respectfully.

"But never mind that for the moment. Why does it have no information on Gaia?"

"I do not know, Speaker. It claims to have—as far as a computer may be said to be able to claim—records on every human-inhabited planet in the Galaxy."

"It cannot have more information than has been fed into it and if those who did the feeding thought they had records of all such planets when, in actual fact, they had not, then the computer would labor under the same misapprehension. Correct?"

"Certainly, Speaker."

"Did you inquire at Sayshell?"

"Speaker," said Compore uneasily, "there are people who speak of Gaia on Sayshell, but what they say is valueless. Clearly superstition. The tale they tell is that Gaia is a powerful world that held off even the Mule."

"Is that what they say, indeed?" said Gendibal, suppressing excitement. "Were you so sure that this was superstition that you asked for no details?"

"No, Speaker. I asked a great deal, but what I have just told you is all that anyone can say. They can speak on the subject at great length, but when they have done so, all that it boils down to is what I have just said."

"Apparently," said Gendibal, "that is what Trevize has heard, too, and he goes to Gaia for some reason connected with that—to tap this great power, perhaps. And he does so cautiously, for perhaps he also fears this great power."

"That is certainly possible, Speaker."

"And yet you did not follow?"

"I did follow, Speaker, long enough to make sure he was indeed making for Gaia. I then returned here to the outskirts of the Gaian system."

"Why?"

"Three reasons, Speaker. First, you were about to arrive and I wanted to meet you at least partway and bring you aboard at the earliest moment, as you had directed. Since my ship has a hyperrelay on board, I could not move too far away from Trevize and Pelorat without rousing suspicion on Terminus, but I judged I could risk moving this far. Second, when it was clear that Trevize was approaching Gaia Planet very slowly, I judged there would be time enough for me to move toward you and hasten our meeting without being overtaken by events, especially since you would be more competent than I to follow him to the planet itself and to handle any emergency that might arise."

"Quite true. And the third reason?"

"Since our last communication, Speaker, something has happened that I did not expect and do not understand. I felt that—for that reason, too—I had better hasten our meeting as soon as I dared."

"And this event that you did not expect and do not understand?"

"Ships of the Foundation fleet are approaching the Sayshellian frontier. My computer has picked up this information from Sayshellian news broadcasts. At least five advanced ships are in the flotilla and these have enough power to overwhelm Sayshell."

Gendibal did not answer at once, for it would not do to show that he had not expected such a move—or that he didn't understand it. So, after a moment, he said negligently, "Do you suppose that this has something to do with Trevize's movement toward Gaia?"

"It certainly came immediately afterward—and if B follows A, then there is at least a possibility that A caused B," said Compor.

"Well then, it seems we all converge upon Gaia—Trevize, and I, and the First Foundation. —Come, you acted well, Compor," said Gendibal, "and here is what we will now do. First, you will show me how this computer works and, through that, how the ship may be handled. I am sure that will not take long.

"After that, you will get into my ship, since by then I will have impressed on your mind how to handle it. You will have no trouble maneuvering it, although I must tell you (as you have no doubt guessed from its appearance) that you will find it primitive indeed. Once you are in control of the ship, you will keep it here and wait for me."

"How long, Speaker?"

"Until I come for you. I do not expect to be gone long enough for you to be in danger of running out of supplies, but if I am unduly delayed, you may find your way to some inhabited planet of the Sayshell Union and wait there. Wherever you are, I will find you."

"As you say, Speaker."

"And do not be alarmed. I can handle this mysterious Gaia and, if need be, the five ships of the Foundation as well."

Littoral Thoobing had been the Foundation's Ambassador to Sayshell for seven years. He rather liked the position.

Tall and rather stout, he wore a thick brown mustache at a time when the predominant fashion, both in the Foundation and in Sayshell, was smooth-shaven. He had a strongly lined countenance, though he was only fifty-four—and was much given to a schooled indifference. His attitude toward his work was not easily seen.

Still, he rather liked the position. It kept him away from the hurly-burly of politics on Terminus—something he appreciated—and it gave him the chance to live the life of a Sayshellian sybarite and to support his wife and daughter in the style to which they had become addicted. He didn't want his life disturbed.

On the other hand, he rather disliked Liono Kodell, perhaps because Kodell also sported a mustache, though one which was smaller, shorter, and grayish-white. In the old days, they had been the only two people in prominent public life who had worn one and there had been rather a competition between them over the matter. Now (thought Thoobing) there was none; Kodell's was contemptible.

Kodell had been Director of Security when Thoobing was still on Terminus, dreaming of opposing Harla Branno in the race for Mayor, until he had been bought off with the ambassadorship. Branno had done it for her own sake, of course, but he had ended up owing her goodwill for that.

But not to Kodell, somehow. Perhaps it was because of Kodell's determined cheerfulness—the manner in which he was always such a friendly person—even after he had decided on just exactly the manner in which your throat was to be cut.

Now he sat there in hyperspatial image, cheerful as ever, brimming over with bonhomie. His actual body was, of course, back on Terminus, which spared Thoobing the necessity of offering him any physical sign of hospitality.

"Kodell," he said. "I want those ships withdrawn."

Kodell smiled sunnily. "Why, so do I, but the old lady has made up her mind."

"You've been known to persuade her out of this or that."

"On occasion. Perhaps. When she wanted to be persuaded. This time she doesn't want to be. —Thoobing, do your job. Keep Sayshell calm."

"I'm not thinking about Sayshell, Kodell. I'm thinking about the Foundation."

"So are we all."

"Kodell, don't fence. I want you to listen to me."

"Gladly, but these are hectic times on Terminus and I will not listen to you forever."

"I will be as brief as I can be—when discussing the possibility of the Foundation's destruction. If this hyperspatial line is not being tapped, I will speak openly."

"It is not being tapped."

"Then let me go on. I have received a message some days ago from one Golan Trevize. I recall a Trevize in my own political days, a Commissioner of Transportation."

"The young man's uncle," Kodell said.

"Ah, then you know the Trevize who sent the message to me. According to the information I have since gathered, he was a Councilman who, after the recent successful resolution of a Seldon Crisis, was arrested and sent into exile."

"Exactly."

"I don't believe it."

"What is it that you don't believe?"

"That he was sent into exile."

"Why not?"

"When in history has any citizen of the Foundation been sent into exile?" demanded Thoobing. "He is arrested or not arrested. If he is arrested, he is tried or not tried. If he is tried, he is convicted or not convicted. If he is convicted, he is fined, demoted, disgraced, imprisoned, or executed. No one is sent into exile."

"There is always a first time."

"Nonsense. In an advanced naval vessel? What fool can fail to see that he is on a special mission for your old woman? Whom can she possibly expect to deceive?"

"What would the mission be?"

"Supposedly to find the planet Gaia."

Some of the cheerfulness left Kodell's face. An unaccustomed hardness entered his eyes. He said, "I know that you feel no overwhelming impulse to believe my statements, Mr. Ambassador, but I make a special plea that you believe me in this one case. Neither the Mayor nor I had ever heard of Gaia at the time that Trevize was sent into exile. We have heard of Gaia, for the first time, just the other day. If you believe that, this conversation may continue."

"I will suspend my tendency toward skepticism long enough to accept that, Director, though it is difficult to do so."

"it is quite true, Mr. Ambassador, and if I have suddenly adopted a formal note to my statements it is because when this is done, you will find that you have questions to answer and that you will not find the occasion joyful. You speak as though Gaia is a world familiar to you. How is it that you know something we did not know? Is it not your duty to see to it that we know everything that you know about the political unit to which you are assigned?"

Thoobing said softly, "Gaia is not part of the Sayshell Union. It, in fact, probably does not exist. Am I to transmit to Terminus all the fairy tales that the superstitious lower orders of Sayshell tell of Gaia? Some of them say that Gaia is located in hyperspace. According to others, it is a world that supernaturally protects Sayshell. According to still others, it sent forth the Mule to prey on the Galaxy. If you are planning to tell the Sayshellian government that Trevize has been sent out to find Gaia and that five advanced ships of the Foundation Navy have been sent out to back him in this search, they will never believe you. The people may believe fairy tales about Gaia, but the government does not—and they will not be convinced that the Foundation does. They will feel that you intend to force Sayshell into the Foundation Federation."

"And what if we do plan that?"

"It would be fatal. Come, Kodell, in the five-century history of the Foundation, when have we fought a war of conquest? We have fought wars to prevent our own conquest—and failed once—but no war has ended with an extension of our territory. Accessions to the Federation have been through peaceful agreements. We have been joined by those who saw benefits in joining."

"Isn't it possible that Sayshell may see benefits in joining?"

"They will never do so while our ships remain on their borders. Withdraw them."

"It can't be done."

"Kodell, Sayshell is a marvelous advertisement for the benevolence of the Foundation Federation. It is nearly enclosed by our territory, it is in an utterly vulnerable position, and yet until now it has been safe, has gone its own way, has even been able to maintain an anti-Foundation foreign policy freely. How better can we show the Galaxy that we force no one, that we come in friendship to all? —If we take over Sayshell, we take that which, in essence, we already have. After all, we dominate it economically—if quietly. But if we take it over by military force, we advertise to all the Galaxy that we have become expansionist."

"And if I tell you that we are really interested only in Gaia?"

"Then I will believe it no more than the Sayshell Union will. This man, Trevize, sends me a message that he is on his way to Gaia and asks me to transmit it to Terminus. Against my better judgment, I do so because I must and, almost before the hyperspatial line is cool, the Foundation Navy is in motion. How will you get to Gaia, without penetrating Sayshellian space?"

"My dear Thoobing, surely you are not listening to yourself. Did you not tell me just a few minutes ago that Gaia, if it exists at all, is not part of the Sayshell Union? And I presume you know that hyperspace is free to all and is part of no world's territory. How then can Sayshell complain if we move from Foundation territory (where our ships stand right now), through hyperspace, into Gaian territory, and never in the process occupy a single cubic centimeter of Sayshellian territory?"

"Sayshell will not interpret events like that, Kodell. Gaia, if it exists at all, is totally enclosed by the Sayshell Union, even if it is not a political part of it, and there are precedents that make such enclaves virtual parts of the enclosing territory, as far as enemy warships are concerned."

"Ours are not enemy warships. We are at peace with Sayshell."

"I tell you that Sayshell may declare war. They won't expect to win such a war through military superiority, but the fact is, war will set off a wave of anti-Foundation activity throughout the Galaxy. The new expansionist policies of the Foundation will encourage the growth of alliances against us. Some of the members of the Federation will begin to rethink their ties to us. We may well lose the war through internal disarray and we will then certainly reverse the process of growth that has served the Foundation so well for five hundred years."

"Come, come, Thoobing," said Kodell indifferently, "You speak as though five hundred years is nothing, as though we are still the Foundation of Salvor Hardin's time, fighting the pocket-kingdom of Anacreon. We are far stronger now than the Galactic Empire ever was at its very height. A squadron of our ships could defeat the entire Galactic Navy, occupy any Galactic sector, and never know it had been in a fight."

"We are not fighting the Galactic Empire. We fight planets and sectors of our own time."

"Who have not advanced as we have. We could gather in all the Galaxy now."

"According to the Seldon Plan, we can't do that for another five hundred years."

"The Seldon Plan underestimates the speed of technological advance. We can do it now! —Understand me, I don't say we will do it now or even should do it now. I merely say we can do it now."

"Kodell, you have lived all your life on Terminus. You don't know the Galaxy. Our Navy and our technology can beat down the Armed Forces of other worlds, but we cannot yet govern an entire rebellions, hate-ridden Galaxy—and that is what it will be if we take it by force. Withdraw the ships!"

"It can't be done, Thoobing. Consider— What if Gaia is not a myth?"

Thoobing paused, scanning the other's face as though anxious to read his mind. "A world in hyperspace not a myth?"

"A world in hyperspace is superstition, but even superstitions may be built around kernels of truth. This man, Trevize, who was exiled, speaks of it as though it were a real world in real space. What if he is right?"

"Nonsense. I don't believe it."

"No? Believe it for just a moment. A real world that has lent Sayshell safety against the Mule and against the Foundation!"

"But you refute yourself. How is Gaia keeping the Sayshellians safe from the Foundation? Are we not sending ships against it?"

"Not against it, but against Gaia, which is so mysteriously unknown—which is so careful to avoid notice that while it is in real space it somehow convinces its neighbor worlds that it is in hyperspace—and which even manages to remain outside the computerized data of the best and most unabridged of Galactic maps."

"It must be a most unusual world, then, for it must be able to manipulate minds."

"And did you not say a moment ago that one Sayshellian tale is that Gaia sent forth the Mule to prey upon the Galaxy? And could not the Mule manipulate minds?"

"And is Gaia a world of Mules, then?"

"Are you sure it might not be?"

"Why not a world of a reborn Second Foundation, in that case."

"Why not indeed? Should it not be investigated?"

Thoobing grew sober. He had been smiling scornfully during the last exchanges, but now he lowered his head and stared up from under his eyebrows. "If you are serious, is such an investigation not dangerous?"

"Is it?"

"You answer my questions with other questions because you have no reasonable answers. Of what use will ships be against Mules or Second Foundationers? Is it not likely, in fact, that if they exist they are luring you into destruction? See here, you tell me that the Foundation can establish its Empire now, even though the Seldon Plan has reached only its midway point, and I have warned you that you would be racing too far ahead and that the intricacies of the Plan would slow you down by force. Perhaps, if Gaia exists and is what you say it is, all this is a device to bring about that slowdown. Do voluntarily now what you may soon be constrained to do. Do peacefully and without bloodshed now what you may be forced to do by woeful disaster. Withdraw the ships."

"It can't be done. In fact, Thoobing, Mayor Branno herself plans to join the ships, and scoutships have already flitted through hyperspace to what is supposedly Gaian territory."

Thoobing's eyes bulged. "There will surely be war, I tell you."

"You are our ambassador. Prevent that. Give the Sayshellians whatever assurances they need. Deny any ill will on our part. Tell them, if you have to, that it will pay them to sit quietly and wait for Gaia to destroy us. Say anything you want to, but keep them quiet."

He paused, searching Thoobing's stunned expression, and said, "Really, that's all. As far as I know, no Foundation ship will land on any world of the Sayshell Union or penetrate any point in real space that is part of that Union. However, any Sayshellian ship that attempts to challenge us outside Union territory—and therefore inside Foundation territory—will promptly be reduced to dust. Make that perfectly clear, too, and keep the Sayshellians quiet. You will be held to strict account if you fail. You have had an easy job

so far, Thoobing, but hard times are upon you and the next few weeks decide all. Fail us and no place in the Galaxy will be safe for you."

There was neither merriment nor friendliness in Kodell's face as contact was broken and as his image disappeared.

Thoobing stared open-mouthed at the place where he had been.

Golan Trevize clutched at his hair as though he were trying, by feel, to judge the condition of his thinking. He said to Pelorat abruptly, "What is your state of mind?"

"State of mind?" said Pelorat blankly.

"Yes. Here we are, trapped—with our ship under outside control and being drawn inexorably to a world we know nothing about. Do you feel panic?"

Pelorat's long face registered a certain melancholia. "No," he said.

"I don't feel joyful. I do feel a little apprehensive, but I'm not panicky."

"Neither am I. Isn't that odd? Why aren't we more upset than we are?"

"This is something we expected, Golan. Something like this."

Trevize turned to the screen. It remained firmly focused on the space station. It was larger now, which meant they were closer.

It seemed to him that it was not an impressive space station in design. There was nothing to it that bespoke superscience. In fact, it seemed a bit primitive. —Yet it had the ship in its grip.

He said, "I'm being very analytical, Janov. Cool! —I like to think that I am not a coward and that I can behave well under pressure, but I tend to flatter myself. Everyone does. I should be jumping up and down right now and sweating a little. We may have expected something, but that doesn't change the fact that we are helpless and that we may be killed."

Pelorat said, "I don't think so, Golan. If the Gaians could take over the ship at a distance, couldn't they kill us at a distance? If we're still alive—"

"But we're not altogether untouched. We're too calm, I tell you. I think they've tranquilized us."

"Why?"

"To keep us in good shape mentally, I think. It's possible they wish to question us. After that, they may kill us."

"If they are rational enough to want to question us, they may be rational enough not to kill us for no good reason."

Trevize leaned back in his chair (it bent back at least—they hadn't deprived the chair of its functioning) and placed his feet on the desk where ordinarily his hands made contact with the computer. He said, "They may be quite ingenious enough to work up what they consider a good reason. —Still, if they've touched our minds, It hasn't been by much. If it were the Mule, for instance, he would have made us eager to go—exalted, exultant, every fiber of ourselves crying out for arrival there." He pointed to the space station. "Do you feel that way, Janov?"

"Certainly not."

"You see that I'm still in a state where I can indulge in cool, analytical reasoning. Very odd! Or can I tell? Am I in a panic, incoherent, mad—and merely under the illusion that I am indulging in cool, analytical reasoning?"

Pelorat shrugged. "You seem sane to me. Perhaps I am as insane as you and am under the same illusion, but that sort of argument gets us nowhere. All humanity could share a common insanity and be immersed in a common illusion while living in a common chaos. That can't be disproved, but we have no choice but to follow our senses." And then, abruptly, he said, "In fact, I've been doing some reasoning myself."

"Yes?"

"Well, we talk about Gaia as a world of Mules, possibly, or as the Second Foundation reborn. Has it occurred to you that a third alternative exists, one that is more reasonable than either of the first two."

"What third alternative?"

Pelorat's eyes seemed concentrating inward. He did not look at Trevize and his voice was low and thoughtful. "We have a world—Gaia—that has done its best, over an indefinite period of time, to maintain a strict isolation. It has in no way attempted to establish contact with any other world—not even the nearby worlds of the Sayshell Union. It has an advanced science, in some ways, if the stories of their destruction of fleets is true and certainly their ability to control us right now bespeaks it—and yet they have made no attempt to expand their power. They ask only to be left alone."

Trevize narrowed his eyes. "So?"

"It's all very inhuman. The more than twenty thousand years of human history in space has been an uninterrupted tale of expansion and attempted expansion. Just about every known world that can be inhabited is inhabited. Nearly every world has been quarreled over in the process and nearly every world has jostled each of its neighbors at one time or another. If Gaia is so inhuman as to be so different in this respect, it may be because it really is—inhuman."

Trevize shook his head. "Impossible."

"Why impossible?" said Pelorat warmly. "I've told you what a puzzle it is that the human race is the only evolved intelligence in the Galaxy. What if it isn't? Might there not be one more—on one planet—that lacked the human expansionist drive? In fact," Pelorat grew more excited, "what if there are a million intelligences in the Galaxy, but only one that is expansionist—ourselves? The others would all remain at home, unobtrusive, hidden—"

"Ridiculous!" said Trevize. "We'd come across them. We'd land on their worlds. They would come in all types and stages of technology and most of them would be unable to stop us. But we've never come across any of them. Space! We've never even come across the ruins or relics of a nonhuman civilization, have we? You're the historian, so you tell me. Have we?"

Pelorat shook his head. "We haven't. —But Golan, there could be one! This one!"

"I don't believe it. You say the name is Gaia, which is some ancient dialectical version of the name 'Earth.' How can that be nonhuman?"

"The name 'Gaia' is given the planet by human beings—and who knows why? The resemblance to an ancient word might be coincidental. —Come to think of it, the very fact that we've been lured to Gaia—as you explained in great detail some time ago—and are now being drawn in against our will is an argument in favor of the nonhumanity of the Gaians."

"Why? What has that to do with nonhumanity?"

"They're curious about us—about humans."

Trevize said, "Janov, you're mad. They've been living in a Galaxy surrounded by humans for thousands of years. Why should they be curious right now? Why not long before? And if right now, why us? If they want to study human beings and human culture, why not the Sayshell worlds? Why would they reach all the way to Terminus for us?"

"They may be interested in the Foundation."

"Nonsense," said Trevize violently. "Janov, you want a nonhuman intelligence and you will have one. Right now, I think that if you thought you were going to encounter nonhumans, you wouldn't worry about having been captured, about being helpless, about being killed even—if they but gave you a little time to sate your curiosity."

Pelorat began to stutter an indignant negative, then stopped, drew a deep breath, and said, "Well, you may be right, Golan, but I'll hold to my belief for a while just the same. I don't think we'll have to wait very long to see who's right. —Look!"

He pointed to the screen. Trevize—who had, in his excitement, ceased watching—now looked back. "What is it?" he said.

"Isn't that a ship taking off from the station?"

"It's something," admitted Trevize reluctantly. "I can't make out the details yet and I can't magnify the view any further. It's at maximum magnification." After awhile he said, "It seems to be approaching us and I suppose it's a ship. Shall we make a bet?"

"What sort of bet?"

Trevize said sardonically, "If we ever get back to Terminus, let's have a big dinner for ourselves and any guests we each care to invite, up to, say, four—and it will be on me if that ship approaching us carries nonhumans and on you if it carries humans."

"I'm willing," said Pelorat.

"Done, then," and Trevize peered at the screen, trying to make out details and wondering if any details could reasonably be expected to give away, beyond question, the nonhumanity (or humanity) of the beings on board.

Branno's iron-gray hair lay immaculately in place and she might have been in the Mayoral Palace, considering her equanimity. She showed no sign that she was deep in space for only the second time in her life. (And the first time—when she accompanied her parents on a holiday tour to Kalgan—could scarcely count. She had been only three at the time.)

She said to Kodell with a certain weary heaviness, "It is Thoobing's job, after all, to express his opinion and to warn me. Very well, he has warned me. I don't hold it against him."

Kodell, who had boarded the Mayor's ship in order to speak to her without the psychological difficulty of imaging, said, "He's been at his post too long. He's beginning to think like a Sayshellian."

"That's the occupational hazard of an ambassadorship, Liono. Let us wait till this is over and we'll give him a long sabbatical and then send him on to another assignment elsewhere. He's a capable man.

—After all, he did have the wit to forward Trevize's message without delay."

Kodell smiled briefly. "Yes, he told me he did it against his better judgment. 'I do so because I must' he said. You see, Madam Mayor, he had to, even against his better judgment, because as soon as Trevize entered the space of the Sayshell Union, I informed Ambassador Thoobing to forward, at once, any and all information concerning him?"

"Oh?" Mayor Branno turned in her seat to see his face more clearly. "And what made you do that?"

"Elementary considerations, actually. Trevize was using a latemodel Foundation naval vessel and the Sayshellians would be bound to notice that. He's an undiplomatic young jackass and they would be bound to notice that. Therefore, he might get into trouble—and if there's one thing a Founder knows, it is that if he gets into trouble anywhere in the Galaxy, he can cry out for the nearest Foundation representative. Personally I wouldn't mind seeing Trevize in trouble—it might help him grow up and that would do him a great deal of good—but you've sent him out as your lightning rod and I wanted you to be able to estimate the nature of any lightning that might strike, so I made sure that the nearest Foundation representative would keep watch over him, that's all."

"I see! Well, I understand now why Thoobing reacted so strenuously. I had sent him a similar warning. Since he heard from us both independently, one can scarcely blame him for thinking that the approach of a few Foundation vessels might mean a great deal more than it actually does. —How is it, Liono, you did not consult me on the matter before sending the warning?"

Kodell said coolly, "If I involved you in everything I do, you would have no time to be Mayor. How is it that you did not inform me of your intention?"

Branno said sourly, "If I informed you of all my intentions, Liono, you would know far too much. —But it is a small matter, and so is Thoobing's alarm, and, for that matter, so is any fit that the Sayshellians throw. I am more interested in Trevize."

"Our scouts have located Comporellon. He is following Trevize and both are moving very cautiously toward Gaia."

"I have the full reports of those scouts, Liono. Apparently both Trevize and Comporellon are taking Gaia seriously."

"Everyone sneers at the superstitions concerning Gaia, Madam Mayor, but everyone thinks, 'Yet what if—' Even Ambassador Thoobing manages to be a little uneasy about it. It could be a very shrewd policy on the part of the Sayshellians. A kind of protective coloration. If one spreads stories of a mysterious and invincible world, people will shy away not only from the world, but from any other worlds close by—such as the Sayshell Union."

"You think that is why the Mule turned away from Sayshell?"

"Possibly."

"Surely you don't think the Foundation has held its hand from Sayshell because of Gaia, when there is no record that we have ever heard of the world?"

"I admit there's no mention of Gaia in our archives, but neither is there any other reasonable explanation for our moderation with respect to the Sayshell Union."

"Let us hope, then, that the Sayshellian government, despite Thoobing's opinion to the contrary, has convinced itself—even just a little bit-of Gaia's might and of its deadly nature."

"Why so?"

"Because then the Sayshell Union will raise no objections to our moving toward Gaia. The more they resent that movement, the more they will persuade themselves that it should be permitted so that Gaia will swallow us. The lesson, they will imagine, will be a salutary one and will not be lost on future invaders."

"Yet what if they should be right in such a belief, Mayor? What if Gaia is deadly?"

Branno smiled. "You raise the 'Yet what if—' yourself, do you, Liono?"

"I must raise all possibilities, Mayor. It is my job."

"If Gaia is deadly, Trevize will be taken by them. That is his job as my lightning rod. And so may Comporg, I hope."

"You hope? Why?"

"Because it will make them overconfident, which should be useful to us. They will underestimate our power and be the easier to handle."

"But what if it is we who are overconfident?"

"We are not," said Branno flatly.

"These Gaians—whatever they are—may be something we have no concept of and cannot properly estimate the danger of. I merely suggest that, Mayor, because even that possibility should be weighed."

"Indeed? Why does such a notion fall into your head, Liono?"

"Because I think you feel that, at the worst, Gaia is the Second Foundation. I suspect you think they are the Second Foundation. However, Sayshell has an interesting history, even under the Empire. Sayshell alone had a measure of self-rule. Sayshell alone was spared some of the worst taxations under the so-called 'Bad Emperors.' In short, Sayshell seems to have had the protection of Gaia, even in Imperial times."

"Well then?"

"But the Second Foundation was brought into existence by Hari Seldon at the same time our Foundation was. The Second Foundation did not exist in Imperial times—and Gaia did. Gaia, therefore, is not the Second Foundation. It is something else—and, just possibly, something worse."

"I don't propose to be terrified by the unknown, Liono. There are only two possible sources of danger—physical weapons and mental weapons—and we are fully prepared for both. —You get back to your ship and keep the units on the Sayshellian outskirts. This ship will move toward Gaia alone, but will stay in contact with you at all times and will

expect you to come to us in one Jump, if necessary. —Go, Liono, and get that perturbed look off your face."

"One last question? Are you sure you know what you're doing?"

"I do," she said grimly. "I, too, have studied the history of Sayshell and have seen that Gaia cannot be the Second Foundation, but, as I told you, I have the full report of the scouts and from that—"

"Yes?"

"Well, I know where the Second Foundation is located and we will take care of both, Liono. We will take care of Gaia first and then Trantor."

17. GAIA

IT TOOK HOURS FOR THE SKIP FROM THE SPACE STATION TO REACH THE vicinity of the Far Star—very long hours for Trevize to endure.

Had the situation been normal, Trevize would have tried to signal and would have expected a response. If there had been no response, he would have taken evasive action.

Since he was unarmed and there had been no response, there was nothing to do but wait. The computer would not respond to any direction he could give it that involved anything outside the ship.

Internally, at least, everything worked well. The life-support systems were in perfect order, so that he and Pelorat were physically comfortable. Somehow, that didn't help. Life dragged on and the uncertainty of what was to come was wearing him down. He noticed with irritation that Pelorat seemed calm. As though to make it worse, while Trevize felt no sense of hunger at all, Pelorat opened a small container of chicken-bits, which on opening had rapidly and automatically warmed itself. Now he was eating it methodically.

Trevize said irritably, "Space, Janov! That stinks!"

Pelorat looked startled and sniffed at the container. "It smells all right to me, Golan."

Trevize shook his head. "Don't mind me. I'm just upset. But do use a fork. Your fingers will smell of chicken all day."

Pelorat looked at his fingers with surprise. "Sorry! I didn't notice. I was thinking of something else."

Trevize said sarcastically, "Would you care to guess at what type of nonhumans the creatures on the approaching ship must be?" He was ashamed that he was less calm than Pelorat was. He was a Navy veteran (though he had never seen battle, of course) and Pelorat was a historian. Yet his companion sat there quietly.

Pelorat said, "It would be impossible to imagine what direction evolution would take under conditions differing from those of Earth. The possibilities may not be infinite, but they would be so vast that they might as well be. However, I can predict that they are not senselessly violent and they will treat us in a civilized fashion. If that wasn't true, we would be dead by now."

"At least you can still reason, Janov, my friend—you can still be tranquil. My nerves seem to be forcing their way through whatever tranquilization they have put us under. I have an extraordinary desire to stand up and pace. Why doesn't that blasted ship arrive?"

Pelorat said, "I am a man of passivity, Golan. I have spent my life doubled over records while waiting for other records to arrive. I do nothing but wait. You are a man of action and you are in deep pain when action is impossible."

Trevize felt some of his tension leave. He muttered, "I underestimate your good sense, Janov."

"No, you don't," said Pelorat placidly, "but even a naïve academic can sometimes make sense out of life."

"And even the cleverest politician can sometimes fail to do so."

"I didn't say that, Golan." -

"No, but I did. —So let me become active. I can still observe. The approaching ship is close enough to seem distinctly primitive."

"Seem?"

Trevize said, "If it's the product of nonhuman minds and hands, what may seem primitive may, in actual fact, be merely nonhuman."

"Do you think it might be a nonhuman artifact?" asked Pelorat, his face reddening slightly.

"I can't tell. I suspect that artifacts, however much they may vary from culture to culture, are never quite as plastic as products of genetic differences might be."

"That's just a guess on your part. All we know are different cultures. We don't know different intelligent species and therefore have no way of judging how different artifacts might be."

"Fish, dolphins, penguins, squids, even the ambiflexes, which are not of Earthly origin—assuming the others are—all solve the problem of motion through a viscous medium by streamlining, so that their appearances are not as different as their genetic makeup might lead one to believe. It might be so with artifacts."

"The squid's tentacles and the ambiflex's helical vibrators," responded Pelorat, "are enormously different from each other, and from the fins, flippers, and limbs of vertebrates. It might be so with artifacts."

"In any case," said Trevize, "I feel better. Talking nonsense with you, Janov, quiets my nerves. And I suspect we'll know what we're getting into soon, too. The ship is not going to be able to dock with ours and whatever is on it will come across on an old-fashioned tether—or we will somehow be urged to cross to it on one—since the unlock will be useless. —Unless some nonhuman will use some other system altogether."

"How big is the ship?"

"Without being able to use the ship's computer to calculate the distance of the ship by radar, we can't possibly know the size."

A tether snaked out toward the Far Star.

Trevize said, "Either there's a human aboard or nonhumans use the same device. Perhaps nothing but a tether can possibly work."

"They might use a tube," said Pelorat, "or a horizontal ladder."

"Those are inflexible things. It would be far too complicated to try to make contact with those. You need something that combines strength and flexibility."

The tether made a dull clang on the Far Star as the solid hull (and consequently the air within) was set to vibrating. There was the usual slithering as the other ship made the fine adjustments of speed required to bring the two into a common velocity. The tether was motionless relative to both.

A black dot appeared on the hull of the other ship and expanded like the pupil of an eye.

Trevize grunted. "An expanding diaphragm, instead of a sliding panel."

"Nonhuman?"

"Not necessarily, I suppose. But interesting."

A figure emerged.

Pelorat's lips tightened for a moment and then he said in a disappointed voice, "Too bad. Human."

"Not necessarily," said Trevize calmly. "All we can make out is that there seem to be five projections. That could be a head, two arms, and two legs—but it might not be. —Wait!"

"What?"

"It moves more rapidly and smoothly than I expected. —Ah!"

"What?"

"There's some sort of propulsion. It's not rocketry, as nearly as I can tell, but neither is it hand over hand. Still, not necessarily human."

There seemed an incredibly long wait despite the quick approach of the figure along the tether, but there was finally the noise of contact.

Trevize said, "It's coming in, whatever it is. My impulse is to tackle it the minute it appears." He balled a fist.

"I think we had better relax," said Pelorat. "It may be stronger than we. It can control our minds. There are surely others on the ship. We had better wait till we know more about what we are facing."

"You grow more and more sensible by the minute, Janov," said Trevize, "and I, less and less."

They could hear the airlock moving into action and finally the figure appeared inside the ship.

"About normal size," muttered Pelorat. "The space suit could fit a human being."

"I never saw or heard of such a design, but it doesn't fall outside the limits of human manufacture, it seems to me. —It doesn't say anything."

The space-suited figure stood before them and a forelimb rose to the rounded helmet, which—if it were made of glass—possessed oneway transparency only. Nothing could be seen inside.

The limb touched something with a quick motion that Trevize did not clearly make out and the helmet was at once detached from the rest of the suit. It lifted off.

What was exposed was the face of a young and undeniably pretty woman.

Pelorat's expressionless face did what it could to look stupefied. He said hesitantly, "Are you human?"

The woman's eyebrows shot up and her lips pouted. There was no way of telling from the action whether she was faced with a strange language and did not understand or whether she understood and wondered at the question.

Her hand moved quickly to the left side of her suit, which opened in one piece as though it were on a set of hinges. She stepped out and the suit remained standing without content for a moment. Then, with a soft sigh that seemed almost human, it collapsed.

She looked even younger, now that she had stepped out. Her clothing was loose and translucent, with the skimpy items beneath visible as shadows. The outer robe reached to her knees.

She was small-breasted and narrow-waisted, with hips rounded and full. Her thighs, which were seen in shadow, were generous, but her legs narrowed to graceful ankles. Her hair was dark and shoulderlength, her eyes brown and large, her lips full and slightly asymmetric.

She looked down at herself and then solved the problem of her understanding of the language by saying, "Don't I look human?"

She spoke Galactic Standard with just a trifle of hesitation, as though she were straining a bit to get the pronunciation quite right.

Pelorat nodded and said with a small smile, "I can't deny it. Quite human. Delightfully human."

The young woman spread her arms as though inviting closer examination. "I should hope so, gentleman. Men have died for this body."

"I would rather live for it," said Pelorat, finding a vein of gallantry which faintly surprised him.

"Good choice," said the woman solemnly. "Once this body is attained, all sighs become sighs of ecstasy."

She laughed and Pelorat laughed with her.

Trevize, whose forehead had puckered into a frown through this exchange, rapped out, "How old are you?"

The woman seemed to shrink a little. "Twenty-three— gentleman."

"Why have you come? What is your purpose here?"

"I have come to escort you to Gaia." Her command of Galactic Standard was slipping slightly and her vowels tended to round into diphthongs. She made "come" sound like "comb" and "Gaia" like "Gay-uh."

"A girl to escort us."

The woman drew herself up and suddenly she had the bearing of one in charge. "I," she said, "am Gaia, as well as another. It was my stint on the station."

"Your stint? Were you the only one on board?"

Proudly. "I was all that was needed."

"And is it empty now?"

"I am no longer on it, gentleman, but it is not empty. It is there."

"It? To what do you refer?"

"To the station. It is Gaia. It doesn't need me. It holds your ship."

"Then what are you doing on the station?"

"It is my stint."

Pelorat had taken Trevize by the sleeve and had been shaken off. He tried again. "Golan," he said in an urgent half-whisper. "Don't shout at her. She's only a girl. Let me deal with this."

Trevize shook his head angrily, but Pelorat said, "Young woman, what is your name?"

The woman smiled with sudden sunniness, as though responding to the softer tone. She said, "Bliss."

"Bliss?" said Pelorat. "A very nice name. Surely that's not all there is."

"Of course not. A fine thing it would be to have one syllable. It would be duplicated on every section and we wouldn't tell one from another, so that the men would be dying for the wrong body. Bussenobiarella is my name in full."

"Now that's a mouthful." -

"What? Seven syllables? That's not much. I have friends with fifteen syllables in their names and they never get done trying combinations for the friend-name. I've stuck with Bliss now ever since I turned fifteen. My mother called me 'Nobby,' if you can imagine such a thing."

"In Galactic Standard, 'bliss' means 'ecstasy' or 'extreme happiness,'" said Pelorat.

"In Gaian language, too. It's not very different from Standard, and 'ecstasy' is the impression I intend to convey."

"My name is Janov Pelorat."

"I know that. And this other gentleman—the shouter—is Golan Trevize. We received word from Sayshell."

Trevize said at once, his eyes narrow, "How did you receive word?"

Bliss turned to look at him and said calmly, "I didn't. Gaia did."

Pelorat said, "Miss Bliss, may my partner and myself speak Privately for a moment?"

"Yes, certainly, but we have to get on with it, you know."

"I won't take long." He pulled hard at Trevize's elbow and was reluctantly followed into the other room.

Trevize said in a whisper, "What's all this? I'm sure she can hear us in here. She can probably read our minds, blast the creature."

"Whether she can or can't, we need a bit of psychological isolation for just a moment. Look, old chap, leave her alone. There's nothing we can do, and there's no use taking that out on her. There's probably nothing she can do either. She's just a messenger girl. Actually, as long as she's on board, we're probably safe; they wouldn't have put her on board if they intended to destroy the ship. Keep bullying and perhaps they will destroy it—and us—after they take her off."

"I don't like being helpless," said Trevize grumpily.

"Who does? But acting like a bully doesn't make you less helpless. It just makes you a helpless bully. Oh, my dear chap, I don't mean to be bullying you like this and you must forgive me if I'm excessively critical of you, but the girl is not to be blamed."

"Janov, she's young enough to be your youngest daughter."

Pelorat straightened. "All the more reason to treat her gently. Nor do I know what you imply by the statement."

Trevize thought a moment, then his face cleared. "Very well. You're right. I'm wrong. It is irritating, though, to have them send a girl. They might have sent a military officer, for instance, and given us a sense of some value, so to speak. Just a girl? And she keeps placing responsibility on Gaia?"

"She's probably referring to a ruler who takes the name of the planet as an honorific—or else she's referring to the planetary council. We'll find out, but probably not by direct questioning."

"Men have died for her body!" said Trevize. "Huh! —She's bottom-heavy!"

"No one is asking you to die for it, Golan," said Pelorat gently. "Come! Allow her a sense of self-mockery. I consider it amusing and good-natured, myself."

They found Bliss at the computer, bending down and staring at its component parts with her hands behind her back as though she feared touching it.

She looked up as they entered, ducking their heads under the low lintel. "This is an amazing ship," she said. "I don't understand half of what I see, but if you're going to give me a greeting-present, this is it. It's beautiful. It makes my ship look awful."

Her face took on a look of ardent curiosity. "Are you really from the Foundation?"

"How do you know about the Foundation?" asked Pelorat.

"We learn about it in school. Mostly because of the Mule."

"Why because of the Mule, Bliss?"

"He's one of us, gentle— What syllable of your name may I use, gentleman?"

Pelorat said, "Either Jan or Pel. Which do you prefer?"

"He's one of us, Pel," said Bliss with a comradely smile. "He was born on Gaia, but no one seems to know where exactly."

Trevize said, "I imagine he's a Gaian hero, Bliss, eh?" He had become determinedly, almost aggressively, friendly and cast a placating glance in Pelorat's direction. "Call me Trev," he added.

"Oh no," she said at once. "He's a criminal. He left Gaia without permission, and no one should do that. No one knows how he did it. But he left, and I guess that's why he came to a bad end. The Foundation beat him in the end."

"The Second Foundation?" said Trevize.

"Is there more than one? I suppose if I thought about it I would know, but I'm not interested in history, really. The way I look at it is, I'm interested in what Gaia thinks best. If history just goes past me, it's because there are enough historians or that I'm not well adapted to it. I'm probably being trained as a space technician myself. I keep being assigned to stints like this and I seem to like it and it stands to reason I wouldn't like it if—
"

She was speaking rapidly, almost breathlessly, and Trevize had to make an effort to insert a sentence. "Who's Gaia?"

Bliss looked puzzled at that. "Just Gaia. —Please, Pel and Trev, let's get on with it. We've got to get to the surface."

"We're going there, aren't we?"

"Yes, but slowly. Gaia feels you can move much more rapidly if you use the potential of your ship. Would you do that?"

"We could," said Trevize grimly. "But if I get the control of the ship back, wouldn't I be more likely to zoom off in the opposite direction?"

Bliss laughed. "You're funny. Of course, you can't go in any direction Gaia doesn't want you to go. But you can go faster in the direction Gaia does want you to go. See?"

"We see," said Trevize, "and I'll try to control my sense of humor. Where do I land on the surface?"

"It doesn't matter. You just head downward and you'll land at the right place. Gain will see to that."

Pelorat said, "And will you stay with us, Bliss, and see that we are treated well?"

"I suppose I can do that. Let's see now, the usual fee for my services—I mean that kind of services—can be entered on my balancecard."

"And the other kind of services?"

Bliss giggled. "You're a nice old man." Pelorat winced.

Bliss reacted to the swoop down to Gaia with a naïve excitement. She said, "There's no feeling of acceleration."

"It's a gravitic drive," said Pelorat. "Everything accelerates together, ourselves included, so we don't feel anything."

"But how does it work, Pel?"

Pelorat shrugged. "I think Trev knows," he said, "but I don't think he's really in a mood to talk about it."

Trevize had dropped down Gaia's gravity-well almost recklessly. The ship responded to his direction, as Bliss had warned him, in a partial manner. An attempt to cross the lines of gravitic force obliquely was accepted—but only with a certain hesitation. An attempt to rise upward was utterly ignored.

The ship was still not his.

Pelorat said mildly, "Aren't you going downward rather rapidly, Golan?"

Trevize, with a kind of flatness to his voice, attempting to avoid anger (more for Pelorat's sake, than anything else) said, "The young lady says that Gaia will take care of us."

Bliss said, "Surely, Pel. Gaia wouldn't let this ship do anything that wasn't safe. Is there anything to eat on board?"

"Yes indeed," said Pelorat. "What would you like?"

"No meat, Pel," said Bliss in a businesslike way, "but I'll take fish or eggs, along with any vegetables you might have."

"Some of the food we have is Sayshellian, Bliss," said Pelorat. "I'm not sure I know what's in it, but you might like it."

"Well, I'll taste some," said Bliss dubiously.

"Are the people on Gaia vegetarian?" asked Pelorat.

"A lot are." Bliss nodded her head vigorously. "It depends on what nutrients the body needs in particular cases. Lately I haven't been hungry for meat, so I suppose I don't need any. And I haven't been aching for anything sweet. Cheese tastes good, and shrimp. I think I probably need to lose weight." She slapped her right buttock with a resounding noise. "I need to lose five or six pounds right here."

"I don't see why," said Pelorat. "It gives you something comfortable to sit on."

Bliss twisted to look down at her rear as best she might. "Oh well, it doesn't matter. Weight goes up or down as it ought. I shouldn't concern myself."

Trevize was silent because he was struggling with the Far Star. He had hesitated a bit too long for orbit and the lower limits of the planetary exosphere were now screaming past the ship. Little by little, the ship was escaping from his control altogether. It was as though something else had learned to handle the gravitic engines. The Far Star, acting apparently by itself, curved upward into thinner air and slowed rapidly. It then took up a path on its own that brought it into a gentle downward curve.

Bliss had ignored the edgy sound of air resistance and sniffed delicately at the steam rising from the container. She said, "It must be all right, Pd, because if it weren't, it wouldn't smell right and I wouldn't want to eat it." She put a slim finger into it and then licked at the finger. "You guessed correctly, Pd. It's shrimp or something like it. Good!"

With a gesture of dissatisfaction, Trevize abandoned the computer.

"Young woman," he said, as though seeing her for the first time.

"My name is Bliss," said Bliss firmly.

"Bliss, then! You knew our names."

"Yes, Trev."

"How did you know them?"

"It was important that I know them, in order for me to do my job. So I knew them."

"Do you know who Munn Li Compore is?"

"I would—if it were important for me to know who he is. Since I do not know who he is, Mr. Compore is not coming here. For that matter," she paused a moment, "no one is coming here but you two."

"We'll see."

He was looking down. It was a cloudy planet. There wasn't a solid layer of cloud, but it was a broken layer that was remarkably evenly scattered and offered no clear view of any part of the planetary surface.

He switched to microwave and the radarscope glittered. The surface was almost an image of the sky. It seemed a world of islands—rather like Terminus, but more so. None of the islands was very large and none was very isolated. It was something of an approach to a planetary archipelago. The ship's orbit was well inclined to the equatorial plane, but he saw no sign of ice caps.

Neither were there the unmistakable marks of uneven population distribution, as would be expected, for instance, in the illumination of the night side.

"Will I be coming down near the capital city, Bliss?" asked Trevize.

Bliss said indifferently, "Gaia will put you down somewhere convenient."

"I'd prefer a big city."

"Do you mean a large people-grouping?"

"Yes."

"It's up to Gaia."

The ship continued its downward path and Trevize tried to find amusement in guessing on which island it would land.

Whichever it might be, it appeared they would be landing within the hour.

The ship landed in a quiet, almost feathery manner, without a moment of jarring, without one anomalous gravitational effect. They stepped out, one by one: first Bliss, then Pelorat, and finally Trevize.

The weather was comparable to early summer at Terminus City. There was a mild breeze and with what seemed to be a late-morning sun shining brightly down from a mottled sky. The ground was green underfoot and in one direction there were the serried rows of trees that bespoke an orchard, while in the other there was the distant line of seashore.

There was the low hum of what might have been insect life, a flash of bird—or some small flying creature—above and to one side, and the clack-clack of what might have been some farm instrument.

Pelorat was the first to speak and he mentioned nothing he either saw or heard. Instead, he drew in his breath raspingly and said, "Ah, it smells good, like fresh-made applesauce."

Trevize said, "That's probably an apple orchard we're looking at and, for all we know, they're making applesauce."

"On your ship, on the other hand," said Bliss, "it smelled like— Well, it smelled terrible."

"You didn't complain when you were on it," growled Trevize.

"I had to be polite. I was a guest on your ship."

"What's wrong with staying polite?"

"I'm on my own world now. You're the guest. You be polite."

Pelorat said, "She's probably right about the smell, Golan. Is there any way of airing out the ship?"

"Yes," said Trevize with a snap. "It can be done—if this little creature can assure us that the ship will not be disturbed. She has already shown us she can exert unusual power over the ship."

Bliss drew herself up to her full height. "I'm not exactly little and if leaving your ship alone is what it takes to get it cleaned up, I assure you leaving it alone will be a pleasure."

"And then can we be taken to whoever it is that you speak of as Gaia?" said Trevize.

Bliss looked amused. "I don't know if you're going to believe this, Trev. I'm Gaia."

Trevize stared. He had often heard the phrase "collect one's thoughts" used metaphorically. For the first time in his life, he felt as though he were engaged in the process literally. Finally he said, "You?"

"Yes. And the ground. And those trees. And that rabbit over there in the grass. And the man you can see through the trees. The whole planet and everything on it is Gaia. We're all individuals—we're all separate organisms—but we all share an overall consciousness. The inanimate planet does so least of all, the various forms of life to a varying degree, and human beings most of all—but we all share."

Pelorat said, "I think, Trevize, that she means Gaia is some sort of group consciousness."

Trevize nodded. "I gathered that. —In that case, Bliss, who runs this world?"

Bliss said, "It runs itself. Those trees grow in rank and file of their own accord. They multiply only to the extent that is needed to replace those that for any reason die. Human beings harvest the apples that are needed; other animals, including insects, eat their share— and only their share."

"The insects know what their share is, do they?" said Trevize.

"Yes, they do—in a way. It rains when it is necessary and occasionally it rains rather hard when that is necessary—and occasionally there's a siege of dry weather when that is necessary."

"And the rain knows what to do, does it?"

"Yes, it does," said Bliss very seriously. "In your own body, don't all the different cells know what to do? When to grow and when to stop growing? When to form certain substances and when not to— and when they form them, just how much to form, neither more nor less? Each cell is, to a certain extent, an independent chemical factory, but all draw from a common fund of raw materials brought to it by a common transportation system, all deliver wastes into common channels, and all contribute to an overall group consciousness."

Pelorat said with a certain enthusiasm, "But that's remarkable. You are saying that the planet is a superorganism and that you are a cell of that superorganism."

"I'm making an analogy, not an identity. We are the analog of cells, but we are not identical with cells—do you understand?"

"In what way," said Trevize, "are you not cells?"

"We are ourselves made up of cells and have a group consciousness, as far as cells are concerned. This group consciousness, this consciousness of an individual organism—a human being, in my case—"

"With a body men die for."

"Exactly. My consciousness is far advanced beyond that of any individual cell—incredibly far advanced. The fact that we, in turn, are part of a still greater group consciousness on a higher level does not reduce us to the level of cells. I remain a human being—but above us is a group consciousness as far beyond my grasp as my consciousness is beyond that of one of the muscle cells of my biceps."

Trevize said, "Surely someone ordered our ship to be taken."

"No, not someone! Gaia ordered it. All of us ordered it."

"The trees and the ground, too, Bliss?"

"They contributed very little, but they contributed. Look, if a musician writes a symphony, do you ask which particular cell in his body ordered the symphony written and supervised its construction?"

Pelorat said, "And, I take it, the group mind, so to speak, of the group consciousness is much stronger than an individual mind, just as a muscle is much stronger than an individual muscle cell. Consequently Gaia can capture our ship at a distance by controlling our computer, even though no individual mind on the planet could have done so."

"You understand perfectly, Pel," said Bliss.

"And I understand it, too," said Trevize. "It is not that hard to understand. But what do you want of us? We have not come to attack you. We have come seeking information. Why have you seized us?"

"To talk to you."

"You might have talked to us on the ship."

Bliss shook her head gravely, "I am not the one to do it."

"Aren't you part of the group mind?"

"Yes, but I cannot fly like a bird, buzz like an insect, or grow as tall as a tree. I do what it is best for me to do and it is not best that I give you the information—though the knowledge could easily be assigned to me."

"Who decided not to assign it to you?"

"We all did."

"Who will give us the information?"

"And who is Dom?"

"Well," said Bliss. "His full name is Endomandiovizamarondeyaso—and so on. Different people call him different syllables at different times, but I know him as Dom and I think you two will use that syllable as well. He probably has a larger share of Gaia than anyone on the planet and he lives on this island. He asked to see you and it was allowed."

"Who allowed it?" asked Trevize—and answered himself at once, "Yes, I know; you all did."

Bliss nodded.

Pelorat said, "When will we be seeing Dom, Bliss?"

"Right away. If you follow me, I'll take you to him now, Pel. And you, too, of course, Trev."

"And will you leave, then?" asked Pelorat.

"You don't want me to, Pel?"

"Actually, no."

"There you are," said Bliss as they followed her along a smoothly paved road that skirted the orchard. "Men grow addicted to me on short order. Even dignified elderly men are overcome with boyish ardor."

Pelorat laughed. "I wouldn't count on much boyish ardor, Bliss, but if I had it I could do worse than have it on your account, I think."

Bliss said, "Oh, don't discount your boyish ardor. I work wonders."

Trevize said impatiently, "Once we get to where we're going, how long will we have to wait for this Dom?"

"He will be waiting for you. After all, Dom-through-Gaia has worked for years to bring you here."

Trevize stopped in midstep and looked quickly at Pelorat, who quietly mouthed: You were right.

Bliss, who was looking straight ahead, said calmly, "I know, Trev, that you have suspected that I/we/Gaia was interested in you."

"I/we/Gaia'?" said Pelorat softly.

She turned to smile at him. "We have a whole complex of different pronouns to express the shades of individuality that exist on Gaia. I could explain them to you, but till then 'I/we/Gaia' gets across what I mean in a groping sort of way. —Please move on, Trev. Dom is waiting and I don't wish to force your legs to move against your will. It is an uncomfortable feeling if you're not used to it."

Trevize moved on. His glance at Bliss was compounded of the deepest suspicion.

Dom was an elderly man. He recited the two hundred and fiftythree syllables of his name in a musical flowing of tone and emphasis.

"In a way," he said, "it is a brief biography of myself. It tells the hearer—or reader, or senser—who I am, what part I have played in the whole, what I have accomplished. For fifty years and more, however, I have been satisfied to be referred to as Dom. When there are other Doms at issue, I can be called Domandio—and in my various professional relationships other variants are used. Once a Gaian year —on my birthday—my full name is recited-in-mind, as I have just recited it for you in voice. It is very effective, but it is personally embarrassing."

He was tall and thin—almost to the point of emaciation. His deep-set eyes sparkled with anomalous youth, though he moved rather slowly. His jutting nose was thin and long and flared at the nostrils. His hands, prominently veined though they were, showed no signs of arthritic disability. He wore a long robe that was as gray as his hair. It descended to his ankles and his sandals left his toes bare.

Trevize said, "How old are you, sir?"

"Please address me as Dom, Trev. To use other modes of address induces formality and inhibits the free exchange of ideas between you and me. In Galactic Standard Years, I am just past ninety-three, but the real celebration will come not very many months from now, when I reach the ninetieth anniversary of my birth in Gaian years."

"I would not have guessed you at more than seventy-five, s—Dom," said Trevize.

"By Gaian standards I am not remarkable, either in years or in appearance of years, Trev. —But come, have we eaten?"

Pelorat looked down at his plate, on which perceptible remnants of a most unremarkable and indifferently prepared meal remained, and said in a diffident manner, "Dom, may I attempt to ask an embarrassing question? Of course, if it's offensive, you will please say so, and I will withdraw it."

"Go ahead," said Dom, smiling. "I am anxious to explain to you anything about Gaia which arouses your curiosity."

"Why?" said Trevize at once.

"Because you are honored guests— May I have Pel's question?"

Pelorat said, "Since all things on Gaia share in the group consciousness, how is it that you—one element of the group—can eat this, which was clearly another element?"

"True! But all things recycle. We must eat and everything we can eat, plant as well as animal—even the inanimate seasonings—are part of Gaia. But, then, you see, nothing is killed for pleasure or sport, nothing is killed with unnecessary pain. And I'm afraid we make no attempt to glorify our meal preparations, for no Gaian would eat except that one must. You did not enjoy this meal, Pel? Trev? Well, meals are not to enjoy.

"Then, too, what is eaten remains, after all, part of the planetary consciousness. Insofar as portions of it are incorporated into my body, it will participate in a larger share of the total consciousness. When I die, I, too, will be eaten—even if only by decay bacteria— and I will then participate in a far smaller share of the total. But someday, parts of me will be parts of other human beings, parts of many."

Pelorat said, "A sort of transmigration of souls."

"Of what, Pel?"

"I speak of an old myth that is current on some worlds."

"Ah, I don't know of it. You must tell me on some occasion."

Trevize said, "But your individual consciousness—whatever it is about you that is Dom—will never fully reassemble."

"No, of course not. But does that matter? I will still be part of Gaia and that is what counts. There are mystics among us who wonder if we should take measures to develop group memories of past existences, but the sense-of-Gaia is that this cannot be done in any practical way and would serve no useful purpose. It would merely blur present consciousness. —Of course, as conditions change, the sense-of-Gaia may change, too, but I find no chance of that in the foreseeable future."

"Why must you die, Dom?" asked Trevize. "Look at you in your nineties. Could not the group consciousness—"

For the first time, Dom frowned. "Never," he said. "I can contribute only so much. Each new individual is a reshuffling of molecules and genes into something new. New talents, new abilities, new contributions to Gaia. We must have them—and the only way we can is to make room. I have done more than most, but even I have my limit and it is approaching. There is no more desire to live past one's time than to die before it."

And then, as if realizing he had lent a suddenly somber note to the evening, he rose and stretched his arms out to the two. "Come, Trev—Pel—let us move into my

studio where I can show you some of my personal art objects. You won't blame an old man for his little vanities, I hope."

He led the way into another room where, on a small circular table, there were a group of smoky lenses connected in pairs.

"These," said Dom, "are Participations I have designed. I am not one of the masters, but I specialize in inanimates, which few of the masters bother with."

Pelorat said, "May I pick one up? Are they fragile?"

"No, no. Bounce them on the floor if you like. —Or perhaps you had better not. Concussion could dull the sharpness of the vision."

"How are they used, Dom?"

"You put them over your eyes. They'll cling. They do not transmit light. Quite the contrary. They obscure light that might otherwise distract you—though the sensations do reach your brain by way of the optic nerve. Essentially your consciousness is sharpened and is allowed to participate in other facets of Gaia. In other words, if you look at that wall, you will experience that wall as it appears to itself."

"Fascinating," muttered Pelorat. "may I try that?"

"Certainly, Pel. You may take one at random. Each is a different construct that shows the wall—or any other inanimate object you look at—in a different aspect of the object's consciousness."

Pelorat placed one pair over his eyes and they clung there at once. He started at the touch and then remained motionless for a long time.

Dom said, "When you are through, place your hands on either side of the Participation and press them toward each other. It will come right off."

Pelorat did so, blinked his eyes rapidly, then rubbed them.

Dom said, "What did you experience?"

Pelorat said, "It's hard to describe. The wall seemed to twinkle and glisten and, at times, it seemed to turn fluid. It seemed to have ribs and changing symmetries. I—I'm sorry, Dom, but I did not find it attractive."

Dom sighed. "You do not participate in Gaia, so you would not see what we see. I had rather feared that. Too bad! I assure you that although these Participations are enjoyed primarily for their aesthetic value, they have their practical uses, too. A happy wall is a long-lived wall, a practical wall, a useful wall."

"A happy wall?" said Trevize, smiling slightly.

Dom said, "There is a dim sensation that a wall experiences that is analogous to what 'happy' means to us. A wall is happy when it is well designed, when it rests firmly on its foundation, when its symmetry balances its parts and produces no unpleasant stresses. Good design can be worked out on the mathematical principles of mechanics, but the use of a proper Participation can fine tune it down to virtually atomic dimensions. No sculptor can possibly produce a first-class work of art here on Gaia without a well-crafted Participation and the ones I produce of this particular type are considered excellent—if I do say so myself.

"Animate Participations, which are not my field," and Dom was going on with the kind of excitement one expects in someone riding his hobby, "give us, by analogy, a direct experience of ecological balance. The ecological balance on Gaia is rather simple, as it is on all worlds, but here, at least, we have the hope of making it more complex and thus enriching the total consciousness enormously."

Trevize held up his hand in order to forestall Pelorat and wave him into silence. He said, "How do you know that a planet can bear a more complex ecological balance if they all have simple ones?"

"Ah," said Dom, his eyes twinkling shrewdly, "you are testing the old man. You know as well as I do that the original home of humanity, Earth, had an enormously complex ecological balance. It is only the secondary worlds—the derived worlds—that are simple."

Pelorat would not be kept silent. "But that is the problem I have set myself in life. Why was it only Earth that bore a complex ecology? What distinguished it from other worlds? Why did millions upon millions of other worlds in the Galaxy—worlds that were capable of bearing life—develop only an undistinguished vegetation, together with small and unintelligent animal life-forms?"

Dom said, "We have a tale about that—a fable, perhaps. I cannot vouch for its authenticity. In fact, on the face of it, it sounds like fiction."

It was at this point that Bliss—who had not participated in the meal—entered, smiling at Pelorat. She was wearing a silvery blouse, very sheer.

Pelorat rose at once. "I thought you had left us."

"Not at all. I had reports to make out, work to do. May I join you now, Dom?"

Dom had also risen (though Trevize remained seated). "You are entirely welcome and you ravish these aged eyes."

"It is for your ravishment that I put on this blouse. Pel is above such things and Trev dislikes them."

Pelorat said, "If you think I am above such things, Bliss, I may surprise you someday."

"What a delightful surprise that would be," Bliss said, and sat down. The two men did as well. "Please don't let me interrupt you."

Dom said, "I was about to tell our guests the story of Eternity. —To understand it, you must first understand that there are many different Universes that can exist—virtually an infinite number. Every single event that takes place can take place or not take place, or can take place in this fashion or in that fashion, and each of an enormous number of alternatives will result in a future course of events that are distinct to at least some degree.

"Bliss might not have come in just now; or she might have been with us a little earlier; or much earlier; or having come in now, she might have worn a different blouse; or even in this blouse, she might not have smiled roguishly at elderly men as is her kindhearted custom. In each of these alternatives—or in each of a very large number of other alternatives of this one event—the Universe would have taken a different track

thereafter, and so on for every other variation of every other event, however minor."

Trevize stirred restlessly. "I believe this is a common speculation in quantum mechanics—a very ancient one, in fact."

"Ah, you've heard of it. But let us go on. Imagine it is possible for human beings to freeze all the infinite number of Universes, to step from one to another at will, and to choose which one should be made 'real'—whatever that word means in this connection."

Trevize said, "I hear your words and can even imagine the concept you describe, but I cannot make myself believe that anything like this could ever happen."-

"Nor I, on the whole," said Dom, "which is why I say that it would all seem to be a fable. Nevertheless, the fable states that there were those who could step out of time and examine the endless strands of potential reality. These people were called the Eternals and when they were out of time they were said to be in Eternity."

"It was their task to choose a Reality that would be most suitable to humanity. They modified endlessly—and the story goes into great detail, for I must tell you that it has been written in the form of an epic of inordinate length. Eventually they found (so it is said) a Universe in which Earth was the only planet in the entire Galaxy on which could be found a complex ecological system, together with the development of an intelligent species capable of working out a high technology."

"That, they decided, was the situation in which humanity could be most secure. They froze that strand of events as Reality and then ceased operations. Now we live in a Galaxy that has been settled by human beings only, and, to a large extent, by the plants, animals, and microscopic life that they carry with them—voluntarily or inadvertently—from planet to planet and which usually overwhelm the indigenous life."

"Somewhere in the dim mists of probability there are other Realities in which the Galaxy is host to many intelligences, but they are unreachable. We in our Reality are alone. From every action and every event in our Reality, there are new branches that set off, with only one in each separate case being a continuation of Reality, so that there are vast numbers of potential Universes—perhaps an infinite number—stemming from ours, but all of them are presumably alike in containing the one-intelligence Galaxy in which we live. —Or perhaps I should say that all but a vanishingly small percentage are alike in this way, for it is dangerous to rule out anything where the possibilities approach the infinite."

He stopped, shrugged slightly, and added, "At least, that's the story. It dates back to before the founding of Gaia. I don't vouch for its truth."

The three others had listened intently. Bliss nodded her head, as though it were something she had heard before and she were checking the accuracy of Dom's account.

Pelorat reacted with a silent solemnity for the better part of a minute and then balled his fist and brought it down upon the arm of his chair.

"No," he said in a strangled tone, "that affects nothing. There's no way of demonstrating the truth of the story by observation or by reason, so it can't ever be anything but a piece of speculation, but aside from that— Suppose it's true! The Universe we live in is still one in which only Earth has developed a rich life and an intelligent

species, so that in this Universe—whether it is the all-in-all or only one out of an infinite number of possibilities—there must be something unique in the nature of the planet Earth. We should still want to know what that uniqueness is."

In the silence that followed, it was Trevize who finally stirred and shook his head.

"No, Janov," he said, "that's not the way it works. Let us say that the chances are one in a billion trillion—one in 10^{21} —that out of the billion of habitable planets in the Galaxy only Earth—through the workings of sheer chance—would happen to develop a rich ecology and, eventually, intelligence. If that is so, then one in 10^{21} of the various strands of potential Realities would represent such a Galaxy and the Eternals picked it. We live, therefore, in a Universe in which Earth is the only planet to develop a complex ecology, an intelligent species, a high technology—not because there is something special about Earth, but because simply by chance it developed on Earth and nowhere else.

"I suppose, in fact," Trevize went on thoughtfully, "that there are strands of Reality in which only Gaia has developed an intelligent species, or only Sayshell, or only Terminus, or only some planet which in this Reality happens to bear no life at all. And all of these very special cases are a vanishingly small percentage of the total number of Realities in which there is more than one intelligent species in the Galaxy. —I suppose that if the Eternals had looked long enough they would have found a potential strand of Reality in which every single habitable planet had developed an intelligent species."

Pelorat said, "Might you not also argue that a Reality had been found in which Earth was for some reason not as it was in other strands, but specially suited in some way for the development of intelligence? In fact, you can go further and say that a Reality had been found in which the whole Galaxy was not as it was in other strands, but was somehow in such a state of development that only Earth could produce intelligence."

Trevize said, "You might argue so, but I would suppose that my version makes more sense."

"That's a purely subjective decision, of course—" began Pelorat with some heat, but Dom interrupted, saying "This is logic-chopping. Come, let us not spoil what is proving, at least for me, a pleasant and leisurely evening."

Pelorat endeavored to relax and to allow his heat to drain away. He smiled finally and said, "As you say, Dom."

Trevize, who had been casting glances at Bliss, who sat with mocking demurity, hands in her lap, now said, "And how did this world come to be, Dom? Gaia, with its group consciousness?"

Dom's old head leaned back and he laughed in a high-pitched manner. His face crinkled as he said, "Fables again! I think about that sometimes, when I read what records we have on human history. No matter how carefully records are kept and filed and computerized, they grow fuzzy with time. Stories grow by accretion. Tales accumulate—like dust. The longer the time lapse, the dustier the history—until it degenerates into fables."

Pelorat said, "We historians are familiar with the process, Dom. There is a certain preference for the fable. 'The falsely dramatic drives out the truly dull,' said Liebel Gennerat about fifteen centuries ago. It's called Gennerat's Law now."

"Is it?" said Dom. "And I thought the notion was a cynical invention of my own. Well, Gennerat's Law fills our past history with glamour and uncertainty. —Do you know what a robot is?"

"We found out on Sayshell," said Trevize dryly.

"You saw one?"

"No. We were asked the question and, when we answered in the negative, it was explained to us."

"I understand. —Humanity once lived with robots, you know, but it didn't work well."

"So we were told."

"The robots were deeply indoctrinated with what are called the Three Laws of Robotics, which date back into prehistory. There are several versions of what those Three Laws might have been. The orthodox view has the following reading: '1) A robot may not harm a human being or, through inaction, allow a human being to come to harm; 2) A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law; 3) A robot must protect its own existence, as long as such protection does not conflict with the First or Second Law.'

"As robots grew more intelligent and versatile, they interpreted these Laws, especially the all-overriding First, more and more generously and assumed, to a greater and greater degree, the role of protector of humanity. The protection stifled people and grew unbearable.

"The robots were entirely kind. Their labors were clearly humane and were meant entirely for the benefit of all—which somehow made them all the more unbearable.

"Every robotic advance made the situation worse. Robots were developed with telepathic capacity, but that meant that even human thought could be monitored, so that human behavior became still more dependent on robotic oversight.

"Again robots grew steadily more like human beings in appearance, but they were unmistakably robots in behavior and being humanoid made them more repulsive. So, of course, it had to come to an end."

"Why 'of course'?" asked Pelorat, who had been listening intently.

Dom said, "It's a matter of following the logic to the bitter end. Eventually the robots grew advanced enough to become just sufficiently human to appreciate why human beings should resent being deprived of everything human in the name of their own good. In the long run, the robots were forced to decide that humanity might be better off caring for themselves, however carelessly and ineffectively.

"Therefore, it is said, it was the robots who established Eternity somehow and became the Eternals. They located a Reality in which they felt that human beings could be as secure as possible—alone in the Galaxy. Then, having done what they could to guard us and in order to fulfill the First Law in the truest sense, the robots of their own accord

ceased to function and ever since we have been human beings—advancing, however we can, alone."

Dom paused. He looked from Trevize to Pelorat, and then said, "Well, do you believe all that?"

Trevize shook his head slowly. "No. There is nothing like this in any historical record I have ever heard of. How about you, Janov?"

Pelorat said, "There are myths that are similar in some ways."

"Come, Janov, there are myths that would match anything that any of us can make up, given sufficiently ingenious interpretation. I'm talking about history—reliable records."

"Oh well. Nothing there, as far as I know."

Dom said, "I'm not surprised. Before the robots withdrew, many parties of human beings left to colonize robotless worlds in deeper space, in order to take their own measures for freedom. They came particularly from overcrowded Earth, with its long history of resistance to robots. The new worlds were founded fresh and they did not even want to remember their bitter humiliation as children under robot nursemaids. They kept no records of it and they forgot."

Trevize said, "This is unlikely."

Pelorat turned to him. "No, Golan. It's not at all unlikely. Societies create their own history and tend to wipe out lowly beginnings, either by forgetting them or inventing totally fictitious heroic rescues. The Imperial government made attempts to suppress knowledge of the pre-Imperial past in order to strengthen the mystic aura of eternal rule. Then, too, there are almost no records of the days before hyperspatial travel—and you know that the very existence of Earth is unknown to most people today."

Trevize said, "You can't have it both ways, Janov. If the Galaxy has forgotten the robots, how is it that Gaia remembers?"

Bliss intervened with a sudden lilt of soprano laughter. "We're different."

"Yes?" said Trevize. "In what way?"

Dom said, "Now, Bliss, leave this to me. We are different, men of Terminus. Of all the refugee groups fleeing from robotic domination, we who eventually reached Gaia (following in the track of others who reached Sayshell) were the only ones who had learned the craft of telepathy from the robots.

"It is a craft, you know. It is inherent in the human mind, but it must be developed in a very subtle and difficult manner. It takes many generations to reach its full potential, but once well begun, it feeds on itself. We have been at it for over twenty thousand years and the sense-of-Gaia is that full potential has even now not been reached. It was long ago that our development of telepathy made us aware of group consciousness—first only of human beings; then animals; then plants; and finally, not many centuries ago, the inanimate structure of the planet itself.

"Because we traced this back to the robots, we did not forget them. We considered them not our nursemaids but our teachers. We felt they had opened our mind to something we would never for one moment want them closed to. We remember them with gratitude."

Trevize said, "But just as once you were children to the robots, now you are children to the group consciousness. Have you not lost humanity now, as you had then?"

"It is different, Trev. What we do now is our own choice—our own choice. That is what counts. It is not forced on us from outside, but is developed from the inside. It is something we never forget. And we are different in another way, too. We are unique in the Galaxy. There is no world like Gaia."

"How can you be sure?"

"We would know, Trev. We would detect a world consciousness such as ours even at the other end of the Galaxy. We can detect the beginnings of such a consciousness in your Second Foundation, for instance, though not until two centuries ago."

"At the time of the Mule?"

"Yes. One of ours." Dom looked grim. "He was an aberrant and he left us. We were naïve enough to think that was not possible, so we did not act in time to stop him. Then, when we turned our attention to the Outside Worlds, we became aware of what you call the Second Foundation and we left it to them."

Trevize stared blankly for several moments, then muttered, "There go our history books!" He shook his head and said in a louder tone of voice, "That was rather cowardly of Gaia, wasn't it, to do so?" said Trevize. "He was your responsibility."

"You are right. But once we finally turned our eyes upon the Galaxy, we saw what until then we had been blind to, so that the tragedy of the Mule proved a life-saving matter to us. It was then that we recognized that eventually a dangerous crisis would come upon us. And it has—but not before we were able to take measures, thanks to the incident of the Mule."

"What sort of crisis?"

"One that threatens us with destruction?"

"I can't believe that. You held off the Empire, the Mule, and Sayshell. You have a group consciousness that can pluck a ship out of space at a distance of millions of kilometers. What can you have to fear? —Look at Bliss. She doesn't look the least bit perturbed. She doesn't think there's a crisis."

Bliss had placed one shapely leg over the arm of the chair and wriggled her toes at him. "Of course I'm not worried, Trev. You'll handle it."

Trev said forcefully, "Me?"

Dom said, "Gaia has brought you here by means of a hundred gentle manipulations. It is you who must face our crisis."

Trev stared at him and slowly his face turned from stupefaction into gathering rage. "Me? 'Why, in all of space, me? I have nothing to do with this."

"Nevertheless, Trev," said Dom with an almost hypnotic calmness, "you. Only you. In all of space, only you."

18. COLLISION

STOR GENDEBAL WAS EDGING TOWARD GAIA ALMOST AS CAUTIOUSLY AS Trevize had—and now that its star was a perceptible disc and could be viewed only through strong filters, he paused to consider.

Sura Novi sat to one side, looking up at him now and then in a timorous manner.

She said softly, "Master?"

"What is it, Novi?" he asked abstractedly.

"Are you unhappy?"

He looked up at her quickly. "No. Concerned. Remember that word? I am trying to decide whether to move in quickly or to wait longer. Shall I be very brave, Novi?"

"I think you are very brave all times, Master."

"To be very brave is sometimes to be foolish."

Novi smiled. "How can a master scholar be foolish? —That is a sun, is it not, Master?" She pointed to the screen.

Gendibal nodded.

Novi said, after an irresolute pause, "Is it the sun that shines on Trantor? Is it the Hamish sun?"

Gendibal said, "No, Novi. It is a far different sun. There are many suns, billions of them."

"Ah! I had known this with my head. I could not make myself believe, however. How is it, Master, that one can know with the head —and yet not believe?"

Gendibal smiled faintly, "In your head, Novi—" he began and, automatically, as he said that, he found himself in her head. He stroked it gently, as he always did, when he found himself there— just a soothing touch of mental tendrils to keep her calm and untroubled—and he would then have left again, as he always did, had not something drawn him back.

What he sensed was indescribable in any but mentalic terms but, metaphorically, Novi's brain glowed. It was the faintest possible glow.

It would not be there except for the existence of a mentalic field imposed from without—a mentalic field of an intensity so small that the finest receiving function of Gendibal's own well-trained mind could just barely detect it, even against the utter smoothness of Novi's mentalic structure.

He said sharply, "Novi, how do you feel?"

Her eyes opened wide. "I feel well, Master."

"Are you dizzy, confused? Close your eyes and sit absolutely still until I say, 'Now.'"

Obediently she closed her eyes. Carefully Gendibal brushed away all extraneous sensations from her mind, quieted her thought, soothed her emotions, stroked—stroked— He left nothing but the glow and it was so faint that he could almost persuade himself it was not there.

"Now," he said and Novi opened her eyes.

"How do you feel, Novi?"

"Very calm, Master. Rested."

It was clearly too feeble for it to have any noticeable effect on her. He turned to the computer and wrestled with it. He had to admit to himself that he and the computer did not mesh very well together. Perhaps it was because he was too used to using his mind directly to be able to work through an intermediary. But he was looking for a ship, not a mind, and the initial search could be done more efficiently with the help of the computer.

And he found the sort of ship he suspected might be present. It was half a million kilometers away and it was much like his own in design, but it was much larger and more elaborate.

Once it was located with the computer's help, Gendibal could allow his mind to take over directly. He sent it outward—tightbeamed—and with it felt (or the mentalic equivalent of "felt") the ship, inside and out.

He then sent his mind toward the planet Gaia, approaching it more closely by several millions of kilometers of space—and withdrew. Neither process was sufficient in itself to tell him, unmistakably, which—if either—was the source of the field.

He said, "Novi, I would like you to sit next to me for what is to follow."

"Master, is there danger?"

"You are not to be in any way concerned, Novi. I will see to it that you are safe and secure."

"Master, I am not concerned that I be safe and secure. If there is danger, I want to be able to help you."

Gendibal softened. He said, "Novi, you have already helped. Because of you, I became aware of a very small thing it was important to be aware of. Without you, I might have blundered rather deeply into a bog and might have had to pull out only through a great deal of trouble."

"Have I done this with my mind, Master, as you once explained?" asked Novi, astonished.

"Quite so, Novi. No instrument could have been more sensitive. My own mind is not; it is too full of complexity."

Delight filled Novi's face. "I am so grateful I can help."

Gendibal smiled and nodded—and then subsided into the somber knowledge that he would need other help as well. Something childish within him objected. The job was his—his alone.

Yet it could not be his alone. The odds were climbing—

On Trantor, Quindor Shandess felt the responsibility of First Speakerhood resting upon him with a suffocating weight. Since Gendibal's ship had vanished into the darkness beyond the atmosphere, he had called no meetings of the Table. He had been lost in his own thoughts.

Had it been wise to allow Gendibal to go off on his Own? Gendibal was brilliant, but not so brilliant that it left no room for overconfidence. Gendibal's great fault was arrogance, as Shandess's own great fault (he thought bitterly) was the weariness of age.

Over and over again, it occurred to him that the precedent of Preem Palver, flitting over the Galaxy to set things right, was a dangerous one. Could anyone else be a Preem Palver? Even Gendibal? And Palver had had his wife with him.

To be sure, Gendibal had this Hamishwoman, but she was of no consequence. Palver's wife had been a Speaker in her own right.

Shandess felt himself aging from day to day as he waited for word from Gendibal—and with each day that word did not come, he felt an increasing tension.

It should have been a fleet of ships, a flotilla— No. The Table would not have allowed it.

And yet— 'When the call finally came, he was asleep—an exhausted sleep that was bringing him no relief. The night had been windy and he had had trouble falling asleep to begin with. Like a child, he had imagined voices in the wind.

His last thoughts before falling into an exhausted slumber had been a wistful building of the fancy of resignation, a wish he could do so together with the knowledge he could not, for at this moment Delarmi would succeed him.

And then the call came and he sat up in bed, instantly awake.

"You are well?" he said.

"Perfectly well, First Speaker," said Gendibal. "Should we have visual connection for more condensed communication?"

"Later, perhaps," said Shandess. "First, what is the situation?" Gendibal spoke carefully, for he sensed the other's recent arousal and he perceived a deep weariness. He said, "I am in the neighborhood of an inhabited planet called Gaia, whose existence is not hinted at in any of the Galactic records, as far as I know."

"The world of those who have been working to perfect the Plan? The Anti-Mules?"

"Possibly, First Speaker. There is the reason to think so. First, the ship bearing Trevize and Pelorat has moved far in toward Gaia and has probably landed there. Second, there is, in space, about half a million kilometers from me, a First Foundation warship."

"There cannot be this much interest for no reason."

"First Speaker, this may not be independent interest. I am here only because I am following Trevize—and the warship may be here for the same reason. It remains only to be asked why Trevize is here."

"Do you plan to follow him in toward the planet, Speaker?"

"I had considered that a possibility, but something has come up. I am now a hundred million kilometers from Gaia and I sense in the space about me a mentalic field—a homogeneous one that is excessively faint. I would not have been aware of it at all, but for the focusing effect of the mind of the Hainishwoman. It is an unusual mind; I agreed to take her with me for that very purpose."

"You were right, then, in supposing it would be so— Did Speaker Delarmi know this, do you think?"

"When she urged me to take the woman? I scarcely think so—but I gladly took advantage of it, First Speaker."

"I am pleased that you did. Is it your opinion, Speaker Gendibal, that the planet is the focus of the field?"

"To ascertain that, I would have to take measurements at widely spaced points in order to see if there is a general spherical symmetry to the field. My unidirectional mental probe made this seem likely but not certain. Yet it would not be wise to investigate further in the presence of the First Foundation warship."

"Surely it is no threat."

"It may be. I cannot as yet be sure that it is not itself the focus of the field, First Speaker."

"But they—"

"First Speaker, with respect, allow me to interrupt. We do not know what technological advances the First Foundation has made. They are acting with a strange self-confidence and may have unpleasant surprises for us. It must be decided whether they have learned to handle mentalics by means of some of their devices. In short, First Speaker, I am facing either a warship of mentalics or a planet of them.

"If it is the warship, then the mentalics may be far too weak to immobilize me, but they might be enough to slow me—and the purely physical weapons on the warship may then suffice to destroy me. On the other hand, if it is the planet that is the focus, then to have the field detectable at such a distance could mean enormous intensity at the surface—more than even I can handle.

"In either case, it will be necessary to set up a network—a total network—in which, at need, the full resources of Trantor can be placed at my disposal."

The First Speaker hesitated. "A total network. This has never been used, never even suggested—except in the time of the Mule."

"This crisis may well be even greater than that of the Mule, First Speaker."

"I do not know that the Table would agree."

"I do not think you should ask them to agree, First Speaker. You should invoke a state of emergency."

"What excuse can I give?"

"Tell them what I have told you, First Speaker."

"Speaker Delarmi will say that you are an incompetent coward, driven to madness by your own fears."

Gendibal paused before answering. Then he said, "I imagine she will say something like that, First Speaker, but let her say whatever she likes and I will survive it. What is at stake now is not my pride or self-love but the actual existence of the Second Foundation."

Harla Branno smiled grimly, her lined face setting more deeply into its fleshy crags. She said, "I think we can push on with it. I'm ready for them."

Kodell said, "Do you still feel sure you know what you're doing?"

"If I were as mad as you pretend you think I am, Liono, would you have insisted on remaining on this ship with me?"

Kodell shrugged and said, "Probably. I would then be here on the off chance, Madam Mayor, that I might stop you, divert you, at least slow you, before you went too far. And, of course, if you're not mad—"

"Yes?" -

"Why, then I wouldn't want to have the histories of the future give you all the mention. Let them state that I was here with you and wonder, perhaps, to whom the credit really belongs, eh, Mayor?"

"Clever, Liono, clever—but quite futile. I was the power behind the throne through too many Mayoralities for anyone to believe I would permit such a phenomenon in my own administration."

"We shall see."

"No, we won't, for such historical judgments will come after we are dead. However, I have no fears. Not about my place in history and not about that," and she pointed to the screen.

"Compor's ship," said Kodell.

"Compor's ship, true," said Branno, "but without Compor aboard. One of our scoutships observed the changeover. Compor's ship was stopped by another. Two people from the other ship boarded that one and Compor later moved off and entered the other."

Branno rubbed her hands. "Trevize fulfilled his role perfectly. I cast him out into space in order that he might serve as lightning rod and so he did. He drew the lightning. The ship that stopped Compor was Second Foundation."

"How can you be sure of that, I wonder?" said Kodell, taking out his pipe and slowly beginning to pack it with tobacco.

"Because I always wondered if Compor might not be under Second Foundation control. His life was too smooth. Things always broke right for him—and he was such an expert at hyperspatial tracking. His betrayal of Trevize might easily have been the simple politics of an ambitious man—but he did it with such unnecessary thoroughness, as though there were more than personal ambition to it."

"All guesswork, Mayor."

"The guesswork stopped when he followed Trevize through multiple Jumps as easily as if there had been but one."

"He had the computer to help, Mayor."

But Branno leaned her head back and laughed. "My dear Liono, you are so busy devising intricate plots that you forget the efficacy of simple procedures. I sent Compor to follow Trevize, not because I needed to have Trevize followed. What need was there for that? Trevize, however much he might want to keep his movements secret, could not help but call attention to himself in any non-Foundation world he visited. His advanced Foundation vessel—his strong Terminus accent—his Foundation credits—would automatically surround him with a glow of notoriety. And in case of any emergency, he

would automatically turn to Foundation officials for help, as he did on Sayshell, where we knew all that he did as soon as he did it—and quite independently of Compor.

"No," she went on thoughtfully, "Compor was sent out to test Compor. And that succeeded, for we gave him a defective computer quite deliberately; not one that was defective enough to make the ship unmaneuverable, but certainly one that was insufficiently agile to aid him in following a multiple Jump. Yet Compor managed that without trouble."

"I see there's a great deal you don't tell me, Mayor, until you decide you ought to."

"I only keep those matters from you, Liono, that it will not hurt you not to know. I admire you and I use you, but there are sharp limits to my trust, as there is in yours for me—and please don't bother to deny it."

"I won't," said Kodell dryly, "and someday, Mayor, I will take the liberty of reminding you of that. —Meanwhile, is there anything else that I ought to know now? What is the nature of the ship that stopped them? Surely, if Compor is Second Foundation, so was that ship."

"It is always a pleasure to speak to you, Liono. You see things quickly. The Second Foundation, you see, doesn't bother to hide its tracks. It has defenses that it relies on to make those tracks invisible, even when they are not. It would never occur to a Second Foundationer to use a ship of alien manufacture, even if they knew how neatly we could identify the origin of a ship from the pattern of its energy use. They could always remove that knowledge from any mind that had gained it, so why bother taking the trouble to hide? Well, our scout ship was able to determine the origin of the ship that approached Compor within minutes of sighting it."

"And now the Second Foundation will wipe that knowledge from our minds, I suppose."

"If they can," said Branno, "but they may find that things have changed."

Kodell said, "Earlier you said you knew where the Second Foundation was. You would take care of Gaia first, then Trantor. I deduce from this that the other ship was of Trantorian origin."

"You suppose correctly. Are you surprised?"

Kodell shook his head slowly. "Not in hindsight. Ebling Mis, Toran Darell and Bayta Darell were all on Trantor during the period when the Mule was stopped. Arkady Darell, Bayta's granddaughter, was born on Trantor and was on Trantor again when the Second Foundation was itself supposedly stopped. In her account of events, there is a Preem Palver who played a key role, appearing at convenient times, and he was a Trantorian trader. I should think it was obvious that the Second Foundation was on Trantor, where, incidentally, Hari Seldon himself lived at the time he founded both Foundations."

"Quite obvious, except that no one ever suggested the possibility. The Second Foundation saw to that. It is what I meant when I said they didn't have to cover their tracks, when they could so easily arrange to have no one look in the direction of those tracks—or wipe out the memory of those tracks after they had been seen."

Kodell said, "In that case, let us not look too quickly in the direction in which they may simply be wanting us to look. How is it, do you suppose, that Trevize was able to decide the Second Foundation existed? Why didn't the Second Foundation stop him?"

Branno held up her gnarled fingers and counted on them. "First, Trevize is a very unusual man who, for all his obstreperous inability to use caution, has something about him that I have not been able to penetrate. He may be a special case. Second, the Second Foundation was not entirely ignorant. Comporg was on Trevize's tail at once and reported him to me. I was relied on to stop Trevize without the Second Foundation having to risk open involvement. Third, when I didn't quite react as expected—no execution, no imprisonment, no memory erasure, no Psychic Probe of his brain—when I merely sent him out into space, the Second Foundation went further. They made the direct move of sending one of their own ships after him."

And she added with tight-lipped pleasure, "Oh, excellent lightning rod."

Kodell said, "And our next move?"

"We are going to challenge that Second Foundationer we now face. In fact, we're moving toward him rather sedately right now."

Gendibal and Novi sat together, side by side, watching the screen.

Novi was frightened. To Gendibal, that was quite apparent, as was the fact that she was desperately trying to fight off that fright. Nor could Gendibal do anything to help her in her struggle, for he did not think it wise to touch her mind at this moment, lest he obscure the response she displayed to the feeble mentalic field that surrounded them.

The Foundation warship was approaching slowly—but deliberately. It was a large warship, with a crew of perhaps as many as six, judging from past experience with Foundation ships. Her weapons, Gendibal was certain, would be sufficient in themselves to hold off and, if necessary, wipe out a fleet made up of every ship available to the Second Foundation—if those ships had to rely on physical force alone.

As it was, the advance of the warship, even against a single ship manned by a Second Foundationer, allowed certain conclusions to be drawn. Even if the ship possessed mentalic ability, it would not be likely to advance into the teeth of the Second Foundation in this manner. More likely, it was advancing out of ignorance—and this might exist in any of several degrees.

It could mean that the captain of the warship was not aware that Comporg had been replaced, or—if aware—did not know the replacement was a Second Foundationer, or perhaps was not even aware what a Second Foundationer might be.

Or (and Gendibal intended to consider everything) what if the ship did possess mentalic force and, nevertheless, advanced in this self-confident manner? That could only mean it was under the control of a megalomaniac or that it possessed powers far beyond any that Gendibal could bring himself to consider possible.

But what he considered possible was not the final judgment— Carefully he sensed Novi's mind. Novi could not sense mentalic fields consciously, whereas Gendibal, of course, could—yet Gendibal's mind could not do so as delicately or detect as feeble a mental field as could Novi's. This was a paradox that would have to be studied in future

and might produce fruit that would in the long run prove of far greater importance than the immediate problem of an approaching spaceship.

Gendibal had grasped the possibility of this, intuitively, when he first became aware of the unusual smoothness and symmetry of Novi's mind—and he felt a somber pride in this intuitive ability he possessed. Speakers had always been proud of their intuitive powers, but how much was this the product of their inability to measure fields by straightforward physical methods and their failure, therefore, to understand what it was that they really did? It was easy to cover up ignorance by the mystical word "intuition." And how much of this ignorance of theirs might arise from their underestimation of the importance of physics as compared to mentalics?

And how much of that was blind pride? When he became First Speaker, Gendibal thought, this would change. There would have to be some narrowing of the physical gap between the Foundations. The Second Foundation could not face forever the possibility of destruction any time the mentalic monopoly slipped even slightly.

—Indeed, the monopoly might be slipping now. Perhaps the First Foundation had advanced or there was an alliance between the First Foundation and the Anti-Mules. (That thought occurred to him now for the first time and he shivered.)

His thoughts on the subject slipped through his mind with a rapidity common to a Speaker—and while he was thinking, he also remained sensitively aware of the glow in Novi's mind, the response to the gently pervasive mentalic field about them. It was not growing stronger as the Foundation warship drew nearer.

This was not, in itself, an absolute indication that the warship was not equipped with mentalics. It was well known that the mentalic field did not obey the inverse-square law. It did not grow stronger precisely as the square of the extent to which distance between emitter and receiver lessened. It differed in this way from the electromagnetic and the gravitational fields. Still, although mentalic fields varied less with distance than the various physical fields did, it was not altogether insensitive to distance, either. The response of Novi's mind should show a detectable increase as the warship approached—some increase.

(How was it that no Second Foundationer in five centuries—from Hari Seldon on—had ever thought of working out a mathematical relationship between mentalic intensity and distance? This shrugging off of physics must and would stop, Gendibal silently vowed.)

If the warship possessed mentalics and if it felt quite certain it was approaching a Second Foundationer, would it not increase the intensity of its field to maximum before advancing? And in that case, would not Novi's mind surely register an increased response of some kind?

—Yet it did not!

Confidently Gendibal eliminated the possibility that the warship possessed mentalics. It was advancing out of ignorance and, as a menace, it could be downgraded.

The mentalic field, of course, still existed, but it had to originate on Gaia. This was disturbing enough, but the immediate problem was the ship. Let that be eliminated and he could then turn his attention to the world of the Anti-Mules.

He waited. The warship would make some move or it would come close enough for him to feel confident that he could pass over to an effective offense.

The warship still approached—quite rapidly now—and still did nothing. Finally Gendibal calculated that the strength of his push would be sufficient. There would be no pain, scarcely any discomfort—all those on board would merely find that the large muscles of their backs and limbs would respond but sluggishly to their desires.

Gendibal narrowed the mentalic field controlled by his mind. It intensified and leaped across the gap between the ships at the speed of light. (The two ships were close enough to make hyperspatial contact—with its inevitable loss of precision—unnecessary.)

And Gendibal then fell back in numbed surprise.

The Foundation warship was possessed of an efficient mentalic shield that gained in density in proportion as his own field gained in intensity. —The warship was not approaching out of ignorance after all—and it had an unexpected if passive weapon.

"Ah," said Branno. "He has attempted an attack, Liono. See!"

The needle on the psychometer moved and trembled in its irregular rise.

The development of the mentalic shield had occupied Foundation scientists for a hundred and twenty years in the most secret of all scientific projects, except perhaps for Hari Seldon's lone development of psychohistorical analysis. Five generations of human beings had labored in the gradual improvement of a device backed by no satisfactory theory.

But no advance would have been possible without the invention of the psychometer that could act as a guide, indicating the direction and amount of advance at every stage. No one could explain how it worked, yet all indications were that it measured the immeasurable and gave numbers to the indescribable. Branno had the feeling (shared by some of the scientists themselves) that if ever the Foundation could explain the workings of the psychometer, they would be the equal of the Second Foundation in mind control.

But that was for the future. At present, the shield would have to be enough, backed as it was by an overwhelming preponderance in physical weapons.

Branno sent out the message, delivered in a male voice from which all overtones of emotion had been removed, till it was flat and deadly.

"Calling the ship Bright Star and its occupants. You have forcibly taken a ship of the Navy of the Foundation Federation in an act of piracy. You are directed to surrender the ship and yourselves at once or face attack."

The answer came in natural voice: "Mayor Branno of Terminus, I know you are on the ship. The Bright Star was not taken by piratical action. I was freely invited on board by its legal captain, Munn Li Comporee of Terminus. I ask a period of truce that we may discuss matters of importance to each of us alike."

Kodell whispered to Branno, "Let me do the speaking, Mayor."

She raised her arm contemptuously, "The responsibility is mine, Liono."

Adjusting the transmitter, she spoke in tones scarcely less forceful and unemotional than the artificial voice that had spoken before:

"Man of the Second Foundation, understand your position. If you do not surrender forthwith, we can blow your ship out of space in the time it takes light to travel from our ship to yours—and we are ready to do that. Nor will we lose by doing this, for you have no knowledge for which we need keep you alive. We know you are from Trantor and, once we have dealt with you, we will be ready to deal with Trantor. We are willing to allow you a period in which to have your say, but since you cannot have much of worth to tell us, we are not prepared to listen long."

"In that case," said Gendibal, "let me speak quickly and to the point. Your shield is not perfect and cannot be. You have overestimated it and underestimated me. I can handle your mind and control it. Not as easily, perhaps, as if there were no shield, but easily enough. The instant you attempt to use any weapon, I will strike you—and there is this for you to understand: Without a shield, I can handle your mind smoothly and do it no harm. With the shield, however, I must smash through, which I can do, and I will be unable then to handle you either smoothly or deftly. Your mind will be as smashed as the shield and the effect will be irreversible. In other words, you cannot stop me and I, on the other hand, can stop you by being forced to do worse than killing you. I will leave you a mindless hulk. Do you wish to risk that?"

Branno said, "You know you cannot do as you say."

"Do you, then, wish to risk the consequences I have described?" asked Gendibal with an air of cool indifference.

Kodell leaned over and whispered, "For Seldon's sake, Mayor—"

Gendibal said (not exactly at once, for it took light—and everything at light-speed—a little over one second to travel from one vessel to the other), "I follow your thoughts, Kodell. No need to whisper. I also follow the Mayor's thoughts. She is irresolute, so you have no need to panic just yet. And the mere fact that I know this is ample evidence that your shield leaks."

"It can be strengthened," said the Mayor defiantly.

"So can my mentalic force," said Gendibal.

"But I sit here at my ease, consuming merely physical energy to maintain the shield, and I have enough to maintain that shield for very long periods of time. You must use mentalic energy to penetrate the shield and you will tire."

"I am not tired," said Gendibal. "At the present moment, neither of you is capable of giving any order to any member of the crew of your ship or to any crewman on any other ship. I can manage so much without any harm to you, but do not make any unusual effort to escape this control, for if I match that by increasing my own force, as I will have to do, you will be damaged as I have said."

"I will wait," said Branno, placing her hands in her lap with every sign of solid patience. "You will tire and when you do, the orders that will go out will not be to destroy you, for you will then be harmless. The orders will be to send the main Foundation Fleet

against Trantor. If you wish to save your world—surrender. A second orgy of destruction will not leave your organization untouched, as the first one did at the time of the Great Sack."

"Don't you see that if I feel myself tiring, Mayor, which I won't, I can save my world very simply by destroying you before my strength to do so is gone?"

"You won't do that. Your main task is to maintain the Seldon Plan. To destroy the Mayor of Terminus and thus to strike a blow at the prestige and confidence of the First Foundation, producing a staggering setback to its power and encouraging its enemies everywhere, will produce such a disruption to the Plan that it will be almost as bad for you as the destruction of Trantor. You might as well surrender."

"Are you willing to gamble on my reluctance to destroy you?"

Branno's chest heaved as she took a deep breath and let it out slowly. She then said firmly, "Yes!"

Kodell, sitting at her side, paled.

Gendibal stared at the figure of Branno, superimposed upon the volume of room just in front of the wall. It was a little flickery and hazy thanks to the interference of the shield. The man next to her was almost featureless with haze, for Gendibal had no energy to waste on him. He had to concentrate on the Mayor.

To be sure, she had no image of him in return. She had no way of knowing that he too had a companion, for instance. She could make no judgment from his expressions, from his body language. In this respect, she was at a disadvantage.

Everything he had said was true. He could smash her at the cost of an enormous expenditure of mentalic force—and in so doing, he could scarcely avoid disrupting her mind irreparably.

Yet everything she had said was true as well. Destroying her would damage the Plan as much as the Mule himself had damaged it. Indeed, the new damage might be more serious, since it was now later in the game and there would be less time to retrieve the misstep.

Worse still, there was Gaia, which was still an unknown quantity—with its mentalic field remaining at the faint and tantalizing edge of detection.

For a moment, he touched Novi's mind to make sure that the flow was still there. It was, and it was unchanged.

She could not have sensed that touch in any way, but she turned to him and in an awed whisper said, "Master, there is a faint mist there. Is it to that you talk?"

She must have sensed the mist through the small connection between their two minds. Gendibal put a finger to his lips. "Have no fear, Novi. Close your eyes and rest."

He raised his voice. "Mayor Branno, your gamble is a good one in this respect. I do not wish to destroy you at once, since I think that if I explain something to you, you will listen to reason and there will then be no need to destroy in either direction.

"Suppose, Mayor, that you win out and that I surrender. What follows? In an orgy of self-confidence and in undue reliance on your mentalic shield, you and your successors

will attempt to spread your power over the Galaxy with undue haste. In doing so, you will actually postpone the establishment of the Second Empire, because you will also destroy the Seldon Plan."

Branno said, "I am not surprised that you do not wish to destroy me at once and I think that, as you sit there, you will be forced to realize that you do not dare to destroy me at all."

Gendibal said, "Do not deceive yourself with self-congratulatory folly. Listen to me. The majority of the Galaxy is still non-Foundation and, to a great extent, anti-Foundation. There are even portions of the Foundation Federation itself that have not forgotten their days of independence. If the Foundation moves too quickly in the wake of my surrender, it will deprive the rest of the Galaxy of its greatest weakness—its disunity and indecision. You will force them to unite by fear and you will feed the tendency toward rebellion within."

"You are threatening with clubs of straw," said Branno. "We have the power to win easily against all enemies, even if every world in the non-Foundation Galaxy combined against us, and even if these were helped by a rebellion in half the worlds of the Federation itself. There would be no problem."

"No immediate problem, Mayor. Do not make the mistake of seeing only the results that appear at once. You can establish a Second Empire merely by proclaiming it, but you will not be able to maintain it. You will have to reconquer it every ten years."

"Then we will do so until the worlds tire, as you are tiring."

"They will not tire, any more than I will. Nor will the process continue for a very long time, for there is a second and greater danger to the Pseudo-Empire you would proclaim. Since it can be temporarily maintained only by an ever-stronger military force which will be ever-exercised, the generals of the Foundation will, for the first time, become more important and more powerful than the civilian authorities. The Pseudo-Empire will break up into military regions within which individual commanders will be supreme. There will be anarchy—and a slide back into a barbarism that may last longer than the thirty thousand years forecast by Seldon before the Seldon Plan was implemented."

"Childish threats. Even if the mathematics of the Seldon Plan predicted all this, it predicts only probabilities—not inevitabilities."

"Mayor Branno," said Gendibal earnestly. "Forget the Seldon Plan. You do not understand its mathematics and you cannot visualize its pattern. But you do not have to, perhaps. You are a tested politician; and a successful one, to judge from the post you hold; even more so, a courageous one, to judge from the gamble you are now taking. Therefore, use your political acumen. Consider the political and military history of humanity and consider it in the light of what you know of human nature—of the manner in which people, politicians, and military officers act, react, and interact—and see if I'm not right."

Branno said, "Even if you were right, Second Foundationer, it is a risk we must take. With proper leadership and with continuing technological advance—in mentalics, as

well as in physics—we can overcome. Hari Seldon never calculated such advances properly. He couldn't. Where in the Plan does it allow for the development of a mentalic shield by the First Foundation? Why should we want the Plan, in any case? We will risk founding a new Empire without it. Failure without it would, after all, be better than success with it. We do not want an Empire in which we play puppets to the hidden manipulators of the Second Foundation."

"You say that only because you do not understand what failure will be like for the people of the Galaxy."

"Perhaps!" said Branno stonily. "Are you beginning to weary, Second Founder?"

"Not at all. —Let me propose an alternative action that you have not considered—one in which I need not surrender to you, nor you to me. —We are in the vicinity of a planet called Gaia."

"I am aware of that."

"Are you aware that it was probably the birthplace of the Mule?"

"I would want more evidence than resides in your mere statement to that effect."

"The planet is surrounded by a mentalic field. It is the home of many Mules. If you accomplish your dream of destroying the Second Foundation, you will make yourselves the slaves of this planet of Mules. What harm have Second Founders ever done you— specific, rather than imagined or theorized harm? Now ask yourself what harm a single Mule has done you."

"I still have nothing more than your statements."

"As long as we remain here, I can give you nothing more. —I propose a truce, therefore. Keep your shield up, if you don't trust me, but be prepared to co-operate with me. Let us, together, approach this planet—and when you are convinced that it is dangerous, then I will nullify its mentalic field and you will order your ships to take possession of it."

"And then?"

"And then, at least, it will be the First Foundation against the Second Foundation, with no outside forces to be considered. The fight will then be clear whereas now, you see, we dare not fight, for both Foundations are at bay."

"Why did you not say this before?"

"I thought I might convince you that we were not enemies, so that we might co-operate. Since I have apparently failed at that, I suggest co-operation in any case."

Branno paused, her head bent in thought. Then she said, "You are trying to put me to sleep with lullabies. How will you, by yourself, nullify the mentalic field of a whole planet of Mules? The thought is so ludicrous that I cannot trust in the truth of your proposition."

"I am not alone," said Gendibal. "Behind me is the full force of the Second Foundation—and that force, channeled through me, will take care of Gaia. 'What's more, it can, at any time, brush aside your shield as though it were thin fog."

"If so, why do you need my help?"

"First, because nullifying the field is not enough. The Second Foundation cannot devote itself, now and forever, to the eternal task of nullifying, any more than I can spend the rest of my life dancing this conversational minuet with you. We need the physical action your ships can supply. —And besides, if I cannot convince you by reason that the two Foundations should look upon each other as allies, perhaps a co-operative venture of the greatest importance can be convincing. Deeds may do the job where words fail."

A second silence and then Branno said, "I am willing to approach Gaia more closely, if we can approach co-operatively. I make no promises beyond that."

"That will be enough," said Gendibal, leaning toward his computer.

Novi said, "No, Master, up to this point, it didn't matter, but please make no further move. We must wait for Councilman Trevize of Terminus."

19. DECISION

JANOV PELORAT SAID, WITH A SMALL TRACE OF PETULANCE IN HIS voice, "Really, Golan, no one seems to care for the fact that this is the first time in a moderately long life—not too long, I assure you, Bliss—in which I have been traveling through the Galaxy. Yet each time I come to a world, I am off it again and back in space before I can really have a chance to study it. It has happened twice now."

"Yes," said Bliss, "but if you had not left the other one so quickly, you would not have met me until who knows when. Surely that justifies the first time."

"It does. Honestly, my—my dear, it does."

"And this time, Pel, you may be off the planet, but you have me —and I am Gaia, as much as any particle of it, as much as all of it."

"You are, and surely I want no other particle of it."

Trevize, who had been listening to the exchange with a frown, said, "This is disgusting. Why didn't Dom come with us? —Space, I'll never get used to this monosyllabization. Two hundred fifty syllables to a name and we use just one of them. — Why didn't he come, together with all two hundred fifty syllables? If all this is so important—if the very existence of Gaia depends on it—why didn't he come with us to direct us?"

"I am here, Trev," said Bliss, "and I am as much Gaia as he is." Then, with a quick sideways and upward look from her dark eyes, "Does it annoy you, then, to have me call you 'Trev'?"

"Yes, it does. I have as much right to my ways as you to yours. My name is Trevize. Two syllables. Tre-vize."

"Gladly. I do not wish to anger you, Trevize."

"I am not angry. I am annoyed." He rose suddenly, walked from one end of the room to the other, stepping over the outstretched legs of Pelorat (who drew them in quickly), and then back again. He stopped, turned, and faced Bliss.

He pointed a finger at her. "Look! I am not my own master! I have been maneuvered from Terminus to Gaia—and even when I began to suspect that this was so, there seemed no way to break the grip. And then, when I get to Gaia, I am told that the whole purpose for my arrival was to save Gaia. Why? How? What is Gaia to me—or I to Gaia—that I should save it? Is there no other of the quintillion human beings in the Galaxy who could do the job?"

"Please, Trevize," said Bliss—and there was a sudden downcast air about her, all of the gamine affectation disappearing. "Do not be angry. You see, I use your name properly and I will be very serious. Dom asked you to be patient."

"By every planet in the Galaxy, habitable or not, I don't want to be patient. If I am so important, do I not deserve an explanation? To begin with, I ask again why Dom did

not come with us? Is it not sufficiently important for him to be here on the Far Star with us?"

"He is here, Trevize," said Bliss. "While I am here, he is here, and everyone on Gaia is here, and every living thing, and every speck of the planet."

"You are satisfied that that is so, but it's not my way of thinking. I'm not a Gaian. We can't squeeze the whole planet on to my ship, we can only squeeze one person on to it. We have you, and Dom is part of you. Very well. Why couldn't we have taken Dom, and let you be part of him?"

"For one thing," said Bliss, "Pel—I mean, Pel-o-rat—asked that I be on the ship with you. I, not Dom."

"He was being gallant. Who would take that seriously?"

"Oh, now, my dear fellow," said Pelorat, rising to his feet with his face reddening, "I was quite serious. I don't want to be dismissed like that. I accept the fact that it doesn't matter which component of the Gaian whole is on board, and it is more pleasant for me to have Bliss here than Dom, and it should be for you as well. Come, Golan, you are behaving childishly."

"Am I? Am I?" said Trevize, frowning darkly. "All right, then, I am. Just the same," again he pointed at Bliss, "whatever it is I am expected to do, I assure you that I won't do it if I am not treated like a human being. Two questions to begin with—What am I supposed to do? And why me?"

Bliss was wide-eyed and backing away. She said, "Please, I can't tell you that now. All of Gaia can't tell you. You must come to the place without knowing anything to begin with. You must learn it all there. You must then do what you must do—but you must do it calmly and unemotionally. If you remain as you are, nothing will be of use and, one way or another, Gaia will come to an end. You must change this feeling of yours and I do not know how to change it."

"Would Dom know if he were here?" said Trevize remorselessly.

"Dom is here," said Bliss. "He/I/we do not know how to change you or calm you. We do not understand a human being who cannot sense his place in the scheme of things, who does not feel like part of a greater whole."

Trevize said, "That is not so. You could seize my ship at a distance of a million kilometers and more—and keep us calm while we were helpless. Well, calm me now. Don't pretend you are not capable of doing it."

"But we mustn't. Not now. If we changed you or adjusted you in any way now, then you would be no more valuable to us than any other person in the Galaxy and we could not use you. We can only use you because you are you—and you must remain you. If we touch you at this moment in any way, we are lost. Please. You must be calm of your own accord."

"Not a chance, miss, unless you tell me some of what I want to know."

Pelorat said, "Bliss, let me try. Please go into the other room."

Bliss left, backing slowly out. Pelorat closed the door behind her.

Trevize said, "She can hear and see—sense everything. What difference does this make?"

Pelorat said, "It makes a difference to me. I want to be alone with you, even if isolation is an illusion. —Golan, you're afraid."

"Don't be a fool."

"Of course you are. You don't know where you're going, what you'll be facing, what you'll be expected to do. You have a right to be afraid."

"But I'm not."

"Yes, you are. Perhaps you're not afraid of physical danger in the way that I am. I've been afraid of venturing out into space, afraid of each new world I see, afraid of every new thing I encounter. After all, I've lived half a century of a constricted, withdrawn and limited life, while you have been in the Navy and in politics, in the thick and hurly-burly at home and in space. Yet I've tried not to be afraid and you've helped me. In this time that we've been together, you've been patient with me, you've been kind to me and understanding, and because of you, I've managed to master my fears and behave well. Let me, then, return the favor and help you."

"I'm not afraid, I tell you."

"Of course you are. If nothing else, you're afraid of the responsibility you'll be facing. Apparently there's a whole world depending on you—and you will therefore have to live with the destruction of a whole world if you fail. Why should you have to face that possibility for a world that means nothing to you? 'What right have they to place this load upon you? You're not only afraid of failure, as any person would be in your place, but you're furious that they should put you in the position where you have to be afraid.'"

"You're all wrong."

"I don't think so. Consequently let me take your place. I'll do it. Whatever it is they expect you to do, I volunteer as substitute. I assume that it's not something that requires great physical strength or vitality, since a simple mechanical device would outdo you in that respect. I assume it's not something that requires mentalics, for they have enough of that themselves. It's something that—well, I don't know, but if it requires neither brawn nor brain, then I have everything else as well as you—and I am ready to take the responsibility."

Trevize said sharply, "Why are you so willing to bear the load?"

Pelorat looked down at the floor, as though fearing to meet the other's eyes. He said, "I have had a wife, Golan. I have known women. Yet they have never been very important to me. Interesting. Pleasant. Never very important. Yet, this one—"

"Who? Bliss?"

"She's different, somehow—to me."

"By Terminus, Janov, she knows every word you're saying."

"That makes no difference. She knows anyhow. —I want to please her. I will undertake this task, whatever it is; run any risk, take any responsibility, on the smallest chance that it will make her—think well of me."

"Janov, she's a child."

"She's not a child—and what you think of her makes no difference to me."

"Don't you understand what you must seem to her?"

"An old man? What's the difference? She's part of a greater whole and I am not—and that alone builds an insuperable wall between us. Don't you think I know that? But I don't ask anything of her but that she—"

"Think well of you?"

"Yes. Or whatever else she can make herself feel for me."

"And for that you will do my job? —But Janov, haven't you been listening. They don't want you; they want me for some space-ridden reason I can't understand."

"If they can't have you and if they must have someone, I will be better than nothing, surely."

Trevize shook his head. "I can't believe that this is happening. Old age is overtaking you and you have discovered youth. Janov, you're trying to be a hero, so that you can die for that body."

"Don't say that, Golan. This is not a fit subject for humor." Trevize tried to laugh, but his eyes met Pelorat's grave face and he cleared his throat instead. He said, "You're right. I apologize. Call her in, Janov. Call her in."

Bliss entered, shrinking a little. She said in a small voice, "I'm sorry, Pel. You cannot substitute. It must be Trevize or no one."

Trevize said, "Very well. I'll be calm. Whatever it is, I'll try to do it. Anything to keep Janov from trying to play the romantic hero at his age."

"I know my age," muttered Pelorat.

Bliss approached him slowly, placed her hand on his shoulder. "Pel, I—I think well of you."

Pelorat looked away. "It's all right, Bliss. You needn't be kind."

"I'm not being kind, Pel. I think—very well of you."

Dimly, then more strongly, Sura Novi knew that she was Suranovirembastiran and that when she was a child, she had been known as Su to her parents and Vito her friends.

She had never really forgotten, of course, but the facts were, on occasion, buried deep within her. Never had it been buried as deeply or for as long as in this last month, for never had she been so close for so long to a mind so powerful.

But now it was time. She did not will it herself. She had no need to. The vast remainder of her was pushing her portion of itself to the surface, for the sake of the global need.

Accompanying that was a vague discomfort, a kind of itch that was rapidly overwhelmed by the comfort of selfness unmasked. Not in years had she been so close to the globe of Gaia.

She remembered one of the life-forms she had loved on Gaia as a child. Having understood its feelings then as a dim part of her own, she recognized her own sharper ones now. She was a butterfly emerging from a cocoon.

Stor Gendibal stared sharply and penetratingly at Novi—and with such surprise that he came within a hair of loosening his grip upon Mayor Branno. That he did not do

so was, perhaps, the result of a sudden support from without that steadied him and that, for the moment, he ignored.

He said, "What do you Know of Councilman Trevize, Novi?" And then, in cold disturbance at the sudden and growing complexity of her mind, he cried out, "What are you?"

He attempted to seize hold of her mind and found it impenetrable. At that moment, he recognized that his hold on Branno was supported by a grip stronger than his own. He repeated, "What are you?"

There was a hint of the tragic on Novi's face. "Master," she said, "Speaker Gendibal. My true name is Suranovirembastiran and I am Gaia."

It was all she said in words, but Gendibal, in sudden fury, had intensified his own mental aura and with great skill, now that his blood was up, evaded the strengthening bar and held Branno on his own and more strongly than before, while he gripped Novi's mind in a tight and silent struggle.

She held him off with equal skill, but she could not keep her mind closed to him—or perhaps she did not wish to.

He spoke to her as he would to another Speaker. "You have played a part, deceived me, lured me here, and you are one of the species from which the Mule was derived."

"The Mule was an aberration, Speaker. I/we are not Mules. I/we are Gaia."

The whole essence of Gaia was described in what she complexly communicated, far more than it could have been in any number of words.

"A whole planet alive," said Gendibal.

"And with a mentalic field greater as a whole than is yours as an individual. Please do not resist with such force. I fear the danger of harming you, something I do not wish to do."

"Even as a living planet, you are not stronger than the sum of my colleagues on Trantor. We, too, are, in a way, a planet alive."

"Only some thousands of people in mentalic co-operation, Speaker, and you cannot draw upon their support, for I have blocked it off. Test that and you will see."

"What is it you plan to do, Gaia?"

"I would hope, Speaker, that you would call me Novi. What I do now I do as Gaia, but I am Novi also—and with reference to you, I am only Novi."

"What is it you plan to do, Gaia?"

There was the trembling mentalic equivalent of a sigh and Novi said, "We will remain in triple stalemate. You will hold Mayor Branno through her shield, and I will help you do so, and we will not tire. You, I suppose, will maintain your grip on me, and I will maintain mine on you, and neither one of us will tire there either. And so it will stay."

"To what end?"

"As I have told you— We are waiting for Councilman Trevize of Terminus. It is he who will break the stalemate—as he chooses."

The computer on board the Far Star located the two ships and Golan Trevize displayed them together on the split screen.

They were both Foundation vessels. One was precisely like the Far Star and was undoubtedly Compdor's ship. The other was larger and far more powerful.

He turned toward Bliss and said, "Well, do you know what's going on? Is there anything you can now tell me?"

"Yes! Do not be alarmed! They will not harm you."

"Why is everyone convinced I'm sitting here all a-tremble with panic?" Trevize demanded petulantly.

Pelorat said hastily, "Let her talk, Golan. Don't snap at her."

Trevize raised his arms in a gesture of impatient surrender. "I will not snap. Speak, lady."

Bliss said, "On the large ship is the ruler of your Foundation. With her—"

Trevize said in astonishment, "The ruler? You mean Old Lady Branno?"

"Surely that is not her title," said Bliss, her lips twitching a little in amusement. "But she is a woman, yes." She paused a little, as though listening intently to the rest of the general organism of which she was part. "Her name is Harlabranno. It seems odd to have only four syllables when one is so important on her world, but I suppose non-Gaians have their own ways."

"I suppose," said Trevize dryly. "You would call her Brann, I think. But what is she doing here? Why isn't she back on—I see. Gaia has maneuvered her here, too. Why?"

Bliss did not answer that question. She said, "With her is Lionokodell, five syllables, though her underling. It seems a lack of respect. He is an important official of your world. With them are four others who control the ship's weapons. Do you want their names?"

"No. I take it that on the other ship there is one man, Munn Li Compdor, and that he represents the Second Foundation. You've brought both Foundations together, obviously. Why?"

"Not exactly, Trev—I mean, Trevize—"

"Oh, go ahead and say Trev. I don't give a puff of comet gas."

"Not exactly, Trev. Compdor has left that ship and has been replaced by two people. One is Storgendibal, an important official of the Second Foundation. He is called a Speaker."

"An important official? He's got mentalic power, I imagine."

"Oh yes. A great deal."

"Will you be able to handle that?"

"Certainly. The second person, on the ship with him, is Gaia."

"One of your people?"

"Yes. Her name is Suranovirembastiran. It should be much longer, but she has been away from me/us/rest so long."

"Is she capable of holding a high official of the Second Foundation?"

"It is not she, it is Gaia who holds him. She/I/we/all are capable of crushing him."

"Is that what she's going to do? She's going to crush him and Branno? What is this? Is Gaia going to destroy the Foundations and set up a Galactic Empire of its own? The Mule back again? A greater Mule—"

"No no, Trev. Do not become agitated. You must not. All three are in a stalemate. They are waiting."

"For what?"

"For your decision."

"Here we go again. What decision? Why me?"

"Please, Trev," said Bliss. "It will soon be explained. I/we/she have said as much as I/we/she can for now."

Branno said wearily, "It is clear I have made a mistake, Liono, perhaps a fatal one."

"Is this something that ought to be admitted?" muttered Kodell through motionless lips.

"They know what I think. It will do no further harm to say so. Nor do they know less about what you think if you do not move your lips. —I should have waited until the shield was further strengthened."

Kodell said, "How could you have known, Mayor? If we waited until assurance was doubly and triply and quadruply and endlessly sure, we would have waited forever. —To be sure, I wish we had not gone ourselves. It would have been well to have experimented with someone else—with your lightning rod, Trevize, perhaps."

Branno sighed. "I wanted to give them no warning, Liono. Still, there you put the finger on the nub of my mistake. I might have waited until the shield was reasonably impenetrable. Not ultimately impenetrable but reasonably so. I knew there was perceptible leakage now, but I could not bear to wait longer. To wipe out the leakage would have meant waiting past my term of office and I wanted it done in my time—and I wanted to be on the spot. So like a fool, I forced myself to believe the shield was adequate. I would listen to no caution—to your doubts, for instance."

"We may still win out if we are patient."

"Can you give the order to fire on the other ship?"

"No, I cannot, Mayor. The thought is, somehow, not something I can endure."

"Nor I. And if you or I managed to give the order, I am certain that the men on board would not follow it, that they would not be able to."

"Not under present circumstances, Mayor, but circumstances might change. As a matter of fact, a new actor appears on the scene."

He pointed to the screen. The ship's computer had automatically split the screen as a new ship came within its ken. The second ship appeared on the right-hand side.

"Can you magnify the image, Liono?"

"No trouble. The Second Foundationer is skillful. We are free to do anything he is not troubled by."

"Well," said Branno, studying the screen, "that's the Far Star, I'm sure. And I imagine Trevize and Pelorat are on board. Then, bitterly, "Unless they too have been

replaced by Second Foundationers. My lightning rod has been very efficient indeed. —If only my shield had been stronger."

"Patience!" said Kodell.

A voice rang out in the confines of the ship's control room and Branno could somehow tell it did not consist of sound waves. She heard it in her mind directly and a glance at Kodell was sufficient to tell her that he had heard it, too.

It said, "Can you hear me, Mayor Branno? If you can, don't bother saying so. It will be enough if you think so."

Branno said calmly, "What are you?"

"I am Gaia."

The three ships were each essentially at rest, relative to the other two. All three were turning very slowly about the planet Gaia, as a distant three-part satellite of the planet. All three were accompanying Gaia on its endless journey about its sun.

Trevize sat, watching the screen, tired of guessing what his role might be—what he had been dragged across a thousand parsecs to do.

The sound in his mind did not startle him. It was as though he had been waiting for it.

It said, "Can you hear me, Golan Trevize? If you can, don't bother saying so. It will be enough if you think it."

Trevize looked about. Pelorat, clearly startled, was looking in various directions, as though trying to find the source. Bliss sat quietly, her hands held loosely in her lap. Trevize had no doubt, for a moment, that she was aware of the sound.

He ignored the order to use thoughts and spoke with deliberate clarity of enunciation. "If I don't find out what this is about, I will do nothing I am asked to do."

And the voice said, "You are about to find out."

Novi said, "You will all hear me in your mind. You are all free to respond in thought. I will arrange it so that all of you can hear each other. And, as you are all aware, we are all close enough so that at the normal light-speed of the spatial mentalic field, there will be no inconvenient delays. To begin with, we are all here by arrangement."

"In what manner?" came Branno's voice.

"Not by mental tampering," said Novi. "Gaia has interfered with no one's mind. It is not our way. We merely took advantage of ambition. Mayor Branno wanted to establish a Second Empire at once; Speaker Gendibal wanted to be First Speaker. It was enough to encourage these desires and to ride the wind, selectively and with judgment."

"I know how I was brought here," said Gendibal stiffly. And indeed he did. He knew why he had been so anxious to move out into space, so anxious to pursue Trevize, so sure he could handle it all. —It was all Novi. —Oh, Novi!

"You were a particular case, Speaker Gendibal. Your ambition was powerful, but there were softnesses about you that offered a shortcut. You were a person who would be kind to someone whom you had been trained to think of as beneath you in every respect. I took advantage of this in you and turned it against you. I/we am/are deeply ashamed. The excuse is that the future of the Galaxy is in hazard."

Novi paused and her voice (though she was not speaking by way of vocal cords) grew more somber, her face more drawn.

"This was the time. Gaia could wait no longer. For over a century, the people of Terminus had been developing a mentalic shield. Left to themselves another generation, it would have been impervious even to Gaia and they would have been free to use their physical weapons at will. The Galaxy would not have been able to resist them and a Second Galactic Empire, after the fashion of Terminus, would have been established at once, despite the Seldon Plan, despite the people of Trantor, and despite Gaia. Mayor Branno had to be somehow maneuvered into making her move while the shield was still imperfect.

"Then there is Trantor. The Seldon Plan was working perfectly, for Gaia itself labored to keep it on track with precision. And for over a century, there had been quietist First Speakers, so that Trantor vegetated. Now, however, Stor Gendibal was rising quickly. He would certainly become First Speaker and under him Trantor would take on an activist role. It would surely concentrate on physical power and would recognize the danger of Terminus and take action against it. If he could act against Terminus before its shield was perfected, then the Seldon Plan would be worked out to its conclusion in a Second Galactic Empire—after the fashion of Trantor—despite the people of Terminus and despite Gaia. Consequently Gendibal had to be somehow maneuvered into making his move before he became First Speaker.

"Fortunately, because Gaia has been working carefully for decades, we have brought both Foundations to the proper place at the proper time. I repeat all this primarily so that Councilman Golan Trevize of Terminus may understand."

Trevize cut in at once and again ignored the effort to converse by thought. He spoke words firmly, "I do not understand. What is wrong with either version of the Second Galactic Empire?"

Novi said, "The Second Galactic Empire—worked out after the fashion of Terminus—will be a military Empire, established by strife, maintained by strife, and eventually destroyed by strife. It will be nothing but the First Galactic Empire reborn. That is the view of Gaia.

"The Second Galactic Empire—worked out after the fashion of Trantor—will be a paternalistic Empire, established by calculation, maintained by calculation, and in perpetual living death by calculation. It will be a dead end. That is the view of Gaia."

Trevize said, "And what does Gaia have to offer as an alternative?"

"Greater Gaia! Galaxia! Every inhabited planet as alive as Gaia. Every living planet combined into a still greater hyperspatial life. Every uninhabited planet participating. Every star. Every scrap of interstellar gas. Perhaps even the great central black hole. A living galaxy and one that can be made favorable for all life in ways that we yet cannot foresee. A way of life fundamentally different from all that has gone before and repeating none of the old mistakes."

"Originating new ones," muttered Gendibal sarcastically.

"We have had thousands of years of Gaia to work those out."

"But not on a Galactic scale."

Trevize, ignoring the short exchange and driving to his point, said, "And what is my role in all this?"

The voice of Gaia—channeled through Novi's mind—thundered, "Choose! Which alternative is it to be?"

There was a vast silence that followed and finally, in that silence, Trevize's voice—mental at last, for he was too taken aback to speak—sounded small and still defiant. "Why me?"

Novi said, "Though we recognized the moment had come when either Terminus or Trantor would become too powerful to stop—or worse yet, when both might become so powerful that a deadly stalemate would develop that would devastate the Galaxy—we still could not move. For our purposes, we needed someone—a particular someone—with the talent for rightness. We found you, Councilman. —No, we cannot take the credit. The people of Trantor found you through the man named Compore, though even they did not know what they had. The act of finding you attracted our attention to you. Golan Trevize, you have the gift of knowing the right thing to do."

"I deny it," said Trevize.

"You are, every once in a while, sure. And we want you to be sure this time on behalf of the Galaxy. You do not wish the responsibility, perhaps. You may do your best not to have to choose. Nevertheless, you will realize that it is right to do so. You will be sure! And you will then choose. Once we found you, we knew the search was over and for years we have labored to encourage a course of action that would, without direct mentalic interference, so influence events that all three of you—Mayor Branno, Speaker Gendibal, and Councilman Trevize—would be in the neighborhood of Gaia at the same time. We have done it."

Trevize said, "At this point in space, under present circumstances, is it not true, Gaia—if that is what you want me to call you—that you can overpower both the Mayor and the Speaker? Is it not true that you can establish this living Galaxy you speak of without my doing anything? Why, then, do you not?"

Novi said, "I do not know if I can explain this to your satisfaction. Gaia was formed thousands of years ago with the help of robots that once, for a brief time, served the human species and now serve them no more. They made it quite clear to us that we could survive only by a strict application of the Three Laws of Robotics as applied to life generally. The First Law, in those terms, is: 'Gaia may not harm life or, through inaction, allow life to come to harm.' We have followed this rule through all of our history and we can do no other.

"The result is that we are now helpless. We cannot force our vision of the living Galaxy upon a quintillion human beings and countless other forms of life and perhaps do harm to vast numbers. Nor can we do nothing and watch the Galaxy half-destroy itself in a struggle that we might have prevented. We do not know whether action or inaction will cost the Galaxy less; nor, if we choose action, do we know whether supporting Terminus

or Trantor will cost the Galaxy less. Let Councilman Trevize decide then—and whatever that decision is, Gaia will follow it."

Trevize said, "How do you expect me to make a decision? What do I do?"

Novi said, "You have your computer. The people of Terminus did not know that when they made it, they made it better than they knew. The computer on board your ship incorporates some of Gaia. Place your hands on the terminals and think. You may think Mayor Branno's shield impervious, for instance. If you do, it is possible that she will at once use her weapons to disable or destroy the other two ships, establish physical rule over Gaia and, later on, Trantor."

"And you will do nothing to stop that?" said Trevize with astonishment.

"Not a thing. If you are sure that domination by Terminus will do the Galaxy less harm than any other alternative, we will gladly help that domination along—even at the cost of our own destruction.

"On the other hand, you may find Speaker Gendibal's mentalic field and you may then join your computer-magnified push to his. He will, in that case, surely break free of me and push me back. He may then adjust the Mayor's mind and, in combination with her ships, establish physical domination over Gaia and assure the continued supremacy of the Seldon Plan. Gaia will not move to stop that.

"Or you may find my mentalic field and join that—and then the living Galaxy will be set in motion to reach its fulfillment, not in this generation or the next, but after centuries of labor during which the Seldon Plan will continue. The choice is yours."

Mayor Branno said, "Wait! Do not make a decision just yet. May I speak?"

Novi said, "You may speak freely. So may Speaker Gendibal."

Branno said, "Councilman Trevize. The last time we met on Terminus, you said, 'The time may come, Madam Mayor, when you will ask me for an effort, and I will then do as I choose, and I will remember the past two days.' I don't know whether you foresaw this, or intuitively felt it would happen, or simply had what this woman who speaks of a living Galaxy calls a talent for rightness. In any case, you were right. I am asking you for an effort on behalf of the Federation.

"You may, I suppose, feel that you would like to even the score with me for having arrested and exiled you. I ask you to remember that I did it for what I considered the good of the Foundation Federation. Even if I were wrong or even if I acted out of callous self-interest, remember that it was I who did it—and not the Federation. Do not now destroy the entire Federation out of a desire to balance what I alone have done to you. Remember that you are a Founder and a human being, that you do not want to be a cipher in the plans of the bloodless mathematicians of Trantor or less than a cipher in a Galactic mish-mash of life and nonlife. You want yourself, your descendants, your fellow-people to be independent organisms, possessing free will. Nothing else matters.

"These others may tell you that our Empire will lead to bloodshed and misery—but it need not. It is our free-will choice whether this should be so or not. We may choose otherwise. And, in any case, it is better to go to defeat with free will than to live in meaningless security as a cog in a machine. Observe that you are now being asked to

make a decision as a free-will human being. These things of Gaia are unable to make a decision because their machinery will not allow them to, so that they depend on you. And they will destroy themselves if you bid them to. Is this what you want for all the Galaxy?"

Trevize said, "I do not know that I have free will, Mayor. My mind may have been subtly dealt with, so that I will give the answer that is desired."

Novi said, "Your mind is totally untouched. If we could bring ourselves to adjust you to suit our purposes, this whole meeting would be unnecessary. Were we that unprincipled, we could have proceeded with what we would find most pleasing to ourselves with no concern for the greater needs and good of humanity as a whole."

Gendibal said, "I believe it is my turn to speak. Councilman Trevize, do not be guided by narrow parochialism. The fact that you are Terminus-born should not lead you to believe that Terminus comes before the Galaxy. For five centuries now, the Galaxy has been operating in accordance with the Seldon Plan. In and out of the Foundation Federation, that operation has been proceeding.

"You are, and have been, part of the Seldon Plan above and beyond your lesser role as Founder. Do not do anything to disrupt the Plan, either on behalf of a narrow concept of patriotism or out of a romantic longing for the new and untried. The Second Founders will in no way hamper the free will of humanity. We are guides, not despots.

"And we offer a Second Galactic Empire fundamentally different from the First. Throughout human history, no decade in all the tens of thousands of years during which hyperspatial travel has existed has been completely free of bloodshed and violent death throughout the Galaxy, even in those periods when the Foundation itself was at peace. Choose Mayor Branno and that will continue endlessly into the future. The same dreary, deadly round. The Seldon Plan offers release from that at last—and not at the price of becoming one more atom in a Galaxy of atoms, being reduced to equality with grass, bacteria, and dust."

Novi said, "What Speaker Gendibal says of the First Foundation's Second Empire, I agree with. What he says of his own, I do not. The Speakers of Trantor are, after all, independent free-will human beings and are the same as they have always been. Are they free of destructive competition, of politics, of clawing upward at all costs? Are there no quarrels and even hatreds at the Speaker's Table—and will they always be guides you dare follow? Put Speaker Gendibal on his honor and ask him this."

"No need to put me on my honor," said Gendibal. "I freely admit we have our hatreds, competitions, and betrayals at the Table. But once a decision is reached, it is obeyed by all. There has never been an exception to this."

Trevize said, "What if I will not make a choice?"

"You must," said Novi. "You will know that it is right to do so and you will therefore make a choice."

"What if I try to make a choice and cannot?"

"You must."

Trevize said, "How much time do I have?"

Novi said, "Until you are sure, however much time that takes."

Trevize sat silently.

Though the others were silent too, it seemed to Trevize that he could hear the pulsing of his bloodstream.

He could hear Mayor Branno's voice say firmly, "Free will!" Speaker Gendibal's voice said peremptorily, "Guidance and peace!"

Novi's voice said wistfully, "Life."

Trevize turned and found Pelorat looking at him intently. He said, "Janov. Have you heard all this?"

"Yes, I have, Golan."

"What do you think?"

"The decision is not mine."

"I know that. But what do you think."

"I don't know. I am frightened by all three alternatives. And yet a peculiar thought comes to me—"

"Yes?"

"When we first went out into space, you showed me the Galaxy. Do you remember?"

"Of course."

"You speeded time and the Galaxy rotated visibly. And I said, as though anticipating this very time, 'The Galaxy looks like a living thing, crawling through space.' Do you think that, in a way, it is alive already?"

And Trevize, remembering that moment, was suddenly sure. He remembered suddenly his feeling that Pelorat, too, would have a vital role to play. He turned in haste, anxious not to have time to think, to doubt, to grow uncertain.

He placed his hands on the terminals and thought with an intensity he had never known before.

He had made his decision—the decision on which the fate of the Galaxy hung.

20. CONCLUSION

MAYOR HARLA BRANNO HAD EVERY REASON FOR SATISFACTION. THE state visit had not lasted long, but it had been thoroughly productive.

She said, as though in deliberate attempt to avoid hubris, "We can't, of course, trust them completely."

She was watching the screen. The ships of the Fleet were, one by one, entering hyperspace and returning to their normal stations.

There was no question but that Sayshell had been impressed by their presence, but they could not have failed to notice two things: one, that the ships had remained in Foundation space at all times; two, that once Branno had indicated they would leave, they were indeed leaving with celerity.

On the other hand, Sayshell would not forget either that those ships could be recalled to the border at a day's notice—or less. It was a maneuver that had combined both a demonstration of power and a demonstration of goodwill.

Kodell said, "Quite right, we can't trust them completely, but then no one in the Galaxy can be trusted completely and it is in the self-interest of Sayshell to observe the terms of the agreement. We have been generous."

Branno said, "A lot will depend on working out the details and I predict that will take months. The general brushstrokes can be accepted in a moment, but then come the shadings: just how we arrange for quarantine of imports and exports, how we weigh the value of their grain and cattle compared to ours, and so on."

"I know, but it will be done eventually and the credit will be yours, Mayor. It was a bold stroke and one, I admit, whose wisdom I doubted."

"Come, Liono. It was just a matter of the Foundation recognizing Sayshellian pride. They've retained a certain independence since early Imperial times. It's to be admired, actually."

"Yes, now that it will no longer inconvenience us."

"Exactly, so it was only necessary to bend our own pride to the point of making some sort of gesture to theirs. I admit it took an effort to decide that I, as Mayor of a Galaxy-straddling Federation, should condescend to visit a provincial star-grouping, but once the decision was made it didn't hurt too much. And it pleased them. We had to gamble that they would agree to the visit once we moved our ships to the border, but it meant being humble and smiling very broadly."

Kodell nodded. "We abandoned the appearance of power to preserve the essence of it."

"Exactly. —Who first said that?"

"I believe it was in one of Eriden's plays, but I'm not sure. We can ask one of our literary lights back home."

"If I remember. We must speed the return visit of Sayshellians to Terminus and see to it that they are given the full treatment as equals. And I'm afraid, Liono, you will have to organize tight security for them. There is bound to be some indignation among our hotheads and it would not be wise to subject them to even slight and transient humiliation through protest demonstrations."

"Absolutely," said Kodell. "It was a clever stroke, by the way, sending out Trevize."

"My lightning rod? He worked better than I thought he would, to be honest. He blundered his way into Sayshell and drew their lightning in the form of protests with a speed I could not have believed. Space! What an excellent excuse that made for my visit—concern lest a Foundation national in any way disturbed then and gratitude for their forbearance."

"Shrewd! —You don't think it would have been better, though, to have brought Trevize back with us?"

"No. On the whole, I prefer him anywhere but at home. He would be a disturbing factor on Terminus. His nonsense about the Second Foundation served as the perfect excuse for sending him out and, of course, we counted on Pelorat to lead him to Sayshell, but I don't want him back, continuing to spread the nonsense. We can never tell what that might lead to."

Kodell chuckled. "I doubt that we can ever find anyone more gullible than an intellectual academic. I wonder how much Pelorat would have swallowed if we had encouraged him."

"Belief in the literal existence of the mythical Sayshellian Gaia was quite enough—but forget it. We will have to face the Council when we return and we will need their votes for the Sayshellian treaty. Fortunately we have Trevize's statement—voiceprint and all — to the effect that he left Terminus voluntarily. I will offer official regrets as to Trevize's brief arrest and that will satisfy the Council."

"I can rely on you for the soft soap, Mayor," said Kodell dryly. "Have you considered, though, that Trevize may continue to search for the Second Foundation?"

"Let him," said Branno, shrugging, "as long as he doesn't do it on Terminus. It will keep him busy and get him nowhere. The Second Foundation's continued existence is our myth of the century, as Gaia is Sayshell's myth."

She leaned back and looked positively genial. "And now we have Sayshell in our grip—and by the time they see that, it will be too late for them to break the grip. So the Foundation's growth continues and will continue, smoothly and regularly."

"And the credit will be entirely yours, Mayor."

"That has not escaped my notice," said Branno, and their ship slipped into hyperspace and reappeared in the neighborhood space of Terminus.

Speaker Stor Gendibal, on his own ship again, had every reason for satisfaction. The encounter with the First Foundation had not lasted long, but it had been thoroughly productive.

He had sent back his message of carefully muted triumph. It was only necessary—for the moment—to let the First Speaker know that all had gone well (as, indeed, he

might guess from the fact that the general force of the Second Foundation had never had to be used after all). The details could come later on.

He would describe how a careful—and very minor—adjustment to Mayor Branno's mind had turned her thoughts from imperialistic grandiosity to the practicality of commercial treaty; how a careful—and rather long-distance—adjustment of the leader of the Sayshell Union had led to an invitation to the Mayor of a parley and how, thereafter, a rapprochement had been reached with no further adjustments at all with Compor returning to Terminus on his own ship, to see that the agreement would be kept. It had been, Gendibal thought complacently, almost a storybook example of large results brought about by minutely crafted mentalics.

It would, he was sure, squash Speaker Delarmi flat and bring about his own elevation to First Speaker very soon after the presentation of the details at a formal meeting of the Table.

And he did not deny to himself the importance of Sum Novi's presence, though that would not need to be stressed to the Speakers generally. Not only had she been essential to his victory, but she gave him the excuse he now needed for indulging his childish (and very human, for even Speakers are very human) need to exult before what he knew to be a guaranteed admiration.

She did not understand anything that had happened, he knew, but she was aware that he had arranged matters to his liking and she was bursting with pride over that. He caressed the smoothness of her mind and felt the warmth of that pride.

He said, "I could not have done it without you, Novi. It was because of you I could tell that the First Foundation—the people on the large ship—"

"Yes, Master, I know whom you mean."

"I could tell, because of you, that they had a shield, together with weak powers of the mind. From the effect on your mind, I could tell, exactly, the characteristics of both. I could tell how most efficiently to penetrate the one and deflect the other."

Novi said tentatively, "I do not understand exactly what it is you say, Master, but I would have done much more to help, if I could."

"I know that, Novi. But what you did was enough. It is amazing how dangerous they might have been. But caught now, before either their shield or their field had been developed more strongly, they could be stopped. The Mayor goes back now, the shield and the field forgotten, satisfied over the fact that she has obtained a commercial treaty with Sayshell that will make it a working part of the Federation. I don't deny that there is much more to do to dismantle the work they have done on shield and field—it is something concerning which we have been remiss—but it will be done."

He brooded about the matter and went on in a lower voice, "We took far too much for granted with the First Foundation. We must place them under closer supervision. We must knit the Galaxy closer together somehow. We must make use of mentalics to build a closer co-operation of consciousness. That would fit the Plan. I'm convinced of that and I'll see to it."

Novi said anxiously, "Master?"

Gendibal smiled suddenly. "I'm sorry. I'm talking to myself. —Novi, do you remember Rufirant?"

"That bone-skulled farmer who attacked you? I should say I do."

"I'm convinced that First Foundation agents, armed with personal shields, arranged that, together with all the other anomalies that have plagued us. Imagine being blind to a thing like that. But then, I was bemused into overlooking the First Foundation altogether by this myth of a mysterious world, this Sayshellian superstition concerning Gaia. There, too, your mind came in handy. It helped me determine that the source of that mentalic field was the warship and nothing else."

He rubbed his hands.

Novi said timidly, "Master?"

"Yes, Novi?"

"Will you not be rewarded for what you have done?"

"Indeed I will. Shandess will retire and I will be First Speaker. Then will come my chance to make us an active factor in revolutionizing the Galaxy."

"First Speaker?"

"Yes, Novi. I will be the most important and the most powerful scholar of them all."

"The most important?" She looked woebegone.

"Why do you make a face, Novi? Don't you want me to be rewarded?"

"Yes, Master, I do. —But if you are the most important scholar of them all, you will not want a Hamishwoman near you. It would not be fitting."

"Won't I, though? Who will stop me?" He felt a gush of affection for her. "Novi, you'll stay with me wherever I go and whatever I am. Do you think I would risk dealing with some of the wolves we occasionally have at the Table without your mind always there to tell me, even before they know themselves, what their emotions might be—your own innocent, absolutely smooth mind. Besides—" He seemed startled by a sudden revelation, "Even aside from that, I—I like having you with me and I intend having you with me. —That is, if you are willing."

"Oh, Master," whispered Novi and, as his arm moved around her waist, her head sank to his shoulder.

Deep within, where the enveloping mind of Novi could scarcely be aware of it, the essence of Gaia remained and guided events, but it was that impenetrable mask that made the continuance of the great task possible.

And that mask—the one that belonged to a Hamishwoman—was completely happy. It was so happy that Novi was almost reconciled for the distance she was from herself/them/all, and she was content to be, for the indefinite future, what she seemed to be.

Pelorat rubbed his hands and said, with carefully controlled enthusiasm, "How glad I am to be back on Gaia."

"Umm," said Trevize abstractedly.

"You know what Bliss has told me? The Mayor is going back to Terminus with a commercial treaty with Sayshell. The Speaker from the Second Foundation is going back

to Trantor convinced that he has arranged it—and that woman, Novi, is going with him to see to it that the changes that will bring about Galaxia are initiated. And neither Foundation is in the least aware that Gaia exists. It's absolutely amazing."

"I know," said Trevize. "I was told all this, too. But we know that Gaia exists and we can talk."

"Bliss doesn't think so. She says no one would believe us, and we would know that. Besides, I, for one, have no intention of ever leaving Gaia."

Trevize was pulled out of his inner musing. He looked up and said, "What?"

"I'm going to stay here. —You know, I can't believe it. Just weeks ago, I was living a lonely life on Terminus, the same life I had lived for decades, immersed in my records and my thoughts and never dreaming anything but that I would go to my death, whenever it might be, still immersed in my records and my thoughts and still living my lonely life—contentedly vegetating. Then, suddenly and unexpectedly, I became a Galactic traveler; I was involved with a Galactic crisis; and—do not laugh, Golan—I have found Bliss."

"I'm not laughing, Janov," said Trevize, "but are you sure you know what you're doing?"

"Oh yes. This matter of Earth is no longer important to me. The fact that it was the only world with a diverse ecology and with intelligent life has been adequately explained. The Eternals, you know."

"Yes, I know. And you're going to stay on Gaia?"

"Absolutely. Earth is the past and I'm tired of the past. Gaia is the future."

"You're not part of Gaia, Janov. Or do you think you can become part of it?"

"Bliss says that I can become somewhat a part of it—intellectually if not biologically. She'll help, of course."

"But since she is part of it, how can you two find a common life, a common point of view, a common interest—"

They were in the open and Trevize looked gravely at the quiet, fruitful island, and beyond it the sea, and on the horizon, purpled by distance, another island—all of it peaceful, civilized, alive, and a unit.

He said, "Janov, she is a world; you are a tiny individual. What if she gets tired of you? She is young—"

"Golan, I've thought of that. I've thought of nothing but that for days. I expect her to grow tired of me; I'm no romantic idiot. But whatever she gives me till then will be enough. She has already given me enough. I have received more from her than I dreamed existed in life. If I saw her no more from this moment on, I have ended the winner."

"I don't believe it," said Trevize gently. "I think you are a romantic idiot and, mind you, I wouldn't want you any other way. Janov, we haven't known each other for long, but we've been together every moment for weeks and—I'm sorry if it sounds silly—I like you a great deal."

"And I, you, Golan," said Pelorat.

"And I don't want you hurt. I must talk to Bliss."

"No, no. Please don't. You'll lecture her."

"I won't lecture her. It's not entirely to do with you—and I want to talk to her privately. Please, Janov, I don't want to do it behind your back, so grant me your willingness to have me talk to her and get a few things straight. If I am satisfied, I will give you my heartiest congratulations and goodwill—and I will forever hold my peace, whatever happens."

Pelorat shook his head. "You'll ruin things."

"I promise I won't I beg you—"

"Well— But do be careful, my dear fellow, won't you?"

"You have my solemn word."

Bliss said, "Pel says you want to see me."

Trevize said, "Yes."

They were indoors, in the small apartment allotted to him.

She sat down gracefully, crossed her legs, and looked up at him shrewdly, her beautiful brown eyes luminous and her long, dark hair glistening.

She said, "You disapprove of me, don't you? You have disapproved of me from the start."

Trevize remained standing. He said, "You are aware of minds and of their contents. You know what I think of you and why."

Slowly Bliss shook her head. "Your mind is out of bounds to Gaia. You know that. Your decision was needed and it had to be the decision of a clear and untouched mind. When your ship was first taken, I placed you and Pel within a soothing field, but that was essential. You would have been damaged—and perhaps rendered useless for a crucial time—by panic or rage. And that was all. I could never go beyond that and I haven't—so I don't know what you're thinking."

Trevize said, "The decision I had to make has been made. I decided in favor of Gaia and Galaxia. Why, then, all this talk of a clear and untouched mind? You have what you want and you can do with me now as you wish."

"Not at all, Trev. There are other decisions that may be needed in the future. You remain what you are and, while you are alive, you are a rare natural resource of the Galaxy. Undoubtedly there are others like you in the Galaxy and others like you will appear in the future, but for now we know of you—and only you. We still cannot touch you."

Trevize considered. "You are Gaia and I don't want to talk to Gaia. I want to talk to you as an individual, if that has any meaning at all."

"It has meaning. We are far from existing in a common melt. I can block off Gaia for a period of time."

"Yes," said Trevize. "I think you can. Have you now done so?"

"I have now done so."

"Then, first, let me tell you that you have played games. You did not enter my mind to influence my decision, perhaps, but you certainly entered Janov's mind to do so, didn't you?"

"Do you think I did?"

"I think you did. At the crucial moment, Pelorat reminded me of his own vision of the Galaxy as alive and the thought drove me on to make my decision at that moment. The thought may have been his, but yours was the mind that triggered it, was it not?"

Bliss said, "The thought was in his mind, but there were many thoughts there. I smoothed the path before that reminiscence of his about the living Galaxy—and not before any other thought of his. That particular thought, therefore, slipped easily out of his consciousness and into words. Mind you, I did not create the thought. It was there."

"Nevertheless, that amounted to an indirect tampering with the perfect independence of my decision, did it not?"

"Gaia felt it necessary."

"Did it? —Well, it may make you feel better—or nobler—to know that although Janov's remark persuaded me to make the decision at that moment, it was the decision I think I would have made even if he had said nothing or if he had tried to argue me into a decision of a different kind. I want you to know that."

"I am relieved," said Bliss coolly. "Is that what you wanted to tell me when you asked to see me?"

"No."

"What else is there?"

Now Trevize sat down in a chair he had drawn opposite her so that their knees nearly touched. He leaned toward her.

"When we approached Gaia, it was you on the space station. It was you who trapped us; you who came out to get us; you who have remained with us ever since—except for the meal with Dom, which you did not share with us. In particular, it was you on the Far Star with us, when the decision was made. Always you."

"I am Gaia."

"That does not explain it. A rabbit is Gaia. A pebble is Gaia. Everything on the planet is Gaia, but they are not all equally Gaia. Some are more equal than others. Why you?"

"Why do you think?"

Trevize made the plunge. He said, "Because I don't think you're Gaia. I think you're more than Gaia."

Bliss made a derisive sound with her lips.

Trevize kept to his course. "At the time I was making the decision, the woman with the Speaker—"

"He called her Novi."

"This Novi, then, said that Gaia was set on its course by the robots that no longer exist and that Gaia was taught to follow a version of the Three Laws of Robotics."

"That is quite true."

"And the robots no longer exist?"

"So Novi said."

"So Novi did not say. I remember her exact words. She said: 'Gaia was formed thousands of years ago with the help of robots that once, for a brief time, served The human species and now serve them no more.'"

"Well, Trev, doesn't that mean they exist no more?"

"No, it means they serve no more. Might they not rule instead?"

"Ridiculous!"

"Or supervise? Why were you there at the time of the decision? You did not seem to be essential. It was Novi who conducted matters and she was Gaia. What need of you? Unless—"

"Well? Unless?"

"Unless you are the supervisor whose role it is to make certain that Gaia does not forget the Three Laws. Unless you are a robot, so cleverly made that you cannot be told from a human being."

"If I cannot be told from a human being, how is it you think that you can tell?" asked Bliss with a trace of sarcasm.

Trevize sat back. "Do you not all assure me I have the faculty of being sure; of making decisions, seeing solutions, drawing correct conclusions. I don't claim this; it is what you say of me. Well, from the moment I saw you I felt uneasy. There was something wrong with you. I am certainly as susceptible to feminine allure as Pelorat is—more so, I should think—and you are an attractive woman in appearance. Yet not for one moment did I feel the slightest attraction."

"You devastate me."

Trevize ignored that. He said, "When you first appeared on our ship, Janov and I had been discussing the possibility of a nonhuman civilization on Gaia, and when Janov saw you, he asked, in his innocence, 'Are you human?' Perhaps a robot must answer the truth, but I suppose it can be evasive. You merely said, 'Don't I look human?' Yes, you look human, Bliss, but let me ask you again. Are you human?"

Bliss said nothing and Trevize continued. "I think that even at that first moment, I felt you were not a woman. You are a robot and I could somehow tell. And because of my feeling, all the events that followed had meaning for me—particularly your absence from the dinner."

Bliss said, "Do you think I cannot eat, Trev? Have you forgotten I nibbled a shrimp dish on your ship? I assure you that I am able to eat and perform any of the other biological functions. —Including, before you ask, sex. And yet that in itself, I might as well tell you, does not prove that I am not a robot. Robots had reached the pitch of perfection, even thousands of years ago, where only by their brains were they distinguishable from human beings, and then only by those able to handle mentalic fields. Speaker Gendibal might have been able to tell whether I were robot or human, if he had bothered even once to consider me. Of course, he did not."

"Yet, though I am without mentalics, I am nevertheless convinced you are a robot"

Bliss said, "But what if I am? I admit nothing, but I am curious. What if I am?"

"You have no need to admit anything. I know you are a robot. If I needed a last bit of evidence, it was your calm assurance that you could block off Gaia and speak to me as an individual. I don't think you could do that if you were part of Gaia—but you are not. You are a robot supervisor and, therefore, outside of Gaia. I wonder, come to think of it, how many robot supervisors Gaia requires and possesses?"

"I repeat: I admit nothing, but I am curious. What if I am a robot?"

"In that case, what I want to know is: What do you want of Janov Pelorat? He is my friend and he is, in some ways, a child. He thinks he loves you; he thinks he wants only what you are willing to give and that you have already given him enough. He doesn't know—and cannot conceive—the pain of the loss of love or, for that matter, the peculiar pain of knowing that you are not human—"

"Do you know the pain of lost love?"

"I have had my moments. I have not led the sheltered life of Janov. I have not had my life consumed and anesthetized by an intellectual pursuit that swallowed up everything else, even wife and child. He has. Now suddenly, he gives it all up for you. I do not want him hurt. I will not have him hurt. If I have served Gaia, I deserve a reward—and my reward is your assurance that Janov Pelorat's well-being will be preserved."

"Shall I pretend I am a robot and answer you?"

Trevize said, "Yes. And right now."

"Very well, then. Suppose I am a robot, Trev, and suppose I am in a position of supervision. Suppose there are a few, a very few, who have a similar role to myself and suppose we rarely meet. Suppose that our driving force is the need to care for human beings and suppose there are no true human beings on Gaia, because all are part of an overall planetary being.

"Suppose that it fulfills us to care for Gaia—but not entirely. Suppose there is something primitive in us that longs for a human being in the sense that existed when robots were first formed and designed. Don't mistake me; I do not claim to be age-old (assuming I am a robot). I am as old as I told you I was or, at least, (assuming I am a robot) that has been the term of my existence. Still, (assuming I am a robot) my fundamental design would be as it always was and I would long to care for a true human being.

"Pel is a human being. He is not part of Gaia. He is too old to ever become a true part of Gaia. He wants to stay on Gaia with me, for he does not have the feelings about me that you have. He does not think that I am a robot. Well, I want him, too. If you assume that I am a robot, you see that I would. I am capable of all human reactions and I would love him. If you were to insist I was a robot, you might not consider me capable of love in some mystic human sense, but you would not be able to distinguish my reactions from that which you would call love—so what difference would it make?"

She stopped and looked at him—intransigently proud. Trevize said, "You are telling me that you would not abandon him?"

"If you assume that I am a robot, then you can see for yourself that by First Law I could never abandon him, unless he ordered me to do so and I were, in addition,

convinced that he meant it and that I would be hurting him more by staying than by leaving."

"Would not a younger man—"

"What younger man? You are a younger man, but I do not conceive you as needing me in the same sense that Pel does, and, in fact, you do not want me, so that the First Law would prevent me from attempting to cling to you."

"Not me. Another younger man—"

"There is no other. Who is there on Gaia other than Pel and yourself that would qualify as human beings in the non-Gaian sense?"

Trevize said, more softly, "And if you are not a robot?"

"Make up your mind," said Bliss.

"I say, if you are not a robot?"

"Then I say that, in that case, you have no right to say anything at all. It is for myself and for Pel to decide."

Trev said, "Then I return to my first point. I want my reward and that reward is that you will treat him well. I won't press the point of your identity. Simply assure me, as one intelligence to another, that you will treat him well."

And Bliss said softly, "I will treat him well—not as a reward to you, but because I wish to. It is my earnest desire. I will treat him well." She called "Pel!" And again, "Pel!"

Pelorat entered from outside, "Yes, Bliss."

Bliss held out her hand to him. "I think Trev wants to say something."

Pelorat took her hand and Trevize then took the doubled hand in his two. "Janov," he said, "I am happy for both of you."

Pelorat said, "Oh, my dear fellow."

Trevize said, "I will probably be leaving Gaia. I go now to speak to Dom about that. I don't know when or if we will meet again, Janov, but, in any case, we did well together."

"We did well," said Pelorat, smiling.

"Good-bye, Bliss, and, in advance, thank you."

"Good-bye, Trev."

And Trevize, with a wave of his hand, left the house.

Dom said, "You did well, Trev. —But then, you did as I thought you would."

They were once more sitting over a meal, as unsatisfactory as the first had been, but Trevize did not mind. He might not be eating on Gaia again.

He said, "I did as I thought you would, but not, perhaps, for the reason you thought I would."

"Surely you were sure of the correctness of your decision."

"Yes, I was, but not because of any mystic grip I have on certainty. If I chose Galaxia, it was through ordinary reasoning—the sort of reasoning that anyone else might have used to come to a decision. Would you care to have me explain?"

"I most certainly would, Trev."

Trevize said, "There were three things I might have done. I might have joined the First Foundation, or joined the Second Foundation, or joined Gaia.

"If I had joined the First Foundation, Mayor Branno would have taken immediate action to establish domination over the Second Foundation and over Gaia. If I had joined the Second Foundation, Speaker Gendibal would have taken immediate action to establish domination over the First Foundation and over Gaia. In either case, what would have taken place would have been irreversible—and if either were the wrong solution, it would have been irreversibly catastrophic.

"If I joined with Gaia, however, then the First Foundation and the Second Foundation would each have been left with the conviction of having won a relatively minor victory. All would then have continued as before, since the building of Galaxia, I had already been told, would take generations, even centuries.

"Joining with Gaia was my way of temporizing, then, and of making sure that there would remain time to modify matters—or even reverse them—if my decision were wrong."

Dom raised his eyebrows. His old, almost cadaverous face remained otherwise expressionless. He said in his piping voice, "And is it your opinion that your decision may turn out wrong?"

Trevize shrugged. "I don't think so, but there is one thing I must do in order that I might know. It is my intention to visit Earth, if I can find that world."

"We will certainly not stop you if you wish to leave us, Trev—"

"I do not fit on your world."

"No more than Pel does, yet you are as welcome to remain as he is. Still, we will not hold you. —But tell me, why do you wish to visit Earth?"

Trevize said, "I rather think you understand."

"I do not."

"There is a piece of information you withheld from me, Dom. Perhaps you had your reasons, but I wish you had not."

Dom said, "I do not follow you."

"Look, Dom, in order to make my decision, I used my computer and for a brief moment I found myself in touch with the minds of those about me—Mayor Branno, Speaker Gendibal, Novi. I caught glimpses of a number of matters that, in isolation, meant little to me, as, for example, the various effects Gaia, through Novi, had produced on Trantor—effects that were intended to maneuver the Speaker into going to Gaia."

"Yes?"

"And one of those things was the clearing from Trantor's library of all references to Earth."

"The clearing of references to Earth?"

"Exactly. So Earth must be important—and not only does it appear that the Second Foundation must know nothing about it, but that I must not, either. And if I am to take the responsibility for the direction of Galactic development, I do not willingly accept

ignorance. Would you consider telling me why it was so important to keep knowledge of Earth hidden?"

Dom said solemnly, "Trev, Gaia knows nothing about such clearance. Nothing!"

"Are you telling me that Gaia is not responsible?"

"It is not responsible."

Trevize thought for a while, the tip of his tongue moving slowly and meditatively over his lips. "Who was responsible, then?"

"I don't know. I can see no purpose in it."

The two men stared at each other and then Dom said, "You are right. We had seemed to have reached a most satisfactory conclusion, but while this point remains unsettled, we dare not rest. —Stay a while with us and let us see what we can reason out. Then you can leave, with our full help."

"Thank you," said Trevize.

THE END

(for now)

AFTERWORD BY THE AUTHOR

This BOOK WHILE SELF-CONTAINED, IS A CONTINUATION OF The Foundation Trilogy, which is made up of three books: Foundation, Foundation and Empire, and Second Foundation.

In addition, there are other books I have written which, while not dealing with the Foundations directly, are set in what we might call "the Foundation universe. "

Thus, the events in The Stars, Like Dust and The Currents of Space take place in the years when Trantor was expanding toward Empire, while the events in Pebble in the Sky take place when the First Galactic Empire was at the height of its power. In Pebble, Earth is central and some of the material in it is alluded to tangentially in this new book.

In none of the earlier books of the Foundation universe were robots mentioned. In this new book, however, there are references to robots. In this connection, you may wish to read my robot stories. The short stories are to be found in The Complete Robot, while the two novels, The Caves of Steel and The Naked Sun, describe the robotic period of the colonization of the Galaxy.

If you wish an account of the Eternals and the way in which they adjusted human history, you will find it (not entirely consistent with the references in this new book) in The End of Eternity.

All the books mentioned existed as Doubleday hardcovers, to begin with. The Foundation Trilogy and The Complete Robot are still in print in hardcover. Of the others, Pebble in the Sky and The End of Eternity are included in the omnibus volume The Far Ends of Time and Earth, while The Stars, Like Dust and The Currents of Space are in the omnibus volume Prisoners of the Stars. Both omnibus volumes are in print in hardcover. As for The Caves of Steel and The Naked Sun, they are included in the omnibus volume The Robot Novels, still available from the Science Fiction Book Club. And all are in print in softcover editions, of course.

FOUNDATION AND EARTH

1983

THE STORY BEHIND THE FOUNDATION

ON August 1, 1941, when I was a lad of twenty-one, I was a graduate student in chemistry at Columbia University and had been writing science fiction professionally for three years. I was hastening to see John Campbell, editor of *Astounding*, to whom I had sold five stories by then. I was anxious to tell him a new idea I had for a science fiction story.

It was to write a historical novel of the future; to tell the story of the fall of the Galactic Empire. My enthusiasm must have been catching, for Campbell grew as excited as I was. He didn't want me to write a single story. He wanted a series of stories, in which the full history of the thousand years of turmoil between the fall of the First Galactic Empire and the rise of the Second Galactic Empire was to be outlined. It would all be illuminated by the science of "psychohistory" that Campbell and I thrashed out between us.

The first story appeared in the May 1942 *Astounding* and the second story appeared in the June 1942 issue. They were at once popular and Campbell saw to it that I wrote six more stories before the end of the decade. The stories grew longer, too. The first one was only twelve thousand words long. Two of the last three stories were fifty thousand words apiece.

By the time the decade was over, I had grown tired of the series, dropped it, and went on to other things. By then, however, various publishing houses were beginning to put out hardcover science fiction books. One such house was a small semiprofessional firm, Gnome Press. They published my Foundation series in three volumes: *Foundation* (1951); *Foundation and Empire* (1952); and *Second Foundation* (1953). The three books together came to be known as *The Foundation Trilogy*.

The books did not do very well, for Gnome Press did not have the capital with which to advertise and promote them. I got neither statements nor royalties from them.

In early 1961, my then-editor at Doubleday, Timothy Seldes, told me he had received a request from a foreign publisher to reprint the Foundation books. Since they were not Doubleday books, he passed the request on to me.

I shrugged my shoulders. "Not interested, Tim. I don't get royalties on those books."

Seldes was horrified, and instantly set about getting the rights to the books from Gnome Press (which was, by that time, moribund) and in August of that year, the books (along with *I, Robot*) became Doubleday property.

From that moment on, the Foundation series took off and began to earn increasing royalties. Doubleday published the Trilogy in a single volume and distributed them through the Science Fiction Book Club. Because of that the Foundation series became enormously well-known.

In the 1966 World Science Fiction Convention, held in Cleveland, the fans were asked to vote on a category of "The Best All-Time Series." It was the first time (and, so far, the last) the category had been included in the nominations for the Hugo Award. The Foundation Trilogy won the award, which further added to the popularity of the series.

Increasingly, fans kept asking me to continue the series. I was polite but I kept refusing. Still, it fascinated me that people who had not yet been born when the series was begun had managed to become caught up in it.

Doubleday, however, took the demands far more seriously than I did. They had humored me for twenty years but as the demands kept growing in intensity and number, they finally lost patience. In 1981, they told me that I simply had to write another Foundation novel and, in order to sugar-coat the demand, offered me a contract at ten times my usual advance.

Nervously, I agreed. It had been thirty-two years since I had written a Foundation story and now I was instructed to write one 140,000 words long, twice that of any of the earlier volumes and nearly three times as long as any previous individual story. I re-read The Foundation Trilogy and, taking a deep breath, dived into the task.

The fourth book of the series, Foundation's Edge, was published in October 1982, and then a very strange thing happened. It appeared in the New York Times bestseller list at once. In fact, it stayed on that list for twenty-five weeks, much to my utter astonishment. Nothing like that had ever happened to me.

Doubleday at once signed me up to do additional novels and I wrote two that were part of another series, The Robot Novels -And then it was time to return to the Foundation.

So I wrote Foundation and Earth, which begins at the very moment that Foundation's. Edge ends, and that is the book you now hold. It might help if you glanced over Foundation's Edge just to refresh your memory, but you don't have to. Foundation and Earth stands by itself. I hope you enjoy it.

-ISAAC ASIMOV,
New York City, 1986

PART ONE – GAIA

1. THE SEARCH BEGINS

1.

"WHY DID I do it?" asked Golan Trevize.

It wasn't a new question. Since he had arrived at Gaia, he had asked it of himself frequently. He would wake up from a sound sleep in the pleasant coolness of the night and find the question sounding noiselessly in his mind, like a tiny drumbeat: Why did I do it? Why did I do it?

Now, though, for the first time, he managed to ask it of Dom, the ancient of Gaia.

Dom was well aware of Trevize's tension for he could sense the fabric of the Councilman's mind. He did not respond to it. Gaia must in no way ever touch Trevize's mind, and the best way of remaining immune to the temptation was to painstakingly ignore what he sensed.

"Do what, Trev?" he asked. He found it difficult to use more than one syllable in addressing a person, and it didn't matter. Trevize was growing somewhat used to that.

"The decision I made," said Trevize. "Choosing Gaia as the future."

"You were right to do so," said Dom, seated, his aged deep-set eyes looking earnestly up at the man of the Foundation, who was standing.

"You say I am right," said Trevize impatiently.

"I/we/Gaia know you are. That's your worth to us. You have the capacity for making the right decision on incomplete data, and you have made the decision. You chose Gaia! You rejected the anarchy of a Galactic Empire built on the technology of the First Foundation, as well as the anarchy of a Galactic Empire built on the mentalics of the Second Foundation. You decided that neither could be long stable. So you chose Gaia."

"Yes," said Trevize. "Exactly! I chose Gaia, a superorganism; a whole planet with a mind and personality in common, so that one has to say 'I/we/ Gaia' as an invented pronoun to express the inexpressible." He paced the floor restlessly. "And it will become eventually Galaxia, a super-superorganism embracing all the swarm of the Milky Way."

He stopped, turned almost savagely on Dom, and said, "I feel I'm right, as you feel it, but you want the coming of Galaxia, and so are satisfied with the Id on. There's something in me, however, that doesn't want it, and for that reason I'm not satisfied to accept the rightness so easily. I want to know why I Made the decision, I want to weigh and judge the rightness and be satisfied with it. Merely feeling right isn't enough. How can I know I am right? What b the device that makes me right?"

"I/we/Gaia do not know how it is that you come to the right decision. Is it important to know that as long as we have the decision?"

"You speak for the whole planet, do you? For the common consciousness of every dewdrop, of every pebble, of even the liquid central core of the planet?"

"I do, and so can any portion of the planet in which the intensity of the common consciousness is great enough."

"And is all this common consciousness satisfied to use me as a black box? Since the black box works, is it unimportant to know what is inside? -That doesn't suit me. I don't enjoy being a black box. I want to know what's inside. I want to know how and why I chose Gaia and Galaxia as the future, so that I can rest and be at peace."

"But why do you dislike or distrust your decision so?"

Trevize drew a deep breath and said slowly, in a low and forceful voice, "Because I don't want to be part of a superorganism. I don't want to be a dispensable part to be done away with whenever the superorganism judges that doing away would be for the good of the whole."

Dom looked at Trevize thoughtfully. "Do you want to change your decision, then, Trev? You can, you know."

"I long to change the decision, but I can't do that merely because I dislike it. To do something now, I have to know whether the decision is wrong or right. It's not enough merely to feel it's right."

"If you feel you are right, you are right." Always that slow, gentle voice that somehow made Trevize feel wilder by its very contrast with his own inner turmoil.

Then Trevize said, in half a whisper, breaking out of the insoluble oscillation between feeling and knowing, "I must find Earth."

"Because it has something to do with this passionate need of yours to know?"

"Because it is another problem that troubles me unbearably and because I feel there is a connection between the two. Am I not a black box? I feel there is a connection. Isn't that enough to make you accept it as a fact?"

"Perhaps," said Dom, with equanimity.

"Granted it is now thousands of years-twenty thousand perhaps-since the people of the Galaxy have concerned themselves with Earth, how is it possible that we have all forgotten our planet of origin?"

"Twenty thousand years is a longer time than you realize. There are many aspects of the early Empire we know little of; many legends that are almost surely fictitious but that we keep repeating, and even believing, because of lack of anything to substitute. And Earth is older than the Empire."

"But surely there are some records. My good friend, Pelorat, collects myths and legends of early Earth; anything he can scrape up from any source. It is his profession and, more important, his hobby. Those myths and legends are all there are. There are no actual records, no documents."

"Documents twenty thousand years old? Things decay, perish, are destroyed through inefficiency or war."

"But there should be records of the records; copies, copies of the copies, and copies of the copies of the copies; useful material much younger than twenty millennia. They have been removed. The Galactic Library at Trantor must have had documents concerning Earth. Those documents are referred to in known historical records, but the

documents no longer exist in the Galactic Library. The references to them may exist, but any quotations from them do not exist."

"Remember that Trantor was sacked a few centuries ago,"

"The Library was left untouched. It was protected by the personnel of the Second Foundation. And it was those personnel who recently discovered that material related to Earth no longer exists. The material was deliberately removed in recent times. Why?"

Trevize ceased his pacing and looked intently at Dom. "If I find Earth, I will find out what it is hiding-"

"Hiding?"

"Hiding or being hidden. Once I find that out, I have the feeling I will know why I have chosen Gaia and Galaxia over our individuality. Then, I presume, I will know, not feel, that I am correct, and if I am correct"-he lifted his shoulders hopelessly-"then so be it."

"If you feel that is so," said Dom, "and if you feel you must hunt for Earth, then, of course, we will help you do as much as we can. That help, however, is limited. For instance, I/we/Gaia do not know where Earth may be located among the immense wilderness of worlds that make up the Galaxy."

"Even so," said Trevize, "I must search. -Even if the endless powdering of stars in the Galaxy makes the quest seem hopeless, and even if I must do it alone."

2.

TREVIZE WAS surrounded by the tameness of Gaia. The temperature, as always, was comfortable, and the air moved pleasantly, refreshing but not chilling. Clouds drifted across the sky, interrupting the sunlight now and then, and, no doubt, if the water vapor level per meter of open land surface dropped sufficiently in this place or that, there would be enough rain to restore it.

The trees grew in regular spacings, like an orchard, and did so, no doubt, all over the world. The land and sea were stocked with plant and animal life in proper numbers and in the proper variety to provide an appropriate ecological balance, and all of them, no doubt, increased and decreased in numbers in a slow sway about the recognized optimum. -As did the number of human beings, too.

Of all the objects within the purview of Trevize's vision, the only wild card in the deck was his ship, the Far Star.

The ship had been cleaned and refurbished efficiently and well by a number of the human components of Gaia. It had been restocked with food and drink, its furnishings had been renewed or replaced, its mechanical workings rechecked. Trevize himself had checked the ship's computer carefully.

Nor did the ship need refueling, for it was one of the few gravitic ships of the Foundation, running on the energy of the general gravitational field of the Galaxy, and

that was enough to supply all the possible fleets of humanity for all the eons of their likely existence without measurable decrease of intensity.

Three months ago, Trevize had been a Councilman of Terminus. He had, in other words, been a member of the Legislature of the Foundation and, ex officio, a great one of the Galaxy. Was it only three months ago? It seemed it was half his thirty-two-year-old lifetime since that had been his post and his only concern had been whether the great Seldon Plan had been valid or not; whether the smooth rise of the Foundation from planetary village to Galactic greatness had been properly charted in advance, or not.

Yet in some ways, there was no change. He was still a Councilman. His status and his privileges remained unchanged, except that he didn't expect he would ever return to Terminus to claim that status and those privileges. He would no more fit into the huge chaos of the Foundation than into the small orderliness of Gaia. He was at home nowhere, an orphan everywhere.

His jaw tightened and he pushed his fingers angrily through his black hair. Before he wasted time bemoaning his fate, he must find Earth. If he survived the search, there would then be time enough to sit down and weep. He might have even better reason then.

With determined stolidity, then, he thought back-

Three months before, he and Janov Pelorat, that able, naive scholar, had left Terminus. Pelorat had been driven by his antiquarian enthusiasms to discover the site of long-lost Earth, and Trevize had gone along, using Pelorat's goal as a cover for what he thought his own real aim was. They did not find Earth, but they did find Gaia, and Trevize had then found himself forced to make his fateful decision.

Now it was he, Trevize, who had turned half-circle-about-face-and was searching for Earth.

As for Pelorat, he, too, had found something he didn't expect. He had found the black-haired, dark-eyed Bliss, the young woman who was Gaia, even as Dom was-and as the nearest grain of sand or blade of grass was. Pelorat, with the peculiar ardor of late middle age, had fallen in love with a woman less than half his years, and the young woman, oddly enough, seemed content with that.

It was odd-but Pelorat was surely happy and Trevize thought resignedly that each person must find happiness in his or her own manner. That was the point of individuality-the individuality that Trevize, by his choice, was abolishing (given time) over all the Galaxy.

The pain returned. That decision he had made, and had had to make, continued to excoriate him at every moment and was-

"Golan!"

The voice intruded on Trevize's thoughts and he looked up in the direction of the sun, blinking his eyes.

"Ah, Janov," he said heartily-the more heartily because he did not want Pelorat guessing at the sourness of his thoughts. He even managed a jovial, "You've managed to tear yourself away from Bliss, I see."

Pelorat shook his head. The gentle breeze stirred his silky white hair, and his long solemn face retained its length and solemnity in full. "Actually, old chap, it was she that suggested I see you-about-about what I want to discuss. Not that I wouldn't have wanted to see you on my own, of course, but she seems to think more quickly than I do."

Trevize smiled. "It's all right, Janov. You're here to say good-bye, I ta1i1 it.

"Well, no, not exactly. In fact, more nearly the reverse. Golan, when w1 left Terminus, you and I, I was intent on finding Earth. I've spent virtually my entire adult life at that task."

"And I will carry on, Janov. The task is mine now."

"Yes, but it's mine, also; mine, still."

"But-" Trevize lifted an arm in a vague all-inclusive gesture of the world about them.

Pelorat said, in a sudden urgent gasp, "I want to go with you."

Trevize felt astonished. "You can't mean that, Janov. You have Gala now."

"I'll come back to Gaia someday, but I cannot let you go alone."

"Certainly you can. I can take care of myself."

"No offense, Golan, but you don't know enough. It is I who know the myths and legends. I can direct you."

"And you'll leave Bliss? Come, now."

A faint pink colored Pelorat's cheeks. "I don't exactly want to do that, old chap, but she said-"

Trevize frowned. "Is it that she's trying to get rid of you, Janov. She promised me-"

"No, you don't understand. Please listen to me, Golan. You do have this uncomfortable explosive way of jumping to conclusions before you hear one out. It's your specialty, I know, and I seem to have a certain difficulty in expressing myself concisely, but-"

"Well," said Trevize gently, "suppose you tell me exactly what it is that Bliss has on her mind in just any way you please, and I promise to be very patient."

"Thank you, and as long as you're going to be patient, I think I can come out with it right away. You see, Bliss wants to come, too."

"Bliss wants to come?" said Trevize. "No, I'm exploding again. I won't explode. Tell me, Janov, why would Bliss want to come along? I'm asking it quietly."

"She didn't say. She said she wants to talk to you."

"Then why isn't she here, eh?"

Pelorat said, "I think-I say I think-that she is rather of the opinion that you are not fond of her, Golan, and she rather hesitates to approach you. I have done my best, old man, to assure her that you have nothing against her. I cannot believe anyone would think anything but highly of her. Still, she wanted me to broach the subject with you, so to speak. May I tell her that you'll be willing to see her, Golan?"

"Of course, I'll see her right now."

"And you'll be reasonable? You see, old man, she's rather intense about it. She said the matter was vital and she must go with you."

"She didn't tell you why, did she?"

"No, but if she thinks she must go, so must Gaia. "

"Which means I mustn't refuse. Is that right, Janov?"

"Yes, I think you mustn't, Golan."

3.

FOR THE FIRST time during his brief stay on Gaia, Trevize entered Bliss's house-which now sheltered Pelorat as well.

Trevize looked about briefly. On Gaia, houses tended to be simple. With the all-but-complete absence of violent weather of any kind, with the temperature mild at all times in this particular latitude, with even the tectonic plates slipping smoothly when they had to slip, there was no point in building houses designed for elaborate protection, or for maintaining a comfortable environment within an uncomfortable one. The whole planet was a house, so to speak, designed to shelter its inhabitants.

Bliss's house within that planetary house was small, the windows screened ether than glassed, the furniture sparse and gracefully utilitarian. There were holographic images on the walls; one of them of Pelorat looking rather astonished and self-conscious. Trevize's lips twitched but he tried not to let his amusement show, and he fell to adjusting his waist-sash meticulously.

Bliss watched him. She wasn't smiling in her usual fashion. Rather, she looked serious, her fine dark eyes wide, her hair tumbling to her shoulders in a gentle black wave. Only her full lips, touched with red, lent a bit of color to her face.

"Thank you for coming to see me, Trev."

"Janov was very urgent in his request, Blissenobiarella."

Bliss smiled briefly. "Well returned. If you will call me Bliss, a decent monosyllable, I will try to say your name in full, Trevize." She stumbled, almost unnoticeably, over the second syllable.

Trevize held up his right hand. "That would be a good arrangement. I recognize the Gaian habit of using one-syllable name-portions in the common interchange of thoughts, so if you should happen to call me Trev now and then I will not be offended. Still, I will be more comfortable if you try to say Trevize as often as you can-and I shall say Bliss."

Trevize studied her, as he always did when he encountered her. As an individual, she was a young woman in her early twenties. As part of Gait, however, she was thousands of years old. It made no difference in her appearance, but it made a difference in the way she spoke sometimes, and in the atmosphere that inevitably surrounded her. Did he want it this way for everyone who existed? No! Surely, no, and yet-

Bliss said, "I will get to the point. You stressed your desire to find Earth-"

"I spoke to Dom," said Trevize, determined not to give in to Gaia without a perpetual insistence on his own point of view.

"Yes, but in speaking to Dom, you spoke to Gaia and to every part of it, so that you spoke to me, for instance."

"Did you hear me as I spoke?"

"No, for I wasn't listening, but if, thereafter, I paid attention, I could remember what you said. Please accept that and let us go on. -You stressed your desire to find Earth and insisted on its importance. I do not see that importance but you have the knack of being right so I/we/Gaia must accept what you say. If the mission is crucial to your decision concerning Gaia, It is of crucial importance to Gaia, and so Gaia must go with you, if only to try to protect you."

"When you say Gaia must go with me, you mean you must go with me. Am I correct?"

"I am Gaia," said Bliss simply.

"But so is everything else on and in this planet. Why, then, you? Why not some other portion of Gaia?"

"Because Pel wishes to go with you, and if he goes with you, he would not be happy with any other portion of Gaia than myself."

Pelorat, who sat rather unobtrusively on a chair in another corner (with his back, Trevize noted, to his own image) said softly, "That's true, Golan. Bliss is my portion of Gaia."

Bliss smiled suddenly. "It seems rather exciting to be thought of in that way. It's very alien, of course."

"Well, let's see." Trevize put his hands behind his head and began to lean backward in his chair. The thin legs creaked as he did so, so that he quickly decided the chair was not sturdy enough to endure that game and brought it down to all four feet.

"Will you still be part of Gaia if you leave her?"

"I need not be. I can isolate myself, for instance, if I seem in danger of serious harm, so that harm will not necessarily spill over into Gaia, or if there is any other overriding reason for it. That, however, is a matter of emergency only. Generally, I will remain part of Gaia."

"Even if we Jump through hyperspace?"

"Even then, though that will complicate matters somewhat."

"Somehow I don't find that comforting."

"Why not?"

Trevize wrinkled his nose in the usual metaphoric response to a bad smell. "It means that anything that is said and done on my ship that you hear and see will be heard and seen by all of Gaia."

"I am Gaia so what I see, hear, and sense, Gaia will see, hear, and sense."

"Exactly. Even that wall will see, hear, and sense."

Bliss looked at the wall he pointed to and shrugged. "Yes, that wall, too. It has only an infinitesimal consciousness so that it senses and understands only infinitesimally, but I presume there are some subatomic shifts in response to what we are saying right now, for

instance, that enable it to fit into Gaia with more purposeful intent for the good of the whole."

"But what if I wish privacy? I may not want the wall to be aware of what I say or do."

Bliss looked exasperated and Pelorat broke in suddenly. "You know, Golan, I don't want to interfere, since I obviously don't know much about Gaia. Still, I've been with Bliss and I've gathered somehow some of what it's all about. -If you walk through a crowd on Terminus, you see and hear a great many things, and you may remember some of it. You might even be able to recall all of it under the proper cerebral stimulation, but mostly you don't care. You let it go. Even if you watch some emotional scene between strangers and even if you're interested; still, if it's of no great concern to you-you let it go-you forget. It must be so on Gaia, too. Even if all of Gaia knows your business intimately, that doesn't mean that Gaia necessarily cares. -Isn't that so, Bliss dear?"

"I've never thought of it that way, Pel, but there is something in what you say. Still, this privacy Trev talks about-I mean, Trevize-is nothing we value at all. In fact, I/we/Gaia find it incomprehensible. To want to be not part-to have your voice unheard-your deeds unwitnessed-your thoughts unsensed-" Bliss shook her head vigorously. "I said that we can block ourselves off in emergencies, but who would want to live that way, even for an hour?"

"I would," said Trevize. "That is why I must find Earth-to find out the overriding reason, if any, that drove me to choose this dreadful fate for humanity."

"It is not a dreadful fate, but let us not debate the matter. I will be with you, not as a spy, but as a friend and helper. Gaia will be with you not as a spy, but as a friend and helper."

Trevize said, somberly, "Gaia could help me best by directing me to Earth."

Slowly, Bliss shook her head. "Gaia doesn't know the location of Earth. Dom has already told you that."

"I don't quite believe that. After all, you must have records. Why have I never been able to see those records during my stay here? Even if Gaia honestly doesn't know where Earth might be located, I might gain some knowledge from the records. I know the Galaxy in considerable detail, undoubtedly much better than Gaia does. I might be able to understand and follow hints in your records that Gaia, perhaps, doesn't quite catch."

"But what records are these you talk of, Trevize?"

"Any records. Books, films, recordings, holographs, artifacts, whatever it is you have. In the time I've been here I haven't seen one item that I would consider in any way a record. -Have you, Janov?"

"No," said Pelorat hesitantly, "but I haven't really looked."

"Yet I have, in my quiet way," said Trevize, "and I've seen nothing. Nothing! I can only suppose they're being hidden from me. Why, I wonder? Would you tell me that?"

Bliss's smooth young forehead wrinkled into a puzzled frown. "Why didn't you ask before this? I/we/Gaia hide nothing, and we tell no lies. An Isolate - an individual in isolation-might tell lies. He is limited, and is fearful because he is limited. Gaia, however,

is a planetary organism of great mental ability and has no fear. For Gaia to tell lies, to create descriptions that are at variance with reality, is totally unnecessary."

Trevize snorted. "Then why have I carefully been kept from seeing any records? Give me a reason that makes sense."

"Of course." She held out both hands, palms up before her. "We don't have any records."

4.

PELORAT recovered first, seeming the less astonished of the two.

"My dear," he said gently, "that is quite impossible. You cannot have a reasonable civilization without records of some kind."

Bliss raised her eyebrows. "I understand that. I merely mean we have no records of the type that Trev-Trevize-is talking about, or was at all likely to come across. I/we/Gaia have no writings, no printings, no films, no computer data banks, nothing. We have no carvings on stone, for that matter. That's all I'm saying. Naturally, since we have none of these, Trevize found none of these."

Trevize said, "What do you have, then, if you don't have any records that I would recognize as records?"

Bliss said, enunciating carefully, as though she were speaking to a child. "I/we/Gaia have a memory. I remember."

"What do you remember?" asked Trevize.

"Everything."

"You remember all reference data?"

"Certainly."

"For how long? For how many years back?"

"For indefinite lengths of time."

"You could give me historical data, biographical, geographical, scientific? Even local gossip?"

"Everything."

"All in that little head." Trevize pointed sardonically at Bliss's right temple.

"No," she said. "Gala's memories are not limited to the contents of my particular skull. See here"-for the moment she grew formal and even a little stern, as she ceased being Bliss solely and took on an amalgam of other units = "there must have been a time before the beginning of history when human beings were so primitive that, although they could remember events, they could not speak. Speech was invented and served to express memories and to transfer them from person to person. Writing was eventually invented in order to record memories and transfer them across time from generation to generation. All technological advance since then has served to make more room for the transfer and storage of memories and to make the recall of desired items easier. However, once individuals joined to form Gaia, all that became obsolete. We can return

to memory, the basic system of record-keeping on which all else is built. Do you see that?"

Trevize said, "Are you saying that the sum total of all brains on Gaia can remember far more data than a single brain can?"

"Of course."

"But if Gaia has all the records spread through the planetary memory, what good is that to you as an individual portion of Gaia?"

"All the good you can wish. Whatever I might want to know is in an individual mind somewhere, maybe in many of them. If it is very fundamental, such as the meaning of the word 'chair,' it is in every mind. But even if it is something esoteric that is in only one small portion of Gala's mind, I can call it up if I need it, though such recall may take a bit longer than if the memory is more widespread. -Look, Trevize, if you want to know something that isn't in your mind, you look at some appropriate book-film, or make use of a computer's data banks. I scan Gala's total mind."

Trevize said, "How do you keep all that information from pouring into your mind and bursting your cranium?"

"Are you indulging in sarcasm, Trevize?"

Pelorat said, "Come, Golan, don't be unpleasant."

Trevize looked from one to the other and, with a visible effort, allowed tightness about his face to relax. "I'm sorry. I'm borne down by a responsibility I don't want and don't know how to get rid of. That may make me sound unpleasant when I don't intend to be. Bliss, I really wish to know. How do you draw upon the contents of the brains of others without then storing it in your own brain and quickly overloading its capacity?"

Bliss said, "I don't know, Trevize; any more than you know the detailed workings of your single brain. I presume you know the distance from your sun to a neighboring star, but you are not always conscious of it. You store it somewhere and can retrieve the figure at any time if asked. If not asked, you may with time forget it, but you can then always retrieve it from some data bank. If you consider Gala's brain a vast data bank, it is one I can call on, but there is no need for me to remember consciously any particular item I have made use of. Once I have made use of a fact or memory, I can allow it to pass out of memory. For that matter, I can deliberately put it back, so to speak, in the place I got it from."

"How many people on Gaia, Bliss? How many human beings?"

"About a billion. Do you want the exact figure as of now?"

Trevize smiled ruefully. "I quite see you can call up the exact figure if you wish, but I'll take the approximation."

"Actually," said Bliss, "the population is stable and oscillates about a particular number that is slightly in excess of a billion. I can tell by how much the number exceeds or falls short of the mean by extending my consciousness and well-feeling the boundaries. I can't explain it better than that to someone who has never shared the experience."

"it seems to me, however, that a billion human minds-a number of them being those of children-are surely not enough to hold in memory all the data needed by a complex society."

"But human beings are not the only living things on Gaia, Trev."

"Do you mean that animals remember, too?"

"Nonhuman brains can't store memories with the same density human brains can, and much of the room in all brains, human and nonhuman alike, must be given over to personal memories which are scarcely useful except to the particular component of the planetary consciousness that harbors them. However, significant quantities of advanced data can be, and are, stored in animal brains, also in plant tissue, and in the mineral structure of the planet."

"In the mineral structure? The rocks and mountain range, you mean?"

"And, for some kinds of data, the ocean and atmosphere. All that is Gaia, too."

"But what can nonliving systems hold?"

"A great deal. The intensity is low but the volume is so great that a large majority of Gaia's total memory is in its rocks. It takes a little longer to retrieve and replace rock memories so that it is the preferred place for storing dead data, so to speak-items that, in the normal course of events, would rarely be called upon."

"What happens when someone dies whose brain stores data of considerable value?"

"The data is not lost. It is slowly crowded out as the brain disorganizes after death, but there is ample time to distribute the memories into other parts of Gaia. And as new brains appear in babies and become more organized with growth, they not only develop their personal memories and thoughts but are fed appropriate knowledge from other sources. What you would call education is entirely automatic with me/us/Gaia."

Pelorat said, "Frankly, Golan, it seems to me that this notion of a living world has a great deal to be said for it."

Trevize gave his fellow-Founder a brief, sidelong glance. "I'm sure of that, Janov, but I'm not impressed. The planet, however big and however diverse, represents one brain. One! Every new brain that arises is melted into the whole. Where's the opportunity for opposition, for disagreement? When you think of human history, you think of the occasional human being whose minority view may be condemned by society but who wins out in the end and changes the world. What chance is there on Gaia for the great rebels of history?"

"There is internal conflict," said Bliss. "Not every aspect of Gaia necessarily accepts the common view."

"It must be limited," said Trevize. "You cannot have too much turmoil within a single organism, or it would not work properly. If progress and development are not stopped altogether, they must certainly be slowed. Can we take the chance of inflicting that on the entire Galaxy? On all of humanity?"

Bliss said, without open emotion, "Are you now questioning your own decision? Are you changing your mind and are you now saying that Gaia is an undesirable future for humanity?"

Trevize tightened his lips and hesitated. Then, he said, slowly, "I would like to, but not yet. I made my decision on some basis--some unconscious basis--and until I find out what that basis was, I cannot truly decide whether I am to maintain or change my decision. Let us therefore return to the matter of Earth."

"Where you feel you will learn the nature of the basis on which you made your decision. Is that it, Trevize?"

"That is the feeling I have. -Now Dom says Gaia does not know the location of Earth. And you agree with him, I believe."

"Of course I agree with him. I am no less Gaia than he is."

"And do you withhold knowledge from me? Consciously, I mean?"

"Of course not. Even if it were possible for Gaia to lie, it would not lie to you. Above all, we depend upon your conclusions, and we need them to be accurate, and that requires that they be based on reality."

"In that case," said Trevize, "let's make use of your world-memory. Probe backward and tell me how far you can remember."

There was a small hesitation. Bliss looked blankly at Trevize, as though, for a moment, she was in a trance. Then she said, "Fifteen thousand years."

"Why did you hesitate?"

"It took time. Old memories--really old--are almost all in the mountain roots where it takes time to dig them out."

"Fifteen thousand years ago, then? Is that when Gaia was settled?"

"No, to the best of our knowledge that took place some three thousand years before that."

"Why are you uncertain? Don't you--or Gaia--remember?"

Bliss said, "That was before Gaia had developed to the point where memory became a global phenomenon."

"Yet before you could rely on your collective memory, Gaia must have kept records, Bliss. Records in the usual sense--recorded, written, filmed, and so on."

"I imagine so, but they could scarcely endure all this time."

"They could have been copied or, better yet, transferred into the global memory, once that was developed."

Bliss frowned. There was another hesitation, longer this time. "I find no sign of these earlier records you speak of."

"Why is that?"

"I don't know, Trevize. I presume that they proved of no great importance. I imagine that by the time it was understood that the early nonmemory records were decaying, it was decided that they had grown archaic and were not needed."

"You don't know that. You presume and you imagine, but you don't know that. Gaia doesn't know that."

Bliss's eyes fell. "It must be so."

"Must be? I am not a part of Gaia and therefore I need not presume what Gaia presumes—which gives you an example of the importance of isolation. I, as an Isolate, presume something else."

"What do you presume?"

"First, there is something I am sure of. A civilization in being is not likely to destroy its early records. Far from judging them to be archaic and unnecessary, they are likely to treat them with exaggerated reverence and would labor to preserve them. If Gaia's preglobal records were destroyed, Bliss, that destruction is not likely to have been voluntary."

"How would you explain it, then?"

"In the Library at Trantor, all references to Earth were removed by someone or some force other than that of the Trantorian Second Foundationers themselves. Isn't it possible, then, that on Gaia, too, all references to Earth were removed by something other than Gaia itself?"

"How do you know the early records involved Earth?"

"According to you, Gaia was founded at least eighteen thousand years ago. That brings us back to the period before the establishment of the Galactic Empire, to the period when the Galaxy was being settled and the prime source of Settlers was Earth. Pelorat will confirm that."

Pelorat, caught a little by surprise by suddenly being called on, cleared his throat. "So go the legends, my dear. I take those legends seriously and I think, as Golan Trevize does, that the human species was originally confined to a single planet and that planet was Earth. The earliest Settlers came from Earth."

"If, then," said Trevize, "Gaia was founded in the early days of hyperspatial travel, then it is very likely to have been colonized by Earthmen, or possibly by natives of a not very old world that had not long before been colonized by Earthmen. For that reason, the records of Gaia's settlement and of the first few millennia thereafter must clearly have involved Earth and Earthmen and those records are gone. Something seems to be seeing to it that Earth is not mentioned anywhere in the records of the Galaxy. And if so, there must be some reason for it."

Bliss said indignantly, "This is conjecture, Trevize. You have no evidence for this."

"But it is Gaia that insists that my special talent is that of coming to correct conclusions on the basis of insufficient evidence. If, then, I come to a firm conclusion, don't tell me I lack evidence."

Bliss was silent.

Trevize went on, "All the more reason then for finding Earth. I intend to leave as soon as the Far Star is ready. Do you two still want to come?"

"Yes," said Bliss at once, and "Yes," said Pelorat.

2. TOWARD COMPORELLON

5.

IT WAS RAINING lightly. Trevize looked up at the sky, which was a solid grayish white.

He was wearing a rain hat that repelled the drops and sent them flying well away from his body in all directions. Pelorat, standing out of range of the flying drops, had no such protection.

Trevize said, "I don't see the point of your letting yourself get wet, Janov."

"The wet doesn't bother me, my dear chap," said Pelorat, looking as solemn as he always did. "It's a light and warm rain. There's no wind to speak of. And besides, to quote the old saying: 'In Anacreon, do as the Anacreonians do.'" He indicated the few Gaians standing near the Far Star, watching quietly. They were well scattered, as though they were trees in a Gaian grove, and none wore rain hats.

"I suppose," said Trevize, "they don't mind being wet, because all the rest of Gaia is getting wet. The trees-the grass-the soil-all wet, and all equally part of Gaia, along with the Gaians."

"I think it makes sense," said Pelorat. "The sun will come out soon enough and everything will dry quickly. The clothing won't wrinkle or shrink, there's no chilling effect, and, since there aren't any unnecessary pathogenic microorganisms, no one will get colds, or flu, or pneumonia. Why worry about a bit of damp then?"

Trevize had no trouble in seeing the logic of that, but he hated to let go of his grievance. He said, "Still, there is no need for it to rain as we are leaving. After all, the rain is voluntary. Gaia wouldn't rain if it didn't want to. It's almost as though it were showing its contempt for us."

"Perhaps"-and Pelorat's lip twitched a bit "Gaia is weeping with sorrow at our leaving."

Trevize said, "That may be, but I'm not."

"Actually," Pelorat went on, "I presume that the soil in this region needs a wetting down, and that need is more important than your desire to have the sun shine."

Trevize smiled. "I suspect you really like this world, don't you? Even aside from Bliss, I mean."

"Yes, I do," said Pelorat, a trace defensively. "I've always led a quiet, orderly life, and think how I could manage here, with a whole world laboring to keep it quiet and orderly. -After all, Golan, when we build a house-or that ship-we try to create a perfect shelter. We equip it with everything we need; we arrange to have its temperature, air quality, illumination, and everything else of importance, controlled by us and manipulated in a way to make it perfectly accommodating to us. Gaia is just an extension of the desire for comfort and security extended to an entire planet. What's wrong with that?"

"What's wrong with that," said Trevize, "is that my house or my ship is engineered to suit me. I am not engineered to suit it. If I were part of Gaia, then no matter how ideally the planet was devised to suit me, I would be greatly disturbed over the fact that I was also being devised to suit it."

Pelorat pursed his lips. "One could argue that every society molds its population to fit itself. Customs develop that make sense within the society, and that chain every individual firmly to its needs."

"In the societies I know, one can revolt. There are eccentrics, even criminals."

"Do you want eccentrics and criminals?"

"Why not? You and I are eccentrics. We're certainly not typical of the people living on Terminus. As for criminals, that's a matter of definition. And if criminals are the price we must pay for rebels, heretics, and geniuses, I'm willing to pay it. I demand the price be paid."

"Are criminals the only possible payment? Can't you have genius without criminals?"

"You can't have geniuses and saints without having people far outside the norm, and I don't see how you can have such things on only one side of the norm. There is bound to be a certain symmetry. -In any case, I want a better reason for my decision to make Gaia the model for the future of humanity than that it is a planetary version of a comfortable house."

"Oh, my dear fellow. I wasn't trying to argue you into being satisfied with your decision. I was just making an observa-

He broke off. Bliss was striding toward them, her dark hair wet and her robe clinging to her body and emphasizing the rather generous width of her hips. She was nodding to them as she came.

"I'm sorry I delayed you," she said, panting a little. "It took longer to check with Dom than I had anticipated."

"Surely," said Trevize, "you know everything he knows."

"Sometimes it's a matter of a difference in interpretation. We are not identical, after all, so we discuss. Look here," she said, with a touch of asperity, "you have two hands. They are each part of you, and they seem identical except for one being the mirror-image of the other. Yet you do not use them entirely alike, do you? There are some things you do with your right hand most of the time, and some with your left. Differences in interpretation, so to speak."

"She's got you," said Pelorat, with obvious satisfaction.

Trevize nodded. "It's an effective analogy, if it were relevant, and I'm not at all sure it is. In any case, does this mean we can board the ship now? It is raining."

"Yes, yes. Our people are all off it, and it's in perfect shape." Then, with a sudden curious look at Trevize, "You're keeping dry. The raindrops are missing you."

"Yes, indeed," said Trevize. "I am avoiding wetness."

"But doesn't it feel good to be wet now and then?"

"Absolutely. But at my choice, not the rain's."

Bliss shrugged. "Well, as you please. All our baggage is loaded so let's board."

The three walked toward the Far Star. The rain was growing still lighter, but the grass was quite wet. Trevize found himself walking gingerly, but Bliss had kicked off her slippers, which she was now carrying in one hand, and was slogging through the grass barefoot.

"It feels delightful," she said, in response to Trevize's downward glance.

"Good," he said absently. Then, with a touch of irritation, "Why are those other Gaians standing about, anyway?"

Bliss said, "They're recording this event, which Gaia finds momentous. You are important to us, Trevize. Consider that if you should change your mind as a result of this trip and decide against us, we would never grow into Galaxia, or even remain as Gaia."

"Then I represent life and death for Gaia; for the whole world."

"We believe so."

Trevize stopped suddenly, and took off his rain hat. Blue patches were appearing in the sky. He said, "But you have my vote in your favor now. If you kill me, I'll never be able to change it."

"Golan," murmured Pelorat, shocked. "That is a terrible thing to say."

"Typical of an Isolate," said Bliss calmly. "You must understand, Trevize, that we are not interested in you as a person, or even in your vote, but in the truth, in the facts of the matter. You are only important as a conduit to the truth, and your vote as an indication of the truth. That is what we want from you, and if we kill you to avoid a change in your vote, we would merely be hiding the truth from ourselves."

"If I tell you the truth is non-Gaia, will you all then cheerfully agree to die?"

"Not entirely cheerfully, perhaps, but it's what it would amount to in the end."

Trevize shook his head. "If anything ought to convince me that Gaia is a horror and should die, it might be that very statement you've just made." Then he said, his eyes returning to the patiently watching (and, presumably, listening) Gaians, "Why are they spread out like that? And why do you need so many? If one of them observes this event and stores it in his or her memory, isn't it available to all the rest of the planet? Can't it be stored in a million different places if you want it to be?"

Bliss said, "They are observing this each from a different angle, and each is storing it in a slightly different brain. When all the observations are studied, it will be seen that what is taking place will be far better understood from all the observations together than from any one of them, taken singly."

"The whole is greater than the sum of the parts, in other words."

"Exactly. You have grasped the basic justification of Gaia's existence. You, as a human individual, are composed of perhaps fifty trillion cells, but you, as a multicellular individual, are far more important than those fifty trillion as the sum of their individual importance. Surely you would agree with that."

"Yes," said Trevize. "I agree with that."

He stepped into the ship, and turned briefly for one more look at Gaia. The brief rain had lent a new freshness to the atmosphere. He saw a green, lush, quiet, peaceful world; a garden of serenity set amid the turbulence of the weary Galaxy.

-And Trevize earnestly hoped he would never see it again.

6.

WHEN THE airlock closed behind them, Trevize felt as though he had shut out not exactly a nightmare, but something so seriously abnormal that it had prevented him from breathing freely.

He was fully aware that an element of that abnormality was still with him in the person of Bliss. While she was there, Gaia was there-and yet he was also convinced that her presence was essential. It was the black box working again, and earnestly he hoped he would never begin believing in that black box too much.

He looked about the vessel and found it beautiful. It had been his only since Mayor Harla Branno of the Foundation had forced him into it and sent him out among the stars-a living lightning rod designed to draw the fire of those she considered enemies of the Foundation. That task was done but the ship was still his, and he had no plans to return it.

It had been his for merely a matter of a few months, but it seemed like home to him and he could only dimly remember what had once been his home in Terminus.

Terminus! The off-center hub of the Foundation, destined, by Seldon's Plan, to form a second and greater Empire in the course of the next five centuries, except that he, Trevize, had now derailed it. By his own decision he was converting the Foundation to nothing, and was making possible instead, a new society, a new scheme of life, a frightening revolution that would be greater than any since the development of multicellular life.

Now he was engaged in a journey designed to prove to himself (or to disprove) that what he had done was right.

He found himself lost in thought and motionless, so that he shook himself in self-irritation. He hastened to the pilot-room and found his computer still there.

It glistened; everything glistened. There had been a most careful cleaning. The contacts he closed, nearly at random, worked perfectly, and, it surely seemed, with greater ease than ever. The ventilating system was so noiseless that he had to put his hand over the vents to make sure he felt air currents.

The circle of light on the computer glowed invitingly. Trevize touched it and the light spread out to cover the desk top and the outline of a right and left hand appeared on it. He drew a deep breath and realized that he had stopped breathing for a while. The Gaians knew nothing about Foundation technology and they might easily have damaged the computer without meaning any malice. Thus far they had not-the hands were still there.

The crucial test came with the laying on of his own hands, however, and, for a moment, he hesitated. He would know, almost at once, if anything were wrong-but if something was, what could he do? For repairs, he would have to go back to Terminus, and if he did, he felt quite confident that Mayor Branno would not let him leave again. And if he did not-

He could feel his heart pounding, and there was clearly no point in deliberately lengthening the suspense.

He thrust his hands out, right, left, and placed them on the outlines upon the desk. At once, he had the illusion of another pair of hands holding his. His senses extended, and he could see Gaia in all directions, green and moist, the Gaians still watching. When he willed himself to look upward, he saw a largely cloudy sky. Again, at his will, the clouds vanished and he looked at an unbroken blue sky with the orb of Gaia's sun filtered out.

Again he willed and the blue parted and he saw the stars.

He wiped them out, and willed and saw the Galaxy, like a foreshortened pinwheel. He tested the computerized image, adjusting its orientation, altering the apparent progress of time, making it spin first in one direction, then the other. He located the sun of Sayshell, the nearest important star to Gaia; then the sun of Terminus; then of Trantor; one after the other. He traveled from star to star in the Galactic map that dwelt in the bowels of the computer.

Then he withdrew his hands and let the world of reality surround him again-and realized he had been standing all this time, half-bowing over the computer to make the hand contact. He felt stiff and had to stretch his back muscles before sitting down.

He stared at the computer with warm relief. It had worked perfectly. It had been, if anything, more responsive, and what he felt for it he could only describe as love. After all, while he held its hands (he resolutely refused to admit to himself that he thought of it as her hands) they were part of each other, and his will directed, controlled, experienced, and was part of a greater self. He and it must feel, in a small way (he suddenly, and disturbingly, thought), what Gaia did in a much larger way.

He shook his head. No! In the case of the computer and himself, it was he -Trevize- who was in entire control. The computer was a thing of total submission.

He rose and moved out to the compact galley and dining area. There was plenty of food of all kinds, with proper refrigeration and easy-heating facilities. He had already noted that the book-films in his room were in the proper order, and he was reasonably sure-no, completely sure-that Pelorat had his personal library in safe storage. He would otherwise surely have heard from him by now.

Pelorat! That reminded him. He stepped into Pelorat's room. "Is there room for Bliss here, Janov?"

"Oh yes, quite."

"I can convert the common room into her bedroom."

Bliss looked up, wide-eyed. "I have no desire for a separate bedroom. I am quite content to stay here with Pel. I suppose, though, that I may use the other rooms when needed. The gym, for instance."

"Certainly. Any room but mine."

"Good. That's what I would have suggested be the arrangement, if I had had the making of it. Naturally, you will stay out of ours."

"Naturally," said Trevize, looking down and realizing that his shoes overlapped the threshold. He took a half-step backward and said grimly, "These are not honeymoon quarters, Bliss."

"I should say, in view of its compactness, that it is exactly that even though Gaia extended it to half again as wide as it was."

Trevize tried not to smile. "You'll have to be very friendly."

"We are," said Pelorat, clearly ill at ease at the topic of conversation, "but really, old chap, you can leave it to us to make our own arrangements."

"Actually, I can't," said Trevize slowly. "I still want to make it clear that these are not honeymoon accommodations. I have no objection to anything you do by mutual consent, but you must realize that you will have no privacy. I hope you understand that, Bliss."

"There is a door," said Bliss, "and I imagine you will not disturb us who it is locked-short of a real emergency, that is."

"Of course I won't. However, there is no soundproofing."

"What you are trying to say, Trevize," said Bliss, "is that you will hear, quite clearly, any conversation we may have, and any sounds we may make in the course of sex."

"Yes, that is what I am trying to say. With that in mind, I expect you may find you will have to limit your activities here. This may discommode you, and I'm sorry, but that's the situation as it is."

Pelorat cleared his throat, and said gently, "Actually, Golan, this is a problem I've already had to face. You realize that any sensation Bliss experiences, when together with me, is experienced by all of Gaia."

"I have thought of that, Janov," said Trevize, looking as though he were repressing a wince. "I didn't intend to mention it just in case the thought had not occurred to you."

"But it did, I'm afraid," said Pelorat.

Bliss said, "Don't make too much of that, Trevize. At any given moment, there may be thousands of human beings on Gaia who are engaged in sex; millions who are eating, drinking, or engaged in other pleasure-giving activities. This gives rise to a general aura of delight that Gaia feels, every part of it. The lower animals, the plants, the minerals have their progressively milder pleasures that also contribute to a generalized joy of consciousness that Gaia feels in all its parts always, and that is unfelt in any other world."

"We have our own particular joys," said Trevize, "which we can share after a fashion, if we wish; or keep private, if we wish."

"If you could feel ours, you would know how poverty-stricken you Isolates are in that respect."

"How can you know what we feel?"

"Without knowing how you feel, it is still reasonable to suppose that a world of common pleasures must be more intense than those available to a single isolated individual."

"Perhaps, but even if my pleasures were poverty-stricken, I would keep my own joys and sorrows and be satisfied with them, thin as they are, and be me and not blood brother to the nearest rock."

"Don't sneer," said Bliss. "You value every mineral crystal in your bones and teeth and would not have one of them damaged, though they have no more consciousness than the average rock crystal of the same size."

"That's true enough," said Trevize reluctantly, "but we've managed to get off the subject. I don't care if all Gaia shares your joy, Bliss, but I don't want to share it. We're living here in close quarters and I do not wish to be forced to participate in your activities even indirectly."

Pelorat said, "This is an argument over nothing, my dear chap. I am no more anxious than you to have your privacy violated. Nor mine, for that matter. Bliss and I will be discreet; won't we, Bliss?"

"It will be as you wish, Pel."

"After all," said Pelorat, "we are quite likely to be planet-bound for considerably longer periods than we will space-borne, and on planets, the opportunities for true privacy-

"I don't care what you do on planets," interrupted Trevize, "but on this ship, I am master."

"Exactly," said Pelorat.

"Then, with that straightened out, it is time to take off."

"But wait." Pelorat reached out to tug at Trevize's sleeve. "Take off for where? You don't know where Earth is, nor do I, nor does Bliss. Nor does your computer, for you told me long ago that it lacks any information on Earth. What do you intend doing, then? You can't simply drift through space at random, my dear chap."

At that, Trevize smiled with what was almost joy. For the first time since he had fallen into the grip of Gaia, he felt master of his own fate.

"I assure you," he said, "that it is not my intention to drift, Janov. I know exactly where I am going."

7.

PELORAT walked quietly into the pilot-room after he had waited long moments while his small tap on the door had gone unanswered. He found Trevize looking with keen absorption at the starfield.

Pelorat said, "Golan-" and waited.

Trevize looked up. "Janov! Sit down. -Where's Bliss?"

"Sleeping. -We're out in space, I see."

"You see correctly." Trevize was not surprised at the other's mild surprise. In the new gravitic ships, there was simply no way of detecting takeoff. There were no inertial effects; no accelerational push; no noise; no vibration.

Possessing the capacity to insulate itself from outside gravitational fields to any degree up to total, the Far Star lifted from a planetary surface as though it were floating on some cosmic sea. And while it did so, the gravitational effect within the ship, paradoxically, remained normal.

While the ship was within the atmosphere, of course, there was no need to accelerate so that the whine and vibration of rapidly passing air would be absent. As the atmosphere was left behind, however, acceleration could take place, and at rapid rates, without affecting the passengers.

It was the ultimate in comfort and Trevize did not see how it could be improved upon until such time as human beings discovered a way of whisking through hyperspace without ships, and without concern about nearby gravitational fields that might be too intense. Right now, the Far Star would have to speed away from Gala's sun for several days before the gravitational intensity was weak enough to attempt the Jump.

"Golan, my dear fellow," said Pelorat. "May I speak with you for a moment or two? You are not too busy?"

"Not at all busy. The computer handles everything once I instruct it properly. And sometimes it seems to guess what my instructions will be, and satisfies them almost before I can articulate them." Trevize brushed the top of the desk lovingly.

Pelorat said, "We've grown very friendly, Golan, in the short time we've known each other, although I must admit that it scarcely seems a short time to me. So much has happened. It's really peculiar when I stop to think of my moderately long life, that half of all the events I have experienced were squeezed into the last few months. Or so it would seem. I could almost suppose-

Trevize held up a hand "Janov, you're spinning outward from your original point, I'm sure. You began by saying we've grown very friendly in a very short time. Yes, we have, and we still are. For that matter, you've known Bliss an even shorter time and have grown even friendlier."

"That's different, of course," said Pelorat, clearing his throat in some embarrassment.

"Of course," said Trevize, "but what follows from our brief but enduring friendship?"

"If, my dear fellow, we still are friends, as you've just said, then I must pass on to Bliss, whom, as you've also just said, is peculiarly dear to me."

"I understand. And what of that?"

"I know, Golan, that you are not fond of Bliss, but for my sake, I wish-

Trevize raised a hand. "One moment, Janov. I am not overwhelmed by Bliss, but neither is she an object of hatred to me. Actually, I have no animosity toward her at all. She's an attractive young woman and, even if she weren't, then, for your sake, I would be prepared to find her so. It's Gaia I dislike."

"But Bliss is Gaia."

"I know, Janov. That's what complicates things so. As long as I think of Bliss as a person, there's no problem. If I think of her as Gaia, there is."

"But you haven't given Gaia a chance, Golan. -Look, old chap, let me admit something. When Bliss and I are intimate, she sometimes lets me share her mind for a minute or so. Not for more than that because she says I'm too old to adapt to it. -Oh, don't grin, Golan, you would be too old for it, too. If an Isolate, such as you or I, were to remain part of Gaia for more, than a minute or two, there might be brain damage and if it's as much as five or ten minutes, it would be irreversible. -If you could only experience it, Golan."

"What? Irreversible brain damage? No, thanks."

"Golan, you're deliberately misunderstanding me. I mean, just that small moment of union. You don't know what you're missing. It's indescribable. Bliss says there's a sense of joy. That's like saying there's a sense of joy when you finally drink a bit of water after you have all but died of thirst. I couldn't even begin to tell you what it's like. You share all the pleasures that a billion people separately experience. It isn't a steady joy; if it were you would quickly stop feeling it. It vibrates-twinkles-has a strange pulsing rhythm that doesn't let you go. It's more joy-no, not more-it's a better joy than you could ever experience separately. I could weep when she shuts the door on me-"

Trevize shook his head. "You are amazingly eloquent, my good friend, but you sound very much as though you're describing pseudendorphin addiction, or that of some other drug that admits you to joy in the short term at the price of leaving you permanently in horror in the long term. Not for me! I am reluctant to sell my individuality for some brief feeling of joy."

"I still have my individuality, Golan."

"But for how long will you have it if you keep it up, Janov? You'll beg for more and more of your drug until, eventually, your brain will be damaged. Janov, you mustn't let Bliss do this to you. -Perhaps I had better speak to her about it."

"No! Don't! You're not the soul of tact, you know, and I don't want her hurt. I assure you she takes better care of me in that respect than you can imagine. She's more concerned with the possibility of brain damage than I am. You can be sure of that."

"Well, then, I'll speak to you. Janov, don't do this anymore. You've lived for fifty-two years with your own kind of pleasure and joy, and your brain is adapted to withstanding that. Don't be snapped up by a new and unusual vice. There is a price for it; if not immediately, then eventually."

"Yes, Golan," said Pelorat in a low voice, looking down at the tips of his shoes. Then he said, "Suppose you look at it this way. What if you were a one-celled creature-"

"I know what you're going to say, Janov. Forget it. Bliss and I have already referred to that analogy."

"Yes, but think a moment. Suppose we imagine single-celled organisms with a human level of consciousness and with the power of thought and imagine them faced with the possibility of becoming a multicellular organism. Would not the single-celled

organisms mourn their loss of individuality, and bitterly resent their forthcoming enforced regimentation into the personality of an overall organism? And would they not be wrong? Could an individual cell even imagine the power of the human brain?"

Trevize shook his head violently. "No, Janov, it's a false analogy. Singlecelled organisms don't have consciousness or any power of thought-or if they do it is so infinitesimal it might as well be considered zero. For such objects to combine and lose individuality is to lose something they have never really had. A human being, however, is conscious and does have the power of thought. He has an actual consciousness and an actual independent intelligence to lose, so the analogy fails."

There was silence between the two of them for a moment; an almost oppressive silence; and finally Pelorat, attempting to wrench the conversation in a new direction, said, "Why do you stare at the viewscreen?"

"Habit," said Trevize, smiling wryly. "The computer tells me that there are no Gaian ships following me and that there are no Sayshellian fleets coming to meet me. Still I look anxiously, comforted by my own failure to see such ships, when the computer's sensors are hundreds of times keener and more piercing than my eyes. What's more, the computer is capable of sensing some properties of space very delicately, properties that my senses can't perceive under any conditions. -Knowing all that, I still stare."

Pelorat said, "Golan, if we are indeed friends-

"I promise you I will do nothing to grieve Bliss; at least, nothing I can help."

"It's another matter now. You keep your destination from me, as though you don't trust me with it. Where are we going? Are you of the opinion you know where Earth is?"

Trevize looked up, eyebrows lifted. "I'm sorry. I have been hugging the secret to my own bosom, haven't I?"

"Yes, but why?"

Trevize said, "Why, indeed. I wonder, my friend, if it isn't a matter of Bliss."

"Bliss? Is it that you don't want her to know. Really, old fellow, she is completely to be trusted."

"It's not that. What's the use of not trusting her? I suspect she can tweak any secret out of my mind if she wishes to. I think I have a more childish reason than that. I have the feeling that you are paying attention only to her and that I no longer really exist."

Pelorat looked horrified. "But that's not true, Golan."

"I know, but I'm trying to analyze my own feelings. You came to me just now with fears for our friendship, and thinking about it, I feel as though I've had the same fears. I haven't openly admitted it to myself, but I think I have felt cut out by Bliss. Perhaps I seek to 'get even' by petulantly keeping things from you. Childish, I suppose."

"Golan!"

"I said it was childish, didn't I? But where is the person who isn't childish now and then? However, we are friends. We've settled that and therefore I will play no further games. We're going to Comporellon."

"Comporellon?" said Pelorat, for the moment not remembering.

"Surely you recall my friend, the traitor, Munn Li Compor. We three met on Sayshell."

Pelorat's face assumed a visible expression of enlightenment. "Of course I remember. Comporellon was the world of his ancestors."

"If it was. I don't necessarily believe anything Compor said. But Comporellon is a known world, and Compor said that its inhabitants knew of Earth. Well, then, we'll go there and find out. It may lead to nothing but it's the only starting point we have."

Pelorat cleared his throat and looked dubious. "Oh, my dear fellow, are you sure?"

"There's nothing about which to be either sure or not sure. We have one starting point and, however feeble it might be, we have no choice but to follow it up."

"Yes, but if we're doing it on the basis of what Compor told us, then perhaps we ought to consider everything he told us. I seem to remember that he told us, most emphatically, that Earth did not exist as a living planet-that its surface was radioactive and that it was utterly lifeless. And if that is so, then we are going to Comporellon for nothing."

8.

THE THREE were lunching in the dining room, virtually filling it as they did so.

"This is very good," said Pelorat, with considerable satisfaction. "Is this part of our original Terminus supply?"

"No, not at all," said Trevize. "That's long gone. This is part of the supplies we bought on Sayshell, before we headed out toward Gaia. Unusual, isn't it? Some sort of seafood, but rather crunchy. As for this stuff-I was under the impression it was cabbage when I bought it, but it doesn't taste anything like it."

Bliss listened but said nothing. She picked at the food on her own plate gingerly.

Pelorat said gently, "You've got to eat, dear."

"I know, Pel, and I'm eating."

Trevize said, with a touch of impatience he couldn't quite suppress, "We do have Gaian food, Bliss."

"I know," said Bliss, "but I would rather conserve that. We don't know how long we will be out in space and eventually I must learn to eat Isolate food."

"Is that so bad? Or must Gaia eat only Gaia."

Bliss sighed. "Actually, there's a saying of ours that goes: 'When Gaia eats Gaia, there is neither loss nor gain.' It is no more than a transfer of consciousness up and down the scale. Whatever I eat on Gaia is Gaia and when much of it is metabolized and becomes me, it is still Gaia. In fact, by the fact that I eat, some of what I eat has a chance to participate in a higher intensity of consciousness, while, of course, other portions of it are turned into waste of one sort or another and therefore sink in the scale of consciousness."

She took a firm bite of her food, chewed vigorously for a moment, swallowed, and said, "It represents a vast circulation. Plants grow and are eaten by animals. Animals eat and are eaten. Any organism that dies is incorporated into the cells of molds, decay bacteria, and so on-still Gaia. In this vast circulation of consciousness, even inorganic matter participates, and everything in the circulation has its chance of periodically participating in a high intensity of consciousness."

"All this," said Trevize, "can be said of any world. Every atom in me has a long history during which it may have been part of many living things, including human beings, and during which it may also have spent long periods as part of the sea, or in a lump of coal, or in a rock, or as a portion of the wind blowing upon us."

"On Gaia, however," said Bliss, "all atoms are also continually part of a higher planetary consciousness of which you know nothing."

"Well, what happens, then," said Trevize, "to these vegetables from Sayshell that you are eating? Do they become part of Gaia?"

"They do-rather slowly. And the wastes I excrete as slowly cease being part of Gaia. After all, what leaves me is altogether lacking in contact with Gaia. It lacks even the less-direct hyperspatial contact that I can maintain, thanks to my high level of conscious intensity. It is this hyperspatial contact that causes non-Gaian food to become part of Gaia-slowly-once I eat it."

"What about the Gaian food in our stores? Will that slowly become nonGaian? If so, you had better eat it while you can."

"There is no need to be concerned about that," said Bliss. "Our Gaian stores have been treated in such a way that they will remain part of Gaia over a long interval."

Pelorat said, suddenly, "But what will happen when we eat the Gaian food. For that matter, what happened to us when we ate Gaian food on Gaia itself. Are we ourselves slowly turning into Gaia?"

Bliss shook her head and a peculiarly disturbed expression crossed her face. "No, what you ate was lost to us. Or at least the portions that were metabolized into your tissues were lost to us. What you excreted stayed Gaia or very slowly became Gaia so that in the end the balance was maintained, but numerous atoms of Gaia became non-Gaia as a result of your visit to us."

"Why was that?" asked Trevize curiously.

"Because you would not have been able to endure the conversion, even a very partial one. You were our guests, brought to our world under compulsion, in a manner of speaking, and we had to protect you from danger, even at the cost of the loss of tiny fragments of Gaia. It was a willing price we paid, but not a happy one."

"We regret that," said Trevize, "but are you sure that non-Gaian food, or some kinds of non-Gaian food, might not, in their turn, harm you?"

"No," said Bliss. "What is edible for you would be edible to me. I merely have the additional problem of metabolizing such food into Gaia as well as into my own tissues. It represents a psychological barrier that rather spoils my enjoyment of the food and causes me to eat slowly, but I will overcome that with time."

"What about infection?" said Pelorat, in high-pitched alarm. "I can't understand why I didn't think of this earlier. Bliss! Any world you land on is likely to have microorganisms against which you have no defense and you will die of some simple infectious disease. Trevize, we must turn back."

"Don't be panicked, Pel dear," said Bliss, smiling. "Microorganisms, too, are assimilated into Gaia when they are part of my food, or when they enter my body in any other way. If they seem to be in the process of doing harm, they will be assimilated the more quickly, and once they are Gaia, they will do me no harm."

The meal drew to its end and Pelorat sipped at his spiced and heated mixture of fruit juices. "Dear me," he said, licking his lips, "I think it is time to change the subject again. It does seem to me that my sole occupation on board ship is subject-changing. Why is that?"

Trevize said solemnly, "Because Bliss and I cling to whatever subjects we discuss, even to the death. We depend upon you, Janov, to save our sanity. What subject do you want to change to, old friend?"

"I've gone through my reference material on Comporellon and the entire sector of which it is part is rich in legends of age. They set their settlement far back in time, in the first millennium of hyperspatial travel. Comporellon even speaks of a legendary founder named Benbally, though they don't say when he came from. They say that the original name of their planet was Benbally World."

"And how much truth is there in that, in your opinion, Janov?"

"A kernel, perhaps, but who can guess what the kernel might be."

"I never heard of anyone named Benbally in actual history. Have you?"

"No, I haven't, but you know that in the late Imperial era there was a deliberate suppression of pre-Imperial history. The Emperors, in the turbulent last centuries of the Empire, were anxious to reduce local patriotism since they considered it, with ample justification, to be a disintegrating influence. In almost every sector of the Galaxy, therefore, true history, with complete records and accurate chronology, begins only with the days when Trantor's influence made itself felt and the sector in question had allied itself to the Empire or been annexed by it."

"I shouldn't think that history would be that easy to eradicate," said Trevize.

"In many ways, it isn't," said Pelorat, "but a determined and powerful government can weaken it greatly. If it is sufficiently weakened, early history comes to depend on scattered material and tends to degenerate into folk tales. Invariably such folk tales will fill with exaggeration and come to show the sector to be older and more powerful than, in all likelihood, it ever really was. And no matter how silly a particular legend is, or how impossible it might be on the very face of it, it becomes a matter of patriotism among the locals to believe it. I can show you tales from every corner of the Galaxy that speak of original colonization as having taken place from Earth itself, though that is not always the name they give the parent planet."

"What else do they call it?"

"Any of a number of names. They call it the Only, sometimes; and sometimes, the Oldest. Or they call it the Mooned World, which, according to some authorities is a reference to its giant satellite. Others claim it means 'Lost World' and that 'Mooned' is a version of 'Marooned,' a pre-Galactic word meaning 'lost' or 'abandoned.'"

Trevize said gently, "Janov, stop! You'll continue forever with your authorities and counterauthorities. These legends are everywhere, you say?"

"Oh yes, my dear fellow. Quite. You have only to go through them to gain a feel for this human habit of beginning with some seed of truth and layering about it shell after shell of pretty falsehood-in the fashion of the oysters of Rhampora that build pearls about a piece of grit. I came across just exactly that metaphor once when-"

"Janov! Stop again! Tell me, is there anything about Comporellon's legends that is different from others?"

"Oh!" Pelorat gazed at Trevize blankly for a moment. "Different? Well, they claim that Earth is relatively nearby and that's unusual. On most worlds that speak of Earth, under whatever name they choose, there is a tendency to be vague about its location-placing it indefinitely far away or in some never-never land."

Trevize said, "Yes, as some on Sayshell told us that Gaia was located in hyperspace."

Bliss laughed.

Trevize cast her a quick glance. "It's true. That's what we were told."

"I don't disbelieve it. It's amusing, that's all. It is, of course, what we want them to believe. We only ask to be left alone right now, and where can we be safer and more secure than in hyperspace? If we're not there, we're as good as there, if people believe that to be our location."

"Yes," said Trevize dryly, "and in the same way there is something that causes people to believe that Earth doesn't exist, or that it is far away, or that it has a radioactive crust."

"Except," said Pelorat, "that the Comporellians believe it to be relatively close to themselves."

"But nevertheless give it a radioactive crust. One way or another every people with an Earth-legend consider Earth to be unapproachable."

"That's more or less right," said Pelorat.

Trevize said, "Many on Sayshell believed Gaia to be nearby; some even identified its star correctly; and yet all considered it unapproachable. There may be some Comporellians who insist that Earth is radioactive and dead, but who can identify its star. We will then approach it, unapproachable though they may consider it. We did exactly that in the case of Gaia."

Bliss said, "Gaia was willing to receive you, Trevize. You were helpless in our grip but we had no thought of harming you. What if Earth, too, is powerful, but not benevolent. What then?"

"I must in any case try to reach it, and accept the consequences. However, that is my task. Once I locate Earth and head for it, it will not be too late for you to leave. I will

put you off on the nearest Foundation world, or take you back to Gaia, if you insist, and then go on to Earth alone."

"My dear chap," said Pelorat, in obvious distress. "Don't say such things. I wouldn't dream of abandoning you."

"Or I of abandoning Pel," said Bliss, as she reached out a hand to touch Pelorat's cheek.

"Very well, then. It won't be long before we're ready to take the Jump to Comporellon and thereafter, let us hope, it will be---on to Earth."

PART TWO - COMPORELLON

3. AT THE ENTRY STATION

9.

BLISS, entering their chamber, said, "Did Trevize tell you that we are going make the Jump and go through hyperspace any moment now?"

Pelorat, who was bent over his viewing disk, looked up, and said, "Actually, he just looked in and told me 'within the half-hour.'"

"I don't like the thought of it, Pel. I've never liked the Jump. I get a funny inside-out feeling."

Pelorat looked a bit surprised. "I had not thought of you as a space traveler, Bliss dear."

"I'm not particularly, and I don't mean that this is so only in my aspect as a component. Gaia itself has no occasion for regular space travel. By my/our/Gaia's very nature, I/we/Gaia don't explore, trade, or space junket. Still, there is the necessity of having someone at the entry stations--"

"As when we were fortunate enough to meet you."

"Yes, Pel." She smiled at him affectionately. "Or even to visit Sayshell and other stellar regions, for various reasons-usually clandestine. But, clandestine or not, that always means the Jump and, of course, when any part of Gaia Jumps, all of Gaia feels it."

"That's too bad," said Pel.

"It could be worse. The large mass of Gaia is not undergoing the jump, so the effect is greatly diluted. However, I seem to feel it much more than most of Gaia. As I keep trying to tell Trevize, though all of Gaia is Gaia, the individual components are not identical. We have our differences, and my makeup is, for some reason, particularly sensitive to the Jump."

"Wait!" said Pelorat, suddenly remembering. "Trevize explained that to me once. It's in ordinary ships that you have the worst of the sensation. In ordinary ships, one leaves the Galactic gravitational field on entering hyperspace, and comes back to it on returning to ordinary space. It's the leaving and returning that produces the sensation. But the Far Star is a gravitic ship. It is independent of the gravitational field, and does not truly leave it or return to it. For that reason, we won't feel a thing. I can assure you of that, dear, out of personal experience."

"But that's delightful. I wish I had thought to discuss the matter earlier. I would have saved myself considerable apprehension."

"That's an advantage in another way," said Pelorat, feeling an expansion of spirit in his unusual role as explainer of matters astronomic. "The ordinary ship has to recede from large masses such as stars for quite a long distance through ordinary space in order to make the Jump. Part of the reason is that the closer to a star, the more intense the gravitational field, and the more pronounced are the sensations of a Jump. Then, too, the

more intense the gravitational field the more complicated the equations that must be solved in order to conduct the Jump safely and end at the point in ordinary space you wish to end at.

"In a gravitic ship, however, there is no Jump-sensation to speak of. In addition, this ship has a computer that is a great deal more advanced than ordinary computers and it can handle complex equations with unusual skill and speed. The result is that instead of having to move away from a star for a couple of weeks just to reach a safe and comfortable distance for a Jump, the Far Star need travel for only two or three days. This is especially so since we are not subject to a gravitational field and, therefore, to inertial effects-I admit I don't understand that, but that's what Trevize tells me-and can accelerate much more rapidly than an ordinary ship could."

Bliss said, "That's fine, and it's to Trev's credit that he can handle this unusual ship."

Pelorat frowned slightly. "Please, Bliss. Say 'Trevize.'"

"I do. I do. In his absence, however, I relax a little."

"Don't. You don't want to encourage the habit even slightly, dear. He's so sensitive about it."

"Not about that. He's sensitive about me. He doesn't like me."

"That's not so," said Pelorat earnestly. "I talked to him about that. -Now, now, don't frown. I was extraordinarily tactful, dear child. He assured me he did not dislike you. He is suspicious of Gaia and unhappy over the fact that he has had to make it into the future of humanity. We have to make allowances for that. He'll get over it as he gradually comes to understand the advantages of Gaia."

"I hope so, but it's not just Gaia. Whatever he may tell you, Pel-and remember that he's very fond of you and doesn't want to hurt your feelings-he dislikes me personally."

"No, Bliss. He couldn't possibly."

"Not everyone is forced to love me simply because you do, Pel. Let me explain. Trev-all right, Trevize-thinks I'm a robot."

A look of astonishment suffused Pelorat's ordinarily stolid features. He said, "Surely he can't think you're an artificial human being."

"Why is that so surprising? Gaia was settled with the help of robots. That's a known fact."

"Robots might help, as machines might, but it was people who settled Gaia; people from Earth. That's what Trevize thinks. I know he does."

"There is nothing in Gaia's memory about Earth as I told you and Trevize. However, in our oldest memories there are still some robots, even after three thousand years, working at the task of completing the modification of Gaia into a habitable world. We were at that time also forming Gaia as a planetary consciousness-that took a long time, Pel dear, and that's another reason why our early memories are dim, and perhaps it wasn't a matter of Earth wiping them out, as Trevize thinks-"

"Yes, Bliss," said Pelorat anxiously, "but what of the robots?"

"Well, as Gaia formed, the robots left. We did not want a Gaia that included robots, for we were, and are, convinced that a robotic component is, in the long run, harmful to a human society, whether Isolate in nature or Planetary. I don't know how we came to that conclusion but it is possible that it is based on events dating back to a particularly early time in Galactic history, so that Gaia's memory does not extend back to it."

"If the robots left-"

"Yes, but what if some remained behind? What if I am one of them-fifteen thousand years old perhaps. Trevize suspects that."

Pelorat shook his head slowly. "But you're not."

"Are you sure you believe that?"

"Of course I do. You're not a robot."

"How do you know?"

"Bliss, I know. There's nothing artificial about you. If I don't know that, no one does."

"Isn't it possible I may be so cleverly artificial that in every respect, from largest to smallest, I am indistinguishable from the natural. If I were, how could you tell the difference between me and a true human being?"

Pelorat said, "I don't think it's possible for you to be so cleverly artificial."

"What if it were possible, despite what you think?"

"I just don't believe it."

"Then let's just consider it is a hypothetical case. If I were an indistinguishable robot, how would you feel about it?"

"Well, I-I"

"To be specific. How would you feel about making love to a robot?"

Pelorat snapped the thumb and mid-finger of his right hand, suddenly. "You know, there are legends of women falling in love with artificial men, and vice versa. I always thought there was an allegorical significance to that and never imagined the tales could represent literal truth. -Of course, Golan and I never even heard the word 'robot' till we landed on Sayshell, but, now that I think of it, those artificial men and women must have been robots. Apparently, such robots did exist in early historic times. That means the legends should be reconsidered-"

He fell into silent thought, and, after Bliss had waited a moment, she suddenly clapped her hands sharply. Pelorat jumped.

"Pel dear," said Bliss. "You're using your mythography to escape the question. The question is: How would you feel about making love to a robot?"

He stared at her uneasily. "A truly undistinguishable one? One that you couldn't tell from a human being?"

"Yes."

"It seems to me, then, that a robot that can in no way be distinguished from a human being is a human being. If you were such a robot, you would be nothing but a human being to me."

"That's what I wanted to hear you say, Pel."

Pelorat waited, then said, "Well, then, now that you've heard me say it, dear, aren't you going to tell me that you are a natural human being and that I don't have to wrestle with hypothetical situations?"

"No. I will do no such thing. You've defined a natural human being as an object that has all the properties of a natural human being. If you are satisfied that I have all those properties, then that ends the discussion. We've got the operational definition and need no other. After all, how do I know that you're not just a robot who happens to be indistinguishable from a human being?"

"Because I tell you that I am not."

"Ah, but if you were a robot that was indistinguishable from a human being, you might be designed to tell me you were a natural human being, and you might even be programmed to believe it yourself. The operational definition is all we have, and all we can have."

She put her arms about Pelorat's neck and kissed him. The kiss grew more passionate, and prolonged itself until Pelorat managed to say, in somewhat muffled fashion, "But we promised Trevize not to embarrass him by converting this ship into a honeymooners' haven."

Bliss said coaxingly, "Let's be carried away and not leave ourselves any time to think of promises."

Pelorat, troubled, said, "But I can't do that, dear. I know it must irritate you, Bliss, but I am constantly thinking and I am constitutionally averse to letting myself be carried away by emotion. It's a lifelong habit, and probably very annoying to others. I've never lived with a woman who didn't seem to object to it sooner or later. My first wife-but I suppose it would be inappropriate to discuss that-"

"Rather inappropriate, yes, but not fatally so. You're not my first lover either."

"Oh!" said Pelorat, rather at a loss, and then, aware of Bliss's small smile, he said, "I mean, of course not. I wouldn't expect myself to have been-Anyway, my first wife didn't like it."

"But I do. I find your endless plunging into thought attractive."

"I can't believe that, but I do have another thought. Robot or human, that doesn't matter. We agree on that. However, I am an Isolate and you know it. I am not part of Gaia, and when we are intimate, you're sharing emotions outside Gaia even when you let me participate in Gaia for a short period, and it may not be the same intensity of emotion then that you would experience if it were Gaia loving Gaia."

Bliss said, "Loving you, Pel, has its own delight. I look no farther than that."

"But it's not just a matter of you loving me. You aren't merely you. What if Gaia considers it a perversion?"

"If it did, I would know, for I am Gaia. And since I have delight in you, Gaia does. When we make love, all of Gaia shares the sensation to some degree or other. When I say I love you, that means Gaia loves you, although it is only the part that I am that is assigned the immediate role. -You seem confused."

"Being an Isolate, Bliss, I don't quite grasp it."

"One can always form an analogy with the body of an Isolate. When you whistle a tune, your entire body, you as an organism, wishes to whistle the tune, but the immediate task of doing so is assigned to your lips, tongue, and lungs. Your right big toe does nothing."

"It might tap to the tune."

"But that is not necessary to the act of whistling. The tapping of the big toe is not the action itself but is a response to the action, and, to be sure, all parts of Gaia might well respond in some small way or other to my emotion, as I respond to theirs."

Pelorat said, "I suppose there's no use feeling embarrassed about this."

"None at all."

"But it does give me a queer sense of responsibility. When I try to make you happy, I find that I must be trying to make every last organism on Gaia happy."

"Every last atom-but you do. You add to the sense of communal joy that I let you share briefly. I suppose your contribution is too small to be easily measurable, but it is there, and knowing it is there should increase your joy."

Pelorat said, "I wish I could be sure that Golan is sufficiently busy with his maneuvering through hyperspace to remain in the pilot-room for quite a while."

"You wish to honeymoon, do you?"

"I do."

"Than get a sheet of paper, write 'Honeymoon Haven' on it, affix it to the outside of the door, and if he wants to enter, that's his problem."

Pelorat did so, and it was during the pleasurable proceedings that followed that the Far Star made the Jump. Neither Pelorat nor Bliss detected the action, nor would they have, had they been paying attention.

10.

IT HAD BEEN ONLY a matter of a few months since Pelorat had met Trevize and had left Terminus for the first time. Until then, for the more than halfcentury (Galactic Standard) of his life, he had been utterly planet-bound.

In his own mind, he had in those months become an old space dog. He had seen three planets from space: Terminus itself, Sayshell, and Gaia. And on the viewscreen, he now saw a fourth, albeit through a computer-controlled telescopic device. The fourth was Compoellon.

And again, for the fourth time, he was vaguely disappointed. Somehow, he continued to feel that looking down upon a habitable world from space meant seeing an outline of its continents against a surrounding sea; or, if it were a dry world, the outline of its lakes against a surrounding body of land.

It was never so.

If a world was habitable, it had an atmosphere as well as a hydrosphere. And if it had both air and water, it had clouds; and if it had clouds, it had an obscured view. Once again, then, Pelorat found himself looking down on white swirls with an occasional glimpse of pale blue or rusty brown.

He wondered gloomily if anyone could identify a world if a view of it from, say, three hundred thousand kilometers, were cast upon a screen. How does one tell one cloud swirl from another?

Bliss looked at Pelorat with some concern. "What is it, Pel? You seem to be unhappy."

"I find that all planets look alike from space."

Trevize said, "What of that, Janov? So does every shoreline on Terminus, when it is on the horizon, unless you know what you're looking for—a particular mountain peak, or a particular offshore islet of characteristic shape."

"I dare say," said Pelorat, with clear dissatisfaction, "but what do you look for in a mass of shifting clouds? And even if you try, before you can decide, you're likely to be moving into the dark side."

"Look a little more carefully, Janov. If you follow the shape of the clouds, you see that they tend to fall into a pattern that circles the planet and that moves about a center. That center is more or less at one of the poles."

"Which one?" asked Bliss with interest.

"Since, relative to ourselves, the planet is rotating in clockwise fashion, we are looking down, by definition, upon the south pole. Since the center seems to be about fifteen degrees from the terminator—the planet's line of shadow—and the planetary axis is tilted twenty-one degrees to the perpendicular of its plane of revolution, we're either in mid-spring or mid-summer depending on whether the pole is moving away from the terminator or toward it. The computer can calculate its orbit and tell me in short order if I were to ask it. The capital is on the northern side of the equator so it is either in mid-fall or mid-winter."

Pelorat frowned. "You can tell all that?" He looked at the cloud layer as though he thought it would, or should, speak to him now, but, of course, it didn't.

"Not only that," said Trevize, "but if you'll look at the polar regions, you'll see that there are no breaks in the cloud layer as there are away from the poles. Actually, there are breaks, but through the breaks you see ice, so it's a matter of white on white."

"Ah," said Pelorat. "I suppose you expect that at the poles."

"Of habitable planets, certainly. Lifeless planets might be airless or waterless, or might have certain stigmata showing that the clouds are not water clouds, or that the ice is not water ice. This planet lacks those stigmata, so we know we are looking at water clouds and water ice."

"The next thing we notice is the size of the area of unbroken white on the day side of the terminator, and to the experienced eye it is at once seen V larger than average. Furthermore, you can detect a certain orange glint, a quite faint one, to the reflected light, and that means Comporellon's sun is rather cooler than Terminus's sun. Although

Comporellon is closer to its sun than Terminus is to hers, it is not sufficiently closer to make up for its star's lower temperature. Therefore, Comporellon is a cold world as habitable worlds go."

"You read it like a film, old chap," said Pelorat admiringly.

"Don't be too impressed," said Trevize, smiling affectionately. "The computer has given me the applicable statistics of the world, including its slightly low average temperature. It is easy to deduce something you already know. In fact, Comporellon is at the edge of an ice age and would be having one, if the configuration of its continents were more suitable to such a condition."

Bliss bit at her lower lip. "I don't like a cold world."

"We've got warm clothing," said Trevize.

"That doesn't matter. Human beings aren't adapted to cold weather, rally. We don't have thick coats of hair or feathers, or a subcutaneous layer of blubber. For a world to have cold weather seems to indicate a certain indifference to the welfare of its own parts."

Trevize said, "Is Gaia a uniformly mild world?"

"Most of it, yes. There are some cold areas for cold-adapted plants and animals, and some hot areas for heat-adapted plants and animals, but most parts are uniformly mild, never getting uncomfortably hot or uncomfortably cold, for those between, including human beings, of course."

"Human beings, of course. All parts of Gaia are alive and equal in that respect, but some, like human beings, are obviously more equal than other,"

"Don't be foolishly sarcastic," said Bliss, with a trace of waspishness. "The level and intensity of consciousness and awareness are important. A human being is a more useful portion of Gaia than a rock of the same weight would be, and the properties and functions of Gaia as a whole are necessarily weighted in the direction of the human being-not as much so as on your Isolate worlds, however. What's more, there are times when it is weighted in other directions, when that is needed for Gaia as a whole. It might even, at long intervals, be weighted in the direction of the rocky interior. That, too, demands attention or, in the lack of that attention all parts of Gaia might suffer. We wouldn't want an unnecessary volcanic eruption, would we?"

"No," said Trevize. "Not an unnecessary one."

"You're not impressed, are you?"

"Look," said Trevize. "We have worlds that are colder than average and worlds that are warmer; worlds that are tropical forests to a large extent, and worlds that are vast savannahs. No two worlds are alike, and every one of them is home to those who are used to it. I am used to the relative mildness of Terminus-we've tamed it to an almost Gaian moderation, actually-but I like to get away, at least temporarily, to something different. What we have, Bliss, that Gaia doesn't have, is variation. If Gaia expands into Galaxia, will every world in the Galaxy be forced into mildness? The sameness would be unbearable."

Bliss said, "If that is so, and if variety seems desirable, variety will be maintained."

"As a gift from the central committee, so to speak?" said Trevize dryly. "And as little of it as they can bear to part with? I'd rather leave it to nature."

"But you haven't left it to nature. Every habitable world in the Galaxy has been modified. Every single one was found in a state of nature that was uncomfortable for humanity, and every single one was modified until it was as mild as could be managed. If this world here is cold, I am certain that is because its inhabitants couldn't warm it any further without unacceptable expense. And even so, the portions they actually inhabit we can be sure are artificially warmed into mildness. So don't be so loftily virtuous about leaving it to nature."

Trevize said, "You speak for Gaia, I suppose."

"I always speak for Gaia. I am Gaia."

"Then if Gaia is so certain of its own superiority, why did you require my decision? Why have you not gone ahead without me?"

Bliss paused, as though to collect her thoughts. She said, "Because it is not wise to trust one's self overmuch. We naturally see our virtues with clearer eyes than we see our defects. We are anxious to do what is right; not necessarily what seems right to us, but what is right, objectively, if such a thing as objective right exists. You seem to be the nearest approach to objective right that we can find, so we are guided by you."

"So objectively right," said Trevize sadly, "that I don't even understand my own decision and I seek its justification."

"You'll find it," said Bliss.

"I hope so," said Trevize.

"Actually, old chap," said Pelorat, "it seems to me that this recent exchange was won rather handily by Bliss. Why don't you recognize the fact that her arguments justify your decision that Gaia is the wave of the future for humanity?"

"Because," said Trevize harshly, "I did not know those arguments at the time I made my decision. I knew none of these details about Gaia. Something else influenced me, at least unconsciously, something that doesn't depend upon Gaian detail, but must be more fundamental. It is that which I must find out."

Pelorat held up a placating hand. "Don't be angry, Golan."

"I'm not angry. I'm just under rather unbearable tension. I don't want to be the focus of the Galaxy."

Bliss said, "I don't blame you for that, Trevize, and I'm truly sorry that your own makeup has somehow forced you into the post. -When will we be landing on Comporellon?"

"In three days," said Trevize, "and only after we stop at one of the entry stations in orbit about it."

Pelorat said, "There shouldn't be any problem with that, should there?"

Trevize shrugged. "It depends on the number of ships approaching the world, the number of entry stations that exist, and, most of all, on the particular rules for permitting and refusing admittance. Such rules change from time to time."

Pelorat said indignantly, "What do you mean refusing admittance? 1 can they refuse admittance to citizens of the Foundation? Isn't Comporellan part of the Foundation dominion?"

"Well, yes-and no. There's a delicate matter of legalism about the point and I'm not sure how Comporellon interprets it. I suppose there's a chance we'll be refused admission, but I don't think it's a large chance."

"And if we are refused, what do we do?"

"I'm not sure," said Trevize. "Let's wait and see what happens before we wear ourselves out making contingency plans."

11.

THEY WERE close enough to Comporellon now for it to appear as a substantial globe without telescopic enlargement. When such enlargement was added, however, the entry stations themselves could be seen. They were farther out than most of the orbiting structures about the planet and they were well lit.

Approaching as the Far Star was from the direction of the planet's southern pole, half its globe was sunlit constantly. The entry stations on its night side were naturally more clearly seen as sparks of light. They were evenly spaced in an arc about the planet. Six of them were visible (plus six on the day side undoubtedly) and all were circling the planet at even and identical speeds.

Pelorat, a little awed at the sight, said, "There are other lights closer to the planet. What are they?"

Trevize said, "I don't know the planet in detail so I can't tell you. Some might be orbiting factories or laboratories or observatories, or even populated townships. Some planets prefer to keep all orbiting objects outwardly dark, except for the entry stations. Terminus does, for instance. Comporellon conducts itself on a more liberal principle, obviously."

"Which entry station do we go to, Golan?"

"It depends on them. I've sent in my request to land on Comporellon and we'll eventually get our directions as to which entry station to go to, and when. Much depends on how many incoming ships are trying to make entry at present. If there are a dozen ships lined up at each station, we will have no choice but to be patient."

Bliss said, "I've only been at hyperspatial distances from Gaia twice before, and those were both when I was at or near Sayshell. I've never been at anything like this distance."

Trevize looked at her sharply. "Does it matter? You're still Gaia, aren't you?"

For a moment, Bliss looked irritated, but then dissolved into what was almost an embarrassed titter. "I must admit you've caught me this time, Trevize. There is a double meaning in the word 'Gaia.' It can be used to refer to the physical planet as a solid globular object in space. It can also be used to refer to the living object that includes that

globe. Properly speaking, we should use two different words for these two different concepts, but Gaians always know from the context what is being referred to. I admit that an Isolate might be puzzled at times."

"Well, then," said Trevize, "admitting that you are many thousands of parsecs from Gaia as globe, are you still part of Gaia as organism?"

"Referring to the organism, I am still Gaia."

"No attenuation?"

"Not in essence. I'm sure I've already told you there is some added complexity in remaining Gaia across hyperspace, but I remain Gaia."

Trevize said, "Does it occur to you that Gaia may be viewed as a Galactic kraken-the tentacled monster of the legends-with its tentacles reaching everywhere. You have but to put a few Gaians on each of the populated worlds and you will virtually have Galaxia right there. In fact, you have probably done exactly that. Where are your Gaians located? I presume that one or more are on Terminus and one or more are on Trantor. How much farther does this go?"

Bliss looked distinctly uncomfortable. "I have said I won't lie to you, Trevize, but that doesn't mean I feel compelled to give you the whole truth. There are some things you have no need to know, and the position and identity of individual bits of Gaia are among them."

"Do I need to know the reason for the existence of those tentacles, Bliss, even if I don't know where they are?"

"It is the opinion of Gaia that you do not."

"I presume, though, that I may guess. You believe you serve as the guardians of the Galaxy."

"We are anxious to have a stable and secure Galaxy; a peaceful and prosperous one. The Seldon Plan, as originally worked out by Hari Seldon at least, is designed to develop a Second Galactic Empire, one that is more stable and more workable than the First was. The Plan, which has been continually modified and improved by the Second Foundation, has appeared to be working well so far."

"But Gaia doesn't want a Second Galactic Empire in the classic sense, does it? You want Galaxia-a living Galaxy."

"Since you permit it, we hope, in time, to have Galaxia. If you had not permitted it, we would have striven for Seldon's Second Empire and made it as secure as we could."

"But what is wrong with-"

His ear caught the soft, burring signal. Trevize said, "The computer is signaling me. I suppose it is receiving directions concerning the entry station. I'll be back."

He stepped into the pilot-room and placed his hands on those marked out on the desk top and found that there were directions for the specific entry station he was to approach-its coordinates with reference to the line from Comporellon's center to its north pole-the prescribed route of approach.

Trevize signaled his acceptance, and then sat back for a moment.

The Seldon Plan! He had not thought of it for quite a time. The Fire Galactic Empire had crumbled and for five hundred years the Foundation had grown, first in competition with that Empire, and then upon its ruins-all in accordance with the Plan.

There had been the interruption of the Mule, which, for a time, had threatened to shiver the Plan into fragments, but the Foundation had pulled through-probably with the help of the ever-hidden Second Foundation-possibly with the help of the even-better-hidden Gaia.

Now the Plan was threatened by something more serious than the Mule had ever been. It was to be diverted from a renewal of Empire to something utterly different from anything in history-Galaxia. And he himself had agreed to that.

But why? Was there a flaw in the Plan? A basic flaw?

For one flashing moment, it seemed to Trevize that this flaw did indeed exist and that he knew what it was, that he had known what it was when he made his decision-but the knowledge . . . if that were what it was . . . vanished as fast as it came, and it left him with nothing.

Perhaps it was all only an illusion; both when he had made his decision, and now. After all, he knew nothing about the Plan beyond the basic assumptions that validated psychohistory. Apart from that, he knew no detail, and certainly not a single scrap of its mathematics.

He closed his eyes and thought-

There was nothing.

Might it be the added power he received from the computer? He placed his hands on the desk top and felt the warmth of the computer's hands embracing them. He closed his eyes and once more he thought-

There was still nothing.

12.

THE COMPORELLIAN who boarded the ship wore a holographic identity card. It displayed his chubby, lightly bearded face with remarkable fidelity, and underneath it was his name, A. Kendray.

He was rather short, and his body was as softly rounded as his face was. He had a fresh and easygoing look and manner, and he stared about the ship with clear amazement.

He said, "How did you get down this fast? We weren't expecting you for two hours."

"It's a new-model ship," said Trevize, with noncommittal politeness.

Kendray was not quite the young innocent he looked, however. He stepped into the pilot-room and said at once, "Gravitic?"

Trevize saw no point in denying anything that was apparently that obvious. He said tonelessly, "Yes."

"Very interesting. You hear of them, but you never see them somehow. Motors in the hull?"

"That's so."

Kendray looked at the computer. "Computer circuits, likewise?"

"That's so. Anyway, I'm told so. I've never looked."

"Oh well. What I need is the ship's documentation; engine number, place of manufacture, identification code, the whole patty-cake. It's all in the computer, I'm sure, and it can probably turn out the formal card I need in half a second."

It took very little more than that. Kendray looked about again. "You three all the people on board?"

Trevize said, "That's right."

"Any live animals? Plants? State of health?"

"No. No. And good," said Trevize crisply.

"Um!" said Kendray, making notes. "Could you put your hand in here? Just routine. -Right hand, please."

Trevize looked at the device without favor. It was being used more and more commonly, and was growing quickly more elaborate. You could almost tell the backwardness of a world at a glance by the backwardness of its microdetector. There were now few worlds, however backward, that didn't have one at all. The start had come with the final breakup of the Empire, as each fragment of the whole grew increasingly anxious to protect itself from the diseases and alien microorganisms of all the others.

"What is that?" asked Bliss, in a low and interested voice, craning her head to see it first on one side, then the other.

Pelorat said, "A microdetector, I believe they call it."

Trevize added, "It's nothing mysterious. It's a device that automatically checks a portion of your body, inside and out, for any microorganism capable of transmitting disease."

"This will classify the microorganisms, too," said Kendray, with rather more than a hint of pride. "It's been worked out right here on Comporellon. -And if you don't mind, I still want your right hand."

Trevize inserted his right hand, and watched as a series of small red markings danced along a set of horizontal lines. Kendray touched a contact and a facsimile in color appeared at once. "If you'll sign that, sir," he said.

Trevize did so. "How badly off am I?" he asked. "I'm not in any great danger, am I?"

Kendray said, "I'm not a physician, so I can't say in detail, but it shows none of the marks that would require you to be turned away or to be put in quarantine. That's all I'm interested in."

"What a lucky break for me," said Trevize dryly, shaking his hand to rid himself of the slight tingle he felt.

"You, sir," said Kendray.

Pelorat inserted his hand with a certain hesitancy, then signed the facsimile.

"And you, ma'am?"

A few moments later, Kendray was staring at the result, saying, "I never saw anything like this before." He looked up at Bliss with an expression of awe. "You're negative. Altogether."

Bliss smiled engagingly. "How nice."

"Yes, ma'am. I envy you." He looked back at the first facsimile, and said, "Your identification, Mr. Trevize."

Trevize presented it. Kendray, glancing at it, again looked up in surprise. "Councilman of the Terminus Legislature?"

"That's right."

"High official of the Foundation?"

Trevize said coolly, "Exactly right. So let's get through with this quickly, shall we?"

"You're captain of the ship?"

"Yes, I am."

"Purpose of visit?"

"Foundation security, and that's all the answer I'm going to give you. Do you understand that?"

"Yes, sir. How long do you intend to stay?"

"I don't know. Perhaps a week."

"Very well, sir. And this other gentleman?"

"He is Dr. Janov Pelorat," said Trevize. "You have his signature there and I vouch for him. He is a scholar of Terminus and he is my assistant in this business of my visit."

"I understand, sir, but I must see his identification. Rules are rules, I'm afraid. I hope you understand, sir."

Pelorat presented his papers.

Kendray nodded. "And you, miss?"

Trevize said quietly, "No need to bother the lady. I vouch for her, too."

"Yes, sir. But I need the identification."

Bliss said, "I'm afraid I don't have any papers, sir."

Kendray frowned. "I beg your pardon."

Trevize said, "The young lady didn't bring any with her. An oversight. It's perfectly all right. I'll take full responsibility."

Kendray said, "I wish I could let you do that, but I'm not allowed. The responsibility is mine. Under the circumstances, it's not terribly important. There should be no difficulty getting duplicates. The young woman, I presume, is from Terminus."

"No, she's not."

"From somewhere in Foundation territory, then?"

"As a matter of fact, she isn't."

Kendray looked at Bliss keenly, then at Trevize. "That's a complication, Councilman. It may take additional time to obtain a duplicate from some non-Foundation world. Since you're not a Foundation citizen, Miss Bliss, I must have the name of your

world of birth and of the world of which you're a citizen. You will then have to wait for duplicate papers to arrive."

Trevize said, "See here, Mr. Kendray. I see no reason why there need be any delay whatever. I am a high official of the Foundation government and I am here on a mission of great importance. I must not be delayed by a matter of trivial paperwork."

"The choice isn't mine, Councilman. If it were up to me, I'd let you down to Comporellon right now, but I have a thick book of rules that guides my every action. I've got to go by the book or I get it thrown at me. --Of course,

I presume there must be some Comporellian government figure who's waiting for you. If you'll tell me who it is, I will contact him, and if he orders me to let you through, then that's it."

Trevize hesitated a moment. "That would not be politic, Mr. Kendray. May I speak with your immediate superior?"

"You certainly may, but you can't just see him off-hand--"

"I'm sure he will come at once when he understands he's speaking to a Foundation official--"

"Actually," said Kendray, "just between us, that would make matters worse. We're not part of the Foundation metropolitan territory, you know. We come under the heading of an Associated Power, and we take it seriously. The people are anxious not to appear to be Foundation puppets--I'm using the popular expression only, you understand--and they bend backward to demonstrate independence. My superior would expect to get extra points if he resists doing a special favor for a Foundation official."

Trevize's expression darkened. "And you, too?"

Kendray shook his head. "I'm below politics, sir. No one gives me extra points for anything. I'm just lucky if they pay my salary. And though I don't get extra points, I can get demerits, and quite easily, too. I wish that were not so."

"Considering my position, you know, I can take care of you."

"No, sir. I'm sorry if that sounds impertinent, but I don't think you can. --And, sir, it's embarrassing to say this, but please don't offer me anything valuable. They make examples of officials who accept such things and they're pretty good at digging them out, these days."

"I wasn't thinking of bribing you. I'm only thinking of what the Mayor of Terminus can do to you if you interfere with my mission."

"Councilman, I'll be perfectly safe as long as I can hide behind the rulebook. If the members of the Comporellian Presidium get some sort of Foundation discipline, that is their concern, and not mine. --But if it will help, sir, I can let you and Dr. Pelorat through on your ship. If you'll leave Miss Bliss behind at the entry station, we'll hold her for a time and send her down to the surface as soon as her duplicate papers come through. If her papers should not be obtainable, for any reason, we will send her back to her world on commercial transportation. I'm afraid, though, that someone will have to pay her fare, in that ease."

Trevize caught Pelorat's expression at that, and said, "Mr. Kendray, may I speak to you privately in the pilot-room?"

"Very well, but I can't remain on board very much longer, or I'll be questioned."

"This won't take long," said Trevize.

In the pilot-room, Trevize made a show of closing the door tightly, then said, in a low voice, "I've been many places, Mr. Kendray, but I've never been anyplace where there has been such harsh emphasis on the minutiae of the rules of immigration, particularly for Foundation people and Foundation officials "

"But the young woman is not from the Foundation."

"Even so."

Kendray said, "These things go in rhythms. We've had some scandals and, right now, things are tough. If you'll come back next year, you might not have any trouble at all, but right now, I can do nothing."

"Try, Mr. Kendray," said Trevize, his voice growing mellow. "I'm going to throw myself on your mercy and appeal to you, man to man. Pelorat and I have been on this mission for quite a while. He and I. Just he and I. We're good friends, but there's something lonely about it, if you get me. Some time ago, Pelorat found this little lady. I don't have to tell you what happened, but we decided to bring her along. It keeps us healthy to make use of her now and then.

"Now the thing is Pelorat's got a relationship back on Terminus. I'm clear, you understand, but Pelorat is an older man and he's got to the age when they get a little-desperate. They need their youth back, or something. He can't give her up. At the same time, if she's even mentioned, officially, there's going to be misery galore on Terminus for old Pelorat when he gets back.

"There's no harm being done, you understand. Miss Bliss, as she calls herself-a good name considering her profession-is not exactly a bright kid; that's not what we want her for. Do you have to mention her at all? Can't you just list me and Pelorat on the ship? Only we were originally listed when we left Terminus. There need be no official notice of the woman. After all, she's absolutely free of disease. You noted that yourself."

Kendray made a face. "I don't really want to inconvenience you. I understand the situation and, believe me, I sympathize. Listen, if you think holding down a shift on this station for months at a time is any fun, think again. And it isn't co-educational, either; not on Comporellon." He shook his head. "And I have a wife, too, so I understand. -But, look, even if I let you through, as soon as they find out that the-uh-lady is without papers, she's in prison, you and Mr. Pelorat are in the kind of trouble that will get back to Terminus. And I myself will surely be out of a job."

"Mr. Kendray," said Trevize, "trust me in this. Once I'm on Comporellon, I'll be safe. I can talk about my mission to some of the right people and, when that's done, there'll be no further trouble. I'll take full responsibility for what has happened here, if it ever comes up-which I doubt. What's more, I will recommend your promotion, and you will get it, because I'll see to it that Terminus leans all over anyone who hesitates. -And we can give Pelorat a break."

Kendray hesitated, then said, "All right. I'll let you through-but take a word of warning. I start from this minute figuring out a way to save my butt if the matter comes up. I don't intend to do one thing to save yours. What's more I know how these things work on Comporellon and you don't, and Comporellon isn't an easy world for people who step out of line."

"Thank you, Mr. Kendray," said Trevize. "There'll be no trouble. I assure you of that."

4. ON COMPORELLON

13.

THEY WERE through. The entry station had shrunk to a rapidly dimming star behind them, and in a couple of hours they would be crossing the cloud layer.

A gravitic ship did not have to brake its path by a long route of slow spiral contraction, but neither could it swoop downward too rapidly. Freedom from gravity did not mean freedom from air resistance. The ship could descend in a straight line, but it was still a matter for caution; it could not be too fast.

"Where are we going to go?" asked Pelorat, looking confused. "I can't tell one place in the clouds from another, old fellow."

"No more can I," said Trevize, "but we have an official holographic map of Comporellon, which gives the shape of the land masses and an exaggerated relief for both land heights and ocean depths-and political subdivisions, too. The map is in the computer and that will do the work. It will match the planetary land-sea design to the map, thus orienting the ship properly, and it will then take us to the capital by a cycloidal pathway."

Pelorat said, "If we go to the capital, we plunge immediately into the political vortex. If the world is anti-Foundation, as the fellow at the entry station implied, we'll be asking for trouble."

"On the other hand, it's bound to be the intellectual center of the planet, and if we want information, that's where we'll find it, if anywhere. As for being anti-Foundation, I doubt that they will be able to display that too openly. The Mayor may have no great liking for me, but neither can she afford to have a Councilman mistreated. She would not care to allow the precedent to be established."

Bliss had emerged from the toilet, her hands still damp from scrubbing. She adjusted her underclothes with no sign of concern and said, "By the way, I trust the excreta is thoroughly recycled."

"No choice," said Trevize. "How long do you suppose our water supply would last without recycling of excreta? On what do you think those choicely flavored yeast cakes that we eat to lend spice to our frozen staples grow? -I hope that doesn't spoil your appetite, my efficient Bliss."

"Why should it? Where do you suppose food and water come from on Gaia, or on this planet, or on Terminus?"

"On Gaia," said Trevize, "the excreta is, of course, as alive as you are."

"Not alive. Conscious. There is a difference. The level of consciousness is, naturally, very low."

Trevize sniffed in a disparaging way, but didn't try to answer. He said, "I'm going into the pilot-room to keep the computer company. Not that it needs me."

Pelorat said, "May we come in and help you keep it company? I can't quite get used to the fact that it can get us down all by itself; that it can sense other ships, or storms, or-whatever?"

Trevize smiled broadly. "Get used to it, please. The ship is far safer under the computer's control than it ever would be under mine. -But certainly, come on. It will do you good to watch what happens."

They were over the sunlit side of the planet now for, as Trevize explained, the map in the computer could be more easily matched to reality in the sunlight than in the dark.

"That's obvious," said Pelorat.

"Not at all obvious. The computer will judge just as rapidly by the infrared light which the surface radiates even in the dark. However, the longer waves of infrared don't allow the computer quite the resolution that visible light would. That is, the computer doesn't see quite as finely and sharply by infrared, and where necessity doesn't drive, I like to make things as easy as possible for the computer."

"What if the capital is on the dark side?"

"The chance is fifty-fifty," said Trevize, "but if it is, once the map is matched by daylight, we can skim down to the capital quite unerringly even if it is in the dark. And long before we come anywhere near the capital, we'll be intersecting microwave beams and will be receiving messages directing us to the most convenient spaceport. -There's nothing to worry about."

"Are you sure?" said Bliss. "You're bringing me down without papers and without any native world that these people here will recognize--and I'm bound and determined not to mention Gaia to them in any case. So what do we do, if I'm asked for my papers once we're on the surface?"

Trevize said, "That's not likely to happen. Everyone will assume that was taken care of at the entry station."

"But if they ask?"

"Then, when that time comes, we'll face the problem. Meanwhile, let's not manufacture problems out of air."

"By the time we face the problems that may arise, it might well be too late to solve them."

"I'll rely on my ingenuity to keep it from being too late."

"Talking about ingenuity, how did you get us through the entry station?"

Trevize looked at Bliss, and let his lips slowly expand into a smile that made him seem like an impish teenager. "Just brains."

Pelorat said, "What did you do, old man?"

Trevize said, "It was a matter of appealing to him in the correct manner. I'd tried threats and subtle bribes. I had appealed to his logic and his loyalty to the Foundation. Nothing worked, so I fell back on the last resort. I said that you were cheating on your wife, Pelorat."

"My wife? Hut, my dear fellow, I don't have a wife at the moment."

"I know that, but he didn't."

Bliss said, "By 'wife,' I presume you mean a woman who is a particular man's regular companion."

Trevize said, "A little more than that, Bliss. A legal companion, one with enforceable rights in consequence of that companionship."

Pelorat said nervously, "Bliss, I do not have a wife. I have had one now and then in the past, but I haven't had one for quite a while. If you would care to undergo the legal ritual-

"Oh, Pel," said Bliss, making a sweeping-away movement with her right hand, "what would I care about that? I have innumerable companions that are as close to me as your arm is close companion to your other arm. It is only Isolates who feel so alienated that they have to use artificial conventions to enforce a feeble substitute for true companionship."

"But I am an Isolate, Bliss dear."

"You will be less Isolate in time, Pel. Never truly Gaia, perhaps, but less Isolate, and you will have a flood of companions."

"I only want you, Bliss," said Pel.

"That's because you know nothing about it. You'll learn."

Trevize was concentrating on the viewscreen during that exchange with a look of strained tolerance on his face. The cloud cover had come up close and, for a moment, all was gray fog.

Microwave vision, he thought, and the computer switched at once to the detection of radar echoes. The clouds disappeared and the surface of Comporellon appeared in false color, the boundaries between sectors of different constitution a little fuzzy and wavering.

"Is that the way it's going to look from now on?" asked Bliss, with some astonishment.

"Only till we drift below the clouds. Then it's back to sunlight." Even as he spoke, the sunshine and normal visibility returned.

"I see," said Bliss. Then, turning toward him, "But what I don't see is why it should matter to that official at the entry station whether Pel was deceiving his wife or not?"

"If that fellow, Kendray, had held you back, the news, I said, might reach Terminus and, therefore, Pelorat's wife. Pelorat would then be in trouble. I didn't specify the sort of trouble he would be in, but I tried to sound a1 though it would be bad. -There is a kind of free-masonry among males,"

Trevize was grinning, now, "and one male doesn't betray another fellow male. male. He would even help, if requested. The reasoning, I suppose, is that it might be the helper's turn next to be helped. I presume," he added, turning a bit graver, "that there is a similar free-masonry among women, but, not being a woman, I have never had an opportunity to observe it closely."

Bliss's face resembled a pretty thundercloud. "Is this a joke?" she demanded.

"No, I'm serious," said Trevize. "I don't say that that Kendray fellow let us through only to help Janov avoid angering his wife. The masculine free-masonry may simply have added the last push to my other arguments."

"But that is horrible. It is its rules that hold society together and bind it into a whole. Is it such a light thing to disregard the rules for trivial reasons?"

"Well," said Trevize, in instant defensiveness, "some of the rules are themselves trivial. Few worlds are very particular about passage in and out of their space in times of peace and commercial prosperity, such as we have now, thanks to the Foundation. Comporellon, for some reason, is out of step-probably because of an obscure matter of internal politics. Why should we suffer over that?"

"That is beside the point. If we only obey those rules that we think are just and reasonable, then no rule will stand, for there is no rule that some will not think is unjust and unreasonable. And if we wish to push our own individual advantage, as we see it, then we will always find reason to believe that some hampering rule is unjust and unreasonable. What starts, then, as a shrewd trick ends in anarchy and disaster, even for the shrewd trickster, since he, too, will not survive the collapse of society."

Trevize said, "Society will not collapse that easily. You speak as Gaia, and Gaia cannot possibly understand the association of free individuals. Rules, established with reason and justice, can easily outlive their usefulness as circumstances change, yet can remain in force through inertia. It is then not only right, but useful, to break those rules as a way of advertising the fact that they have become useless-or even actually harmful."

"Then every thief and murderer can argue he is serving humanity."

"You go to extremes. In the superorganism of Gaia, there is automatic consensus on the rules of society and it occurs to no one to break them. Opt might as well say that Gaia vegetates and fossilizes. There is admittedly an element of disorder in free association, but that is the price one must pay for the ability to induce novelty and change. -On the whole, it's a reasonable price."

Bliss's voice rose a notch. "You are quite wrong if you think Gaia vegetates and fossilizes. Our deeds, our ways, our views are under constant self-examination. They do not persist out of inertia, beyond reason. Gaia learns by experience and thought; and therefore changes when that is necessary."

"Even if what you say is so, the self-examination and learning must be slow, because nothing but Gaia exists on Gaia. Here, in freedom, even when almost everyone agrees, there are bound to be a few who disagree and, in some cases, those few may be right, and if they are clever enough, enthusiastic enough, right enough, they will win out in the end and be heroes in future ages-like Hari Seldon, who perfected psychohistory, pitted his own thoughts against the entire Galactic Empire, and won."

"He has won only so far, Trevize. The Second Empire he planned for will not come to pass. There will be Galaxia instead."

"Will there?" said Trevize grimly.

"It was your decision, and, however much you argue with me in favor of Isolates and of their freedom to be foolish and criminal, there is something in the hidden recesses of your mind that forced you to agree with me/us/Gaia when you made your choice."

"What is present in the hidden recesses of my mind," said Trevize, more grimly still, "is what I seek. -There, to begin with," he added, pointing to the viewscreen where a great city spread out to the horizon, a cluster of low structures climbing to occasional heights, surrounded by fields that were brown under a light frost.

Pelorat shook his head. "Too bad. I meant to watch the approach, but I got caught up in listening to the argument."

Trevize said, "Never mind, Janov. You can watch when we leave. I'll promise to keep my mouth shut then, if you can persuade Bliss to control her own."

And the Far Star descended a microwave beam to a landing at the spaceport.

14.

KENDRAY looked grave when he returned to the entry station and watched the Far Star pass through. He was still clearly depressed at the close of his shift.

He was sitting down to his closing meal of the day when one of his mates, a gangling fellow with wide-set eyes, thin light hair, and eyebrows so blond they seemed absent, sat down next to him.

"What's wrong, Ken?" said the other.

Kendray's lips twisted. He said, "That was a gravitic ship that just passed through, Gatis."

"The odd-looking one with zero radioactivity?"

"That's why it wasn't radioactive. No fuel. Gravitic."

Gatis nodded his head. "What we were told to watch for, right?"

"Right."

"And you got it. Leave it to you to be the lucky one."

"Not so lucky. A woman without identification was on it-and I didn't report her."

"What? Look, don't tell me. I don't want to know about it. Not another word. You may be a pal, but I'm not going to make myself an accomplice after the fact."

"I'm not worried about that. Not very much. I had to send the ship down. They want that gravitic---or any gravitic. You know that."

"Sure, but you could at least have reported the woman."

"Didn't like to. She's not married. She was just picked up for-for use."

"How many men on board?"

"Two."

"And they just picked her up for-for that. They must be from Terminus."

"That's right."

"They don't care what they do on Terminus."

"That's right."

"Disgusting. And they get away with it."

"One of them was married, and he didn't want his wife to know. If I reported her, his wife would find out."

"Wouldn't she be back on Terminus?"

"Of course, but she'd find out anyway."

"Serve the fellow right if his wife did find out."

"I agree-but I can't be the one to be responsible for it."

"They'll hammer you for not reporting it. Not wanting to make trouble for a guy is no excuse."

"Would you have reported him?"

"I'd have had to, I suppose."

"No, you wouldn't. The government wants that ship. If I had insisted on putting the woman on report, the men on the ship would have changed their minds about landing and would have pulled away to some other planet. The government wouldn't have wanted-that."

"But will they believe you?"

"I think so. -A very cute-looking woman, too. Imagine a woman like that being willing to come along with two men, and married men with the nerve to take advantage. - You know, it's tempting."

"I don't think you'd want the missus to know you said that--or even thought that."

Kendray said defiantly, "Who's going to tell her? You?"

"Come on. You know better than that." Gatis's look of indignation faded quickly, and he said, "It's not going to do those guys any good, you know, you letting them through."

"I know."

"The people down surface-way will find out soon enough, and even if you get away with it, they won't."

"I know," said Kendray, "but I'm sorry for them. Whatever trouble the woman will make for them will be as nothing to what the ship will make for them. The captain made a few remarks-"

Kendray paused, and Gatis said eagerly, "Like what?"

"Never mind," said Kendray. "If it comes out, it's my butt."

"I'm not going to repeat it."

"Neither am I. But I'm sorry for those two men from Terminus."

15.

To ANYONE who has been in space and experienced its changelessness, the real excitement of space flight comes when it is time to land on a new planet. The ground speeds backward under you as you catch glimpses of land and water, of geometrical areas and lines that might represent fields and roads. You become aware of the green of

growing things, the gray of concrete, the brown of bare ground, the white of snow. Most of all, there is the excitement of populated conglomerates; cities which, on each world, have their own characteristic geometry and architectural variants.

In an ordinary ship, there would have been the excitement of touching down and skimming across a runway. For the Far Star, it was different. It floated through the air, was slowed by skillfully balancing air resistance and gravity, and finally made to come to rest above the spaceport. The wind was gusty and that introduced an added complication. The Far Star, when adjusted to low response to gravitational pull, was not only abnormally low in weight, but in mass as well. If its mass were too close to zero, the wind would blow it away rapidly. Hence, gravitational response had to be raised and jetthrusters had to be delicately used not only against the planet's pull but against the wind's push, and in a manner that matched the shift in wind intensity closely. Without an adequate computer, it could not possibly have been done properly.

Downward and downward, with small unavoidable shifts in this direction and that, drifted the ship until it finally sank into the outlined area that marked its assigned position in the port.

The sky was a pale blue, intermingled with flat white, when the Far Star landed. The wind remained gusty even at ground level and though it was now no longer a navigational peril, it produced a chill that Trevize winced at. He realized at once that their clothing supply was totally unsuited to Comporellian weather.

Pelorat, on the other hand, looked about with appreciation and drew his breath deeply through his nose with relish, liking the bite of the cold, at least for the moment. He even deliberately unseamed his coat in order to feel the wind against his chest. In a little while, he knew, he would seam up again and adjust his scarf, but for now he wanted to feel the existence of an atmosphere. One never did aboard ship.

Bliss drew her coat closely about herself, and, with gloved hands, dragged her hat down to cover her ears. Her face was crumpled in misery and seemed close to tears.

She muttered, "This world is evil. It hates and mistreats us."

"Not at all, Bliss dear," said Pelorat earnestly. "I'm sure the inhabitant; like this world, and that it-uh-likes them, if you want to put it that way. We'll be indoors soon enough, and it will be warm there."

Almost as an afterthought, he flipped one side of his coat outward curved it about her, while she snuggled against his shirtfront.

Trevize did his best to ignore the temperature. He obtained a map card from the port authority, checking it on his pocket computer to sure that it gave the necessary details-his aisle and lot number, the and engine number of his ship, and so on. He checked once more to sure that the ship was tightly secured, and then took out the maximum insurance allowed against the chance of misadventure (useless, actually, the Far Star should be invulnerable at the likely Comporellian level of technology, and was entirely irreplaceable at whatever price, if it were not). !

Trevize found the taxi-station where it ought to be. (A number of facilities at spaceports were standardized in position, appearance, and manner of use. They had to be, in view of the multiworld nature of the clientele.)

He signaled for a taxi, punching out the destination merely as "City."

A taxi glided up to them on diamagnetic skis, drifting slightly under the impulse of the wind, and trembling under the vibration of its not-quite-silent engine. It was a dark gray in color and bore its white taxi-insignia on tell doors. The taxi-driver was wearing a dark coat and a white, furred hat.

Pelorat, becoming aware, said softly, "The planetary decor seem to be black and white."

Trevize said, "It may be more lively in the city proper."

The driver spoke into a small microphone, perhaps in order to avoid opening the window. "Going to the city, folks?"

There was a gentle singsong to his Galactic dialect that was rather attractive, and he was not hard to understand-always a relief on a new world,

Trevize said, "That's right," and the rear door slid open.

Bliss entered, followed by Pelorat, and then by Trevize. The door closed and warm air welled upward.

Bliss rubbed her hands and breathed a long sigh of relief.

The taxi pulled out slowly, and the driver said, "That ship you came in is gravitic, isn't it?"

Trevize said dryly, "Considering the way it came down, would you doubt it?"

The driver said, "Is it from Terminus, then?"

Trevize said, "Do you know any other world that could build one?"

The driver seemed to digest that as the taxi took on speed. He then said, "Do you always answer a question with a question?"

Trevize couldn't resist. "Why not?"

"In that case, how would you answer me if I asked if your name were Golan Trevize?"

"I would answer: What makes you ask?"

The taxi came to a halt at the outskirts of the spaceport and the driver said, "Curiosity! I ask again: Are you Golan Trevize?"

Trevize's voice became stiff and hostile. "What business is that of yours?"

"My friend," said the driver, "We're not moving till you answer the question. And if you don't answer in a clear yes or no in about two seconds, I'm turning the heat off in the passenger compartment and we'll keep on waiting. Are you Golan Trevize, Councilman of Terminus? If your answer is in the negative, you will have to show me your identification papers."

Trevize said, "Yes, I am Golan Trevize, and as a Councilman of the Foundation, I expect to be treated with all the courtesy due my rank. Your failure to do so will have you in hot water, fellow. Now what?"

"Now we can proceed a little more lightheartedly." The taxi began to move again. "I choose my passengers carefully, and I had expected to pick up two men only. The woman was a surprise and I might have made a mistake. As it is, if I have you, then I can leave it to you to explain the woman when you reach your destination."

"You don't know my destination."

"As it happens, I do. You're going to the Department of Transportation."

"That's not where I want to go."

"That matters not one little bit, Councilman. If I were a taxi-driver, I'd take you where you want to go. Since I'm not, I take you where I want you to go. "

"Pardon me," said Pelorat, leaning forward, "you certainly seem to be a taxi-driver. You're driving a taxi."

"Anyone might drive a taxi. Not everyone has a license to do so. And not every car that looks like a taxi is a taxi."

Trevize said, "Let's stop playing games. Who are you and what are you doing? Remember that you'll have to account for this to the Foundation."

"Not I," said the driver, "My superiors, perhaps. I'm an agent of the Comporellian Security Force. I am under orders to treat you with all due respect to your rank, but you must go where I take you. And be very careful how you react, for this vehicle is armed, and I am under orders to defend myself against attack."

16.

THE VEHICLE, having reached cruising speed, moved with absolute, smooth quiet, and Trevize sat there in quietness as frozen. He was aware, without actually looking, of Pelorat glancing at him now and then with a look of uncertainty on his face, a "What do we do now? Please tell me" look.

Bliss, a quick glance told him, sat calmly, apparently unconcerned. Of course, she was a whole world in herself. All of Gaia, though it might be at Galactic distances, was wrapped up in her skin. She had resources that could be called on in a true emergency.

But, then, what had happened?

Clearly, the official at the entry station, following routine, had sent down his report-omitting Bliss-and it had attracted the interest of the security people and, of all things, the Department of Transportation. Why?

It was peacetime and he knew of no specific tensions between Comporellon and the Foundation. He himself was an important Foundation official-

Wait, he had told the official at the entry station-Kendray, his name had been-that he was on important business with the Comporellian government. He had stressed that in his attempt to get through. Kendray must have reported that as well and that would rouse all sorts of interest.

He hadn't anticipated that, and he certainly should have.

What, then, about his supposed gift of rightness? Was he beginning to believe that he was the black box that Gaia thought he was-or said it thought he was. Was he being led into a quagmire by the growth of an overconfidence built on superstition?

How could he for one moment be trapped in that folly? Had he never in his life been wrong? Did he know what the weather would be tomorrow? Did he win large amounts in games of chance? The answers were no, no, and no.

Well, then, was it only in the large, inchoate things that he was always right? How could he tell?

Forget that! -After all, the mere fact that he had stated he had important state business-no, it was "Foundation security" that he had said-

Well, then, the mere fact that he was there on a matter of Foundation security, coming, as he had, secretly and unheralded, would surely attract their attention. -Yes, but until they knew what it was all about they would surely act with the utmost circumspection. They would be ceremonious and treat him as a high dignitary. They would not kidnap him and make use of threats.

Yet that was exactly what they had done. Why?

What made them feel strong enough and powerful enough to treat a Councilman of Terminus in such a fashion?

Could it be Earth? Was the same force that hid the world of origin so effectively, even against the great mentalists of the Second Foundation, now working to circumvent his search for Earth in the very first stage of that search? Was Earth omniscient? Omipotent?

Trevize shook his head. That way lay paranoia. Was he going to blame Earth for everything? Was every quirk of behavior, every bend in the road, every twist of circumstance, to be the result of the secret machinations of Earth? As soon as he began to think in that fashion, he was defeated.

At that point, he felt the vehicle decelerating and was brought back to reality at a stroke.

It occurred to him that he had never, even for one moment, looked at the city through which they had been passing. He looked about now, a touch wildly. The buildings were low, but it was a cold planet-most of the structures were probably underground.

He saw no trace of color and that seemed against human nature.

Occasionally, he could see a person pass, well bundled. But, then, the people, like the buildings themselves, were probably mostly underground.

The taxi had stopped before a low, broad building, set in a depression, the bottom of which Trevize could not see. Some moments passed and it continued to remain there, the driver himself motionless as well. His tall, white hat nearly touched the roof of the vehicle.

Trevize wondered fleetingly how the driver managed to step in and out of the vehicle without knocking his hat off, then said, with the controlled anger one would expect of a haughty and mistreated official, "Well, driver, what now?"

The Comporellian version of the glittering field-partition that separated the driver from the passengers was not at all primitive. Sound waves could pass through-though Trevize was quite certain that material objects, at reasonable energies, could not.

The driver said, "Someone will be up to get you. Just sit back and take it easy."

Even as he said this, three heads appeared in a slow, smooth ascent from the depression in which the building rested. After that, there came the rest of the bodies. Clearly, the newcomers were moving up the equivalent of an escalator, but Trevize could not see the details of the device from where he sat.

As the three approached, the passenger door of the taxi opened and a flood of cold air swept inward.

Trevize stepped out, seaming his coat to the neck. The other two followed him-Bliss with considerable reluctance.

The three Comporellians were shapeless, wearing garments that ballooned outward and were probably electrically heated. Trevize felt scorn at that. There was little use for such things on Terminus, and the one time he had borrowed a heat-coat during winter on the nearby planet of Anacreon, he discovered it had a tendency to grow warmer at a slow rate so that by the time he realized he was too warm he was perspiring uncomfortably.

As the Comporellians approached, Trevize noted with a distinct sense of indignation that they were armed. Nor did they try to conceal the fact. Quite the contrary. Each had a blaster in a holster attached to the outer garment.

One of the Comporellians, having stepped up to confront Trevize, said gruffly, "Your pardon, Councilman," and then pulled his coat open with rough movement. He had inserted questing hands which moved quickly up and down Trevize's sides, back, chest, and thighs. The coat was shaken and felt. Trevize was too overcome by confused astonishment to realize he had been rapidly and efficiently searched till it was over.

Pelorat, his chin drawn down and his mouth in a twisted grimace, was undergoing a similar indignity at the hands of a second Comporellian.

The third was approaching Bliss, who did not wait to be touched. She, at least, knew what to expect, somehow, for she whipped off her coat and, for a moment, stood there in her light clothing, exposed to the whistle of the wind.

She said, freezingly enough to match the temperature, "You can see I'm not armed."

And indeed anyone could. The Comporellian shook the coat, as though by its weight he could tell if it contained a weapon-perhaps he could--and retreated.

Bliss put on her coat again, huddling into it,- and for a moment Trevize admired her gesture. He knew how she felt about the cold, but she had not allowed a tremor or shiver to escape her as she had stood there in thin blouse and slacks. (Then he wondered if, in the emergency, she might not have drawn warmth from the rest of Gaia.)

One of the Comporellians gestured, and the three Outworlders followed him. The other two Comporellians fell behind. The one or two pedestrians who were on the street did not bother to watch what was happening. Either they were too accustomed to the

sight or, more likely, had their minds occupied with getting to some indoor destination as soon as possible.

Trevize saw now that it was a moving ramp up which the Comporellians had ascended. They were descending now, all six of them, and passed through a lock arrangement almost as complicated as that on a spaceship-to keep heat inside, no doubt, rather than-air.

And then, at once, they were inside a huge building.

5. STRUGGLE FOR THE SHIP

17.

TREVIZE'S first impression was that he was on the set of a hyperdrama—specifically, that of a historical romance of Imperial days. There was a particular set, with few variations (perhaps only one existed and was used by every hyperdrama producer, for all he knew), that represented the great worldgirdling planet-city of Trantor in its prime.

There were the large spaces, the busy scurry of pedestrians, the small vehicles speeding along the lanes reserved for them.

Trevize looked up, almost expecting to see air-taxis climbing into dim vaulted recesses, but that at least was absent. In fact, as his initial astonishment subsided, it was clear that the building was far smaller than one would expect on Trantor. It was only a building and not part of a complex that stretched unbroken for thousands of miles in every direction.

The colors were different, too. On the hyperdramas, Trantor was always depicted as impossibly garish in coloring and the clothing was, if taken literally, thoroughly impractical and unserviceable. However, all those colors and frills were meant to serve a symbolic purpose for they indicated the decadence (a view that was obligatory, these days) of the Empire, and of Trantor particularly.

If that were so, however, Comporellon was the very reverse of decadent, for the color scheme that Pelorat had remarked upon at the spaceport was here borne out.

The walls were in shades of gray, the ceilings white, the clothing of the population in black, gray, and white. Occasionally, there was an all-black costume; even more occasionally, an all-gray; never an all-white that Trevize could see. The pattern was always different, however, as though people, deprived of color, still managed, irrepressibly, to find ways of asserting individuality.

Faces tended to be expressionless or, if not that, then grim. Women wore their hair short; men longer, but pulled backward into short queues. No one looked at anyone else as he or she passed. Everyone seemed to breathe a purposefulness, as though there was definite business on each mind and room for nothing else. Men and women dressed alike, with only length of hair and the slight bulge of breast and width of hip marking the difference.

The three were guided into an elevator that went down five levels. There they emerged and were moved on to a door on which there appeared in small and unobtrusive lettering, white on gray, "Mitza Lizalor, MinTrans."

The Comporellian in the lead touched the lettering, which, after a moment, glowed in response. The door opened and they walked in.

It was a large room and rather empty, the bareness of content serving, perhaps, as a kind of conspicuous consumption of space designed to show the power of the occupant.

Two guards stood against the far wall, faces expressionless and eyes firmly fixed on those entering. A large desk filled the center of the room, set perhaps just a little back of center. Behind the desk was, presumably, Mitza Lizalor, large of body, smooth of face, dark of eyes. Two strong and capable hands with long, square-ended fingers rested on the desk.

The MinTrans (Minister of Transportation, Trevize assumed) had the lapels of the outer garment a broad and dazzling white against the dark gray of the rest of the costume. The double bar of white extended diagonally below the lapels, across the garment itself and crossing at the center of the chest. Trevize could see that although the garment was cut in such a fashion as to obscure the swelling of a woman's breasts on either side, the white X called attention to them.

The Minister was undoubtedly a woman. Even if her breasts were ignored, her short hair showed it, and though there was no makeup on her face, her features showed it, too.

Her voice, too, was indisputably feminine, a rich contralto.

She said, "Good afternoon. It is not often that we are honored by a visit of men from Terminus. -And of an unreported woman as well." Her eyes passed from one to another, then settled on Trevize, who was standing stiffly and frowningly erect. "And one of the men a member of the Council, too."

"A Councilman of the Foundation," said Trevize, trying to make his voice ring. "Councilman Golan Trevize on a mission from the Foundation."

"On a mission?" The Minister's eyebrows rose.

"On a mission," repeated Trevize. "Why, then, are we being treated as felons? Why have we been taken into custody by armed guards and brought here as prisoners? The Council of the Foundation, I hope you understand, will not be pleased to hear of this."

"And in any case," said Bliss, her voice seeming a touch shrill in comparison with that of the older woman, "are we to remain standing indefinitely?"

The Minister gazed coolly at Bliss for a long moment, then raised an arm and said, "Three chairs! Now!"

A door opened and three men, dressed in the usual somber Comporellian fashion, brought in three chairs at a semitrot. The three people standing before the desk sat down.

"There," said the Minister, with a wintry smile, "are we comfortable?"

Trevize thought not. The chairs were uncushioned, cold to the touch, flat of surface and back, making no compromise with the shape of the body. He said, "Why are we here?"

The Minister consulted papers lying on her desk. "I will explain as soon as I am certain of my facts. Your ship is the Far Star out of Terminus. Is that correct, Councilman?"

"It is."

The Minister looked up. "I used your title, Councilman. Will you, as a courtesy, use mine?"

"Would Madam Minister be sufficient? Or is there an honorific?"

"No honorific, sir, and you need not double your words. 'Minister' is sufficient, or 'Madam' if you weary of repetition."

"Then my answer to your question is: It is, Minister."

"The captain of the ship is Golan Trevize, citizen of the Foundation and member of the Council on Terminus—a freshman Councilman, actually. And you are Trevize. Am I correct in all this, Councilman?"

"You are, Minister. And since I am a citizen of the Foundation—"

"I am not yet done, Councilman. Save your objections till I am. Accompanying you is Janov Pelorat, scholar, historian, and citizen of the Foundation. And that is you, is it not, Dr. Pelorat?"

Pelorat could not suppress a slight start as the Minister turned her keen glance on him. He said, "Yes, it is, my d—" He paused, and began again, "Yes, it is, Minister."

The Minister clasped her hands stiffly. "There is no mention in the report that has been forwarded to me of a woman. Is this woman a member of the ship's complement?"

"She is, Minister," said Trevize.

"Then I address myself to the woman. Your name?"

"I am known as Bliss," said Bliss, sitting erectly and speaking with calm clarity, "though my full name is longer, madam. Do you wish it all?"

"I will be content with Bliss for the moment. Are you a citizen of the Foundation, Bliss?"

"I am not, madam."

"Of what world are you a citizen, Bliss?"

"I have no documents attesting to citizenship with respect to any world, madam."

"No papers, Bliss?" She made a small mark on the papers before her. "That fact is noted. What is it you are doing on board the ship?"

"I am a passenger, madam."

"Did either Councilman Trevize or Dr. Pelorat ask to see your papers before you boarded, Bliss?"

"No, madam."

"Did you inform them that you were without papers, Bliss?"

"No, madam."

"What is your function on board ship, Bliss? Does your name suit your function?"

Bliss said proudly, "I am a passenger and have no other function."

Trevize broke in. "Why are you badgering this woman, Minister? What law has she broken?"

Minister Lizalor's eyes shifted from Bliss to Trevize. She said, "You are an Outworlder, Councilman, and do not know our laws. Nevertheless, you are subject to

them if you choose to visit our world. You do not bring your laws with you; that is a general rule of Galactic law, I believe."

"Granted, Minister, but that doesn't tell me which of your laws she has broken."

"It is a general rule in the Galaxy, Councilman, that a visitor from a world outside the dominions of the world she is visiting have her identification papers with her. Many worlds are lax in this respect, valuing tourism, or indifferent to the rule of order. We of Comporellon are not. We are a world of law and rigid in its application. She is a worldless person, and as such, breaks our law."

Trevize said, "She had no choice in the matter. I was piloting the ship, and I brought it down to Comporellon. She had to accompany us, Minister, or do you suggest she should have asked to be jettisoned in space?"

"This merely means that you, too, have broken our law, Councilman."

"No, that is not so, Minister. I am not an Outworlder. I am a citizen of the Foundation, and Comporellon and the worlds subject to it are an Associated Power of the Foundation. As a citizen of the Foundation, I can travel freely here."

"Certainly, Councilman, as long as you have documentation to prove that you are indeed a citizen of the Foundation."

"Which I do, Minister."

"Yet even as citizen of the Foundation, you do not have the right to break our law by bringing a worldless person with you."

Trevize hesitated. Clearly, the border guard, Kendray, had not kept faith with him, so there was no point in protecting him. He said, "We were not stopped at the immigration station and I considered that implicit permission to bring this woman with me, Minister."

"It is true you were not stopped, Councilman. It is true the woman was not reported by the immigration authorities and was passed through. I can suspect, however, that the officials at the entry station decided-and quite correctly-that it was more important to get your ship to the surface than to worry about a worldless person. What they did was, strictly speaking, an infraction of the rules, and the matter will have to be dealt with in the proper fashion, but I have no doubt that the decision will be that the infraction was justified. We are a world of rigid law, Councilman, but we are not rigid beyond the dictates of reason."

Trevize said at once, "Then I call upon reason to bend your rigor now, Minister. If, indeed, you received no information from the immigration station to the effect that a worldless person was on board ship, then you had no knowledge that we were breaking any law at the time we landed. Yet it is quite apparent that you were prepared to take us into custody the moment we landed, and you did, in fact, do so. Why did you do so, when you had no reason to think any law was being broken?"

The Minister smiled. "I understand your confusion, Councilman. Please let me assure you that whatever knowledge we had gained-or had not gained-as to the worldless condition of your passenger had nothing to do with your being taken into custody. We

are acting on behalf of the Foundation, of which, as you point out, we are an Associated Power."

Trevize stared at her. "But that's impossible, Minister. It's even worse. It's ridiculous."

The Minister's chuckle was like the smooth flow of honey. She said, "I am interested in the way you consider it worse to be ridiculous than impossible, Councilman. I agree with you there. Unfortunately for you, however, it is neither. Why should it be?"

"Because I am an official of the Foundation government, on a mission for them, and it is absolutely inconceivable that they would wish to arrest me, or that they would even have the power to do so, since I have legislative immunity."

"Ah, you omit my title, but you are deeply moved and that is perhaps forgivable. Still, I am not asked to arrest you directly. I do so only that I may carry out what I am asked to do, Councilman."

"Which is, Minister?" said Trevize, trying to keep his emotion under control in the face of this formidable woman.

"Which is to commandeer your ship, Councilman, and return it to the Foundation."

"What?"

"Again you omit my title, Councilman. That is very slipshod of you and no way to press your own case. The ship is not yours, I presume. Was it designed by you, or built by you, or paid for by you?"

"Of course not, Minister. It was assigned to me by the Foundation government."

"Then, presumably, the Foundation government has the right to cancel that assignment, Councilman. It is a valuable ship, I imagine."

Trevize did not answer.

The Minister said, "It is a gravitic ship, Councilman. There cannot be many and even the Foundation must have but a very few. They must regret having assigned one of those very few to you. Perhaps you can persuade them .4, to assign you another and less valuable ship that will nevertheless amply suffice for your mission. -But we must have the ship in which you have arrived."

"No, Minister, I cannot give up the ship. I cannot believe the Foundation asks it of you."

The Minister smiled. "Not of me solely, Councilman. Not of Comporellon, specifically. We have reason to believe that the request was sent out to ever; one of the many worlds and regions under Foundation jurisdiction or association. From this, I deduce that the Foundation does not know your itinerary and is seeking you with a certain angry vigor. From which I further deduce that you have no mission to deal with Comporellon on behalf of the Foundation--since in that case they would know where you were and deal with us specifically. In short, Councilman, you have been lying to me."

Trevize said, with a certain difficulty, "I would like to see a copy of request you have received from the Foundation government, Minister. I entitled, I think, to that."

"Certainly, if all this comes to legal action. We take our legal forms very seriously, Councilman, and your rights will be fully protected, I assure you. It would be better and

easier, however, if we come to an agreement here without the publicity and delay of legal action. We would prefer that, and, I am certain, so would the Foundation, which cannot wish the Galaxy at large to know of a runaway Legislator. That would put the Foundation in a ridiculous light, and, by your estimate and mine, that would be worse than impossible."

Trevize was again silent.

The Minister waited a moment, then went on, as imperturbable as ever. "Come, Councilman, either way, by informal agreement or by legal action, we intend to have the ship. The penalty for bringing in a worldless passenger will depend on which route we take. Demand the law and she will represent an additional point against you and you will all suffer the full punishment for the crime, and that will not be light, I assure you. Come to an agreement, and your passenger can be sent away by commercial flight to any destination she wishes, and, for that matter, you two can accompany her, if you wish. Or, if the Foundation is willing, we can supply you with one of our own ships, a perfectly adequate one, provided, of course, that the Foundation will replace it with an equivalent ship of their own. Or, if, for any reason, you do not wish to return to Foundation-controlled territory, we might be willing to offer you refuge here and, perhaps, eventual Comporellian citizenship. You see, you have many possibilities of gain if you come to a friendly arrangement, but none at all if you insist on your legal rights."

Trevize said, "Minister, you are too eager. You promise what you cannot do. You cannot offer me refuge in the face of a Foundation request that I be delivered to them."

The Minister said, "Councilman, I never promise what I cannot do. The Foundation's request is only for the ship. They make no request concerning you as an individual, or for anyone else on the ship. Their sole request is for the vessel."

Trevize glanced quickly at Bliss, and said, "May I have your permission, Minister, to consult with Dr. Pelorat and Miss Bliss for a short while?"

"Certainly, Councilman. You may have fifteen minutes."

"Privately, Minister."

"You will be led to a room and, after fifteen minutes, you will be led back, Councilman. You will not be interfered with while you are there nor will we attempt to monitor your conversation. You have my word on that and I keep my word. However, you will be adequately guarded so do not be so foolish as to think of escaping."

"We understand, Minister."

"And when you come back, we will expect your free agreement to give up the ship. Otherwise, the law will take its course, and it will be much the worse for all of you, Councilman. Is that understood?"

"That is understood, Minister," said Trevize, keeping his rage under tight control, since its expression would do him no good at all.

IT was a small room, but it was well lighted. It contained a couch and two chairs, and one could hear the soft sound of a ventilating fan. On the whole, it was clearly more comfortable than the Minister's large and sterile office.

A guard had led them there, grave and tall, his hand hovering near the butt of his blaster. He remained outside the door as they entered and said, in a heavy voice, "You have fifteen minutes."

He had no sooner said that than the door slid shut, with a thud.

Trevize said, "I can only hope that we can't be overheard."

Pelorat said, "She did give us her word, Golan."

"You judge others by yourself, Janov. Her so-called 'word' will not suffice. She will break it without hesitation if she wants to."

"It doesn't matter," said Bliss. "I can shield this place."

"You have a shielding device?" asked Pelorat.

Bliss smiled, with a sudden flash of white teeth. "Gaia's mind is a shielding device, Pel. It's an enormous mind."

"We are here," said Trevize angrily, "because of the limitations of that enormous mind."

"What do you mean?" said Bliss.

"When the triple confrontation broke up, you withdrew me from the minds of both the Mayor and that Second Founder, Gendibal. Neither was to think of me again, except distantly and indifferently. I was to be left to myself."

"We had to do that," said Bliss. "You are our most important resource."

"Yes. Golan Trevize, the ever-right. But you did not withdraw my ship from their minds, did you? Mayor Branno did not ask for me; she had no interest in me, but she did ask for the ship. She has not forgotten the ship."

Bliss frowned.

Trevize said, "Think about it. Gaia casually assumed that I included my ship; that we were a unit. If Branno didn't think of me, she wouldn't think of the ship. The trouble is that Gaia doesn't understand individuality. It thought of the ship and me as a single organism, and it was wrong to think that."

Bliss said softly, "That is possible."

"Well, then," said Trevize flatly, "it's up to you to rectify that mistake. I must have my gravitic ship and my computer. Nothing else will do. Therefore, Bliss, make sure that I keep the ship. You can control minds."

"Yes, Trevize, but we do not exercise that control lightly. We did it in connection with the triple confrontation, but do you know how long that confrontation was planned? Calculated? Weighed? It took-literally-many years. I cannot simply walk up to a woman and adjust the mind to suit someone's convenience."

"Is this a time-"

Bliss went on forcefully. "If I began to follow such a course of action, where do we stop? I might have influenced the agent's mind at the entry station and we would have passed through at once. I might have influenced the agent's mind in the vehicle, and he would have let us go."

"Well, since you mention it, why didn't you do these things?"

"Because we don't know where it would lead. We don't know the side effects, which may well turn out to make the situation worse. If I adjust the Minister's mind now, that will affect her dealings with others with whom she will come in contact and, since she is a high official in her government, it may affect interstellar relations. Until such time as the matter is thoroughly worked out, we dare not touch her mind."

"Then why are you with us?"

"Because the time may come when your life is threatened. I must protect your life at all costs, even at the cost of my Pel or of myself. Your life was not threatened at the entry station. It is not threatened now. You must work this out for yourself, and do so at least until Gaia can estimate the consequence of some sort of action and take it."

Trevize fell into a period of thought. Then he said, "In that case, I have to try something. It may not work."

The door moved open, thwacking into its socket as noisily as it had closed.

The guard said, "Come out."

As they emerged, Pelorat whispered, "What are you going to do, Golan?"

Trevize shook his head and whispered, "I'm not entirely sure. I will have to improvise."

19.

MINISTER Lizalor was still at her desk when they returned to her office. Her face broke into a grim smile as they walked in.

She said, "I trust, Councilman Trevize, that you have returned to tell me that you are giving up this Foundation ship you have."

"I have come, Minister," said Trevize calmly, "to discuss terms."

"There are no terms to discuss, Councilman. A trial, if you insist on one, can be arranged very quickly and would be carried through even more quickly. I guarantee your conviction even in a perfectly fair trial since your guilt in bringing in a worldless person is obvious and indisputable. After that, we will be legally justified in seizing the ship and you three would suffer heavy penalties. Don't force those penalties on yourself just to delay us for a day."

"Nevertheless, there are terms to discuss, Minister, because no matter how quickly you convict us, you cannot seize the ship without my consent. Any attempt you make to force your way into the ship without me will destroy it, and the spaceport with it, and every human being in the spaceport. This will surely infuriate the Foundation, something you dare not do. Threatening us or mistreating us in order to force me to open the ship is

surely against your law, and if you break your own law in desperation and subject us to torture or even to a period of cruel and unusual imprisonment, the Foundation will find out about it and they will be even more furious. However much they want the ship they cannot allow a precedent that would permit the mistreatment of Foundation citizens. - Shall we talk terms?"

"This is all nonsense," said the Minister, scowling. "If necessary, we will call in the Foundation itself. They will know how to open their own ship, or they will force you to open it."

Trevize said, "You do not use my title, Minister, but you are emotionally moved, so that is perhaps forgivable. You know that the very last thing you will do is call in the Foundation, since you have no intention of delivering the ship to them."

The smile faded from the Minister's face. "What nonsense is this, Councilman?"

"The kind of nonsense, Minister, that others, perhaps, ought not to hear. Let my friend and the young woman go to some comfortable hotel room and obtain the rest they need so badly and let your guards leave, too. They can remain just outside and you can have them leave you a blaster. You are not a small woman and, with a blaster, you have nothing to fear from me. I am unarmed."

The Minister leaned toward him across the desk. "I have nothing to fear from you in any case."

Without looking behind her, she beckoned to one of the guards, who approached at once and came to a halt at her side with a stamp of his feet. said, "Guard, take that one and that one to Suite 5. They are to stay there and to be made comfortable and to be well guarded. You will be held responsible for any mistreatment they may receive, as well as for any breach of security."

She stood up, and not all of Trevize's determination to maintain an absolute composure sufficed to keep him from flinching a little. She was tall; a1. tall, at least, as Trevize's own 1.85 meters, perhaps a centimeter or so taller. She had a narrow waistline, with the two white strips across her chest continuing into an encirclement of her waist, making it look even narrower, There was a massive grace about her and Trevize thought ruefully that her statement that she had nothing to fear from him might well be correct. In a rough-and-tumble, he thought, she would have no trouble pinning his shoulders to the mat.

She said, "Come with me, Councilman. If you are going to talk nonsense then, for your own sake, the fewer who hear you, the better."

She led the way in a brisk stride, and Trevize followed, feeling shrunken in her massive shadow, a feeling he had never before had with a woman.

They entered an elevator and, as the door closed behind them, she said, "We are alone now and if you are under the illusion, Councilman, that You can use force with me in order to accomplish some imagined purpose, please forget that." The singsong in her voice grew more pronounced as she said, with clear amusement, "You look like a reasonably strong specimen, but I assure you I will have no trouble in breaking your arm- or your back, if I must. I am armed, but I will not have to use any weapon."

Trevize scratched at his cheek as his eyes drifted first down, then up her body. "Minister, I can hold my own in a wrestling match with any man my weight, but I have already decided to forfeit a bout with you. I know when I am outclassed."

"Good," said the Minister, and looked pleased.

Trevize said, "Where are we going, Minister?"

"Down! Quite far down. Don't be upset, however. In the hyperdramas, this would be a preliminary to taking you to a dungeon, I suppose, but we have no dungeons on Comporellon-only reasonable prisons. We are going to my private apartment; not as romantic as a dungeon in the bad old Imperial days, but more comfortable."

Trevize estimated that they were at least fifty meters below the surface of the planet, when the elevator door slid to one side and they stepped out.

20.

TREVIZE looked about the apartment with clear surprise.

The Minister said grimly, "Do you disapprove of my living quarters, Councilman?"

"No, I have no reason to, Minister. I am merely surprised. I find it unexpected. The impression I had of your world from what little I saw and heard since arriving was that it was an-an abstemious one, eschewing useless luxury."

"So it is, Councilman. Our resources are limited, and our life must be as harsh as our climate."

"But this, Minister," and Trevize held out both hands as though to embrace the room where, for the first time on this world, he saw color, where the couches were well cushioned, where the light from the illuminated walls was soft, and where the floor was force-carpeted so that steps were springy and silent. "This is surely luxury."

"We eschew, as you say, Councilman, useless luxury; ostentatious luxury; wastefully excessive luxury. This, however, is private luxury, which has its use. I work hard and bear much responsibility. I need a place where I can forget, for a while, the difficulties of my post."

Trevize said, "And do all Comporellians live like this when the eyes of others are averted, Minister?"

"It depends on the degree of work and responsibility. Few can afford to, or deserve to, or, thanks to our code of ethics, want to."

"But you, Minister, can afford to, deserve to-and want to?"

The Minister said, "Rank has its privileges as well as its duties. And now sit down, Councilman, and tell me of this madness of yours." She sat down on the couch, which gave slowly under her solid weight, and pointed to an equally soft chair in which Trevize would be facing her at not too great a distance."

Trevize sat down. "Madness, Minister?"

The Minister relaxed visibly, leaning her right elbow on a pillow. "In private conversation, we need not observe the rules of formal discourse too punctiliously. You

may call me Lizalor. I will call you, Trevize. -Tell me what is on your mind, Trevize, and let us inspect it."

Trevize crossed his legs and sat back in his chair. "See here, Lizalor, you gave me the choice of either agreeing to give up the ship voluntarily, or of being subjected to a formal trial. In both cases, you would end up with the ship. -Yet you have been going out of your way to persuade me to adopt the former alternative. You are willing to offer me another ship to replace mine, so that my friends and I might go anywhere we chose. We might even stay here on Comporellon and qualify for citizenship, if we chose. In smaller things, you were willing to allow me fifteen minutes to consult with my friends. You were even willing to bring me here to your private apartment, while my friends are now, presumably, in comfortable quarters. In short, you are bribing me, Lizalor, rather desperately, to grant you the ship without the necessity of a trial."

"Come, Trevize, are you in no mood to give me credit for humane impulses?"

"None."

"Or the thought that voluntary surrender would be quicker and more convenient than a trial would be?"

"No! I would offer a different suggestion."

"Which is?"

"A trial has one thing in its strong disfavor; it is a public affair. You have several times referred to this world's rigorous legal system, and I suspect it would be difficult to arrange a trial without its being fully recorded. If were so, the Foundation would know of it and you would have to hand the ship to it once the trial was over."

"Of course," said Lizalor, without expression. "It is the Foundation owns the ship."

"But," said Trevize, "a private agreement with me would not have to be placed on formal record. You could have the ship and, since the foundation would not know of the matter-they don't even know that we are on this world-Comporellon could keep the ship. That, I am sure, is what you intend to do."

"Why should we do that?" She was still without expression. "Are we not part of the Foundation Confederation?"

"Not quite. Your status is that of an Associated Power. In any map on which the member worlds of the Federation are shown in red, Comporellon and its dependent worlds would show up as a patch of pale pink."

"Even so, as an Associated Power, we would surely co-operate with the Foundation."

"Would you? Might not Comporellon be dreaming of total independence; even leadership? You are an old world. Almost all worlds claim to be older than they are, but Comporellon is an old world."

Minister Lizalor allowed a cold smile to cross her face. "The oldest, if some of our enthusiasts are to be believed."

"Might there not have been a time when Comporellon was indeed the leading world of a relatively small group of worlds? Might you not still dream of recovering that lost position of power?"

"Do you think we dream of so impossible a goal? I called it madness before I knew your thoughts, and it is certainly madness now that I do."

"Dreams may be impossible, yet still be dreamed. Terminus, located at the very edge of the Galaxy and with a five-century history that is briefer than that of any other world, virtually rules the Galaxy. And shall Comporellon not? Eh?" Trevize was smiling.

Lizalor remained grave. "Terminus reached that position, we are given to understand, by the working out of Hari Seldon's Plan."

"That is the psychological buttress of its superiority and it will hold only as long, perhaps, as people believe it. It may be that the Comporellian government does not believe it. Even so, Terminus also enjoys a technological buttress. Terminus's hegemony over the Galaxy undoubtedly rests on its advanced technology-of which the gravitic ship you are so anxious to have is an example. No other world but Terminus disposes of gravitic ships. If Comporellon could have one, and could learn its workings in detail, it would be bound to have taken a giant technological step forward. I don't think it would be sufficient to help you overcome Terminus's lead, but your government might think so."

Lizalor said, "You can't be serious in this. Any government that kept the ship in the face of the Foundation's desire to have it would surely experience the Foundation's wrath, and history shows that the Foundation can be quite uncomfortably wrathful."

Trevize said, "The Foundation's wrath would only be exerted if the Foundation knew there was something to be wrathful about."

"In that case; Trevize-if we assume your analysis of the situation is something other than mad-would it not be to your benefit to give us the ship and drive a hard bargain? We would pay well for the chance of having it quietly, according to your line of argument."

"Could you then rely on my not reporting the matter to the Foundation?"

"Certainly. Since you would have to report your own part in it."

"I could report having acted under duress."

"Yes. Unless your good sense told you that your Mayor would never believe that. - Come, make a deal."

Trevize shook his head. "I will not, Madam Lizalor. The ship is mine and it must stay mine. As I have told you, it will blow up with extraordinary power if you attempt to force an entry. I assure you I am telling you the truth. Don't rely on its being a bluff."

"You could open it, and reinstruct the computer."

"Undoubtedly, but I won't do that."

Lizalor drew a heavy sigh. "You know we could make you change your mind-if not by what we could do to you, then by what we could do to your friend, Dr. Pelorat, or to the young woman."

"Torture, Minister? Is that your law?"

"No, Councilman. But we might not have to do anything so crude. There is always the Psychic Probe."

For the first time since entering the Minister's apartment, Trevize felt an inner chill.

"You can't do that either. The use of the Psychic Probe for anything but medical purposes is outlawed throughout the Galaxy."

"But if we are driven to desperation--"

"I am willing to chance that," said Trevize calmly, "for it would do you no good. My determination to retain my ship is so deep that the Psychic Probe would destroy my mind before it twisted it into giving it to you." (That was a bluff, he thought, and the chill inside him deepened.) "And even if you were so skillful as to persuade me without destroying my mind and if I were to open the ship and disarm it and hand it over to you, it would still do you no good. The ship's computer is even more advanced than the ship is, and it is designed somehow-I don't know how-to work at its full potential only with me. It is what I might call a one-person computer."

"Suppose, then, you retained your ship, and remained its pilot. Would you consider piloting it for us-as an honored Comporellian citizen? A large salary. Considerable luxury. Your friends, too."

"No."

"What is it you suggest? That we simply let you and your friends launch your ship and go off into the Galaxy? I warn you that before we allow you to do this, we might simply inform the Foundation that you are here with your ship, and leave all to them."

"And lose the ship yourself?"

"If we must lose it, perhaps we would rather lose it to the Foundation than to an impudent Outworlder."

"Then let me suggest a compromise of my own."

"A compromise? Well, I will listen. Proceed."

Trevize said carefully, "I am on an important mission. It began with Foundation support. That support seems to have been suspended, but the mission remains important. Let me have Comporellian support instead and if I complete the mission successfully, Comporellon will benefit."

Lizalor wore a dubious expression. "And you will not return the ship to the Foundation?"

"I have never planned to do that. The Foundation would not be searching for the ship so desperately if they thought there was any intention of my casually returning it to them."

"That is not quite the same thing as saying that you will give the ship to us."

"Once I have completed the mission, the ship may be of no further use to me. In that case, I would not object to Comporellon having it."

The two looked at each other in silence for a few moments.

Lizalor said, "You use the conditional. The ship 'may be.' That is of no value to us."

"I could make wild promises, but of what value would that be to you? The fact that my promises are cautious and limited should show you that they are at least sincere."

"Clever," said Lizalor, nodding. "I like that. Well, what is your mission and how might it benefit Comporellon?"

Trevize said, "No, no, it is your turn. Will you support me if I show you that the mission is of importance to Comporellon?"

Minister Lizalor rose from the couch, a tall, overpowering presence. "I am hungry, Councilman Trevize, and I will get no further on an empty stomach. I will offer you something to eat and drink-in moderation. After that, we will finish the matter."

And it seemed to Trevize that there was a rather carnivorous look of anticipation about her at that moment, so that he tightened his lips with just a bit of unease.

21.

THE MEAL might have been a nourishing one, but it was not one to delight the palate. The main course consisted of boiled beef in a mustardy sauce, resting on a foundation of a leafy vegetable Trevize did not recognize. Nor did he like it for it had a bitter-salty taste he did not enjoy. He found out later it was a form of seaweed.

There was, afterward, a piece of fruit that tasted something like an apple tainted by peach (not bad, actually) and a hot, dark beverage that was bitter enough for Trevize to leave half behind and ask if he might have some cold water instead. The portions were all small, but, under the circumstances, Trevize did not mind.

The meal had been private, with no servants in view. The Minister had herself heated and served the food, and herself cleared away the dishes and cutlery.

"I hope you found the meal pleasant," said Lizalor, as they left the dining room.

"Quite pleasant," said Trevize, without enthusiasm.

The Minister again took her seat on the couch. "Let us return then," she said, "to our earlier discussion. You had mentioned that Comporellon might resent the Foundation's lead in technology and its overlordship of the Galaxy. In a way that's true, but that aspect of the situation would interest only those who are interested in interstellar politics, and they are comparatively few. What is much more to the point is that the average Comporellian is horrified at the immorality of the Foundation. There is immorality in most worlds, but it seems most marked in Terminus. I would say that any anti-Terminus animus that exists on this world is rooted in that, rather than in more abstract matters."

"Immorality?" said Trevize, puzzled. "Whatever the faults of the Foundation you have to admit it runs its part of the Galaxy with reasonable efficiency and fiscal honesty. Civil rights are, by and large, respected and-"

"Councilman Trevize, I speak of sexual morality."

"In that case, I certainly don't understand you. We are a thoroughly moral society, sexually speaking. Women are well represented in every facet of social life. Our Mayor is a woman and nearly half the Council consists of-"

The Minister allowed a look of exasperation to fleet across her face. "Councilman, are you mocking me? Surely you know what sexual morality meant. Is, or is not, marriage a sacrament upon Terminus?"

"What do you mean by sacrament?"

"Is there a formal marriage ceremony binding a couple together?"

"Certainly, if people wish it. Such a ceremony simplifies tax problems and inheritance."

"But divorce can take place."

"Of course. It would certainly be sexually immoral to keep people tied to, each other, when-

"Are there no religious restrictions?"

"Religious? There are people who make a philosophy out of ancient cults, but what has that to do with marriage?"

"Councilman, here on Comporellon, every aspect of sex is strongly controlled. It may not take place out of marriage. Its expression is limited even within marriage. We are sadly shocked at those worlds, at Terminus, particularly, where sex seems to be considered a mere social pleasure of no great importance to be indulged in when, how, and with whom one pleases without regard to the values of religion."

Trevize shrugged. "I'm sorry, but I can't undertake to reform the Galaxy, or even Terminus-and what has this to do with the matter of my ship?"

"I'm talking about public opinion in the matter of your ship and how it limits my ability to compromise the matter. The people of Comporellon would be horrified if they found you had taken a young and attractive woman on board to serve the lustful urges of you and your companion. It is out consideration for the safety of the three of you that I have been urging you to accept peaceful surrender in place of a public trial."

Trevize said, "I see you have used the meal to think of a new type of persuasion by threat. Am I now to fear a lynch mob?"

"I merely point out dangers. Will you be able to deny that the woman you have taken on board ship is anything other than a sexual convenience?"

"Of course I can deny it. Bliss is the companion of my friend, Dr. Pelorat. He has no other competing companion. You may not define their state as marriage, but I believe that in Pelorat's mind, and in the woman's, too, there is a marriage between them."

"Are you telling me you are not involved yourself?"

"Certainly not," said Trevize. "What do you take me for?"

"I cannot tell. I do not know your notions of morality."

"Then let me explain that my notions of morality tell me that I don't trifle with my friend's possessions-or his companionships."

"You are not even tempted?"

"I can't control the fact of temptation, but there's no chance of my giving in to it."

"No chance at all? Perhaps you are not interested in women."

"Don't you believe that. I am interested."

"How long has it been since you have had sex with a woman?"

"Months. Not at all since I left Terminus."

"Surely you don't enjoy that."

"I certainly don't," said Trevize, with strong feeling, "but the situation is such that I have no choice."

"Surely your friend, Pelorat, noting your suffering, would be willing to share his woman."

"I show him no evidence of suffering, but if I did, he would not be willing to share Bliss. Nor, I think, would the woman consent. She is not attracted to me."

"Do you say that because you have tested the matter?"

"I have not tested it. I make the judgment without feeling the need to test it. In any case, I don't particularly like her."

"Astonishing! She is what a man would consider attractive."

"Physically, she is attractive. Nevertheless, she does not appeal to me. For one thing, she is too young, too child-like in some ways."

"Do you prefer women of maturity, then?"

Trevize paused. Was there a trap here? He said cautiously, "I am old enough to value some women of maturity. And what has this to do with my ship?"

Lizalor said, "For a moment, forget your ship. -I am forty-six years old, and I am not married. I have somehow been too busy to marry."

"In that case, by the rules of your society, you must have remained continent all your life. Is that why you asked how long it had been since I have had sex? Are you asking my advice in the matter? -If so, I say it is not food and drink. It is uncomfortable to do without sex, but not impossible."

The Minister smiled and there was again that carnivorous look in her eyes. "Don't mistake me, Trevize. Rank has its privileges and it is possible to be discreet. I am not altogether an abstainer. Nevertheless, Comporellian men are unsatisfying. I accept the fact that morality is an absolute good, but it does tend to burden the men of this world with guilt, so that they become unadventurous, unenterprising, slow to begin, quick to conclude, and, in general, unskilled."

Trevize said, very cautiously, "There is nothing I can do about that, either."

"Are you implying that the fault may be mine? That I am uninspiring?"

Trevize raised a hand. "I don't say that at all."

"In that case, how would you react, given the opportunity? You, a man from an immoral world, who must have had a vast variety of sexual experiences of all kinds, who is under the pressure of several months of enforced abstinence even though in the constant presence of a young and charming woman. How would you react in the presence of a woman such as myself; who is the mature type you profess to like?"

Trevize said, "I would behave with the respect and decency appropriate to your rank and importance."

"Don't be a fool!" said the Minister. Her hand went to the right side of her waist. The strip of white that encircled it came loose and unwound from her chest and neck. The bodice of her black gown hung noticeably looser.

Trevize sat frozen. Had this been in her mind since--when? Or was it a bribe to accomplish what threats had not?

The bodice flipped down, along with its sturdy reinforcement at the breasts. The Minister sat there, with a look of proud disdain on her face, and bare from the waist up. Her breasts were a smaller version of the woman herself-massive, firm, and overpoweringly impressive.

"Well?" she said.

Trevize said, in all honesty, "Magnificent!"

"And what will you do about it?"

"What does morality dictate on Comporellon, Madam Lizalor?"

"What is that to a man of Terminus? What does your morality dictate? -And begin. My chest is cold and wishes warmth."

Trevize stood up and began to disrobe.

6. THE NATURE OF EARTH

22.

TREVIZE felt almost drugged, and wondered how much time had elapsed.

Beside him lay Mitza Lizalor, Minister of Transportation. She was on her stomach, head to one side, mouth open, snoring distinctly. Trevize was relieved that she was asleep. Once she woke up, he hoped she would be quite aware that she had been asleep.

Trevize longed to sleep himself, but he felt it important that he not do so. She must not wake to find him asleep. She must realize that while she had been ground down to unconsciousness, he had endured. She would expect such endurance from a Foundation-reared immoralist and, at this point, it was better she not be disappointed.

In a way, he had done well. He had guessed, correctly, that Lizalor, given her physical size and strength, her political power, her contempt for the Comporellian men she had encountered, her mingled horror and fascination with tales (what had she heard? Trevize wondered) of the sexual feats of the decadents of Terminus, would want to be dominated. She might even expect to be, without being able to express her desire and expectation.

He had acted on that belief and, to his good fortune, found he was correct. (Trevize, the ever-right, he mocked himself.) It pleased the woman and it enabled Trevize to steer activities in a direction that would tend to wear her out while leaving himself relatively untouched.

It had not been easy. She had a marvelous body (forty-six, she had said, but it would not have shamed a twenty-five-year-old athlete) and enormous stamina—a stamina exceeded only by the careless zest with which she had spent it.

Indeed, if she could be tamed and taught moderation; if practice (but could he himself survive the practice?) brought her to a better sense of her own capacities, and, even more important, his, it might be pleasant to—

The snoring stopped suddenly and she stirred. He placed his hand on the shoulder nearest him and stroked it lightly—and her eyes opened. Trevize was leaning on his elbow, and did his best to look unworn and full of life.

"I'm glad you were sleeping, dear," he said. "You needed your rest."

She smiled at him sleepily and, for one queasy moment, Trevize thought she might suggest renewed activity, but she merely heaved herself about till she was resting on her back. She said, in a soft and satisfied voice, "I had you judged correctly from the start. You are a king of sexuality."

Trevize tried to look modest. "I must be more moderate."

"Nonsense. You were just right. I was afraid that you had been kept active and drained by that young woman, but you assured me you had not. That it true, isn't it?"

"Have I acted like someone who was half-sated to begin with?"

"No, you did not," and her laughter boomed.

"Are you still thinking of Psychic Probes?"

She laughed again. "Are you mad? Would I want to lose you now?"

"Yet it would be better if you lost me temporarily--"

"What!" She frowned.

"If I were to stay here permanently, my-my dear, how long would it be before eyes would begin to watch, and mouths would begin to whisper? If I went off on my mission, however, I would naturally return periodically to, report, and it would then be only natural that we should be closeted together for a while-and my mission is important."

She thought about that, scratching idly at her right hip. Then she said, "I suppose you're right. I hate the thought but-I suppose you're right."

"And you need not think I would not come back," said Trevize. "I am not so witless as to forget what I would have waiting for me here."

She smiled at him, touched his cheek gently, and said, looking into his eyes, "Did you find it pleasant, love?"

"Much more than pleasant, dear."

"Yet you are a Foundationer. A man in the prime of youth from Terminus itself. You must be accustomed to all sorts of women with all soul skills--"

"I have encountered nothing-nothing-in the least like you," said Trevize, with a forcefulness that came easily to someone who was but telling the truth, after all.

Lizalor said complacently, "Well, if you say so. Still, old habits die hard, you know, and I don't think I could bring myself to trust a man's word without some sort of surety. You and your friend, Pelorat, might conceivably go on this mission of yours once I hear about it and approve, but I will keep the young woman here. She will be well treated, never fear, but I presume your Dr. Pelorat will want her, and he will see to it that there are frequent returns to Comporellon, even if your enthusiasm for this mission you to stay away too long."

"But, Lizalor, that's impossible."

"Indeed?" Suspicion at once seeped into her eyes. "Why impossible? For what purpose would you need the woman?"

"Not for sex. I told you that, and I told you truthfully. She is Pelorat's and I have no interest in her. Besides, I'm sure she'd break in two if she attempted what you so triumphantly carried through."

Lizalor almost smiled, but repressed it and said severely, "What is it to you, then, if she remains on Comporellon?"

"Because she is of essential importance to our mission. That is why we must have her."

"Well, then, what is your mission? It is time you told me."

Trevize hesitated very briefly. It would have to be the truth. He could think of no lie as effective.

"Listen to me," he said. "Comporellon may be an old world, even among the oldest, but it can't be the oldest. Human life did not originate here. The earliest human beings reached here from some other world, and perhaps human life didn't originate there either, but came from still another and still older world. Eventually, though, those probings back into time must stop, and we must reach the first world, the world of human origins. I am seeking Earth."

The change that suddenly came over Mitza Lizalor staggered him.

Her eyes had widened, her breathing took on a sudden urgency, and every muscle seemed to stiffen as she lay there in bed. Her arms shot upward rigidly, and the first two fingers of both hands crossed.

"You named it," she whispered hoarsely.

23.

SHE DIDN'T say anything after that; she didn't look at him. Her arms slowly came down, her legs swung over the side of the bed, and she sat up, back to him. Trevize lay where he was, frozen.

He could hear, in memory, the words of Munn Li Comporellon, as they stood there in the empty tourist center at Sayshell. He could hear him saying of his own ancestral planet—the one that Trevize was on now—"They're superstitious about it. Every time they mention the word, they lift up both hands with first and second fingers crossed to ward off misfortune."

How useless to remember after the fact.

"What should I have said, Mitza?" he muttered.

She shook her head slightly, stood up, stalked toward and then through a door. It closed behind her and, after a moment, there was the sound of water running.

He had no recourse but to wait, bare, undignified, wondering whether to join her in the shower, and then quite certain he had better not. And because, in a way, he felt the shower denied him, he at once experienced a growing need for one.

She emerged at last and silently began to select clothing.

He said, "Do you mind if I—"

She said nothing, and he took silence for consent. He tried to stride into the room in a strong and masculine way but he felt uncommonly as he had in those days when his mother, offended by some misbehavior on his part, offered him no punishment but silence, causing him to shrivel in discomfort.

He looked about inside the smoothly walled cubicle that was bare—completely bare. He looked more minutely. —There was nothing.

He opened the door again, thrust his head out, and said, "Listen, how are you supposed to start the shower?"

She put down the deodorant (at least, Trevize guessed that was its function), strode to the shower-room and, still without looking at him, pointed. Trevize followed the

finger and noted a spot on the wall that was round and faintly pink, barely colored, as though the designer resented having to spoil the starkness of the white, for no reason more important than to give a hint of function.

Trevize shrugged lightly, leaned toward the wall, and touched the spot. Presumably that was what one had to do, for in a moment a deluge of fine-sprayed water struck him from every direction. Gasping, he touched the spot again and it stopped.

He opened the door, knowing he looked several degrees more undignified still as he shivered hard enough to make it difficult to articulate words. He croaked, "How do you get hot water?"

Now she looked at him and, apparently, his appearance overcame her anger (or fear, or whatever emotion was victimizing her) for she snickered and then, without warning, boomed her laughter at him.

"What hot water?" she said. "Do you think we're going to waste the energy to heat water for washing? That's good mild water you had, water with the chill taken off. What more do you want? You sludge-soft Terminians! -Get back in there and wash!"

Trevize hesitated, but not for long, since it was clear he had no choice in the matter.

With remarkable reluctance he touched the pink spot again and this time steeled his body for the icy spray. Mild water? He found suds forming on his body and he rubbed hastily here, there, everywhere, judging it to be the wash cycle and suspecting it would not last long.

Then came the rinse cycle. Ah, warm- Well, perhaps not warm, but not quite as cold, and definitely feeling warm to his thoroughly chilled body. Then, even as he was considering touching the contact spot again to stop the water, and was wondering how Lizalor had come out dry when there was absolutely no towel or towel-substitute in the place-the water stopped. It was followed by a blast of air that would have certainly bowled him over if it had not come from various directions equally.

It was hot; almost too hot. It took far less energy, Trevize knew, to heat air than to heat water. The hot air steamed the water off him and, in a few minutes, he was able to step out as dry as though he had never encountered water in his life.

Lizalor seemed to have recovered completely. "Do you feel well?"

"Pretty well," said Trevize. Actually, he felt astonishingly comfortable. "All I had to do was prepare myself for the temperature. You didn't tell me-"

"Sludge-soft," said Lizalor, with mild contempt.

He borrowed her deodorant, then began to dress, conscious of the fact that she had fresh underwear and he did not. He said, "What should I have called -that world?"

She said, "We refer to it as the Oldest."

He said, "How was I to know the name I used was forbidden? Did you tell me?"

"Did you ask?"

"How was I to know to ask?"

"You know now."

"I'm bound to forget."

"You had better not."

"What's the difference?" Trevize felt his temper rising. "It's just a word, a sound."

Lizalor said darkly, "There are words one doesn't say. Do you say every word you know under all circumstances?"

"Some words are vulgar, some are inappropriate, some under particular circumstances would be hurtful. Which is-that word I used?"

Lizalor said, "It's a sad word, a solemn word. It represents a world that was ancestor to us all and that now doesn't exist. It's tragic, and we feel it because it was near to us. We prefer not to speak of it or, if we must, not to use its name."

"And the crossing of fingers at me? How does that relieve the hurt and sadness?"

Lizalor's face flushed. "That was an automatic reaction, and I don't thank you for forcing it on me. There are people who believe that the word, even the thought, brings on misfortune-and that is how they ward it off."

"Do you, too, believe crossing fingers wards off misfortune?"

"No. -Well, yes, in a way. It makes me uneasy if I don't do it." She didn't look at him. Then, as though eager to shift the subject, she said quickly, "And how is that black-haired woman of yours of the essence with respect to your mission to reach-that world you mentioned."

"Say 'the Oldest.' Or would you rather not even say that?"

"I would rather not discuss it at all, but I asked you a question."

"I believe that her people reached their present world as emigrants from the Oldest."

"As we did," said Lizalor proudly.

"But her people have traditions of some sort which she says are the key to understanding the Oldest, but only if we reach it and can study its records."

"She is lying."

"Perhaps, but we must check it out."

"If you have this woman with her problematical knowledge, and if you want to reach the Oldest with her, why did you come to Comporellon?"

"To find the location of the Oldest. I had a friend once, who, like myself, was a Foundationer. He, however, was descended from Comporellian ancestors and he assured me that much of the history of the Oldest was well known, on Comporellon."

"Did he indeed? And did he tell you any of its history?"

"Yes," said Trevize, reaching for the truth again. "He said that the Oldest was a dead world, entirely radioactive. He did not know why, but he thought that it might be the result of nuclear explosions. In a war, perhaps."

"No!" said Lizalor explosively.

"No, there was no war? Or no, the Oldest is not radioactive?"

"It is radioactive, but there was no war."

"Then how did it become radioactive? It could not have been radioactive to begin with since human life began on the Oldest. There would have been no life on it ever."

Lizalor seemed to hesitate. She stood erect, and was breathing deeply, ' almost gasping. She said, "It was a punishment. It was a world that used robots. Do you know what robots are?"

"Yes."

"They had robots and for that they were punished. Every world that has had robots has been punished and no longer exists."

"Who punished them, Lizalor?"

"He Who Punishes. The forces of history. I don't know." She looked away from him, uncomfortable, then said, in a lower voice, "Ask others."

"I would like to, but whom do I ask? Are there those on Comporellon who have studied primeval history?"

"There are. They are not popular with us-with the average Comporellian -but the Foundation, your Foundation, insists on intellectual freedom, 11 they call it."

"Not a bad insistence, in my opinion," said Trevize. "All is bad that is imposed from without," said Lizalor.

Trevize shrugged. There was no purpose in arguing the matter. He Bald, x My friend, Dr. Pelorat, is himself a primeval historian of a sort. He would, I'm sure, like to meet his Comporellian colleagues. Can you arrange that, Lizalor?"

She nodded. "There is a historian named Vasil Deniador, who is based at the University here in the city. He does not teach class, but he may be able to tell you what you want to know."

"Why doesn't he teach class?"

"It's not that he is forbidden; it's just that students do not elect his course."

"I presume," said Trevize, trying not to say it sardonically, "that the students are encouraged not to elect it."

"Why should they want to? He is a Skeptic. We have them, you know. There are always individuals who pit their minds against the general modes of thought and who are arrogant enough to feel that they alone are right and that the many are wrong."

"Might it not be that that could actually be so in some cases?"

"Never!" snapped Lizalor, with a firmness of belief that made it quite clear that no further discussion in that direction would be of any use. "And for all his Skepticism, he will be forced to tell you exactly what any Comporellian would tell you."

"And that is?"

"That if you search for the Oldest, you will not find it."

24.

IN THE PRIVATE quarters assigned them, Pelorat listened to Trevize thoughtfully, his long solemn face expressionless, then said, "Vasil Deniador? I do not recall having heard of him, but it may be that back on the ship I will find papers by him in my library."

"Are you sure you haven't heard of him? Think!" said Trevize.

"I don't recall, at the moment, having heard of him," said Pelorat cautiously, "but after all, my dear chap, there must be hundreds of estimable scholars I haven't heard of; or have, but can't remember."

"Still, he can't be first-class, or you would have heard of him."

"The study of Earth-"

"Practice saying 'the Oldest,' Janov. It would complicate matters otherwise."

"The study of the Oldest," said Pelorat, "is not a well-rewarded niche in the corridors of learning, so that first-class scholars, even in the field of primeval history, would not tend to find their way there. Or, if we put it the other way around, those who are already there do not make enough of a name for themselves in an uninterested world to be considered first-class, even if they were. -I am not first-class in anyone's estimation, I am sure."

Bliss said tenderly, "In mine, Pel."

"Yes, certainly in yours, my dear," said Pelorat, smiling slightly, "but you are not judging me in my capacity as scholar."

It was almost night now, going by the clock, and Trevize felt himself grow slightly impatient, as he always did when Bliss and Pelorat traded endearments.

He said, "I'll try to arrange our seeing this Deniador tomorrow, but if he knows as little about the matter as the Minister does, we're not going to be much better off than we are now."

Pelorat said, "He may be able to lead us to someone more useful."

"I doubt it. This world's attitude toward Earth-but I had better practice speaking of it elliptically, too. This world's attitude toward the Oldest is a foolish and superstitious one." He turned away. "But it's been a rough day and we ought to think of an evening meal-if we can face their uninspired cookery-and then begin thinking of getting some sleep. Have you two learned how to use the shower?"

"My dear fellow," said Pelorat, "we have been very kindly treated. We've received all sorts of instructions, most of which we didn't need."

Bliss said, "Listen, Trevize. What about the ship?"

"What about it?"

"Is the Comporellian government confiscating it?"

"No. I don't think they will."

"Ah. Very pleasant. Why aren't they?"

"Because I persuaded the Minister to change her mind."

Pelorat said, "Astonishing. She didn't seem a particularly persuadable individual to me."

Bliss said, "I don't know. It was clear from the texture of her mind that 1b1 was attracted to Trevize."

Trevize looked at Bliss with sudden exasperation. "Did you do that, Bliss?",

"What do you mean, Trevize?"

"I mean tamper with her-"

"I didn't tamper. However, when I noted that she was attracted to you, I couldn't resist just snapping an inhibition or two. It was a very small thing to do. Those inhibitions might have snapped anyway, and it seemed to be important to make certain that she was filled with good will toward you."

"Good will? It was more than that! She softened, yes, but post-coitally." Pelorat said, "Surely you don't mean, old man-"

"Why not?" said Trevize testily. "She may be past her first youth, but she knew the art well. She was no beginner, I assure you. Nor will I play the gentleman and lie on her behalf. It was her idea-thanks to Bliss's fiddling with her inhibitions-and I was not in a position to refuse, even if that thought had occurred to me, which it didn't. --Come, Janov, don't stand there looking puritanical. It's been months since I've had an opportunity. You've-" And he waved his hand vaguely in Bliss's direction.

"Believe me, Golan," said Pelorat, embarrassed, "if you are interpreting my expression as puritanical, you mistake me. I have no objection."

Bliss said, "But she is puritanical. I meant to make her warm toward you; I did not count on a sexual paroxysm."

Trevize said, "But that is exactly what you brought on, my little interfering Bliss. It may be necessary for the Minister to play the puritan in public, but if so, that seems merely to stoke the fires."

"And so, provided you scratch the itch, she will betray the Foundation-"

"She would have done that in any case," said Trevize. "She wanted the ship-" He broke off, and said in a whisper, "Are we being overheard?"

Bliss said, "No!"

"Are you sure?"

"It is certain. It is impossible to impinge upon the mind of Gaia in any unauthorized fashion without Gaia being aware of it."

"In that case, Comporellon wants the ship for itself-a valuable addition to its fleet."

"Surely, the Foundation would not allow that."

"Comporellon does not intend to have the Foundation know."

Bliss sighed. "There are your Isolates. The Minister intends to betray the Foundation on behalf of Comporellon and, in return for sex, will promptly betray Comporellon, too. -And as for Trevize, he will gladly sell his body's services as a way of inducing the betrayal. What anarchy there is in this Galaxy of yours. What chaos."

Trevize said coldly, "You are wrong, young woman-"

"In what I have just said, I am not a young woman, I am Gaia. I am all of Gaia."

"Then you are wrong, Gaia I did not sell my body's services. I gave them gladly. I enjoyed it and did no one harm. As for the consequences, they turned out well from my standpoint and I accept that. And if Comporellon wants the ship for its own purposes, who is to say who is right in this matter? It is a Foundation ship, but it was given to me to search for Earth. It is mine then until I complete the search and I feel that the Foundation has no right to go back on its agreement. As for Comporellon, it does not enjoy Foundation domination, so it dreams of independence. In its own eyes, it is correct to do

so and to deceive the Foundation, for that is not an act of treason to them but an act of patriotism. Who knows?"

"Exactly. Who knows? In a Galaxy of anarchy, how is it possible to sort out reasonable actions from unreasonable ones? How decide between right and wrong, good and evil, justice and crime, useful and useless? And how do you explain the Minister's betrayal of her own government, when she lets you keep the ship? Does she long for personal independence from an oppressive world? Is she a traitor or a personal one-woman self-patriot?"

"To be truthful," said Trevize, "I don't know that she was willing to let me have my ship simply because she was grateful to me for the pleasure I gave: her. I believe she made that decision only when I told her I was searching for the Oldest. It is a world of ill-omen to her and we and the ship that carries u1, by searching for it, have become ill-omened, too. It is my feeling that she feels she incurred the ill-omen for herself and her world by attempting to take the ship, which she may, by now, be viewing with horror. Perhaps she feels that by allowing us and our ship to leave and go about our business, she is averting the misfortune from Comporellon and is, in that way, performing a patriotic act."

"If that were so, which I doubt, Trevize, superstition is the spring of the action. Do you admire that?"

"I neither admire nor condemn. Superstition always directs action in the absence of knowledge. The Foundation believes in the Seldon Plan, though no one in our realm can understand it, interpret its details, or use it to predict. We follow blindly out of ignorance and faith, and isn't that superstition?"

"Yes, it might be."

"And Gaia, too. You believe I have given the correct decision in judging that Gaia should absorb the Galaxy into one large organism, but you do not know why I should be right, or how safe it would be for you to follow that . decision. You are willing to go along only out of ignorance and faith, and are even annoyed with me for trying to find evidence that will remove the ignorance and make mere faith unnecessary. Isn't that superstition?"

"I think he has you there, Bliss," said Pelorat.

Bliss said, "Not so. He will either find nothing at all in this search, or he will find something that confirms his decision."

Trevize said, "And to back up that belief, you have only ignorance and faith. In other words, superstition!"

25.

VASIL DENIADOR was a small man, little of feature, with a way of looking up by raising his eyes without raising his head. This, combined with the brief smiles that periodically lit his face, gave him the appearance of laughing silently at the world.

His office was long and narrow, filled with tapes that seemed to be in wild disorder, not because there was any definite evidence for that, but because they were not evenly placed in their recesses so that they gave the shelves a snaggle-toothed appearance. The three seats he indicated for his visitors were not matched and showed signs of having been recently, and imperfectly, dusted.

He said, "Janov Pelorat, Golan Trevize, and Bliss. -I do not have your second name, madam."

"Bliss," she said, "is all I am usually called," and sat down.

"It is enough after all," said Deniador, twinkling at her. "You are attractive enough to be forgiven if you had no name at all."

All were sitting now. Deniador said, "I have heard of you, Dr. Pelorat, though we have never corresponded. You are a Foundationer, are you not? From Terminus?"

"Yes, Dr. Deniador."

"And you, Councilman Trevize. I seem to have heard that recently you were expelled from the Council and exiled. I don't think I have ever understood why."

"Not expelled, sir. I am still a member of the Council although I don't know when I will take up my duties again. Nor exiled, quite. I was assigned a mission, concerning which we wish to consult you."

"Happy to try to help," said Deniador. "And the blissful lady? Is she from Terminus, too?"

Trevize interposed quickly. "She is from elsewhere, Doctor."

"Ah, a strange world, this Elsewhere. A most unusual collection of human beings are native to it. -But since two of you are from the Foundation's capital at Terminus, and the third is an attractive young woman, and Mitza Lizalor is not known for her affection for either category, how is it that she recommends you to my care so warmly?"

"I think," said Trevize, "to get rid of us. The sooner you help us, you see, the sooner we will leave Comporellon."

Deniador eyed Trevize with interest (again the twinkling smile) and said, "Of course, a vigorous young man such as yourself might attract her whatever his origin. She plays the role of cold vestal well, but not perfectly."

"I know nothing about that," said Trevize stiffly.

"And you had better not. In public, at least. But I am a Skeptic and I am professionally unattuned to believing in surfaces. So come, Councilman, what is your mission? Let me find out if I can help you."

Trevize said, "In this, Dr. Pelorat is our spokesman."

"I have no objection to that," said Deniador. "Dr. Pelorat?"

Pelorat said, "To put it at the simplest, dear Doctor, I have all my mature life attempted to penetrate to the basic core of knowledge concerning the world on which the human species originated, and I was sent out along with my good friend, Golan Trevize-although, to be sure, I did not know him at the time-to find, if we could, the-uh- Oldest, I believe you call it."

"The Oldest?" said Deniador. "I take it you mean Earth."

Pelorat's jaw dropped. Then he said, with a slight stutter, "I was under the impression-that is, I was given to understand-that one did not-"

He looked at Trevize, rather helplessly.

Trevize said, "Minister Lizalor told me that that word was not used on Comporellon."

"You mean she did this?" Deniador's mouth turned downward, his nose screwed up, and he thrust his arms vigorously forward, crossing the first two fingers on each hand.

"Yes," said Trevize. "That's what I mean."

Deniador relaxed and laughed. "Nonsense, gentlemen. We do it as a matter of habit, and in the backwoods they may be serious about it but, on the whole, it doesn't matter. I don't know any Comporellian who wouldn't say 'Earth' when annoyed or startled. It's the most common vulgarism we have."

"Vulgarism?" said Pelorat faintly.

"Or expletive, if you prefer."

"Nevertheless," said Trevize, "the Minister seemed quite upset when I used the word."

"Oh well, she's a mountain woman."

"What does that mean, sir?"

"What it says. Mitza Lizalor is from the Central Mountain Range. The children out there are brought up in what is called the good old-fashioned way, which means that no matter how well educated they become you can never knock those crossed fingers out of them."

"Then the word 'Earth' doesn't bother you at all, does it, Doctor?" said Bliss.

"Not at all, dear lady. I am a Skeptic."

Trevize said, "I know what the word 'skeptic' means in Galactic, but how. do you use the word?"

"Exactly as you do, Councilman. I accept only what I am forced to accept by reasonably reliable evidence, and keep that acceptance tentative pending the arrival of further evidence. That doesn't make us popular."

"Why not?" said Trevize.

"We wouldn't be popular anywhere. Where is the world whose people don't prefer a comfortable, warm, and well-worn belief, however illogical, to the chilly winds of uncertainty? -Consider how you believe in the Seldon Plan without evidence."

"Yes," said Trevize, studying his finger ends. "I put that forward yesterday as an example, too."

Pelorat said, "May I return to the subject, old fellow? What is known about Earth that a Skeptic would accept?"

Deniador said, "Very little. We can assume that there is a single planet on which the human species developed, because it is unlikely in the extreme that the same species, so nearly identical as to be interfertile, would develop on a number of worlds, or even on just two, independently. We can choose to call this world of origin Earth. The belief is general, here, that Earth exists in this corner of the Galaxy, for the worlds here are

unusually old and it is likely that the first worlds to be settled were close to Earth rather than far from it."

"And has the Earth any unique characteristics aside from being the planet of origin?" asked Pelorat eagerly.

"Do you have something in mind?" said Deniador, with his quick smile.

"I'm thinking of its satellite, which some call the moon. That would be unusual, wouldn't it?"

"That's a leading question, Dr. Pelorat. You may be putting thoughts into my mind."

"I do not say what it is that would make the moon unusual."

"Its size, of course. Am I right? -Yes, I see I am. All the legends of Earth speak of its vast array of living species and of its vast satellite-one that is some three thousand to three thousand five hundred kilometers in diameter. The vast array of life is easy to accept since it would naturally have come about through biological evolution, if what we know of the process is accurate. A giant satellite is more difficult to accept. No other inhabited world in the Galaxy has such a satellite. Large satellites are invariably associated with the uninhabited and uninhabitable gas-giants. As a Skeptic, then, I prefer not to accept the existence of the moon."

Pelorat said, "If Earth is unique in its possession of millions of species, might it not also be unique in its possession of a giant satellite? One uniqueness might imply the other."

Deniador smiled. "I don't see how the presence of millions of species on Earth could create a giant satellite out of nothing."

"But the other way around- Perhaps a giant satellite could help create the millions of species."

"I don't see how that could be either."

Trevize said, "What about the story of Earth's radioactivity?"

"That is universally told; universally believed."

"But," said Trevize, "Earth could not have been so radioactive as to preclude life in the billions of years when it supported life. How did it become radioactive? A nuclear war?"

"That is the most common opinion, Councilman Trevize."

"From the manner in which you say that, I gather you don't believe it."

"There is no evidence that such a war took place. Common belief, even universal belief, is not, in itself, evidence."

"What else might have happened?"

"There is no evidence that anything happened. The radioactivity might be as purely invented a legend as the large satellite."

Pelorat said, "What is the generally accepted story of Earth's history? I have, during my professional career, collected a large number of origin-legends, many of them involving a world called Earth, or some name very much like that. I have none from

Comporellon, nothing beyond the vague mention of a Benbally who might have come from nowhere for all that Comporellian legends say."

"That's not surprising. We don't usually export our legends and I'm astonished you have found references even to Benbally. Superstition, again."

"But you are not superstitious and you would not hesitate to talk about it, would you?"

"That's correct," said the small historian, casting his eyes upward at Pelorat. "It would certainly add greatly, perhaps even dangerously, to my unpopularity if I did, but you three are leaving Comporellon soon and I take it you will never quote me as a source."

"You have our word of honor," said Pelorat quickly.

"Then here is a summary of what is supposed to have happened, shorn of any supernaturalism or moralizing. Earth existed as the sole world of human beings for an immeasurable period and then, about twenty to twenty-five thousand years ago, the human species developed interstellar travel by way of the hyperspatial Jump and colonized a group of planets.

"The Settlers on these planets made use of robots, which had first been devised on Earth before the days of hyperspatial travel and-do you know what robots are, by the way?"

"Yes," said Trevize. "We have been asked that more than once. We know what robots are."

"The Settlers, with a thoroughly roboticized society, developed a high technology and unusual longevity and despised their ancestral world. According to more dramatic versions of their story, they dominated and oppressed the ancestral world.

"Eventually, then, Earth sent out a new group of Settlers, among whom robots were forbidden. Of the new worlds, Comporellon was among the first. Our own patriots insist it was the first, but there is no evidence of that that a Skeptic can accept. The first group of Settlers died out, and-

Trevize said, "Why did the first set die out, Dr. Deniador?"

"Why? Usually they are imagined by our romantics as having been punished for their crimes by He Who Punishes, though no one bothers to say why He waited so long. But one doesn't have to resort to fairy tales. It is easy to argue that a society that depends totally on robots becomes soft and decadent, dwindling and dying out of sheer boredom or, more subtly, by losing the will to live.

"The second wave of Settlers, without robots, lived on and took over the entire Galaxy, but Earth grew radioactive and slowly dropped out of sight. The reason usually given for this is that there were robots on Earth, too, since the first wave had encouraged that."

Bliss, who had listened to the account with some visible impatience, said, "Well, Dr. Deniador, radioactivity or not, and however many waves of settlers there might have been, the crucial question is a simple one. Exactly where is Earth? What are its coordinates?"

Deniador said, "The answer to that question is: I don't know. -But come, it is time for lunch. I can have one brought in, and we can discuss Earth over it for as long as you want."

"You don't know?" said Trevize, the sound of his voice rising in pitch and intensity.

"Actually, as far as I know, no one knows."

"But that is impossible."

"Councilman," said Deniador, with a soft sigh, "if you wish to call the truth impossible, that is your privilege, but it will get you nowhere."

7. LEAVING COMPORELLON

26.

LUNCHEON consisted of a heap of soft, crusty balls that came in different shades and that contained a variety of fillings.

Deniador picked up a small object which unfolded into a pair of thin, ' , transparent gloves, and put them on. His guests followed suit.

Bliss said, "What is inside these objects, please?"

Deniador said, "The pink ones are filled with spicy chopped fish, a great Comporellian delicacy. These yellow ones contain a cheese filling that is very mild. The green ones contain a vegetable mixture. Do eat them while they are a quite warm. Later we will have hot almond pie and the usual beverages. I might recommend the hot cider. In a cold climate, we have a tendency to heat our foods, even desserts."

"You do yourself well," said Pelorat.

"Not really," said Deniador. "I'm being hospitable to guests. For myself, I, get along on very little. I don't have much body mass to support, as you have probably noticed."

Trevize bit into one of the pink ones and found it very fishy indeed, with all overlay of spices that was pleasant to the taste but which, he thought, along with the fish itself, would remain with him for the rest of the day and, perhaps, into the night.

When he withdrew the object with the bite taken out of it, he found that the crust had closed in over the contents. There was no squirt, no leakage, and, for a moment, he wondered at the purpose of the gloves. These seemed no chance of getting his hands moist and sticky if he didn't use them, so he decided it was a matter of hygiene. The gloves substituted for a washing of the hands if that were inconvenient and custom, probably, now dictated their use even if the hands were washed. (Lizalor hadn't used gloves when he had eaten with her the day before. -Perhaps that was because she was a mountain woman.)

He said, "Would it be unmannerly to talk business over lunch?"

"By Comporellian standards, Councilman, it would be, but you are my guests, and we will go by your standards. If you wish to speak seriously, and do not think-or care-that that might diminish your pleasure in the food, please do so, and I will join you."

Trevize said, "Thank you. Minister Lizalor implied-no, she stated quite bluntly-that Skeptics were unpopular on this world. Is that so?"

Deniador's good humor seemed to intensify. "Certainly. How hurt we'd be if we weren't. Comporellon, you see, is a frustrated world. Without any knowledge of the details, there is the general mythic belief, that once, many millennia ago, when the inhabited Galaxy was small, Comporellon was the leading world. We never forget that,

and the fact that in known history we have not been leaders irks us, fills us-the population in general, that is-with a feeling of injustice.

"Yet what can we do? The government was forced to be a loyal vassal of the Emperor once, and is a loyal Associate of the Foundation now. And the more we are made aware of our subordinate position, the stronger the belief in the great, mysterious days of the past become.

"What, then, can Comporellon do? They could never defy the Empire in older times and they can't openly defy the Foundation now. They take refuge, therefore, in attacking and hating us, since we don't believe the legends and laugh at the superstitions.

"Nevertheless, we are safe from the grosser effects of persecution. We control the technology, and we fill the faculties of the Universities. Some of us, who are particularly outspoken, have difficulty in teaching classes openly. I have that difficulty, for instance, though I have my students and hold meetings quietly off-campus. Nevertheless, if we were really driven out of public life, the technology would fail and the Universities would lose accreditation with the Galaxy generally. Presumably, such is the folly of human beings, the prospects of intellectual suicide might not stop them from indulging their hatred, but the Foundation supports us. Therefore, we are constantly scolded and sneered at and denounced-and never touched."

Trevize said, "Is it popular opposition that keeps you from telling us where Earth is? Do you fear that, despite everything, the anti-Skeptic feeling might turn ugly if you go too far?"

Deniador shook his head. "No. Earth's location is unknown. I am not hiding anything from you out of fear-or for any other reason."

"But look," said Trevize urgently. "There are a limited number of planets in this sector of the Galaxy that possess the physical characteristics associated with habitability, and almost all of them must be not only inhabitable, but inhabited, and therefore well known to you. How difficult would it be to explore the sector for a planet that would be habitable were it not for the fact that it was radioactive? Besides that, you would look for such a planet with a large, satellite in attendance. Between radioactivity and a large satellite, Earth would be absolutely unmistakable and could not be missed even with only a casual search. It might take some time but that would be the only difficulty."

Deniador said, "The Skeptic's view is, of course, that Earth's radioactivity and its large satellite are both simply legends. If we look for them, we look for sparrow-milk and rabbit-feathers."

"Perhaps, but that shouldn't stop Comporellon from at least taking on the search. If they find a radioactive world of the proper size for habitability, with a large satellite, what an appearance of credibility it would lend to Comporellian legendry in general."

Deniador laughed. "It may be that Comporellon doesn't search for that very reason. If we fail, or if we find an Earth obviously different from the legends, the reverse would take place. Comporellian legendry in general would be blasted and made into a laughingstock. Comporellon wouldn't risk that."

Trevize paused, then went on, very earnestly, "Besides, even if we discount those two unquities-if there is such a word in Galactic-of radioactivity and a large satellite, there is a third that, by definition, must exist, without any reference to legends. Earth must have upon it either a flourishing life of incredible diversity, or the remnants of one, or, at the very least, the fossil record of such a one."

Deniador said, "Councilman, while Comporellon has sent out no organized search party for Earth, we do have occasion to travel through space, and we occasionally have reports from ships that have strayed from their intended routes for one reason or another. Jumps are not always perfect, as perhaps you know. Nevertheless, there have been no reports of any planets with properties resembling those of the legendary Earth, or any planet that is bursting with life. Nor is any ship likely to land on what seems an uninhabited planet in order that the crew might go fossil-hunting. If, then, in thousands of years nothing of the sort has been reported, I am perfectly willing to believe that locating Earth is impossible, because Earth is not there to be located."

Trevize said, in frustration, "But Earth must be somewhere. Somewhere there is a planet on which humanity and all the familiar forms of life associated with humanity evolved. If Earth is not in this section of the Galaxy, it must be elsewhere."

"Perhaps," said Deniador cold-bloodedly, "but in all this time, it hasn't turned up anywhere."

"People haven't really looked for it."

"Well, apparently you are. I wish you luck, but I would never bet on your success."

Trevize said, "Have there been attempts to determine the possible position of Earth by indirect means, by some means other than a direct search?"

"Yes," said two voices at once. Deniador, who was the owner of one of the voices, said to Pelorat, "Are you thinking of Yariffs project?"

"I am," said Pelorat.

"Then would you explain it to the Councilman? I think he would more readily believe you than me."

Pelorat said, "You see, Golan, in the last days of the Empire, there was a time when the Search for Origins, as they called it, was a popular pastime, perhaps to get away from the unpleasantness of the surrounding reality. The Empire was in a process of disintegration at that time, you know.

"It occurred to a Livian historian, Humbal Yariff, that whatever the planet of origin, it would have settled worlds near itself sooner than it would settle planets farther away. In general, the farther a world from the point of origin the later it would have been settled.

"Suppose, then, one recorded the date of settlement of all habitable planets in the Galaxy, and made networks of all that were a given number of Millennia old. There could be a network drawn through all planets ten thousand years old; another through those twelve thousand years old, still another through those fifteen thousand years old. Each network would, in theory, be roughly spherical and they should be roughly concentric. The older networks would form spheres smaller in radius than the younger ones, and if

one worked out all the centers they should fall within a comparatively small volume of space that would include the planet of origin-Earth."

Pelorat's face was very earnest as he kept drawing spherical surfaces with his cupped hands. "Do you see my point, Golan?"

Trevize nodded. "Yes. But I take it that it didn't work."

"Theoretically, it should have, old fellow. One trouble was that times of origin were totally inaccurate. Every world exaggerated its own age to one degree or another and there was no easy way of determining age independently of legend."

Bliss said, "Carbon-14 decay in ancient timber."

"Certainly, dear," said Pelorat, "but you would have had to get co-operation from the worlds in question, and that was never given. No world wanted its own exaggerated claim of age to be destroyed and the Empire was then in no position to override local objections in a matter so unimportant. It had other things on its mind."

"All that Yariff could do was to make use of worlds that were only two thousand years old at most, and whose founding had been meticulously recorded under reliable circumstances. There were few of those, and while they were distributed in roughly spherical symmetry, the center was relatively close to Trantor, the Imperial capital, because that was where the colonizing expeditions had originated for those relatively few worlds."

"That, of course, was another problem. Earth was not the only point of origin of settlement for other worlds. As time went on, the older worlds sent out settlement expeditions of their own, and at the time of the height of Empire, Trantor was a rather copious source of those. Yariff was, rather unfairly, laughed at and ridiculed and his professional reputation was destroyed."

Trevize said, "I get the story, Janov. -Dr. Deniador, is there then nothing at all you could give me that represents the faintest possibility of hope? Is there any other world where it is conceivable there may be some information concerning Earth?"

Deniador sank into doubtful thought for a while. "We-e-ell," he said at last, drawing out the word hesitantly, "as a Skeptic I must tell you that I'm not sure that Earth exists, or has ever existed. However-" He fell silent again.

Finally, Bliss said, "I think you've thought of something that might be important, Doctor."

"Important? I doubt it," said Deniador faintly. "Perhaps amusing, however. Earth is not the only planet whose position is a mystery. There are the worlds of the first group of Settlers; the Spacers, as they are called in our legends. Some call the planets they inhabited the 'Spacer worlds'; others call them the 'Forbidden Worlds.' The latter name is now the usual one."

"In their pride and prime, the legend goes, the Spacers had lifetimes stretching out for centuries, and refused to allow our own short-lived ancestors to land on their worlds. After we had defeated them, the situation was reversed. We scorned to deal with them and left them to themselves, forbidding our own ships and Traders to deal with them. Hence those planets became the Forbidden Worlds. We were certain, so the

legend states, that He Who Punishes would destroy them without our intervention, and, apparently, He did. At least, no Spacer has appeared in the Galaxy to our knowledge, in many millennia."

"Do you think that the Spacers would know about Earth?" said Trevize.

"Conceivably, since their worlds were older than any of ours. That is, if any Spacers exist, which is extremely unlikely."

"Even if they don't exist, their worlds do and may contain records."

"If you can find the worlds."

Trevize looked exasperated. "Do you mean to say that the key to Earth, the location of which is unknown, may be found on Spacer worlds, the location of which is also unknown?"

Deniador shrugged. "We have had no dealings with them for twenty thousand years. No thought of them. They, too, like Earth, have receded into the mists."

"How many worlds did the Spacers live on?"

"The legends speak of fifty such worlds-,a suspiciously round number. There were probably far fewer."

"And you don't know the location of a single one of the fifty?"

"Well, now, I wonder-"

"What do you wonder?"

Deniador said, "Since primeval history is my hobby, as it is Dr. Pelorat's, I have occasionally explored old documents in search of anything that might refer to early time; something more than legends. Last year, I came upon the records of an old ship, records that were almost indecipherable. It dated back to the very old days when our world was not yet known as Comporellon. The name 'Baleyworld' was used, which, it seems to me, may be an even earlier form of the 'Benbally world' of our legends."

Pelorat said, excitedly, "Have you published?"

"No," said Deniador. "I do not wish to dive until I am sure there is water in the swimming pool, as the old saying has it. You see, the record says that the captain of the ship had visited a Spacer world and taken off with him a Spacer woman."

Bliss said, "But you said that the Spacers did not allow visitors."

"Exactly, and that is the reason I don't publish the material. It sounds incredible. There are vague tales that could be interpreted as referring to the Spacers and to their conflict with the Settlers-our own ancestors. -Such tales exist not only on Comporellon but on many worlds in many variations, but all are in absolute accord in one respect. The two groups, Spacers and Settlers, did not mingle. There was no social contact, let alone sexual contact, and yet apparently the Settler captain and the Spacer woman were held together by bonds of love. This is so incredible that I see no chance of the story being accepted as anything but, at best, a piece of romantic historical fiction."

Trevize looked disappointed. "Is that all?"

"No, Councilman, there is one more matter. I came across some figures in what was left of the log of the ship that might-or might not-represent spatial coordinates. If they were-and I repeat, since my Skeptic's honor compels me to, that they might not be-

then internal evidence made me conclude they were the spatial coordinates of three of the Spacer worlds. One of them might be the Spacer world where the captain landed and from which he withdrew his Spacer love."

Trevize said, "Might it not be that even if the tale is fiction, the coordinates are real?"

"It might be," said Deniador. "I will give you the figures, and you are free to use them, but you might get nowhere. -And yet I have an amusing notion." His quick smile made its appearance.

"What is that?" said Trevize.

"What if one of those sets of coordinates represented Earth?"

27.

COMPORELLON'S sun, distinctly orange, was larger in appearance than the sun of Terminus, but it was low in the sky and gave out little heat. The wind, fortunately light, touched Trevize's cheek with icy fingers.

He shivered inside the electrified coat he had been given by Mitza Lizalor, who now stood next to him. He said, "It must warm up sometime, Mitza."

She glanced up at the sun briefly, and stood there in the emptiness of the spaceport, showing no signs of discomfort-tall, large, wearing a lighter coat than Trevize had on, and if not impervious to the cold, at least scornful of it.

She said, "We have a beautiful summer. It is not a long one but our food crops are adapted to it. The strains are carefully chosen so that they grow quickly in the sun and do not frostbite easily. Our domestic animals are well furred, and Comporellian wool is the best in the Galaxy by general admission. Then, too, we have farm settlements in orbit about Comporellon that grow ' tropical fruit. We actually export canned pineapples of superior flavor. Most people who know us as a cold world don't know that."

Trevize said, "I thank you for coming to see us off, Mitza, and for being willing to co-operate with us on this mission of ours. For my own peace of mind, however, I must ask whether you will find yourself in serious trouble over this."

"No!" She shook her head proudly. "No trouble. In the first place, I will not be questioned. I am in control of transportation, which means I alone set the rules for this spaceport and others, for the entry stations, for the ships that come and go. The Prime Minister depends on me for all that and is only too delighted to remain ignorant of its details. -And even if I were questioned, I have but to tell the truth. The government would applaud me for not turning the ship over to the Foundation. So would the people if it were safe to let them know. And the Foundation itself would not know of it."

Trevize said, "The government might be willing to keep the ship from the Foundation, but would they be willing to approve your letting us take it away?"

Lizalor smiled. "You are a decent human being, Trevize. You have fought tenaciously to keep your ship and now that you have it you take the trouble to concern

yourself with my welfare." She reached toward him tentatively as though tempted to give some sign of affection and then, with obvious difficulty, controlled the impulse.

She said, with a renewed brusqueness, "Even if they question my decision, I have but to tell them that you have been, and still are, searching for the Oldest, and they will say I did well to get rid of you as quickly as I did, ship and all, And they will perform the rites of atonement that you were ever allowed to land in the first place, though there was no way we might have guessed what you were doing."

"Do you truly fear misfortune to yourself and the world because of my presence?"

"Indeed," said Lizalor stolidly. Then she said, more softly, "You have brought misfortune to me, already, for now that I have known you, Comporellian men will seem more sapless still. I will be left with an unappeasable longing. He Who Punishes has already seen to that."

Trevize hesitated, then said, "I do not wish you to change your mind on this matter, but I do not wish you to suffer needless apprehension, either. You must know that this matter of my bringing misfortune on you is simply superstition."

"The Skeptic told you that, I presume."

"I know it without his telling me."

Lizalor brushed her face, for a thin rime was gathering on her prominent eyebrows and said, "I know there are some who think it superstition. That the Oldest brings misfortune is, however, a fact. It has been demonstrated many times and all the clever Skeptical arguments can't legislate the truth out of existence."

She thrust out her hand suddenly. "Good-bye, Golan. Get on the ship and join your companions before your soft Terminian body freezes in our cold, but kindly wind."

"Good-bye, Mitza, and I hope to see you when I return."

"Yes, you have promised to return and I have tried to believe that you would. I have even told myself that I would come out and meet you at your ship in space so that misfortune would fall only on me and not upon my world-but you will not return."

"Not so! I will! I would not give you up that easily, having had pleasure of you." And at that moment, Trevize was firmly convinced that he meant it.

"I do not doubt your romantic impulses, my sweet Foundationer, but those who venture outward on a search for the Oldest will never come back-anywhere. I know that in my heart."

Trevize tried to keep his teeth from chattering. It was from cold and he didn't want her to think it was from fear. He said, "That, too, is superstition."

"And yet," she said, "that, too, is true."

28.

IT WAS GOOD TO be back in the pilot-room of the Far Star. It might be cramped for room. It might be a bubble of imprisonment in infinite space. Nevertheless, it was familiar, friendly, and warm.

Bliss said, "I'm glad you finally came aboard. I was wondering how long you would remain with the Minister."

"Not long," said Trevize. "It was cold."

"It seemed to me," said Bliss, "that you were considering remaining with her and postponing the search for Earth. I do not like to probe your mind even lightly, but I was concerned for you and that temptation under which you labored seemed to leap out at me."

Trevize said, "You're quite right. Momentarily at least, I felt the temptation. The Minister is a remarkable woman and I've never met anyone quite like her. -Did you strengthen my resistance, Bliss?"

She said, "I've told you many times I must not and will not tamper with your mind in any way, Trevize. You beat down the temptation, I imagine, through your strong sense of duty."

"No, I rather think not." He smiled wryly. "Nothing so dramatic and noble. My resistance was strengthened, for one thing, by the fact that it was cold, and for another, by the sad thought that it wouldn't take many sessions with her to kill me. I could never keep up the pace."

Pelorat said, "Well, anyway, you are safely aboard. What are we going to do next?"

"In the immediate future, we are going to move outward through the planetary system at a brisk pace until we are far enough from Comporellon's sun to make a Jump."

"Do you think we will be stopped or followed?"

"No, I really think that the Minister is anxious only that we go away as rapidly as possible and stay away, in order that the vengeance of He Who Punishes not fall upon the planet. In fact-

"She believes the vengeance will surely fall on us. She is under the firm conviction that we will never return. This, I hasten to add, is not an estimate of my probable level of infidelity, which she has had no occasion to measure. She meant that Earth is so terrible a bearer of misfortune that anyone who seeks it must die in the process."

Bliss said, "How many have left Comporellon in search of Earth that she can make such a statement?"

"I doubt that any Comporellian has ever left on such a search. I told her that her fears were mere superstition."

"Are you sure you believe that, or have you let her shake you?"

"I know her fears are the purest superstition in the form she expresses them, but they may be well founded just the same."

"You mean, radioactivity will kill us if we try to land on it?"

"I don't believe that Earth is radioactive. What I do believe is that Earth protects itself. Remember that all reference to Earth in the Library on Trantor has been removed. Remember that Gaia's marvelous memory, in which all the planet takes part down to the rock strata of the surface and the molten metal at the core, stops short of penetrating far enough back to tell us anything of Earth."

"Clearly, if Earth is powerful enough to do that, it might also be capable of adjusting minds in order to force belief in its radioactivity, and thus preventing any search for it. Perhaps because Comporellon is so close that it represents a particular danger to Earth, there is the further reinforcement of a curious blankness. Deniador, who is a Skeptic and a scientist, is utterly convinced that there is no use searching for Earth. He says it cannot be found. -And that is why the Minister's superstition may be well founded. If Earth is so intent on concealing itself, might it not kill us, or distort us, rather than allow us to find it?"

Bliss frowned and said, "Gaia-"

Trevize said quickly, "Don't say Gaia will protect us. Since Earth was able to remove Gaia's earliest memories, it is clear that in any conflict between the two Earth will win."

Bliss said coldly, "How do you know that the memories were removed? It might be that it simply took time for Gaia to develop a planetary memory and that we can now probe backward only to the time of the completion of that development. And if the memory was removed, how can you be sure that it was Earth that did it?"

Trevize said, "I don't know. I merely advance my speculations."

Pelorat put in, rather timidly, "If Earth is so powerful, and so intent on preserving its privacy, so to speak, of what use is our search? You seem to think Earth won't allow us to succeed and will kill us if that will be what it takes to keep us from succeeding. In that case, is there any sense in not abandoning this whole thing?"

"It might seem we ought to give up, I admit, but I have this powerful conviction that Earth exists, and I must and will find it. And Gaia tells me that when I have powerful convictions of this sort, I am always right."

"But how can we survive the discovery, old chap?"

"It may be," said Trevize, with an effort at lightness, "that Earth, too, will recognize the value of my extraordinary rightness and will leave me to myself. But-and this is what I am finally getting at-I cannot be certain that you two will survive and that is of concern to me. It always has been, but it is increasing now and it seems to me that I ought to take you two back to Gaia and then proceed on my own. It is I, not you, who first decided I must search for Earth; it is I, not you, who see value in it; it is I, not you, who am driven. Let it be I, then, not you, who take the risk. Let me go on alone. -Janov?"

Pelorat's long face seemed to grow longer as he buried his chin in his neck. "I won't deny I feel nervous, Golan, but I'd be ashamed to abandon you. I would disown myself if I did so."

"Bliss?"

"Gaia will not abandon you, Trevize, whatever you do. If Earth should prove dangerous, Gaia will protect you as far as it can. And in any case, in my role as Bliss, I will not abandon Pel, and if he clings to you, then I certainly cling to him."

Trevize said grimly, "Very well, then. I've given you your chance. We go on together."

"Together," said Bliss.

Pelorat smiled slightly, and gripped Trevize's shoulder. "Together. Always."

29.

BLISS SAID, "Look at that, Pel."

She had been making use of the ship's telescope by hand, almost aimlessly, as a change from Pelorat's library of Earth-legendry.

Pelorat approached, placed an arm about her shoulders and looked at the viewscreen. One of the gas giants of the Comporellian planetary system was in sight, magnified till it seemed the large body it really was.

In color it was a soft orange streaked with paler stripes. Viewed from the planetary plane, and more distant from the sun than the ship itself was, it was almost a complete circle of light.

"Beautiful," said Pelorat.

"The central streak extends beyond the planet, Pel."

Pelorat furrowed his brow and said, "You know, Bliss, I believe it does,"

"Do you suppose it's an optical illusion?"

Pelorat said, "I'm not sure, Bliss. I'm as much a space-novice as you am ---Golan!"

Trevize answered the call with a rather feeble "What is it?" and entered the pilot-room, looking a bit ruffled, as though he had just been napping on his bed with his clothes on-which was exactly what he had been doing.

He said, in a rather peevish way, "Please! Don't be handling the instruments."

"It's just the telescope," said Pelorat. "Look at that."

Trevize did. "It's a gas giant, the one they call Gallia, according to the information I was given."

"How can you tell it's that one, just looking?"

"For one thing," said Trevize, "at our distance from the sun, and because of the planetary sizes and orbital positions, which I've been studying in plotting our course, that's the only one you could magnify to that extent at this time. For another thing, there's the ring."

"Ring?" said Bliss, mystified.

"All you can see is a thin, pale marking, because we're viewing it almost edge-on. We can zoom up out of the planetary plane and give you a better view. Would you like that?"

Pelorat said, "I don't want to make you have to recalculate positions and courses, Golan. "

"Oh well, the computer will do it for me with little trouble." He sat down at the computer as he spoke and placed his hands on the markings that received them. The computer, finely attuned to his mind, did the rest.

The Far Star, free of fuel problems or of inertial sensations, accelerated rapidly, and once again, Trevize felt a surge of love for a computer-and-ship that responded in such a way to him-as though it was his thought that powered and directed it, as though it were a powerful and obedient extension of his will.

It was no wonder the Foundation wanted it back; no wonder Comporellon had wanted it for itself. The only surprise was that the force of superstition had been strong enough to cause Comporellon to be willing to give it up.

Properly armed, it could outrun or outfight any ship in the Galaxy, or any combination of ships-provided only that it did not encounter another ship like itself.

Of course, it was not properly armed. Mayor Branno, in assigning him the ship, had at least been cautious enough to leave it unarmed.

Pelorat and Bliss watched intently as the planet, Gallia, slowly, slowly, tipped toward them. The upper pole (whichever it was) became visible, with turbulence in a large circular region around it, while the lower pole retired behind the bulge of the sphere.

At the upper end, the dark side of the planet invaded the sphere of orange light, and the beautiful circle became increasingly lopsided.

What seemed more exciting was that the central pale streak was no longer straight but had come to be curved, as were the other streaks to the north and south, but more noticeably so.

Now the central streak extended beyond the edges of the planet very distinctly and did so in a narrow loop on either side. There was no question of illusion; its nature was apparent. It was a ring of matter, looping about the planet, and hidden on the far side.

"That's enough to give you the idea, I think," said Trevize. "If we were to move over the planet, you would see the ring in its circular form, concentric about the planet, touching it nowhere. You'll probably see that it's not one ring either but several concentric rings."

"I wouldn't have thought it possible," said Pelorat blankly. "What keeps it in space?"

"The same thing that keeps a satellite in space," said Trevize. "The rings consist of tiny particles, every one of which is orbiting the planet. The rings are so close to the planet that tidal effects prevent it from coalescing into a single body."

Pelorat shook his head. "It's horrifying when I think of it, old man. How is it possible that I can have spent my whole life as a scholar and yet know so little about astronomy?"

"And I know nothing at all about the myths of humanity. No one can encompass all of knowledge. -The point is that these planetary rings aren't unusual. Almost every single gas giant has them, even if it's only a thin curve of dust. As it happens, the sun of Terminus has no true gas giant in its planetary family, so unless a Terminian is a space traveler, or has taken University instruction in astronomy, he's likely to know nothing about planetary rings. What is unusual is a ring that is sufficiently broad to be bright and

noticeable, like that one. It's beautiful. It must be a couple of hundred kilometers wide, at least."

At this point, Pelorat snapped his fingers. "That's what it meant."

Bliss looked startled. "What is it, Pel?"

Pelorat said, "I came across a scrap of poetry once, very ancient, and in an archaic version of Galactic that was hard to make out but that was good evidence of great age. - Though I shouldn't complain of the archaism, old chap. My work has made me an expert on various varieties of Old Galactic, which is quite gratifying even if it is of no use to me whatever outside my work. -What was I talking about?"

Bliss said, "An old scrap of poetry, Pel dear."

"Thank you, Bliss," he said. And to Trevize, "She keeps close track of what I say in order to pull me back whenever I get off-course, which is most of the time."

"It's part of your charm, Pel," said Bliss, smiling.

"Anyway, this scrap of poetry purported to describe the planetary system of which Earth was part. Why it should do so, I don't know, for the poem as a whole does not survive; at least, I was never able to locate it. Only this one portion survived, perhaps because of its astronomical content. In any case, it spoke of the brilliant triple ring of the sixth planet 'both brade and large, sae the woruld shronk in comparisoun.' I can still quote it, you see. I didn't understand what a planet's ring could be. I remember thinking of three circles on one side of the planet, all in a row. It seemed so nonsensical, I didn't bother to include it in my library. I'm sorry now I didn't inquire." He shook his head. "Being a mythologist in today's Galaxy is so solitary a job, one forgets the good of inquiring."

Trevize said consolingly, "You were probably right to ignore it, Janov. It's a mistake to take poetic chatter literally."

"But that's what was meant," said Pelorat, pointing at the screen. "That's what the poem was speaking of. Three wide rings, concentric, wider than the planet itself."

Trevize said, "I never heard of such a thing. I don't think rings can be that wide. Compared to the planet they circle, they are always very narrow."

Pelorat said, "We never heard of a habitable planet with a giant satellite, either. Or one with a radioactive crust. This is uniqueness .number three. If we find a radioactive planet that might be otherwise habitable, with a giant satellite, and with another planet in the system that has a huge ring, there would be no doubt at all that we had encountered Earth."

Trevize smiled. "I agree, Janov. If we find all three, we will certainly have found Earth."

"If!" said Bliss, with a sigh.

THEY WERE beyond the main worlds of the planetary system, plunging outward between the positions of the two outermost planets so that there was now no significant mass within 1.5 billion kilometers. Ahead lay only the vast cometary cloud which, gravitationally, was insignificant.

The Far Star had accelerated to a speed of 0.1 c , one tenth the speed of light. Trevize knew well that, in theory, the ship could be accelerated to nearly the speed of light, but he also knew that, in practice, 0.1 c was the reasonable limit.

At that speed, any object with appreciable mass could be avoided, but there was no way of dodging the innumerable dust particles in space, and, to a far greater extent even, individual atoms and molecules. At very fast speeds, even such small objects could do damage, scouring and scraping the ship's hull. At speeds near the speed of light, each atom smashing into the hull had the properties of a cosmic ray particle. Under that penetrating cosmic radiation, anyone on board ship would not long survive.

The distant stars showed no perceptible motion in the viewscreen, and even though the ship was moving at thirty thousand kilometers per second, there was every appearance of its standing still.

The computer scanned space to great distances for any oncoming object of small but significant size that might be on a collision course, and the ship veered gently to avoid it, in the extremely unlikely case that that would be necessary. Between the small size of any possible oncoming object, the speed with which it was passed, and the lack of inertial effect as the result of the course change, there was no way of telling whether anything ever took place in the nature of what might be termed a "close call."

Trevize, therefore, did not worry about such things, or even give it the most casual thought. He kept his full attention on the three sets of coordinates he had been given by Deniador, and, particularly, on the set which indicated the object closest to themselves.

"Is there something wrong with the figures?" asked Pelorat anxiously.

"I can't tell yet," said Trevize. "Co-ordinates in themselves aren't useful, unless you know the zero point and the conventions used in setting them up -the direction in which to mark off the distance, so to speak, what the equivalent of a prime meridian is, and so on."

"How do you find out such things?" said Pelorat blankly.

"I obtained the coordinates of Terminus and a few other known points, relative to Comporellon. If I put them into the computer, it will calculate what the conventions must be for such coordinates if Terminus and the other points are to be correctly located. I'm only trying to organize things in my mind so that I can properly program the computer for this. Once the conventions are determined, the figures we have for the Forbidden Worlds might possibly have meaning."

"Only possibly?" said Bliss.

"Only possibly, I'm afraid," said Trevize. "These are old figures after all-presumably Comporellian, but not definitely. What if they are based on other conventions?"

"In that case?"

"In that case, we have only meaningless figures. But-we just have to find out."

His hands flickered over the softly glowing keys of the computer, feeding it the necessary information. He then placed his hands on the handmarks on the desk. He waited while the computer worked out the conventions of the known coordinates, paused a moment, then interpreted the coordinates of the nearest Forbidden World by the same conventions, and finally located those coordinates on the Galactic map in its memory.

A starfield appeared on the screen and moved rapidly as it adjusted itself. When it reached stasis, it expanded with stars bleeding off the edges in all directions until they were almost all gone. At no point could the eye follow the rapid change; it was all a speckled blur. Until finally, a space one tenth of a parsec on each side (according to the index figures below the screen) " all that remained. There was no further change, and only half a dozen dial sparks relieved the darkness of the screen.

"Which one is the Forbidden World?" asked Pelorat softly.

"None of them," said Trevize. "Four of them are red dwarfs, one a near-red dwarf, and the last a white dwarf. None of them can possibly have a habitable world in orbit about them."

"How do you know they're red dwarfs just by looking at them?"

Trevize said, "We're not looking at real stars; we're looking at a section of the Galactic map stored in the computer's memory. Each one is labeled. You can't see it and ordinarily I couldn't see it either, but as long as my hands are making contact, as they are, I am aware of a considerable amount of data on any star on which my eyes concentrate."

Pelorat said in a woebegone tone, "Then the coordinates are useless."

Trevize looked up at him, "No, Janov. I'm not finished. There's still the matter of time. The coordinates for the Forbidden World are those of twenty thousand years ago. In that time, both it and Comaporellon have been revolving about the Galactic Center, and they may well be revolving at different speeds and in orbits of different inclinations and eccentricities. With time, therefore, the two worlds may be drifting closer together or farther apart and, in twenty thousand years, the Forbidden World may have drifted anywhere from one-half to five parsecs off the mark. It certainly wouldn't be included in that tenth-parsec square."

"What do we do, then?"

"We have the computer move the Galaxy twenty thousand years back in time relative to Comaporellon."

"Can it do that?" asked Bliss, sounding rather awe-struck.

"Well, it can't move the Galaxy itself back in time, but it can move the map in its memory banks back in time."

Bliss said, "Will we see anything happen?"

"Watch," said Trevize.

Very slowly, the half-dozen stars crawled over the face of the screen. A new star, not hitherto on the screen, drifted in from the left hand edge, and Pelorat pointed in excitement. "There! There!"

Trevize said, "Sorry. Another red dwarf. They're very common. At least three fourths of all the stars in the Galaxy are red dwarfs."

The screen settled down and stopped moving.

"Well?" said Bliss.

Trevize said, "That's it. That's the view of that portion of the Galaxy as it would have been twenty thousand years ago. At the very center of the screen is a point where the Forbidden World ought to be if it had been drifting at some average velocity."

"Ought to be, but isn't," said Bliss sharply.

"It isn't," agreed Trevize, with remarkably little emotion.

Pelorat released his breath in a long sigh. "Oh, too bad, Golan."

Trevize said, "Wait, don't despair. I wasn't expecting to see the star there."

"You weren't?" said Pelorat, astonished.

"No. I told you that this isn't the Galaxy itself, but the computer's map of the Galaxy. If a real star is not included in the map, we don't see it. If the planet is called 'Forbidden' and has been called so for twenty thousand years, the chances are it wouldn't be included in the map. And it isn't, for we don't see it."

Bliss said, "We might not see it because it doesn't exist. The Comporellian legends may be false, or the coordinates may be wrong."

"Very true. The computer, however, can now make an estimate as to what the coordinates ought to be at this time, now that it has located the spot where it may have been twenty thousand years ago. Using the coordinates corrected for time, a correction I could only have made through use of the star map, we can now switch to the real starfield of the Galaxy itself."

Bliss said, "But you only assumed an average velocity for the Forbidden World. What if its velocity was not average? You would not now have the correct coordinates."

"True enough, but a correction, assuming average velocity, is almost certain to be closer to its real position, than if we had made no time correction at all."

"You hope!" said Bliss doubtfully.

"That's exactly what I do," said Trevize. "I hope. -And now let's look at the real Galaxy."

The two onlookers watched tensely, while Trevize (perhaps to reduce his own tensions and delay the zero moment) spoke softly, almost as though he were lecturing.

"It's more difficult to observe the real Galaxy," he said. "The map in the computer is an artificial construction, with irrelevancies capable of being eliminated. If there is a nebula obscuring the view, I can remove it. If the angle of view is inconvenient for what I have in mind, I can change the angle, and so on. The real Galaxy, however, I must take as I find it, and if I want a change I must move physically through space, which will take far more time than it would take to adjust a map."

And as he spoke, the screen showed a star cloud so rich in individual stars as to seem an irregular heap of powder.

Trevize said, "That's a large angle view of a section of the Milky Way, and I want the foreground, of course. If I expand the foreground, the background will tend to fade in

comparison. The coordinate spot is close enough to Comporellon so that I should be able to expand it to about the situation I had on the view of the map. Just let me put in the necessary instructions, if I can hold on to my sanity long enough. Now. "

The starfield expanded with a rush so that thousands of stars pushed off every edge, giving the watchers so real a sensation of moving toward the screen that all three automatically leaned backward as though in response to a forward rush.

The old view returned, not quite as dark as it had been on the map, but with the half-dozen stars shown as they had been in the original view. And there, close to the center, was another star, shining far more brightly than the others.

"There it is," said Pelorat, in an awed whisper.

"It may be. I'll have the computer take its spectrum and analyze it." There was a moderately long pause, then Trevize said, "Spectral class, G-4, which makes it a trifle dimmer and smaller than Terminus's sun, but rather brighter than Comporellon's sun. And no G-class star should be omitted from the computer's Galactic map. Since this one is, that is a strong indication that it may be the sun about which the Forbidden World revolves."

Bliss said, "Is there any chance of its turning out that there is no habitable planet revolving about this star after all?"

"There's a chance, I suppose. In that case, we'll try to find the other two Forbidden Worlds." Bliss persevered. "And if the other two are false alarms, too?"

"Then we'll try something else."

"Like what?"

"I wish I knew," said Trevize grimly.

PART THREE - AURORA

8. FORBIDDEN WORLD

31.

"GOLAN," said Pelorat. "Does it bother you if I watch?"

"Not at all, Janov," said Trevize.

"If I ask questions?"

"Go ahead."

Pelorat said, "What are you doing?"

Trevize took his eyes off the viewscreen. "I've got to measure the distance of each star that seems to be near the Forbidden World on the screen, so that I can determine how near they really are. Their gravitational fields must be known and for that I need mass and distance. Without that knowledge, one can't be sure of a clean Jump."

"How do you do that?"

"Well, each star I see has its coordinates in the computer's memory bank! and these can be converted into coordinates on the Comporellian system. That can, in turn, be slightly corrected for the actual position of the For Star in space relative to Comporellon's sun, and that gives me the distance of each. Those red dwarfs all look quite near the Forbidden World on the screen, but some might be much closer and some much farther. We need their three-dimensional position, you see."

Pelorat nodded, and said, "And you already have the coordinates of the Forbidden World-"

"Yes, but that's not enough. I need the distances of the other stars to within a percent or so. Their gravitational intensity in the neighborhood of the Forbidden World is so small that a slight error makes no perceptible difference. The sun about which the Forbidden World revolves-or might revolve-possesses an enormously intense gravitational field in the neighborhood of the Forbidden World and I must know its distance with perhaps a thousand times the accuracy of that of the other stars. The coordinates alone won't do."

"Then what do you do?"

"I measure the apparent separation of the Forbidden World-or, rather, its star-from three nearby stars which are so dim it takes considerable magnification to make them out at all. Presumably, those three are very far away. We then keep one of those three stars centered on the screen and Jump a tenth of a parsec in a direction at right angles to the line of vision to the Forbidden World. We can do that safely enough even without knowing distances to comparatively far-off stars.

"The reference star which is centered would still be centered after the Jump. The two other dim stars, if all three are truly very distant, do not change their positions measurably. The Forbidden World, however, is close enough to change its apparent

position in parallactic shift. From the size of the shift, we can determine its distance. If I want to make doubly certain, I choose three other stars and try again."

Pelorat said, "How long does all that take?"

"Not very long. The computer does the heavy work. I just tell it what to do. What really takes the time is that I have to study the results and make sure they look right and that my instructions aren't at fault somehow. If I were one of those daredevils with utter faith in themselves and the computer, it could all be done in a few minutes."

Pelorat said, "It's really astonishing. Think how much the computer does for us."

"I think of it all the time."

"What would you do without it?"

"What would I do without a gravitic ship? What would I do without my astronautic training? What would I do without twenty thousand years of hyperspatial technology behind me? The fact is that I'm myself-here-now. Suppose we were to imagine ourselves twenty thousand additional years into the future. What technological marvels would we have to be grateful for? Or might it be that twenty thousand years hence humanity would not exist?"

"Scarcely that," said Pelorat. "Scarcely not exist. Even if we don't become part of Galaxia, we would still have psychohistory to guide us."

Trevize turned in his chair, releasing his handhold on the computer. "Let it work out distances," he said, "and let it check the matter a number of times. There's no hurry."

He looked quizzically at Pelorat, and said, "Psychohistory! You know, Janov, twice that subject came up on Comporellon, and twice it was described as a superstition. I said so once, and then Deniador said it also. After all, how can you define psychohistory but as a superstition of the Foundation? Isn't it a belief without proof or evidence? What do you think, Janov? It's more your field than mine."

Pelorat said, "Why do you say there's no evidence, Golan? The simulacrum of Hari Seldon has appeared in the Time Vault many times and has discussed events as they happened. He could not have known what those events would be, in his time, had he not been able to predict them psychohistorically."

Trevize nodded. "That sounds impressive. He was wrong about the Mule, but even allowing for that, it's impressive. Still, it has an uncomfortable magical feel to it. Any conjurer can do tricks."

"No conjurer could predict centuries into the future."

"No conjurer could really do what he makes you think he does."

"Come, Golan. I can't think of any trick that would allow me to predict what will happen five centuries from now."

"Nor can you think of a trick that will allow a conjurer to read the contents of a message hidden in a pseudo-tesseract on an unmanned orbiting satellite. Just the same, I've seen a conjurer do it. Has it ever occurred to you that the Time Capsule, along with the Hari Seldon simulacrum, may be rigged by the government?"

Pelorat looked as though he were revolted by the suggestion. "They wouldn't do that."

Trevize made a scornful sound.

Pelorat said, "And they'd be caught if they tried."

"I'm not at all sure of that. The point is, though, that we don't know how psychohistory works at all."

"I don't know how that computer works, but I know it works."

"That's because others know how it works. How would it be if no one knew how it worked? Then, if it stopped working for any reason, we would be helpless to do anything about it. And if psychohistory suddenly stopped working-

"The Second Foundationers know the workings of psychohistory."

"How do you know that, Janov?"

"So it is said."

"Anything can be said. -Ah, we have the distance of the Forbidden World's star, and, I hope, very accurately. Let's consider the figures."

He stared at them for a long time, his lips moving occasionally, as though he were doing some rough calculations in his head. Finally, he said, without lifting his eyes, "What's Bliss doing?"

"Sleeping, old chap," said Pelorat. Then, defensively, "She needs sleep, Golan. Maintaining herself as part of Gaia across hyperspace is energy-consuming."

"I suppose so," said Trevize, and turned back to the computer. He placed his hands on the desk and muttered, "I'll let it go in several Jumps and have it recheck each time." Then he withdrew them again and said, "I'm serious, Janov. What do you know about psychohistory?"

Pelorat looked taken aback. "Nothing. Being a historian, which I am, after a fashion, is worlds different from being a psychohistorian. -Of course, I know the two fundamental basics of psychohistory, but everyone knows that."

"Even I do. The first requirement is that the number of human beings involved must be large enough to make statistical treatment valid. But how large is 'large enough'?"

Pelorat said, "The latest estimate of the Galactic population is something like ten quadrillion, and that's probably an underestimate. Surely, that's large enough."

"How do you know?"

"Because psychohistory does work, Golan. No matter how you chop logic, it does work."

"And the second requirement," said Trevize, "is that human beings not be aware of psychohistory, so that the knowledge does not skew their reactions. -But they are aware of psychohistory."

"Only of its bare existence, old chap. That's not what counts. The second requirement is that human beings not be aware of the predictions of psychohistory and that they are not-except that the Second Foundationers are supposed to be aware of them, but they're a special case."

"And upon those two requirements alone, the science of psychohistory has been developed. That's hard to believe."

"Not out of those two requirements alone, " said Pelorat. "There are advanced mathematics and elaborate statistical methods. The story is--if you want tradition--that Hari Seldon devised psychohistory by modeling it upon the kinetic theory of gases. Each atom or molecule in a gas moves randomly so that we can't know the position or velocity of any one of them. Nevertheless, using statistics, we can work out the rules governing their overall behavior with great precision. In the same way, Seldon intended to work out the overall behavior of human societies even though the solutions would not apply to the behavior of individual human beings."

"Perhaps, but human beings aren't atoms."

"True," said Pelorat. "A human being has consciousness and his behavior is sufficiently complicated to make it appear to be free will. How Seldon handled that I haven't any idea, and I'm sure I couldn't understand it even if someone who knew tried to explain it to me--but he did it."

Trevize said, "And the whole thing depends on dealing with people who are both numerous and unaware. Doesn't that seem to you a quicksandish foundation on which to build an enormous mathematical structure? If those requirements are not truly met, then everything collapses."

"But since the Plan hasn't collapsed--"

"Or, if the requirements are not exactly false or inadequate but simply weaker than they should be, psychohistory might work adequately for centuries and then, upon reaching some particular crisis, would collapse,--as it did temporarily in the time of the Mule. --Or what if there is a third requirement?"

"What third requirement?" asked Pelorat, frowning slightly.

"I don't know," said Trevize. "An argument may seem thoroughly logical and elegant and yet contain unexpressed assumptions. Maybe the third requirement is an assumption so taken for granted that no one ever thinks of mentioning it."

"An assumption that is so taken for granted is usually valid enough, or it wouldn't be so taken for granted."

Trevize snorted. "If you knew scientific history as well as you know traditional history, Janov, you would know how wrong that is. --But I see that we are now in the neighborhood of the sun of the Forbidden World."

And, indeed, centered on the screen, was a bright star--one so bright that the screen automatically filtered its light to the point where all other stars were washed out.

32.

FACILITIES for washing and for personal hygiene on board the Far Star were compact, and the use of water was always held to a reasonable minimum to avoid overloading the recycling facilities. Both Pelorat and Bliss had been sternly reminded of this by Trevize.

Even so, Bliss maintained an air of freshness at all times and her dark, long hair could be counted on to be glossy, her fingernails to sparkle.

She walked into the pilot-room and said, "There you are!"

Trevize looked up and said, "No need for surprise. We could scarcely have left the ship, and a thirty-second search would be bound to uncover us inside the ship, even if you couldn't detect our presence mentally."

Bliss said, "The expression was purely a form of greeting and not meant to be taken literally, as you well know. Where are we? -And don't say, 'In the pilot-room.' "

"Bliss dear," said Pelorat, holding out one arm, "we're at the outer regions of the planetary system of the nearest of the three Forbidden Worlds."

She walked to his side, placing her hand lightly on his shoulder, while his arm moved about her waist. She said, "It can't be very Forbidden. Nothing has stopped us."

Trevize said, "It is only Forbidden because Comporellon and the other worlds of the second wave of settlement have voluntarily placed the worlds of the first wave-the Spacers-out of bounds. If we ourselves don't feel bound by that voluntary agreement, what is to stop us?"

"The Spacers, if any are left, might have voluntarily placed the worlds of the second wave out of bounds, too. Just because we don't mind intruding upon them doesn't mean that they don't mind it."

"True," said Trevize, "If they exist. But so far we don't even know if any planet exists for them to live on. So far, all we see are the usual gas giants. Two of them, and not particularly large ones."

Pelorat said hastily, "But that doesn't mean the Spacer world doesn't exist. Any habitable world would be much closer to the sun and much smaller and very hard to detect in the solar glare from this distance. We'll have to microJump inward to detect such a planet." He seemed rather proud to be speaking like a seasoned space traveler.

"In that case," said Bliss, "why aren't we moving inward?"

"Not just yet," said Trevize. "I'm having the computer check as far as it can for any sign of an artificial structure. We'll move inward by stages-a dozen, if necessary-checking at each stage. I don't want to be trapped this time as we were when we first approached Gaia. Remember, Janov?"

"Traps like that could catch us every day. The one at Gaia brought me Bliss." Pelorat gazed at her fondly.

Trevize grinned. "Are you hoping for a new Bliss every day?"

Pelorat looked hurt, and Bliss said, with a trace of annoyance, "My good chap-or whatever it is that Pel insists on calling you-you might as well move in more quickly. While I am with you, you will not be trapped."

"The power of Gaia?"

"To detect the presence of other minds? Certainly."

"Are you sure you are strong enough, Bliss? I gather you must sleep quite a bit to regain strength expended at maintaining contact with the main body of Gaia. How far can I rely on the perhaps narrow limits of your abilities at this distance from the source?"

Bliss flushed. "The strength of the connection is ample."

Trevize said, "Don't be offended. I'm simply asking. -Don't you see this as a disadvantage of being Gaia? I am not Gaia. I am a complete and independent individual. That means I can travel as far as I wish from my world and my people, and remain Golan Trevize. What powers I have, and such as they are, I continue to have, and they remain wherever I go. If I were alone in space, parsecs away from any human being, and unable, for some reason, to communicate with anyone in any way, or even to see the spark of a single star in the sky, I would be and remain Golan Trevize. I might not be able to survive, and I might die, but I would die Golan Trevize."

Bliss said, "Alone in space and far from all others, you would be unable to call on the help of your fellows, on their different talents and knowledge. Alone, as an isolated individual, you would be sadly diminished as compared with yourself as part of an integrated society. You know that."

Trevize said, "There would nevertheless not be the same diminution as in your case. There is a bond between you and Gaia that is far stronger than the one between me and my society, and that bond stretches through hyperspace and requires energy for maintenance, so that you must gasp, mentally, with the effort, and feel yourself to be a diminished entity far more than I must."

Bliss's young face set hard and, for a moment, she looked young no more or, rather, she appeared ageless-more Gaia than Bliss, as though to refute Trevize's contention. She said, "Even if everything you say is so, Golan Trevize-that is, was, and will be, that cannot perhaps be less, but certainly cannot be more-even if everything you say is so, do you expect there is no price to be paid for a benefit gained? Is it not better to be a warm-blooded creature such as yourself than a cold-blooded creature such as a fish, or whatever?"

Pelorat said, "Tortoises are cold-blooded. Terminus doesn't have any, but some worlds do. They are shelled creatures, very slow-moving but long-living. "

"Well, then, isn't it better to be a human being than a tortoise; to move quickly whatever the temperature, rather than slowly? Isn't it better to support high-energy activities, quickly contracting muscles, quickly working nerve fibers, intense and long-sustained thought-than to creep slowly, and sense gradually, and have only a blurred awareness of the immediate surroundings? Isn't it?"

"Granted," said Trevize. "It is. What of it?"

"Well, don't you know you must pay for warm-bloodedness? To maintain your temperature above that of your surroundings, you must expend energy far more wastefully than a tortoise must. You must be eating almost constantly so that you can pour energy into your body as quickly as it leaks out. You would starve far more quickly than a tortoise would, and die more quickly, too. Would you rather be a tortoise, and live more slowly and longer? Or would you rather pay the price and be a quick-moving, quick-sensing, thinking organism?"

"Is this a true analogy, Bliss?"

"No, Trevize, for the situation with Gaia is more favorable. We don't expend unusual quantities of energy when we are compactly together. It is only when part of Gaia is at hyperspatial distances from the rest of Gaia that energy expenditure rises. -And remember that what you have voted for is not merely a larger Gaia, not just a larger individual world. You have decided for Galaxia, for a vast complex of worlds. Anywhere in the Galaxy, you will be part of Galaxia and you will be closely surrounded by parts of something that extends from each interstellar atom to the central black hole. It would then require small amounts of energy to remain a whole. No part would be at any great distance from all other parts. It is all this you have decided for, Trevize. How can you doubt that you have chosen well?"

Trevize's head was bent in thought. Finally, he looked up and said, "I may have chosen well, but I must be convinced of that. The decision I have made is the most important in the history of humanity and it is not enough that it be a good one. I must know it to be a good one."

"What more do you need than what I have told you?"

"I don't know, but I will find it on Earth." He spoke with absolute conviction.

Pelorat said, "Golan, the star shows a disc."

It did. The computer, busy about its own affairs and not the least concerned with any discussion that might swirl about it, had been approaching the star in stages, and had reached the distance Trevize had set for it.

They continued to be well outside the planetary plane and the computer split the screen to show each of three small inner planets.

It was the innermost that had a surface temperature in the liquid-water range, and that had an oxygen atmosphere as well. Trevize waited for its orbit to be computed and the first crude estimate seemed reasonable. He kept that computation going, for the longer the planetary movement was observed, the more accurate the computation of its orbital elements.

Trevize said quite calmly, "We have a habitable planet in view. Very likely habitable."

"Ah." Pelorat looked as nearly delighted as his solemn expression would allow.

"I'm afraid, though," said Trevize, "that there's no giant satellite. In fact, no satellite of any kind has been detected so far. So it isn't Earth. At least, not if we go by tradition."

"Don't worry about that, Golan." said Pelorat. "I rather suspected we weren't going to encounter Earth here when I saw that neither of the gas giants had an unusual ring system."

"Very well, then," said Trevize. "The next step is to find out the nature of the life inhabiting it. From the fact that it has an oxygen atmosphere, we can be absolutely certain that there is plant life upon it, but-"

"Animal life, too," said Bliss abruptly. "And in quantity."

"What?" Trevize turned to her.

"I can sense it. Only faintly at this distance, but the planet is unquestionably not only habitable, but inhabited."

33.

THE Far Star was in polar orbit about the Forbidden World, at a distance great enough to keep the orbital period at a little in excess of six days. Trevize seemed in no hurry to come out of orbit.

"Since the planet is inhabited," he explained, "and since, according to Deniador, it was once inhabited by human beings who were technologically advanced and who represent a first wave of Settlers-the so-called Spacers-they may be technologically advanced still and may have no great love for us of the second wave who have replaced them. I would like them to show themselves, so that we can learn a little about them before risking a landing."

"They may not know we are here," said Pelorat.

"We would, if the situation were reversed. I must assume, then, that, if they exist, they are likely to try to make contact with us. They might even want to come out and get us."

"But if they did come out after us and were technologically advanced, we might be helpless to-"

"I can't believe that," said Trevize. "Technological advancement is not necessarily all one piece. They might conceivably be far beyond us in some ways, but it's clear they don't indulge in interstellar travel. It is we, not they, who have settled the Galaxy, and in all the history of the Empire, I know of nothing that would indicate that they left their worlds and made themselves evident to us. If they haven't been space traveling, how could they be expected to have made serious advances in astronautics? And if they haven't, they can't possibly have anything like a gravitic ship. We may be essentially unarmed but even if they come lumbering after us with a battleship, they couldn't possibly catch us. -No, we wouldn't be helpless."

"Their advance may be in mentalics. It may be that the Mule was a Spacer-"

Trevize shrugged in clear irritation. "The Mule can't be everything. The Gaians have described him as an aberrant Gaian. He's also been considered a random mutant."

Pelorat said, "To be sure, there have also been speculations-not taken very seriously, of course-that he was a mechanical artifact. A robot, in other words, though that word wasn't used."

"If there is something that seems mentally dangerous, we will have to depend on Bliss to neutralize that. She can- Is she asleep now, by the way?"

"She has been," said Pelorat, "but she was stirring when I came out here."

"Stirring, was she? Well, she'll have to be awake on short notice if anything starts happening. You'll have to see to that, Janov."

"Yes, Golan," said Pelorat quietly.

Trevize shifted his attention to the computer. "One thing that bothers me are the entry stations. Ordinarily, they are a sure sign of a planet inhabited by human beings with a high technology. But these-

"Is there something wrong with them?"

"Several things. In the first place, they're very archaic. They might be thousands of years old. In the second, there's no radiation but thermals."

"What are thermals?"

"Thermal radiation is given off by any object warmer than its surroundings. It's a familiar signature that everything yields and it consists of a broad band of radiation following a fixed pattern depending on temperature. That is what the entry stations are radiating. If there are working human devices aboard the stations, there is bound to be a leakage of nonthermal, nonrandom radiation. Since only thermals are present we can assume that either the stations are empty, and have been, perhaps, for thousands of years; or, if occupied, it is by people with a technology so advanced in this direction that they leak no radiation."

"Perhaps," said Pelorat, "the planet has a high civilization, but the entry stations are empty because the planet has been left so strictly alone for so long by our kind of Settlers that they are no longer concerned about any approach."

"Perhaps. --Or perhaps it is a lure of some sort."

Bliss entered, and Trevize, noting her out of the corner of his eyes, said grumpily, "Yes, here we are."

"So I see," said Bliss, "and still in an unchanged orbit. I can tell that much."

Pelorat explained hastily. "Golan is being cautious, dear. The entry stations seem unoccupied and we're not sure of the significance of that."

"There's no need to worry about it," said Bliss indifferently. "There are no detectable signs of intelligent life on the planet we're orbiting."

Trevize bent an astonished glare at her. "What are you talking about? You said-

"I said there was animal life on the planet, and so there is, but where in the Galaxy were you taught that animal life necessarily implies human life?"

"Why didn't you say this when you first detected animal life?"

"Because at that distance, I couldn't tell. I could barely detect the unmistakable wash of animal neural activity, but there was no way I could, at that intensity, tell butterflies from human beings."

"And now?"

"We're much closer now, and you may have thought I was asleep, but I wasn't-or, at least, only briefly. I was, to use an inappropriate word, listening as hard as I could for any sign of mental activity complex enough to signify the presence of intelligence."

"And there isn't any?"

"I would suppose," said Bliss, with sudden caution, "that if I detect nothing at this distance, there can't possibly be more than a few thousand human beings on the planet. If we come closer, I can judge it still more delicately."

"Well, that changes things," said Trevize, with some confusion.

"I suppose," said Bliss, who looked distinctly sleepy and, therefore, irritable. "You can now discard all this business of analyzing radiation and inferring and deducing and who knows what else you may have been doing. My Gaian senses do the job much more efficiently and surely. Perhaps you see what I mean when I say it is better to be a Gaian than an Isolate."

Trevize waited before answering, clearly laboring to hold his temper. When he spoke, it was with a polite, and almost formal tone, "I am grateful to you for the information. Nevertheless, you must understand that, to use an analogy, the thought of the advantage of improving my sense of smell would be insufficient motive for me to decide to abandon my humanity and become a bloodhound."

34.

THEY COULD see the Forbidden World now, as they moved below the cloud layer and drifted through the atmosphere. It looked curiously moth-eaten.

The polar regions were icy, as might be expected, but they were not large in extent. The mountainous regions were barren, with occasional glaciers, but they were not large in extent, either. There were small desert areas, well scattered.

Putting all that aside, the planet was, in potential, beautiful. Its continental areas were quite large, but sinuous, so that there were long shorelines, and rich coastal plains of generous extent. There were lush tracts of both tropical and temperate forests, rimmed by grasslands-and yet the moth-eaten nature of it all was evident.

Scattered through the forests were semibarren areas, and parts of the grasslands were thin and sparse.

"Some sort of plant disease?" said Pelorat wonderingly.

"No," said Bliss slowly. "Something worse than that, and more permanent."

"I've seen a number of worlds," said Trevize, "but nothing like this."

"I have seen very few worlds," said Bliss, "but I think the thoughts of Gaia and this is what you might expect of a world from which humanity has disappeared."

"Why?" said Trevize.

"Think about it," said Bliss tartly. "No inhabited world has a true ecological balance. Earth must have had one originally, for if that was the world on which humanity evolved, there must have been long ages when humanity did not exist, or any species capable of developing an advanced technology and the ability to modify the environment. In that case, a natural balance--everchanging, of course--must have existed. On all other inhabited worlds, however, human beings have carefully terraformed their new environments and established plant and animal life, but the ecological system they introduce is bound to be unbalanced. It would possess only a limited number of species and only those that human beings wanted, or couldn't help introducing--"

Pelorat said, "You know what that reminds me of? -Pardon me, Bliss, for interrupting, but it so fits that I can't resist telling you right now before I forget. There's an old creation myth I once came across; a myth in which life was formed on a planet and consisted of only a limited assortment of species, just those useful to or pleasant for humanity. The first human beings then did something silly-never mind what, old fellow, because those old myths are usually symbolic and only confusing if they are taken literally-and the planet's soil was cursed. 'Thorns also and thistles shall it bring forth to thee,' is the way the curse was quoted though the passage sounds much better in the archaic Galactic in which it was written. The point is, though, was it really a curse? Things human beings don't like and don't want, such as thorns and thistles, may be needed to balance the ecology."

Bliss smiled. "It's really amazing, Pel, how everything reminds you of a legend, and how illuminating they are sometimes. Human beings, in terraforming a world, leave out the thorns and thistles, whatever they may be, and human beings then have to labor to keep the world going. It isn't a self-supporting organism as Gaia is. It is rather a miscellaneous collection of Isolates and the collection isn't miscellaneous enough to allow the ecological balance to persist indefinitely. If humanity disappears, and if its guiding hands are removed, the world's pattern of life inevitably begins to fall apart. The planet unterraforms itself."

Trevize said skeptically, "If that's what's happening, it doesn't happen quickly. This world may have been free of human beings for twenty thousand years and yet most of it still seems to be very much a going concern."

"Surely," said Bliss, "that depends on how well the ecological balance was set up in the first place. If it is a fairly good balance to begin with, it might last for a long time without human beings. After all, twenty thousand years, though very long in terms of human affairs, is just overnight when compared to a planetary lifetime."

"I suppose," said Pelorat, staring intently at the planetary vista, "that if the planet is degenerating, we can be sure that the human beings are gone."

Bliss said, "I still detect no mental activity at the human level and I am willing to suppose that the planet is safely free of humanity. There is the steady hum and buzz of lower levels of consciousness, however, levels high enough to represent birds and mammals. Just the same, I'm not sure that unterraforming is enough to show human beings are gone. A planet might deteriorate even if human beings existed upon it, if the society were itself abnormal and did not understand the importance of preserving the environment."

"Surely," said Pelorat, "such a society would quickly be destroyed. I don't think it would be possible for human beings to fail to understand the importance of retaining the very factors that are keeping them alive."

Bliss said, "I don't have your pleasant faith in human reason, Pel. It seems to me to be quite conceivable that when a planetary society consists only of Isolates, local and even individual concerns might easily be allowed to overcome planetary concerns."

"I don't think that's conceivable," said Trevize, "anymore than Pelorat does. In fact, since human-occupied worlds exist by the million and none of them have deteriorated in an unterraforming fashion, your fear of Isolatism may be exaggerated, Bliss."

The ship now moved out of the daylit hemisphere into the night. The effect was that of a rapidly deepening twilight, and then utter darkness outside, except for starlight where the sky was clear.

The ship maintained its height by accurately monitoring the atmospheric pressure and gravitational intensity. They were at a height too great to encounter any upthrusting mountainous massif, for the planet was at a stage when mountain-building had not recently taken place. Still, the computer felt its way forward with its microwave finger-tips, just in case.

Trevize regarded the velvety darkness and said, thoughtfully, "Somehow what I find most convincing as the sign of a deserted planet is the absence of visible light on the dark side. No technological society could possibly endure darkness. -As soon as we get into the dayside, we'll go lower."

"What would be the use of that?" said Pelorat. "There's nothing there."

"Who said there's nothing there?"

"Bliss did. And you did."

"No, Janov. I said there's no radiation of technological origin and Bliss said there's no sign of human mental activity, but that doesn't mean there's nothing there. Even if there are no human beings on the planet, there would surely be relics of some sort. I'm after information, Janov, and the remainders of a technology may have its uses in that direction."

"After twenty thousand years?" Pelorat's voice climbed in pitch. "What do you think can survive twenty thousand years? There will be no films, no paper, no print; metal will have rusted, wood will have decayed, plastic will be in shattered grains. Even stone will have crumbled and eroded."

"It may not be twenty thousand years," said Trevize patiently. "I mentioned that time as the longest period the planet may have been left empty of human beings because Comporellian legend has this world flourishing at that time. But suppose the last human beings had died or vanished or fled only a thousand years ago."

They arrived at the other end of the nightside and the dawn came and brightened into sunlight almost instantaneously.

The Far Star sank downward and slowed its progress until the details of the land surface were clearly visible. The small islands that dotted the continental shores could now be clearly seen. Most were green with vegetation.

Trevize said, "It's my idea that we ought to study the spoiled areas particularly. It seems to me that those places where human beings were most concentrated would be where the ecological balance was most lacking. Those areas might be the nucleus of the spreading blight of unterraforming. What do you think, Bliss?"

"It's possible. In any case, in the absence of definite knowledge, we might as well look where it's easiest to see. The grasslands and forest would have swallowed most signs of human habitation so that looking there might prove a waste of time."

"It strikes me," said Pelorat, "that a world might eventually establish a balance with what it has; that new species might develop; and that the bad areas might be recolonized on a new basis."

"Possibly, Pel," said Bliss. "It depends on how badly out of balance the world was in the first place. And for a world to heal itself and achieve a new balance through evolution would take far more than twenty thousand years. We'd be talking millions of years."

The Far Star was no longer circling the world. It was drifting slowly across a five-hundred-kilometer-wide stretch of scattered heath and furze, with occasional clumps of trees.

"What do you think of that?" said Trevize suddenly, pointing. The ship came to a drifting halt and hovered in mid-air. There was a low, but persistent, hum as the gravitic engines shifted into high, neutralizing the planetary gravitational field almost entirely.

There was nothing much to see where Trevize pointed. Tumbled mounds bearing soil and sparse grass were all that was visible.

"It doesn't look like anything to me," said Pelorat.

"There's a straight-line arrangement to that junk. Parallel lines, and you can make out some faint lines at right angles, too. See? See? You can't get that in any natural formation. That's human architecture, marking out foundations and walls, just as clearly as though they were still standing there to be looked at."

"Suppose it is," said Pelorat. "That's just a ruin. If we're going to do archeological research, we're going to have to dig and dig. Professionals would take years to do it properly--"

"Yes, but we can't take the time to do it properly. That may be the faint outline of an ancient city and something of it may still be standing. Let's follow those lines and see where they take us."

It was toward one end of the area, at a place where the trees were somewhat more thickly clumped, that they came to standing walls-or partially standing ones.

Trevize said, "Good enough for a beginning. We're landing."

9. FACING THE PACK

35.

THE Far Star came to rest at the bottom of a small rise, a hill in the generally fiat countryside. Almost without thought, Trevize had taken it for granted that it would be best for the ship not to be visible for miles in every direction.

He said, "The temperature outside is 24 C., the wind is about eleven kilometers per hour from the west, and it is partly cloudy. The computer does not know enough about the general air circulation to be able to predict the weather. However, since the humidity is some forty percent, it seems scarcely about to rain. On the whole, we seem to have chosen a comfortable latitude or season of the year, and after Comporellon that's a pleasure."

"I suppose," said Pelorat, "that as the planet continues to unterraform, the weather will become more extreme."

"I'm sure of that," said Bliss.

"Be as sure as you like," said Trevize. "We have thousands of years of leeway. Right now, it's still a pleasant planet and will continue to be so for our lifetimes and far beyond."

He was clasping a broad belt about his waist as he spoke, and Bliss said sharply, "What's that, Trevize?"

"Just my old navy training," said Trevize. "I'm not going into an unknown world unarmed."

"Are you seriously intending to carry weapons?"

"Absolutely. Here on my right"-he slapped a holster that contained a massive weapon with a broad muzzle-"is my blaster, and here on my left"-a smaller weapon with a thin muzzle that contained no opening-"is my neuronc whip."

"Two varieties of murder," said Bliss, with distaste.

"Only one. The blaster kills. The neuronc whip doesn't. It just stimulates the pain nerves, and it hurts so that you can wish you were dead, I'm told. Fortunately, I've never been at the wrong end of one."

"Why are you taking them?"

"I told you. It's an enemy world."

"Trevize, it's an empty world."

"Is it? There's no technological society, it would seem, but what if there are post-technological primitives. They may not possess anything worse than clubs or rocks, but those can kill, too."

Bliss looked exasperated, but lowered her voice in an effort to be reasonable. "I detect no human neuronc activity, Trevize. That eliminates primitives of any type, post-technological or otherwise."

"Then I won't have to use my weapons," said Trevize. "Still, what harm would there be in carrying them? They'll just make me a little heavier, and since the gravitational pull at the surface is about ninety-one percent that of Terminus, I can afford the weight. - Listen, the ship may be unarmed as a ship, but it has a reasonable supply of hand-weapons. I suggest that you two also-"

"No," said Bliss at once. "I will not make even a gesture in the direction of killing- or of inflicting pain, either."

"It's not a question of killing, but of avoiding being killed, if you see what I mean."

"I can protect myself in my own way."

"Janov?"

Pelorat hesitated. "We didn't have arms on Comporellon."

"Come, Janov, Comporellon was a known quantity, a world associated with the Foundation. Besides we were at once taken into custody. If we had had weapons, they would have been taken away. Do you want a blaster?"

Pelorat shook his head. "I've never been in the Navy, old chap. I wouldn't know how to use one of those things and, in an emergency, I would never think of it in time. I'd just run and-and get killed."

"You won't get killed, Pel," said Bliss energetically. "Gaia has you in my/our/its protection, and that posturing naval hero as well."

Trevize said, "Good. I have no objection to being protected, but I am not posturing. I am simply making assurance doubly sure, and if I never have to make a move toward these things, I'll be completely pleased, I promise you. Still I must have them."

He patted both weapons affectionately and said, "Now let's step out on this world which may not have felt the weight of human beings upon its surface for thousands of years."

36.

"I HAVE a feeling," said Pelorat, "that it must be rather late in the day, but the sun is high enough to make it near noon, perhaps."

"I suspect," said Trevize, looking about the quiet panorama, "that your feeling originates out of the sun's orange tint, which gives it a sunset feel. If we're still here at actual sunset and the cloud formations are proper, we ought to experience a deeper red than we're used to. I don't know whether you'll find it beautiful or depressing. -For that matter it was probably even more extreme on Comporellon, but there we were indoors virtually all the time."

He turned slowly, considering the surroundings in all directions. In addition to the almost subliminal oddness of the light, there was the distinctive smell of the world-or this section of it. It seemed a little musty, but far from actively unpleasant.

The trees nearby were of middling height, and looked old, with gnarled bark and trunks a little off the vertical, though because of a prevailing wind or something off-color

about the soil he couldn't tell. Was it the trees that lent a somehow menacing ambience to the world or was it something else-less material?

Bliss said, "What do you intend to do, Trevize? Surely we didn't come all this distance to enjoy the view?"

Trevize said, "Actually, perhaps that ought to be my part of it just now. I would suggest that Janov explore this place. There are ruins off in that direction and he's the one who can judge the value of any records he might find. I imagine he can understand writings or films in archaic Galactic and I know quite well I wouldn't. And I suppose, Bliss, you want to go with him in order to protect him. As for me, I will stay here as a guard on the outer rim."

"A guard against what? Primitives with rocks and clubs?"

"Perhaps." And then the smile that had hovered about his lips faded and he said, "Oddly enough, Bliss, I'm a little uneasy about this place. I can't say why."

Pelorat said, "Come, Bliss. I've been a home-body collector of old tales all my life, so I've never actually put my hands on ancient documents. Just imagine if we could find-"

Trevize watched them walk away, Pelorat's voice fading as he walked eagerly toward the ruins; Bliss swinging along at his side.

Trevize listened absently and then turned back to continue his study of the surroundings. What could there be to rouse apprehension?

He had never actually set foot upon a world without a human population, but he had viewed many from space. Usually, they were small worlds, not large enough to hold either water or air, but they had been useful as marking a meeting site during naval maneuvers (there had been no war in his lifetime, or for a century before his birth but maneuvers went on), or as an exercise in simulated emergency repairs. Ships he had been on had been in orbit about such worlds, or had even rested on them, but he had never had occasion to step off the ships at those times.

Was it that he was now actually standing on an empty world? Would he have felt the same if he had been standing on one of the many small, airless worlds he had encountered in his student days-and even since?

He shook his head. It wouldn't have bothered him. He was sure of that. He would have been in a space suit, as he had been innumerable times when he was free of his ship in space. It was a familiar situation and contact with a mere lump of rock would have produced no alteration in the familiarity. Surely!

Of course- He was not wearing a space suit now.

He was standing on a habitable world, as comfortable to the feel as Terminus would be-far more comfortable than Comporellon had been. He experienced the wind against his cheek, the warmth of the sun on his back, the rustle of vegetation in his ears. Everything was familiar, except that there were no human beings on it-at least, not any longer.

Was that it? Was it that that made the world seem so eerie? Was it that it was not merely an uninhabited world, but a deserted one?

He had never been on a deserted world before; never heard of a deserted world before; never thought a world could be deserted. All the worlds he had known of till now, once they had been populated by human beings, remained so populated forever.

He looked up toward the sky. Nothing else had deserted it. An occasional bird flew across his line of vision, seeming more natural, somehow, than the slate-blue sky between the orange-tinted fair-weather clouds. (Trevize was certain that, given a few days on the planet, he would become accustomed to the off-color so that sky and clouds would grow to seem normal to him.)

He heard birdsongs from the trees, and the softer noise of insects. Bliss had mentioned butterflies earlier and here they were-in surprising numbers and in several colorful varieties.

There were also occasional rustlings in the clumps of grass that surrounded the trees, but he could not quite make out what was causing them.

Nor did the obvious presence of life in his vicinity rouse fear in him. As Bliss had said, terraformed worlds had, from the very first, lacked dangerous animals. The fairy tales of childhood, and the heroic fantasies of his teenage years were invariably set on a legendary world that must have been derived from the vague myths of Earth. The hyperdrama holoscreen had been filled with monsters-lions, unicorns, dragons, whales, brontosaurus, bears. There were dozens of them with names he could not remember; some of them surely mythical, and perhaps all of them. There were smaller animals that bit and stung, even plants that were fearful to the touch-but only in fiction. He had once heard that primitive honeybees were able to sting, but certainly no red bees were in any way harmful.

Slowly, he walked to the right, skirting the border of the hill. The grass was tall and rank, but sparse, growing in clumps. He made his way among the trees, also growing in clumps.

Then he yawned. Certainly, nothing exciting was happening, and he wondered if he might not retreat to the ship and take a nap. No, unthinkable. Clearly, he had to stand on guard.

Perhaps he ought to do sentry duty-marching, one, two, one two, swinging about with a snap and performing complicated maneuverings with a parade electro-rod. (It was a weapon no warrior had used in three centuries, but it was still absolutely essential at drill, for no reason anyone could ever advance.)

He grinned at the thought of it, then wondered if he ought to join Pelorat and Bliss in the ruins. Why? What good would he do?

Suppose he saw something that Pelorat had happened to overlook? -Well, time enough to make the attempt after Pelorat returned. If there was anything that might be found easily, by all means let Pelorat make the discovery.

Might the two be in trouble? Foolish! What possible kind of trouble?

And if there were trouble, they would call out.

He stopped to listen. He heard nothing.

And then the irresistible thought of sentry duty recurred to him and he found himself marching, feet moving up and down with a stamp, an imaginary electro-rod coming off one shoulder, whirling, and being held out straight before him, exactly vertical-whirling again, end over end, and back over the other shoulder. Then, with a smart about-face, he was looking toward the ship (rather far-off now) once more.

And when he did that, he froze in reality, and not in sentry make-believe.

He was not alone.

Until then, he had not seen any living creature other than plant growl insects, and an occasional bird. He had neither seen nor heard anything approach-but now an animal stood between him and the ship.

Sheer surprise at the unexpected event deprived him, for a moment, of the ability to interpret what he saw. It was not till after a perceptible interval that he knew what he was looking at.

It was only a dog.

Trevize was not a dog person. He had never owned a dog and he felt no surge of friendliness toward one when he encountered it. He felt no such surge this time, either. He thought, rather impatiently, that there was no world on which these creatures had not accompanied men. They existed in countless varieties and Trevize had long had the weary impression that each world had at least one variety characteristic of itself. Nevertheless, all varieties were constant in this: whether they were kept for entertainment, show, or some form of useful work-they were bred to love and trust human beings.

It was a love and trust Trevize had never appreciated. He had once lived with a woman who had had a dog. That dog, whom Trevize tolerated for the sake of the woman, conceived a deep-seated adoration for him, followed him about, leaned against him when relaxing (all fifty pounds of him), covered him with saliva and hair at unexpected moments, and squatted outside the door and moaned whenever he and the woman were trying to engage in sex.

From that experience, Trevize had emerged with the firm conviction that for some reason known only to the canine mind and its odor-analyzing ability, he was a fixed object of doggish devotion.

Therefore, once the initial surprise was over, he surveyed the dog without concern. It was a large dog, lean and rangy, and with long legs. It was staring at him with no obvious sign of adoration. Its mouth was open in what might have been taken as a welcoming grin, but the teeth displayed were somehow large and dangerous, and Trevize decided that he would be more comfortable without the dog in his line of view.

It occurred to him, then, that the dog had never seen a human being, and that countless canine generations preceding had never seen one. The dog might have been as astonished and uncertain at the sudden appearance of a human being as Trevize had been at that of the dog. Trevize, at least, had quickly recognized the dog for what it was, but the dog did not have that advantage. It was still puzzled, and perhaps alarmed.

Clearly, it would not be safe to leave an animal that large, and with such teeth, in an alarmed state. Trevize realized that it would be necessary to establish a friendship at once.

Very slowly, he approached the dog (no sudden motions, of course). He held out his hand, ready to allow it to be sniffed, and made soft, soothing sounds, most of which consisted of "Nice doggy"-something he found intensely embarrassing.

The dog, eyes fixed on Trevize, backed away a step or two, as though in distrust, and then its upper lip wrinkled into a snarl and from its mouth there issued a rasping growl. Although Trevize had never seen a dog behave so, there was no way of interpreting the action as representing anything but menace.

Trevize therefore stopped advancing and froze. His eyes caught motion to one side, and his head turned slowly. There were two other dogs advancing from that direction. They looked just as deadly as the first.

Deadly? That adjective occurred to him only now, and its dreadful appropriateness was unmistakable.

His heart was suddenly pounding. The way to the ship was blocked. He could not run aimlessly, for those long canine legs would reach him in yards. If he stood his ground and used his blaster, then while he killed one, the other two would be upon him. Off in the distance, he could see other dogs approaching. Was there some way in which they communicated? Did they hunt in packs?

Slowly, he shifted ground leftward, in a direction in which there were no dogs-as yet. Slowly. Slowly.

The dogs shifted ground with him. He felt certain that all that saved him from instant attack was the fact that the dogs had never seen or smelled anything like himself before. They had no established behavior pattern they could follow in his case.

If he ran, of course, that would represent something familiar to the dogs. They would know what to do if something the size of Trevize showed fear and ran. They would run, too. Faster.

Trevize kept sidling toward a tree. He had the wildest desire to move upward where the dogs could not follow. They moved with him, snarling softly, coming closer. All three had their eyes fixed unwinkingly upon him. Two more were joining them and, farther off, Trevize could see still other dogs approaching. At some point, when he was close enough, he would have to make the dash. He could not wait too long, or run too soon. Either might be fatal.

Now!

He probably set a personal record for acceleration and even so it was a near thing. He felt the snap of jaws close on the heel of one foot, and for just moment he was held fast before the teeth slid off the tough ceramoid.

He was not skilled at climbing trees. He had not climbed one since he was ten and, as he recalled, that had been a clumsy effort. In this case, though, the trunk was not quite vertical, and the bark was gnarled and offered handholds. What was more, he was driven by necessity, and it is remarkable what one can do if the need is great enough.

Trevize found himself sitting in a crotch, perhaps ten meters above ground. For the moment he was totally unaware that he had scraped hand and that it was oozing blood. At the base of the tree, five dogs now on their haunches, staring upward, tongues lolling, all looking patiently expectant.

What now?

37.

TREVIZE was not in a position to think about the situation in logical detail. Rather, he experienced flashes of thought in odd and distorted sequence which, if he had eventually sorted them out, would have come to this--

Bliss had earlier maintained that in terraforming a planet, human Map would establish an unbalanced economy, which they would be able to keep from falling apart only by unending effort. For instance, no Settlers had brought with them any of the large predators. Small ones could not be helped. Insects, parasites-even small hawks, shrews, and so on.

Those dramatic animals of legend and vague literary accounts-tigers, grizzly bears, orcs, crocodiles? Who would carry them from world to world even if there were sense to it? And where would there be sense to it?

It meant that human beings were the only large predators, and it was up to them to cull those plants and animals that, left to themselves, would smother in their own overplenty.

And if human beings somehow vanished, then other predators must take their place. But what predators? The most sizable predators tolerated by human beings were dogs and cats, tamed and living on human bounty.

What if no human beings remained to feed them? They must then find their own food-for their survival and, in all truth, for the survival of those they preyed on, whose numbers had to be kept in check lest overpopulation do a hundred times the damage that predations would do.

So dogs would multiply, in their variations, with the large ones attacking the large, untended herbivores; the smaller ones preying on birds and rodents. Cats would prey by night as dogs did by day; the former singly, the latter in packs.

And perhaps evolution would eventually produce more varieties, to fill additional environmental niches. Would some dogs eventually develop seagoing characteristics to enable them to live on fish; and would some cats develop gliding abilities to hunt the clumsier birds in the air as well as on the ground?

In flashes, all this came to Trevize while he struggled with more systematic thought to tell him what he might do.

The number of dogs kept growing. He counted twenty-three now surrounding the tree and there were others approaching. How large was the pack? What did it matter? It was large enough already.

He withdrew his blaster from its holster, but the solid feel of the butt in his hand did not give him the sense of security he would have liked. When had he last inserted an energy unit into it and how many charges could he fire? Surely not twenty-three.

What about Pelorat and Bliss? If they emerged, would the dogs turn on them? Were they safe even if they did not emerge? If the dogs sensed the presence of two human beings inside the ruins, what could stop them from attacking them there? Surely there would be no doors or barriers to hold them off.

Could Bliss stop them, and even drive them away? Could she concentrate her powers through hyperspace to the desired pitch of intensity? For how long could she maintain them?

Should he call for help then? Would they come running if he yelled, and would the dogs flee under Bliss's glare? (Would it take a glare or was it simply a mental action undetectable to onlookers without the ability?) Or, if they appeared, would they then be torn apart under the eyes of Trevize, who would be forced to watch, helplessly, from the relative safety of his post in the tree?

No, he would have to use his blaster. If he could kill one dog and frighten them off for just a while, he could scramble down the tree, yell for Pelorat and Bliss, kill a second dog if they showed signs of returning, and all three could then hustle into the ship.

He adjusted the intensity of the microwave beam to the three-quartet mark. That should be ample to kill a dog with a loud report. The report would serve to frighten the dogs away, and he would be conserving energy.

He aimed carefully at a dog in the middle of the pack, one who seemed (in Trevize's own imagination, at least) to exude a greater malignancy than the rest-perhaps only because he sat more quietly and, therefore, seemed more cold-bloodedly intent on his prey. The dog was staring directly at the weapon now, as though it scorned the worst Trevize could do.

It occurred to Trevize that he had never himself fired a blaster at a human being, or seen anyone else do it. There had been firing at water-filled dummies of leather and plastic during training; with the water almost instantaneously heated to the boiling point, and shredding the covering as it exploded.

But who, in the absence of war, would fire at a human being? And what human being would withstand a blaster and force its use? Only here, on world made pathological by the disappearance of human beings-

With that odd ability of the brain to note something utterly beside the point, Trevize was aware of the fact that a cloud had hidden the sun-and then he fired.

There was an odd shimmer of the atmosphere on a straight line from the muzzle of the blaster to the dog; a vague sparkle that might have gone unnoticed if the sun were still shining unhindered.

The dog must have felt the initial surge of heat, and made the smallest motion as though it were about to leap. And then it exploded, as a portion its blood and cellular contents vaporized.

The explosion made a disappointingly small noise, for the dog's integument was simply not as tough as that of the dummies they had practiced on. Flesh, skin, blood, and bone were scattered, however, and Trevize felt his stomach heave.

The dogs started back, some having been bombarded with uncomfortably warm fragments. That was only a momentary hesitation, however. They crowded against each other suddenly, in order to eat what had been provided. Trevize felt his sickness increase. He was not frightening them; he was feeding them. At that rate, they would never leave. In fact, the smell of fresh blood and warm meat would attract still more dogs, and perhaps other smaller predators as well.

A voice called out, "Trevize. What--"

Trevize looked outward. Bliss and Pelorat had emerged from the ruins. Bliss had stopped short, her arms thrown out to keep Pelorat back. She stared at the dogs. The situation was obvious and clear. She had to ask nothing.

Trevize shouted, "I tried to drive them off without involving you and Janov. Can you hold them off?"

"Barely," said Bliss, not shouting, so that Trevize had trouble hearing her even though the dogs' snarling had quieted as though a soothing soundabsorbent blanket had been thrown over them.

Bliss said, "There are too many of them, and I am not familiar with their pattern of neuronic activity. We have no such savage things on Gaia."

"Or on Terminus. Or on any civilized world," shouted Trevize. "I'll shoot as many of them as I can and you try to handle the rest. A smaller number will give you less trouble."

"No, Trevize. Shooting them will just attract others. -Stay behind me, Pel. There's no way you can protect me. -Trevize, your other weapon."

"The neuronic whip?"

"Yes. That produces pain. Low power. Low power!"

"Are you afraid of hurting them?" called out Trevize in anger. "Is this a time to consider the sacredness of life?"

"I'm considering Pel's. Also mine. Do as I say. Low power, and shoot at one of the dogs. I can't hold them much longer."

The dogs had drifted away from the tree and had surrounded Bliss and Pelorat, who stood with their backs to a crumbling wall. The dogs nearest the two made hesitant attempts to come closer still, whining a bit as though trying to puzzle out what it was that held them off when they could sense nothing that would do it. Some tried uselessly to scramble up the wall and attack from behind.

Trevize's hand was trembling as he adjusted the neuronic whip to low power. The neuronic whip used much less energy than the blaster did, and a single power-cartridge could produce hundreds of whip-like strokes but, come to think of it, he didn't remember when he had last charged this weapon, either.

It was not so important to aim the whip. Since conserving energy was not as critical, he could use it in a sweep across the mass of dogs. That was the traditional method of controlling crowds that showed signs of turning dangerous.

However, he followed Bliss's suggestion. He aimed at one dog and fired. The dog fell over, its legs twitching. It emitted loud, high-pitched squeals.

The other dogs backed away from the stricken beast, ears flattening backward against their heads. Then, squealing in their turn, they turned and left, at first slowly, then more rapidly, and finally, at a full race. The dog who had been hit, scrambled painfully to its legs, and limped away whimpering, much the last of them.

The noise vanished in the distance, and Bliss said, "We had better get into the ship. They will come back. Or others will."

Trevize thought that never before had he manipulated the ship's entry mechanism so rapidly. And it was possible he might never do so again.

38.

NIGHT HAD fallen before Trevize felt something approaching the normal. The small patch of syntho-skin on the scrape on his hand had soothed the physical pain, but there was a scrape on his psyche for which soothing was not so easy. It was not the mere exposure to danger. He could react to that as well as any ordinarily brave person might. It was the totally unlooked-for direction from which the danger had come. It was the feeling of the ridiculous. How would it look if people were to find out he had been treed by snarling dogs? It would scarcely be worse if he had been put to flight by the whirring of angry canaries.

For hours, he kept listening for a new attack on the part of the dogs, for the sound of howls, for the scratch of claws against the outer hull.

Pelorat, by comparison, seemed quite cool. "There was no question in my mind, old chap, that Bliss would handle it, but I must say you fired the weapon well."

Trevize shrugged. He was in no mood to discuss the matter.

Pelorat was holding his library-the one compact disc on which his lifetime of research into myths and legends were stored-and with it he retreated into his bedroom where he kept his small reader.

He seemed quite pleased with himself. Trevize noticed that but didn't follow it up. Time for that later when his mind wasn't quite as taken up with dogs.

Bliss said, rather tentatively, when the two were alone, "I presume you were taken by surprise."

"Quite," said Trevize gloomily. "Who would think that at the sight of a dog-a dog-I should run for my life."

"Twenty thousand years without men and it would not be quite a dog. Those beasts must now be the dominant large predators."

Trevize nodded. "I figured that out while I was sitting on the tree bramb being a dominated prey. You were certainly right about an unbalanced ecology."

"Unbalanced, certainly, from the human standpoint-but considering how efficiently the dogs seem to be going about their business, I wonder if Pel may be right in his

suggestion that the ecology could balance itself, with various environmental niches being filled by evolving variations of the relatively few species that were once brought to the world."

"Oddly enough," said Trevize, "the same thought occurred to me."

"Provided, of course, the unbalance is not so great that the process of righting itself takes too long. The planet might become completely nonviable before that."

Trevize grunted.

Bliss looked at him thoughtfully, "How is it that you thought of arming yourself?"

Trevize said, "It did me little good. It was your ability-

"Not entirely. I needed your weapon. At short notice, with only hyperspatial contact with the rest of Gaia, with so many individual minds of so unfamiliar a nature, I could have done nothing without your neuronic whip."

"My blaster was useless. I tried that."

"With a blaster, Trevize, a dog merely disappears. The rest may be surprised, but not frightened."

"Worse than that," said Trevize. "They ate the remnants. I was bribing them to stay."

"Yes, I see that might be the effect. The neuronic whip is different. It inflicts pain, and a dog in pain emits cries of a kind that are well understood by other dogs who, by conditioned reflex, if nothing else, begin to feel frightened themselves. With the dogs already disposed toward fright, I merely nudged their minds, and off they went."

"Yes, but you realized the whip was the more deadly of the two in this case. I did not."

"I am accustomed to dealing with minds. You are not. That's why I insisted on low power and aiming at one dog. I did not want so much pain that it killed a dog and left him silent. I did not want the pain so dispersed as to cause mere whimpering. I wanted strong pain concentrated at one point."

"And you got it, Bliss," said Trevize. "It worked perfectly. I owe you considerable gratitude."

"You begrudge that," said Bliss thoughtfully, "because it seems to you that you played a ridiculous role. And yet, I repeat, I could have done nothing without your weapons. What puzzles me is how you can explain your arming yourself in the face of my assurance that there were no human beings on this world, something I am still certain is a fact. Did you foresee the dogs?"

"No," said Trevize. "I certainly didn't. Not consciously, at least. And I don't habitually go armed, either. It never even occurred to me to put on weapons at Comporellon. -But I can't allow myself to trip into the trap of feeling it was magic, either. It couldn't have been. I suspect that once we began talking about unbalanced ecologies earlier, I somehow had an unconscious glimpse of animals grown dangerous in the absence of human beings.

That is clear enough in hindsight, but I might have had a whiff of it in foresight. Nothing more than that."

Bliss said, "Don't dismiss it that casually. I participated in the same conversation concerning unbalanced ecologies and I didn't have that same foresight. It is that special trick of foresight in you that Gaia values. I can see, too, that it must be irritating to you to have a hidden foresight the nature of which you cannot detect; to act with decision, but without clear reason."

"The usual expression on Terminus is 'to act on a hunch.'"

"On Gaia we say, 'to know without thought.' You don't like knowing without thought, do you?"

"It bothers me, yes. I don't like being driven by hunches. I assume hunch has reason behind it, but not knowing the reason makes me feel I'm not in control of my own mind-a kind of mild madness."

"And when you decided in favor of Gaia and Galaxia, you were acting on a hunch, and now you seek the reason."

"I have said so at least a dozen times."

"And I have refused to accept your statement as literal truth. For that sorry. I will oppose you in this no longer. I hope, though, that I may continue to point out items in Gaia's favor."

"Always," said Trevize, "if you, in turn, recognize that them."

"Does it occur to you, then, that this Unknown World is reverting to a kind of savagery, and perhaps to eventual desolation and uninhabitability, because of the removal of a single species that is capable of acting as a guiding intelligence? If the world were Gaia, or better yet, a part of Galaxia, this could not happen. The guiding intelligence would still exist in the form of the Galaxy V a whole, and ecology, whenever unbalanced, and for whatever reason, would move toward balance again."

"Does that mean that dogs would no longer eat?"

"Of course they would eat, just as human beings do. They would however, with purpose, in order to balance the ecology under deliberate direction, and not as a result of random circumstance."

Trevize said, "The loss of individual freedom might not matter to dogs, but it must matter to human beings. -And what if all human beings were removed from existence, everywhere, and not merely on one world or on Severa1? What if Galaxia were left without human beings at all? Would there still be a guiding intelligence? Would all other life forms and inanimate matter be able to put together a common intelligence adequate for the purpose?"

Bliss hesitated. "Such a situation," she said, "has never been experienced. Nor does there seem any likelihood that it will ever be experienced in the future."

Trevize said, "Hut doesn't it seem obvious to you, that the human mind is qualitatively different from everything else, and that if it were absent, the sum total of all other consciousness could not replace it. Would it not be true, then, that human beings are a special case and must be treated as such? They should not be fused even with one another, let alone with nonhuman objects."

"Yet you decided in favor of Galaxia."

"For an overriding reason I cannot make out."

"Perhaps that overriding reason was a glimpse of the effect of unbalanced ecologies? Might it not have been your reasoning that every world in the Galaxy is on a knife-edge, with instability on either side, and that only Galaxia could prevent such disasters as are taking place on this world-to say nothing of the continuing interhuman disasters of war and administrative failure."

"No. Unbalanced ecologies were not in my mind at the time of my decision."

"How can you be sure?"

"I may not know what it is I'm foreseeing, but if something is suggested afterward, I would recognize it if that were indeed what I foresaw. -As it seems to me I may have foreseen dangerous animals on this world."

"Well," said Bliss soberly, "we might have been dead as a result of those dangerous animals if it had not been for a combination of our powers, your foresight and my mentalism. Come, then, let us be friends."

Trevize nodded. "If you wish."

There was a chill in his voice that caused Bliss's eyebrows to rise, but at this point Pelorat burst in, nodding his head as though prepared to shake it off its foundations.

"I think," he said, "we have it."

39.

TREVIZE did not, in general, believe in easy victories, and yet it was only human to fall into belief against one's better judgment. He felt the muscles in his chest and throat tighten, but managed to say, "The location of Earth? Have you discovered that, Janov?"

Pelorat stared at Trevize for a moment, and deflated. "Well, no," he said, visibly abashed. "Not quite that. -Actually, Golan, not that at all. I had forgotten about that. It was something else that I discovered in the ruins. I suppose it's not really important."

Trevize managed a long breath and said, "Never mind, Janov. Every finding is important. What was it you came in to say?"

"Well," said Pelorat, "it's just that almost nothing survived, you understand. Twenty thousand years of storm and wind don't leave much. What's more, plant life is gradually destructive and animal life- But never mind all that. The point is that 'almost nothing' is not the same as 'nothing.'"

"The ruins must have included a public building, for there was some fallen stone, or concrete, with incised lettering upon it. There was hardly anything visible, you understand, old chap, but I took photographs with one of those cameras we have on board ship, the kind with built-in computer enhancement -I never got round to asking permission to take one, Golan, but it was important, and I-"

Trevize waved his hand in impatient dismissal. "Go on!"

"I could make out some of the lettering, which was very archaic. Even with computer enhancement and with my own fair skill at reading Archaic, it was impossible to

make out much except for one short phrase. The letters there were larger and a bit clearer than the rest. They may have been incised more deeply because they identified the world itself. The phrase reads, 'Planet Aurora,' so I imagine this world we rest upon is named Aurora, or was named Aurora."

"It had to be named something," said Trevize.

"Yes, but names are very rarely chosen at random. I made a careful search of my library just now and there are two old legends, from two widely spaced worlds, as it happens, so that one can reasonably suppose them to be of independent origin, if one remembers that. -But never mind that. In both legends, Aurora is used as a name for the dawn. We can suppose that Aurora may have actually meant dawn in some pre-Galactic language.

"As it happens, some word for dawn or daybreak is often used as a name for space stations or other structures that are the first built of their kind. If this world is called Dawn in whatever language, it may be the first of its kind, too."

Trevize said, "Are you getting ready to suggest that this planet is Earth and that Aurora is an alternate name for it because it represents the dawn of life and of man?"

Pelorat said, "I couldn't go that far, Golan."

Trevize said, with a trace of bitterness, "There is, after all, no radioactive surface, no giant satellite, no gas giant with huge rings."

"Exactly. But Deniador, back on Comporellon, seemed to think this was one of the worlds that was once inhabited by the first wave of Settlers-the Spacers. If it were, then its name, Aurora, might indicate it to have been the first of those Spacer worlds. We might, at this very moment, be resting on the oldest human world in the Galaxy except for Earth itself. Isn't that exciting?"

"Interesting, at any rate, Janov, but isn't that a great deal to infer merely from the name, Aurora?"

"There's more," said Pelorat excitedly. "As far as I could check in my records there is no world in the Galaxy today with the name of 'Aurora,' and I'm sure your computer will verify that. As I said, there are all sorts of world and other objects named 'Dawn' in various ways, but no one uses the actual word 'Aurora.'"

"Why should they? If it's a pre-Galactic word, it wouldn't be likely to be popular."

"But names do remain, even when they're meaningless. If this were the first settled world, it would be famous; it might even, for a while, have been the dominant world of the Galaxy. Surely, there would be other worlds calling themselves 'New Aurora,' or 'Aurora Minor,' or something like that. And then others-"

Trevize broke in. "Perhaps it wasn't the first settled world. Perhaps it was never of any importance."

"There's a better reason in my opinion, my dear chap."

"What would that be, Janov?"

"If the first wave of settlements was overtaken by a second wave to which all the worlds of the Galaxy now belong-as Deniador said-then there is very likely to have been a period of hostility between the two waves. The second wave-making up the worlds that

now exist-would not use the names given to any of the worlds of the first wave. In that way, we can infer from the fact that the name 'Aurora' has never been repeated that there were two waves of Settlers, and that this is a world of the first wave."

Trevize smiled. "I'm getting a glimpse of how you mythologists work, Janov. You build a beautiful superstructure, but it may be standing on air. The legends tell us that the Settlers of the first wave were accompanied by numerous robots, and that these were supposed to be their undoing. Now if we could find a robot on this world, I'd be willing to accept all this first-wave supposition, but we can't expect after twenty thou-"

Pelorat, whose mouth had been working, managed to find his voice. "But, Golan, haven't I told you? -No, of course, I haven't. I'm so excited I can't put things in the right order. There was a robot."

40.

TREVIZE rubbed his forehead, almost as though he were in pain. He said, "A robot? There was a robot?"

"Yes," said Pelorat, nodding his head emphatically.

"How do you know?"

"Why, it was a robot. How could I fail to know one if I see one?"

"Have you ever seen a robot before?"

"No, but it was a metal object that looked like a human being. Head, arms, legs, torso. Of course, when I say metal, it was mostly rust, and when I walked toward it, I suppose the vibration of my tread damaged it further, so that when I reached to touch it-"

"Why should you touch it?"

"Well, I suppose I couldn't quite believe my eyes. It was an automatic response. As soon as I touched it, it crumbled. But-"

"Yes?"

"Before it quite did, its eyes seemed to glow very faintly and it made a sound as though it were trying to say something."

"You mean it was still functioning?"

"Just barely, Golan. Then it collapsed."

Trevize turned to Bliss. "Do you corroborate all this, Bliss?"

"It was a robot, and we saw it," said Bliss.

"And was it still functioning?"

Bliss said tonelessly, "As it crumbled, I caught a faint sense of neuronc activity."

"How can there have been neuronc activity? A robot doesn't have an organic brain built of cells."

"It has the computerized equivalent, I imagine," said Bliss, "and I would detect that."

"Did you detect a robotic rather than a human mentality?"

Bliss pursed her lips and said, "It was too feeble to decide anything about it except that it was there."

Trevize looked at Bliss, then at Pelorat, and said, in a tone of exasperation, "This changes everything."

PART FOUR - SOLARIA

10. ROBOTS

41.

TREVIZE seemed lost in thought during dinner, and Bliss concentrated on the food.

Pelorat, the only one who seemed anxious to speak, pointed out that if the world they were on was Aurora and if it was the first settled world, it ought to be fairly close to Earth.

"It might pay to scour the immediate stellar neighborhood," he said. "It would only mean sifting through a few hundred stars at most."

Trevize muttered that hit-and-miss was a last resort and he wanted as much information about Earth as possible before attempting to approach it even if he found it. He said no more and Pelorat, clearly squelched, dwindled into silence as well.

After the meal, as Trevize continued to volunteer nothing, Pelorat said tentatively, "Are we to be staying here, Golan?"

"Overnight, anyway," said Trevize. "I need to do a bit more thinking."

"Is it safe?"

"Unless there's something worse than dogs about," said Trevize, "we're quite safe here in the ship."

Pelorat said, "How long would it take to lift off, if there is something worse than dogs about?"

Trevize said, "The computer is on launch alert. I think we can manage to take off in between two and three minutes. And it will warn us quite effectively if anything unexpected takes place, so I suggest we all get some sleep. Tomorrow morning, I'll come to a decision as to the next move."

Easy to say, thought Trevize, as he found himself staring at the darkness. He was curled up, partly dressed, on the floor of the computer room. It was quite uncomfortable, but he was sure that his bed would be no more conducive to sleep at this time and here at least he could take action at once if the computer sounded an alarm.

Then he heard footsteps and automatically sat up, hitting his head against the edge of the desk—not hard enough to do damage, but hard enough to make rubbing and grimacing a necessity.

"Janov?" he said in a muffled voice, eyes tearing.

"No. It's Bliss."

Trevize reached over the edge of the table with one hand to make at least semicontact with the computer, and a soft light showed Bliss in a light pink wraparound.

Trevize said, "What is it?"

"I looked in your bedroom and you weren't there. There was no mistaking your neuronic activity, however, and I followed it. You were clearly awake so I walked in."

"Yes, but what is it you want?"

She sat down against the wall, knees up, and cradled her chin against them. She said, "Don't be concerned. I have no designs on what's left of your virginity."

"I don't imagine you do," said Trevize sardonically. "Why aren't you asleep? You need it more than we do."

"Believe me," she said in a low, heartfelt tone, "that episode with the dogs was very draining."

"I believe that."

"But I had to talk to you when Pel was sleeping."

"About what?"

Bliss said, "When he told you about the robot, you said that that changes everything. What did you mean?"

Trevize said, "Don't you see that for yourself? We have three sets of coordinates; three Forbidden Worlds. I want to visit all three to learn as much as possible about Earth before trying to reach it."

He edged a bit closer so that he could speak lower still, then drew away sharply. He said, "Look, I don't want Janov coming in here looking for us. I don't know what he'd think."

"It's not likely. He's sleeping and I've encouraged that just a bit. If he stirs, I'll know. -Go on. You want to visit all three. What's changed?"

"It wasn't part of my plan to waste time on any world needlessly. If this world, Aurora, had been without human occupation for twenty thousand years, then it is doubtful that any information of value has survived. I don't want to spend weeks or months scrabbling uselessly about the planetary surface, fighting off dogs and cats and bulls or whatever else may have become wild and dangerous, just on the hope of finding a scrap of reference material amid the dust, rust, and decay. It may be that on one or both of the other Forbidden Worlds there may be human beings and intact libraries. --So it was my intention to leave this world at once. We'd be out in space now, if I had done so, sleeping in perfect security."

"But?"

"But if there are robots still functioning on this world, they may have important information that we could use. They would be safer to deal with than human beings would be, since, from what I've heard, they must follow orders and can't harm human beings."

"So you've changed your plan and now you're going to spend time on this world searching for robots."

"I don't want to, Bliss. It seems to me that robots can't last twenty thousand years without maintenance. -Yet since you've seen one with a spark of activity still, it's clear I can't rely on my commonsense guesses about robots. I mustn't lead out of ignorance. Robots may be more enduring than I imagine, or they may have a certain capacity for self-maintenance."

Bliss said, "Listen to me, Trevize, and please keep this confidential."

"Confidential?" said Trevize, raising his voice in surprise. "From whom?"

"Sh! From Pel, of course. Look, you don't have to change your plans. You were right the first time. There are no functioning robots on this world. I detect nothing."

"You detected that one, and one is as good as-

"I did not detect that one. It was nonfunctioning; long nonfunctioning."

"You said-

"I know what I said. Pel thought he saw motion and heard sound. Pel is a romantic. He's spent his working life gathering data, but that is a difficult way of making one's mark in the scholarly world. He would dearly love to make an important discovery of his own. His finding of the word 'Aurora' was legitimate and made him happier than you can imagine. He wanted desperately to find more."

Trevize said, "Are you telling me he wanted to make a discovery so badly he convinced himself he had come upon a functioning robot when he hadn't?"

"What he came upon was a lump of rust containing no more consciousness than the rock against which it rested."

"But you supported his story."

"I could not bring myself to rob him of his discovery. He means so much to me."

Trevize stared at her for a full minute; then he said, "Do you mind explaining why he means so much to you? I want to know. I really want to know. To you he must seem an elderly man with nothing romantic about him. He's an Isolate, and you despise Isolates. You're young and beautiful and there must be other parts of Gaia that have the bodies of vigorous and handsome young men. With them you can have a physical relationship that can resonate through Gaia and bring peaks of ecstasy. So what do you do in Janov?"

Bliss looked at Trevize solemnly. "Don't you love him?"

Trevize shrugged and said, "I'm fond of him. I suppose you could say, in a nonsexual way, that I love him."

"You haven't known him very long, Trevize. Why do you love him, in that nonsexual way of yours?"

Trevize found himself smiling without being aware of it. "He's such an odd fellow. I honestly think that never in his life has he given a single thought to himself. He was ordered to go along with me, and he went. No objection. He wanted me to go to Trantor, but when I said I wanted to go to Gaia, he never argued. And now he's come along with me in this search for Earth, though he must know it's dangerous. I feel perfectly confident that if he had to sacrifice his life for me-or for anyone-he would, and without repining."

"Would you give your life for him, Trevize?"

"I might, if I didn't have time to think. If I did have time to think, I would hesitate and I might funk it. I'm not as good as he is. And because of that, I have this terrible urge to protect and keep him good. I don't want the Galaxy to teach him not to be good. Do you understand? And I have to protect him from you particularly. I can't bear the thought of you tossing him aside when whatever nonsense amuses you now is done with."

"Yes, I thought you'd think something like that. Don't you suppose I see in Pel what you see in him-and even more so, since I can contact his mind directly? Do I act as though I want to hurt him? Would I support his fantasy of having seen a functioning robot,

if it weren't that I couldn't bear to hurt him? Trevize, I am used to what you would call goodness, for every part of Gaia is ready to be sacrificed for the whole. We know and understand no other course of action. But we give up nothing in so doing, for each part is the whole, though I don't expect you to understand that. Pel is something different."

Bliss was no longer looking at Trevize. It was as though she were talking to herself. "He is an Isolate. He is not selfless because he is a part of a greater whole. He is selfless because he is selfless. Do you understand me? He has all to lose and nothing to gain, and yet he is what he is. He shames me for being what I am without fear of loss, when he is what he is without hope of gain."

She looked up at Trevize again now, very solemnly. "Do you know how much more I understand about him than you possibly can? And do you think I would harm him in any way?"

Trevize said, "Bliss, earlier today, you said, 'Come, let us be friends,' and all I replied was, 'If you wish.' That was grudging of me, for I was thinking of what you might do to Janov. It is my turn, now. Come, Bliss, let us be friends. You can keep on pointing out the advantage of Galaxia and I may keep on refusing to accept your arguments, but even so, and despite that, let us be friends." And he held out his hand.

"Of course, Trevize," she said, and their hands gripped each other strongly.

42.

TREVIZE grinned quietly to himself. It was an internal grin, for the line of his mouth didn't budge.

When he had worked with the computer to find the star (if any) of the first set of coordinates, both Pelorat and Bliss had watched intently and had asked questions. Now they stayed in their room and slept or, at any rate, relaxed, and left the job entirely to Trevize.

In a way, it was flattering, for it seemed to Trevize that by now they had simply accepted the fact that Trevize knew what he was doing and required no supervision or encouragement. For that matter, Trevize had gained enough experience from the first episode to rely more thoroughly on the computer and to feel that it needed, if not none, then at least less supervision.

Another star-luminous and unrecorded on the Galactic map-showed up. This second star was more luminous than the star about which Aurora circled, and that made it all the more significant that the star was unrecorded in the computer.

Trevize marveled at the peculiarities of ancient tradition. Whole centuries might be telescoped or dropped out of consciousness altogether. Entire civilizations might be banished into forgetfulness. Yet out of the midst of these centuries, snatched from those civilizations, might be one or two factual items that would be remembered undistorted-such as these coordinates.

He had remarked on this to Pelorat some time before, and Pelorat had at once told him that it was precisely this that made the study of myths and legends so rewarding. "The trick is," Pelorat had said, "to work out or decide which particular components of a legend represent accurate underlying truth. That isn't easy and different mythologists are likely to pick different components, depending, usually, on which happen to suit their particular interpretations." .

In any case, the star was right where Deniador's coordinates, corrected for time, said it would be. Trevize was prepared, at this moment, to wager a considerable sum that the third star would be in place as well. And if it was, Trevize was prepared to suspect that the legend was further correct in stating that there were fifty Forbidden Worlds altogether (despite the suspiciously even number) and to wonder where the other forty-seven might be.

A habitable world, Forbidden World, was found circling the star-and by this time its presence didn't cause even a ripple of surprise in Trevize's bosom. He had been absolutely sure it would be there. He set the Far Star into a slow orbit about it.

The cloud layer was sparse enough to allow a reasonable view of the surface from space. The world was a watery one, as almost all habitable worlds were. There was an unbroken tropical ocean and two unbroken polar oceans.

In one set of middle latitudes, there was a more or less serpentine continent encircling the world with bays on either side producing an occasional narrow isthmus. In the other set of middle latitudes, the land surface was broken into three large parts and each of the three were thicker north-south than the opposite continent was.

Trevize wished he knew enough climatology to be able to predict, from what he saw, what the temperatures and seasons might be like. For a moment, he toyed with the idea of having the computer work on the problem. The trouble was that climate was not the point at issue.

Much more important was that, once again, the computer detected no radiation that might be of technological origin. What his telescope told him was that the planet was not moth-eaten and that there were no signs of desert. The land moved backward in various shades of green, but there were no signs of urban areas on the dayside, no lights on the nightside.

Was this another planet filled with every kind of life but human?

He rapped at the door of the other bedroom.

"Bliss?" he called out in a loud whisper, and rapped again.

There was a rustling, and Bliss's voice said, "Yes?"

"Could you come out here? I need your help-"

"If you wait just a bit, I'll make myself a bit presentable."

When she finally appeared, she looked as presentable as Trevize had ever seen her. He felt a twinge of annoyance at having been made to wait, however, for it made little difference to him what she looked like. But they were friends now, and he suppressed the annoyance.

She said with a smile and in a perfectly pleasant tone, "What can I do for you, Trevize?"

Trevize waved at the viewscreen. "As you can see, we're passing over the surface of what looks like a perfectly healthy world with a quite solid vegetation cover over its land area. No lights at night, however, and no technological radiation. Please listen and tell me if there's any animal life. There was one point at which I thought I could see herds of grazing animals, but I wasn't sure. It might be a case of seeing what one desperately wants to see."

Bliss "listened." At least, a curiously intent look came across her face. She said, "Oh yes- rich in animal life."

"Mammalian?"

"Must be."

"Human?"

Now she seemed to concentrate harder. A full minute passed, and then another, and finally she relaxed. "I can't quite tell. Every once in a while it seemed to me that I detected a whiff of intelligence sufficiently intense to be considered human. But it was so feeble and so occasional that perhaps I, too, was only sensing what I desperately wanted to sense. You see-"

She paused in thought, and Trevize nudged her with a "Well?"

She said, "The thing is I seem to detect something else. It is not something I'm familiar with, but I don't see how it can be anything but-"

Her face tightened again as she began to "listen" with still greater intensity.

"Well?" said Trevize again.

She relaxed. "I don't see how it can be anything but robots."

"Robots!"

"Yes, and if I detect them, surely I ought to be able to detect human beings, too. But I don't."

"Robots!" said Trevize again, frowning.

"Yes," said Bliss, "and I should judge, in great numbers."

43.

PELORAT also said "Robots!" in almost exactly Trevize's tone when he was told of them. Then he smiled slightly. "You were right, Golan, and I was wrong to doubt you."

"I don't remember your doubting me, Janov."

"Oh well, old man, I didn't think I ought to express it. I just thought, in my heart, that it was a mistake to leave Aurora while there was a chance we might interview some surviving robot. But then it's clear you knew there would be a richer supply of robots here."

"Not at all, Janov. I didn't know. I merely chanced it. Bliss tells me their mental fields seem to imply they are fully functioning, and it seems to me they can't very well be

fully functioning without human beings about for care and maintenance. However, she can't spot anything human so we're still looking. »

Pelorat studied the viewscreen thoughtfully. "It seems to be all forest, doesn't it?"

"Mostly forest. But there are clear patches that may be grasslands. The thing is that I see no cities, or any lights at night, or anything but thermal radiation at any time."

"So no human beings after all?"

"I wonder. Bliss is in the galley trying to concentrate. I've set up an arbitrary prime meridian for the planet which means that it's divided into latitude and longitude in the computer. Bliss has a little device which she presses whenever she encounters what seems an unusual concentration of robotic mental activity-I suppose you can't say 'neuronic activity' in connection with robots-or any whiff of human thought. The device is linked to the computer, which thus gets a fix on all the latitudes and longitudes, and we'll let it make the choice among them and pick a good place for landing."

Pelorat looked uneasy. "Is it wise to leave the matter of choice to the computer?"

"Why not, Janov? It's a very competent computer. Besides, when you have no basis on which to make a choice yourself, where's the harm in at least considering the computer's choice?"

Pelorat brightened up. "There's something to that, Golan. Some of the oldest legends include tales of people making choices by tossing cubes to the ground."

"Oh? What does that accomplish?"

"Each face of the cube has some decision on it-yes-no-perhaps-postpone-and so on. Whichever face happens to come upward on landing would be taken as bearing the advice to be followed. Or they would set a ball rolling about a slotted disc with different decisions scattered among the slots. The decision written on the slot in which the ball ends is to be taken. Some mythologists think such activities represented games of chance rather than lotteries, but the two are much the same thing in my opinion."

"In a way," said Trevize, "we're playing a game of chance in choosing our place of landing."

Bliss emerged from the galley in time to hear the last comment. She said, "No game of chance. I pressed several 'maybes' and then one sure-fire 'yes,' and it's to the 'yes' that we'll be going."

"What made it a 'yes'?" asked Trevize.

"I caught a whiff of human thought. Definite. Unmistakable."

44.

IT HAD been raining, for the grass was wet. Overhead, the clouds were scudding by and showing signs of breaking up.

The Far Star had come to a gentle rest near a small grove of trees. (In case of wild dogs, Trevize thought, only partly in jest.) All about was what looked like pasture land, and coming down from the greater height at which a better and wider view had been

possible, Trevize had seen what looked like orchards and grain fields-and this time, an unmistakable view of grazing animals.

There were no structures, however. Nothing artificial, except that the regularity of the trees in the orchard and the sharp boundaries that separated fields were themselves as artificial as a microwave-receiving power station would have been.

Could that level of artificiality have been produced by robots, however? Without human beings?

Quietly, Trevize was putting on his holsters. This time, he knew that both weapons were in working order and that both were fully charged. For a moment, he caught Bliss's eye and paused.

She said, "Go ahead. I don't think you'll have any use for them, but I thought as much once before, didn't I?"

Trevize said, "Would you like to be armed, Janov?"

Pelorat shuddered. "No, thank you. Between you and your physical defense, and Bliss and her mental defense, I feel in no danger at all. I suppose it is cowardly of me to hide in your protective shadows, but I can't feel proper shame when I'm too busy feeling grateful that I needn't be in a position of possibly having to use force."

Trevize said, "I understand. Just don't go anywhere alone. If Bliss and I separate, you stay with one of us and don't dash off somewhere under the spur of a private curiosity."

"You needn't worry, Trevize," said Bliss. "I'll see to that."

Trevize stepped out of the ship first. The wind was brisk and just a trifle cool in the aftermath of the rain, but Trevize found that welcome. It had probably been uncomfortably warm and humid before the rain.

He took in his breath with surprise. The smell of the planet was delightful. Every planet had its own odor, he knew, an odor always strange and usually distasteful-perhaps only because it was strange. Might not strange be pleasant as well? Or was this the accident of catching the planet just after the rain at a particular season of the year. Whichever it was-

"Come on," he called. "It's quite pleasant out here."

Pelorat emerged and said, "Pleasant is definitely the word for it. Do you suppose it always smells like this?"

"It doesn't matter. Within the hour, we'll be accustomed to the aroma, and our nasal receptors will be sufficiently saturated, for us to smell nothing."

"Pity," said Pelorat.

"The grass is wet," said Bliss, with a shade of disapproval.

"Why not? After all, it rains on Gaia, too!" said Trevize, and as he said that a shaft of yellow sunlight reached them momentarily through a small break in the clouds. There would soon be more of it.

"Yes," said Bliss, "but we know when and we're prepared for it."

"Too bad," said Trevize; "you lose the thrill of the unexpected."

Bliss said, "You're right. I'll try not to be provincial."

Pelorat looked about and said, in a disappointed tone, "There seems to be nothing about."

"Only seems to be," said Bliss. "They're approaching from beyond that rise." She looked toward Trevize. "Do you think we ought to go to meet them?"

Trevize shook his head. "No. We've come to meet them across many parsecs. Let them walk the rest of the way. We'll wait for them here."

Only Bliss could sense the approach until, from the direction of her pointing finger, a figure appeared over the brow of the rise. Then a second, and a third.

"I believe that is all at the moment," said Bliss.

Trevize watched curiously. Though he had never seen robots, there was not a particle of doubt in him that that was what they were. They had the schematic and impressionistic shape of human beings and yet were not obviously metallic in appearance. The robotic surface was dull and gave the illusion of softness, as though it were covered in plush.

But how did he know the softness was an illusion? Trevize felt a sudden desire to feel those figures who were approaching so stolidly. If it were true that this was a Forbidden World and that spaceships never approached it-and surely that must be so since the sun was not included in the Galactic map -then the Far Star and the people it carried must represent something the robots had never experienced. Yet they were reacting with steady certainty, as though they were working their way through a routine exercise.

Trevize said, in a low voice, "Here we may have information we can get nowhere else in the Galaxy. We could ask them for the location of Earth with reference to this world, and if they know, they will tell us. Who knows how long these things have functioned and endured? They may answer out of personal memory. Think of that."

"On the other hand," said Bliss, "they may be recently manufactured and may know nothing."

"Or," said Pelorat, "they may know, but may refuse to tell us."

Trevize said, "I suspect they can't refuse unless they've been ordered not to tell us, and why should such orders be issued when surely no one on this planet could have expected our coming?"

At a distance of about three meters, the robots stopped. They said nothing and made no further movement.

Trevize, his hand on his blaster, said to Bliss, without taking his eyes from the robot, "Can you tell whether they are hostile?"

"You'll have to allow for the fact that I have no experience whatsoever with their mental workings, Trevize, but I don't detect anything that seems hostile."

Trevize took his right hand away from the butt of the weapon, but kept it near. He raised his left hand, palm toward the robots, in what he hoped would be recognized as a gesture of peace and said, speaking slowly, "I greet you. We come to this world as friends."

The central robot of the three ducked his head in a kind of abortive bow that might also have been taken as a gesture of peace by an optimist, and replied.

Trevize's jaw dropped in astonishment. In a world of Galactic communication, one did not think of failure in so fundamental a need. However, the robot did not speak in Galactic Standard or anything approaching it. In fact, Trevize could not understand a word.

45.

PELORAT'S surprise was as great as that of Trevize, but there was an obvious element of pleasure in it, too.

"Isn't that strange?" he said.

Trevize turned to him and said, with more than a touch of asperity in his voice, "It's not strange. It's gibberish."

Pelorat said, "Not gibberish at all. It's Galactic, but very archaic. I catch a few words. I could probably understand it easily if it were written down. It's the pronunciation that's the real puzzle."

"Well, what did it say?"

"I think it told you it didn't understand what you said."

Bliss said, "I can't tell what it said, but what I sense is puzzlement, which fits. That is, if I can trust my analysis of robotic emotion-or if there is such a thing as robotic emotion."

Speaking very slowly, and with difficulty, Pelorat said something, and the three robots ducked their head in unison.

"What was that?" said Trevize.

Pelorat said, "I said I couldn't speak well, but I would try. I asked for a little time. Dear me, old chap, this is fearfully interesting."

"Fearfully disappointing," muttered Trevize.

"You see," said Pelorat, "every habitable planet in the Galaxy manages to work out its own variety of Galactic so that there are a million dialects that are sometimes barely intercomprehensible, but they're all pulled together by the development of Galactic Standard. Assuming this world to have been isolated for twenty thousand years, the language would ordinarily drift so far from that of the rest of the Galaxy as to be an entirely different language. That it isn't may be because the world has a social system that depends upon robots which can only understand the language as spoken in the fashion in which they were programmed. Rather than keep reprogramming, the language remained static and we now have what is to us merely a very archaic form of Galactic."

"There's an example," said Trevize, "of how a robotized society can be held static and made, to turn degenerate."

"But, my dear fellow," protested Pelorat, "keeping a language relatively unchanged is not necessarily a sign of degeneration. There are advantages to it."

Documents preserved for centuries and millennia retain their meaning and give greater longevity and authority to historical records. In the rest of the Galaxy, the language of Imperial edicts of the time of Hari Seldon already begins to sound quaint."

"And do you know this archaic Galactic?"

"Not to say know, Golan. It's just that in studying ancient myths and legends I've picked up the trick of it. The vocabulary is not entirely different, but it is inflected differently, and there are idiomatic expressions we don't use any longer and, as I have said, the pronunciation is totally changed. I can act as interpreter, but not as a very good one."

Trevize heaved a tremulous sigh. "A small stroke of good fortune is better than none. Carry on, Janov."

Pelorat turned to the robots, waited a moment, then looked back at Trevize. "What am I supposed to say?"

"Let's go all the way. Ask them where Earth is."

Pelorat said the words one at a time, with exaggerated gestures of his hands.

The robots looked at each other and made a few sounds. The middle one then spoke to Pelorat, who replied while moving his hands apart as though he were stretching a length of rubber. The robot responded by spacing his words as carefully as Pelorat had.

Pelorat said to Trevize, "I'm not sure I'm getting across what I mean by 'Earth.' I suspect they think I'm referring to some region on their planet and they say they don't know of any such region."

"Do they use the name of this planet, Janov?"

"The closest I can come to what I think they are using as the name is 'Solaria.' "

"Have you ever heard of it in your legends?"

"No-any more than I had ever heard of Aurora."

"Well, ask them if there is any place named Earth in the sky-among the stars. Point upward."

Again an exchange, and finally Pelorat turned and said, "All I can get from them, Golan, is that there are no places in the sky."

Bliss said, "Ask those robots how old they are; or rather, how long they have been functioning."

"I don't know how to say 'functioning,'" said Pelorat, shaking his head. In fact, I'm not sure if I can say 'how old.' I'm not a very good interpreter."

"Do the best you can, Pel dear," said Bliss.

And after several exchanges, Pelorat said, "They've been functioning for twenty-six years."

"Twenty-six years," muttered Trevize in disgust. "They're hardly older than you are, Bliss."

Bliss said, with sudden pride, "It so happens-"

"I know. You're Gaia, which is thousands of years old. -In any case, these robots cannot talk about Earth from personal experience, and their memorybanks clearly do not

include anything not necessary to their functioning. So they know nothing about astronomy."

Pelorat said, "There may be other robots somewhere on the planet that are primordial, perhaps."

"I doubt it," said Trevize, "but ask them, if you can find the words for it, Janov."

This time there was quite a long conversation and Pelorat eventually broke it off with a flushed face and a clear air of frustration.

"Golan," he said, "I don't understand part of what they're trying to say, but I gather that the older robots are used for manual labor and don't know anything. If this robot were a human, I'd say he spoke of the older robots with contempt. These three are house robots, they say, and are not allowed to grow old before being replaced. They're the ones who really know things-their words, not mine."

"They don't know much," growled Trevize. "At least of the things we want to know."

"I now regret," said Pelorat, "that we left Aurora so hurriedly. If we had found a robot survivor there, and we surely would have, since the very first one I encountered still had a spark of life left in it, they would know of Earth through personal memory."

"Provided their memories were intact, Janov," said Trevize. "We can always go back there and, if we have to, dog packs or not, we will. -But if these robots are only a couple of decades old, there must be those who manufacture them, and the manufacturers must be human, I should think." He turned to Bliss. "Are you sure you sensed-"

But she raised a hand to stop him and there was a strained and intent look on her face. "Coming now," she said, in a low voice.

Trevize turned his face toward the rise and there, first appearing from behind it, and then striding toward them, was the unmistakable figure of a human being. His complexion was pale and his hair light and long, standing out slightly from the sides of his head. His face was grave but quite young in appearance. His bare arms and legs were not particularly muscled.

The robots stepped aside for him, and he advanced till he stood in their midst.

He then spoke in a clear, pleasant voice and his words, although used archaically, were in Galactic Standard, and easily understood.

"Greetings, wanderers from space," he said. "What would you with my robots?"

46.

TREVIZE did not cover himself with glory.. He said foolishly, "You speak Galactic?"

The Solarian said, with a grim smile, "And why not, since I am not mute?"

"But these?" Trevize gestured toward the robots.

"These are robots. They speak our language, as I do. But I am Solarian and hear the hyperspatial communications of the worlds beyond so that I have learned your way of

speaking, as have my predecessors. My predecessors have left descriptions of the language, but I constantly hear new words and expressions that change with the years, as though you Settlers can settle worlds, but not words. How is it you are surprised at my understanding of your language?"

"I should not have been," said Trevize. "I apologize. It was just that speaking to the robots, I had not thought to hear Galactic on this world."

He studied the Solarian. He was wearing a thin white robe, draped loosely over his shoulder, with large openings for his arms. It was open in front, exposing a bare chest and loincloth below. Except for a pair of light sandals, he wore nothing else.

It occurred to Trevize that he could not tell whether the Solarian was male or female. The breasts were male certainly but the chest was hairless and the thin loincloth showed no bulge of any kind.

He turned to Bliss and said in a low voice, "This might still be a robot, but very like a human being in-"

Bliss said, her lips hardly moving, "The mind is that of a human being, not a robot."

The Solarian said, "Yet you have not answered my original question. I shall excuse the failure and put it down to your surprise. I now ask again and you must not fail a second time. What would you with my robots?"

Trevize said, "We are travelers who seek information to reach our destination. We asked your robots for information that would help us, but they lacked the knowledge."

"What is the information you seek? Perhaps I can help you."

"We seek the location of Earth. Could you tell us that?"

The Solarian's eyebrows lifted. "I would have thought that your first object of curiosity would have been myself. I will supply that information although you have not asked for it. I am Sarton Bander and you stand upon the Bander estate, which stretches as far as your eye can see in every direction and far beyond. I cannot say that you are welcome here, for in coming here, you have violated a trust. You are the first Settlers to touch down upon Solaria in many thousands of years and, as it turns out, you have come here merely to inquire as to the best way of reaching another world. In the old days, Settlers, you and your ship would have been destroyed on sight."

"That would be a barbaric way of treating people who mean no harm and offer none," said Trevize cautiously.

"I agree, but when members of an expanding society set foot upon an inoffensive and static one, that mere touch is filled with potential harm. While we feared that harm, we were ready to destroy those who came at the instant of their coming. Since we no longer have reason to fear, we are, as you see, ready to talk."

Trevize said, "I appreciate the information you have offered us so freely, and yet you failed to answer the question I did ask. I will repeat it. Could you tell us the location of the planet Earth?"

"By Earth, I take it you mean the world on which the human species, and the various species of plants and animals"-his hand moved gracefully about as though to indicate all the surroundings about them-"originated."

"Yes, I do, sir."

A queer look of repugnance flitted over the Solarian's face. He said, "Please address me simply as Bander, if you must use a form of address. Do not address me by any word that includes a sign of gender. I am neither male nor female. I am whole."

Trevize nodded (he had been right). "As you wish, Bander. What, then, is the location of Earth, the world of origin of all of us?"

Bander said, "I do not know. Nor do I wish to know. If I did know, or if I could find out, it would do you no good, for Earth no longer exists as a world. -Ah," he went on, stretching out his arms. "The sun feels good. I am not often on the surface, and never when the sun does not show itself. My robots were sent to greet you while the sun was yet hiding behind the clouds. I followed only when the clouds cleared."

"Why is it that Earth no longer exists as a world?" said Trevize insistently, steeling himself for the tale of radioactivity once again.

Bander, however, ignored the question or, rather, put it to one side carelessly. "The story is too long," he said. "You told me that you came with no intent of harm."

"That is correct."

"Why then did you come armed?"

"That is merely a precaution. I did not know what I might meet."

"It doesn't matter. Your little weapons represent no danger to me. Yet I am curious. I have, of course, heard much of your arms, and of your curiously barbaric history that seems to depend so entirely upon arms. Even so, I have never actually seen a weapon. May I see yours?"

Trevize took a step backward. "I'm afraid not, Bander."

Bander seemed amused. "I asked only out of politeness. I need not have asked at all."

It held out its hand and from Trevize's right holster, there emerged his blaster, while from his left holster, there rose up his neuronic whip. Trevize snatched at his weapons but felt his arms held back as though by stiffly elastic bonds. Both Pelorat and Bliss started forward and it was clear that they were held as well.

Bander said, "Don't bother trying to interfere. You cannot." The weapons flew to its hands and it looked them over carefully. "This one," it said, indicating the blaster, "seems to be a microwave beamer that produces heat, thus exploding any fluid-containing body. The other is more subtle, and, I must confess, I do not see at a glance what it is intended to do. However, since you mean no harm and offer no harm, you don't need arms. I can, and I do, bleed the energy content of the units of each weapon. That leaves them harmless unless you use one or the other as a club, and they would be clumsy indeed if used for that purpose."

The Solarian released the weapons and again they drifted through the air, this time back toward Trevize. Each settled neatly into its holster.

Trevize, feeling himself released, pulled out his blaster, but there was no need to use it. The contact hung loosely, and the energy unit had clearly been totally drained. That was precisely the case with the neuronc whip as well.

He looked up at Bander, who said, smiling, "You are quite helpless, Outworlder. I can as easily, if I so desired, destroy your ship and, of course, you."

11. UNDERGROUND

47.

TREVIZE felt frozen. Trying to breathe normally, he turned to look at Bliss. She was standing with her arm protectively about Pelorat's waist, and, to all appearances, was quite calm. She smiled slightly and, even more slightly, nodded her head.

Trevize turned back to Bander. Having interpreted Bliss's actions as signifying confidence, and hoping with dreadful earnestness that he was correct, he said grimly, "How did you do that, Bander?"

Bander smiled, obviously in high good humor. "Tell me, little Outworlders, do you believe in sorcery? In magic?"

"No, we do not, little Solarian," snapped Trevize.

Bliss tugged at Trevize's sleeve and whispered, "Don't irritate him. He's dangerous."

"I can see he is," said Trevize, keeping his voice low with difficulty. "You do something, then."

Her voice barely heard, Bliss said, "Not yet. He will be less dangerous if he feels secure."

Bander paid no attention to the brief whispering among the Outworlders. It moved away from them uncaringly, the robots separating to let it pass.

Then it looked back and crooked a finger languidly. "Come. Follow me. All three of you. I will tell you a story that may not interest you, but that interests me." It continued to walk forward leisurely.

Trevize remained in place for a while, uncertain as to the best course of action. Bliss walked forward, however, and the pressure of her arm led Pelorat forward as well. Eventually, Trevize moved; the alternative was to be left standing alone with the robots.

Bliss said lightly, "If Bander will be so kind as to tell the story that may not interest us-"

Bander turned and looked intently at Bliss as though he were truly aware of her for the first time. "You are the feminine half-human," he said, "aren't you? The lesser half?"

"The smaller half, Bander. Yes."

"These other two are masculine half-humans, then?"

"So they are."

"Have you had your child yet, feminine?"

"My name, Bander, is Bliss. I have not yet had a child. This is Trevize. This is Pel."

"And which of these two masculines is to assist you when it is your time? Or will it be both? Or neither?"

"Pel will assist me, Bander."

Bander turned his attention to Pelorat. "You have white hair, I see."

Pelorat said, "I have."

"Was it always that color?"

"No, Bander, it became so with age."

"And how old are you?"

"I am fifty-two years old, Bander," Pelorat said, then added hastily, "That's Galactic Standard Years."

Bander continued to walk (toward the distant mansion, Trevize assumed), but more slowly. It said, "I don't know how long a Galactic Standard Year is, but it can't be very different from our year. And how old will you be when you die, Pel?"

"I can't say. I may live thirty more years."

"Eighty-two years, then. Short-lived, and divided in halves. Unbelievable, and yet my distant ancestors were like you and lived on Earth. -But some of them left Earth to establish new worlds around other stars, wonderful worlds, well organized, and many."

Trevize said loudly, "Not many. Fifty."

Bander turned a lofty eye on Trevize. There seemed less humor in it now. "Trevize. That's your name."

"Golan Trevize in full. I say there were fifty Spacer worlds. Our worlds number in the millions."

"Do you know, then, the story that I wish to tell you?" said Bander softly.

"If the story is that there were once fifty Spacer worlds, we know it."

"We count not in numbers only, little half-human," said Bander. "We count the quality, too. There were fifty, but such a fifty that not all your millions could make up one of them. And Solaria was the fiftieth and, therefore, the best. Solaria was as far beyond the other Spacer worlds, as they were beyond Earth."

"We of Solaria alone learned how life was to be lived. We did not herd and flock like animals, as they did on Earth, as they did on other worlds, as they did even on the other Spacer worlds. We lived each alone, with robots to help us, viewing each other electronically as often as we wished, but coming within natural sight of one another only rarely. It is many years since I have gazed at human beings as I now gaze at you but, then, you are only half-humans and your presence, therefore, does not limit my freedom any more than a cow would limit it, or a robot."

"Yet we were once half-human, too. No matter how we perfected our freedom; no matter how we developed as solitary masters over countless robots; the freedom was never absolute. In order to produce young there had to be two individuals in co-operation. It was possible, of course, to contribute sperm cells and egg cells, to have the fertilization process and the consequent embryonic growth take place artificially in automated fashion. It was possible for the infant to live adequately under robotic care. It could all be done, but the half-humans would not give up the pleasure that went with biological impregnation. Perverse emotional attachments would develop in consequence and freedom vanished. Do you see that that had to be changed?"

Trevize said, "No, Bander, because we do not measure freedom by your standards."

"That is because you do not know what freedom is. You have never lived but in swarms, and you know no way of life but to be constantly forced, in even the smallest things, to bend your wills to those of others or, which is equally vile, to spend your days struggling to force others to bend their wills to yours. Where is any possible freedom there? Freedom is nothing if it is not to live as you wish! Exactly as you wish!

"Then came the time when the Earthpeople began to swarm outward once more, when their clinging crowds again swirled through space. The other Spacers, who did not flock as the Earthpeople did, but who flocked nevertheless, if to a lesser degree, tried to compete.

"We Solarians did not. We foresaw inevitable failure in swarming. We moved underground and broke off all contact with the rest of the Galaxy. We were determined to remain ourselves at all costs. We developed suitable robots and weapons to protect our apparently empty surface, and they did the job admirably. Ships came and were destroyed, and stopped coming. The planet was considered deserted, and was forgotten, as we hoped it would be.

"And meanwhile, underground, we worked to solve our problems. We adjusted our genes gingerly, delicately. We had failures, but some successes, and we capitalized on the successes. It took us many centuries, but we finally became whole human beings, incorporating both the masculine and feminine principles in one body, supplying our own complete pleasure at will, and producing, when we wished, fertilized eggs for development under skilled robotic care."

"Hermaphrodites," said Pelorat.

"Is that what it is called in your language?" asked Bander indifferently. "I have never heard the word."

"Hermaphroditism stops evolution dead in its tracks," said Trevize. "Each child is the genetic duplicate of its hermaphroditic parent."

"Come," said Bander, "you treat evolution as a hit-and-miss affair. We can design our children if we wish. We can change and adjust the genes and, on occasion, we do. - But we are almost at my dwelling. Let us enter. It grows late in the day. The sun already fails to give its warmth adequately and we will be more comfortable indoors."

They passed through a door that had no locks of any kind but that opened as they approached and closed behind them as they passed through. There were no windows, but as they entered a cavernous room, the walls glowed to luminous life and brightened. The floor seemed bare, but was soft and springy to the touch. In each of the four corners of the room, a robot stood motionless.

"That wall," said Bander, pointing to the wall opposite the door—a wall that seemed no different in any way from the other three—is my visionscreen. The world opens before me through that screen but it in no way limits my freedom for I cannot be compelled to use it."

Trevize said, "Nor can you compel another to use his if you wish to see him through that screen and he does not."

"Compel?" said Bander haughtily. "Let another do as it pleases, if it is but content that I do as I please. Please note that we do not use gendered pronouns in referring to each other."

There was one chair in the room, facing the vision-screen, and Bander sat down in it.

Trevize looked about, as though expecting additional chairs to spring from the floor. "May we sit, too?" he said.

"If you wish," said Bander.

Bliss, smiling, sat down on the floor. Pelorat sat down beside her. Trevize stubbornly continued to stand.

Bliss said, "Tell me, Bander, how many human beings live on this planet?"

"Say Solarians, half-human Bliss. The phrase 'human being' is contaminated by the fact that half-humans call themselves that. We might call ourselves whole-humans, but that is clumsy. Solarian is the proper term."

"How many Solarians, then, live on this planet?"

"I am not certain. We do not count ourselves. Perhaps twelve hundred."

"Only twelve hundred on the entire world?"

"Fully twelve hundred. You count in numbers again, while we count in quality. -Nor do you understand freedom. If one other Solarian exists to dispute my absolute mastery over any part of my land, over any robot or living thing or object, my freedom is limited. Since other Solarians exist, the limitation on freedom must be removed as far as possible by separating them all to the point where contact is virtually nonexistent. Solaria will hold twelve hundred Solarians under conditions approaching the ideal. Add more, and liberty will be palpably limited so that the result will be unendurable."

"That means each child must be counted and must balance deaths," said Pelorat suddenly.

"Certainly. That must be true of any world with a stable population-even yours, perhaps."

"And since there are probably few deaths, there must therefore be few children."

"Indeed."

Pelorat nodded his head and was silent.

Trevize said, "What I want to know is how you made my weapons fly through the air. You haven't explained that."

"I offered you sorcery or magic as an explanation. Do you refuse to accept that?"

"Of course I refuse. What do you take me for?"

"Will you, then, believe in the conservation of energy, and in the necessary increase of entropy?"

"That I do. Nor can I believe that even in twenty thousand years you have changed these laws, or modified them a micrometer."

"Nor have we, half-person. But now consider. Outdoors, there is sunlight." There was its oddly graceful gesture, as though marking out sunlight all about. "And there is

shade. It is warmer in the sunlight than in the shade, and heat flows spontaneously from the sunlit area into the shaded area."

"You tell me what I know," said Trevize.

"But perhaps you know it so well that you no longer think about it. And at night, Solaria's surface is warmer than the objects beyond its atmosphere, so that heat flows spontaneously from the planetary surface into outer space."

"I know that, too."

"And day or night, the planetary interior is warmer than the planetary surface. Heat therefore flows spontaneously from the interior to the surface. I imagine you know that, too."

"And what of all that, Bander?"

"The flow of heat from hotter to colder, which must take place by the second law of thermodynamics, can be used to do work."

"In theory, yes, but sunlight is dilute, the heat of the planetary surface is even more dilute, and the rate at which heat escapes from the interior makes that the most dilute of all. The amount of heat-flow that can be harnessed would probably not be enough to lift a pebble."

"It depends on the device you use for the purpose," said Bander. "Our own tool was developed over a period of thousands of years and it is nothing less than a portion of our brain."

Bander lifted the hair on either side of its head, exposing that portion of its skull behind its ears. It turned its head this way and that, and behind each ear was a bulge the size and shape of the blunt end of a hen's egg.

"That portion of my brain, and its absence in you, is what makes the difference between a Solarian and you."

48.

TREVIZE glanced now and then at Bliss's face, which seemed entirely concentrated on Bander. Trevize had grown quite certain he knew what was going on.

Bander, despite its paeon to freedom, found this unique opportunity irresistible. There was no way it could speak to robots on a basis of intellectual equality, and certainly not to animals. To speak to its fellow-Solarians would be, to it, unpleasant, and what communication there must be would be forced, and never spontaneous.

As for Trevize, Bliss, and Pelorat, they might be half-human to Bander, and it might regard them as no more an infringement on its liberty than a robot or a goat would be—but they were its intellectual equals (or near equals) and the chance to speak to them was a unique luxury it had never experienced before.

No wonder, Trevize thought, it was indulging itself in this way. And Bliss (Trevize was doubly sure) was encouraging this, just pushing Bander's mind ever so gently in order to urge it to do what it very much wanted to do in any case.

Bliss, presumably, was working on the supposition that if Bander spoke enough, it might tell them something useful concerning Earth. That made sense to Trevize, so that even if he had not been truly curious about the subject under discussion, he would nevertheless have endeavored to continue the conversation.

"What do those brain-lobes do?" Trevize asked.

Bander said, "They are transducers. They are activated by the flow of heat and they convert the heat-flow into mechanical energy."

"I cannot believe that. The flow of heat is insufficient."

"Little half-human, you do not think. If there were many Solarians crowded together, each trying to make use of the flow of heat, then, yes, the supply would be insufficient. I, however, have over forty thousand square kilometers that are mine, mine alone. I can collect heat-flow from any quantity of those square kilometers with no one to dispute me, so the quantity is sufficient. Do you see?"

"Is it that simple to collect heat-flow over a wide area? The mere act of concentration takes a great deal of energy."

"Perhaps, but I am not aware of it. My transducer-lobes are constantly concentrating heat-flow so that as work is needed, work is done. When I drew your weapons into the air, a particular volume of the sunlit atmosphere lost some of its excess heat to a volume of the shaded area, so that I was using solar energy for the purpose. Instead of using mechanical or electronic devices to bring that about, however, I used a neuronic device." It touched one of the transducer-lobes gently. "It does it quickly, efficiently, constantly-and effortlessly."

"Unbelievable," muttered Pelorat.

"Not at all unbelievable," said Bander. "Consider the delicacy of the eye and ear., and how they can turn small quantities of photons and air vibrations into information. That would seem unbelievable if you had never come across it before. The transducer-lobes are no more unbelievable, and would not be so to you, were they not unfamiliar."

Trevize said, "What do you do with these constantly operating transducerlobes?"

"We run our world," said Bander. "Every robot on this vast estate obtains its energy from me; or, rather, from natural heat-flow. Whether a robot is adjusting a contact, or felling a tree, the energy is derived from mental transduction-my mental transduction."

"And if you are asleep?"

"The process of transduction continues waking or sleeping, little half-human," said Bander. "Do you cease breathing when you sleep? Does your heart stop beating? At night, my robots continue working at the cost of cooling Solaria's interior a bit. The change is immeasurably small on a global scale and there are only twelve hundred of us, so that all the energy we use does not appreciably shorten our sun's life or drain the world's internal heat."

"Has it occurred to you that you might use it as a weapon?"

Bander stared at Trevize as though he were something peculiarly incomprehensible. "I suppose by that," he said, "you mean that Solaria might confront other worlds with energy weapons based on transduction? Why should we? Even if we

could beat their energy weapons based on other principles-which is anything but certain-what would we gain? The control of other worlds? What do we want with other worlds when we have an ideal world of our own? Do we want to establish our domination over half-humans and use them in forced labor? We have our robots that are far better than half-humans for the purpose. We have everything. We want nothing-except to be left to ourselves. See here-I'll tell you another story."

"Go ahead," said Trevize.

"Twenty thousand years ago when the half-creatures of Earth began to swarm into space and we ourselves withdrew underground, the other Spacer worlds were determined to oppose the new Earth-settlers. So they struck at Earth."

"At Earth," said Trevize, trying to hide his satisfaction over the fact that the subject had come up at last.

"Yes, at the center. A sensible move, in a way. If you wish to kill a person, you strike not at a finger or a heel, but at the heart. And our fellow-Spacers, not too far removed from human beings themselves in passions, managed to set Earth's surface radioactively aflame, so that the world became largely uninhabitable."

"Ah, that's what happened," said Pelorat, clenching a fist and moving it rapidly, as though nailing down a thesis. "I knew it could not be a natural phenomenon. How was it done?"

"I don't know how it was done," said Bander indifferently, "and in any case it did the Spacers no good. That is the point of the story. The Settlers continued to swarm and the Spacers-died out. They had tried to compete, and vanished. We Solarians retired and refused to compete, and so we are still here."

"And so are the Settlers," said Trevize grimly.

"Yes, but not forever. Swarmers must fight, must compete, and eventually must die. That may take tens of thousands of years, but we can wait. And when it happens, we Solarians, whole, solitary, liberated, will have the Galaxy to ourselves. We can then use, or not use, any world we wish to in addition to our own."

"But this matter of Earth," said Pelorat, snapping his fingers impatiently. "Is what you tell us legend or history?"

"How does one tell the difference, half-Pelorat?" said Bander. "All history is legend, more or less."

"But what do your records say? May I see the records on the subject, Bander? - Please understand that this matter of myths, legends, and primeval history is my field. I am a scholar dealing with such matters and particularly with those matters as related to Earth."

"I merely repeat what I have heard," said Bander. "There are no records on the subject. Our records deal entirely with Solarian affairs and other worlds are mentioned in them only insofar as they impinge upon us."

"Surely, Earth has impinged on you," said Pelorat.

"That may be, but, if so, it was long, long ago, and Earth, of all worlds, was most repulsive to us. If we had any records of Earth, I am sure they were destroyed out of sheer revulsion."

Trevize gritted his teeth in chagrin. "By yourselves?" he asked.

Bander turned its attention to Trevize. "There is no one else to destroy them."

Pelorat would not let go of the matter. "What else have you heard concerning Earth?"

Bander thought. It said, "When I was young, I heard a tale from a robot about an Earthman who once visited Solaria; about a Solarian woman who left with him and became an important figure in the Galaxy. That, however, was, in my opinion, an invented tale."

Pelorat bit at his lip. "Are you sure?"

"How can I be sure of anything in such matters?" said Bander. "Still, it passes the bounds of belief that an Earthman would dare come to Solaria, or that Solaria would allow the intrusion. It is even less likely that a Solarian woman—we were half-humans then, but even so—should voluntarily leave this world. —But come, let me show you my home."

"Your home?" said Bliss, looking about. "Are we not in your home?"

"Not at all," said Bander. "This is an anteroom. It is a viewing room. In it I see my fellow-Solarians when I must. Their images appear on that wall, or three-dimensionally in the space before the wall. This room is a public assembly, therefore, and not part of my home. Come with me,"

It walked on ahead, without turning to see if it were followed, but the four robots left their corners, and Trevize knew that if he and his companions did not follow spontaneously, the robots would gently coerce them into doing so.

The other two got to their feet and Trevize whispered lightly to Bliss, "Have you been keeping it talking?"

Bliss pressed his hand, and nodded. "Just the same, I wish I knew what its intentions were," she added, with a note of uneasiness in her voice.

49.

THEY followed Bander. The robots remained at a polite distance, but their presence was a constantly felt threat.

They were moving through a corridor, and Trevize mumbled low-spiritedly, "There's nothing helpful about Earth on this planet. I'm sure of it. Just another variation on the radioactivity theme." He shrugged. "We'll have to go on to the third set of coordinates."

A door opened before them, revealing a small room. Bander said, "Come, half-humans, I want to show you how we live."

Trevize whispered, "It gets infantile pleasure out of display. I'd love to knock it down."

"Don't try to compete in childishness," said Bliss.

Bander ushered all three into the room. One of the robots followed as well. Bander gestured the other robots away and entered itself. The door closed behind it.

"It's an elevator," said Pelorat, with a pleased air of discovery.

"So it is," said Bander. "Once we went underground, we never truly emerged. Nor would we want to, though I find it pleasant to feel the sunlight on occasion. I dislike clouds or night in the open, however. That gives one the sensation of being underground without truly being underground, if you know what I mean. That is cognitive dissonance, after a fashion, and I find it very unpleasant."

"Earth built underground," said Pelorat. "The Caves of Steel, they called their cities. And Trantor built underground, too, even more extensively, in the old Imperial days. And Comporellon builds underground right now. It is a common tendency, when you come to think of it."

"Half-humans swarming underground and we living underground in isolated splendor are two widely different things," said Bander.

Trevize said, "On Terminus, dwelling places are on the surface."

"And exposed to the weather," said Bander. "Very primitive."

The elevator, after the initial feeling of lower gravity that had given away its nature to Pelorat, gave no sensation of motion whatsoever. Trevize was wondering how far down it would penetrate, when there was a brief feeling of higher gravity and the door opened.

Before them was a large and elaborately furnished room. It was dimly lit, though the source of the light was not apparent. It almost seemed as though the air itself were faintly luminous.

Bander pointed its finger and where it pointed the light grew a bit more intense. It pointed it elsewhere and the same thing happened. It placed its left hand on a stubby rod to one side of the doorway and, with its right hand, made an expansive circular gesture so that the whole room lit up as though it were in sunlight, but with no sensation of heat.

Trevize grimaced and said, half-aloud, "The man's a charlatan."

Bander said sharply. "Not 'the man,' but 'the Solarian.' I'm not sure what the word 'charlatan' means, but if I catch the tone of voice, it is opprobrious."

Trevize said, "It means one who is not genuine, who arranges effects to make what is done seem more impressive than it really is."

Bander said, "I admit that I love the dramatic, but what I have shown you is not an effect. It is real."

It tapped the rod on which its left hand was resting. "This heat-conducting rod extends several kilometers downward, and there are similar rods in many convenient places throughout my estate. I know there are similar rods on other estates. These rods increase the rate at which heat leaves Solaria's lower regions for the surface and eases its conversion into work. I do not need the gestures of the hand to produce the light, but it does lend an air of drama or, perhaps, as you point out, a slight touch of the not-genuine, I enjoy that sort of thing."

Bliss said, "Do you have much opportunity to experience the pleasure of such little dramatic touches?"

"No," said Bander, shaking its head. "My robots are not impressed with such things. Nor would my fellow-Solarians be. This unusual chance of meeting half-humans and displaying for them is most-amusing."

Pelorat said, "The light in this room shone dimly when We entered. Does it shine dimly at all times?"

"Yes, a small drain of power-like keeping' the robots working. My entire estate is always running, and those parts of it not engaged in active labor are idling."

"And you supply the power constantly for all this vast estate?"

"The sun and the planet's core supply the power. I am merely the conduit. Nor is all the estate productive. I keep most of it as wilderness and well stocked with a variety of animal life; first, because that protects my boundaries, and second, because I find esthetic value in it. In fact, my fields and factories are small. They need only supply my own needs, plus some specialties to exchange for those of others. I have robots, for instance, that can manufacture and install the heat-conducting rods at need. Many Solarians depend upon me for that."

"And your home?" asked Trevize. "How large is that?"

It must have been the right question to ask, for Bander beamed. "Very large. One of the largest on the planet, I believe. It goes on for kilometers in every direction. I have as many robots caring for my home underground, as I have in all the thousands of square kilometers of surface."

"You don't live in all of it, surely," said Pelorat.

"It might conceivably be that there are chambers I have never entered, but what of that?" said Bander. "The robots keep every room clean, well ventilated, and in order. But come, step out here."

They emerged through a door that was not the one through which they had entered and found themselves in another corridor. Before them was a little topless ground-car that ran on tracks.

Bander motioned them into it, and one by one they clambered aboard. There was not quite room for all four, plus the robot, but Pelorat and Bliss squeezed together tightly to allow room for Trevize. Bander sat in the front with an air of easy comfort, the robot at its side, and the car moved along with no sign of overt manipulation of controls other than Bander's smooth hand motions now and then.

"This is a car-shaped robot, actually," said Bander, with an air of negligent indifference. -

They progressed at a stately pace, very smoothly past doors that opened as they approached, and closed as they receded. The decorations in each were of widely different kinds as though robots had been ordered to devise combinations at random.

Ahead of them the corridor was gloomy, and behind them as well. At whatever point they actually found themselves, however, they were in the equivalent of cool

sunlight. The rooms, too, would light as the doors opened. And each time, Bander moved its hand slowly and gracefully.

There seemed no end to the journey. Now and then they found themselves curving in a way that made it plain that the underground mansion spread out in two dimensions. (No, three, thought Trevize, at one point, as they moved steadily down a shallow declivity.)

Wherever they went, there were robots, by the dozens--scores-hundreds -engaged in unhurried work whose nature Trevize could not easily divine. They passed the open door of one large room in which rows of robots were bent quietly over desks.

Pelorat asked, "What are they doing, Bander?"

"Bookkeeping," said Bander. "Keeping statistical records, financial accounts, and all sorts of things that, I am very glad to say, I don't have to bother with. This isn't just an idle estate. About a quarter of its growing area is given over to orchards. An additional tenth are grain fields, but it's the orchards that are really my pride. We grow the best fruit in the world and grow them in the largest number of varieties, too. A Bander peach is the peach on Solaria. Hardly anyone else even bothers to grow peaches. We have twenty-seven varieties of apples and-and so on. The robots could give you full information."

"What do you do with all the fruit?" asked Trevize. "You can't eat it all yourself."

"I wouldn't dream of it. I'm only moderately fond of fruit. It's traded to the other estates."

"Traded for what?"

"Mineral material mostly. I have no mines worth mentioning on my estates. Then, too, I trade for whatever is required to maintain a healthy ecological balance. I have a very large variety of plant and animal life on the estate."

"The robots take care of all that, I suppose," said Trevize.

"They do. And very well, too."

"All for one Solarian."

"All for the estate and its ecological standards. I happen to be the only Solarian who visits the various parts of the estate-when I choose-but that is part of my absolute freedom."

Pelorat said, "I suppose the others-the other Solarians-also maintain a local ecological balance and have marshlands, perhaps, or mountainous areas or seafront estates."

Bander said, "I suppose so. Such things occupy us in the conferences that world affairs sometimes make necessary."

"How often do you have to get together?" asked Trevize. (They were going through a rather narrow passageway, quite long, and with no rooms on either side. Trevize guessed that it might have been built through an area that did not easily allow anything wider to be constructed, so that it served as a connecting link between two wings that could each spread out more widely.)

"Too often. It's a rare month when I don't have to pass some time in conference with one of the committees I am a member of. Still, although I may not have mountains or

marshlands on my estate, my orchards, my fishponds, and my botanical gardens are the best in the world."

Pelorat said, "But, my dear fellow-I mean, Bander-I would assume you have never left your estate and visited those of others-"

"Certainly nor, " said Bander, with an air of outrage.

"I said I assumed that," said Pelorat mildly. "But in that case, how can you be certain that yours are best, never having investigated, or even seen the others?"

"Because," said Bander, "I can tell from the demand for my products in interstate trade."

Trevize said, "What about manufacturing?"

Bander said, "There are estates where they manufacture tools and machinery. As I said, on my estate we make the heat-conducting rods, but those are rather simple."

"And robots?"

"Robots are manufactured here and there. Throughout history, Solaria has led all the Galaxy in the cleverness and subtlety of robot design."

"Today also, I imagine," said Trevize, carefully having the intonation make the remark a statement and not a question.

Bander said, "Today? With whom is there to compete today? Only Solaria makes robots nowadays. Your worlds do not, if I interpret what I hear on the hyperwave correctly."

"But the other Spacer worlds?"

"I told you. They no longer exist."

"At all?"

"I don't think there is a Spacer alive anywhere but on Solaria."

"Then is there no one who knows the location of Earth?"

"Why would anyone want to know the location of Earth?"

Pelorat broke in, "I want to know. It's my field of study."

"Then," said Bander, "you will have to study something else. I know nothing about the location of Earth, nor have I heard of anyone who ever did, nor do I care a sliver of robot-metal about the matter."

The car came to a halt, and, for a moment, Trevize thought that Bander was offended. The halt was a smooth one, however, and Bander, getting out of the car, looked its usual amused self as it motioned the others to get out also.

The lighting in the room they entered was subdued, even after Bander had brightened it with a gesture. It opened into a side corridor, on both sides of which were smaller rooms. In each one of the smaller rooms was one or two ornate vases, sometimes flanked by objects that might have been film projectors.

"What is all this, Bander?" asked Trevize.

Bander said, "The ancestral death chambers, Trevize."

PELORAT looked about with interest. "I suppose you have the ashes of your ancestors interred here?"

"If you mean by 'interred,'" said Bander, "buried in the ground, you are not quite right. We may be underground, but this is my mansion, and the ashes are in it, as we are right now. In our own language we say that the ashes are 'inhoused.'" It hesitated, then said, "'House' is an archaic word for 'mansion.'" "

Trevize looked about him perfunctorily. "And these are all your ancestors? How many?"

"Nearly a hundred," said Bander, making no effort to hide the pride in its voice. "Ninety-four, to be exact. Of course, the earliest are not true Solarians -not in the present sense of the word. They were half-people, masculine and feminine. Such half-ancestors were placed in adjoining urns by their immediate descendants. I don't go into those rooms, of course. It's rather 'shamiferous.' At least, that's the Solarian word for it; but I don't know your Galactic equivalent. You may not have one."

"And the films?" asked Bliss. "I take it those are film projectors?"

"Diaries," said Bander, "the history of their lives. Scenes of themselves in their favorite parts of the estate. It means they do not die in every sense. Part of them remains, and it is part of my freedom that I can join them whenever I choose; I can watch this bit of film or that, as I please."

"But not into the--shamiferous ones."

Bander's eyes slithered away. "No," it admitted, "but then we all have that as part of the ancestry. It is a common wretchedness."

"Common? Then other Solarians also have these death chambers?" asked Trevize.

"Oh yes, we all do, but mine is the best, the most elaborate, the most perfectly preserved."

Trevize said, "Do you have your own death chamber already prepared?"

"Certainly. It is completely constructed and appointed. That was done as my first duty when I inherited the estate. And when I am laid to ash-to be poetic-my successor will go about the construction of its own as its first duty."

"And do you have a successor?"

"I will have when the time comes. There is as yet ample scope for life. When I must leave, there will be an adult successor, ripe enough to enjoy the estate, and well lobed for power-transduction."

"It will be your offspring, I imagine."

..Oh yes."

"But what if," said Trevize, "something untoward takes place? I presume accidents and misfortunes take place even on Solaria. What happens if a Solarian is laid to ash prematurely and it has no successor to take its place, or at least not one who is ripe enough to enjoy the estate?"

"That rarely happens. In my line of ancestors, that happened only once. When it does, however, one need only remember that there are other successors waiting for other estates. Some of those are old enough to inherit, and yet have parents who are young enough to produce a second descendant and to live on till that second descendant is ripe enough for the succession. One of these old/young successors, as they are called, would be assigned to the succession of my estate."

"Who does the assigning?"

"We have a ruling board that has this as one of its few functions-the assignment of a successor in case of premature aching. It is all done by holovision, of course."

Pelorat said, "Hut see here, if Solarians never see each other, how would anyone know that some Solarian somewhere has unexpectedly-or expectedly, for that matter-been laid to ash."

Bander said, "When one of us is laid to ash, all power at the estate ceases. If no successor takes over at once, the abnormal situation is eventually noticed and corrective measures are taken. I assure you that our social system works smoothly."

Trevize said, "Would it be possible to view some of these films you have here?"

Bander froze. Then it said, "It is only your ignorance that excuses you. What you have said is crude and obscene."

"I apologize for that," said Trevize. "I do not wish to intrude on you, but we've already explained that we are very interested in obtaining information on Earth. It occurs to me that the earliest films you have would date back to a time before Earth was radioactive. Earth might therefore be mentioned. There might be details given about it. We certainly do not wish to intrude on your privacy, but would there be any way in which you yourself could explore those films, or have a robot do so, perhaps, and then allow any relevant information to be passed on to us? Of course, if you can respect our motives and understand that we will try our best to respect your feelings in return, you might allow us to do the viewing ourselves."

Bander said frigidly, "I imagine you have no way of knowing that you are becoming more and more offensive. However, we can end all this at once, for I can tell you that there are no films accompanying my early half-human ancestors."

"None?" Trevize's disappointment was heart-felt.

"They existed once. But even you can imagine what might have been on them. Two half-humans showing interest in each other or, even," Bander cleared its throat, and said, with an effort, "interacting. Naturally, all halfhuman films were destroyed many generations ago."

"What about the records of other Solarians?"

"All destroyed."

"Can you be sure?"

"It would be mad not to destroy them."

"It might be that some Solarians were mad, or sentimental, or forgetful. We presume you will not object to directing us to neighboring estates."

Bander looked at Trevize in surprise. "Do you suppose others will be as tolerant of you as I have been?"

"Why not, Bander?"

"You'll find they won't be."

"It's a chance we'll have to take."

"No, Trevize. No, any of you. Listen to me."

There were robots in the background, and Bander was frowning.

"What is it, Bander?" said Trevize, suddenly uneasy.

Bander said, "I have enjoyed speaking to all of you, and observing you in all your strangeness. It was a unique experience, which I have been delighted with, but I cannot record it in my diary, nor memorialize it in film."

"Why not?"

"My speaking to you; my listening to you; my bringing you into my mansion; my bringing you here into the ancestral death chambers; are shameful acts."

"We are not Solarians. We matter to you as little as these robots do, do we not?"

"I excuse the matter to myself in that way. It may not serve as an excuse to others."

"What do you care? You have absolute liberty to do as you choose, don't you?"

"Even as we are, freedom is not truly absolute. If I were the only Solarian on the planet, I could do even shameful things in absolute freedom. But there are other Solarians on the planet, and, because of that, ideal freedom, though approached, is not actually reached. There are twelve hundred Solarians on the planet who would despise me if they knew what I had done."

"There is no reason they need know about it."

"That is true. I have been aware of that since you've arrived. I've been aware of it all this time that I've been amusing myself with you. The others must not find out."

Pelorat said, "If that means you fear complications as a result of our visits to other estates in search of information about Earth, why, naturally, we will mention nothing of having visited you first. That is clearly understood."

Bander shook its head. "I have taken enough chances. I will not speak of this, of course. My robots will not speak of this, and will even be instructed not to remember it. Your ship will be taken underground and explores for what information it can give us--"

"Wait," said Trevize, "how long do you suppose we can wait here while you inspect our ship? That is impossible."

"Not at all impossible, for you will have nothing to say about it. I am sorry. I would like to speak to you longer and to discuss many other things with you, but you see the matter grows more dangerous."

"No, it does not," said Trevize emphatically.

"Yes, it does, little half-human. I'm afraid the time has come when I must do what my ancestors would have done at once. I must kill you, all three."

12. TO THE SURFACE

51.

TREVIZE turned his head at once to look at Bliss. Her face was expressionless, but taut, and her eyes were fixed on Bander with an intensity that made her seem oblivious to all else.

Pelorat's eyes were wide, disbelieving.

Trevize, not knowing what Bliss would-or could-do, struggled to fight down an overwhelming sense of loss (not so much at the thought of dying, as of dying without knowing where Earth was, without knowing why he had chosen Gaia as humanity's future). He had to play for time.

He said, striving to keep his voice steady, and his words clear, "You have shown yourself a courteous and gentle Solarian, Bander. You have not grown angry at our intrusion into your world. You have been kind enough to show us over your estate and mansion, and you have answered our questions. It would suit your character better to allow us to leave now. No one need ever know we were on this world and we would have no cause to return. We arrived in all innocence, seeking merely information."

"What you say is so," said Bander lightly, "and, so far, I have given you life. Your lives were forfeit the instant you entered our atmosphere. What I might have done-and should have done-on making close contact with you, would be to have killed you at once. I should then have ordered the appropriate robot to dissect your bodies for what information on Outworlders that might yield me.

"I have not done that. I have pampered my own curiosity and given in to my own easygoing nature, but it is enough. I can do it no longer. I have, in fact, already compromised the safety of Solaria, for if, through some weakness, I were to let myself be persuaded to let you go, others of your kind would surely follow, however much you might promise that they would not.

"There is, however, at least this. Your death will be painless. I will merely heat your brains mildly and drive them into inactivation. You will experience no pain. Life will merely cease. Eventually, when dissection and study are over, I will convert you to ashes in an intense flash of heat and all will be over."

Trevize said, "If we must die, then I cannot argue against a quick painless death, but why must we die at all, having given no offense?"

"Your arrival was an offense."

"Not on any rational ground, since we could not know it was an offense. "

"Society defines what constitutes an offense. To you, it may seem irrational and arbitrary, but to us it is not, and this is our world on which we have the full right to say that in this and that, you have done wrong and deserve to die. "

Bander smiled as though it were merely making pleasant conversation and went on, "Nor have you any right to complain on the ground of your own superior virtue. You have a blaster which uses a beam of microwaves to induce intense killing heat. It does what I intend to do, but does it, I am sure, much more crudely and painfully. You would have no hesitation in using it on me right now, had I not drained its energy, and if I were to be so foolish as to allow you the freedom of movement that would enable you to remove the weapon from its holster."

Trevize said despairingly, afraid even to glance again at Bliss, lest Bander's attention be diverted to her, "I ask you, as an act of mercy, not to do this."

Bandar said, turning suddenly grim, "I must first be merciful to myself and to my world, and to do that, you must die."

He raised his hand and instantly darkness descended upon Trevize.

52.

For a moment, Trevize felt the darkness choking him and thought wildly, Is this death?

And as though his thoughts had given rise to an echo, he heard a whispered, "Is this death?" It was Pelorat's voice.

Trevize tried to whisper, and found he could. "Why ask?" he said, with a sense of vast relief. "The mere fact that you can ask shows it is not death."

"Mere are old legends that there is life after death."

"Nonsense," muttered Trevize. "Bliss? Are you here, Bliss?"

There was no answer to that.

Again Pelorat echoed, "Bliss? Bliss? What happened, Golan?"

Trevize said, "Bender must be dead. He would, in that case, be unable to supply the power for his estate. The lights would go out."

"But how could? You mean Bliss did it?"

"I suppose so. I hope she did not come to harm in the process." He was on his hands and knees crawling about in the total darkness of the underground (if one did not count the occasional subvisible flashing of a radioactive atom breaking down in the walls).

Then his hand came on something warm and soft. He felt along it and recognized a leg, which he seized. It was clearly too small to be Bander's. "Bliss?"

The leg kicked out, forcing Trevize to let go.

He said, "Bliss? Say something!"

"I am alive," came Bliss's voice, curiously distorted.

Trevize said, "But are you well?"

"No." And, with that, light returned to their surroundings-weakly. The walls gleamed faintly, brightening and dimming erratically.

Bander lay crumpled in a shadowy heap. At its side, holding its head, was Bliss.

She looked up at Trevize and Pelorat. "The Solarian is dead," she said, and her cheeks glistened with tears in the weak light.

Trevize was dumbfounded. "Why are you crying?"

"Should I not cry at having killed a living thing of thought and intelligence? That was not my intention."

Trevize leaned down to help her to her feet, but she pushed him away.

Pelorat knelt in his turn, saying softly, "Please, Bliss, even you can't bring it back to life. Tell us what happened."

She allowed herself to be pulled upward and said dully, "Gaia can do what Bander could do. Gaia can make use of the unevenly distributed energy of the Universe and translate it into chosen work by mental power alone."

"I knew that," said Trevize, attempting to be soothing without quite knowing how to go about it. "I remember well our meeting in space when you-or Gaia, rather-held our spaceship captive. I thought of that when Bander held me captive after it had taken my weapons. It held you captive, too, but I was confident you could have broken free if you had wished."

"No. I would have failed if I had tried. When your ship was in my/our/ Gaia's grip," she said sadly, "I and Gaia were truly one. Now there is a hyperspatial separation that limits my/our/Gaia's efficiency. Besides, Gaia does what it does by the sheer power of massed brains. Even so, all those brains together lack the transducer-lobes this one Solarian has. We cannot make use of energy as delicately, as efficiently, as tirelessly as he could. -You see that I cannot make the lights gleam more brightly, and I don't know how long I can make them gleam at all before tiring. Bander could supply the power for an entire vast estate, even when it was sleeping."

"But you stopped it," said Trevize.

"Because it didn't suspect my powers," said Bliss, "and because I did nothing that would give it evidence of them. It was therefore without suspicion of me and gave me none of its attention. It concentrated entirely on you, Trevize, because it was you who bore the weapons-again, how well it has served that you armed yourself-and I had to wait my chance to stop Hander with one quick and unexpected blow. When it was on the point of killing us, when its whole mind was concentrated on that, and on you, I was able to strike."

"And it worked beautifully."

"How can you say something so cruel, Trevize? It was only my intention to stop it. I merely wished to block its use of its transducer. In the moment of surprise when it tried to blast us and found it could not, but found, instead, that the very illumination about us was fading into darkness, I would tighten my grip and send it into a prolonged normal sleep and release the transducer. The power would then remain on, and we could get out of this mansion, into our ship, and leave the planet. I hoped to so arrange things that, when Bander finally woke, it would have forgotten all that had happened from the instant of its sighting us. Gaia has no desire to kill in order to accomplish what can be brought about without killing."

"What went wrong, Bliss?" said Pelorat softly.

"I had never encountered any such thing as those transducer-lobes and I lacked any time to work with them and learn about them. I merely struck out forcefully with my blocking maneuver and, apparently, it didn't work correctly. It was not the entry of energy into the lobes that was blocked, but the exit of that energy. Energy is always pouring into those lobes at a reckless rate but, ordinarily, the brain safeguards itself by pouring out that energy just as quickly. Once I blocked the exit, however, energy piled up within the lobes at once and, in a tiny fraction of a second, the temperature had risen to the point where the brain protein inactivated explosively and it was dead. The lights went out and I removed my block immediately, but, of course, it was too late."

"I don't see that you could have done anything other than that which you did, dear," said Pelorat.

"Of what comfort is that, considering that I have killed."

"Bander was on the point of killing us," said Trevize.

"That was cause for stopping it, not for killing it."

Trevize hesitated. He did not wish to show the impatience he felt for he was unwilling to offend or further upset Bliss, who was, after all, their only defense against a supremely hostile world.

He said, "Bliss, it is time to look beyond Bander's death. Because it is dead, all power on the estate is blanked out. This will be noticed, sooner or later, probably sooner, by other Solarians. They will be forced to investigate. I don't think you will be able to hold off the perhaps combined attack of several. And, as you have admitted yourself, you won't be able to supply for very long the limited power you are managing to supply now. It is important, therefore, that we get back to the surface, and to our ship, without delay."

"But, Golan," said Pelorat, "how do we do that? We came for many kilometers along a winding path. I imagine it's quite a maze down here and, for myself, I haven't the faintest idea of where to go to reach the surface. I've always had a poor sense of direction."

Trevize, looking about, realized that Pelorat was correct. He said, "I imagine there are many openings to the surface, and we needn't find the one we entered."

"But we don't know where any of the openings are. How do we find them?"

Trevize turned again to Bliss. "Can you detect anything, mentally, that will help us find our way out?"

Bliss said, "The robots on this estate are all inactive. I can detect a thin whisper of subintelligent life straight up, but all that tells us is that the surface is straight up, which we know."

"Well, then," said Trevize, "we'll just have to look for some opening."

"Hit-and-miss," said Pelorat, appalled. "We'll never succeed."

"We might, Janov," said Trevize. "If we search, there will be a chance, however small. The alternative is simply to stay here, and if we do that then we will never succeed. Come, a small chance is better than none."

"Wait," said Bliss. "I do sense something."

"What?" said Trevize.

"A mind."

"Intelligence?"

"Yes, but limited, I think. What reaches me most clearly, though, is something else."

"What?" said Trevize, again fighting impatience.

"Fright! Intolerable fright!" said Bliss, in a whisper.

53.

TREVIZE looked about ruefully. He knew where they had entered but he had no illusion on the score of being able to retrace the path by which they had come. He had, after all, paid little attention to the turnings and windings. Who would have thought they'd be in the position of having to retrace the route alone and without help, and with only a flickering, dim light to be guided by?

He said, "Do you think you can activate the car, Bliss?"

Bliss said, "I'm sure I could, Trevize, but that doesn't mean I can run it."

Pelorat said, "I think that Bander ran it mentally. I didn't see it touch anything when it was moving."

Bliss said gently, "Yes, it did it mentally, Pel, but how, mentally? You might as well say that it did it by using the controls. Certainly, but if I don't know the details of using the controls, that doesn't help, does it?"

"You might try," said Trevize.

"If I try, I'll have to put my whole mind to it, and if I do that, then I doubt that I'll be able to keep the lights on. The car will do us no good in the dark even if I learn how to control it."

"Then we must wander about on foot, I suppose?"

"I'm afraid so."

Trevize peered at the thick and gloomy darkness that lay beyond the dim light in their immediate neighborhood. He saw nothing, heard nothing.

He said, "Bliss, do you still sense this frightened mind?"

"Yes, I do."

"Can you tell where it is? Can you guide us to it?"

"The mental sense is a straight line. It is not refracted sensibly by ordinary matter, so I can tell it is coming from that direction."

She pointed to a spot on the dusky wall, and said, "But we can't walk through the wall to it. The best we can do is follow the corridors and try to find our way in whatever direction will keep the sensation growing stronger. In short, we will have to play the game of hot-and-cold."

"Then let's start right now."

Pelorat hung back. "Wait, Golan; are we sure we want to find this thing, whatever it is? If it is frightened, it may be that we will have reason to be frightened, too."

Trevize shook his head impatiently. "We have no choice, Janov. It's a mind, frightened or not, and it may be willing to-or may be made to-direct us to the surface."

"And do we just leave Bander lying here?" said Pelorat uneasily.

Trevize took his elbow. "Come, Janov. We have no choice in that, either. Eventually some Solarian will reactivate the place, and a robot will find Bander and take care of it-I hope not before we are safely away."

He allowed Bliss to lead the way. The light was always strongest in her immediate neighborhood and she paused at each doorway, at each fork in the corridor, trying to sense the direction from which the fright came. Sometimes she would walk through a door, or move around a curve, then come back and try an alternate path, while Trevize watched helplessly.

Each time Bliss came to a decision and moved firmly in a particular direction, the light came on ahead of her. Trevize noticed that it seemed a bit brighter now-either because his eyes were adapting to the dimness, or because Bliss was learning how to handle the transduction more efficiently. At one point, when she passed one of the metal rods that were inserted into the ground, she put her hand on it and the lights brightened noticeably. She nodded her head as though she were pleased with herself.

Nothing looked in the least familiar; it seemed certain they were wandering through portions of the rambling underground mansion they had not passed through on the way in.

Trevize kept looking for corridors that led upward sharply, and he varied that by studying the ceilings for any sign of a trapdoor. Nothing of the sort appeared, and the frightened mind remained their only chance of getting out.

They walked through silence, except for the sound of their own steps; through darkness, except for the light in their immediate vicinity; through death, except for their own lives. Occasionally, they made out the shadowy bulk of a robot, sitting or standing in the dusk, with no motion. Once they saw a robot lying on its side, with legs and arms in queer frozen positions. It had been caught off-balance, Trevize thought, at the moment when power had been turned off, and it had fallen. Bander, either alive or dead, could not affect the force of gravity. Perhaps all over the vast Bander estate, robots were standing and lying inactive and it would be that that would quickly be noted at the borders.

Or perhaps not, he thought suddenly. Solarians would know when one of their number would be dying of old age and physical decay. The world would be alerted and ready. Bander, however, had died suddenly, without possible foreknowledge, in the prime of its existence. Who would know? Who would expect? Who would be watching for inactivation?

But no (and Trevize thrust back optimism and consolation as dangerous lures into overconfidence). The Solarians would note the cessation of all activity on the Bander

estate and take action at once. They all had too great an interest in the succession to estates to leave death to itself.

Pelorat murmured unhappily, "Ventilation has stopped. A place like this, underground, must be ventilated, and Bander supplied the power. Now it has stopped."

"It doesn't matter, Janov," said Trevize. "We've got enough air down in this empty underground place to last us for years."

"It's close just the same. It's psychologically bad."

"Please, Janov, don't get claustrophobic. -Bliss, are we any closer?"

"Much, Trevize," she replied. "The sensation is stronger and I am clearer as to its location."

She was stepping forward more surely, hesitating less at points of choice of direction.

"There! There!" she said. "I can sense it intensely."

Trevize said dryly, "Even I can hear it now."

All three stopped and, automatically, held their breaths. They could hear a soft moaning, interspersed with gasping sobs.

They walked into a large room and, as the lights went on, they saw that, unlike all those they had hitherto seen, it was rich and colorful in furnishings.

In the center of the room was a robot, stooping slightly, its arms stretched out in what seemed an almost affectionate gesture and, of course, it was absolutely motionless.

Behind the robot was a flutter of garments. A round frightened eye edged to one side of it, and there was still the sound of a brokenhearted sobbing.

Trevize darted around the robot and, from the other side, a small figure shot out, shrieking. It stumbled, fell to the ground, and lay there, covering its eyes, kicking its legs in all directions, as though to ward off some threat from whatever angle it might approach, and shrieking, shrieking-Bliss said, quite unnecessarily, "It's a child!"

54.

TREVIZE drew back, puzzled. What was a child doing here? Bander had been so proud of its absolute solitude, so insistent upon it.

Pelorat, less apt to fall back on iron reasoning in the face of an obscure event, seized upon the solution at once, and said, "I suppose this is the successor."

"Bander's child," said Bliss, agreeing, "but too young, I think, to be a successor. The Solarians will have to find one elsewhere."

She was gazing at the child, not in a fixed glare, but in a soft, mesmerizing way, and slowly the noise the child was making lessened. It opened its eyes and looked at Bliss in return. Its outcry was reduced to an occasional soft whimper.

Bliss made sounds of her own, now, soothing ones, broken words that made little sense in themselves but were meant only to reinforce the calming effect of her thoughts.

It was as though she were mentally fingering the child's unfamiliar mind and seeking to even out its disheveled emotions.

Slowly, never taking its eyes off Bliss, the child got to its feet, stood there swaying a moment, then made a dash for the silent, frozen robot. It threw its arms about the sturdy robotic leg as though avid for the security of its touch.

Trevize said, "I suppose that the robot is its-nursemaid-or caretaker. I suppose a Solarian can't care for another Solarian, not even a parent for a child."

Pelorat said, "And I suppose the child is hermaphroditic."

"It would have to be," said Trevize.

Bliss, still entirely preoccupied with the child, was approaching it slowly, hands held half upward, palms toward herself, as though emphasizing that there was no intention of seizing the small creature. The child was now silent, watching the approach, and holding on the more tightly to the robot.

Bliss said, "There, child-warm, child-soft, warm, comfortable, safe, child--safe-safe."

She stopped and, without looking round, said in a low voice, "Pel, speak to it in its language. Tell it we're robots come to take care of it because the power failed."

"Robots!" said Pelorat, shocked.

"We must be presented as robots. It's not afraid of robots. And it's never seen a human being, maybe can't even conceive of them."

Pelorat said, "I don't know if I can think of the right expression. I don't know the archaic word for 'robot.' "

"Say 'robot,' then, Pel. If that doesn't work, say 'iron thing.' Say whatever you can."

Slowly, word by word, Pelorat spoke archaically. The child looked at him, frowning intensely, as though trying to understand.

Trevize said, "You might as well ask it how to get out, while you're at it."

Bliss said, "No. Not yet. Confidence first, then information."

The child, looking now at Pelorat, slowly released its hold on the robot and spoke in a high-pitched musical voice.

Pelorat said anxiously, "It's speaking too quickly for me."

Bliss said, "Ask it to repeat more slowly. I'm doing my best to calm it and remove its fears."

Pelorat, listening again to the child, said, "I think it's asking what made Jemby stop. Jemby must be the robot."

"Check and make sure, Pel."

Pelorat spoke, then listened, and said, "Yes, Jemby is the robot. The child calls itself Fallom."

"Good!" Bliss smiled at the child, a luminous, happy smile, pointed to it, and said, "Fallom. Good Fallom. Brave Fallom." She placed a hand on her chest and said, "Bliss."

The child smiled. It looked very attractive when it smiled. "Bliss," it said, hissing the "s" a bit imperfectly.

Trevize said, "Bliss, if you can activate the robot, Jemby, it might be able to tell us what we want to know. Pelorat can speak to it as easily as to the child."

"No," said Bliss. "That would be wrong. The robot's first duty is to protect the child. If it is activated and instantly becomes aware of us, aware of strange human beings, it may as instantly attack us. No strange human beings belong here. If I am then forced to inactivate it, it can give us no information, and the child, faced with a second inactivation of the only parent it knows-Well, I just won't do it."

"But we were told," said Pelorat mildly, "that robots can't harm human beings."

"So we were," said Bliss, "but we were not told what kind of robots these Solarians have designed. And even if this robot were designed to do no harm, it would have to make a choice between its child, or the nearest thing to a child it can have, and three objects whom it might not even recognize as human beings, merely as illegal intruders. Naturally, it would choose the child and attack us."

She turned to the child again. "Fallow," she said, "Bliss." She pointed, "Pel-Trev."

"Pel. Trev," said the child obediently.

She came closer to the child, her hands reaching toward it slowly. It watched her, then took a step backward.

"Calm, Fallom," said Bliss. "Good, Fallom. Touch, Fallom. Nice, Fallom."

It took a step toward her, and Bliss sighed. "Good, Fallom."

She touched Fallom's bare arm, for it wore, as its parent had, only a long robe, open in front, and with a loincloth beneath. The touch was gentle. She removed her arm, waited, and made contact again, stroking softly.

The child's eyes half-closed under the strong, calming effect of Bliss's mind.

Bliss's hands moved up slowly, softly, scarcely touching, to the child's shoulders, its neck, its ears, then under its long brown hair to a point just above and behind its ears.

Her hands dropped away then, and she said, "The transducer-lobes are still small. The cranial bone hasn't developed yet. There's just a tough layer of skin there, which will eventually expand outward and be fenced in with bone after the lobes have fully grown. - Which means it can't, at the present time, control the estate or even activate its own personal robot. -Ask it how old it is, Pel."

Pelorat said, after an exchange, "It's fourteen years old, if I understand it rightly."

Trevize said, "It looks more like eleven."

Bliss said, "The length of the years used on this world may not correspond closely to Standard Galactic Years. Besides, Spacers are supposed to have extended lifetimes and, if the Solarians are like the other Spacers in this, they may also have extended developmental periods. We can't go by years, after all."

Trevize said, with an impatient click of his tongue, "Enough anthropology. We must get to the surface and since we are dealing with a child, we may be wasting our time uselessly. It may not know the route to the surface. It may not ever have been on the surface."

Bliss said, "Pel!"

Pelorat knew what she meant and there followed the longest conversation he had yet had with Fallom.

Finally, he said, "The child knows what the sun is. It says it's seen it. I think it's seen trees. It didn't act as though it were sure what the word meant -or at least what the word I used meant-"

"Yes, Janov," said Trevize, "but do get to the point."

"I told Fallom that if it could get us out to the surface, that might make it possible for us to activate the robot. Actually, I said we would activate the robot. Do you suppose we might?"

Trevize said, "We'll worry about that later. Did it say it would guide us?"

"Yes. I thought the child would be more anxious to do it, you see, if I made that promise. I suppose we're running the risk of disappointing it-"

"Come," said Trevize, "let's get started. All this will be academic if we are caught underground."

Pelorat said something to the child, who began to walk, then stopped and looked back at Bliss.

Bliss held out her hand and the two then walked hand in hand.

"I'm the new robot," she said, smiling slightly.

"It seems reasonably happy over that," said Trevize.

Fallom skipped along and, briefly, Trevize wondered if it were happy simply because Bliss had labored to make it so, or if, added to that, there was the excitement of visiting the surface and of having three new robots, or whether it was excitement at the thought of having its Jemby foster-parent back. Not that it mattered-as long as the child led them.

There seemed no hesitation in the child's progress. It turned without pause whenever there was a choice of paths. Did it really know where it was going, or was it all simply a matter of a child's indifference? Was it simply playing a game with no clear end in sight?

But Trevize was aware, from the slight burden on his progress, that he was moving uphill, and the child, bouncing self-importantly forward, was pointing ahead and chattering.

Trevize looked at Pelorat, who cleared his throat and said, "I think what it's saying is 'doorway.'"

"I hope your thought is correct," said Trevize.

The child broke away from Bliss, and was running now. It pointed to a portion of the flooring that seemed darker than the sections immediately neighboring it. The child stepped on it, jumping up and down a few times, and then turned with a clear expression of dismay, and spoke with shrill volubility.

Bliss said, with a grimace, "I'll have to supply the power. -This is wearing me out."

Her face reddened a bit and the lights dimmed, but a door opened just ahead of Fallom, who laughed in soprano delight.

The child ran out the door and the two men followed. Bliss came last, and looked back as the lights just inside darkened and the door closed. She then paused to catch her breath, looking rather worn out.

"Well," said Pelorat, "we're out. Where's the ship?"

All of them stood bathed in the still luminous twilight.

Trevize muttered, "It seems to me that it was in that direction."

"It seems so to me, too," said Bliss. "Let's walk," and she held out her hand to Fallow.

There was no sound except those produced by the wind and by the motions and calls of living animals. At one point they passed a robot standing motionless near the base of a tree, holding some object of uncertain purpose.

Pelorat took a step toward it out of apparent curiosity, but Trevize said, "Not our business, Janov. Move on."

They passed another robot, at a greater distance, who had tumbled.

Trevize said, "There are robots littered over many kilometers in all directions, I suppose." And then, triumphantly, "Ah, there's the ship."

They hastened their steps now, then stopped suddenly. Fallow raised its voice in an excited squeak.

On the ground near the ship was what appeared to be an air-vessel of primitive design, with a rotor that looked energy-wasteful, and fragile besides. Standing next to the air-vessel, and between the little party of Outworlders and their ship, stood four human figures.

"Too late," said Trevize. "We wasted too much time. Now what?"

Pelorat said wonderingly, "Four Solarians? It can't be. Surely they wouldn't come into physical contact like that. Do you suppose those are holoid images?"

"They are thoroughly material," said Bliss. "I'm sure of that. They're not Solarians either. There's no mistaking the minds. They're robots."

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"WELL, THEN," said Trevize wearily, "onward!" He resumed his walk toward the ship at a calm pace and the others followed.

Pelorat said, rather breathlessly, "What do you intend to do?"

"If they're robots, they've got to obey orders."

The robots were awaiting them, and Trevize watched them narrowly as they came closer.

Yes, they must be robots. Their faces, which looked as though they were made of skin underlain with flesh, were curiously expressionless. They were dressed in uniforms that exposed no square centimeter of skin outside the face. Even the hands were covered by thin, opaque gloves.

Trevize gestured casually, in a fashion that was unquestionably a brusque request that they step aside.

The robots did not move.

In a low voice, Trevize said to Pelorat, "put it into words, Janov. Be firm."

Pelorat cleared his throat and, putting an unaccustomed baritone into his voice, spoke slowly, gesturing them aside much as Trevize had done. At that, one of the robots, who was perhaps a shade taller than the rest, said something in a cold and incisive voice.

Pelorat turned to Trevize. "I think he said we were Outworlders."

"Tell him we are human beings and must be obeyed."

The robot spoke then, in peculiar but understandable Galactic. "I understand you, Outworlder. I speak Galactic. We are Guardian Robots."

"Then you have heard me say that we are human beings and that you must therefore obey us."

"We are programmed to obey Rulers only, Outworlder. You are not Rulers and not Solarian. Ruler Bander has not responded to the normal moment of Contact and we have come to investigate at close quarters. It is our duty to do so. We find a spaceship not of Solarian manufacture, several Outworlders present, and all Bander robots inactivated. Where is Ruler Bander?"

Trevize shook his head and said slowly and distinctly, "We know nothing of what you say. Our ship's computer is not working well. We found ourselves near this strange planet against our intentions. We landed to find our location. We found all robots inactivated. We know nothing of what might have happened."

"That is not a credible account. If all robots on the estate are inactivated and all power is off, Ruler Bander must be dead. It is not logical to suppose that by coincidence it died just as you landed. There must be some sort of causal connection."

Trevize said, with no set purpose but to confuse the issue and to indicate his own foreigner's lack of understanding and, therefore, his innocence, "But the power is not off. You and the others are active."

The robot said, "We are Guardian Robots. We do not belong to any Ruler. We belong to all the world. We are not Ruler-controlled but are nuclearpowered. I ask again, where is Ruler Bander?"

Trevize looked about him. Pelorat appeared anxious; Bliss was tight-lipped but calm. Fallom was trembling, but Bliss's hand touched the child's shoulder and it stiffened somewhat and lost facial expression. (Was Bliss sedating it?)

The robot said, "Once again, and for the last time, where is Ruler Bander?"

"I do not know," said Trevize grimly.

The robot nodded and two of his companions left quickly. The robot said, "My fellow Guardians will search the mansion. Meanwhile, you will be held for questioning. Hand me those objects you wear at your side."

Trevize took a step backward. "They are harmless."

"Do not move again. I do not question their nature, whether harmful or harmless. I ask for them."

"No."

The robot took a quick step forward, and his arm flashed out too quickly for Trevize to realize what was happening. The robot's hand was on his shoulder; the grip tightened and pushed downward. Trevize went to his knees.

The robot said, "Those objects." It held out its other hand.

"No," gasped Trevize.

Bliss lunged forward, pulled the blaster out of its holster before Trevize, clamped in the robot's grip, could do anything to prevent her, and held it out toward the robot.

"Here, Guardian," she said, "and if you'll give me a moment-here's the other. Now release my companion."

The robot, holding both weapons, stepped back, and Trevize rose slowly to his feet, rubbing his left shoulder vigorously, face wincing with pain.

(Fallow whimpered softly, and Pelorat picked it up in distraction, and held it tightly.)

Bliss said to Trevize, in a furious whisper, "Why are you fighting him? He can kill you with two fingers."

Trevize groaned and said, between gritted teeth, "Why don't you handle him.

"I'm trying to. It takes time. His mind is tight, intensely programmed, and leaves no handle. I must study it. You play for time."

"Don't study his mind. Just destroy it," said Trevize, almost soundlessly.

Bliss looked quickly toward the robot. It was studying the weapons intently, while the one other robot that still remained with it watched the Outworlders. Neither seemed interested in the whispering that was going on between Trevize and Bliss.

Bliss said, "No. No destruction. We killed one dog and hurt another on the first world. You know what happened on this world." (Another quick glance at the Guardian Robots.) "Gaia does not needlessly butcher life or intelligence. I need time to work it out peacefully."

She stepped back and stared at the robot fixedly.

The robot said, "These are weapons."

"No," said Trevize.

"Yes," said Bliss, "but they are no longer useful. They are drained of energy."

"Is that indeed so? Why should you carry weapons that are drained of energy? Perhaps they are not drained." The robot held one of the weapons in its fist and placed its thumb accurately. "Is this the way it is activated?"

"Yes," said Bliss; "if you tighten the pressure, it would be activated, if it contained energy-but it does not."

"Is that certain?" The robot pointed the weapon at Trevize. "Do you still say that if I activate it now, it will not work?"

"It will not work," said Bliss.

Trevize was frozen in place and unable to articulate. He had tested the blaster after Hander had drained it and it was totally dead, but the robot was holding the neuronic whip. Trevize had not tested that.

If the whip contained even a small residue of energy, there would be enough for a stimulation of the pain nerves, and what Trevize would feel would make the grip of the robot's hand seem to have been a pat of affection.

When he had been at the Naval Academy, Trevize had been forced to take a mild neuronically induced blow, as all cadets had had to. That was just to know what it was like. Trevize felt no need to know anything more.

The robot activated the weapon and, for a moment, Trevize stiffened painfully-and then slowly relaxed. The whip, too, was thoroughly drained.

The robot stared at Trevize and then tossed both weapons to one side. "How do these come to be drained of energy?" it demanded. "If they are of no use, why do you carry them?"

Trevize said, "I am accustomed to the weight and carry them even when drained."

The robot said, "That does not make sense. You are all under custody. You will be held for further questioning, and, if the Rulers so decide, you will then be inactivated. - How does one open this ship? We must search it."

"It will do you no good," said Trevize. "You won't understand it."

"If not I, the Rulers will understand."

"They will not understand, either."

"Then you will explain so that they will understand."

"I will not."

"Then you will be inactivated."

"My inactivation will give you no explanation, and I think I will be inactivated even if I explain."

Bliss muttered, "Keep it up. I'm beginning to unravel the workings of its brain."

The robot ignored Bliss. (Did she see to that? thought Trevize, and hoped savagely that she had.)

Keeping its attention firmly on Trevize, the robot said, "If you make difficulties, then we will partially inactivate you. We will damage you and you will then tell us what we want to know."

Suddenly, Pelorat called out in a half-strangled cry. "Wait, you cannot do this. - Guardian, you cannot do this."

"I am under detailed instructions," said the robot quietly. "I can do this. Of course, I shall do as little damage as is consistent with obtaining information."

"But you cannot. Not at all. I am an Outworlder, and so are these two companions of mine. But this child," and Pelorat looked at Fallom, whom he was still carrying, "is a Solarian. It will tell you what to do and you must obey it."

Fallom looked at Pelorat with eyes that were open, but seemed empty.

Bliss shook her head, sharply, but Pelorat looked at her without any sign of understanding.

The robot's eyes rested briefly on Fallom. It said, "The child is of no importance. It does not have transducer-lobes."

"It does not yet have fully developed transducer-lobes," said Pelorat, panting, "but it will have them in time. It is a Solarian child."

"It is a child, but without fully developed transducer-lobes it is not a Solarian. I am not compelled to follow its orders or to keep it from harm."

"But it is the offspring of Ruler Bander."

"Is it? How do you come to know that?"

Pelorat stuttered, as he sometimes did when overearnest. "What other child would be on this estate?"

"How do you know there aren't a dozen?"

"Have you seen any others?"

"It is I who will ask the questions."

At this moment, the robot's attention shifted as the second robot touched its arm. The two robots who had been sent to the mansion were returning at a rapid run that, nevertheless, had a certain irregularity to it.

There was silence till they arrived and then one of them spoke in the Solarian language-at which all four of the robots seemed to lose their elasticity. For a moment, they appeared to wither, almost to deflate.

Pelorat said, "They've found Bander," before Trevize could wave him silent.

The robot turned slowly and said, in a voice that slurred the syllables, "Ruler Bander is dead. By the remark you have just made, you show us you were aware of the fact. How did that come to be?"

"How can I know?" said Trevize defiantly.

"You knew it was dead. You knew it was there to be found. How could you know that, unless you had been there-unless it was you that had ended the life?" The robot's enunciation was already improving. It had endured and was absorbing the shock.

Then Trevize said, "How could we have killed Bander? With its transducer-lobes it could have destroyed us in a moment."

"How do you know what, or what not, transducer-lobes could do?"

"You mentioned the transducer-lobes just now."

"I did no more than mention them. I did not describe their properties or abilities."

"The knowledge came to us in a dream."

"That is not a credible answer."

Trevize said, "To suppose that we have caused the death of Bander is not credible, either."

Pelorat added, "And in any case, if Ruler Bander is dead, then Ruler Fallom now controls this estate. Here the Ruler is, and it is it whom you must obey."

"I have already explained," said the robot, "that an offspring with undeveloped transducer-lobes is not a Solarian. It cannot be a Successor, therefore, Another Successor, of the appropriate age, will be flown in as soon as we report this sad news."

"What of Ruler Fallom?"

"There is no Ruler Fallom. There is only a child and we have an excess of children. It will be destroyed."

Bliss said forcefully, "You dare not. It is a child!"

"It is not I," said the robot, "who will necessarily do the act and it is certainly not I who will make the decision. That is for the consensus of the Rulers. In times of child-excess, however, I know well what the decision will in."

"No. I say no."

"It will be painless. -But another ship is coming. It is important that we go into what was the Bander mansion and set up a holovision Council that will supply a Successor and decide on what to do with you. -Give me the child."

Bliss snatched the semicomatose figure of Fallom from Pelorat. Holding it tightly and trying to balance its weight on her shoulder, she said, "Do not touch this child."

Once again, the robot's arm shot out swiftly and it stepped forward, reaching for Fallom. Bliss moved quickly to one side, beginning her motion well before the robot had begun its own. The robot continued to move forward, however, as though Bliss were still standing before it. Curving stiffly downward, with the forward tips of its feet as the pivot, it went down on its face. The other three stood motionless, eyes unfocused.

Bliss was sobbing, partly with rage. "I almost had the proper method of control, and it wouldn't give me the time. I had no choice but to strike and now all four are inactivated. -Let's get on the ship before the other ship lands. I am too ill to face additional robots, now."

PART FIVE - MELPOMENIA

13. AWAY FROM SOLARIA

56.

THE LEAVING was a blur. Trevize had gathered up his futile weapons, had opened the airlock, and they had tumbled in. Trevize didn't notice until they were off the surface that Fallom had been brought in as well.

They probably would not have made it in time if the Solarian use of airflight had not been so comparatively unsophisticated. It took the approaching Solarian vessel an unconscionable time to descend and land. On the other hand, it took virtually no time for the computer of the Far Star to take the gravitic ship vertically upward.

And although the cut-off of the gravitational interaction and, therefore, of inertia wiped out the otherwise unbearable effects of acceleration that would have accompanied so speedy a takeoff, it did not wipe out the effects of air resistance. The outer hull temperature rose at a distinctly more rapid rate than navy regulations (or ship specifications, for that matter) would have considered suitable.

As they rose, they could see the second Solarian ship land and several more approaching. Trevize wondered how many robots Bliss could have handled, and decided they would have been overwhelmed if they had remained on the surface fifteen minutes longer.

Once out in space (or space enough, with only tenuous wisps of the planetary exosphere around them), Trevize made for the night side of the planet. It was a hop away, since they had left the surface as sunset was approaching. In the dark, the Far Star would have a chance to cool more rapidly, and there the ship could continue to recede from the surface in a slow spiral.

Pelorat came out of the room he shared with Bliss. He said, "The child is sleeping normally now. We've showed it how to use the toilet and it had no trouble understanding."

"That's not surprising. It must have had similar facilities in the mansion."

"I didn't see any there and I was looking," said Pelorat feelingly. "We didn't get back on the ship a moment too soon for me."

"Or any of us. But why did we bring that child on board?"

Pelorat shrugged apologetically. "Bliss wouldn't let go. It was like saving a life in return for the one she took. She can't bear-

"I know," said Trevize.

Pelorat said, "It's a very oddly shaped child."

"Being hermaphroditic, it would have to be," said Trevize.

"It has testicles, you know."

"It could scarcely do without them."

"And what I can only describe as a very small vagina."

Trevize made a face. "Disgusting."

"Not really, Golan," said Pelorat, protesting. "It's adapted to its needs. It only delivers a fertilized egg-cell, or a very tiny embryo, which is then developed under laboratory conditions, tended, I dare say, by robots."

"And what happens if their robot-system breaks down? If that happens, they would no longer be able to produce viable young."

"Any world would be in serious trouble if its social structure broke down completely."

"Not that I would weep uncontrollably over the Solarians."

"Well," said Pelorat, "I admit it doesn't seem a very attractive world-to us, I mean. But that's only the people and the social structure, which are not our type at all, dear chap. But subtract the people and the robots, and you have a world which otherwise-"

"Might fall apart as Aurora is beginning to do," said Trevize. "How's Bliss, Janov?"

"Worn out, I'm afraid. She's sleeping now. She had a very bad time, Golan."

"I didn't exactly enjoy myself either."

Trevize closed his eyes, and decided he could use some sleep himself and would indulge in that relief as soon as he was reasonably certain the Solarians had no space capability-and so far the computer had reported nothing of artifactitious nature in space.

He thought bitterly of the two Spacer planets they had visited-hostile wild dogs on one-hostile hermaphroditic loners on the other-and in neither place the tiniest hint as to the location of Earth. All they had to show for the double visit was Fallom.

He opened his eyes. Pelorat was still sitting in place at the other side of the computer, watching him solemnly.

Trevize said, with sudden conviction, "We should have left that Solarian child behind."

Pelorat said, "The poor thing. They would have killed it."

"Even so," said Trevize, "it belonged there. It's part of that society. Being put to death because of being superfluous is the sort of thing it's born to."

"Oh, my dear fellow, that's a hardhearted way to look at it."

"It's a rational way. We don't know how to care for it, and it may suffer more lingeringly with us and die anyway. What does it eat?"

"Whatever we do, I suppose, old man. Actually, the problem is what do we eat? How much do we have in the way of supplies?"

"Plenty. Plenty. Even allowing for our new passenger."

Pelorat didn't look overwhelmed with happiness at this remark. He said, "It's become a pretty monotonous diet. We should have taken some items on board on Comporellon-not that their cooking was excellent."

"We couldn't. We left, if you remember, rather hurriedly, as we left Aurora, and as we left, in particular, Solaria. -But what's a little monotony? It spoils one's pleasure, but it keeps one alive."

"Would it be possible to pick up fresh supplies if we need to?"

"Anytime, Janov. With a gravitic ship and hyperspatial engines, the Galaxy is a small place. In days, we can be anywhere. It's just that half the worlds in the Galaxy are alerted to watch for our ship and I would rather stay out of the way for a time."

": suppose that's so. -Bander didn't seem interested in the ship."

"It probably wasn't even consciously aware of it. I suspect that the Solarians long ago gave up space flight. Their prime desire is to be left completely alone and they can scarcely enjoy the security of isolation if they are forever moving about in space and advertising their presence."

"What are we going to do next, Golan?"

Trevize said, "We have a third world to visit."

Pelorat shook his head. "Judging from the first two, I don't expect much from that."

"Nor do I at the moment, but just as soon as I get a little sleep, I'm going to get the computer to plot our course to that third world."

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TREVIZE slept considerably longer than he had expected to, but that scarcely mattered. There was neither day nor night, in any natural -sense, on board ship, and the circadian rhythm never worked absolutely perfectly. The hours were what they were made to be, and it wasn't uncommon for Trevize and Pelorat (and particularly Bliss) to be somewhat out-of-sync as far as the natural rhythms of eating and sleeping were concerned.

Trevize even speculated, in the course of his scrapedown (the importance of conserving water made it advisable to scrape off the suds rather than rinse them off), about sleeping another hour or two, when he turned and found himself staring at Fallom, who was as undressed as he was.

He could not help jumping back, which, in the restricted area of the Personal, was bound to bring part of his body against something hard. He grunted-

Fallom was staring curiously at him and was pointing at Trevize's penis. What it said was incomprehensible but the whole bearing of the child seemed to bespeak a sense of disbelief. For his own peace of mind, Trevize had no choice but to put his hands over his penis.

Then Fallom said, in its high-pitched voice, "Greetings."

Trevize started slightly at the child's unexpected use of Galactic, but the word had the sound of having been memorized.

Fallom continued, a painstaking word at a time, "Bliss---say-you-wash -me."

"Yes?" said Trevize. He put his hands on Fallom's shoulders. "You-stay -here."

He pointed downward at the floor and Fallom, of course, looked instantly at the place to which the finger pointed. It showed no comprehension of the phrase at all.

"Don't move," said Trevize, holding the child tightly by both arms, pressing them toward the body as though to symbolize immobility. He hastily dried himself and put on his shorts, and over them his trousers.

He stepped out and roared, "Bliss!"

It was difficult for anyone to be more than four meters from any one else on the ship and Bliss came to the door of her room at once. She said, smiling, "Are you calling me, Trevize; or was that the soft breeze sighing through the waving grass?"

"Let's not be funny, Bliss. What is that?" He jerked his thumb over his shoulder.

Bliss looked past him and said, "Well, it looks like the young Solarian we brought on board yesterday."

"You brought on board. Why do you want me to wash it?"

"I should think you'd want to. It's a very bright creature. It's picking up Galactic words quickly. It never forgets once I explain something. Of course, I'm helping it do so."

"Naturally."

"Yes. I keep it calm. I kept it in a daze during most of the disturbing events on the planet. I saw to it that it slept on board ship and I'm trying to divert its mind just a little bit from its lost robot, Jemby, that, apparently, it loved very much."

"So that it ends up liking it here, I suppose."

"I hope so. It's adaptable because it's young, and I encourage that by as much as I dare influence its mind. I'm going to teach it to speak Galactic."

"Then you wash it. Understood?"

Bliss shrugged. "I will, if you insist, but I would want it to feel friendly with each of us. It would be useful to have each of us perform functions. Surely you can co-operate in that."

"Not to this extent. And when you finish washing it, get rid of it. I want to talk to you."

Bliss said, with a sudden edge of hostility, "How do you mean, get rid of it?"

"I don't mean dump it through the airlock. I mean, put it in your room. Sit it down in a corner. I want to talk at you."

"I'll be at your service," she said coldly.

He stared after her, nursing his wrath for the moment, then moved into the pilot-room, and activated the viewscreen.

Solaria was a dark circle with a curving crescent of light at the left. Trevize placed his hands on the desk to make contact with the computer and found his anger cooling at once. One had to be calm to link mind and computer effectively and, eventually, conditioned reflex linked handhold and serenity.

There were no artifactitious objects about the ship in any direction, out as far as the planet itself. The Solarians (or their robots, most likely) could not, or would not, follow.

Good enough. He might as well get out of the night-shadow, then. If he continued to recede, it would, in any case, vanish as Solaria's disc grew smaller than that of the more distant, but much larger, sun that it circled.

He set the computer to move the ship out of the planetary plane as well, since that would make it possible to accelerate with greater safety. They would then more quickly reach a region where space curvature would be low enough to make the Jump secure.

And, as often on such occasions, he fell to studying the stars. They were almost hypnotic in their quiet changelessness. All their turbulence and instability were wiped out by the distance that left them only dots of light.

One of those dots might well be the sun about which Earth revolved-the original sun, under whose radiation life began, and under whose beneficence humanity evolved.

Surely, if the Spacer worlds circled stars that were bright and prominent members of the stellar family, and that were nevertheless unlisted in the computer's Galactic map, the same might be true of the sun.

Or was it only the suns of the Spacer worlds that were omitted because of some primeval treaty agreement that left them to themselves? Would Earth's sun be included in the Galactic map, but not marked off from the myriads of stars that were sun-like, yet had no habitable planet in orbit about itself?

There were after all, some thirty billion sun-like stars in the Galaxy, and only about one in a thousand had habitable planets in orbits about them. There might be a thousand such habitable planets within a few hundred parsecs of his present position. Should he sift through the sun-like stars one by one, searching for them?

Or was the original sun not even in this region of the Galaxy? How many other regions were convinced the sun was one of their neighbors, that they were primeval Settlers-?

He needed information, and so far he had none.

He doubted strongly whether even the closest examination of the millennial ruins on Aurora would give information concerning Earth's location. He doubted even more strongly that the Solarians could be made to yield information.

Then, too, if all information about Earth had vanished out of the great Library at Trantor; if no information about Earth remained in the great Collective Memory of Gaia; there seemed little chance that any information that might have existed on the lost worlds of the Spacers would have been overlooked.

And if he found Earth's sun and, then, Earth itself, by the sheerest good fortune-would something force him to be unaware of the fact? Was Earth's defense absolute? Was its determination to remain in hiding unbreakable?

What was he looking for anyway?

Was it Earth? .Or was it the flaw in Seldon's Plan that he thought (for no clear reason) he might find on Earth?

Seldon's Plan had been working for five centuries now, and would bring the human species (so it was said) to safe harbor-at last in the womb of a Second Galactic Empire, greater than the First, a nobler and a freer one-and yet he, Trevize, had voted against it, and for Galaxia.

Galaxia would be one large organism, while the Second Galactic Empire would, however great in size and variety, be a mere union of individual organisms of microscopic

size in comparison with itself. The Second Galactic Empire would be another example of the kind of union of individuals that humanity had set up ever since it became humanity. The Second Galactic Empire might be the largest and best of the species, but it would still be but one more member of that species.

For Galaxia, a member of an entirely different species of organization, to be better than the Second Galactic Empire, there must be a flaw in the Plan, something the great Hari Seldon had himself overlooked.

But if it were something Seldon had overlooked, how could Trevize correct the matter? He was not a mathematician; knew nothing, absolutely nothing, about the details of the Plan; would understand nothing, furthermore, even if it were explained to him.

All he knew were the assumptions-that a great number of human beings be involved and that they not be aware of the conclusions reached. The first assumption was self-evidently true, considering the vast population of the Galaxy, and the second had to be true since only the Second Foundationers knew the details of the Plan, and they kept it to themselves securely enough.

That left an added unacknowledged assumption, a taken-for-granted assumption, one so taken for granted it was never mentioned nor thought of-and yet one that might be false. An assumption that, if it were false, would alter the grand conclusion of the Plan and make Galaxia preferable to Empire.

But if the assumption was so obvious and so taken for granted that it was never even expressed, how could it be false? And if no one ever mentioned it, or thought of it, how could Trevize know it was there, or have any idea of its nature even if he guessed its existence?

Was he truly Trevize, the man with the flawless intuition-as Gaia insisted? Did he know the right thing to do even when he didn't know why he was doing it?

Now he was visiting every Spacer world he knew about. -Was that the right thing to do? Did the Spacer worlds hold the answer? Or at least the beginning of the answer?

What was there on Aurora but ruins and wild dogs? (And, presumably, other feral creatures. Raging bulls? Overgrown rats? Stalking green-eyed cats?) Solaria was alive, but what was there on it but robots and energy-transducing human beings? What had either world to do with Seldon's Plan unless they contained the secret of the location of the Earth?

And if they did, what had Earth to do with Seldon's Plan? Was this all madness? Had he listened too long and too seriously to the fantasy of his own infallibility?

An overwhelming weight of shame came over him and seemed to press upon him to the point where he could barely breathe. He looked at the stars -remote, uncaring-and thought: I must be the Great Fool of the Galaxy.

BLISS'S voice broke in on him. "Well, Trevize, why do you want to see- Is anything wrong?" Her voice had twisted into sudden concern.

Trevize looked up and, for a moment, found it momentarily difficult to brush away his mood. He stared at her, then said, "No, no. Nothing's wrong. I-I was merely lost in thought. Every once in a while, after all, I find myself thinking." .

He was uneasily aware that Bliss could read his emotions. He had only her word that she was voluntarily abstaining from any oversight of his mind.

She seemed to accept his statement, however. She said, "Pelorat is with Fallom, teaching it Galactic phrases. The child seems to eat what we do without undue objection. -But what do you want to see me about?"

"Well, not here," , said Trevize. "The computer doesn't need me at the moment. If you want to come into my room, the bed's made and you can sit on it while I sit on the chair. Or vice versa, if you prefer."

"It doesn't matter." They walked the short distance to Trevize's room. She eyed him narrowly. "You don't seem furious anymore."

"Checking my mind?"

"Not at all. Checking your face."

"I'm not furious. I may lose my temper momentarily, now and then, but that's not the same as furious. If you don't mind, though, there are questions I must ask you."

Bliss sat down on Trevize's bed, holding herself erect, and with a solemn expression on her wide-cheeked face and in her dark brown eyes. Her shoulder-length black hair was neatly arranged and her slim hands were clasped loosely in her lap. There was a faint trace of perfume about her.

Trevize smiled. "You've dolled yourself up. I suspect you think I won't yell quite so hard at a young and pretty girl."

"You can yell and scream all you wish if it will make you feel better. I just don't want you yelling and screaming at Fallom."

"I don't intend to. In fact, I don't intend to yell and scream at you. Haven't we decided to be friends?"

"Gaia has never had anything but feelings of friendship toward you, Trevize."

"I'm not talking about Gaia. I know you're part of Gaia and that you are Gaia. Still there's part of you that's an individual, at least after a fashion. I'm talking to the individual. I'm talking to someone named Bliss without regard -or with as little regard as possible-to Gaia. Haven't we decided to be friends, Bliss?"

"Yes, Trevize."

"Then how is it you delayed dealing with the robots on Solaria after we had left the mansion and reached the ship? I was humiliated and physically hurt, yet you did nothing. Even though every moment might bring additional robots to the scene and the number might overwhelm us, you did nothing."

Bliss looked at him seriously, and spoke as though she were intent on explaining her actions rather than defending them. "I was not doing nothing, Trevize. I was studying the Guardian Robots' minds, and trying to learn how to handle them."

"I know that's what you were doing. At least you said you were at the time. I just don't see the sense of it. Why handle the minds when you were perfectly capable of destroying them-as you finally did?"

"Do you think it so easy to destroy an intelligent being?"

Trevize's lips twisted into an expression of distaste. "Come, Bliss. An intelligent being? It was just a robot."

"Just a robot?" A little passion entered her voice. "That's the argument always. Just. Just! Why should the Solarian, Bander, have hesitated to kill us? We were just human beings without transducers. Why should there be any hesitation about leaving Fallom to its fate? It was just a Solarian, and an immature specimen at that. If you start dismissing anyone or anything you want to do away with as just a this or just a that, you can destroy anything you wish. There are always categories you can find for them."

Trevize said, "Don't carry a perfectly legitimate remark to extremes just to make it seem ridiculous. The robot was just a robot. You can't deny that. It was not human. It was not intelligent in our sense. It was a machine mimicking an appearance of intelligence."

Bliss said, "How easily you can talk when you know nothing about it. I am Gaia. Yes, I am Bliss, too, but I am Gaia. I am a world that finds every atom of itself precious and meaningful, and every organization of atoms even more precious and meaningful. I/we/Gaia would not lightly break down an organization, though we would gladly build it into something still more complex, provided always that that would not harm the whole."

"The highest form of organization we know produces intelligence, and to be willing to destroy intelligence requires the sorest need. Whether it is machine intelligence or biochemical intelligence scarcely matters. In fact, the Guardian Robot represented a kind of intelligence I/we/Gaia had never encountered. To study it was wonderful. To destroy it, unthinkable-except in a moment of crowning emergency."

Trevize said dryly, "There were three greater intelligences at stake: your own, that of Pelorat, the human being you love, and, if you don't mind my mentioning it, mine."

"Four! You still keep forgetting to include Fallom. -They were not yet at stake. So I judged. See here- Suppose you were faced with a painting, a great artistic masterpiece, the existence of which meant death to you. All you had to do was to bring a wide brush of paint slam-bang, and at random, across the face of that painting and it would be destroyed forever, and you would be safe. But suppose, instead, that if you studied the painting carefully, and added just a touch of paint here, a speck there, scraped off a minute portion in a third place, and so on, you would alter the painting enough to avoid death, and yet leave it a masterpiece. Naturally, the revision couldn't be done except with the most painstaking care. It would take time, but surely, if that time existed, you would try to save the painting as well as your life."

Trevize said, "Perhaps. But in the end you destroyed the painting past redemption. The wide paintbrush came down and wiped out-all the wonderful little touches of color

and subtleties of form and shape. And you did that instantly when a little hermaphrodite was at risk, where our danger and your own had not moved you."

"We Outworlders were still not at immediate risk, while Fallom, it seemed to me, suddenly was. I had to choose between the Guardian Robots and Fallom, and, with no time to lose, I had to choose Fallom."

"Is that what it was, Bliss? A quick calculation weighing one mind against another, a quick judging of the greater complexity and the greater worth?"

"Yes."

Trevize said, "Suppose I tell you, it was just a child that was standing before you, a child threatened with death. An instinctive maternalism gripped you then, and you saved it where earlier you were all calculation when only three adult lives were at stake."

Bliss reddened slightly. "There might have been something like that in it; but it was not after the fashion of the mocking way in which you say it. It had rational thought behind it, too."

"I wonder. If there had been rational thought behind it, you might have considered that the child was meeting the common fate inevitable in its own society. Who knows how many thousands of children had been cut down to maintain the low number these Solarians think suitable to their world?"

"There's more to it than that, Trevize. The child would be killed because it was too young to be a Successor, and that was because it had a parent who had died prematurely, and that was because I had killed that parent."

"At a time when it was kill or be killed."

"Not important. I killed the parent. I could not stand by and allow the child to be killed for my deed. -Besides, it offers for study a brain of a kind that has never been studied by Gaia."

"A child's brain."

"It will not remain a child's brain. It will further develop the two transducer-lobes on either side of the brain. Those lobes give a Solarian abilities that all of Gaia cannot match. Simply to keep a few lights lit, just to activate a device to open a door, wore me out. Bander could have kept all the power going over an estate as great in complexity and greater in size than that city we saw on Comporellon-and do it even while sleeping."

Trevize said, "Then you see the child as an important bit of fundamental brain research."

"In a way, yes."

"That's not the way I feel. To me, it seems we have taken danger aboard. Great danger."

"Danger in what way? It will adapt perfectly-with my help. It is highly intelligent, and already shows signs of feeling affection for us. It will eat what we eat, go where we go, and I/we/Gala will gain invaluable knowledge concerning its brain."

"What if it produces young? It doesn't need a mate. It is its own mate."

"It won't be of child-bearing age for many years. The Spacers lived for centuries and the Solarians had no desire to increase their numbers. Delayed reproduction is probably bred into the population. Fallom will have no children for a long time."

"How do you know this?"

"I don't know it. I'm merely being logical."

"And I tell you Fallom will prove dangerous."

"You don't know that. And you're not being logical, either."

"I feel it Bliss, without reason. -At the moment. And it is you, not I, who insists my intuition is infallible."

And Bliss frowned and looked uneasy.

59.

PELORAT paused at the door to the pilot-room and looked inside in a rather ill-at-ease manner. It was as though he were trying to decide whether Trevize was hard at work or not.

Trevize had his hands on the table, as he always did when he made himself part of the computer, and his eyes were on the viewscreen. Pelorat judged, therefore, he was at work, and he waited patiently, trying not to move or, in any way, disturb the other.

Eventually, Trevize looked up at Pelorat. It was not a matter of total awareness. Trevize's eyes always seemed a bit glazed and unfocused when he was in computer-communion, as though he were looking, thinking, living in some other way than a person usually did.

But he nodded slowly at Pelorat, as though the sight, penetrating with difficulty, did, at last, sluggishly impress itself on the optic lobes. Then, after a while, he lifted his hands and smiled and was himself again.

Pelorat said apologetically, "I'm afraid I'm getting in your way, Golan."

"Not seriously, Janov. I was just testing to see if we were ready for the Jump. We are, just about, but I think I'll give it a few more hours, just for luck."

"Does luck-or random factors-have anything to do with it?"

"An expression only," said Trevize, smiling, "but random factors do have something to do with it, in theory. -What's on your mind?"

"May I sit down?"

"Surely, but let's go into my room. How's Bliss?"

"Very well." He cleared his throat. "She's sleeping again. She must have her sleep, you understand."

"I understand perfectly. It's the hyperspatial separation."

"Exactly, old chap."

"And Fallom?" Trevize reclined on the bed, leaving Pelorat the chair.

"Those books out of my library that you had your computer print up for me? The folk tales? It's reading them. Of course, it understands very little Galactic, but it seems to

enjoy sounding out the words. He's-I keep wanting to use the masculine pronoun for it. Why do you suppose that is, old fellow?"

Trevize shrugged. "Perhaps because you're masculine yourself."

"Perhaps. It's fearfully intelligent, you know."

"I'm sure."

Pelorat hesitated. "I gather you're not very fond of Fallom."

"Nothing against it personally, Janov. I've never had children and I've never been particularly fond of them generally. You've had children, I seem to remember."

"One son. -It was a pleasure, I recall, having my son when he was a little boy. Maybe that's why I want to use the masculine pronoun for Fallom. It takes me back a quarter of a century or so."

"I've no objection to your liking it, Janov."

"You'd like him, too, if you gave yourself a chance."

"I'm sure I would, Janov, and maybe someday I will give myself a chance to do so."

Pelorat hesitated again. "I also know that you must get tired of arguing with Bliss."

"Actually, I don't think we'll be arguing much, Janov. She and I are actually getting along quite well. We even had a reasonable discussion just the other day-no shouting, no recrimination-about her delay in inactivating the Guardian Robots. She keeps saving our lives, after all, so I can't very well offer her less than friendship, can I?"

"Yes, I see that, but I don't mean arguing, in the sense of quarreling. I mean this constant wrangle about Galaxia as opposed to individuality."

"Oh, that! I suppose that will continue-politely."

"Would you mind, Golan, if I took up the argument on her behalf?"

"Perfectly all right. Do you accept the idea of Galaxia on your own, or is it that you simply feel happier when you agree with Bliss?"

"Honestly, on my own. I think that Galaxia is what should be forthcoming. You yourself chose that course of action and I am constantly becoming more convinced that that is correct."

"Because I chose it? That's no argument. Whatever Gaia says, I may be wrong, you know. So don't let Bliss persuade you into Galaxia on that basis."

"I don't think you are wrong. Solaria showed me that, not Bliss."

"How?"

"Well, to begin with, we are Isolates, you and I"

"Her term, Janov. I prefer to think of us as individuals."

"A matter of semantics, old chap. Call it what you will, we are enclosed in our private skins surrounding our private thoughts, and we think first and foremost of ourselves. Self-defense is our first law of nature, even if that means harming everyone else in existence."

"People have been known to give their lives for others."

"A rare phenomenon. Many more people have been known to sacrifice the dearest needs of others to some foolish whim of their own."

"And what has that to do with Solaria?"

"Why, on Solaria, we see what Isolates-or individuals, if you prefer-can become. The Solarians can hardly bear to divide a whole world among themselves. They consider living a life of complete isolation to be perfect liberty.

They have no yearning for even their own offspring, but kill them if there are too many. They surround themselves with robot slaves to which they supply the power, so that if they die, their whole huge estate symbolically dies as well. Is this admirable, Golan? Can you compare it in decency, kindness, and mutual concern with Gaia? -Bliss has not discussed this with me at all. It is my own feeling."

Trevize said, "And it is like you to have that feeling, Janov. I share it. I think Solarian society is horrible, but it wasn't always like that. They are descended from Earthmen, and, more immediately, from Spacers who lived a much more normal life. The Solarians chose a path, for one reason or another, which led to an extreme, but you can't judge by extremes. In all the Galaxy, with its millions of inhabited worlds, is there one you know that now, or in the past, has had a society like that of Solaria, or even remotely like that of Solaria? And would even Solaria have such a society if it were not riddled with robots? Is it conceivable that a society of individuals could evolve to such a pitch of Solarian horror without robots?"

Pelorat's face twitched a little. "You punch holes in everything, Golan or at least I mean you don't ever seem to be at a loss in defending the type of Galaxy you voted against."

"I won't knock down everything. There is a rationale for Galaxia and when I find it, I'll know it, and I'll give in. Or perhaps, more accurately, if I find it.

"Do you think you might not?"

Trevize shrugged. "How can I say? -Do you know why I'm waiting a few hours to make the Jump, and why I'm in danger of talking myself into waiting a few days?"

"You said it would be safer if we waited."

"Yes, that's what I said, but we'd be safe enough now. What I really fear is that those Spacer worlds for which we have the coordinates will fail us altogether. We have only three, and we've already used up two, narrowly escaping death each time. In doing so, we have still not gained any hint as to Earth's location, or even, in actual fact, Earth's existence. Now I face the third and last chance, and what if it, too, fails us?"

Pelorat sighed. "You know there are old folk tales-one, in -fact, exists among those I gave Fallom to practice upon-in which someone is allowed three wishes, but only three. Three seems to be a significant number in these things, perhaps because it is the first odd number so that it is the smallest decisive number. You know, two out of three wins. -The point is that in these stories, the wishes are of no use. No one ever wishes correctly, which, I have always supposed, is ancient wisdom to the effect that the satisfaction of your wants must be earned, and not-

He fell suddenly silent and abashed. "I'm sorry, old man, but I'm wasting your time. I do tend to rattle on when I get started on my hobby."

"I find you always interesting, Janov. I am willing to see the analogy. We have been given three wishes, and we have had two and they have done us no good. Now only one is left. Somehow, I am sure of failure again and so I wish to postpone it. That is why I am putting off the Jump as long as possible."

"What will you do if you do fail again? Go back to Gaia? To Terminus?"

"Oh no," said Trevize in a whisper, shaking his head. "The search must continue-if I only knew how."

14. DEAD PLANET

60.

TREVIZE felt depressed. What few victories he had had since the search began had never been definitive; they had merely been the temporary staving off of defeat.

Now he had delayed the Jump to the third of the Spacer worlds till he had spread his unease to the others. When he finally decided that he simply must tell the computer to move the ship through hyperspace, Pelorat was standing solemnly in the doorway to the pilot-room, and Bliss was just behind him and to one side. Even Fallom was standing there, gazing at Trevize owlshly, while one hand gripped Bliss's hand tightly.

Trevize had looked up from the computer and had said, rather churlishly, "Quite the family group!" but that was only his own discomfort speaking.

He instructed the computer to Jump in such a way as to reenter space at a further distance from the star in question than was absolutely necessary. He told himself that that was because he was learning caution as a result of events on the first two Spacer worlds, but he didn't believe that. Well underneath, he knew, he was hoping that he would arrive in space at a great enough distance from the star to be uncertain as to whether it did or did not have a habitable planet. That would give him a few more days of in-space travel before he could find out, and (perhaps) have to stare bitter defeat in the face.

So now, with the "family group" watching, he drew a deep breath, held it, then expelled it in a between-the-lips whistle as he gave the computer its final instruction.

The star-pattern shifted in a silent discontinuity and the viewscreen became barer, for he had been taken into a region in which the stars were somewhat sparser. And there, nearly in the center, was a brightly gleaming star.

Trevize grinned broadly, for this was a victory of sorts. After all, the third set of coordinates might have been wrong and there might have been no appropriate G-type star in sight. He glanced toward the other three, and said, "That's it. Star number three."

"Are you sure?" asked Bliss softly.

"Watch!" said Trevize. "I will switch to the equi-centered view in the computer's Galactic map, and if that bright star disappears, it's not recorded on the map, and it's the one we want."

The computer responded to his command, and the star blinked out without any prior dimming. It was as though it had never been, but the rest of the starfield remained as it was, in sublime indifference.

"We've got it," said Trevize.

And yet he sent the Far Star forward at little more than half the speed he might easily have maintained. There was still the question of the presence or absence of a habitable planet, and he was in no hurry to find out. Even after three days of approach, there was still nothing to be said about that, either way.

Or, perhaps, not quite nothing. Circling the star was a large gas giant. It was very far from its star and it gleamed a very pale yellow on its daylight side, which they could see, from their position, as a thick crescent.

Trevize did not like its looks, but he tried not to show it and spoke as matter-of-factly as a guidebook. "There's a big gas giant out there," he said. "It's rather spectacular. It has a thin pair of rings and two sizable satellites that can be made out at the moment."

Bliss said, "Most systems include gas giants, don't they?"

"Yes, but this is a rather large one. Judging from the distance of its satellites, and their periods of revolution, that gas giant is almost two thousand times as massive as a habitable planet would be."

"What's the difference?" said Bliss. "Gas giants are gas giants and it doesn't matter what size they are, does it? They're always present at great distances from the star they circle, and none of them are habitable, thanks to their size and distance. We just have to look closer to the star for a habitable planet."

Trevize hesitated, then decided to place the facts on the table. "The thing is," he said, "that gas giants tend to sweep a volume of planetary space clean. What material they don't absorb into their own structures will coalesce into fairly large bodies that come to make up their satellite system. They prevent other coalescences at even a considerable distance from themselves, so that the larger the gas giant, the more likely it is to be the only sizable planet of a particular star. There'll just be the gas giant and asteroids."

"You mean there is no habitable planet here?"

"The larger the gas giant, the smaller the chance of a habitable planet and that gas giant is so massive it is virtually a dwarf star."

Pelorat said, "May we see it?"

All three now stared at the screen (Fallom was in Bliss's room with the j books).

The view was magnified till the crescent filled the screen. Crossing that crescent a distance above center was a thin dark line, the shadow of the ring system which could itself be seen a small distance beyond the planetary surface as a gleaming curve that stretched into the dark side a short distance before it entered the shadow itself.

Trevize said, "The planet's axis of rotation is inclined about thirty-five degrees to its plane of revolution, and its ring is in the planetary equatorial plane, of course, so that the star's light comes in from below, at this point in its orbit, and casts the ring's shadow well above the equator."

Pelorat watched raptly. "Those are thin rings."

"Rather above average size, actually," said Trevize.

"According to legend, the rings that circle a gas giant in Earth's planetary system are much wider, brighter, and more elaborate than this one. The rings actually dwarf the gas giant by comparison."

"I'm not surprised," said Trevize. "When a story is handed on from person to person for thousands of years, do you suppose it shrinks in the telling?"

Bliss said, "It's beautiful. If you watch the crescent, it seems to writhe and wriggle before your eyes."

"Atmospheric storms," said Trevize. "You can generally see that more clearly if you choose an appropriate wavelength of light. Here, let me try." He placed his hands on the desk and ordered the computer to work its way through the spectrum and stop at the appropriate wavelength.

The mildly lit crescent went into a wilderness of color that shifted so rapidly it almost dazed the eyes that tried to follow. Finally, it settled into a red-orange, and, within the crescent, clear spirals _ drifted, coiling and uncoiling as they moved.

"Unbelievable," muttered Pelorat.

"Delightful," said Bliss.

Quite believable, thought Trevize bitterly, and anything but delightful. Neither Pelorat nor Bliss, lost in the beauty, bothered to think that the planet they admired lowered the chances of solving the mystery Trevize was trying to unravel. But, then, why should they? Both were satisfied that Trevize's decision had been correct, and they accompanied him in his' search for certainty without an emotional bond to it. It was useless to blame them for that.

He said, "The dark side seems dark, but if our eyes were sensitive to the range just a little beyond the usual long-wave limit, we would see it as a dull, deep, angry red. The planet is pouring infrared radiation out into space in great quantities because it is massive enough to be almost red-hot. It's more than a gas giant; it's 4 sub-star."

He waited a little longer and then said, "And now let's put that object out of our mind and look for the habitable planet that may exist."

"Perhaps it does," said Pelorat, smiling. "Don't give up, old fellow."

"I haven't given up," said Trevize, without true conviction. "The formation of planets is too complicated a matter for rules to be hard and fast. We speak only of probabilities. With that monster out in space, the probabilities decrease, but not to zero."

Bliss said, "Why don't you think of it this way? Since the first two sets of coordinates each gave you a habitable planet of the Spacers, then this third set, which has already given you an appropriate star, should give you a habitable planet as well. Why speak of probabilities?"

"I certainly hope you're right," said Trevize, who did not feel at all consoled. "Now we will shoot out of the planetary plane and in toward the star."

The computer took care of that almost as soon as he had spoken his intention. He sat back in his pilot's chair and decided, once again, that the one evil of piloting a gravitic ship with a computer so advanced was that one could never-never-pilot any other type of ship again.

Could he ever again bear to do the calculations himself? Could he bear to have to take acceleration into account, and limit it to a reasonable level? -In all likelihood, he would forget and pour on the energy till he and everyone on board were smashed against one interior wall or another.

Well, then, he would continue to pilot this one ship-or another exactly like it, if he could even bear to make so much of a change-always.

And because he wanted to keep his mind off the question of the habitable planet, yes or no, he mused on the fact that he had directed the ship to move above the plane, rather than below. Barring any definite reason to go below a plane, pilots almost always chose to go above. Why?

For that matter, why be so intent on considering one direction above and the other below? In the symmetry of space that was pure convention.

Just the same, he was always aware of the direction in which any planet under observation rotated about its axis and revolved about its star. When both were counterclockwise, then the direction of one's raised arm was north, and the direction of one's feet was south. And throughout the Galaxy, north was pictured as above and south as below.

It was pure convention, dating back into the primeval mists, and it was followed slavishly. If one looked at a familiar map with south above, one didn't recognize it. It had to be turned about to make sense. And all things being equal, one turned north-and "above."

Trevize thought of a battle fought by Bel Riose, the Imperial general of three centuries before, who had veered his squadron below the planetary plane at a crucial moment, and caught a squadron of vessels, waiting and unprepared. There were complaints that it had been an unfair maneuver-by the losers, of course.

A convention, so powerful and so primordially old, must have started on Earth-and that brought Trevize's mind, with a jerk, back to the question of the habitable planet.

Pelorat and Bliss continued to watch the gas giant as it slowly turned on the viewscreen in a slow, slow back-somersault. The sunlit portion spread and, as Trevize kept its spectrum fixed in the orange-red wavelengths, the storm-writhing of its surface became ever madder and more hypnotic.

Then Fallom came wandering in and Bliss decided it must take a nap and that so must she.

Trevize said to Pelorat, who remained, "I have to let go of the gas giant, Janov. I want to have the computer concentrate on the search for a gravitational blip of the right size."

"Of course, old fellow," said Pelorat.

But it was more complicated than that. It was not just a blip of the right size that the computer had to search for, it was one of the right size and at the right distance. It would still be several days before he could be sure.

61.

TREVIZE walked into his room, grave, solemn-indeed somber-and started perceptibly.

Bliss was waiting for him and immediately next to her was Fallow, with its loincloth and robe bearing the unmistakable fresh odor of steaming and vacupressing. The youngster looked better in that than in one of Bliss's foreshortened nightgowns.

Bliss said, "I didn't want to disturb you at the computer, but now listen. -Go on, Fallow."

Fallow said, in its high-pitched musical voice, "I greet you, Protector Trevize. It is with great pleasure that I am ap-ad-accompanying you on this ship through space. I am happy, too, for the kindness of my friends, Bliss and Pel."

Fallow finished and smiled prettily, and once again Trevize thought to himself: Do I think of it as a boy or as a girl or as both or as neither?

He nodded his head. "Very well memorized. Almost perfectly pronounced."

"Not at all memorized," said Bliss warmly. "Fallow composed this itself and asked if it would be possible to recite it to you. I didn't even know what Fallow would say till I heard it said."

Trevize forced a smile, "In that case, very good indeed." He noticed Bliss avoided pronouns when she could.

Bliss turned to Fallow and said, "I told you Trevize would like it. -Now go to Pel and you can have some more reading if you wish."

Fallow ran off, and Bliss said, "It's really astonishing how quickly Fallow is picking up Galactic. The Solarians must have a special aptitude for languages. Think how Bander spoke Galactic merely from hearing it on hyperspatial communications. Those brains may be remarkable in ways other than energy transduction."

Trevize grunted.

Bliss said, "Don't tell me you still don't like Fallom."

"I neither like nor dislike. The creature simply makes me uneasy. For one thing, it's a grisly feeling to be dealing with a hermaphrodite."

Bliss said, "Come, Trevize, that's ridiculous. Fallom is a perfectly acceptable living creature. To a society of hermaphrodites, think how disgusting you and I must seem-males and females generally. Each is half of a whole and, in order to reproduce, there must be a temporary and clumsy union."

"Do you object to that, Bliss?"

"Don't pretend to misunderstand. I am trying to view us from the hermaphroditic standpoint. To them, it must seem repellent in the extreme; to us, it seems natural. So Fallom seems repellent to you, but that's just a shortsighted parochial reaction."

"Frankly," said Trevize, "it's annoying not to know the pronoun to use in connection with the creature. It impedes thought and conversation to hesitate forever at the pronoun."

"But that's the fault of our language," said Bliss, "and not of Fallom. No human language has been devised with hermaphroditism in mind. And I'm glad you brought it up, because I've been thinking about it myself. -Saying 'it,' as Bander itself insisted on doing, is no solution. That is a pronoun intended for objects to which sex is irrelevant, and there is no pronoun at all for objects that are sexually active in both senses. Why not just

pick one of the pronouns arbitrarily, then? I think of Fallom as a girl. She has the high voice of one, for one thing, and she has the capacity of producing young, which is the vital definition of femininity. Pelorat has agreed; why don't you do so, too? Let it be 'she' and 'her.'"

Trevize shrugged. "Very well. It will sound peculiar to point out that she has testicles, but very well."

Bliss sighed. "You do have this annoying habit of trying to turn everything into a joke, but I know you are under tension and I'll make allowance for that. Just use the feminine pronoun for Fallom, please."

"I will." Trevize hesitated, then, unable to resist, said, "Fallom seems more your surrogate-child every time I see you together. Is it that you want a child and don't think Janov can give you one?"

Bliss's eyes opened wide. "He's not there for children! Do you think I use him as a handy device to help me have a child? It is not time for me to have a child, in any case. And when it is time, it will have to be a Gaian child, something for which Pel doesn't qualify."

"You mean Janov will have to be discarded?"

"Not at all. A temporary diversion, only. It might even be brought about by artificial insemination."

"I presume you can only have a child when Gaia's decision is that one is' necessary; when there is a gap produced by the death of an already-existing", Gaian human fragment."

"That is an unfeeling way of putting it, but it is true enough. Gaia must be well proportioned in all its parts and relationships."

"As in the case of the Solarians."

Bliss's lips pressed together and her face grew a little white. "Not at all. " The Solarians produce more than they need and destroy the excess. We produce just what we need and there is never a necessity of destroying-as you replace the dying outer layers of your skin by just enough new growth for renewal and by not one cell more."

"I see what you mean," said Trevize. "I hope, by the way, that you are considering Janov's feelings."

"In connection with a possible child for me? That has never come up for discussion; nor will it."

"No, I don't mean that. -It strikes me you are becoming more and more interested in Fallom. Janov may feel neglected."

"He's not neglected, and he is as interested in Fallom as I am. She is another point of mutual involvement that draws us even closer together. Can it be that you are the one who feels neglected?"

"I?" He was genuinely surprised.

"Yes, you. I don't understand Isolates any more than you understand Gaia, but I have a feeling that you enjoy being the central point of attention on this ship, and you may feel cut out by Fallom."

"That's foolish."

"No more foolish than your suggestion that I am neglecting Pel."

"Then let's declare a truce and stop. I'll try to view Fallom as a girl, and I shall not worry excessively about you being inconsiderate of Janov's feelings."

Bliss smiled. "Thank you. All is well, then."

Trevize turned away, and Bliss then said, "Wait!"

Trevize turned back and said, just a bit wearily, "Yes?"

"It's quite clear to me, Trevize, that you're sad and depressed. I am not going to probe your mind, but you might be willing to tell me what's wrong. Yesterday, you said there was an appropriate planet in this system and you seemed quite pleased. -It's still there, I hope. The finding hasn't turned out to be mistaken, has it?"

"There's an appropriate planet in the system, and it's still there," said Trevize.

"Is it the right size?"

Trevize nodded. "Since it's appropriate, it's of the right size. And it's at the right distance from the star as well."

"Well, then, what's wrong?"

"We're close enough now to analyze the atmosphere. It turns out that it has none to speak of."

"No atmosphere?"

"None to speak of. It's a nonhabitable planet, and there is no other circling the sun that has even the remotest capacity for habitability. We have come up with zero on this third attempt."

62.

PELORAT, looking grave, was clearly unwilling to intrude on Trevize's unhappy silence. He watched from the door of the pilot-room, apparently hoping that Trevize would initiate a conversation.

Trevize did not. If ever a silence seemed stubborn, his did.

And finally, Pelorat could stand it no longer, and said, in a rather timid way, "What are we doing?"

Trevize looked up, stared at Pelorat for a moment, turned away, and then said, "We're zeroing in on the planet."

"But since there's no atmosphere-"

"The computer says there's no atmosphere. Till now, it's always told me what I've wanted to hear and I've accepted it. Now it has told me something I don't want to hear, and I'm going to check it. If the computer is ever going to be wrong, this is the time I want it to be wrong."

"Do you think it's wrong?"

"No; I don't."

"Can you think of any reason that might make it wrong?"

"No, I can't."

"Then why are you bothering, Golan?"

And Trevize finally wheeled in his seat to face Pelorat, his face twisted in near-despair, and said, "Don't you see, Janov, that I can't think of anything else to do? We drew blanks on the first two worlds as far as Earth's location is concerned, and now this world is a blank. What do I do now? Wander from world to world, and peer about and say, 'Pardon me. Where's Earth?' Earth has covered its tracks too well. Nowhere has it left any hint. I'm beginning to think that it will see to it that we're incapable of picking up a hint even if one exists."

Pelorat nodded, and said, "I've been thinking along those lines myself. Do you mind if we discuss it? I know you're unhappy, old chap, and don't want to talk, so if you want me to leave you alone, I will."

"Go ahead, discuss it," said Trevize, with something that was remarkably like a groan. "What have I got better to do than listen?"

Pelorat said, "That doesn't sound as though you really want me to talk, but perhaps it will do us good. Please stop me at any time if you decide you can stand it no longer. -It seems to me, Golan, that Earth need not take only passive and negative measures to hide itself. It need not merely wipe out references to itself. Might it not plant false evidence and work actively for obscurity in that fashion?"

"How do you mean?"

"Well, we've heard of Earth's radioactivity in several places, and that sort of thing would be designed to make anyone break off any attempt to locate it. If it were truly radioactive, it would be totally unapproachable. In all likelihood, we would not even be able to set foot on it. Even robot explorers, if we had any, might not survive the radiation. So why look? And if it is not radioactive, it remains inviolate, except for accidental approach, and even then it might have other means of masking itself."

Trevize managed a smile. "Oddly enough, Janov, that thought has occurred to me. It has even occurred to me that that improbable giant satellite has been invented and planted in the world's legends. As for the gas giant with the monstrous ring system, that is equally improbable and may be equally planted. It is all designed, perhaps, to have us look for something that doesn't exist, so that we go right through the correct planetary system, staring at Earth and dismissing it because, in actual fact, it lacks a large satellite or a triple-ringed cousin or a radioactive crust. We don't recognize it, therefore, and don't dream we are looking at it. -I imagine worse, too."

Pelorat looked downcast. "How can there be worse?"

"Easily-when your mind gets sick in the middle of the night and begins searching the vast realm of fantasy for anything that can deepen despair. What if Earth's ability to hide is ultimate? What if our minds can be clouded? What if we can move right past Earth, with its giant satellite and with its distant ringed gas giant, and never see any of it? What if we have already done so?"

"But if you believe that, why are we-?"

"I don't say I believe that. I'm talking about mad fancies. We'll keep on looking."

Pelorat hesitated, then said, "For how long, Trevize? At some point, surely, we'll have to give up."

"Never," said Trevize fiercely. "If I have to spend the rest of my life going from planet to planet and peering about and saying, 'Please, sir, where's Earth?' then that's what I'll do. At any time, I can take you and Bliss and even Fallom, if you wish, back to Gaia and then take off on my own."

"Oh no. You know I won't leave you, Golan, and neither will Bliss. We'll go planet-hopping with you, if we must. But why?"

"Because I must find Earth, and because I will. I don't know how, but I will. -Now, look, I'm trying to reach a position where I can study the sunlit side of the planet without its suit being too close, so just let me be for a while."

Pelorat fell silent, but did not leave. He continued to watch while Trevize studied the planetary image, more than half in daylight, on the screen. To Pelorat, it seemed featureless, but he knew that Trevize, bound to the computer, saw it under enhanced circumstances.

Trevize whispered, "There's a haze."

"Then there must be an atmosphere," blurted out Pelorat.

"Not necessarily much of one. Not enough to support life, but enough to support a thin wind that will raise dust. It's a well-known characteristic of planets with thin atmospheres. There may even be small polar ice caps. A little water-ice condensed at the poles, you know. This world is too warm for solid carbon dioxide. -I'll have to switch to radar-mapping. And if I do that I can work more easily on the nightside."

"Really?"

"Yes. I should have tried it first, but with a virtually airless and, therefore, cloudless planet, the attempt with visible light seems so natural."

Trevize was silent for a long time, while the viewscreen grew fuzzy with radar-reflections that produced almost the abstraction of a planet, something that an artist of the Cleonian period might have produced. Then he said, "Well-" emphatically, holding the sound for a while, and was silent again.

Pelorat said, at last, "What's the 'well' about?"

Trevize looked at him briefly. "No craters that I can see."

"No craters? Is that good?"

"Totally unexpected," said Trevize. His face broke into a grin, "And very good. In fact, possibly magnificent."

63.

FALLOM remained with her nose pressed against the ship's porthole, where a small segment of the Universe was visible in the precise form in which the eye saw it, without computer enlargement or enhancement.

Bliss, who had been trying to explain it all, sighed and said in a low voice to Pelorat, "I don't know how much she understands, Pel dear. To her, her father's mansion and a small section of the estate it stood upon was all the Universe. I don't think she was ever out at night, or ever saw the stars."

"Do you really think so?"

"I really do. I didn't dare show her any part of it until she had enough vocabulary to understand me just a little-and how fortunate it was that you could speak with her in her own language."

"The trouble is I'm not very good at it," said Pelorat apologetically. "And the Universe is rather hard to grasp if you come at it suddenly. She said to me that if those little lights are giant worlds, each one just like Solaria-they're much larger than Solaria, of course-that they couldn't hang in nothing. They ought to fall, she says."

"And she's right, judging by what she knows. She asks sensible questions, and little by little, she'll understand. At least she's curious and she's not frightened."

"The thing is, Bliss, I'm curious, too. Look how Golan changed as soon as he found out there were no craters on the world we're heading for. I haven't the slightest idea what difference that makes. Do you?"

"Not a bit. Still he knows much more planetology than we do. We can only assume he knows what he's doing."

"I wish I knew."

"Well, ask him."

Pelorat grimaced. "I'm always afraid I'll annoy him. I'm sure he thinks I ought to know these things without being told."

Bliss said, "That's silly, Pel. He has no hesitation in asking you about any aspect of the Galaxy's legends and myths which he thinks might be useful. You're always willing to answer and explain, so why shouldn't he be? You go ask him. If it annoys him, then he'll have a chance to practice sociability, and that will be good for him."

"Will you come with me?"

"No, of course not. I want to stay with Fallom and continue to try to get the concept of the Universe into her head. You can always explain it to me afterward-once he explains it to you."

64.

PELORAT entered the pilot-room diffidently. He was delighted to note that Trevize was whistling to himself and was clearly in a good mood.

"Golan," he said, as brightly as he could.

Trevize looked up. "Janov! You're always tiptoeing in as though you think it's against the law to disturb me. Close the door and sit down. Sit down! Look at that thing."

He pointed to the planet on the viewscreen, and said, "I haven't found more than two or three craters, each quite small."

"Does that make a difference, Golan? Really?"

"A difference? Certainly. How can you ask?"

Pelorat gestured helplessly. "It's all a mystery to me. I was a history major at college. I took sociology and psychology in addition to history, also languages and literature, mostly ancient, and specialized in mythology in graduate school. I never came near planetology, or any of the physical sciences."

"That's no crime, Janov. I'd rather you know what you know. Your facility in ancient languages and in mythology has been of enormous use to us. You know that. -And when it comes to a matter of planetology, I'll take care of that."

He went on, "You see, Janov, planets form through the smashing together of smaller objects. The last few objects to collide leave crater marks. Potentially, that is. If the planet is large enough to be a gas giant, it is essentially liquid under a gaseous atmosphere and the final collisions are just splashes and leave no marks.

"Smaller planets which are solid, whether icy or rocky, do show crater marks, and these remain indefinitely unless an agency for removal exists. There are three types of removals.

"First, a world may have an icy surface overlying a liquid ocean. In that case, any colliding object breaks through the ice and splashes water. Behind it the ice refreezes and heals the puncture, so to speak. Such a planet, or satellite, would have to be cold, and would not be what we would consider a habitable world.

"Second, if a planet is intensely active, volcanically, then a perpetual lava flow or ash fallout is forever filling in and obscuring any craters that form. However, such a planet or satellite is not likely to be habitable either.

"That brings us to habitable worlds as a third case. Such worlds may have polar ice caps, but most of the ocean must be freely liquid. They may have active volcanoes, but these must be sparsely distributed. Such worlds can neither heal craters, nor fill them in. There are, however, erosion effects. Wind and flowing water will erode craters, and if there is life, the actions of living things are strongly erosive as well. See?"

Pelorat considered that, then said, "But, Golan, I don't understand you at all. This planet we're approaching-

"We'll be landing tomorrow," said Trevize cheerfully.

"This planet we're approaching doesn't have an ocean."

"Only some thin polar ice caps."

"Or much of an atmosphere."

"Only a hundredth the density of the atmosphere on Terminus."

"Or life."

"Nothing I can detect."

"Then what could have eroded away the craters?"

"An ocean, an atmosphere, and life," said Trevize. "Look, if this planet had been airless and waterless from the start, any craters that had been formed would still exist and the whole surface would be cratered. The absence of craters proves it can't have been airless and waterless from the start, and may even have had a sizable atmosphere and

ocean in the near past. Besides, there are huge basins, visible on this world, that must have held seas, and oceans once, to say nothing of the marks of rivers that are now dry. So you see there was erosion and that erosion has ceased so short a time ago, that new cratering has not yet had time to accumulate."

Pelorat looked doubtful. "I may not be a planetologist, but it seems to me that if a planet is large enough to hang on to a dense atmosphere for perhaps billions of years, it isn't going to suddenly lose it, is it?"

"I shouldn't think so," said Trevize. "But this world undoubtedly held life before its atmosphere vanished, probably human life. My guess is that it was a terraformed world as almost all the human-inhabited worlds of the Galaxy are. The trouble is that we don't really know what its condition was before human life arrived, or what was done to it in order to make it comfortable for human beings, or under what conditions, actually, life vanished. There may have been a catastrophe that sucked off the atmosphere and that brought about the end of human life. Or there may have been some strange imbalance on this planet that human beings controlled as long as they were here and that went into a vicious cycle of atmospheric reduction once they were gone. Maybe we'll find the answer when we land, or maybe we won't. It doesn't matter."

"But surely neither does it matter if there was life here once, if there isn't now. What's the difference if a planet has always been uninhabitable, or is only uninhabitable now?"

"If it is only uninhabitable now, there will be ruins of the one-time inhabitants."

"There were ruins on Aurora-"

"Exactly, but on Aurora there had been twenty thousand years of rain and snow, freezing and thawing, wind and temperature change. And there was also life-don't forget life: There may not have been human beings there, but there was plenty of life. Ruins can be eroded just as craters can. Faster. And in twenty thousand years, not enough was left to do us any good. -Here on this planet, however, there has been a passage of time, perhaps twenty thousand years, perhaps less, without wind, or storm, or life. There has been temperature change, I admit, but that's all. The ruins will be in good shape."

"Unless," murmured Pelorat doubtfully, "there are no ruins. Is it possible that there was never any life on the planet, or never any human life at any rate, and that the loss of the atmosphere was due to some event that human beings had nothing to do with?"

"No, no," said Trevize. "You can't turn pessimist on me, because it won't work. Even from here, I've spotted the remains of what I'm sure was a city. -So we land tomorrow."

65.

BLISS said, in a worried tone, "Fallow is convinced we're going to take her back to Jemby, her' robot."

"Umm," said Trevize, studying the surface of the world as it slid back under the drifting ship. Then he looked up as though he had heard the remark only after a delay. "Well, it was the only parent she knew, wasn't it?"

"Yes, of course, but she thinks we've come back to Solaria."

"Does it look like Solaria?"

"How would she know?"

"Tell her it's not Solaria. Look, I'll give you one or two reference bookfilms with graphic illustrations. Show her close-ups of a number of different inhabited worlds and explain that there are millions of them. You'll have time for it. I don't know how long Janov and I will have to wander around, once we pick a likely target and land."

"You and Janov?"

"Yes. Fallom can't come with us, even if I wanted her to, which I would only want if I were a madman. This world requires space suits, Bliss. There's no breathable air. And we don't have a space suit that would fit Fallom. So she and you stay on the ship."

«Why IT'

Trevize's lips stretched into a humorless smile. "I admit," he said, "I would feel safer if you were along, but we can't leave Fallom on this ship alone. She can do damage even if she doesn't mean to. I must have Janov with me because he might be able to make out whatever archaic writing they have here. That means you will have to stay with Fallom. I should think you would want to."

Bliss looked uncertain.

Trevize said, "Look. You wanted Fallom along, when I didn't. I'm convinced she'll be nothing but trouble. So-her presence introduces constraints, and you'll have to adjust yourself to that. She's here, so you'll have to be here, too. That's the way it is."

Bliss sighed. "I suppose so."

"Good. Where's Janov?"

"He's with Fallom."

"Very well. Go and take over. I want to talk to him."

Trevize was still studying the planetary surface when Pelorat walked in, clearing his throat to announce his presence. He said, "Is anything wrong, Golan?"

"Not exactly wrong, Janov. I'm just uncertain. This is a peculiar world and I don't know what happened to it. The seas must have been extensive, judging from the basins left behind, but they were shallow. As nearly as I can tell from the traces left behind, this was a world of desalinization and canals-or perhaps the seas weren't very salty. If they weren't very salty, that would account for the absence of extensive salt flats in the basins. Or else, when the ocean was lost, the salt content was lost with it-which certainly makes it look like a human deed."

Pelorat said hesitantly, "Excuse my ignorance about such things, Golan, but does any of this matter as far as what we are looking for is concerned?"

"I suppose not, but I can't help being curious. If I knew just how this planet was terraformed into human habitability and what it was like before terraforming, then perhaps I would understand what has happened to it after it was abandoned-or just

before, perhaps. And if we did know what happened to it, we might be forewarned against unpleasant surprises."

"What kind of surprises? It's a dead world, isn't it?"

"Dead enough. Very little water; thin, unbreathable atmosphere; and Bliss detects no signs of mental activity."

"That should settle it, I should think."

"Absence of mental activity doesn't necessarily imply lack of life."

"It must surely imply lack of dangerous life."

"I don't know. -But that's not what I want to consult you about. There are two cities that might do for our first inspection. They seem to be in excellent shape; all the cities do. Whatever destroyed the air and oceans did not seem to touch the cities. Anyway, those two cities are particularly large. The larger, however, seems to be short on empty space. There are spaceports far in the outskirts but nothing in the city itself. The one not so large does have empty space, so it will be easier to come down in its midst, though not in formal spaceports-but then, who would care about that?"

Pelorat grimaced. "Do you want me to make the decision, Golan?"

"No, I'll make the decision. I just want your thoughts."

"For what they're worth, a large sprawling city is likely to be a commercial or manufacturing center. A smaller city with open space is likely to be an administrative center. It's the administrative center we'd want. Does it have monumental buildings?"

"What do you mean by a monumental building?"

Pelorat smiled his tight little stretching of the lips. "I scarcely know. Fashions change from world to world and from time to time. I suspect, though, that they always look large, useless, and expensive. -Like the place where we were on Comporellon."

Trevize smiled in his turn. "It's hard to tell looking straight down, and when I get a sideways glance as we approach or leave, it's too confusing. Why do you prefer the administrative center?"

"That's where we're likely to find the planetary museum, library, archives, university, and so on."

"Good. That's where we'll go, then; the smaller city. -And maybe we'll find something. We've had two misses, but maybe we'll find something this time."

"Perhaps it will be three times lucky."

Trevize raised his eyebrows. "Where did you get that phrase?"

"It's an old one," said Pelorat. "I found it in an ancient legend. It means success on the third try, I should think."

"That sounds right," said Trevize. "Very well, then-three times lucky, Janov."

66.

TREVIZE looked grotesque in his space suit. The only part of him that remained outside were his holsters-not the ones that he strapped around his hips ordinarily, but more substantial ones that were part of his suit. Carefully, he inserted the blaster in the right-hand holster, the neuronc whip in the left. Again, they had been recharged and this time, he thought grimly, nothing would take them away from him.

Bliss smiled. "Are you going to carry weapons even on a world without air or- Never mind! I won't question your decisions."

Trer1 'O paid, "Good!" and turned to help Pelorat adjust his helmet, before donning his Own.

Pelorat, who had never worn a space suit before, said, rather plaintively, "Will I really be able to breathe in this thing, Golan?"

"I promise you," said Trevize.

Bliss watched as the final joints were sealed, her arm about Fallom's shoulder. The young Solarian stared at the two space-suited figures in obvious alarm. She was trembling, and Bliss's arm squeezed her gently and reassuringly.

The airlock door opened, and the two stepped inside, their bloated arms waving a farewell. It closed. The mainlock door opened and they stepped clumsily onto the soil of a dead world.

It was dawn. The sky was clear, of course, and purplish in color, but the sun had not yet risen. Along the lighter horizon where the sun would come, there was a slight haze.

Pelorat said, "It's cold."

"Do you feel cold?" said Trevize, with surprise. The suits were well insulated and if there was a problem, now and then, it was with the getting rid of body heat.

Pebrat said, "Not at all, but look---" His radioed voice sounded Trevize's ear, and his finger pointed.

In the purplish light of dawn, the crumbling stone front of the building they were approaching was sheathed in hoar frost.

Trevize said, "With a thin atmosphere, it would get colder at night than you would expect, and warmer in the day. Right now it's the coldest part of the day and it should take several hours before it gets too hot for us to remain in the sun."

As though the word had been a cabalistic incantation, the rim of the sun appeared above the horizon.

"Don't look at it," said Trevize conversationally. "Your face-plate is reflective and ultraviolet-opaque, but it would still be dangerous."

He turned his back to the rising sun and let his long shadow fall on the building. The sunlight was causing the frost to disappear, even as he watched. For a few moments, the wall looked dark with dampness and then that disappeared, too.

Trevize said, "The buildings don't look as good down here as they looked from the sky. They're cracked and crumbling. That's the result of the temperature change, I suppose, and of having the water traces freeze and melt each night and day for maybe as much as twenty thousand years."

Pelorat said, "There are letters engraved in the stone above the entrance, but crumbling has made them difficult to read."

"Can you make it out, Janov?"

"A financial institution of some sort. At least I make out a word which may be 'bank.'"

"What's that?"

"A building in which assets were stored, withdrawn, traded, invested, loaned-if it's what I think it is."

"A whole building devoted to it? No computers?"

"Without computers taking over altogether."

Trevize shrugged. He did not find the details of ancient history inspiring.

They moved about, with increasing haste, spending less time at sac building. The silence, the deadness, was completely depressing. The slow millennial-long collapse into which they had intruded made the place seem like the skeleton of a city, with everything gone but the bones.

They were well up in the temperate zone, but Trevize imagined he could feel the heat of the sun on his back.

Pelorat, about a hundred meters to his right, said sharply, "Look at that."

Trevize's ears rang. He said, "Don't shout, Janov. I can hear your whispers clearly no matter how far away you are. What is it?"

Pelorat, his voice moderating at once, said, "This building is the 'Hall of the Worlds.' At least, that's what I think the inscription reads."

Trevize joined him. Before them was a three-story structure, the line of its roof irregular and loaded with large fragments of rock, as though some sculptured object that had once stood there had fallen to pieces.

"Are you sure?" said Trevize.

"If we go in, we'll find out."

They climbed five low, broad steps, and crossed a space-wasting plaza. In the thin air, their metal-shod footsteps made a whispering vibration rather than a sound.

"I see what you mean by 'large, useless, and expensive,' " muttered Trevize.

They entered a wide and high hall, with sunlight shining through tall windows and illuminating the interior too harshly where it struck and yet leaving things obscure in the shadow. The thin atmosphere scattered little light.

In the center was a larger than life-size human figure in what seemed to be a synthetic stone. One arm had fallen off. The other arm was cracked at the shoulder and Trevize felt that if he tapped it sharply that arm, too, would break off. He stepped back as though getting too near might tempt him into such unbearable vandalism.

"I wonder who that is?" said Trevize. "No markings anywhere. I suppose those who set it up felt that his fame was so obvious he needed no identification, but now-" He felt himself in danger of growing philosophical and turned his attention away.

Pelorat was looking up, and Trevize's glance followed the angle of Pelorat's head. There were markings--carvings--on the wall which Trevize could not read.

"Amazing," said Pelorat. "Twenty thousand years old, perhaps, and, in here, protected somewhat from sun and damp, they're still legible."

"Not to me," said Trevize.

"It's in old script and ornate even for that. Let's see now-seven-one-two-" His voice died away in a mumble, and then he spoke up again. "There are fifty names listed and there are supposed to have been fifty Spacer worlds and this is 'The Hall of the Worlds.' I assume those are the names of the fifty Spacer worlds, probably in the order of establishment. Aurora is first and Solara is last. If you'll notice, there are seven columns, with seven names in the first six columns and then eight names in the last. It is as though they had planned a seven-by-seven grid and then added Solara after the fact. My guess, old chap, is that that list dates back to before Solara was terraformed and populated."

"And which one is this planet we're standing on? Can you tell?"

Pelorat said, "You'll notice that the fifth one down in the third column, the nineteenth in order, is inscribed in letters a little larger than the others. The listers seem to have been self-centered enough to give themselves some pride of place. Besides-"

"What does the name read?"

"As near as I can make out, it says Melpomenia. It's a name I'm totally unfamiliar with."

"Could it represent Earth?"

Pelorat shook his head vigorously, but that went unseen inside his helmet. He said, "There are dozens of words used for Earth in the old legends. Gaia is one of them, as you know. So is Terra, and Erda, and so on. They're all short. I don't know of any long name used for it, or anything even resembling a short version of Melpomenia."

"Then we're standing on Melpomenia, and it's not Earth."

"Yes. And besides-as I started to say earlier-an even better indication than the larger lettering is that the coordinates of Melpomenia are given as 0, 0, 0, and you would expect coordinates to be referred to one's own planet."

"Co-ordinates?" Trevize sounded dumbfounded. "That list gives the coordinates, too?"

"They give three figures for each and I presume those are coordinates. What else can they be?"

Trevize did not answer. He opened a small compartment in the portion of the space suit that covered his right thigh and took out a compact device with wire

connecting it to the compartment. He put it up to his eyes and carefully focused it on the inscription on the wall, his sheathed fingers making a difficult job out of something that would ordinarily have been a moment's work.

"Camera?" asked Pelorat unnecessarily.

"It will feed the image directly into the ship's computer," said Trevize.

He took several photographs from different angles; then said, "Wait! I've got to get higher. Help me, Janov."

Pelorat clasped his hands together, stirrup-fashion, but Trevize shook his head.

"That won't support my weight. Get on your hands and knees."

Pelorat did so, laboriously, and, as laboriously, Trevize, having tucked the camera into its compartment again, stepped on Pelorat's shoulders and from them on to the pedestal of the statue. He tried to rock the statue carefully to judge its firmness, then placed his foot on one bent knee and used it as a base for pushing himself upward and catching the armless shoulder. Wedging his toes against some unevenness at the chest, he lifted himself and, finally, after several grunts, managed to sit on the shoulder. To those long-dead who had revered the statue and what it represented, what Trevize did would have seemed blasphemy, and Trevize was sufficiently influenced by that thought to try to sit lightly.

"You'll fall and hurt yourself," Pelorat called out anxiously.

"I'm not going to fall and hurt myself, but you might deafen me." Trevize unslung his camera and focused once more. Several more photographs were taken and then he replaced the camera yet again and carefully lowered himself till his feet touched the pedestal. He jumped to the ground and the vibration of his contact was apparently the final push, for the still intact arm crumbled, and produced a small heap of rubble at the foot of the statue. It made virtually no noise as it fell.

Trevize froze, his first impulse being that of finding a place to hide before the watchman came and caught him. Amazing, he thought afterward, how quickly one relives the days of one's childhood in a situation like that-when you've accidentally broken something that looks important. It lasted only a moment, but it cut deeply.

Pelorat's voice was hollow, as befitted one who had witnessed and even abetted an act of vandalism, but he managed to find words of comfort. "It's - it's all right, Golan. It was about to come down by itself, anyway."

He walked over to the pieces on the pedestal and floor as though he were going to demonstrate the point, reached out for one of the larger fragments, and then said, "Golan, come here."

Trevize approached and Pelorat, pointing at a piece of stone that had clearly been the portion of the arm that had been joined to the shoulder, said, "What is this?"

Trevize stared. There was a patch of fuzz, bright green in color. Trevize rubbed it gently with his suited finger. It scraped off without trouble.

"It looks a lot like moss," he said.

"The life-without-mind that you mentioned?"

"I'm not completely sure how far without mind. Bliss, I imagine, would insist that this had consciousness, too-but she would claim this stone also had it."

Pelorat said, "Do you suppose that moss stuff is what's crumbling the rock?"

Trevize said, "I wouldn't be surprised if it helped. The world has plenty of sunlight and it has some water. Half what atmosphere it has is water vapor. The rest is nitrogen and inert gases. Just a trace of carbon dioxide, which would lead one to suppose there's no plant life-but it could be that the carbon dioxide is low because it is virtually all incorporated into the rocky crust. Now if this rock has some carbonate in it, perhaps this moss breaks it down by secreting acid, and then makes use of the carbon dioxide generated. This may be the dominant remaining form of life on this planet."

"Fascinating," said Pelorat.

"Undoubtedly," said Trevize, "but only in a limited way. The coordinates of the Spacer worlds are rather more interesting but what we really want are the coordinates of Earth. If they're not here, they may be elsewhere in the building-or in another building. Come, Janov."

"But you know-"began Pelorat.

"No, no," said Trevize impatiently. "We'll talk later. We've got to see what else, if anything, this building can give us. It's getting warmer." He looked at the small temperature reading on the back of his left glove. "Come, Janov."

They tramped through the rooms, walking as gently as possible, not because they were making sounds in the ordinary sense, or because there was anyone to hear them, but because they were a little shy of doing further damage through vibration.

They kicked up some dust, which moved a short way upward and settled quickly through the thin air, and they left footmarks behind them.

Occasionally, in some dim corner, one or the other would silently point out more samples of moss that were growing. There seemed a little comfort in the presence of life, however low in the scale, something that lifted the deadly, suffocating feel of walking through a dead world, especially one in which artifacts all about showed that once, long ago, it had been an elaborately living one.

And then, Pelorat said, "I think this must be a library."

Trevize looked about curiously. There were shelves and, as he looked more narrowly, what the corner of his eye had dismissed as mere ornamentation, seemed as though they might well be book-films. Gingerly, he reached for one. They were thick and clumsy and then he realized they were only cases. He fumbled with his thick fingers to open one, and inside he saw several discs. They were thick, too, and seemed brittle, though he did not test that.

He said, "Unbelievably primitive."

"Thousands of years old," said Pelorat apologetically, as though defending the old Melpomenians against the accusation of retarded technology.

Trevize pointed to the spine of the film where there were dim curlicues of the ornate lettering that the ancients had used. "Is that the title? What does it say?"

Pelorat studied it. "I'm not really sure, old man. I think one of the words refers to microscopic life. It's a word for 'microorganism,' perhaps. I suspect these are technical microbiological terms which I wouldn't understand even in Standard Galactic."

"Probably," said Trevize morosely. "And, equally probably, it wouldn't do us any good even if we could read it. We're not interested in germs.-Do me a favor, Janov. Glance through some of these books and see if there's anything there with an interesting title. While you're doing that, I'll look over these book-viewers."

"Is that what they are?" said Pelorat, wondering. They were squat, cubical structures, topped by a slanted screen and a curved extension at the top that might serve as an elbow rest or a place on which to put an electro-notepad-if they had had such on Melpomenia.

Trevize said, "if this is a library, they must have book-viewers of one kind or another, and this seems as though it might suit."

He brushed the dust off the screen very gingerly and was relieved that the screen, whatever it might be made of, did not crumble at his touch. He manipulated the controls lightly, one after another. Nothing happened. He tried another book-viewer, then another, with the same negative results.

He wasn't surprised. Even if the device were to remain in working order for twenty millennia in a thin atmosphere and was resistant to water vapor, there was still the question of the power source. Stored energy had a way of leaking, no matter what was done to stop it. That was another aspect of the all embracing, irresistible second law of thermodynamics.

Pelorat was behind him. "Golan?"

"Yes."

"I have a book-film here-"

"What kind?"

"I think it's a history of space flight."

"Perfect but it won't do us any good if I can't make this viewer work."

His hands clenched in frustration.

"We could take the film back to the ship."

"I wouldn't know how to adapt it to our viewer. It wouldn't fit and our scanning system is sure to be incompatible."

"But is all that really necessary, Golan? If we-"

"It is really necessary, Janov. Now don't interrupt me. I'm trying to decide what to do. I can try adding power to the viewer. Perhaps that is all it needs."

"Where would you get the power?"

"Well-" Trevize drew his weapons, looked at them briefly, then settled his blaster back into its holster. He cracked open his neuronc whip, and studied the energy-supply level. It was at maximum.

Trevize threw himself prone upon the floor and reached behind the viewer (he kept assuming that was what it was) and tried to push it forward. It moved a small way and he studied what he found in the process.

One of those cables had to carry the power supply and surely it was the one that came out of the wall. There was no obvious plug or joining. (How does one deal with an alien and ancient culture where the simplest taken-for granted matters are made unrecognizable?)

He pulled gently at the cable, then harder. He turned it one way, then the other. He pressed the wall in the vicinity of the cable, and the cable in the vicinity of the wall. He turned his attention, as best he could, to the halfhidden back of the viewer and nothing he could do there worked, either.

He pressed one hand against the floor to raise himself and, as he stood up, the cable came with him. What he had done that had loosened it, he hadn't the slightest idea.

It didn't look broken or torn away. The end seemed quite smooth and it had left a smooth spot in the wall where it had been attached.

Pelorat said softly, "Golan, may I-"

Trevize waved a peremptory arm at the other. "Not now, Janov. Please!" He was suddenly aware of the green material caking the creases on his left glove. He must have picked up some of the moss behind the viewer and crushed it. His glove had a faint dampness to it, but it dried as he watched, and the greenish stain grew brown.

He turned his attention toward the cable, staring at the detached end carefully. Surely there were two small holes there. Wires could enter.

He sat on the floor again and opened the power unit of his neuronc whip. Carefully, he depolarized one of the wires and clicked it loose. He then, slowly and delicately, inserted it into the hole, pushing it in until it stopped. When he tried gently to withdraw it again, it remained put, as though it had been seized. He suppressed his first impulse to yank it out again by force. He depolarized the other wire and pushed it into the other opening. It was conceivable that that would close the circuit and supply the viewer with power.

"Janov," he said, "you've played about with book-films of all kinds. See if you can work out a way of inserting that book into the viewer."

"Is it really nece-"

"Please, Janov, you keep trying to ask unnecessary questions. We only have so much time. I don't want to have to wait far into the night for the building to cool off to the point where we can return."

"It must go in this way," said Janov, "but-"

"Good," said Trevize. "If it's a history of space flight, then it will have to begin with Earth, since it was on Earth that space flight was invented. Let's see if this thing works now."

Pelorat, a little fussily, placed the book-film into the obvious receptacle and then began studying the markings on the various controls for any hint as to direction.

Trevize spoke in a low voice, while waiting, partly to ease his own tension. "I suppose there must be robots on this world, too-here and there-in reasonable order to all appearances-glistening in the near-vacuum. The trouble is their power supply would long

since have been drained, too, and, even if repowered, what about their brains? Levers and gears might withstand the millennia, but what about whatever microswitches or subatomic gizmos they had in their brains? They would have to have deteriorated, and even if they had not, what would they know about Earth. What would they"

Pelorat said, "The viewer is working, old chap. See here."

In the dim light, the book-viewer screen began to flicker. It was only faint, but Trevize turned up the power slightly on his neuronc whip and it grew brighter. The thin air about them kept the area outside the shafts of sunlight comparatively dim, so that the room was faded and shadowy, and the screen seemed the brighter by contrast.

It continued to flicket, with occasional shadows drifting across the screen.

"It needs to be focused," said Trevize.

"I know," said Pelorat, "but this seems the best I can do. The film itself must have deteriorated."

The shadows came and went rapidly now, and periodically there seemed something like a faint caricature of print. Then, for a moment, there was sharpness and it faded again.

"Get that back and hold it, Janov," said Trevize.

Pelorat was already trying. He passed it going backward, then again forward, and then got it and held it.

Eagerly, Trevize tried to read it, then said, in frustration, "Can you make it out, Janov?"

"Not entirely," said Pelorat, squinting at the screen. "It's about Aurora. I can tell that much. I think it's dealing with the first hyperspatial expedition-the 'prime outpouring,' it says."

He went forward, and it blurred and shadowed again. He said finally, "All the pieces I can get seem to deal with the Spacer worlds, Golan. There's nothing I can find about Earth."

Trevize said bitterly, "No, there wouldn't be. It's all been wiped out on this world as it has on Trantor. Turn the thing off."

"But it doesn't matter-" began Pelorat, turning it off:

"Because we can try other libraries? It will be wiped out there, too. Everywhere. Do you know-" He had looked at Pelorat as he spoke, and now he stared at him with a mixture of horror and revulsion. "What's wrong with your face-plate?" he asked.

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PELORAT automatically lifted his gloved hand to his face-plate and then took it away and looked at it.

"What is it?" he said, puzzled. Then, he looked at Trevize and went on, rather squeakily, "There's something peculiar about your face-plate, Golan."

Trevize looked about automatically for a mirror. There was none and he would need a light if there were. He muttered, "Come into the sunlight, will you?"

He half-led, half-pulled Pelorat into the shaft of sunlight from the nearest window. He could feel its warmth upon his back despite the insulating effect of the space suit.

He said, "Look toward the sun, Janov, and close your eyes."

It was at once clear what was wrong with the face-plate. There was moss growing luxuriantly where the glass of the face-plate met the metallized fabric of the suit itself. The face-plate was rimmed with green fuzziness and Trevize knew his own was, too.

He brushed a finger of his glove across the moss on Pelorat's face-plate. Some of it came off, the crushed green staining the glove. Even as he watched it glisten in the sunlight, however, it seemed to grow stiffer and drier. He tried again, and this time, the moss crackled off. It was turning brown. He brushed the edges of Pelorat's face-plate again, rubbing hard.

"Do mine, Janov," he said. Then, later, "Do I look clean? Good, so do you. -Let's go. I don't think there's more to do here."

The sun was uncomfortably hot in the deserted airless city. The stone buildings gleamed brightly, almost aching. Trevize squinted as he looked at them and, as far as possible, walked on the shady side of the thoroughfares. He stopped at a crack in one of the building fronts, one wide enough to stick his little finger into, gloved as it was. He did just that, looked at it, muttered, "Moss," and deliberately walked to the end of the shadow and held that finger out in the sunlight for a while.

He said, "Carbon dioxide is the bottleneck. Anywhere they can get carbon dioxide-decaying rock-anywhere-it will grow. We're a good source of carbon dioxide, you know, probably richer than anything else on this nearly dead planet, and I suppose traces of the gas leak out at the boundary of the face-plate."

"So the moss grows there."

"Yes."

It seemed a long walk back to the ship, much longer and, of course, hotter than the one they had taken at dawn. The ship was still in the shade when they got there, however; that much Trevize had calculated correctly, at least.

Pelorat said, "Look!"

Trevize saw. The boundaries of the mainlock were outlined in green moss.

"More leakage?" said Pelorat.

"Of course. Insignificant amounts, I'm sure, but this moss seems to be a better indicator of trace amounts of carbon dioxide than anything I ever heard of. Its spores must be everywhere and wherever a few molecules of carbon dioxide are to be found, they sprout." He adjusted his radio for ship's wavelength and said, "Bliss, can you hear me?"

Bliss's voice sounded in both sets of oars. "Yes. Are you ready to come in? Any luck?"

"We're just outside," said Trevize, "but don't open the lock. We'll open it from out here. Repeat, don't open the lock."

"Why not?"

"Bliss, just do as I ask, will you? We can have a long discussion afterward."

Trevize brought out his blaster and carefully lowered, its intensity to minimum, then gazed at it uncertainly. He had never used it at minimum. He looked about him. There was nothing suitably fragile to test it on.

In sheer desperation, he turned it on the rocky hillside in whose shadow the Fur Star lay. -The target didn't turn red-hot. Automatically, he felt the spot he had hit. Did 'it feel warm? He couldn't tell with any degree of certainty through the insulated fabric of his suit.

He hesitated again, then thought that the hull of the ship would be as resistant, within an order of magnitude at any rate, as the hillside. He turned the blaster on the rim of the lock and flicked the contact briefly, holding his breath.

Several centimeters of the moss-like growth browned at once. He waved his hand in the vicinity of the browning and even the mild breeze set up in the thin air in this way sufficed to set the light skeletal remnants that made up the brown material to scattering.

"Does it work?" said Pelorat anxiously.

"Yes, it does," said Trevize. "I turned the blaster into a mild heat ray."

He sprayed the heat all around the edge of the lock and the green vanished at the touch. All of it. He struck the mainlock to create a vibration that would knock off what remained and a brown dust fell to the ground-a dust so fine that it even lingered in the thin atmosphere, buoyed up by wisps of gas.

"I think we can open it now," said Trevize, and, using his wrist controls, he tapped out the emission of the radio-wave combination that activated the opening mechanism from inside. The lock gaped and had not opened more than halfway when Trevize said, "Don't dawdle, Janov, get inside. -Don't wait for the steps. Climb in."

Trevize followed, sprayed the rim of the lock with his toned-down blaster. He sprayed the steps, too, once they had lowered. He then signaled the close_ of the lock and kept on spraying till they were totally enclosed.

Trevize said, "We're in the lock, Bliss. We'll stay here a few minutes. Continue to do nothing!"

Bliss's voice said, "Give me a hint. Are you all right? How is Pel?"

Pel said, "I'm here, Bliss, and perfectly well. There's nothing to worry about."

"If you say so, Pel, but there'll have to be explanations later. I hope you know that."

"It's a promise," said Trevize, and activated the lock light.

The two space-suited figures faced each other.

Trevize said, "We're pumping out all the planetary air we can, so let's just wait till that's done."

"What about the ship air? Are we going to let that in?"

"Not for a while. I'm as anxious to get out of the space suit as you are, Janov. I just want to make sure that we get rid of any spores that have entered with us-or upon us."

By the not entirely satisfactory illumination of the lock light, Trevize turned his blaster on the inner meeting of lock and hull, spraying the heat methodically along the floor, up and around, and back to the floor.

"Now you, Janov."

Pelorat stirred uneasily, and Trevize said, "You may feel warm. It shouldn't be any worse than that. If it grows uncomfortable, just say so."

He played the invisible beam over the face-plate, the edges particularly, then, little by little, over the rest of the space suit.

He muttered, "Lift your arms, Janov." Then, "Rest your arms on my shoulder, and lift one foot- I've got to do the soles-now the other. -Are you getting too warm?"

Pelorat said, "I'm not exactly bathed in cool breezes, Golan."

"Well, then, give me a taste of my own medicine. Go over me."

"I've never held a blaster."

"You must hold it. Grip it so, and, with your thumb, push that little knob -and squeeze the holster tightly. Right. -Now play it over my face-plate. Move it steadily, Janov, don't let it linger in one place too long. Over the rest of the helmet, then down the cheek and neck."

He kept up the directions, and when he had been heated everywhere and was in an uncomfortable perspiration as a result, he took back the blaster and studied the energy level.

"More than half gone," he said, and sprayed the interior of the lock methodically, back and forth over the wall, till the blaster was emptied of its charge, having itself heated markedly through its rapid and sustained discharge. He then restored it to its holster.

Only then did he signal for entry into the ship. He welcomed the hiss and feel of air coming into the lock as the inner door opened. Its coolness and its convective powers would carry off the warmth of the space suit far more quickly than radiation alone would do. It might have been imagination, but he felt the cooling effect at once. Imagination or not, he welcomed that, too.

"Off with your suit, Janov, and leave it out here in the lock," said Trevize.

"If you don't mind," said Pelorat, "a shower is what I would like to have before anything else."

"Not before anything else. In fact, before that, and before you can empty your bladder, even, I suspect you will have to talk to Bliss."

Bliss was waiting for them, of course, and with a look of concern on her face. Behind her, peeping out, was Fallom, with her hands clutching firmly at Bliss's left arm.

"What happened?" Bliss asked severely. "What's been going on?"

"Guarding against infection," said Trevize dryly, "so I'll be turning on the ultraviolet radiation. Break out the dark glasses. Please don't delay."

With ultraviolet added to the wall illumination, Trevize took off his moist garments one by one and shook them out, turning them in one direction and another.

"Just a precaution," he said. "You do it, too, Janov. -And, Bliss, I'll have to peel altogether. If that will make you uncomfortable, step into the next room."

Bliss said, "It will neither make me uncomfortable, nor embarrass me. I have a good notion of what you look like, and it will surely present me with nothing new. -What infection?"

"Just a little something that, given its own way," said Trevize, with a deliberate air of indifference, "could do great damage to humanity, I think."

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IT was all done. The ultraviolet light had done its part. Officially, according to the complex films of information and instructions that had come with the Far Star when Trevize had first gone aboard back on Terminus, the light was there precisely for purposes of disinfection. Trevize suspected, however, that the temptation was always there, and sometimes yielded to, to use it for developing a fashionable tan for those who were from worlds where tans were fashionable. The light was, however, disinfecting, however used.

They took the ship up into space and Trevize maneuvered it as close to Melpomenia's sun as he might without making them all unpleasantly uncomfortable, turning and twisting the vessel so as to make sure that its entire surface was drenched in ultraviolet.

Finally, they rescued the two space suits that had been left in the lock and examined them until even Trevize was satisfied.

"All that," said Bliss, at last, "for moss. Isn't that what you said it was, Trevize? Moss?"

"I call it moss," said Trevize, "because that's what it reminded me of. I'm not a botanist, however. All I can say is that it's intensely green and can probably make do on very little light-energy."

"Why very little?"

"The moss is sensitive to ultraviolet and can't grow, or even survive, in direct illumination. Its spores are everywhere and it grows in hidden corners, in cracks in statuary, on the bottom surface of structures, feeding on the energy of scattered photons of light wherever there is a source of carbon dioxide."

Bliss said, "I take it you think they're dangerous."

"They might well be. If some of the spores were clinging to us when we entered, or swirled in with us, they would find illumination in plenty without the harmful ultraviolet. They would find ample water and an unending supply of carbon dioxide."

"Only 0.03 percent of our atmosphere," said Bliss.

"A great deal to them-and 4 percent in our exhaled breath. What if spores grew in our nostrils, and on our skin? What if they decomposed and destroyed our food? What if they produced toxins that killed us? Even if we labored to kill them but left some spores alive, they would be enough, when carried to another world by us, to infest it, and from there be carried to other worlds. Who knows what damage they might do?"

Bliss shook her head. "Life is not necessarily dangerous because it is different. You are so ready to kill."

"That's Gaia speaking," said Trevize.

"Of course it is, but I hope I make sense, nevertheless. The moss is adapted to the conditions of this world. Just as it makes use of light in small quantities but is killed by large; it makes use of occasional tiny whiffs of carbon dioxide and may be killed by large amounts. It may not be capable of surviving on any world but Melpomenia."

"Would you want me to take a chance on that?" demanded Trevize.

Bliss shrugged. "Very well. Don't be defensive. I see your point. Being an Isolate, you probably had no choice but to do what you did."

Trevize would have answered, but Fallom's clear high-pitched voice broke in, in her own language.

Trevize said to Pelorat, "What's she saying?"

Pelorat began, "What Fallom is saying-"

Fallom, however, as though remembering a moment too late that her own language was not easily understood, began again. "Was there Jemby there where you were?"

The words were pronounced meticulously, and Bliss beamed. "Doesn't she speak Galactic well? And in almost no time."

Trevize said, in a low voice, "I'll mess it up if I try, but you explain to her, Bliss, that we found no robots on the planet."

"I'll explain it," said Pelorat. "Come, Fallom." He placed a gentle arm about the youngster's shoulders. "Come to our room and I'll get you another book to read."

"A book? About Jemby?"

"Not exactly-" And the door closed behind them.

"You know," said Trevize, looking after them impatiently, "we waste our time playing nursemaid to that child."

"Waste? In what way does it interfere with your search for Earth, Trevize? -In no way. Playing nursemaid establishes communication, however, allays fear, supplies love. Are these achievements nothing?"

"That's Gaia speaking again."

"Yes," said Bliss. "Let us be practical, then. We have visited three of the old Spacer worlds and we have gained nothing."

Trevize nodded. "True enough."

"In fact, we have found each one dangerous, haven't we? On Aurora, there were feral dogs; on Solaria, strange and dangerous human beings; on Melpomenia, a threatening moss. Apparently, then, when a world is left to itself, whether it contains human beings or not, it becomes dangerous to the Interstellar community."

"You can't consider, that a general rule."

"Throe out of throe certainly seems impressive."

"And how does it impress you, Bliss?"

"I'll tell you. Please listen to me with an open mind. If you have millions of interacting worlds in the Galaxy, as is, of course, the affil case, and if. each is made up entirely of Isolates, as they are, then on each world, human beings are dominant and can force their will on nonhuman life-forms, on the inanimate geological background, and even on each other. The Galaxy is, then, a very primitive and fumbling and malfunctioning Galaxia. The beginnings of a unit. Do you see what I mean?"

"I see what you're trying to say-but that doesn't mean I'm going to agree with you when you're done saying it."

"Just listen to me. Agree or not, as you please, but listen. The only way the Galaxy will work .is as a proto-Galaxia, and the less proto and the more Galaxia, the better. The Galactic Empire was an attempt at a strong proto-Galaxia, and when it fell apart, times grew rapidly worse and there was the constant drive to strengthen the proto-Galaxia concept. The Foundation Confederation is such an attempt. So was the Mule's Empire. So is the Empire the Second Foundation is planning. But even if there were no such Empires or Confederations; even if -the entire Galaxy were in turmoil, it would be a connected turmoil, with each world interacting, even if only hostilely, with every other. That would, in itself, be a kind of union and it would not yet be the worst case."

"What would be the worst, then?"

"You know the answer to that, Trevize. You've seen it. If a human-inhabited world breaks up completely, is truly Isolate, and if it loses all interaction with other human worlds, it develops-malignantly."

"A cancer, then?"

"Yes. Isn't Solaria just that? Its hand is against all worlds. And on it, the hand of each individual is against those of all others. You've seen it. And if human beings disappear altogether, the last trace of discipline goes. The each-against-each becomes unreasoning, as with the dogs, or is merely an elemental force as with the moss. You see, I suppose, that the closer we are to Galaxia, the better the society. Why, then, stop at anything short of Galaxia?"

For a while, Trevize stared silently at Bliss. "I'm thinking about it. But why this assumption that dosage is a one-way thing; that if a little is good, a lot is better, and all there is is best of all? Didn't you yourself point out that it's possible the moss is adapted to very little carbon dioxide so that a plentiful supply might kill it? A human being two meters tall is better off than one who is one meter tall; but is also better off than one who is three meters tall. A mouse isn't better off, if it is expanded to the size of an elephant. He wouldn't live. Nor would an elephant be better off reduced to the size of a mouse.

"There's natural size, a natural complexity, some optimum quality for everything, whether star or atom, and it's certainly true of living things and living societies. I don't say the old Galactic Empire was ideal, and I csfa certainly see saws in the Foundation Confederation, but I'm not prey say that because total Isolation is bad, total Unification is good. The eats: may both be equally horrible, and an old-fashioned Galactic Empire, however imperfect, may be the best we can do."

Bliss shook her head. "I wonder if you believe yourself, Trevize. Are you going to argue that a virus and a human being are equally unsatisfactory, and wish to settle for something in-between-like a slime mold?"

"No. But I might argue that a virus and a superhuman being are equally unsatisfactory, and wish to settle for something in-between-like an ordinary person. - There is, however, no point in arguing. I will have my solution when I find Earth. On Melpomenia, we found the coordinates of forty-seven other Spacer worlds."

"And you'll visit them all?"

"Every one, if I have to."

"Risking the dangers on each."

"Yes, if that's what it takes to find Earth. "

Pelorat had emerged from the room within which he had left Fallow, and seemed about to say something when he was caught up in the rapid-fire exchange between Bliss and Trevize. He stared from one to the other as they spoke in turn.

"How long would it take?" asked Bliss.

"However long it takes," said Trevize, "and we ought find what we need on y the next one we visit."

"Or on none of them."

"That we cannot know till we search."

And now, at last, Pelorat managed to insert a word. "But why look, Golan? We have the answer."

Trevize waved an impatient hand in the direction of Pelorat, checked the motion, turned his head, and said blankly, "What?"

"I said we have the answer. I tried to tell you this on Melpomenia at least five times, but you were so wrapped up in what you were doing-"

"What answer do we have? What are you talking about? "

"About Earth. I think we know where Earth is."

PART SIX - ALPHA

16. THE CENTER OF THE WORLDS

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TREVIZE stared at Pelorat for a long moment, and with an expression of clear displeasure. Then he said, "Is there something you saw that I did not, and that you did not tell me about?"

"No," answered Pelorat mildly. "You saw it and, as I just said, I tried to explain, but you were in no mood to listen to me."

"Well, try again."

Bliss said, "Don't bully him, Trevize."

"I'm not bullying him. I'm asking for information. And don't you baby him."

"Please," said Pelorat, "listen to me, will you, and not to each other. -Do you remember, Golan, that we discussed early attempts to discover the origin of the human species? Yariff's project? You know, trying to plot the times of settlement of various planets on the assumption that planets would be settled outward from the world of origin in all directions alike. Then, as we moved from newer to older planets, we would approach the world of origin from all directions."

Trevize nodded impatiently. "What I remember is that it didn't work because the dates of settlement were not reliable."

"That's right, old fellow. But the worlds that Yariff was working with were part of the second expansion of the human race. By then, hyperspatial travel was far advanced, and settlement must have grown quite ragged. Leapfrogging very long distances was very simple and settlement didn't necessarily proceed outward in radial symmetry. That surely added to the problem of unreliable dates of settlement.

"But just think for a moment, Golan, of the Spacer worlds. They were in the first wave of settlement. Hyperspatial travel was less advanced then, and there was probably little or no leapfrogging. Whereas millions of worlds were settled, perhaps chaotically, during the second expansion, only fifty were settled, probably in an orderly manner, in the first. Whereas the millions of worlds of the second expansion were settled over a period of twenty thousand years; the fifty of the first expansion were settled over a period of a few centuries-almost instantaneously, in comparison. Those fifty, taken together, should exist in roughly spherical symmetry about the world of origin.

"We have the coordinates of the fifty worlds. You photographed them, remember, from the statue. Whatever or whoever it is that is destroying information that concerns Earth, either overlooked those coordinates, or didn't stop to think that they would give us the information we need. All you have to do, Golan, is to adjust the coordinates to allow for the last twenty thousand years of stellar motions, then find the center of the sphere. You'll end up fairly close to Earth's sun, or at least to where it was twenty thousand years ago."

Trevize's mouth had fallen slightly open during the recital and it took a few moments for him to close it after Pelorat was done. He said, "Now why didn't I think of that?"

"I tried to tell you while we were still on Melpomenia."

"I'm sure you did. I apologize, Janov, for refusing to listen. The fact is it didn't occur to me that-" He paused in embarrassment.

Pelorat chuckled quietly, "That I could have anything of importance to say. I suppose that ordinarily I wouldn't, but this was something in my own field, you see. I am sure that, as a general rule, you'd be perfectly justified in not listening to me."

"Never," said Trevize. "That's not so, Janov. I feel like a fool, and I well deserve the feeling. My apologies again-and I must now get to the computer."

He and Pelorat walked into the pilot-room, and Pelorat, as always, watched with a combination of marveling and incredulity as Trevize's hands settled down upon the desk, and he became what was almost a single man computer organism.

"I'll have to make certain assumptions, Janov," said Trevize, rather blankfaced from computer-absorption. "I have to assume that the first number is a distance in parsecs, and that the other two numbers are angles in radians, the first being up and down, so to speak, and the other, right and left. I have to assume that the use of plus and minus in the case of the angles is Galactic Standard and that the zero-zero-zero mark is Melpomenia's sun."

"That sounds fair enough," said Pelorat.

"Does it? There are six possible ways of arranging the numbers, four possible ways of arranging the signs, distances may be in light-years rather than parsecs, the angles in degrees, rather than radians. That's ninety-six different variations right there. Add to that, the point that if the distances are lightyears, I'm uncertain as to the length of the year used. Add also the fact that I don't know the actual conventions used to measure the angles-from the Melpomenian equator in one case, I suppose, but what's their prime merid-

Pelorat frowned. "Now you make it sound hopeless."

"Not hopeless. Aurora and Solaria are included in the list, and I know where they are in space. I'll use the coordinates, and see if I can locate them. If I end up in the wrong place, I will adjust the coordinates until they give me the right place, and that will tell me what mistaken assumptions I am making as far as the standards governing the coordinates are concerned. Once my assumptions are corrected, I can look for the center of the sphere."

"With all the possibilities for change, won't it make it difficult to decide what to do?"

"What?" said Trevize. He was increasingly absorbed. Then, when Pelorat repeated the question, he said, "Oh well, chances are that the coordinates follow the Galactic Standard and adjusting for an unknown prime meridian isn't difficult. These systems for locating points in space were worked out long ago, and most astronomers are pretty

confident they even antedate interstellar travel. Human beings are very conservative in some ways and virtually never change numerical conventions once they grow used to them. They even come to mistake them for laws of nature, I think. -Which is just as well, for if every world had its own conventions of measurement that changed every century, I honestly think scientific endeavor would stall and come to a permanent stop."

He was obviously working while he was talking, for his words came haltingly. And now he muttered, "But quiet now." .

After that, his face grew furrowed and concentrated until, after several minutes, he leaned back and drew a long breath. He said quietly, "The conventions hold. I've located Aurora. There's no question about it. -See?"

Pelorat stared at the field of stars, and at the bright one near the center and said, "Are you sure?"

Trevize said, "My own opinion doesn't matter. The computer is sure. We've visited Aurora, after all. We have its characteristics-its diameter, mass, luminosity, temperature, spectral details, to say nothing of the pattern of neighboring stars. The computer says it's Aurora."

"Then I suppose we must take its word for it."

"Believe me, we must. Let me adjust the viewscreen and the computer can get to work. It has the fifty sets of coordinates and it will use them one at a time."

Trevize was working on the screen as he spoke. The computer worked in the four dimensions of space-time routinely, but, for human inspection, the viewscreen was rarely needed in more than two dimensions. Now the screen seemed to unfold into a dark volume as deep as it, was tall and broad. Trevize dimmed the room lights almost totally to make the view of star-shine easier to observe.

"It will begin now," he whispered.

A moment later, a star appeared-then another-then another. The view on the screen shifted with every addition so that all might be included. It was as though space was moving backward from the eye so that a more and more panoramic view could be taken.. Combine that with shifts up or down, right or left-

Eventually, fifty dots of light appeared, hovering in three-dimensional space.

Trevize said, "I would have appreciated a beautiful spherical arrangement, but this looks like the skeleton of a snowball that had been patted into shape in a big hurry, out of snow that was too hard and gritty."

"Does that ruin everything?"

"It introduces some difficulties, but that can't be helped, I suppose. The stars themselves aren't uniformly distributed, and certainly habitable planets aren't, so there are bound to be unevennesses in the establishment of new worlds. The computer will adjust each of those dots to its present position, allowing for its likely motion in the last twenty thousand years-even in that time it won't mean much of an adjustment-and then fit them all into a 'bestsphere.' It will find a spherical surface, in other words, from which the distance of all the dots is a minimum. Then we find the center of the sphere, and Earth should be fairly close to that center. Or so we hope. -It won't take long."

IT DIDN'T. Trevize, who was used to accepting miracles from the computer, found himself astonished at how little time it took.

Trevize had instructed the computer to sound a soft, reverberating note upon deciding upon the coordinates of the best-center. There was no reason for that, except for the satisfaction of hearing it and knowing that perhaps the search had been ended.

The sound came in a matter of minutes, and was like the gentle stroking of a mellow gong. It swelled till they could feel the vibration physically, and then slowly faded.

Bliss appeared at the door almost at once. "What's that?" she asked, her eyes big. "An emergency?"

Trevize said, "Not at all."

Pelorat added eagerly, "We may have located Earth, Bliss. That sound was the computer's way of saying so."

She walked into the room. "I might have been warned."

Trevize said, "I'm sorry, Bliss. I didn't mean it to be quite that loud."

Fallom had followed Bliss into the room and said, "Why was there that sound, Bliss?"

"I see she's curious, too," said Trevize. He sat back, feeling drained. The next step was to try the finding on the real Galaxy, to focus on the coordinates of the center of the Spacer worlds and see if a G-type star was actually present. Once again, he was reluctant to take the obvious step, unable to make himself put the possible solution to the actual test.

"Yes," said Bliss. "Why shouldn't she? She's as human as we are."

"Her parent wouldn't have thought so," said Trevize abstractedly. "I worry about the kid. She's bad news."

"In what way has she proven so?" demanded Bliss.

Trevize spread his arms. "Just a feeling."

Bliss gave him a disdainful look, and turned to Fallom. "We are trying to locate Earth, Fallom."

"What's Earth?"

"Another world, but a special one. It's the world our ancestors came from. Do you know what the word 'ancestors' means from your reading, Fallom?"

"Does it mean ?" But the last word was not in Galactic.

Pelorat said, "That's an archaic word for 'ancestors,' Bliss. Our word 'forebears' is closer to it."

"Very well," said Bliss, with a sudden brilliant smile. "Earth is the world where our forebears came from, Fallom. Yours and mine and Pel's and Trevize's."

"Yours, Bliss-and mine also." Fallom sounded puzzled. "Both of them?"

"There's just one set of forebears," said Bliss. "We had the same forebears, all of us."

Trevize said, "It sounds to me as though the child knows very well that she's different from us."

Bliss said to Trevize in a low voice, "Don't say that. She must be made to see she isn't. Not in essentials."

"Hermaphrodism is essential, I should think."

"I'm talking about the mind."

"Transducer-lobes are essential, too."

"Now, Trevize, don't be difficult. She's intelligent and human regardless of details."

She turned to Fallom, her voice rising to its normal level. "Think quietly about this, Fallom, and see what it means to you. Your forebears and mine were the same. All the people on all the worlds-many, many worlds-all had the same forebears, and those forebears lived originally on the world named Earth. That means we're all relatives, doesn't it? -Now go back to our room and think of that."

Fallom, after bestowing a thoughtful look on Trevize, turned and ran off, hastened on by Bliss's affectionate slap on her backside.

Bliss turned to Trevize, and said, "Please, Trevize, promise me you won't make any comments in her hearing that will lead her to think she's different from us."

Trevize said, "I promise. I have no wish to impede or subvert the educational procedure, but, you know, she is different from us."

"In ways. As I'm different from you, and as Pel is."

"Don't be naive, Bliss. The differences in Fallom's case are much greater."

"A little greater. The similarities are vastly more important. She, and her people, will be part of Galaxia some day, and a very useful part, I'm sure."

"All right. We won't argue." He turned to the computer with clear reluctance. "And meanwhile, I'm afraid I have to check the supposed position of Earth in real space."

"Afraid?"

"Well," Trevize lifted his shoulders in what he hoped was a half-humorous way, "what if there's no suitable star near the place?"

"Then there isn't," said Bliss.

"I'm wondering if there's any point in checking it out now. We won't be able to make a Jump for several days."

"And you'll be spending them agonizing over the possibilities. Find out now. Waiting won't change matters."

Trevize sat there with his lips compressed for a moment, then said, "You're right. Very well, then-here goes."

He turned to the computer, placed his hands on the handmarks on the desk, and the viewscreen went dark.

Bliss said, "I'll leave you, then. I'll make you nervous if I stay." She left, with a wave of her hand.

"The thing is," he muttered, "that we're going to be checking the computer's Galactic map first and even if Earth's sun is in the calculated position, the map should not include it. But we'll then-"

His voice trailed off in astonishment as the viewscreen flashed with a background of stars. These were fairly numerous and dim, with an occasional brighter one sparkling here and there, well scattered over the face of the screen. But quite close to the center was a star that was brighter than all the rest.

"We've got it," said Pelorat jubilantly. "We've got it, old chap. Look how bright it is."

"Any star at centered coordinates would look bright," said Trevize, clearly trying to fight off any initial jubilation that might prove unfounded. "The view, after all, is presented from a distance of a parsec from the centered coordinates. Still, that centered star certainly isn't a red dwarf, or a red giant, or a hot blue-white. Wait for information; the computer is checking its data banks."

There was silence for a few seconds and then Trevize said, "Spectral class G-2." Another pause, then, "Diameter, 1.4 million kilometers-mass, 1.02 times that of Terminus's sun-surface temperature, 6,000 absolute-rotation slow, just under thirty days-no unusual activity or irregularity."

Pelorat said, "Isn't all that typical of the kind of star about which habitable planets are to be found?"

"Typical," said Trevize, nodding in the dimness. "And, therefore, what we'd expect Earth's sun to be like. If that is where life developed, the sun of Earth would have set the original standard."

"So there is a reasonable chance that there would be a habitable planet circling it."

"We don't have to speculate about that," said Trevize, who sounded puzzled indeed over the matter. "The Galactic map lists it as possessing a planet with human life-but with a question mark."

Pelorat's enthusiasm grew. "That's exactly what we would expect, Golan. The life-bearing planet is there, but the attempt to hide the fact obscures data concerning it and leaves the makers of the map the computer uses uncertain."

"No, that's what bothers me," said Trevize. "That's not what we should expect. We should expect far more than that. Considering the efficiency with which data concerning Earth has been wiped out, the makers of the map should not have known that life exists in the system, let alone human life. They should not even have known Earth's sun exists. The Spacer worlds aren't on the map. Why should Earth's sun be?"

"Well, it's there, just the same. What's the use of arguing the fact? What other information about the star is given?"

"A name." -

"Ah! What is it?"

"Alpha."

There was a short pause, then Pelorat said eagerly, "That's it, old man. That's the final bit of evidence. Consider the meaning."

"Does it have a meaning?" said Trevize. "It's just a name to me, and an odd one. It doesn't sound Galactic."

"It isn't Galactic. It's in a prehistoric language of Earth, the same one that gave us Gaia as the name of Bliss's planet."

"What does Alpha mean, then?"

"Alpha is the first letter of the alphabet of that ancient language. That is one of the most firmly attested scraps of knowledge we have about it. In ancient times, 'alpha' was sometimes used to mean the first of anything. To call a sun 'Alpha,' implies that it's the first sun. And wouldn't the first sun be the one around which a planet revolved that was the first planet to bear human, life-Earth?"

"Are you sure of that?"

"Absolutely," said Pelorat.

"Is there anything in early legends.-you're the mythologist, after all-that gives Earth's sun some very unusual attribute?"

"No, how can there be? It has to be standard by definition, and the characteristics the computer has given us are as standard as possible, I imagine. Aren't they?"

"Earth's sun is a single star, I suppose?"

Pelorat said, "Well, of course! As far as I know, all inhabited worlds orbit single stars."

"So I would have thought myself," said Trevize. "The trouble is that that star in the center of the viewscreen is not a single star, it is a binary. The brighter of the two stars making up the binary is indeed standard and it is that one for which the computer supplied us with data. Circling that star with a period of roughly eighty years, however, is another star with a mass four fifths that of the brighter one. We can't see the two as separate stars with the unaided eye, but if I were to enlarge the view, I'm sure we would."

"Are you certain of that, Golan?" said Pelorat, taken aback.

"It's what the computer is telling me. And if we are looking at a binary star, then it's not Earth's sun. It can't be."

71.

TREVIZE broke contact with the computer, and the lights brightened.

That was the signal, apparently, for Bliss to return, with Fallow tagging after her.

"Well, then, what are the results?" she asked.

Trevize said tonelessly, "Somewhat disappointing. Where I expected to find Earth's sun, I found a binary star, instead. Earth's sun is a single star, so the one centered is not it."

Pelorat said, "Now what, Golan?"

Trevize shrugged. "I didn't really expect to see Earth's sun centered. Even the Spacers wouldn't settle worlds in such a way as to set up an exact sphere. Aurora, the oldest of the Spacer worlds, might have sent out settlers of its own and that may have distorted the sphere, too. Then, too, Earth's sun may not have moved at precisely the average velocity of the Spacer worlds."

Pelorat said, "So the Earth can be anywhere. Is that what you're saying?"

"No. Not quite 'anywhere.' All these possible sources of error can't amount to much. Earth's sun must be in the vicinity of the coordinates. The star we've spotted almost exactly at the coordinates must be a neighbor of Earth's sun. It's startling that there should be a neighbor that so closely resembles Earth's sun-except for being a binary-but that must be the case."

"But we would see Earth's sun on the map, then, wouldn't we? I mean, near Alpha?"

"No, for I'm certain Earth's sun isn't on the map at all. It was that which shook my confidence when we first spied Alpha. Regardless of how much it might resemble Earth's sun, the mere fact that it was on the map made me suspect it was not the real thing."

"Well, then," said Bliss. "Why not concentrate on the same coordinates in real space? Then, if there is any bright star close to the center, a star that does not exist in the computer's map, and if it is very much like Alpha in its properties, but is single, might it not be Earth's sun?"

Trevize sighed. "If all that were so, I'd be willing to wager half my fortune, such as it is, that circling that star you speak of would be the planet Earth. -Again, I hesitate to try."

"Because you might fail?"

Trevize nodded. "However," he said, "just give me a moment or two to catch my breath, and I'll force myself to do so."

And while the three adults looked at each other, Fallow approached the computer-desk and stared curiously at the handmarks upon it. She reached out her own hand tentatively toward the markings, and Trevize blocked the motion with a swift outthrusting of his own arm and a sharp, "Mustn't touch, Fallow."

The young Solarian seemed startled, and retreated to the comfort of Bliss's encircling arm.

Pelorat said, "We must face it, Golan. What if you find nothing in real space?"

"Then we will be forced to go back to the earlier plan," said Trevize, "and visit each of the forty-seven Spacer worlds in turn."

"And if that yields nothing, Golan?"

Trevize shook his head in annoyance, as though to prevent that thought from taking too deep a root. Staring down at his knees, he said abruptly, "Then I will think of something else."

"But what if there is no world of forebears at all?"

Trevize looked up sharply at the treble voice. "Who said that?" he asked.

It was a useless question. The moment of disbelief faded, and he knew very well who the questioner was.

"I did," said Fallow.

Trevize looked at her with a slight frown. "Did you understand the conversation?"

Fallow said, "You are looking for the world of forebears, but you haven't found it yet. Maybe there isn't no such world."

"Any such world," said Bliss softly.

"No, Fallow," said Trevize seriously. "There has been a very big effort to hide it. To try so hard to hide something means there is something there to hide. Do you understand what I am saying?"

"Yes," said Fallow. "You do not let me touch the hands on the deck. Because you do not let me do that means it would be interesting to touch them."

"Ah, but not for you, Fallow. -Bliss, you are creating a monster that will destroy us all. Don't ever let her in here unless I'm at the desk. And even then, think twice, will you?"

The small byplay, however, seemed to have shaken him out of his irresolution. He said, "Obviously, I had better get to work. If I just sit here, uncertain as to what to do, that little fright will take over the ship."

The lights dimmed, and Bliss said in a low voice, "You promised, Trevize. Do not call her a monster or a fright in her hearing."

"Then keep an eye on her, and teach her some manners. Tell her children should be never heard and seldom seen."

Bliss frowned. "Your attitude toward children is simply appalling, Trevize."

"Maybe, but this is not the time to discuss the matter."

Then he said, in tones in which satisfaction and relief were equally represented, "There's Alpha again in real space. -And to its left, and slightly upward, is almost as bright a star and one that isn't in the computer's Galactic map. That is Earth's sun. I'll wager all my fortune on it."

72.

"WELL, Now," said Bliss, "we won't take any part of your fortune if you lose, so why not settle the matter in a forthright manner? Let's visit the star as soon as you can make the Jump."

Trevize shook his head. "No. This time it's not a matter of irresolution or fear. It's a matter of being careful. Three times we've visited an unknown world and three times we've come up against something unexpectedly dangerous. And three times, moreover, we've had to leave that world in a hurry. This time the matter is ultimately crucial and I will not play my cards in ignorance again; or at least in any more ignorance than I can help. So far, all we have are vague stories about radioactivity, and that is not enough. By an odd

chance that no one could have anticipated, there is a planet with human life about a parsec from Earth--"

"Do we really know that Alpha has a planet with human life on it?" put in Pelorat. "You said the computer placed a question mark after that."

"Even so," said Trevize, "it's worth trying. Why not take a look at it? If it does indeed have human beings on it, let us find out what they know about Earth. For them, after all, Earth is not a distant thing of legend; it is a neighbor world, bright and prominent in their sky."

Bliss said thoughtfully, "It's not a bad idea. It occurs to me that if Alpha is inhabited and if the inhabitants are not your thoroughly typical Isolates, they may be friendly, and we might be able to get some decent food for a change."

"And meet some pleasant people," said Trevize. "Don't forget that. Will it be all right with you, Janov?"

Pelorat said, "You make the decision, old chap. Wherever you go, I will go, too."

Fallom said suddenly, "Will we find Jemby?"

Bliss said hastily, before Trevize could answer, "We will look for it, Fallom."

And then Trevize said, "It's settled then. On to Alpha."

73.

"Two BIG stars," said Fallom, pointing to the viewscreen.

"That's right," said Trevize. "Two of them. -Bliss, do keep an eye on her. I don't want her fiddling with anything."

"She's fascinated by machinery," said Bliss.

"Yes, I know she is," said Trevize, "but I'm not fascinated by her fascination. - Though to tell you the truth, I'm as fascinated as she is at seeing two stars that bright in the viewscreen at the same time."

The two stars were bright enough to seem to be on the point of showing a disc--each of them. The screen had automatically increased filtration density in order to remove the hard radiation and dim the light of the bright stars so as to avoid retinal damage. As a result, few other stars were bright enough to be noticeable, and the two that were reigned in haughty near-isolation.

"The thing is," said Trevize, "I've never been this close to a binary system before."

"You haven't?" said Pelorat, open astonishment in his voice. "How is that possible?"

Trevize laughed. "I've been around, Janov, but I'm not the Galactic rover you think I am."

Pelorat said, "I was never in space at all till I met you, Golan, but I always thought that anyone who did manage to get into space--"

"Would go everywhere. I know. That's natural enough. The trouble with planet-bound people is that no matter how much their mind may tell them otherwise, their imaginations just can't take in the true size of the Galaxy. We could travel all our lives and leave most of the Galaxy unpenetrated and untouched. Besides, no one ever goes to binaries."

"Why not?" said Bliss, frowning. "We on Gaia know little astronomy compared to the traveling Isolates of the Galaxy, but I'm under the impression that binaries aren't rare."

"They're not," said Trevize. "There are substantially more binaries than there are single stars. However, the formation of two stars in close association upsets the ordinary processes of planetary formation. Binaries have less planetary material than single stars do. Such planets as do form about them often have relatively unstable orbits and are very rarely of a type that is reasonably habitable."

"Early explorers, I imagine, studied many binaries at close range but, after a while, for settlement purposes, they sought out only singles. And, of course, once you have a densely settled Galaxy, virtually all travel involves trade and communications and is carried on between inhabited worlds circling single stars. In periods of military activity, I suppose bases were sometimes set up on small, otherwise-uninhabited worlds circling one of the stars of a binary that happened to be strategically placed, but as hyperspatial travel came to be perfected, such bases were no longer necessary."

Pelorat said humbly, ".It's amazing how much I don't know."

Trevize merely grinned. "Don't let that impress you, Janov. When I was in the Navy, we listened to an incredible number of lectures on outmoded military tactics that no one ever planned, or intended to use, and were just talked about out of inertia. I was just rattling off a bit of one of them. -Consider all you know about mythology, folklore, and archaic languages that I don't know, and that only you and a very few others do know."

Bliss said, "Yes, but those two stars make up a binary system and one of them has an inhabited planet circling it."

"We hope it does, Bliss," said Trevize. "Everything has its exceptions. And with an official question mark in this case, which makes it more puzzling. -No, Fallom, those knobs are not toys. -Bliss, either keep her in handcuffs, or take her out."

"She won't hurt anything," said Bliss defensively, but pulled the Solarian youngster to herself just the same. "If you're so interested in that habitable planet, why aren't we there already?"

"For one thing," said Trevize, "I'm just human enough to want to see this sight of a binary system at close quarters. Then, too, I'm just human enough to be cautious. As I've already explained, nothing has happened since we left Gaia that would encourage me to be anything but cautious."

Pelorat said, "Which one of those stars is Alpha, Golan?"

"We won't get lost, Janov. The computer knows exactly which one is Alpha, and, for that matter, so do we. It's the hotter and yellower of the two because it's the larger."

Now the one on the right has a distinct orange tinge to its light, rather like Aurora's sun, if you recall. Do you notice?"

"Yes, now that you call it to my attention."

"Very well. That's the smaller one. -What's the second letter of that ancient language you speak of?"

Pelorat thought a moment, and said, "Beta."

"Then let's call the orange one Beta and the yellow-white one Alpha, and it's Alpha we're heading for right now."

17. NEW EARTH

74.

"FOUR PLANETS," muttered Trevize. "All are small, plus a trailing off of asteroids. No gas giants."

Pelorat said, "Do you find that disappointing?"

"Not really. It's expected. Binaries that circle each other at small distances can have no planets circling one of the stars. Planets can circle the center of gravity of both, but it's very unlikely that they would be habitable-too far away.

"On the other hand if the binaries are reasonably separate, there can be planets in stable orbits about each, if they are close enough to one or the other of the stars. These two stars, according to the computer's data bank, have an average separation of 3.5 billion kilometers and even at periastron, when they are closest together, are about 1.7 billion kilometers apart. A planet in an orbit of less than 200 million kilometers from either star would be stably situated, but there can be no planet with a larger orbit. That means no gas giants since they would have to be farther away from a star, but what's the difference? Gas giants aren't habitable, anyway."

"But one of those four planets might be habitable."

"Actually the second planet is the only real possibility. For one thing, it's the only one of them large enough to have an atmosphere."

They approached the second planet rapidly and over a period of two days its image expanded; at first with a majestic and measured swelling. And then, when there was no sign of any ship emerging to intercept them, with increasing and almost frightening speed.

The Far Star was moving swiftly along a temporary orbit a thousand kilometers above the cloud cover, when Trevize said grimly, "I see why the computer's memory banks put a question mark after the notation that it was inhabited. There's no clear sign of radiation; either light in the night-hemisphere, or radio anywhere."

"The cloud cover seems pretty thick," said Pelorat.

"That should not blank out radio radiation."

They watched the planet wheeling below them, a symphony in swirling white clouds, through occasional gaps of which a bluish wash indicated ocean.

Trevize said, "The cloud level is fairly heavy for an inhabited world. It might be a rather gloomy one. -What bothers me most," he added, as they plunged once more into the night-shadow, "is that no space stations have hailed us."

"The way they did back at Comporellon, you mean?" said Pelorat.

"The way they would in any inhabited world. We would have to stop for the usual checkup on papers, freight, length of stay, and so on."

Bliss said, "Perhaps we missed the hail for some reason."

"Our computer would have received it at any wavelength they might have cared to use. And we've been sending out our own signals, but have roused no one and nothing as a result. Dipping under the cloud layer without communicating with station officials violates space courtesy, but I don't see that we have a choice."

The Far Star slowed, and strengthened its antigravity accordingly, so as to maintain its height. It came out into the sunlight again, and slowed further. Trevize, in coordination with the computer, found a sizable break in the clouds. The ship sank and passed through it. Beneath them heaved the ocean in what must have been a fresh breeze. It lay, wrinkled, several kilometers below, them, faintly striped in lines of froth.

They flew out of the sunlit patch and under the cloud cover. The expanse of water immediately beneath them turned a slate-gray, and the temperature dropped noticeably.

Fallom, staring at the viewscreen, spoke in her own consonant-rich language for a few moments, then shifted to Galactic. Her voice trembled. "What is that which I see beneath?"

"That is an ocean," said Bliss soothingly. "It is a very large mass of water."

"Why does it not dry up?"

Bliss looked at Trevize, who said, "There's too much water for it to dry up. "

Fallom said in a half-choked manner, "I don't want all that water. Let us go away." And then she shrieked, thinly, as the Far Star moved through a patch of storm clouds so that the viewscreen turned milky and was streaked with the mark of raindrops.

The lights in the pilot-room dimmed and the ship's motion became slightly jerky.

Trevize looked up in surprise and cried out. "Bliss, your Fallom is old enough to transduce. She's using electric power to try to manipulate the controls. Stop her!"

Bliss put her arms about Fallom, and hugged her tightly, "It's all right, Fallom, it's all right. There's nothing to be afraid of. It's just another world, that's all. There are many like this."

Fallom relaxed somewhat but continued to tremble.

Bliss said to Trevize, "The child has never seen an ocean, and perhaps, for all I know, never experienced fog or rain. Can't you be sympathetic?"

"Not if she tampers with the ship. She's a danger to all of us, then. Take her into your room and calm her down."

Bliss nodded curtly.

Pelorat said, "I'll come with you, Bliss."

"No, no, Pel," she responded. "You stay here. I'll soothe Fallom and you soothe Trevize." And she left.

"I don't need soothing," growled Trevize to Pelorat. "I'm sorry if I flew off the handle, but we can't have a child playing with the controls, can we?"

"Of course we can't," said Pelorat, "but Bliss was caught by surprise. She can control Fallom, who is really remarkably well behaved for a child taken from her home and her-her robot, and thrown, willy-nilly, into a life she doesn't understand."

"I know. It wasn't I who wanted to take her along, remember. It was Bliss's idea."

"Yes, but the child would have been killed, if we hadn't taken her."

"Well, I'll apologize to Bliss later on. To the child, too."

But he was still frowning, and Pelorat said gently, "Golan, old chap, is there anything else bothering you?"

"The ocean," said Trevize. They had long emerged from the rain storm, but the clouds persisted.

"What's wrong with it?" asked Pelorat.

"There's too much of it, that's all."

Pelorat looked blank, and Trevize said, with a snap, "No land. We haven't seen any land. The atmosphere is perfectly normal, oxygen and nitrogen in decent proportions, so the planet has to be engineered, and there has to be plant life to maintain the oxygen level. In the natural state, such atmospheres do not occur-except, presumably, on Earth, where it developed, who knows how. But, then, on engineered planets there are always reasonable amounts of dry land, up to one third of the whole, and never less than a fifth. So how can this planet be engineered, and lack land?"

Pelorat said, "Perhaps, since this planet is part of a binary system, it is completely atypical. Maybe it wasn't engineered, but evolved an atmosphere in ways that never prevail on planets about single stars. Perhaps life developed independently here, as it once did on Earth, but only sea life."

"Even if we were to admit that," said Trevize, "it would do us no Good."

There's no way life in the sea can develop a technology. Technology is always based on fire, and fire is impossible in the sea. A life-bearing planet without technology is not what we're looking for."

"I realize that, but I'm only considering ideas. After all, as far as we know, technology only developed once--on Earth. Everywhere else, the Settlers brought it with them. You can't say technology is 'always' anything, if you only have one case to study."

"Travel through the sea requires streamlining. Sea life cannot have irregular outlines and appendages such as hands."

"Squids have tentacles."

Trevize said, "I admit we are allowed to speculate, but if you're thinking of intelligent squid-like creatures evolving independently somewhere in the Galaxy, and developing a technology not based on fire, you're supposing something not at all likely, in my opinion."

"In your opinion," said Pelorat gently.

Suddenly, Trevize laughed. "Very well, Janov. I see you're logic-chopping in order to get even with me for speaking harshly to Bliss, and you're doing a good job. I promise you that if we find no land, we will examine the sea as best we can to see if we can find your civilized squids."

As he spoke, the ship plunged into the night-shadow again, and the viewscreen turned black.

Pelorat winced. "I keep wondering," he said. "Is this safe?"

"Is what safe, Janov?"

"Racing through the dark like this. We might dip, and dive into the ocean, and be destroyed instantly."

"Quite impossible, Janov. Really! The computer keeps us traveling along a gravitational line of force. In other words, it remains always at a constant intensity of the planetary gravitational force which means it keeps us at a nearly constant height above sea level."

"But how high?"

"Nearly five kilometers."

"That doesn't really console me, Golan. Might we not reach land and smash into a mountain we don't see?"

"We don't see, but ship's radar will see it, and the computer will guide the ship around or over the mountain."

"What if there's level land, then? We'll miss it in the dark."

"No, Janov, we won't. Radar reflected from water is not at all like radar reflected from land. Water is essentially flat; land is rough. For that reason, reflection from land is substantially more chaotic than reflection from water. The computer will know the difference and it will let me know if there's land in view. Even if it were day and the planet were sun-lit, the computer might well detect land before I would."

They fell silent and, in a couple of hours, they were back in daylight, with an empty ocean again rolling beneath them monotonously, but occasionally invisible when they passed through one of the numerous storms. In one storm, the wind drove the Far Star out of its path. The computer gave way, Trevize explained, in order to prevent an unnecessary waste of energy and to minimize the chance of physical damage. Then, when the turbulence had passed, the computer eased the ship back into its path.

"Probably the edge of a hurricane," said Trevize.

Pelorat said, "See here, old chap, we're just traveling west to east-or east to west. All we're examining is the equator."

Trevize said, "That would be foolish, wouldn't it? We're following a great-circle route northwest-southeast. That takes us through the tropics and both temperate zones and each time we repeat the circle, the path moves westward, as the planet rotates on its axis beneath us. We're methodically crisscrossing the world. By now, since we haven't hit land, the chances of a sizable continent are less than one in ten, according to the computer, and of a sizable island less than one in four, with the chances going down each circle we make."

"You know what I would have done," said Pelorat slowly, as the night hemisphere engulfed them again. "I'd have stayed well away from the planet and swept the entire hemisphere facing me with radar. The clouds wouldn't have mattered, would they?"

Trevize said, "And then zoom to the other side and do the same there. Or just let the planet turn once. -That's hindsight, Janov. Who would expect to approach a habitable planet without stopping at a station and being given a path-or being excluded? And if one went under the cloud layer without stopping at a station, who would expect not to find land almost at once? Habitable planets are-land!"

"Surely not all land," said Pelorat.

"I'm not talking about that," said Trevize, in sudden excitement. "I'm saying we've found land! Quiet!"

Then, with a restraint that did not succeed in hiding his excitement, Trevize placed his hands on the desk and became part of the computer. He said, "It's an island about two hundred and fifty kilometers long and sixty-five kilometers wide, more or less. Perhaps fifteen thousand square kilometers in area or thereabout. Not large, but respectable. More than a dot on the map. Wait-"

The lights in the pilot-room dimmed and went out.

"What are we doing?" said Pelorat, automatically whispering as though darkness were something fragile that must not be shattered.

"Waiting for our eyes to undergo dark-adaptation. The ship is hovering over the island. Just watch. Do you see anything?"

"No- Little specks of light, maybe. I'm not sure."

"I see them, too. Now I'll throw in the telescopic lam."

And there was light! Clearly visible. Irregular patches of it.

"It's inhabited," said Trevize. "It may be the only inhabited portion of the pest-,"

"What do we do?"-

"We wait for daytime. That gives us a few hours in which we can rest."

"Might they not attack us?"

"With what? I detect almost no radiation except visible light and infrared. It's inhabited and the inhabitants are clearly intelligent. They have a technology, but obviously a preelectronic one, so I don't think there's anything to worry about up here. If I should be wrong, the computer will warn me in plenty of time."

"And once daylight comes?"

"We'll land, of course."

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THEY CAME down when the first rays of the morning sun shone through a break in the clouds to reveal part of the island-freshly green, with its interior marked by a line of low, rolling hills stretching into the purplish distance.

As they dropped closer, they could see isolated copses of trees and occasional orchards, but for the most part there were well-kept farms. Immediately below them, on the southeastern shore of the island was a silvery beach backed by a broken line of boulders, and beyond it was a stretch of lawn. They caught a glimpse of an occasional house, but these did not cluster into anything like a town.

Eventually, they made out a dim network of roads, sparsely lined by dwelling places, and then, in the cool morning air, they spied an air-car in the far distance. They could only tell it was an air-car, and not a bird, by the manner of its maneuvering. It was the first indubitable sign of intelligent life in action they had yet seen on the planet.

"It could be an automated vehicle, if they could manage that without electronics," said Trevize.

Bliss said, "It might well be. It seems to me that if there were a human being at the controls, it would be heading for us. We must be quite a sight-a vehicle sinking downward without the use of braking jets or rocket fire."

"A strange sight on any planet," said Trevize thoughtfully. "There can't be many worlds that have ever witnessed the descent of a gravitic space-vessel. -The beach would make a fine landing place, but if the winds blow I don't want the ship inundated. I'll make for the stretch of grass on the other side of the boulders."

"At least," said Pelorat, "a gravitic ship won't scorch private property in descending."

Down they came gently on the four broad pads that had moved slowly outward during the last stage. These pressed down into the soil under weight of the ship.

Pelorat said, "I'm afraid we'll leave marks, though."

"At least," said Bliss, and there was that in her voice that was not approving, "the climate is evidently equable. --I would even say, warm. "

A human being was on the grass, watching the ship descend and showing no evidence of fear or surprise. The look on her face showed only rapt interest.

She wore very little, which accounted for Bliss's estimate of the c Her sandals seemed to be of canvas, and about her hips was a wraparound skirt with a flowered pattern. There were no leg-coverings and there was nothing above her waist.

Her hair was black, long, and very glossy, descending almost to her waist; Her skin color was a pale brown and her eyes were narrow.

Trevize scanned the surroundings and there was no other human being in sight. He shrugged and said, "Well, it's early morning and the inhabitants may be mostly indoors, or even asleep. Still, I wouldn't say it was a well-populated area."

He turned to the others and said, "I'll go out and talk to the woman, if she,' speaks anything comprehensible. The rest of you-"

"I should think," said Bliss firmly, "that we might as well all step out. That woman looks completely harmless and, in any case, I want to stretch my legs and breathe planetary air, and perhaps arrange for planetary food. I want Fallow to get the feel of a world again, too, and I think Pel would like to examine the woman at closer range."

"Who? I?" said Pelorat, turning faintly pink. "Not at all, Bliss, but I am the linguist of our little party."

Trevize shrugged. "Come one, come all. Still, though she may look harmless, I intend to take my weapons with me."

"I doubt," said Bliss, "that you will be much tempted to use them on that young woman."

Trevize grinned. "She is attractive, isn't she?"

Trevize left the ship first, then Bliss, with one hand swung backward to enclose Fallom's, who carefully made her way down the ramp after Bliss. Pelorat was last.

The black-haired young woman continued to watch with interest. She did not back away an inch.

Trevize muttered, "Well, let's try."

He held his arms away from his weapons and said, "I greet you."

The young woman considered that for a moment, and said, "I greet thee and I greet thy companions."

Pelorat said joyfully, "How wonderful! She speaks Classical Galactic and with a correct accent."

"I understand her, too," said Trevize, oscillating one hand to indicate his understanding wasn't perfect. "I hope she understands me."

He said, smiling, and assuming a friendly expression, "We come from across space. We come from another world."

"That is well," said the young woman, in her clear soprano. "Comes thy ship from the Empire?"

"It comes from a far star, and the ship is named Far Star."

The young woman looked up at the lettering on the ship. "Is that what that sayeth? If that be so, and if the first letter is an F, then, behold, it is imprinted backward."

Trevize was about to object, but Pelorat, in an ecstasy of joy, said, "She's right. The letter F did reverse itself about two thousand years ago. What a marvelous chance to study Classical Galactic in detail and as a living language."

Trevize studied the young woman carefully. She was not much more than 1.5 meters in height, and her breasts, though shapely, were small. Yet she did not seem unripe. The nipples were large and the areolae dark, though that might be the result of her brownish skin color.

He said, "My name is Golan Trevize; my friend is Janov Pelorat; the woman is Bliss; and the child is Fallom."

"Is it the custom, then, on the far star from which you come, that the men be given a double name? I am Hiroko, daughter of Hiroko."

"And your father?" interposed Pelorat suddenly.

To which Hiroko replied with an indifferent shrug of her shoulder, "His name, so sayeth my mother, is Smool, but it is of no importance. I know him not."

"And where are the others?" asked Trevize. "You seem to be the only one to be here to greet us."

Hiroko said, "Many men are aboard the fishboats; many women are in the fields. I take holiday these last two days and so am fortunate enough to see this great thing. Yet people are curious and the ship will have been seen as it descended, even from a distance. Others will be here soon."

"Are there many others on this island?"

"There are more than a score and five thousand," said Hiroko with obvious pride.

"And are there other islands in the ocean?"

"Other islands, good sir?" She seemed puzzled.

Trevize took that as answer enough. This was the one spot on the entire planet that was inhabited by human beings.

He said, "What do you call your world?"

"It is Alpha, good sir. We are taught that the whole name is Alpha Centauri, if that has more meaning to thee, but we call it Alpha only and, see, it is a fair-visaged world."

"A what world?" said Trevize, turning blankly to Pelorat.

"A beautiful world, she means," said Pelorat.

"That it is," said Trevize, "at least here, and at this moment." He looked up at the mild blue morning sky, with its occasional drift of clouds. "You have a nice sunny day, Hiroko, but I imagine there aren't many of those on Alpha."

Hiroko stiffened. "As many as we wish, sir. The clouds may come when we need rain, but on most days it seemeth good to us that the sky is fair above. Surely a goodly sky and a quiet wind are much to be desired on those days when the fishboats are at sea."

"Do your people control the weather, then, Hiroko?"

"Did we not, Sir Golan Trevize, we would be soggy with rain."

"But how do you do that?"

"Not being a trained engineer, sir, I cannot tell thee."

"And what might be the name of this island on which you and your people live?" said Trevize, finding himself trapped in the ornate sound of Classical Galactic (and wondering desperately if he had the conjugations right).

Hiroko said, "We call our heavenly island in the midst of the vast sea of waters New Earth."

At which Trevize and Pelorat stared at each other with surprise and delight.

THERE was no time to follow up on the statement. Others were arriving. Dozens. They must consist of those, Trevize thought, who were not on the ships or in the fields, and who were not from too far away. They came on foot for the most part, though two ground-cars were in evidence—rather old and clumsy.

Clearly, this was a low-technology society, and yet they controlled the weather.

It was well known that technology was not necessarily all of a piece; that lack of advance in some directions did not necessarily exclude considerable advance in others—but surely this example of uneven development was unusual.

Of those who were now watching the ship, at least half were elderly men and women; there were also three or four children. Of the rest, more were women than men. None showed any fear or uncertainty whatever.

Trevize said in a low voice to Bliss, "Are you manipulating them? They seem-serene."

"I'm not in the least manipulating them," said Bliss. "I never touch minds unless I must. It's Fallom I'm concerned with."

Few as the newcomers were to anyone who had experienced the crowds of curiosity-seekers on any normal world in the Galaxy, they were a mob to Fallom, to whom

the three adults on the Far Star had been something to grow accustomed to. Fallom was breathing rapidly and shallowly, and her eyes were half-closed. Almost, she seemed in shock.

Bliss was stroking her, softly and rhythmically, and making soothing sounds. Trevize was certain that she was delicately accompanying it all by an infinitely gentle rearrangement of mental fibrils.

Fallom took in a sudden deep breath, almost a gasp, and shook herself, in what was perhaps an involuntary shudder. She raised her head and looked at those present with something approaching normality and then buried her head in the space between Bliss's arm and body.

Bliss let her remain so, while her arm, encircling Fallom's shoulder, tightened periodically as though to indicate her own protective presence over and over.

Pelorat seemed rather awestruck, as his eyes went from one Alphan to another. He said, "Golan, they differ so among themselves."

Trevize had noticed that, too. There were various shades of skin and hair color, including one brilliant redhead with blue eyes and freckled skin. At least three apparent adults were as short as Hiroko, and one or two were taller than Trevize. A number of both sexes had eyes resembling those of Hiroko, and Trevize remembered that on the teeming commercial planets of the Fili sector, such eyes were characteristic of the population, but he had never visited that sector.

All the Alphans wore nothing above the waist and among the women the breasts all seemed to be small. That was the most nearly uniform of all the bodily characteristics that he could see.

Bliss said suddenly, "Miss Hiroko, my youngster is not accustomed to travel through space and she is absorbing more novelty than she can easily manage. Would it be possible for her to sit down and, perhaps, have something to eat and drink?"

Hiroko looked puzzled, and Pelorat repeated what Bliss had said in the more ornate Galactic of the mid-Imperial period.

Hiroko's hand then flew to her mouth and she sank to her knees gracefully. "I crave your pardon, respected madam," she said. "I have not thought of this child's needs, nor of thine. The strangeness of this event has too occupied me. Wouldst thou-would you all-as visitors and guests, enter the refectory for morning meal? May we join you and serve as hosts?"

Bliss said, "That is kind of you." She spoke slowly and pronounced the words carefully, hoping to make them easier to understand. "It would be better, though, if you alone served as hostess, for the sake of the comfort of the child who is unaccustomed to being with many people at once."

Hiroko rose to her feet. "It shall be as thou hast said."

She led them, in leisurely manner, across the grass. Other Alphans edged closer. They seemed particularly interested in the clothing of the newcomers. Trevize removed his light jacket, and handed it to a man who had sidled toward him and had laid a questing finger upon it.

"Here," he said, "look it over, but return it." Then he said to Hiroko. "See that I get it back, Miss Hiroko."

"Of a surety, it will be backhanded, respected sir." She nodded her head gravely.

Trevize smiled and walked on. He was more comfortable without the jacket in the light, mild breeze.

He had detected no visible weapons on the persons of any of those about him, and he found it interesting that no one seemed to show any fear or discomfort over Trevize's. They did not even show curiosity concerning them. It might well be that they were not aware of the objects as weapons at all. From what Trevize had so far seen, Alpha might well be a world utterly without violence.

A woman, having moved rapidly forward, so as to be a little ahead of Bliss, turned to examine her blouse minutely, then said, "Hast thou breasts, respected madam?"

And, as though unable to wait for an answer, she placed her hand lightly on Bliss's chest.

Bliss smiled and said, "As thou hast discovered, I have. They are perhaps not as shapely as thine, but I hide them not for that reason. On my world, it is not fitting that they be uncovered."

She whispered in an aside to Pelorat, "How do you like the way I'm getting the hang of Classical Galactic?"

"You did that very well, Bliss," said Pelorat.

The dining room was a large one with long tables to which were attached long benches on either side. Clearly, the Alphans ate community-fashion.

Trevize felt a pang of conscience. Bliss's request for privacy had reserved this space for five people and forced the Alphans generally to remain in exile outside. A number, however, placed themselves at a respectful distance from the windows (which were no more than gaps in the wall, unfilled even by screens), presumably so that they might watch the strangers eat.

Involuntarily, he wondered what would happen if it were to rain. Surely, the rain would come only when it was needed, light and mild, continuing without significant wind till enough had fallen. Moreover, it would always come at known times so that the Alphans would be ready for it, Trevize imagined.

The window he was facing looked out to sea, and far out at the horizon it seemed to Trevize that he could make out a bank of clouds similar to those that so nearly filled the skies everywhere but over this little spot of Eden.

There were advantages to weather control.

Eventually, they were served by a young woman on tiptoeing feet. They were not asked for their choice, but were merely served. There was a small glass of milk, a larger of grape juice, a still larger of water. Each diner received two large poached eggs, with slivers of white cheese on the side. Each also had a large platter of broiled fish and small roasted potatoes, resting on cool, green lettuce leaves.

Bliss looked with dismay at the quantity of food before her and was clearly at a loss where to begin. Fallom had no such trouble. She drank the grape juice thirstily and with

clear evidence of approval, then chewed away at the fish and potatoes. She was about to use her fingers for the purpose, but Bliss held up a large spoon with tined ends that could serve as a fork as well, and Fallom accepted it.

Pelorat smiled his satisfaction and cut into the eggs at once.

Trevize, saying, "Now to be reminded what real eggs taste like," followed suit.

Hiroko, forgetting to eat her own breakfast in her delight at the manner in which the others ate (for even Bliss finally began, with obvious relish), said, at last, "Is it well?"

"It is well," said Trevize, his voice somewhat muffled. "This island has no shortage of food, apparently. -Or do you serve us more than you should, out of politeness?"

Hiroko listened with intent eyes, and seemed to grasp the meaning, for she said, "No, no, respected sir. Our land is bountiful, our sea even more so. Our ducks give eggs, our goats both cheese and milk. And there are our grains. Above all, our sea is filled with countless varieties of fish in numberless quantity. The whole Empire could eat at our tables and consume not the fish of our sea."

Trevize smiled discreetly. Clearly, the young Alphan had not the smallest idea of the true size of the Galaxy.

He said, "You call this island New Earth, Hiroko. Where, then, might Old Earth be?"

She looked at him in bewilderment. "Old Earth, say you? I crave pardon, respected sir. I take not thy meaning."

Trevize said, "Before there was a New Earth, your people must have lived elsewhere. Where was this elsewhere from which they came?"

"I know naught of that, respected sir," she said, with troubled gravity. "This land has been mine all my life, and my mother's and grandmother's before me; and, I doubt not, their grandmother's and great-grandmother's before them. Of any other land, I know naught."

"But," said Trevize, descending to gentle argumentation, "you speak of this land as New Earth. Why do you call it that?"

"Because, respected sir," she replied, equally gentle, "that is what it is called by all since the mind of woman goeth not to the contrary."

"But it is New Earth, and therefore, a later Earth. There must be an Old Earth, a former one, for which it was named. Each morning there is a new day, and that implies that earlier there had existed an old day. Don't you see that this must be so?"

"Nay, respected sir. I know only what this land is called. I know of naught else, nor do I follow this reasoning of thine which sounds very much like what we call here chop-logic. I mean no offense."

And Trevize shook his head and felt defeated.

TREVIZE leaned toward Pelorat, and whispered, "Wherever we go, whatever we do, we get no information."

"We know where Earth is, so what does it matter?" said Pelorat, doing little more than move his lips.

"I want to know something about it."

"She's very young. Scarcely a repository of information."

Trevize thought about that, then nodded. "Right, Janov."

He turned to Hiroko and said, "Miss Hiroko, you haven't asked us why we are here in your land?"

Hiroko's eyes fell, and she said, "That would be but scant courtesy until you have all eaten and rested, respected sir."

"But we have eaten, or almost so, and we have recently rested, so I shall tell you why we are here. My friend, Dr. Pelorat, is a scholar on our world, a learned man. He is a mythologist. Do you know what that means?"

"Nay, respected sir, I do not."

"He studies old tales as they are told on different worlds. Old tales are known as myths or legends and they interest Dr. Pelorat. Are there learned ones on New Earth who know the old tales of this world?"

Hiroko's forehead creased slightly into a frown of thought. She said, "This is not a matter in which I am myself skilled. We have an old man in these parts who loves to talk of ancient days. Where he may have learned these things, I know not, and methinks he may have spun his notions out of air, or heard them from others who did so spin. This is perhaps the material which thy learned companion would hear, yet I would not mislead thee. It is in my mind," she looked to right and left as though unwilling to be overheard, "that the old man is but a prater, though many listen willingly to him."

Trevize nodded. "Such prating is what we wish. Would it be possible for you to take my friend to this old man?"

"Monolee he calls himself."

"-to Monolee, then. And do you think Monolee would be willing to speak to my friend?"

"He? Willing to speak?" said Hiroko scornfully. "Thou must ask, rather, if he be ever ready to cease from speaking. He is but a man, and will therefore speak, if allowed, till a fortnight hence, with no pause. I mean no offense, respected sir."

"No offense taken. Would you lead my friend to Monolee now?"

"That may anyone do at any time. The ancient is ever home and ever ready to greet an ear."

Trevize said, "And perhaps an older woman would be willing to come and sit with Madam Bliss. She has the child to care for and cannot move about too much. It would please her to have company, for women, as you know, are fond of-"

"Prating?" said Hiroko, clearly amused. "Why, so men say, although I have observed that men are always the greater babblers. Let the men return from their fishing, and one will vie with another in telling greater flights of fancy concerning their catches. None will mark them nor believe, but this will not stop them, either. But enough of my prating, too. -I will have a friend of my mother's, one whom I can see through the window, stay with Madam Bliss and the child, and before that she will guide your friend, the respected doctor, to the aged Monolee. If your friend will hear as avidly as Monolee will prate, thou wilt scarcely part them in this life. Wilt thou pardon my absence a moment?"

When she had left, Trevize turned to Pelorat and said, "Listen, get what you can out of the old man, and Bliss, you find out what you can from whoever stays with you. What you want is anything about Earth."

"And you?" said Bliss. "What will you do?"

"I will remain with Hiroko, and try to find a third source."

Bliss smiled. "Ah yes. Pel will be with this old man; I with an old woman. You will force yourself to remain with this fetchingly unclad young woman. It seems a reasonable division of labor."

"As it happens, Bliss, it is reasonable."

"But you don't find it depressing that the reasonable division of labor should work out so, I suppose."

"No, I don't. Why should I?"

"Why should you, indeed?"

Hiroko was back, and sat down again. "It is all arranged. The respected Dr. Pelorat will be taken to Monolee; and the respected Madam Bliss, together with her child, will have company. May I be granted, then, respected Sir Trevize, the boon of further conversation with thee, mayhap of this Old Earth of which thou-

"Pratest?" asked Trevize.

"Nay," said Hiroko, laughing. "But thou dost well to mock me. I showed thee but discourtesy ere now in answering thy question on this matter. I would fain make amends."

Trevize turned to Pelorat. "Fain?"

"Be eager," said Pelorat softly.

Trevize said, "Miss Hiroko, I felt no discourtesy, but if it will make you feel better, I will gladly speak with you."

"Kindly spoken. I thank thee," said Hiroko, rising.

Trevize rose, too. "Bliss," he said, "make sure Janov remains safe."

"Leave that to me. As for you, you have your-" She nodded toward his holsters.

"I don't think I'll need them," said Trevize uncomfortably.

He followed Hiroko out of the dining room. The sun was higher in the sky now and the temperature was still warmer. There was an otherworldly smell as always. Trevize remembered it had been faint on Comporellon, a little musty on Aurora, and rather delightful on Solaria. (On Melpomenia, they were in space suits where one is only aware

of the smell of one's own body.) In every case, it disappeared in a matter of hours as the osmic centers of the nose grew saturated.

Here, on Alpha, the odor was a pleasant grassy fragrance under the warming effect of the sun, and Trevize felt a bit annoyed, knowing that this, too, would soon disappear.

They were approaching a small structure that seemed to be built of a pale pink plaster.

"This," said Hiroko, "is my home. It used to belong to my mother's younger sister."

She walked in and motioned Trevize to follow. The door was open or, Trevize noticed as he passed through, it would be more accurate to say there was no door.

Trevize said, "What do you do when it rains?"

"We are ready. It will rain two days hence, for three hours ere dawn, when it is coolest, and when it will moisten the soil most powerfully. Then I have but to draw this curtain, both heavy and water-repellent, across the door."

She did so as she spoke. It seemed made of a strong canvas-like material.

"I will leave it in place now," she went on. "All will then know I am within but not available, for I sleep or am occupied in matters of importance."

"It doesn't seem much of a guardian of privacy."

"Why should it not be? See, the entrance is covered."

"But anyone could shove it aside."

"With disregard of the wishes of the occupant?" Hiroko looked shocked. "Are such things done on thy world? It would be barbarous."

Trevize grinned. "I only asked."

She led him into the second of two rooms, and, at her invitation, he seated himself in a padded chair. There was something claustrophobic about the blockish smallness and emptiness of the rooms, but the house seemed designed for little more than seclusion and rest. The window openings were small and near the ceiling, but there were dull mirror strips in a careful pattern along the walls, which reflected light diffusely. There were slits in the loor from which a gentle, cool breeze uplifted. Trevize saw no signs of artifinal lighting and wondered if Alphans had to wake at sunrise and go to bed at sunset.

He was about to ask, but Hiroko spoke first, saying, "Is Madam Bliss thy woman companion?"

Trevize said cautiously, "Do you mean by that, is she my sexual partner?"

Hiroko colored. "I pray thee, have regard for the decencies of polite conversation, but I do mean private pleasantry."

"No, she is the woman companion of my learned friend."

"But thou art the younger, and the more goodly."

"Well, thank you for your opinion, but it is not Bliss's opinion. She likes Dr. Pelorat much more than she does me."

"That much surprises me. Will he not share?"

"I have not asked him whether he would, but I'm sure he wouldn't. Nor would I want him to."

Hiroko nodded her head wisely. "I know. It is her fundament."

"Her fundament?"

"Thou knowest. This." And she slapped her own dainty rear end.

"Oh, that! I understand you. Yes, Bliss is generously proportioned in her pelvic anatomy." He made a curving gesture with his hands and winked. (And Hiroko laughed.)

Trevize said, "Nevertheless, a great many men enjoy that kind of generosity of figure."

"I cannot believe so. Surely it would be a sort of gluttony to wish excess of that which is pleasant in moderation. Wouldst thou think more of me if my breasts were massive and dangling, with nipples pointing to toes? I have, in good sooth, seen such, yet have I not seen men flock to them. The poor women so afflicted must needs cover their monstrosities-as Madam Bliss does."

"Such oversize wouldn't attract me, either, though I am sure that Bliss doesn't cover her breasts for any imperfection they may have."

"Thou dost not, then, disapprove of my visage or form?"

"I would be a madman to do so. You are beautiful."

"And what dost thou for pleasantries on this ship of thine, as thou flittest from one world to the next-Madam Bliss being denied thee?"

"Nothing, Hiroko. There's nothing to do. I think of pleasantries on occasion and that has its discomforts, but we who travel through space know well that there are times when we must do without. We make up for it at other times."

"If it be a discomfort, how may that be removed?"

"I experience considerably more discomfort since you've brought up the subject. I don't think it would be polite to suggest how I might be comforted."

"Would it be discourtesy, were I to suggest a way?"

"It would depend entirely on the nature of the suggestion."

"I would suggest that we be pleasant with each other."

"Did you bring me here, Hiroko, that it might come to this?"

Hiroko said, with a pleased smile, "Yes. It would be both my hostess-duty of courtesy, and it would be my wish, too."

"If that's the case, I will admit it is my wish, too. In fact, I would like very much to oblige you in this. I would be-uh fain to do thee pleasure."

18. THE MUSIC FESTIVAL

78.

LUNCH was in the same dining room in which they had had breakfast. It was full of Alphans, and with them were Trevize and Pelorat, made thoroughly welcome. Bliss and Fallom ate separately, and more or less privately, in a small annex.

There were several varieties of fish, together with soup in which there were strips of what might well have been boiled kid. Loaves of bread were there for the slicing, butter and jam for the spreading. A salad, large and diffuse, came afterward, and there was a notable absence of any dessert, although fruit juices were passed about in apparently inexhaustible pitchers. Both Foundationers were forced to be abstemious after their heavy breakfast, but everyone else seemed to eat freely.

"How do they keep from getting fat?" wondered Pelorat in a low voice.

Trevize shrugged. "Lots of physical labor, perhaps."

It was clearly a society in which decorum at meals was not greatly valued. There was a miscellaneous hubbub of shouting, laughing, and thumping on the table with thick, obviously unbreakable, cups. Women were as loud and raucous as men, albeit in higher pitch.

Pelorat winced, but Trevize, who now (temporarily, at least) felt no trace of the discomfort he had spoken of to Hiroko, felt both relaxed and good-natured.

He said, "Actually, it has its pleasant side. These are people who appear to enjoy life and who have few, if any, cares. Weather is what they make it and food is unimaginably plentiful. This is a golden age for them that simply continues and continues."

He had to shout to make himself heard, and Pelorat shouted back, "But it's so noisy."

"They're used to it."

"I don't see how they can understand each other in this riot."

Certainly, it was all lost on the two Foundationers. The queer pronunciation and the archaic grammar and word order of the Alphan language made it impossible to understand at the intense sound levels. To the Foundationers, it was like listening to the sounds of a zoo in fright.

It was not till after lunch that they rejoined Bliss in a small structure, which Trevize found to be rather inconsiderably different from Hiroko's quarters, and which had been assigned them as their own temporary living quarters. Fallom was in the second room, enormously relieved to be alone, according to Bliss, and attempting to nap.

Pelorat looked at the door-gap in the wall and said uncertainly, "There's very little privacy here. How can we speak freely?"

"I assure you," said Trevize, "that once we pull the canvas barrier across the door, we won't be disturbed. The canvas makes it impenetrable by all the force of social custom."

Pelorat glanced at the high, open windows. "We can be overheard."

"We need not shout. The Alphans won't eavesdrop. Even when they stood outside the windows of the dining room at breakfast, they remained at a respectful distance."

Bliss smiled. "You've learned so much about Alphan customs in the time you spent alone with gentle little Hiroko, and you've gained such confidence in their respect for privacy. What happened?"

Trevize said, "If you're aware that the tendrils of my mind have undergone a change for the better and can guess the reason, I can only ask you to leave my mind alone."

"You know very well that Gaia will not touch your mind under any circumstances short of life-crisis, and you know why. Still, I'm not mentally blind. I could sense what happened a kilometer away. Is this your invariable custom on space voyages, my erotomaniac friend?"

"Erotomaniac? Come, Bliss. Twice on this entire trip. Twice!"

"We were only on two worlds that had functioning human females on them. Two out of two, and we had only been a few hours on each."

"You are well aware I had no choice on Comporellon."

"That makes sense. I remember what she looked like." For a few moments, Bliss dissolved in laughter. Then she said, "Yet I don't think Hiroko held you helpless in her mighty grip, or inflicted her irresistible will on your cringing body."

"Of course not. I was perfectly willing. But it was her suggestion, just the same."

Pelorat said, with just a tinge of envy in his voice, "Does this happen to you all the time, Golan?"

"Of course it must, Pel," said Bliss. "Women are helplessly drawn to him."

"I wish that were so," said Trevize, "but it isn't. And I'm glad it isn't-I do have other things I want to do in life. Just the same, in this case I was irresistible. After all, -we were the first people from another world that Hiroko had ever seen or, apparently, that anyone now alive on Alpha had ever seen: I gathered from things she let slip, casual remarks, that she had the rather exciting notion that I might be different from Alphans, either anatomically or in my technique. Poor thing. I'm -afraid she was disappointed."

"Oh?" said Bliss. "Were you?"

"No," said Trevize. "I have been on a number of worlds and I have had my experiences. And what I had discovered is that people are people and sex is sex, wherever one goes. If there are noticeable differences, they are usually both trivial and unpleasant. The perfumes I've encountered in my time! I remember when a young woman simply couldn't manage unless there was music loudly played, music that consisted of a desperate screeching sound. So she played the music and then I couldn't manage. I assure you-if it's the same old thing, then I'm satisfied."

"Speaking of music," said Bliss, "we are invited to a musicale after dinner. A very formal thing, apparently, that is being held in our honor. I gather the Alphans are very proud of their music."

Trevize grimaced. "Their pride will in no way make the music sound better to our ears."

"Hear me out," said Bliss. "I gather that their pride is that they play expertly on very archaic instruments. Very archaic. We may get some information about Earth by way of them."

Trevize's eyebrows shot up. "An interesting thought. And that reminds me that both of you may already have information. Janov, did you see this Monolee that Hiroko told us about?"

"Indeed I did," said Pelorat. "I was with him for three hours and Hiroko did not exaggerate. It was a virtual monologue on his part and when I left to come to lunch, he clung to me and would not let me go until I promised to return whenever I could in order that I might listen to him some more."

"And did he say anything of interest?"

"Well, he, too-like everybody else-insisted that Earth was thoroughly and murderously radioactive; that the ancestors of the Alphans were the last to leave and that if they hadn't, they would have died. -And, Golan, he was so emphatic that I couldn't help believing him. I'm convinced that Earth is dead, and that our entire search is, after all, useless."

79.

TREVIZE sat back in his chair, staring at Pelorat, who was sitting on a narrow cot. Bliss, having risen from where she had been sitting next to Pelorat, looked from one to the other.

Finally, Trevize said, "Let me be the judge as to whether our search is useless or not, Janov. Tell me what the garrulous old man had to say to you in brief, of course."

Pelorat said, "I took notes as Monolee spoke. It helped reinforce my role a scholar, but I don't have to refer to them. He was quite stream-of-consciousness in his speaking. Each thing he said would remind him of something else, but, of course, I have spent my life trying to organize information in the search of the relevant and significant, so that it's second nature for me now to be able to condense a long and incoherent discourse-

Trevize said gently, "Into something just as long and incoherent? To the point, dear Janov."

Pelorat cleared his throat uneasily. "Yes, certainly, old chap. I'll try to make a connected and chronological tale out of it. Earth was the original home of humanity and of millions of species of plants and animals. It continued so for countless years until hyperspatial travel was invented. Then the Spacer worlds were founded. They broke away

from Earth, developed their own cultures, and came to despise and oppress the mother planet.

"After a couple of centuries of this, Earth managed to regain its freedom, though Monolee did not explain the exact manner in which this was done, and I dared not ask questions, even if he had given me a chance to interrupt, which he did not, for that might merely have sent him into new byways. He did mention a culture-hero named Elijah Baley, but the references were so characteristic of the habit of attributing to one figure the accomplishments of generations that there was little value in attempting to-

Bliss said, "Yes, Pel dear, we understand that part."

Again, Pelorat paused in midstream and reconsidered. "Of course. My apologies. Earth initiated a second wave of settlements, founding many new worlds in a new fashion. The new group of Settlers proved more vigorous than the Spacers, outpaced them, defeated them, outlasted them, and, eventually, established the Galactic Empire. During the course of the wars between the Settlers and the Spacers-no, not wars, for he used the word 'conflict,' being very careful about that-the Earth became radioactive."

Trevize said, with clear annoyance, "That's ridiculous, Janov. How can a world become radioactive? Every world is very slightly radioactive to one degree or another from the moment of formation, and that radioactivity slowly decays. It doesn't become radioactive."

Pelorat shrugged. "I'm only telling you what he said. And he was only telling me what he had heard-from someone who only told him what he had heard-and so on. It's folk-history, told and retold over the generations, with who knows what distortions creeping in at each retelling."

"I understand that, but are there no books, documents, ancient histories which have frozen the story at an early time and which could give us something more accurate than the present tale?"

"Actually, I managed to ask that question, and the answer is no. He said vaguely that there were books about it in ancient times and that they had long ago been lost, but that what he was telling us was what had been in those books."

"Yes, well distorted. It's the same story. In every world we go to, the records of Earth have, in one way or another, disappeared. -Well, how did he say the radioactivity began on Earth?"

"He didn't, in any detail. The closest he came to saying so was that the Spacers were responsible, but then I gathered that the Spacers were the demons on whom the people of Earth blamed all misfortune. The radioactivity-

A clear voice overrode him here. "Bliss, am I a Spacer?"

Fallom was standing in the narrow doorway between the two rooms, hair tousled and the nightgown she was wearing (designed to fit Bliss's more ample proportions) having slid off one shoulder to reveal an undeveloped breast.

Bliss said, "We worry about eavesdroppers outside and we forget the one inside. - Now, Fallom, why do you say that?" She rose and walked toward the youngster.

Fallom said, "I don't have what they have," she pointed at the two men, "or what you have, Bliss. I'm different. Is that because I'm a Spacer?"

"You are, Fallom," said Bliss soothingly, "but little differences don't matter. Come back to bed."

Fallom became submissive as she always did when Bliss willed her to be so. She turned and said, "Am I a demon? What is a demon?"

Bliss said over her shoulder, "Wait one moment for me. I'll be right back."

She was, within five minutes. She was shaking her head. "She'll be sleeping now till I wake her. I should have done that before, I suppose, but any modification of the mind must be the result of necessity." She added defensively, "I can't have her brood on the differences between her genital equipment and ours."

Pelorat said, "Someday she'll have to know she's hermaphroditic."

"Someday," said Bliss, "but not now. Go on with the story, Pel."

"Yes," said Trevize, "before something else interrupts us."

"Well, Earth became radioactive, or at least its crust did. At that time, Earth had had an enormous population that was centered in huge cities that existed for the most part underground-"

"Now, that," put in Trevize, "is surely not so. "It must be local patriotism glorifying the golden age of a planet, and the details were simply a distortion of Trantor in its golden age, when it was the Imperial capital of a Galaxy-wide system of worlds."

Pelorat paused, then said, "Really, Golan, you mustn't teach me my business. We mythologists know very well that myths and legends contain borrowings, moral lessons, nature cycles, and a hundred other distorting influences, and we labor to cut them away and get to what might be a kernel of truth. In fact, these same techniques must be applied to the most sober histories, for no one writes the clear and apparent truth-if such a thing can even be said to exist. For now, I'm telling you more or less what Monolee told me, though I suppose I am adding distortions of my own, try as I might not to do so."

"Well, well," said Trevize. "Go on, Janov. I meant no offense."

"And I've taken none. The huge cities, assuming they existed, crumbled and shrank as the radioactivity slowly grew more intense until the population was but a remnant of what it had been, clinging precariously to regions that were relatively radiation-free. The population was kept down by rigid birth control and by the euthanasia of people over sixty."

"Horrible," said Bliss indignantly.

"Undoubtedly," said Pelorat, "but that is what they did, according to Monolee, and that might be true, for it is certainly not complimentary to the Earthpeople and it is not likely that an uncomplimentary lie would be made up. The Earthpeople, having been despised and oppressed by the Spacers, were now despised and oppressed by the Empire, though here we may have exaggeration there out of self-pity, which is a very seductive emotion. There is the case-"

"Yes, yes, Pelorat, another time. Please go on with Earth."

"I beg your pardon. The Empire, in a fit of benevolence, agreed to substitute imported radiation-free soil and to cart away the contaminated soil. Needless to say, that was an enormous task which the Empire soon tired of, especially as this period (if my guess is right) coincided with the fall of Kandar V, after which the Empire had many more things to worry about than Earth.

"The radioactivity continued to grow more intense, the population continued to fall, and finally the Empire, in another fit of benevolence, offered to transplant the remnant of the population to a new world of their own-to this world, in short.

"At an earlier period, it seems an expedition had stocked the ocean so that by the time 'the plans for the transplantation of Earthpeople were being developed, there was a full oxygen atmosphere and an ample supply of food on Alpha. Nor did any of the worlds of the Galactic Empire covet this world because there is a certain natural antipathy to planets that circle stars of a binary system. There are so few suitable planets in such a system, I suppose, that even suitable ones are rejected because of the assumption that there must be something wrong with them. This is a common thought-fashion. There is the well-known case, for instance, of-

"Later with the well-known case, Janov," said Trevize. "On with the transplantation."

"What remained," said Pelorat, hurrying his words a little, "was to prepare a land-base. The shallowest part of the ocean was found and sediment was raised from deeper parts to add to the shallow sea-bottom and, finally, to produce the island of New Earth. Boulders and coral were dredged up and added to the island. Land plants were seeded so that root systems might help make the new land firm. Again, the Empire had set itself an enormous task. Perhaps continents were planned at first, but by the time this one island was produced, the Empire's moment of benevolence had passed.

"What was left of Earth's population was brought here. The Empire's fleets carried off its men and machinery, and they never returned. The Earthpeople, living on New Earth, found themselves in complete isolation."

Trevize said, "Complete? Did Monolee say that no one from elsewhere in the Galaxy has ever come here till we did?"

"Almost complete," said Pelorat. "There is nothing to come here for, I suppose, even if we set aside the superstitious distaste for binary systems. Occasionally, at long intervals, a ship would come, as ours did, but it would eventually leave and there has never been a follow-up. And that's it."

Trevize said, "Did you ask Monolee where Earth was located?"

"Of course I asked that. He didn't know."

"How can he know so much about Earth's history without knowing where it is located?"

"I asked him specifically, Golan, if the star that was only a parsec or so distant from Alpha might be the sun about which Earth revolved. He didn't know what a parsec was, and I said it was a short distance, astronomically speaking. He said, short or long, he did not know where Earth was located and he didn't know anyone who knew, and, in his

opinion, it was wrong to try to find it. It should be allowed, he said, to move endlessly through space in peace."

Trevize said, "Do you agree with him?"

Pelorat shook his head sorrowfully. "Not really. But he said that at the rate the radioactivity continued to increase, the planet must have become totally uninhabitable not long after the transplantation took place and that by now it must be burning intensely so that no one can approach."

"Nonsense," said Trevize firmly. "A planet cannot become radioactive and, having done so, continuously increase in radioactivity. Radioactivity can only decrease."

"But Monolee is so sure of it. So many people we've talked to on various worlds unite in this-that Earth is radioactive. Surely, it is useless to go on."

80.

TREVIZE drew a deep breath, then said, in a carefully controlled voice, "Nonsense, Janov. That's not true."

Pelorat said, "Well, now, old chap, you mustn't believe something just because you want to believe it."

"My wants have nothing to do with it. In world after world we find all records of Earth wiped out. Why should they be. wiped out if there is nothing to hide; if Earth is a dead, radioactive world that cannot be approached?"

"I don't know, Golan."

"Yes, you do. When we were approaching Melpomenia, you said that the radioactivity might be the other side of the coin. Destroy records to remove accurate information; supply the tale of radioactivity to insert inaccurate information. Both would discourage any attempt to find Earth, and we mustn't be deluded into discouragement."

Bliss said, "Actually, you seem to think the nearby star is Earth's sun. Why, then, continue to argue the question of radioactivity? What does it matter? Why not simply go to the nearby star and see if it is Earth, and, if so, what it is like?"

Trevize said, "Because those on Earth must be, in their way, extraordinarily powerful, and I would prefer to approach with some knowledge of the world and its inhabitants. As it is, since I continue to remain ignorant of Earth, approaching it is dangerous. It is my notion that I leave the rest of you here on Alpha and that I proceed to Earth by myself. One life is quite enough to risk."

"No, Golan," said Pelorat earnestly. "Bliss and the child might wait here, but I must go with you. I have been searching for Earth since before you were born and I cannot stay behind when the goal is so close, whatever dangers might threaten."

"Bliss and the child will not wait here," said Bliss. "I am Gaia, and Gaia can protect us even against Earth."

"I hope you're right," said Trevize gloomily, "but Gaia could not prevent the elimination of all early memories of Earth's role in its founding."

"That was done in Gaia's early history when it was not yet well organized, not yet advanced. Matters are different now."

"I hope that is so. -Or is it that you have gained information about Earth this morning that we don't have? I did ask that you speak to some of the older women that might be available here."

"And so I did."

Trevize said, "And what did you find out?"

"Nothing about Earth. There is a total blank there."

"Ah."

"But they are advanced biotechnologists."

"Oh?"

"On this small island, they have grown and tested innumerable strains of plants and animals and designed a suitable ecological balance, stable and self-supporting, despite the few species with which they began. They have improved on the ocean life that they found when they arrived here a few thousand years ago, increasing their nutritive value and improving their taste. It is their biotechnology that has made this world such a cornucopia of plenty. They have plans for themselves, too."

"What kind of plans?"

Bliss said, "They know perfectly well they cannot reasonably expect to expand their range under present circumstances, confined as they are to the one small patch of land that exists on their world, but they dream of becoming amphibious."

"Of becoming what?"

"Amphibious. They plan to develop gills in addition to lungs. They dream of being able to spend substantial periods of time underwater; of finding shallow regions and building structures on the ocean bottom. My informant was quite glowing about it but she admitted that this had been a goal of the Alphans for some centuries now and that little, if any, progress has been made."

Trevize said, "That's two fields in which they might be more advanced than we are; weather control and biotechnology. I wonder what their techniques are."

"We'd have to find specialists," said Bliss, "and they might not be willing to talk about it."

Trevize said, "It's not our primary concern here, but it would clearly pay the Foundation to attempt to learn from this miniature world."

Pelorat said, "We manage to control the weather fairly well on Terminus, as it is."

"Control is good on many worlds," said Trevize, "but always it's a matter of the world as a whole. Here the Alphans control the weather of a small portion of the world and they must have techniques we don't have. -Anything else, Bliss?"

"Social invitations. These appear to be a holiday-making people, in whatever time they can take from farming and fishing. After dinner, tonight there'll be a music festival. I told you about that already. Tomorrow, during the day, there will be a beach festival. Apparently, all around the rim of the island there will be a congregation of everyone who can get away from the fields in order that they might enjoy the water and celebrate the

sun, since it will be raining the next day. In the morning, the fishing fleet will come back, beating the rain, and by evening there will be a food festival, sampling the catch."

Pelorat groaned. "The meals are ample enough as it is. What would a food festival be like?"

"I gather that it will feature not quantity, but variety. In any case, all four of us are invited to participate in all the festivals, especially the music festival tonight."

"On the antique instruments?" asked Trevize.

"That's right."

"What makes them antique, by the way? Primitive computers?"

"No, no. That's the point. It isn't electronic music at all, but mechanical. They described it to me. They scrape strings, blow in tubes, and bang on surfaces."

"I hope you're making that up," said Trevize, appalled.

"No, I'm not. And I understand that your Hiroko will be blowing on one of the tubes-I forget its name-and you ought to be able to endure that."

"As for myself," said Pelorat, "I would love to go. I know very little about primitive music and I would like to hear it."

"She is not 'my Hiroko,' " said Trevize coldly. "But are the instruments of the type once used on Earth, do you suppose?"

"So I gathered," said Bliss. "At least the Alphan women said they were designed long before their ancestors came here."

"In that case," said Trevize, "it may be worth listening to all that scraping, tootling, and banging, for whatever information it might conceivably yield concerning Earth."

81.

ODDLY enough, it was Fallom who was most excited at the prospect of a musical evening. She and Bliss had bathed in the small outhouse behind their quarters. It had a bath with running water, hot and cold (or, rather, warm and cool), a washbowl, and a commode. It was totally clean and usable and, in the late afternoon sun, it was even well lit and cheerful.

As always, Fallom was fascinated with Bliss's breasts and Bliss was reduced to saying (now that Fallom understood Galactic) that on her world that was the way people were. To which Fallom said, inevitably, "Why?" and Bliss, after some thought, deciding there was no sensible way of answering, returned the universal reply, "Because!"

When they were done, Bliss helped Fallom put on the undergarment supplied them by the Alphans and worked out the system whereby the skirt went on over it. Leaving Fallom unclothed from the waist up seemed reasonable enough. She herself, while making use of Alphan garments below the waist (rather tight about the hips), put on her own blouse. It seemed silly to be too inhibited to expose breasts in a society where all women did, especially since her own were not large and were as shapely as any she had seen but-there it was.

The two men took their turn at the outhouse next, Trevize muttering the usual male complaint concerning the time the women had taken.

Bliss turned Fallom about to make sure the skirt would hold in place over her boyish hips and buttocks. She said, "It's a very pretty skirt, Fallom. Do you like it?"

Fallom stared at it in a mirror and said, "Yes, I do. Won't I be cold with nothing on, though?" and she ran her hands down her bare chest.

"I don't think so, Fallom. It's quite warm on this world."

"You have something on."

"Yes, I do. That's how it is on my world. Now, Fallom, we're going to be with a great many Alphans during dinner and afterward. Do you think you can bear that?"

Fallom looked distressed, and Bliss went on, "I will sit on your right side and I will hold you. Pel will sit on the other side, and Trevize will sit across the table from you. We won't let anyone talk to you, and you won't have to talk to anyone."

"I'll try, Bliss," Fallom piped in her highest tones.

"Then afterward," said Bliss, "some Alphans will make music for us in their own special way. Do you know what music is?" She hummed in the best imitation of electronic harmony that she could.

Fallom's face lit up. "You mean" The last word was in her own language, and she burst into song.

Bliss's eyes widened. It was a beautiful tune, even though it was wild, and rich in trills. "That's right. Music," she said.

Fallom said excitedly, "Jemby made"-she hesitated, then decided to use the Galactic word-"music all the time. It made music on a " Again a word in her own language.

Bliss repeated the word doubtfully, "On a feeful?"

Fallom laughed. "Not feeful, "

With both words juxtaposed like that, Bliss could hear the difference, but she despaired of reproducing the second. She said, "What does it look like?"

Fallom's as yet limited vocabulary in Galactic did not suffice for an accurate description, and her gestures did not produce any shape clearly in Bliss's mind.

"He showed me how to use the" Fallom said proudly. "I used my fingers just the way Jemby did, but it said that soon I wouldn't have to."

"That's wonderful, dear," said Bliss. "After dinner, we'll see if the Alphans are as good as your Jemby was."

Fallom's eyes sparkled and pleasant thoughts of what was to follow carried her through a lavish dinner despite the crowds and laughter and noise all about her. Only once, when a dish was accidentally upset, setting off shrieks of excitement fairly close to them, did Fallom look frightened, and Bliss promptly held her close in a warm and protective hug.

"I wonder if we can arrange to eat by ourselves," she muttered to Pelorat.

"Otherwise, we'll have to get off this world. It's bad enough eating all this Isolate animal protein, but I must be able to do it in peace."

"It's only high spirits," said Pelorat, who would have endured anything within reason that he felt came under the heading of primitive behavior and beliefs.

-And then the dinner was over, and the announcement came that the music festival would soon begin.

82.

THE HALL in which the music festival was to be held was about as large as the dining room, and there were folding seats (rather uncomfortable, Trevize found out) for about a hundred fifty people. As honored guests, the visitors were led to the front row, and various Alphans commented politely and favorably on their clothes.

Both men were bare above the waist and Trevize tightened his abdominal muscles whenever he thought of it and stared down, on occasion, with complacent self-admiration at his dark-haired chest. Pelorat, in his ardent observation of everything about him, was indifferent to his own appearance. Bliss's blouse drew covert stares of puzzlement but nothing was said concerning it.

Trevize noted that the hall was only about half-full and that the large majority of the audience were women, since, presumably, so many men were out to sea.

Pelorat nudged Trevize and whispered, "They have electricity."

Trevize looked at the vertical tubes on the walls, and at others on the ceiling. They were softly luminous.

"Fluorescence," he said. "Quite primitive."

"Yes, but they do the job, and we've got those things in our rooms and in the outhouse. I thought they were just decorative. If we can find out how to work them, we won't have to stay in the dark."

Bliss said irritably, "They might have told us."

Pelorat said, "They thought we'd know; that anyone would know."

Four women now emerged from behind screens and seated themselves in a group in the space at the front. Each held an instrument of varnished wood of a similar shape, but one that was not easily describable. The instruments were chiefly different in size. One was quite small, two somewhat larger, and the fourth considerably larger. Each woman also held a long rod in the other hand.

The audience whistled softly as they came in, in response to which the four women bowed. Each had a strip of gauze bound fairly tightly across the breasts as though to keep them from interfering with the instrument.

Trevize, interpreting the whistles as signs of approval, or of pleased anticipation, felt it only polite to add his own. At that, Fallom added a trill that was far more than a whistle and that was beginning to attract attention when pressure from Bliss's hand stopped her.

Three of the women, without preparation, put their instruments under their chins, while the largest of the instruments remained between the legs of the fourth woman and

rested on the floor. The long rod in the right hand of each was sawed across the strings stretching nearly the length of the instrument, while the fingers of the left hand shifted rapidly along the upper ends of those strings.

This, thought Trevize, was the "scraping" he had expected, but it didn't sound like scraping at all. There was a soft and melodious succession of notes; each instrument doing something of its own and the whole fusing pleasantly.

It lacked the infinite complexity of electronic music ("real music," as Trevize could not help but think of it) and there was a distinct sameness to it. Still, as time passed, and his ear grew accustomed to this odd system of sound, he began to pick out subtleties. It was wearisome to have to do so, and he thought, longingly, of the clamor and mathematical precision and purity of the real thing, but it occurred to him that if he listened to the music of these simple wooden devices long enough he might well grow to like it.

It was not till the concert was some forty-five minutes old that Hiroko stepped out. She noticed Trevize in the front row at once and smiled at him. He joined the audience in the soft whistle of approval with a whole heart. She looked beautiful in a long and most elaborate skirt, a large flower in her hair, and nothing at all over her breasts since (apparently) there was no danger of their interference with the instrument.

Her instrument proved to be a dark wooden tube about two thirds of a meter long and nearly two centimeters thick. She lifted the instrument to her lips and blew across an opening near one end, producing a thin, sweet note that wavered in pitch as her fingers manipulated metal objects along the length of the tube.

At the first sound, Fallom clutched at Bliss's arm and said, "Bliss, that's a " and the word sounded like "feeful" to Bliss.

Bliss shook her head firmly at Fallom, who said, in a lower voice, "But it is!"

Others were looking in Fallom's direction. Bliss put her hand firmly over Fallom's mouth, and leaned down to mutter an almost subliminally forceful "Quiet!" into her ear.

Fallom listened to Hiroko's playing quietly thereafter, but her fingers moved spasmodically, as though they were operating the objects along the length of the instrument.

The final player in the concert was an elderly man who had an instrument with fluted sides suspended over his shoulders. He pulled it in and out while one hand flashed across a succession of white and dark objects at one end, pressing them down in groups.

Trevize found this sound particularly wearing, rather barbaric, and unpleasantly like the memory of the barking of the dogs on Aurora-not that the sound was like barking, but the emotions it gave rise to were similar. Bliss looked as though she would like to place her hands over her ears, and Pelorat had a frown on his face. Only Fallom seemed to enjoy it, for she was tapping her foot lightly, and Trevize, when he noticed that, realized, to his own surprise, that there was a beat to the music that matched Fallom's footfall.

It came to an end at last and there was a perfect storm of whistling, with Fallom's trill clearly heard above it all.

Then the audience broke up into small conversational groups and became as loud and raucous as Alphans seemed to be on all public occasions. The various individuals who had played in the concert stood about in front of the room and spoke to those people who came up to congratulate them.

Fallom evaded Bliss's grasp and ran up to Hiroko.

"Hiroko," she cried out, gaspingly. "Let me see the"

"The what, dear one?" said Hiroko.

"The thing you made the music with."

"Oh." Hiroko laughed. "That's a flute, little one."

"May I see it?"

"Well." Hiroko opened a case and took out the instrument. It was in three parts, but she put it together quickly, held it toward Fallom with the mouthpiece near her lips, and said, "There, blow thou thy breath across this."

"I know. I know," said Fallom eagerly, and reached for the flute.

Automatically, Hiroko snatched it away and held it high. "Blow, child, but touch not."

Fallom seemed disappointed. "May I just look at it, then? I won't touch it."

"Certainly, dear one."

She held out the flute again and Fallom stared at it earnestly.

And then, the fluorescent lighting in the room dimmed very slightly, and the sound of a flute's note, a little uncertain and wavering, made itself heard.

Hiroko, in surprise, nearly dropped the flute, and Fallom cried out, "I did it. I did it. Jemby said someday I could do it."

Hiroko said, "Was it thou that made the sound?"

"Yes, I did. I did."

"But how didst thou do so, child?"

Bliss said, red with embarrassment, "I'm sorry, Hiroko. I'll take her away."

"No," said Hiroko. "I wish her to do it again." -

A few of the nearest Alphans had gathered to watch. Fallom furrowed her brow as though trying hard. The fluorescents dimmed rather more than before, and again there was the note of the flute, this time pure and steady. Then it became erratic as the metal objects along the length of the flute moved of their own accord.

"It's a little different from the" Fallom said, a little breathlessly, as though the breath that had been activating the flute had been her own instead of power-driven air.

Pelorat said to Trevize, "She must be getting the energy from the electric current that feeds the fluorescents."

"Try again," said Hiroko in a choked voice.

Fallom closed her eyes. The note was softer now and under firmer control. The flute played by itself, maneuvered by no fingers, but moved by distant energy, transduced through the still immature lobes of Fallom's brain. The notes which began as almost random settled into a musical succession and now everyone in the hall had gathered around Hiroko and Fallom, as Hiroko held the flute gently with thumb and

forefinger at either end, and Fallom, eyes closed, directed the current of air and the movement of the keys.

"It's the piece I played," whispered Hiroko.

"I remember it," said Fallom, nodding her head slightly, trying not to break her concentration.

"Thou didst not miss a note," said Hiroko, when it was done.

"But it's not right, Hiroko. You didn't do it right."

Bliss said, "Fallow! That's not polite. You mustn't-"

"Please," said Hiroko peremptorily, "do not interfere. Why is it not right, child?"

"Because I would play it differently."

"Show me, then."

Again the flute played, but in more complicated fashion, for the forces that pushed the keys did so more quickly, in more rapid succession and in more elaborate combinations than before. The music was more complex, and infinitely more emotional and moving. Hiroko stood rigid and there was not a sound to be heard anywhere in the room.

Even after Fallom had finished playing, there was not a sound until Hiroko drew a deep breath and said, "Little one, hast thou ever played that before?"

"No," said Fallom, "before this I could only use my fingers, and I can't do my fingers like that." Then, simply and with no trace of vaunting, "No one can."

"Canst thou play anything else?"

"I can make something up."

"Dost thou mean-improvise?"

Fallom frowned at the word and looked toward Bliss. Bliss nodded and Fallom said, "Yes."

"Please do so, then," said Hiroko.

Fallom paused and thought for a minute or two, then began slowly, in a very simple succession of notes, the whole being rather dreamy. The fluorescent lights dimmed and brightened as the amount of power exerted intensified and faded. No one seemed to notice, for it seemed to be the effect of the music rather than the cause, as though a ghostly electrical spirit were obeying the dictates of the sound waves.

The combination of notes then repeated itself a bit more loudly, then a bit more complexly, then in variations that, without ever losing the clearly heard basic combination, became more stirring and more exciting until it was almost impossible to breathe. And finally, it descended much more rapidly than it had ascended and did so with the effect of a swooping dive that brought the listeners to ground level even while they still retained the feeling that they were high in the air.

There followed sheer pandemonium that split the air, and even Trevize, who was used to a totally different kind of music, thought sadly, "And now 17'11 never hear that again."

When a most reluctant quiet had returned, Hiroko held out her flute. "Here, Fallow, this is thine!"

Fallom reached for it eagerly, but Bliss caught hold of the child's outstretched arm and said, "We can't take it, Hiroko. It's a valuable instrument."

"I have another, Bliss. Not quite as good, but that is how it should be. This instrument belongeth to the person who playeth it best. Never have I heard such music and it would be wrong for me to own an instrument I cannot use to full potential. Would that I knew how the instrument could be made to play without being touched."

Fallom took the flute and, with an expression of deep content, held it tightly to her chest.

83.

EACH OF the two rooms of their quarters were lit by one fluorescent light. The outhouse had a third. The lights were dim, and were uncomfortable to read by, but at least the rooms were no longer dark.

Yet they now lingered outside. The sky was full of stars, something that was always fascinating to a native of Terminus, where the night sky was all but starless and in which only the faint foreshortened cloud of the Galaxy was prominent.

Hiroko had accompanied them back to their chambers for fear they would get lost in the dark, or that they would stumble. All the way back, she held Fallom's hand, and then, after lighting the fluorescents for them, remained outside with them, still clutching at the youngster.

Bliss tried again, for it was clear to her that Hiroko was in a state of a difficult conflict of emotions. "Really, Hiroko, we cannot take your flute."

"No, Fallom must have it." But she seemed on edge just the same.

Trevize continued to look at the sky. The night was truly dark, a darkness that was scarcely affected by the trickle of light from their own chambers; and much less so by the tiny sparks of other houses farther off.

He said, "Hiroko, do you see that star that is so bright? What is it called?" Hiroko looked up casually and said, with no great appearance of interest, "That's the Companion."

"Why is it called that?"

"It circleth our sun every eighty Standard Years. It is an evening star at this time of year. Thou canst see it in daytime, too, when it lieth above the horizon."

Good, thought Trevize. She's not totally ignorant of astronomy. He said, "Do you know that Alpha has another companion, a very small, dim one that's much much farther away than that bright star. You can't see it without a telescope." (He hadn't seen it himself, hadn't bothered to search for it, but the ship's computer had the information in its memory banks.)

She said indifferently, "We were told that in school."

"But now what about that one? You see those six stars in a zigzag line?"

Hiroko said, "That is Cassiopeia."

"Really?" said Trevize, startled. "Which star?"

"All of them. The whole zigzag. It is Cassiopeia." .

"Why is it called that?"

"I lack the knowledge. I know nothing of astronomy, respected Trevize."

"Do you see the lowermost star in the zigzag, the one that's brighter than the other stars? What is that?"

"It is a star. I know not its name."

"But except for the two companion stars, it's the closest of all the stars to Alpha. It is only a parsec away."

Hiroko said, "Sayest thou so? I know that not."

"Might it not be the star about which Earth revolves?"

Hiroko looked at the star with a faint flash of interest. "I know not. I have never heard any person say so."

"Don't you think it might be?"

"How can I say? None knoweth where Earth might be. I-I must leave thee, now. I will be taking my shift in the fields tomorrow morning before the beach festival. I'll see you all there, right after lunch. Yes? Yes?"

"Certainly, Hiroko."

She left suddenly, half-running in the dark. Trevize looked after her, then followed the others into the dimly lit cottage.

He said, "Can you tell whether she was lying about Earth, Bliss?"

Bliss shook her head. "I don't think she was. She is under enormous tension, something I was not aware of until after the concert. It existed before you asked her about the stars."

"Because she gave away her flute, then?"

"Perhaps. I can't tell." She turned to Fallom. "Now, Fallom, I want you to go into your room. When you're ready for bed, go to the outhouse, use the potty, then wash your hands, your face, and your teeth."

"I would like to play the flute, Bliss."

"Just for a little while, and very quietly. Do you understand, Fallom? And you must stop when I tell you to."

"Yes, Bliss."

The three were now alone; Bliss in the one chair and the men sitting each on his cot.

Bliss said, "Is there any point in staying on this planet any longer?"

Trevize shrugged. "We never did get to discuss Earth in connection with the ancient instruments, and we might find something there. It might also pay to wait for the fishing fleet to return. The men might know something the stay-at-homes don't."

"Very unlikely, I think," said Bliss. "Are you sure it's not Hiroko's dark eyes that hold you?"

Trevize said impatiently, "I don't understand, Bliss. What have you to do with what I choose to do? Why do you seem to arrogate to yourself the right of sitting in moral judgment on me?"

"I'm not concerned with your morals. The matter affects our expedition. You want to find Earth so that you can finally decide whether you are right in choosing Galaxia over Isolate worlds. I want you to so decide. You say you need to visit Earth to make the decision and you seem to be convinced that Earth revolves about that bright star in the sky. Let us go there, then. I admit it would be useful to have some information about it before we go, but it is clear to me that the information is not forthcoming here. I do not wish to remain simply because you enjoy Hiroko."

"Perhaps we'll leave," said Trevize. "Let me think about it, and Hiroko will play no part in my decision, I assure you."

Pelorat said, "I feel we ought to move on to Earth, if only to see whether it is radioactive or not. I see no point in waiting longer."

"Are you sure it's not Bliss's dark eyes that drive you?" said Trevize, a bit spitefully. Then, almost at once, "No, I take that back, Janov. I was just being childish. Still-this is a charming world, quite apart from Hiroko, and I must say that under other circumstances, I would be tempted to remain indefinitely. -Don't you think, Bliss, that Alpha destroys your theory about Isolates?"

"In what way?" asked Bliss.

"You've been maintaining that every truly isolated world turns dangerous and hostile."

"Even Comporellon," said Bliss evenly, "which is rather out of the main current of Galactic activity for all that it is, in theory, an Associated Power of the Foundation Federation."

"But not Alpha. This world is totally isolated, but can you complain of their friendliness and hospitality? They feed us, clothe us, shelter us, put on festivals in our honor, urge us to stay on. What fault is there to find with them?"

"None, apparently. Hiroko even gives you her body."

Trevize said angrily, "Bliss, what bothers you about that? She didn't give me her body. We gave each other our bodies. It was entirely mutual, entirely pleasurable. Nor can you say that you hesitate to give your body as it suits you."

"Please, Bliss," said Pelorat. "Golan is entirely right. There is no reason to object to his private pleasures."

"As long as they don't affect us," said Bliss obdurately.

"They do not affect us," said Trevize. "We will leave, I assure you. A delay to search further for information will not be long."

"Yet I don't trust Isolates," said Bliss, "even when they come bearing gifts."

Trevize flung up his arms. "Reach a conclusion, then twist the evidence to fit. How like a-

"Don't say it," said Bliss dangerously. "I am not a woman. I am Gaia. It is Gaia, not I, who is uneasy."

"There is no reason to-" And at that point there was a scratching at the door.

Trevize froze. "What's that?" he said, in a low voice.

Bliss shrugged lightly. "Open the door and see. You tell us this is a kindly world that offers no danger."

Nevertheless, Trevize hesitated, until a soft voice from the other side of the door called out softly, "Please. It is P"

It was Hiroko's voice. Trevize threw the door open.

Hiroko entered quickly. Her cheeks were wet.

"Close the door," she gasped.

"What is it?" asked Bliss.

Hiroko clutched at Trevize. "I could not stay away. I tried, but I endured it not. Go thou, and all of you. Take the youngster with you quickly. Take the ship away-away from Alpha-while it is yet dark."

"But why?" asked Trevize.

"Because else wilt thou die; and all of you."

84.

THE THREE Outworlders stared frozenly at Hiroko for a long moment. Then Trevize said, "Are you saying your people will kill us?"

Hiroko said, as the tears rolled down her cheeks, "Thou art already on the road to death, respected Trevize. And the others with you. -Long ago, those of learning devised a virus, harmless to us, but deadly to Outworlders. We have been made immune." She shook Trevize's arm in distraction. "Thou art infected."

"How?"

"When we had our pleasure. It is one way."

Trevize said, "But I feel entirely well."

"The virus is as yet inactive. It will be made active when the fishing fleet returns. By our laws, all must decide on such a thing-even the men. All will surely decide it must be done, and we keep you here till that time, two mornings hence. Leave now while it is yet dark and none suspects."

Bliss said sharply, "Why do your people do this?"

"For our safety. We are few and have much. We do not wish Outworlders to intrude. If one cometh and then reporteth our lot, others will come, and so when, once in a long while, a ship arriveth, we must make certain it leaveth not."

"But then," said Trevize, "why do you warn us away?"

"Ask not the reason. -Nay, but I will tell you, since I hear it again. Listen-"

From the next room, they could hear Fallom playing softly-and infinitely sweetly.

Hiroko said, "I cannot bear the destruction of that music, for the young one will also die."

Trevize said sternly, "Is that why you gave the flute to Fallom? Because you knew you would have it once again when she was dead?"

Hiroko looked horrified. "Nay, that was not in my mind. And when it came to mind at length, I knew it must not be done. Leave with the child, and with her, take the flute that I may never see it more. Thou wilt be safe back in space and, left inactive, the virus now in thy body will die after a time. In return, I ask that none of you ever speak of this world, that none else may know of it."

"We will not speak of it," said Trevize.

Hiroko looked up. In a lower voice, she said, "May I not kiss thee once ere thou leavest?"

Trevize said, "No. I have been infected once and surely that is enough." And then, a little less roughly, he added, "Don't cry. People will ask why you are crying and you'll be unable to reply. -I'll forgive what you did to me in view of your present effort to save us."

Hiroko straightened, carefully wiped her cheeks with the back of her hands, took a deep breath, and said, "I thank thee for that," and left quickly.

Trevize said, "We will put out the light, and we will wait awhile, and then we will leave. -Bliss, tell Fallom to stop playing her instrument. Remember to take the flute, of course. -Then we will make our way to the ship, if we can find it in the dark."

"I will find it," said Bliss. "Clothing of mine is on board and, however dimly, that, too, is Gaia. Gaia will have no trouble finding Gaia." And she vanished into her room to collect Fallom.

Pelorat said, "Do you suppose that they've managed to damage our ship in order to keep us on the planet?"

"They lack the technology to do it," said Trevize grimly. When Bliss emerged, holding Fallom by the hand, Trevize put out the lights.

They sat quietly in the dark for what seemed half the night, and might have been half an hour. Then Trevize slowly and silently opened the door. The sky seemed a bit more cloudy, but stars shone. High in the sky now was Cassiopeia, with what might be Earth's sun burning brightly at its lower tip. The air was still and there was no sound.

Carefully, Trevize stepped out, motioning the others to follow. One of his hands dropped, almost automatically, to the butt of his neuronc whip. He was sure he would not have to use it, but-

Bliss took the lead, holding Pelorat's hand, who held Trevize's. Bliss's other hand held Fallom, and Fallom's other hand held the flute. Feeling gently with her feet in the nearly total darkness, Bliss guided the others toward where she felt, very weakly, the Gaia-ness of her clothing on board the Far Star.

PART SEVEN - EARTH

19. RADIOACTIVE?

85.

THE Far Star took off quietly, rising slowly through the atmosphere, leaving the dark island below. The few faint dots of light beneath them dimmed and vanished, and as the atmosphere grew thinner with height, the ship's speed grew greater, and the dots of light in the sky above them grew more numerous and brighter.

Eventually, they looked down upon the planet, Alpha, with only a crescent illuminated and that crescent largely wreathed in clouds.

Pelorat said, "I suppose they don't have an active space technology. They can't follow us."

"I'm not sure that that cheers me up much," said Trevize, his face dour, his voice disheartened. "I'm infected."

"But with an inactive strain," said Bliss.

"Still, it can be made active. They had a method. What is the method?"

Bliss shrugged. "Hiroko said the virus, left inactive, would eventually die in a body unadapted to it-as yours is."

"Yes?" said Trevize angrily. "How does she know that? For that matter, how do I know that Hiroko's statement wasn't a self-consoling lie? And isn't it possible that the method of activation, whatever it is, might not be duplicated naturally? A particular chemical, a type of radiation, a-a-who knows what? I may sicken suddenly, and then the three of you would die, too. Or if it happens after we have reached a populated world, there may be a vicious pandemic which fleeing refugees would carry to other worlds."

He looked at Bliss. "Is there something you can do about it?"

Slowly, Bliss shook her head. "Not easily. There are parasites making up Gaia-microorganisms, worms. They are a benign part of the ecological balance. They live and contribute to the world consciousness, but never overgrow. They live without doing noticeable harm. The trouble is, Trevize, the virus that affects you is not part of Gaia."

"You say 'not easily,'" said Trevize, frowning. "Under the circumstances, can you take the trouble to do it even though it might be difficult? Can you locate the virus in me and destroy it? Can you, failing that, at least strengthen my defenses?"

"Do you realize what you ask, Trevize? I am not acquainted with the microscopic flora of your body. I might not easily tell a virus in the cells of your body from the normal genes inhabiting them. It would be even more difficult to distinguish between viruses your body is accustomed to and those with which Hiroko infected you. I will try to do it, Trevize, but it will take time and I may not succeed."

"Take time," said Trevize. "Try."

"Certainly," said Bliss.

Pelorat said, "If Hiroko told the truth, Bliss, you might be able to find viruses that seem to be already diminishing in vitality, and you could accelerate their decline."

"I could do that," said Bliss. "It is a good thought."

"You won't weaken?" said Trevize. "You will have to destroy precious bits of life when you kill those viruses, you know."

"You are being sardonic, Trevize," said Bliss coolly, "but, sardonic or not, you are pointing out a true difficulty. Still, I can scarcely fail to put you ahead of the virus. I will kill them if I have the chance, never fear. After all, even if I fail to consider you"-and her mouth twitched as though she were repressing a smile-"then certainly Pelorat and Fallom are also at risk, and you might feel more confidence in my feeling for them than in my feeling for you. You might even remember that I myself am at risk."

"I have no faith in your self-love," muttered Trevize. "You're perfectly ready to give up your life for some high motive. I'll accept your concern for Pelorat, however." Then, he said, "I don't hear Fallom's flute. Is anything wrong with her?"

"No," said Bliss. "She's asleep. A perfectly natural sleep that I had nothing to do with. And I would suggest that, after you work out the Jump to the star we think is Earth's sun, we all do likewise. I need it badly and I suspect you do, too, Trevize."

"Yes, if I can manage. -You were right, you know, Bliss."

"About what, Trevize?"

"About Isolates. New Earth was not a paradise, however much it might have seemed like one. That hospitality-all that outgoing friendliness at first -was to put us off our guard, so that one of us might be easily infected. And all the hospitality afterward, the festivals of this and that, were designed to keep us there till the fishing fleet returned and the activation could be carried through. And it would have worked but for Fallom and her music. It might be you were right there, too."

"About Fallom?"

"Yes. I didn't want to take her along, and I've never been happy with her being on the ship. It was your doing, Bliss, that we have her here and it was she who, unwittingly, saved us. And yet-"

"And yet what?"

"Despite that, I'm still uneasy at Fallom's presence. I don't know why."

"If it will make you feel better, Trevize, I don't know that we can lay all the credit at Fallom's feet. Hiroko advanced Fallom's music as her excuse for committing what the other Alphans would surely consider to be an act of treason. She may even have believed this, but there was something in her mind in addition, something that I vaguely detected but could not surely identify, something that perhaps she was ashamed to let emerge into her conscious mind. I am under the impression that she felt a warmth for you, and would not willingly see you die, regardless of Fallom and her music."

"Do you really think so?" said Trevize, smiling slightly for the first time since they had left Alpha.

"I think so. You must have a certain proficiency at dealing with women. You persuaded Minister Lizalor to allow us to take our ship and leave Comporellon, and you helped influence Hiroko to save our lives. Credit where it's due."

Trevize smiled more broadly. "Well, if you say so. -On to Earth, then." He disappeared into the pilot-room with a step that was almost jaunty.

Pelorat, lingering behind, said, "You soothed him after all, didn't you, Bliss?"

"No, Pelorat, I never touched his mind."

"You certainly did when you pampered his male vanity so outrageously."

"Entirely indirect," said Bliss, smiling.

"Even so, thank you, Bliss."

86.

AFTER THE Jump, the star that might well be Earth's sun was still a tenth of a parsec away. It was the brightest object in the sky by far, but it was still no more than a star.

Trevize kept its light filtered for ease of viewing, and studied it somberly.

He said, "There seems no doubt that it is the virtual twin of Alpha, the star that New Earth circles. Yet Alpha is in the computer map and this star is not. We don't have a name for this star, we aren't given its statistics, we lack any information concerning its planetary system, if it has one."

Pelorat said, "Isn't that what we would expect if Earth circles this sun?"

Such a blackout of information would fit with the fact that all information about Earth seems to have been eliminated."

"Yes, but it could also mean that it's a Spacer world that just happened not to be on the list on the wall of the Melpomenian building. We can't be altogether sure that that list was complete. Or this star could be without planets and therefore perhaps not worth listing on a computer map which is primarily used for military and commercial purposes. - Janov, is there any legend that tells of Earth's sun being a mere parsec or so from a twin of itself."

Pelorat shook his head. "I'm sorry, Golan, but no such legend occurs to me. There may be one, though. My memory isn't perfect. I'll search for it."

"It's not important. Is there any name given to Earth's sun?"

"Some different names are given. I imagine there must be a name in each of the different languages."

"I keep forgetting that Earth had many languages."

"It must have had. It's the only way of making sense out of many of the legends."

Trevize said peevishly, "Well, then, what do we do? We can't tell anything about the planetary system from this distance, and we have to move closer. I would like to be cautious, but there's such a thing as excessive and unreasoning caution, and I see no evidence of possible danger. Presumably anything powerful enough to wipe the Galaxy

clean of information about Earth may be powerful enough to wipe us out even at this distance if they seriously did not wish to be located, but nothing's happened. It isn't rational to stay here forever on the mere possibility that something might happen if we move closer, is it?"

Bliss said, "I take it the computer detects nothing that might be interpreted as dangerous."

"When I say I see no evidence of possible danger, it's the computer I'm relying on. I certainly can't see anything with the unaided eye. I wouldn't expect to."

"Then I take it you're just looking for support in making what you consider a risky decision. All right, then. I'm with you. We haven't come this far in order to turn back for no reason, have we?"

"No," said Trevize. "What do you say, Pelorat?"

Pelorat said, "I'm willing to move on, if only out of curiosity. It would be unbearable to go back without knowing if we have found Earth."

"Well, then," said Trevize, "we're all agreed."

"Not all," said Pelorat. "There's Fallom."

Trevize looked astonished. "Are you suggesting we consult the child? Of what value would her opinion be even if she had one? Besides, all she would want would be to get back to her own world."

"Can you blame her for that?" asked Bliss warmly.

And because the matter of Fallom had arisen, Trevize became aware of her flute, which was sounding in a rather stirring march rhythm.

"Listen to her," he said. "Where has she ever heard anything in march rhythm?"

"Perhaps Jemby played marches on the flute for her."

Trevize shook his head. "I doubt it. Dance rhythms, I should think, lullabies. -Listen, Fallom makes me uneasy. She learns too quickly."

"I help her," said Bliss. "Remember that. And she's very intelligent and she has been extraordinarily stimulated in the time she's been with us. New sensations have flooded her mind. She's seen space, different worlds, many people, all for the first time."

Fallom's march music grew wilder and more richly barbaric.

Trevize sighed and said, "Well, she's here, and she's producing music that seems to breathe optimism, and delight in adventure. I'll take that as her vote in favor of moving in more closely. Let us do so cautiously, then, and check this sun's planetary system."

"If any," said Bliss.

Trevize smiled thinly. "There's a planetary system. It's a bet. Choose your sum."

87.

"You LOSE," said Trevize abstractedly. "How much money did you decide to bet?"

"None. I never accepted the wager," said Bliss.

"Just as well. I wouldn't like to accept the money, anyway."

They were some 10 billion kilometers from the sun. It was still star-like, but it was nearly 1/4,000 as bright as the average sun would have been when viewed from the surface of a habitable planet.

"We can see two planets under magnification, right now," said Trevize. "From their measured diameters and from the spectrum of the reflected light, they are clearly gas giants."

The ship was well outside the planetary plane, and Bliss and Pelorat, staring over Trevize's shoulder at the viewscreen, found themselves looking at two tiny crescents of greenish light. The smaller was in the somewhat thicker phase of the two.

Trevize said, "Janov! It is correct, isn't it, that Earth's sun is suppose to have four gas giants."

"According to the legends. Yes," said Pelorat.

"The nearest of the four to the sun is the largest, and the second nearest has rings. Right?"

"Large prominent rings, Golan. Yes. Just the same, old chap, you have to allow for exaggeration in the telling and retelling of a legend. If we should not find a planet with an extraordinary ring system, I don't think we ought to let that count seriously against this being Earth's star."

"Nevertheless, the two we see may be the farthest, and the two nearer ones may well be on the other side of the sun and too far .to be easily located against the background of stars. We'll have to move still closer-and beyond the sun to the other side."

"Can that be done in the presence of the star's nearby mass?"

"With reasonable caution, the computer can do it, I'm sure. If it judges the danger to be too great, however, it will refuse to budge us, and we can then move in cautious, smaller steps."

His mind directed the computer-and the starfield on the viewscreen changed. The star brightened sharply and then moved off the viewscreen as the computer, following directions, scanned the sky for another gas giant. It did so successfully.

All three onlookers stiffened and stared, while Trevize's mind, almost helpless with astonishment, fumbled at the computer to direct further magnification.

"Incredible," gasped Bliss.

88.

A GAS giant was in view, seen at an angle that allowed most of it to be sunlit. About it, there curved a broad and brilliant ring of material, tipped so as to catch the sunlight on the side being viewed. It was brighter than the planet itself and along it, one third of the way in toward the planet, was a narrow, dividing line.

Trevize threw in a request for maximum enhancement and the ring became ringlets, narrow and concentric, glittering in the sunlight. Only a portion of the ring

system was visible on the viewscreen and the planet itself had moved on: A further direction from Trevize and one corner of the screen marked itself off and showed, within itself, a miniature of the planet and rings under lesser magnification.

"Is that sort of thing common?" asked Bliss, awed.

"No," said Trevize. "Almost every gas giant has rings of debris, but they tend to be faint and narrow. I once saw one in which the rings were narrow, but quite bright. But I never saw anything like this; or heard of it, either."

Pelorat said, "That's clearly the ringed giant the legends speak of. If this is really unique—"

"Really unique, as far as I know, or as far as the computer knows," said Trevize.

"Then this must be the planetary system containing Earth. Surely, no one could invent such a planet. It would have had to have been seen to be described."

Trevize said, "I'm prepared to believe just about anything your legends say now. This is the sixth planet and Earth would be the third?"

"Right, Golan."

"Then I would say we were less than 1.5 billion kilometers from Earth, and we haven't been stopped. Gaia stopped us when we approached."

Bliss said, "You were closer to Gaia when you were stopped."

"Ah," said Trevize, "but it's my opinion Earth is more powerful than Gaia, and I take this to be a good sign. If we are not stopped, it may be that Earth does not object to our approach."

"Or that there is no Earth," said Bliss.

"Do you care to bet this time?" asked Trevize grimly.

"What I think Bliss means," put in Pelorat, "is that Earth may be radioactive as everyone seems to think, and that no one stops us because there is no life on the Earth."

"No," said Trevize violently. "I'll believe everything that's said about Earth, but that. We'll just close in on Earth and see for ourselves. And I have the feeling we won't be stopped."

89.

THE GAS giants were well behind. An asteroid belt lay just inside the gas giant nearest the sun. (That gas giant was the largest and most massive, just as the legends said.)

Inside the asteroid belt were four planets.

Trevize studied them carefully. "The third is the largest. The size is appropriate and the distance from the sun is appropriate. It could be habitable."

Pelorat caught what seemed to be a note of uncertainty in Trevize's words.

He said, "Does it have an atmosphere?"

"Oh yes," said Trevize. "The second, third, and fourth planets all have atmospheres. And, as in the old children's tale, the second's is too dense, the fourth's is not dense enough, but the third's is just right."

"Do you think it might be Earth, then?"

"Think?" said Trevize almost explosively. "I don't have to think. It is Earth. It has the giant satellite you told me of."

"It has?" And Pelorat's face broke into a wider smile than any that Trevize had ever seen upon it.

"Absolutely! Here, look at it under maximum magnification."

Pelorat saw two crescents, one distinctly larger and brighter than the other.

"Is that smaller one the satellite?" he asked.

"Yes. It's rather farther from the planet than one might expect but it's definitely revolving about it. It's only the size of a small planet; in fact, it's smaller than any of the four inner planets circling the sun. Still, it's large for a satellite. It's at least two thousand kilometers in diameter, which makes it in the size range of the large satellites that revolve about gas giants."

"No larger?" Pelorat seemed disappointed. "Then it's not a giant satellite?"

"Yes, it is. A satellite with a diameter of two to three thousand kilometers that is circling an enormous gas giant is one thing. That same satellite circling a small, rocky habitable planet is quite another. That satellite has a diameter over a quarter that of Earth. Where have you heard of such near-parity involving a habitable planet?"

Pelorat said timidly, "I know very little of such things."

Trevize said, "Then take my word for it, Janov. It's unique. We're looking at something that is practically a double planet, and there are few habitable planets that have anything more than pebbles orbiting them. Janov, if you consider that gas giant with its enormous ring system in sixth place, and this planet with its enormous satellite in third-both of which your legends told you about, against all credibility, before you ever saw them-then that world you're looking at must be Earth. It cannot conceivably be anything else. We've found it, Janov; we've found it."

90.

THEY WERE on the second day of their coasting progress toward Earth, and Bliss yawned over the dinner meal. She said, "It seems to me we've spent more time coasting toward and away from planets than anything else. We've spent weeks at it, literally."

"Partly," said Trevize, "that's because Jumps are dangerous too close to a star. And in this case, we're moving very slowly because I do not wish to advance into possible danger too quickly."

"I thought you said you had the feeling we would not be stopped."

"So I do, but I don't want to stake everything on a feeling." Trevize looked at the contents of the spoon before putting it into his mouth and said, "You know, I miss the fish we had on Alpha. We only had three meals there."

"A pity," agreed Pelorat.

"Well," said Bliss, "we visited five worlds and had to leave each one of them so hurriedly that we never had time to add to our food supplies and introduce variety. Even when the world had food to offer, as did Comporellon and Alpha, and, presumably-

She did not complete the sentence, for Fallom, looking up quickly, finished it for her. "Solaria? Could you get no food there? There is plenty of food there. As much as on Alpha. And better, too."

"I know that, Fallom," said Bliss. "There was just no time."

Fallom stared at her solemnly. "Will I ever see Jemby again, Bliss? Tell me the truth."

Bliss said, "You may, if we return to Solaria."

"Will we ever return to Solaria?"

Bliss hesitated. "I cannot say."

"Now we go to Earth, is that right? Isn't that the planet where you say we all originate?"

"Where our forebears originated," said Bliss.

"I can say 'ancestors,'" said Fallom.

"Yes, we are going to Earth."

Bliss said lightly, "Wouldn't anyone wish to see the world of their ancestors?"

"I think there's more to it. You all seem so concerned."

"But we've never been there before. We don't know what to expect."

"I think it is more than that."

Bliss smiled. "You've finished eating, Fallom dear, so why not go to the room and let us have a little serenade on your flute. You're playing it more beautifully all the time. Come, come." She gave Fallom an accelerating pat on the rear end, and off Fallom went, turning only once to give Trevize a thoughtful look.

Trevize looked after her with clear distaste. "Does that thing read minds?"

"Don't call her a 'thing,' Trevize," said Bliss sharply.

"Does she read minds? You ought to be able to tell."

"No, she doesn't. Nor can Gaia. Nor can the Second Foundationers. Reading minds in the sense of overhearing a conversation, or making out precise ideas is not something that can be done now, or in the foreseeable future. We can detect, interpret, and, to some extent, manipulate emotions, but that is not the same thing at all."

"How do you know she can't do this thing that supposedly can't be done?"

"Because as you have just said, I ought to be able to tell."

"Perhaps she is manipulating you so that you remain ignorant of the fact that she can."

Bliss rolled her eyes upward. "Be reasonable, Trevize. Even if she had unusual abilities, she could do nothing with me for I am not Bliss, I am Gaia. You keep forgetting.

Do you know the mental inertia represented by an entire planet? Do you think one Isolate, however talented, can overcome that?"

"You don't know everything, Bliss, so don't be overconfident," said Trevize sullenly. "That th- She has been with us not very long. I couldn't learn anything but the rudiments of a language in that time, yet she already speaks Galactic perfectly and with virtually a full vocabulary. Yes, I know you've been helping her, but I wish you would stop."

"I told you I was helping her, but I also told you she's fearfully intelligent. Intelligent enough so that I would like to have her part of Gaia. If we can gather her in; if she's still young enough; we might learn enough about the Solarians to absorb that entire world eventually. It might well be useful to us."

"Does it occur to you that the Solarians are pathological Isolates even by my standards?"

"They wouldn't stay so as part of Gaia."

"I think you're wrong, Bliss. I think that Solarian child is dangerous and that we should get rid of her."

"How? Dump her through the airlock? Kill her, chop her up, and add her to our food supply?"

Pelorat said, "Oh, Bliss."

And Trevize said, "That's disgusting, and completely uncalled for." He listened for a moment. The flute was sounding without flaw or waver, and they had been talking in half-whispers. "When this is all over, we've got to return her to Solaria, and make sure that Solaria is forever cut off from the Galaxy. My own feeling is that it should be destroyed. I distrust and fear it."

Bliss thought awhile and said, "Trevize, I know that you have the knack of coming to a right decision, but I also know you have been antipathetic to Fallom from the start. I suspect that may just be because you were humiliated on Solaria and have taken a violent hatred to the planet and its inhabitants as a result. Since I must not tamper with your mind, I can't tell that for sure. Please remember that if we had not taken Fallom with us, we would be on Alpha right now-dead and, I presume, buried."

"I know that, Bliss, but even so-"

"And her intelligence is to be admired, not envied."

"I do not envy her. I fear her."

"Her intelligence?"

Trevize licked his lips thoughtfully. "No, not quite."

"What, then?"

"I don't know. Bliss, if I knew what I feared, I might not have to fear it. It's something I don't quite understand." His voice lowered, as though he were speaking to himself. "The Galaxy seems to be crowded with things I don't understand. Why did I choose Gaia? Why must I find Earth? Is there a missing assumption in psychohistory? If there is, what is it? And on top of all that, why does Fallom make me uneasy?"

Bliss said, "Unfortunately, I can't answer those questions." She rose, and left the room.

Pelorat looked after her, then said, "Surely things aren't totally black, Golan. We're getting closer and closer to Earth and once we reach it all mysteries may be solved. And so far nothing seems to be making any effort to stop us from reaching it."

Trevize's eyes flickered toward Pelorat and he said in a low voice, "I wish something would."

Pelorat said, "You do? Why should you want that?"

"Frankly, I'd welcome a sign of life."

Pelorat's eyes opened wide. "Have you found that Earth is radioactive after all?"

"Not quite. But it is warm. A bit warmer than I would have expected."

"Is that bad?"

"Not necessarily. It may be rather warm but that wouldn't make it necessarily uninhabitable. The cloud cover is thick and it is definitely water vapor, so that those clouds, together with a copious water ocean, could tend to keep things livable despite the temperature we calculated from microwave emission. I can't be sure, yet. It's just that-

"Yes, Golan?"

"Well, if Earth were radioactive, that might well account for its being warmer than expected."

"But that doesn't argue the reverse, does it? If it's warmer than expected, that doesn't mean it must be radioactive."

"No. No, it doesn't." Trevize managed to force a smile. "No use brooding, Janov. In a day or two, I'll be able to tell more about it and we'll know for sure."

91.

FALLOM was sitting on the cot in deep thought when Bliss came into the room. Fallom looked up briefly, then down again.

Bliss said quietly, "What's the matter, Fallom?"

Fallom said, "Why does Trevize dislike me so much, Bliss?"

"What makes you think he dislikes you."

"He looks at me impatiently- Is that the word?"

"It might be the word."

"He looks at me impatiently when I am near him. His face always twists a little."

"Trevize is having a hard time, Fallom."

"Because he's looking for Earth?"

"Yes."

Fallom thought awhile, then said, "He is particularly impatient when I think something into moving."

Bliss's lips tightened. "Now, Fallom, didn't I tell you you must not do that, especially when Trevize is present?"

"Well, it was yesterday, right here in this room, and he was in the doorway and I didn't notice. I didn't know he was watching. It was just one of Pel's book-films, anyway, and I was trying to make it stand on one tip. I wasn't doing any harm."

"It makes him nervous, Fallom, and I want you not to do it, whether he's watching or not."

"Does it make him nervous because he can't do it?"

"Perhaps."

"Can you do it?"

Bliss shook her head slowly. "No, I can't."

"It doesn't make you nervous when I do it. It doesn't make Pel nervous, either."

"People are different."

"I know," said Fallom, with a sudden hardness that surprised Bliss and caused her to frown.

"What do you know, Fallow?"

"I'm different."

"Of course, I just said so. People are different."

"My shape is different. I can move things."

"That's true."

Fallow said, with a shade of rebelliousness, "I must move things. Trevize should not be angry with me for that, and you should not stop me."

"But why must you move things?"

"It is practice. Exerceez. -Is that the right word?"

"Not quite. Exercise."

"Yes. Jemby always said I must train my-my-"

"Transducer-lobes?"

"Yes. And make them strong. Then, when I was grown up, I could power all the robots. Even Jemby."

"Fallow, who did power all the robots if you did not?"

"Bander." Fallom said it very matter-of-factly.

"Did you know Bander?"

"Of course. I viewed him many times. I was to be the next estate-head. The Bander estate would become the Fallom estate. Jemby told me so."

"You mean Bander came to your-"

Fallow's mouth made a perfect O of shock. She said in a choked voice, "Bander would never come to-" The youngster ran out of breath and panted a bit, then said, "I viewed Bander's image."

Bliss asked hesitantly, "How did Bander treat you?"

Fallow looked at Bliss with a faintly puzzled eye. "Bander would ask me if I needed anything; if I was comfortable. But Jemby was always near me so I never needed anything and I was always comfortable."

Her head bent and she stared at the floor. Then she placed her hands over her eyes and said, "But Jemby stopped. I think it was because Bander stopped, too."

Bliss said, "Why do you say that?"

"I've been thinking about it. Bander powered all the robots, and if Jemby stopped, and all the other robots, too, it must be that Bander stopped. Isn't that so?"

Bliss was silent.

Fallow said, "But when you take me back to Solaria I will power Jemby and all the rest of the robots, and I will be happy again."

She was sobbing.

Bliss said, "Aren't you happy with us, Fallow? Just a little? Sometimes?"

Fallow lifted her tear-stained face to Bliss and her voice trembled as she shook her head and said, "I want Jemby."

In an agony of sympathy, Bliss threw her arms about the youngster. "Oh, Fallow, how I wish I could bring you and Jemby together again," and was suddenly aware that she was weeping, too.

92.

PELORAT entered and found them so. He halted in mid-step and said, "What's the matter?"

Bliss detached herself and fumbled for a small tissue so that she might wipe her eyes. She shook her head, and Pelorat at once said, with heightened concern, "But what's the matter?"

Bliss said, "Fallow, just rest a little. I'll think of something to make things a little better for you. Remember-I love you just the same way that Jemby did."

She seized Pelorat's elbow and rushed him out into the living room, saying, "It's nothing, Pel. -Nothing."

"It's Fallow, though, isn't it? She still misses Jemby."

"Terribly. And there's nothing we can do about it. I can tell her that I love her-and, truthfully, I do. How can you help loving a child so intelligent and gentle? -Fearfully intelligent. Trevize thinks too intelligent. She's seen Bander in her time, you know-or viewed it, rather, as a holographic image. She's not moved by that memory, however; she's very cold and matter-of-fact about it, and I can understand why. There was only the fact that Bander was owner of the estate and that Fallow would be the next owner that bound them. No other relationship at all."

"Does Fallow understand that Bander is her father?"

"Her mother. If we agree that Fallow is to be regarded as feminine, so is Bander."

"Either way, Bliss dear. Is Fallow aware of the parental relationship?"

"I don't know that she would understand what that is. She may, of course, but she gave no hint. However, Pel, she has reasoned out that Bander is dead, for it's dawned on

her that Jemby's inactivation must be the result of power loss and since Bander supplied the power- That frightens me."

Pelorat said thoughtfully, "Why should it, Bliss? It's only a logical inference, after all."

"Another logical inference can be drawn from that death. Deaths must be few and far distant on Solaria with its long-lived and isolated Spacers. Experience of natural death must be a limited one for any of them, and probably absent altogether for a Solarian child of Fallom's age. If Fallom continues to think of Bander's death, she's going to begin to wonder why Bander died, and the fact that it happened when we strangers were on the planet will surely lead her to the obvious cause and effect."

"That we killed Bander?"

"It wasn't we who killed Bander, Pel. It was I. "

"She couldn't guess that."

"But I would have to tell her that. She is annoyed with Trevize as it is, and he is clearly the leader of the expedition. She would take it for granted that it would be he who would have brought about the death of Bander, and how could I allow Trevize to bear the blame unjustly?"

"What would it matter, Bliss? The child feels nothing for her fathmother. Only for her robot, Jemby."

"But the death of the mother meant the death of her robot, too. I almost did own up to my responsibility. I was strongly tempted."

"Why?"

"So I could explain it my way. So I could soothe her, forestall her own discovery of the fact in a reasoning process that would work it out in a way that would offer no justification for it."

"But there was justification. It was self-defense. In a moment, we all would have been dead, if you had not acted."

"It's what I would have said, but I could not bring myself to explain. I was afraid she wouldn't believe me."

Pelorat shook his head. He said, sighing, "Do you suppose it might have been better if we had not brought her? The situation makes you so unhappy."

"No," said Bliss angrily, "don't say that. It would have made me infinitely more unhappy to have to sit here right now and remember that we had left an innocent child behind to be slaughtered mercilessly because of what we had done."

"It's the way of Fallom's world."

"Now, Pel, don't fall into Trevize's way of thinking. Isolates find it possible to accept such things and think no more about it. The way of Gaia is to save life, however, not destroy it-or to sit idly by while it is destroyed. Life of all kinds must, we all know, constantly be coming to an end in order that other life might endure, but never uselessly, never to no end. Bander's death, though unavoidable, is hard enough to bear; Fallom's would have been past all bounds."

"Ah well," said Pelorat, "I suppose you're right. -And in any case, it is not the problem of Fallom concerning which I've come to see you. It's Trevize."

"What about Trevize?"

"Bliss, I'm worried about him. He's waiting to determine the facts about Earth, and I'm not sure he can withstand the strain."

"I don't fear for him. I suspect he has a sturdy and stable mind."

"We all have our limits. Listen, the planet Earth is warmer than he expected it to be; he told me so. I suspect that he thinks it may be too warm for life, though he's clearly trying to talk himself into believing that's not so."

"Maybe he's right. Maybe it's not too warm for life."

"Also, he admits it's possible that the warmth might possibly arise from a radioactive crust, but he is refusing to believe that also. -In a day or two, we'll be close enough so that the truth of the matter will be unmistakable. What if Earth is radioactive?"

"Then he'll have to accept the fact."

"But-I don't know how to say this, or how to put it in mental terms. What if his mind-"

Bliss waited, then said wryly, "Blows a fuse?"

"Yes. Blows a fuse. Shouldn't you do something now to strengthen him? Keep him level and under control, so to speak?"

"No, Pel. I can't believe he's that fragile, and there is a firm Gaian decision that his mind must not be tampered with."

"But that's the very point. He has this unusual 'rightness,' or whatever you want to call it. The shock of his entire project falling to nothingness at the moment when it seems successfully concluded may not destroy his brain, but it may destroy his 'rightness.' It's a very unusual property he has. Might it not be unusually fragile, too?"

Bliss remained for a moment in thought. Then she shrugged. "Well, perhaps I'll keep an eye on him."

93.

FOR THE next thirty-six hours, Trevize was vaguely aware that Bliss and, to a lesser degree, Pelorat, tended to dog his footsteps. Still, that was not utterly unusual in a ship as compact as theirs, and he had other things on his mind.

Now, as he sat at the computer, he was aware of them standing just inside the doorway. He looked up at them, his face blank.

"Well?" he said, in a very quiet voice.

Pelorat said, rather awkwardly, "How are you, Golan?"

Trevize said, "Ask Bliss. She's been staring at me intently for hours. She must be poking through my mind. -Aren't you, Bliss?"

"No, I am not," said Bliss evenly, "but if you feel the need for my help, I can try. - Do you want my help?"

"No, why should I? Leave me alone. Both of you."

Pelorat said, "Please tell us what's going on."

"Guess!"

"Is Earth-"

"Yes, it is. What everyone insisted on telling us is perfectly true." Trevize gestured at the viewscreen, where Earth presented its nightside and was eclipsing the sun. It was a solid circle of black against the starry sky, its circumference outlined by a broken orange curve.

Pelorat said, "Is that orange the radioactivity?"

"No. Just refracted sunlight through the atmosphere. It would be a solid orange circle if the atmosphere weren't so cloudy. We can't see the radioactivity. The various radiations, even the gamma rays, are absorbed by the atmosphere. However, they do set up secondary radiations, comparatively feeble ones, but the computer can detect them. They're still invisible to the eye, but the computer can produce a photon of visible light for each particle or wave of radiation it receives and put Earth into false color. Look."

And the black circle glowed with a faint, blotchy blue.

"How much radioactivity is there?" asked Bliss, in a low voice. "Enough to signify that no human life can exist there?"

"No life of any kind," said Trevize. "The planet is uninhabitable. The last bacterium, the last virus, is long gone."

"Can we explore it?" said Pelorat. "I mean, in space suits."

"For a few hours-before we come down with irreversible radiation sickness."

"Then what do we do, Golan?"

"Do?" Trevize looked at Pelorat with that same expressionless face. "Do you know what I would like to do? I would like to take you and Bliss-and the child-back to Gaia and leave you all there forever. Then I would like to go back to Terminus and hand back the ship. Then I would like to resign from the Council, which ought to make Mayor Branno very happy. Then I would like to live on my pension and let the Galaxy go as it will. I won't care about the Seldon Plan, or about the Foundation, or about the Second Foundation, or about Gaia. The Galaxy can choose its own path. It will last my time and why should I care a snap as to what happens afterward?"

"Surely, you don't mean it, Golan," said Pelorat urgently.

Trevize stared at him for a while, and then he drew a long breath. "No, I don't, but, oh, how I wish I could do exactly what I have just outlined to you."

"Never mind that. What will you do?"

"Keep the ship in orbit about the Earth, rest, get over the shock of all this, and think of what to do next. Except that-"

"Yes?"

And Trevize blurted out, "What can I do next? What is there further to look for? What is there further to find?"

20. THE NEARBY WORLD

94.

FOR Four successive meals, Pelorat and Bliss had seen Trevize only at meals. During the rest of the time, he was either in the pilot-room or in his bedroom. At mealtimes, he was silent. His lips remained pressed together and he ate little.

At the fourth meal, however, it seemed to Pelorat that some of the unusual gravity had lifted from Trevize's countenance. Pelorat cleared his throat twice, as though preparing to say something and then retreating.

Finally, Trevize looked up at him and said, "Well?"

"Have you-have you thought it out, Golan?"

"Why do you ask?"

"You seem less gloomy."

"I'm not less gloomy, but I have been thinking. Heavily."

"May we know what?" asked Pelorat.

Trevize glanced briefly in Bliss's direction. She was looking firmly at her plate, maintaining a careful silence, as though certain that Pelorat would get further than she at this sensitive moment.

Trevize said, "Are you also curious, Bliss?"

She raised her eyes for a moment. "Yes. Certainly."

Fallom kicked a leg of the table moodily, and said, "Have we found Earth?"

Bliss squeezed the youngster's shoulder. Trevize paid no attention.

He said, "What we must start with is a basic fact. All information concerning Earth has been removed on various worlds. That is bound to bring us to an inescapable conclusion. Something on Earth is being hidden. And yet, by observation, we see that Earth is radioactively deadly, so that anything on it is automatically hidden. No one can land on it, and from this distance, when we are quite near the outer edge of the magnetosphere and would not care to approach Earth any more closely, there is nothing for us to find."

"Can you be sure of that?" asked Bliss softly.

"I have spent my time at the computer, analyzing Earth in every way it and I can. There is nothing. What's more, I feel there is nothing. Why, then, has data concerning the Earth been wiped out? Surely, whatever must be hidden is more effectively hidden now than anyone can easily imagine, and there need be no human gilding of this particular piece of gold."

"It may be," said Pelorat, "that there was indeed something hidden on Earth at a time when it had not yet grown so severely radioactive as to preclude visitors. People on Earth may then have feared that someone might land and find this whatever-it-is. It was

then that Earth tried to remove information concerning itself. What we have now is a vestigial remnant of that insecure time."

"No, I don't think so," said Trevize. "The removal of information from the Imperial Library at Trantor seems to have taken place very recently." He turned suddenly to Bliss, "Am I right?"

Bliss said evenly, "I/we/Gaia gathered that much from the troubled mind of the Second Foundationer Gendibal, when he, you, and I had the meeting with the Mayor of Terminus."

Trevize said, "So whatever must have had to be hidden because there existed the chance of finding it must still be in hiding now, and there must be danger of finding it now despite the fact that Earth is radioactive."

"How is that possible?" asked Pelorat anxiously.

"Consider," said Trevize. "What if what was on Earth is no longer on Earth, but was removed when the radioactive danger grew greater? Yet though the secret is no longer on Earth, it may be that if we can find Earth, we would be able to reason out the place where the secret has been taken. If that were so, Earth's whereabouts would still have to be hidden."

Fallom's voice piped up again. "Because if we can't find Earth, Bliss says you'll take me back to Jemby."

Trevize turned toward Fallom and glared-and Bliss said, in a low voice, "I told you we might, Fallom. We'll talk about it later. Right now, go to your room and read, or play the flute, or anything else you want to do. Go-go."

Fallom, frowning sulkily, left the table.

Pelorat said, "But how can you say that, Golan? Here we are. We've located Earth. Can we now deduce where whatever it is might be if it isn't on Earth?"

It took a moment for Trevize to get over the moment of ill humor Fallom had induced. Then, he said, "Why not? Imagine the radioactivity of Earth's crust growing steadily worse. The population would be decreasing steadily through death and emigration, and the secret, whatever it is, would be in increasing danger. Who would remain to protect it? Eventually, it would have to be shifted to another world, or the use of-whatever it was-would be lost to Earth. I suspect there would be reluctance to move it and it is likely that it would be done more or less at the last minute. Now, then, Janov, remember the old man on New Earth who filled your ears with his version of Earth's history?"

"Monolee?"

"Yes. He. Did he not say in reference to the establishment of New Earth that what was left of Earth's population was brought to the planet?"

Pelorat said, "Do you mean, old chap, that what we're searching for is now on New Earth? Brought there by the last of Earth's population to leave?"

Trevize said, "Might that not be so? New Earth is scarcely better known to the Galaxy in general than Earth is, and the inhabitants are suspiciously eager to keep all Outworlders away."

"We were there," put in Bliss. "We didn't find anything."

"We weren't looking for anything but the whereabouts of Earth."

Pelorat said, in a puzzled way, "But we're looking for something with a high technology; something that can remove information from under the nose of the Second Foundation itself, and even from under the nose-excuse me, Bliss-of Gaia. Those people on New Earth may be able to control their patch of weather and may have some techniques of biotechnology at their disposal, but I think you'll admit that their level of technology is, on the whole, quite low."

Bliss nodded. "I agree with Pel."

Trevize said, "We're judging from very little. We never did see the men of the fishing fleet. We never saw any part of the island but the small patch we landed on. What might we have found if we had explored more thoroughly? After all, we didn't recognize the fluorescent lights till we saw them in action, and if it appeared that the technology was low, appeared, I say-

"Yes?" said Bliss, clearly unconvinced.

"That could be part of the veil intended to obscure the truth."

"Impossible," said Bliss.

"Impossible? It was you who told me, back on Gaia, that at Trantor, the larger civilization was deliberately held at a level of low technology in order to hide the small kernel of Second Foundationers. Why might not the same strategy be used on New Earth?"

"Do you suggest, then, that we return to New Earth and face infection again-this time to have it activated? Sexual intercourse is undoubtedly a particularly pleasant mode of infection, but it may not be the only one."

Trevize shrugged. "I am not eager to return to New Earth, but we may have to."

"May! After all, there is another possibility."

"What is that?"

"New Earth circles the star the people call Alpha. But Alpha is part of a binary system. Might there not be a habitable planet circling Alpha's companion as well?"

"Too dim, I should think," said Bliss, shaking her head. "The companion is only a quarter as bright as Alpha is."

"Dim, but not too dim. If there is a planet fairly close to the star, it might do."

Pelorat said, "Does the computer say anything about any planets for the companion?"

Trevize smiled grimly. "I checked that. There are five planets of moderate size. No gas giants."

"And are any of the five planets habitable?"

"The computer gives no information at all about the planets, other than their number, and the fact that they aren't large."

"Oh," said Pelorat deflated.

Trevize said, "That's nothing to be disappointed about. None of the Spacer worlds are to be found in the computer at all. The information on Alpha itself is minimal. These

things are hidden deliberately and if almost nothing is known about Alpha's companion, that might almost be regarded as a good sign."

"Then," said Bliss, in a business-like manner, "what you are planning to do is this-visit the companion and, if that draws a blank, return to Alpha itself."

"Yes. And this time when we reach the island of New Earth, we will be prepared. We will examine the entire island meticulously before landing and, Bliss, I expect you to use your mental abilities to shield-"

And at that moment, the Far Star lurched slightly, as though it had undergone a ship-sized hiccup, and Trevize cried out, halfway between anger and perplexity, "Who's at the controls?"

And even as he asked, he knew very well who was.

95.

FALLOM, at the computer console, was completely absorbed. Her small, longfingered hands were stretched wide in order to fit the faintly gleaming handmarks on the desk. Fallom's hands seemed to sink into the material of the desk, even though it was clearly felt to be hard and slippery.

She had seen Trevize hold his hands so on a number of occasions, and she hadn't seen him do more than that, though it was quite plain to her that in so doing he controlled the ship.

On occasion, Fallom had seen Trevize close his eyes, and she closed hers now. After a moment or two, it was almost as though she heard a faint, far-off voice-far off, but sounding in her own head, through (she dimly realized) her transducer-lobes. They were even more important than her hands. She strained to make out the words.

Instructions, it said, almost pleadingly. What are your instructions?

Fallom didn't say anything. She had never witnessed Trevize saying anything to the computer-but she knew what it was that she wanted with all her heart. She wanted to go back to Solaria, to the comforting endlessness of the mansion, to Jemby-Jemby-Jemby-

She wanted to go there and, as she thought of the world she loved, she imagined it visible on the viewscreen as she had seen other worlds she didn't want. She opened her eyes and stared at the viewscreen willing some other world there than this hateful Earth, then staring at what she saw, imagining it to be Solaria. She hated the empty Galaxy to which she had been introduced against her will. Tears came to her eyes, and the ship trembled.

She could feel that tremble, and she swayed a little in response.

And then she heard loud steps in the corridor outside and, when she opened her eyes, Trevize's face, distorted, filled her vision, blocking out the viewscreen, which held all she wanted. He was shouting something, but she paid no attention. It was he who had taken her from Solaria by killing Bander, and it was he who was preventing her from returning by thinking only of Earth, and she was not going to listen to him.

She was going to take the ship to Solaria, and, with the intensity of her resolve, it trembled again.

96.

BLISS clutched wildly at Trevize's arm. "Don't! Don't!"

She clung strongly, holding him back, while Pelorat stood, confused and frozen, in the background.

Trevize was shouting, "Take your hands off the computer! -Bliss, don't get in my way. I don't want to hurt you."

Bliss said, in a tone that seemed almost exhausted, "Don't offer violence to the child. I'd have to hurt you-against all instructions."

Trevize's eyes darted wildly from Fallom to Bliss. He said, "Then you get her off, Bliss. Now!"

Bliss pushed him away with surprising strength (drawing it, Trevize thought afterward, from Gaia, perhaps).

"Fallom," she said, "lift your hands."

"No," shrieked Fallom. "I want the ship to go to Solaria. I want it to go there. There." She nodded toward the viewscreen with her head, unwilling to let even one hand release its pressure on the desk for the purpose.

But Bliss reached for the child's shoulders and, as her hands touched Fallom, the youngster began to tremble.

Bliss's voice grew soft. "Now, Fallom, tell the computer to be as it was and come with me. Come with me." Her hands stroked the child, who collapsed in an agony of weeping.

Fallom's hands left the desk, and Bliss, catching her under the armpits, lifted her into a standing position. She turned her, held her firmly against her breast, and allowed the child to smother her wrenching sobs there.

Bliss said to Trevize, who was now standing dumbly in the doorway, "Step out of the way, Trevize, and don't touch either of us as we pass."

Trevize stepped quickly to one side.

Bliss paused a moment, saying in a low voice to Trevize, "I had to get into her mind for a moment. If I've caused any damage, I won't forgive you easily."

It was Trevize's impulse to tell her he didn't care a cubic millimeter of vacuum for Fallom's mind; that it was the computer for which he feared. Against the concentrated glare of Gaia, however (surely it wasn't only Bliss whose sole expression could inspire the moment of cold terror he felt), he kept silent.

He remained silent for a perceptible period, and motionless as well, after Bliss and Fallom had disappeared into their room. He remained so, in fact, until Pelorat said softly, "Golan, are you all right? She didn't hurt you, did she?"

Trevize shook his head vigorously, as though to shake off the touch of paralysis that had afflicted him. "I'm all right. The real question is whether that's all right." He sat down at the computer console, his hands resting on the two handmarks which Fallom's hands had so recently covered.

"Well?" said Pelorat anxiously.

Trevize shrugged. "It seems to respond normally. I might conceivably find something wrong later on, but there's nothing that seems off now." Then, more angrily, "The computer should not combine effectively with any hands other than mine, but in that hermaphrodite's case, it wasn't the hands alone. It was the transducer-lobes, I'm sure-"

"But what made the ship shake? It shouldn't do that, should it?"

"No. It's a gravitic ship and we shouldn't have these inertial effects. But that she-monster-" He paused, looking angry again.

"Yes?"

"I suspect she faced the computer with two self-contradictory demands, and each with such force that the computer had no choice but to attempt to do both things at once. In the attempt to do the impossible, the computer must have released the inertia-free condition of the ship momentarily. At least that's what I think happened."

And then, somehow, his face smoothed out. "And that might be a good thing, too, for it occurs to me now that all my talk about Alpha Centauri and its companion was flapdoodle. I know now where Earth must have transferred its secret."

97.

PELORAT stared, then ignored the final remark and went back to an earlier puzzle. "In what way did Fallom ask for two self-contradictory things?"

"Well, she said she wanted the ship to go to Solaria."

"Yes. Of course, she would."

"But what did she mean by Solaria? She can't recognize Solaria from space. She's never really seen it from space. She was asleep when we left that world in a hurry. And despite her readings in your library, together with whatever Bliss has told her, I imagine she can't really grasp the truth of a Galaxy of hundreds of billions of stars and millions of populated planets. Brought up, as she was, underground and alone, it is all she can do to grasp the bare concept that there are different worlds-but how many? Two? Three? Four? To her any world she sees is likely to be Solaria, and given the strength of her wishful thinking, is Solaria. And since I presume Bliss has tried to quiet her by hinting that if we don't find Earth, we'll take her back to Solaria, she may even have worked up the notion that Solaria is close to Earth."

"But how can you tell this, Golan? What makes you think it's so?"

"She as much as told us so, Janov, when we burst in upon her. She cried out that she wanted to go to Solaria and then added 'there-there,' nodding her head at the

viewscreen. And what is on the viewscreen? Earth's satellite. It wasn't there when I left the machine before dinner; Earth was. But Fallom must have pictured the satellite in her mind when she asked for Solaria, and the computer, in response, must therefore have focused on the satellite. Believe me, Janov, I know how this computer works. Who would know better?"

Pelorat looked at the thick crescent of light on the viewscreen and said thoughtfully, "It was called 'moon' in at least one of Earth's languages; 'Luna,' in another language. Probably many other names, too. -Imagine the confusion, old chap, on a world with numerous languages-the misunderstandings, the complications, the-"

"Moon?" said Trevize. "Well, that's simple enough. -Then, too, come to think of it, it may be that the child tried, instinctively, to move the ship by means of its transducer-lobes, using the ship's own energy-source, and that may have helped produce the momentary inertial confusion. -But none of that matters, Janov. What does matter is that all this has brought this moon -yes, I like the name-to the screen and magnified it, and there it still is. I'm looking at it now, and wondering."

"Wondering what, Golan?"

"At the size of it. We tend to ignore satellites, Janov. They're such little things, when they exist at all. This one is different, though. It's a world. It has a diameter of about thirty-five hundred kilometers."

"A world? Surely you wouldn't call it a world. It can't be habitable. Even a thirty-five-hundred-kilometer diameter is too small. It has no atmosphere. I can tell that just looking at it. No clouds. The circular curve against space is sharp, so is the inner curve that bounds the light and dark hemisphere."

Trevize nodded, "You're getting to be a seasoned space traveler, Janov. You're right. No air. No water. But that only means the moon's not habitable on its unprotected surface. What about underground?"

"Underground?" said Pelorat doubtfully.

"Yes. Underground. Why not? Earth's cities were underground, you tell me. We know that Trantor was underground. Comporellon has much of its capital city underground. The Solarian mansions were almost entirely underground. It's a very common state of affairs."

"But, Golan, in every one of these cases, people were living on a habitable planet. The surface was habitable, too, with an atmosphere and with an ocean. Is it possible to live underground when the surface is uninhabitable? "

"Come, Janov, think! Where are we living right now? The Far Star is a tiny world that has an uninhabitable surface. There's no air or water on the outside. Yet we live inside in perfect comfort. The Galaxy is full of space stations and space settlements of infinite variety, to say nothing of spaceships, and they're all uninhabitable except for the interior. Consider the moon a gigantic spaceship."

"With a crew inside?"

"Yes. Millions of people, for all we know; and plants and animals; and an advanced technology. -Look, Janov, doesn't it make sense? If Earth, in its last days, could

send out a party of Settlers to a planet orbiting Alpha Centauri; and if, possibly with Imperial help, they could attempt to terraform it, seed its oceans, build dry land where there was none; could Earth not also send a party to its satellite and terraform its interior?"

Pelorat said reluctantly, "I suppose so."

"It would be done. If Earth has something to hide, why send it over a parsec away, when it could be hidden on a world less than a hundred millionth the distance to Alpha. And the moon would be a more efficient hiding place from the psychological standpoint. No one would think of satellites in connection with life. For that matter I didn't. With the moon an inch before my nose, my thoughts went haring off to Alpha. If it hadn't been for Fallom-" His lips tightened, and he shook his head. "I suppose I'll have to credit her for that. Bliss surely will if I don't."

Pelorat said, "But see here, old man, if there's something hiding under the surface of the moon, how do we find it? There must be millions of square kilometers of surface-"

"Roughly forty million."

"And we would have to inspect all of that, looking for what? An opening? Some sort of airlock?"

Trevize said, "Put that way, it would seem rather a task, but we're not just looking for objects, we're looking for life; and for intelligent life at that. And we've got Bliss, and detecting intelligence is her talent, isn't it?"

98.

BLISS looked at Trevize accusingly. "I've finally got her to sleep. I had the hardest time. She was wild. Fortunately, I don't think I've damaged her."

Trevize said coldly, "You might try removing her fixation on Jemby, you know, since I certainly have no intention of ever going back to Solaria."

"Just remove her fixation, is that it? What do you know about such things, Trevize? You've never sensed a mind. You haven't the faintest idea of its complexity. If you knew anything at all about it, you wouldn't talk about removing a fixation as though it were just a matter of scooping jam out of a jar."

"Well, weaken it at least."

"I might weaken it a bit, after a month of careful dethreading."

"What do you mean, dethreading?"

"To someone who doesn't know, it can't be explained."

"What are you going to do with the child, then?"

"I don't know yet; it will take a lot of consideration."

"In that case," said Trevize, "let me tell you what we're going to do with the ship."

"I know what you're going to do. It's back to New Earth and another try at the lovely Hiroko, if she'll promise not to infect you this time."

Trevize kept his face expressionless. He said, "No, as a matter of fact. I've changed my mind. We're going to the moon-which is the name of the satellite, according to Janov."

"The satellite? Because it's the nearest world at hand? I hadn't thought of that."

"Nor I. Nor would anyone have thought of it. Nowhere in the Galaxy is there a satellite worth thinking about-but this satellite, in being large, is unique. What's more, Earth's anonymity covers it as well. Anyone who can't find the Earth can't find the moon, either."

"Is it habitable?"

"Not on the surface, but it is not radioactive, not at all, so it isn't absolutely uninhabitable. It may have life-it may be teeming with life, in fact-under the surface. And, of course, you'll be able to tell if that's so, once we get close enough."

Bliss shrugged. "I'll try. -But, then, what made you suddenly think of trying the satellite?"

Trevize said quietly, "Something Fallom did when she was at the controls."

Bliss waited, as though expecting more, then shrugged again. "Whatever it was, I suspect you wouldn't have gotten the inspiration if you had followed your own impulse and killed her."

"I had no intention of killing her, Bliss."

Bliss waved her hand. "All right. Let it be. Are we moving toward the moon now?"

"Yes. As a matter of caution, I'm not going too fast, but if all goes well, we'll be in its vicinity in thirty hours."

99.

THE MOON was a wasteland. Trevize watched the bright daylit portion drifting past them below. It was a monotonous panorama of crater rings and mountainous areas, and of shadows black against the sunlight. There were subtle color changes in the soil and occasional sizable stretches of flatness, broken by small craters.

As they approached the night side, the shadows grew longer and finally fused together. For a while, behind them, peaks glittered in the sun, like fat stars, far outshining their brethren in the sky. Then they disappeared and below was only the fainter light of the Earth in the sky, a large bluish-white sphere, a little more than half full. The ship finally outran the Earth, too, which sank beneath the horizon so that under them was unrelieved blackness, and above only the faint powdering of stars, which, to Trevize, who had been brought up on the starless world of Terminus, was always miracle enough.

Then, new bright stars appeared ahead, first just one or two, then others, expanding and thickening and finally coalescing. And at once they passed the terminator into the daylit side. The sun rose with infernal splendor, while the viewscreen shifted away from it at once and polarized the glare of the ground beneath.

Trevize could see quite well that it was useless to hope to find any way into the inhabited interior (if that existed) by mere eye inspection of this perfectly enormous world.

He turned to look at Bliss, who sat beside him. She did not look at the viewscreen; indeed, she kept her eyes closed. She seemed to have collapsed into the chair rather than to be sitting in it.

Trevize, wondering if she were asleep, said softly, "Do -you detect anything else?"

Bliss shook her head very slightly. "No," she whispered. "There was just that faint whiff. You'd better take me back there. Do you know where that region was?"

"The computer knows."

It was like zeroing in on a target, shifting this way and that and then finding it. The area in question was still deep in the night side and, except that the Earth shone fairly low in the sky and gave the surface a ghostly ashen glow between the shadows, there was nothing to make out, even though the light in the pilot-room had been blacked out for better viewing.

Pelorat had approached and was standing anxiously in the doorway. "Have we found anything?". he asked, in a husky whisper.

Trevize held up his hand for silence. He was watching Bliss. He knew it would be days before sunlight would return to this spot on the moon, but he also knew that for what Bliss was trying to sense, light of any kind was irrelevant.

She said, "It's there."

"Are you sure?"

"Yes."

"And it's the only spot?"

"It's the only spot I've detected. Have you been over every part of the moon's surface?"

"We've been over a respectable fraction of it."

"Well, then, in that respectable fraction, this is all I have detected. It's stronger now, as though it has detected us and it doesn't seem dangerous. The feeling I get is a welcoming one."

"Are you sure?"

"It's the feeling I get."

Pelorat said, "Could it be faking the feeling?"

Bliss said, with a trace of hauteur, "I would detect a fake, I assure you."

Trevize muttered something about overconfidence, then said, "What you detect is intelligence, I hope."

"I detect strong intelligence. Except-" And an odd note entered her voice.

"Except what?"

"Ssh. Don't disturb me. Let me concentrate." The last word was a mere motion of her lips.

Then she said, in faint elated surprise, "It's not human."

"Not human," said Trevize, in much stronger surprise. "Are we dealing with robots again? As on Solaria?"

"No." Bliss was smiling. "It's not quite robotic, either."

"It has to be one or the other."

"Neither." She actually chuckled. "It's not human, and yet it's not like any robot I've detected before."

Pelorat said, "I would like to see that." He nodded his head vigorously, his eyes wide with pleasure. "It would be exciting. Something new."

"Something new," muttered Trevize with a sudden lift of his own spirits-and a flash of unexpected insight seemed to illuminate the interior of his skull.

100.

DOWN THEY sank to the moon's surface, in what was almost jubilation. Even Fallom had joined them now and, with the abandonment of a youngster, was hugging herself with unbearable joy as though she were truly returning to Solaria.

As for Trevize, he felt within himself a touch of sanity telling him that it was strange that Earth-or whatever of Earth was on the moon-which had taken such measures to keep off all others, should now be taking measures to draw them in. Could the purpose be the same in either way? Was it a case of "If you can't make them avoid you, draw them in and destroy them?" Either way, would not Earth's secret remain untouched?

But that thought faded and drowned in the flood of joy that deepened steadily as they came closer to the moon's surface. Yet over and beyond that, he managed to cling to the moment of illumination that had reached him just before they had begun their gliding dive to the surface of the Earth's satellite.

He seemed to have no doubt as to where the ship was going. They were just above the tops of the rolling hills now, and Trevize, at the computer, felt no need to do anything. It was as though he and the computer, both, were being guided, and he felt only an enormous euphoria at having the weight of responsibility taken away from him.

They were sliding parallel to the ground, toward a cliff that raised its menacing height as a barrier against them; a barrier glistening faintly in Earth-shine and in the light-beam of the Far Star. The approach of certain collision seemed to mean nothing to Trevize, and it was with no surprise whatever that he became aware that the section of cliff directly ahead had fallen away and that a corridor, gleaming in artificial light, had opened before them.

The ship slowed to a crawl, apparently of its own accord, and fitted neatly into the opening--entering-sliding along- The opening closed behind it, and another then opened before it. Through the second opening went the ship, into a gigantic hall that seemed the hollowed interior of a mountain.

The ship halted and all aboard rushed to the airlock eagerly. It occurred to none of them, not even to Trevize, to check. whether there might be a breathable atmosphere outside-or any atmosphere at all.

There was air, however. It was breathable and it was comfortable. They looked about themselves with the pleased air of people who had somehow come home and it was only after a while that they became aware of a man who was waiting politely for them to approach.

He was tall, and his expression was grave. His hair was bronze in color, and cut short. His cheekbones were broad, his eyes were bright, and his clothing was rather after the fashion one saw in ancient history books. Although he seemed sturdy and vigorous there was, just the same, an air of weariness about him-not in anything that one could see, but rather in something appealing to no recognizable sense.

It was Fallom who reacted first. With a loud, whistling scream, she ran toward the man, waving her arms and crying, "Jemby! Jemby!" in a breathless fashion.

She never slackened her pace, and when she was close enough, the man stooped and lifted her high in the air. She threw her arms about his neck, sobbing, and still gasping, "Jemby!"

The others approached more soberly and Trevize said, slowly and distinctly (could this man understand Galactic?), "We ask pardon, sir. This child has lost her protector and is searching for it desperately. How it came to fasten on you is a puzzle to us, since it is seeking a robot; a mechanical-"

The man spoke for the first time. His voice was utilitarian rather than musical, and there was a faint air of archaism clinging to it, but he spoke Galactic with perfect ease.

"I greet you all in friendship," he said-and he seemed unmistakably friendly, even though his face continued to remain fixed in its expression of gravity. "As for this child," he went on, "she shows perhaps a greater perceptivity than you think, for I am a robot. My name is Daneel Olivaw."

21. THE SEARCH ENDS

101.

TREVIZE found himself in a complete state of disbelief. He had recovered from the odd euphoria he had felt just before and after the landing on the moon—a euphoria, he now suspected, that had been imposed on him by this self-styled robot who now stood before him.

Trevize was still staring, and in his now perfectly sane and untouched mind, he remained lost in astonishment. He had talked in astonishment, made conversation in astonishment, scarcely understood what he said or heard as he searched for something in the appearance of this apparent man, in his behavior, in his manner of speaking, that bespoke the robot.

No wonder, thought Trevize, that Bliss had detected something that was neither human nor robot, but, that was, in Pelorat's words, "something new." Just as well, of course, for it had turned Trevize's thoughts into another and more enlightening channel—but even that was now crowded into the back of his mind.

Bliss and Fallom had wandered off to explore the grounds. It had been Bliss's suggestion, but it seemed to Trevize that it came after a lightning-quick glance had been exchanged between herself and Daneel. When Fallom refused and asked to stay with the being she persisted in calling Jemby, a grave word from Daneel and a lift of the finger was enough to cause her to trot off at once. Trevize and Pelorat remained.

"They are not Foundationers, sirs," said the robot, as though that explained it all. "One is Gaia and one is a Spacer."

Trevize remained silent while they were led to simply designed chairs under a tree. They seated themselves, at a gesture from the robot, and when he sat down, too, in a perfectly human movement, Trevize said, "Are you truly a robot?"

"Truly, sir," said Daneel.

Pelorat's face seemed to shine with joy. He said, "There are references to a robot named Daneel in the old legends. Are you named in his honor?"

"I am that robot," said Daneel. "It is not a legend."

"Oh no," said Pelorat. "If you are that robot, you would have to be thousands of years old."

"Twenty thousand," said Daneel quietly.

Pelorat seemed abashed at that, and glanced at Trevize, who said, with a touch of anger, "If you are a robot, I order you to speak truthfully."

"I do not need to be told to speak truthfully, sir. I must do so. You are faced then, sir, with three alternatives. Either I am a man who is lying to you; or I am a robot who has been programmed to believe that it is twenty thousand years old but, in fact, is not; or I

am a robot who is twenty thousand years old. You must decide which alternative to accept."

"The matter may decide itself with continued conversation," said Trevize dryly. "For that matter, it is hard to believe that this is the interior of the moon. Neither the light"-he looked up as he said that, for the light was precisely that of soft, diffuse sunlight, though no sun was in the sky, and, for that matter, no sky was clearly visible-"nor the gravity seems credible. This world should have a surface gravity of less than 0.2g."

"The normal surface gravity would be 0.16g actually, sir. It is built up, however, by the same forces that give you, on your ship, the sensation of normal gravity, even when you are in free fall, or under acceleration. Other energy needs, including the light, are also met gravitically, though we use solar energy where that is convenient. Our material needs are all supplied by the moon's soil, except for the light elements-hydrogen, carbon, and nitrogen-which the moon does not possess. We obtain those by capturing an occasional comet. One such capture a century is more than enough to supply our needs."

"I take it Earth is useless as a source of supply."

"Unfortunately, that is so, sir. Our positronic brains are as sensitive to radioactivity as human proteins are."

"You use the plural, and this mansion before us seems, large, beautiful, and elaborate-at least as seen from the outside. There are then other beings on the moon. Humans? Robots?"

"Yes, sir. We have a complete ecology on the moon and a vast and complex hollow within which that ecology exists. The intelligent beings are all robots, however, more or less like myself. You will see none of them, however. As for this mansion, it is used by myself only and it is an establishment that is modeled exactly on one I used to live in twenty thousand years ago."

"Which you remember in detail, do you?" .

"Perfectly, sir. I was manufactured, and existed for a time-how brief a time it seems to me, now-on the Spacer world of Aurora."

"The one with the-" Trevize paused.

"Yes, sir. The one with the dogs."

"You know about that?"

"Yes, sir."

"How do you come to be here, then, if you lived at first on Aurora?"

"Sir, it was to prevent the creation of a radioactive Earth that I came here in the very beginnings of the settlement of the Galaxy. There was another robot with me, named Giskard, who could sense and adjust minds."

"As Bliss can?"

"Yes, sir. We failed, in a way, and Giskard ceased to operate. Before the cessation, however, he made it possible for me to have his talent and left it to me to care for the Galaxy; for Earth, particularly."

"Why Earth, particularly?"

"In part because of a man named Elijah Baley, an Earthman."

Pelorat put in excitedly, "He is the culture-hero I mentioned some time ago, Golan."

"A culture-hero, sir?"

"What Dr. Pelorat means," said Trevize, "is that he is a person to whom much was attributed, and who may have been an amalgamation of many men in actual history, or who may be an invented person altogether."

Daneel considered for a moment, and then said, quite calmly, "That is not so, sirs. Elijah Baley was a real man and he was one man. I do not know what your legends say of him, but in actual history, the Galaxy might never have been settled without him. In his honor, I did my best to salvage what I could of Earth after it began to turn radioactive. My fellow-robots were distributed over the Galaxy in an effort to influence a person here-a person there. At one time I maneuvered a beginning to the recycling of Earth's soil. At another much later time, I maneuvered a beginning to the terraforming of a world circling the nearby star, now called Alpha. In neither case was I truly successful. I could never adjust human minds entirely as I wished, for there was always the chance that I might do harm to the various humans who were adjusted. I was bound, you see-and am bound to this day-by the Laws of Robotics."

"Yes?"

It did not necessarily take a being with Daneel's mental power to detect uncertainty in that monosyllable.

"The First Law," he said, "is this, sir: 'A robot may not injure a human being or, through inaction, allow a human being to come to harm.' The Second Law: 'A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.' The Third Law: 'A robot must protect its own existence, as long as such protection does not conflict with the First or Second Law.'-Naturally, I give you these laws in the approximation of language. In actual fact they represent complicated mathematical configurations of our positronic brain-paths."

"Do you find it difficult to deal with those Laws?"

"I must, sir. The First Law is an absolute that almost forbids the use of my mental talents altogether. When dealing with the Galaxy it is not likely that any course of action will prevent harm altogether. Always, some people, perhaps many people, will suffer so that a robot must choose minimum harm. Yet, the complexity of possibilities is such that it takes time to make that choice and one is, even then, never certain."

"I see that," said Trevize.

"All through Galactic history," said Daneel, "I tried to ameliorate the worst aspects of the strife and disaster that perpetually made itself felt in the Galaxy. I may have succeeded, on occasion, and to some extent, but if you know your Galactic history, you will know that I did not succeed often, or by much."

"That much I know," said Trevize, with a wry smile.

"Just before Giskard's end, he conceived of a robotic law that superseded even the first. We called it the 'Zeroth Law' out of an inability to think of any other name that made sense. The Zeroth Law is: 'A robot may not injure humanity or, through inaction,

allow humanity to come to harm.' This automatically means that the First Law must be modified to be: 'A robot may not injure a human being, or, through inaction, allow a human being to come to harm, except where that would conflict with the Zeroth Law.' And similar modifications must be made in the Second and Third Laws."

Trevize frowned. "How do you decide what is injurious, or not injurious, to humanity as a whole?"

"Precisely, sir," said Daneel. "In theory, the Zeroth Law was the answer to our problems. In practice, we could never decide. A human being is a concrete object. Injury to a person can be estimated and judged. Humanity is an abstraction. How do we deal with it?"

"I don't know," said Trevize.

"Wait," said Pelorat. "You could convert humanity into a single organism. Gaia."

"That is what I tried to do, sir. I engineered the founding of Gaia. If humanity could be made a single organism, it would become a concrete object, and it could be dealt with. It was, however, not as easy to create a superorganism as I had hoped. In the first place, it could not be done unless human beings valued the superorganism more than their individuality, and I had to find a mind-cast that would allow that. It was a long time before I thought of the Laws of Robotics."

"Ah, then, the Gaians are robots. I had suspected that from the start."

"In that case, you suspected incorrectly, sir. They are human beings, but they have brains firmly inculcated with the equivalent of the Laws of Robotics. They have to value life, really value it. -And even after that was done, there remained a serious flaw. A superorganism consisting of human beings only is unstable. It cannot be set up. Other animals must be added-then plants-then the inorganic world. The smallest superorganism that is truly stable is an entire world, and a world large enough and complex enough to have a stable ecology. It took a long time to understand this, and it is only in this last century that Gaia was fully established and that it became ready to move on toward Galaxia-and, even so, that will take a long time, too. Perhaps not as long as the road already traveled, however, since we now know the rules."

"But you needed me to make the decision for you. Is that it, Daneel?"

"Yes, sir. The Laws of Robotics would not allow me, nor Gaia, to make the decision and chance harm to humanity. And meanwhile, five centuries ago, when it seemed that I would never work out methods for getting round all the difficulties that stood in the way of establishing Gaia, I turned to the second-best and helped bring about the development of the science of psychohistory."

"I might have guessed that," mumbled Trevize. "You know, Daneel, I'm beginning to believe you are twenty thousand years old."

"Thank you, sir."

Pelorat said, "Wait a while. I think I see something. Are you part of Gaia yourself, Daneel? Would that be how you knew about the dogs on Aurora? Through Bliss?"

Daneel said, "In a way, sir, you are correct. I am associated with Gaia, though I am not part of it."

Trevize's eyebrows went up. "That sounds like Comporellon, the world we visited immediately after leaving Gaia. It insists it is not part of the Foundation Confederation, but is only associated with it."

Slowly, Daneel nodded. "I suppose that analogy is apt, sir. I can, as an associate of Gaia, make myself aware of what Gaia is aware of-in the person of the woman, Bliss, for instance. Gaia, however, cannot make itself aware of what I am aware of, so that I maintain my freedom of action. That freedom of action is necessary until Galaxia is well established."

Trevize looked steadily at the robot for a moment, then said, "And did you use your awareness through Bliss in order to interfere with events on our journey to mold them to your better liking?"

Daneel sighed in a curiously human fashion. "I could not do much, sir. The Laws of Robotics always hold me back. -And yet, I lightened the load on Bliss's mind, taking a small amount of added responsibility on myself, so that she might deal with the wolves of Aurora and the Spacer on Solaria with greater dispatch and with less harm to herself. In addition, I influenced the woman on Comporellon and the one on New Earth, through Bliss, in order to have them look with favor on you, so that you might continue on your journey."

Trevize smiled, half-sadly. "I ought to have known it wasn't L"

Daneel accepted the statement without its rueful self-deprecation. "On the contrary, sir," he said, "it was you in considerable part. Each of the two women looked with favor upon you from the start. I merely strengthened the impulse already present-about all one can safely do under the strictures of the Laws of Robotics. Because of those strictures-and for other reasons as well-it was only with great difficulty that I brought you here, and only indirectly. I was in great danger at several points of losing you."

"And now I am here," said Trevize. "What is it you want of me? To confirm my decision in favor of Galaxia?"

Daneel's face, always expressionless, somehow managed to seem despairing. "No, sir. The mere decision is no longer enough. I brought you here, as best I could in my present condition, for something far more desperate. I am dying."

102.

PERHAPS it was because of the matter-of-fact way in which Daneel said it; or perhaps because a lifetime of twenty thousand years made death seem no tragedy to one doomed to live less than half a percent of that period; but, in any case, Trevize felt no stir of sympathy.

"Die? Can a machine die?"

"I can cease to exist, sir. Call it by whatever word you wish. I am old. Not one sentient being in the Galaxy that was alive when I was first given consciousness is still alive today; nothing organic; nothing robotic. Even I myself lack continuity."

"In what way?"

"There is no physical part of my body, sir, that has escaped replacement, not only once but many times. Even my positronic brain has been replaced on five different occasions. Each time the contents of my earlier brain were etched into the newer one to the last positron. Each time, the new brain had a greater capacity and complexity than the old, so that there was room for more memories, and for faster decision and action. But-

"But?"

"The more advanced and complex the brain, the more unstable it is, and the more quickly it deteriorates. My present brain is a hundred thousand times as sensitive as my first, and has ten million times the capacity; but whereas my first brain endured for over ten thousand years, the present one is but six hundred years old and is unmistakably senescent. With every memory of twenty thousand years perfectly recorded and with a perfect recall mechanism in place, the brain is filled. There is a rapidly declining ability to reach decisions; an even more rapidly declining ability to test and influence minds at hyperspatial distances. Nor can I design a sixth brain. Further miniaturization will run against the blank wall of the uncertainty principle, and further complexity will but assure decay almost at once."

Pelorat seemed desperately troubled. "But surely, Daneel, Gaia can carry on without you. Now that Trevize has judged and selected Galaxia-

"The process simply took too long, sir," said Daneel, as always betraying no emotion. "I had to wait for Gaia to be fully established, despite the unanticipated difficulties that arose. By the time a human being-Mr. Trevize-was located who was capable of making the key decision, it was too late. Do not think, however, that I took no measure to lengthen my life span. Little by little I have reduced my activities, in order to conserve what I could for emergencies. When I could no longer rely on active measures to preserve the isolation of the Earth/moon system, I adopted passive ones. Over a period of years, the humaniform robots that have been working with me have been, one by one, called home. Their last tasks have been to remove all references to Earth in the planetary archives. And without myself and my fellow-robots in full play, Gaia will lack the essential tools to carry through the development of Galaxia in less than an inordinate period of time."

"And you knew all this," said Trevize, "when I made my decision?"

"A substantial time before, sir," said Daneel. "Gaia, of course, did not know."

"But then," said Trevize angrily, "what was the use of carrying through the charade? What good has it been? Ever since my decision, I have scoured the Galaxy, searching for Earth and what I thought of as its 'secret'-not knowing the secret was you-in order that I might confirm the decision. Well, I have confirmed it. I know now that Galaxia is absolutely essential-and it appears to be all for nothing. Why could you not have left the Galaxy to itself -and me to myself?"

Daneel said, "Because, sir, I have been searching for a way out, and I have been carrying on in the hope that I might find one. I think I have. Instead of replacing my brain with yet another positronic one, which is impractical, I might merge it with a human brain

instead; a human brain that is not affected by the Three Laws, and will not only add capacity to my brain, but add a whole new level of abilities as well. That is why I have brought you here."

Trevize looked appalled. "You mean you plan to merge a human brain into yours? Have the human brain lose its individuality so that you can achieve a two-brain Gaia?"

"Yes, sir. It would not make me immortal, but it might enable me to live long enough to establish Galaxia."

"And you brought me here for that? You want my independence of the Three Laws and my sense of judgment made part of you at the price of my individuality? -No!"

Daneel said, "Yet you said a moment ago that Galaxia is essential for the welfare of the human-"

"Even if it is, it would take a long time to establish, and I would remain an individual in my lifetime. On the other hand, if it were established rapidly, there would be a Galactic loss of individuality and my own loss would be part of an unimaginably greater whole. I would, however, certainly never consent to lose my individuality while the rest of the Galaxy retains theirs."

Daneel said, "It is, then, as I thought. Your brain would not merge well and, in any case, it would serve a better purpose if you retained an independent judgmental ability."

"When did you change your mind? You said that it was for merging that you brought me here."

"Yes, and only by using the fullest extent of my greatly diminished powers. Still, when I said, 'That is why I have brought you here,' please remember that in Galactic Standard, the word 'you' represents the plural as well as the singular. I was referring to all of you."

Pelorat stiffened in his seat. "Indeed? Tell me then, Daneel, would a human brain that was merged with your brain share in all your memories-all twenty thousand years of it, back to legendary times?"

"Certainly, sir."

Pelorat drew a long breath. "That would fulfill a lifetime search, and it is something I would gladly give up my individuality for. Please let me have the privilege of sharing your brain."

Trevize asked softly, "And Bliss? What about her?"

Pelorat hesitated for no more than a moment. "Bliss will understand," he said. "She will, in any case, be better off without me-after a while."

Daneel shook his head. "Your offer, Dr. Pelorat, is a generous one, but I cannot accept it. Your brain is an old one and it cannot survive for more than two or three decades at best, even in a merger with my own. I need something else. -See!" He pointed and said, "I've called her back."

Bliss was returning, walking happily, with a bounce to her steps.

Pelorat rose convulsively to his feet. "Bliss! Oh no!"

"Do not be alarmed, Dr. Pelorat," said Daneel. "I cannot use Bliss. That would merge me with Gaia, and I must remain independent of Gaia, as I have already explained."

"But in that case," said Pelorat, "who-"

And Trevize, looking at the slim figure running after Bliss, said, "The robot has wanted Fallom all along, Janov."

103.

Brass returned, smiling, clearly in a state of great pleasure.

"We couldn't pass beyond the bounds of the estate," she said, "but it all reminded me very much of Solaria. Fallom, of course, is convinced it is Solaria. I asked her if she didn't think that Daneel had an appearance different from that of Jemby-after all, Jemby was metallic-and Fallom said, 'No, not really.' I don't know what she meant by 'not really.'"

She looked across to the middle distance where Fallom was now playing her flute for a grave Daneel, whose head nodded in time. The sound reached them, thin, clear, and lovely.

"Did you know she took the flute with her when we left the ship?" asked Bliss. "I suspect we won't be able to get her away from Daneel for quite a while."

The remark was met with a heavy silence, and Bliss looked at the two men in quick alarm. "What's the matter?"

Trevize gestured gently in Pelorat's direction. It was up to him, the gesture seemed to say.

Pelorat cleared his throat and said, "Actually, Bliss, I think that Fallom will be staying with Daneel permanently."

"Indeed?" Bliss, frowning, made as though to walk in Daneel's direction, but Pelorat caught her arm. "Bliss dear, you can't. He's more powerful than Gaia even now, and Fallom must stay with him if Galaxia is to come into existence. Let me explain-and, Golan, please correct me if I get anything wrong."

Bliss listened to the account, her expression sinking into something close to despair.

Trevize said, in an attempt at cool reason, "You see how it is, Bliss. The child is a Spacer and Daneel was designed and put together by Spacers. The child was brought up by a robot and knew nothing else on an estate as empty as this one. The child has transductive powers which Daneel will need, and she will live for three or four centuries, which may be what is required for the construction of Galaxia."

Bliss said, her cheeks flushed and her eyes moist, "I suppose that the robot maneuvered our trip to Earth in such a way as to make us pass through Solaria in order to pick up a child for his use."

Trevize shrugged. "He may simply have taken advantage of the opportunity. I don't think his powers are strong enough at the moment to make complete puppets of us at hyperspatial distances."

"No. It was purposeful. He made certain that I would feel strongly attracted to the child so that I would take her with me, rather than leave her to be killed; that I would protect her even against you when you showed nothing but resentment and annoyance at her being with us."

Trevize said, "That might just as easily have been your Gaian ethics, which Daneel could have strengthened a bit, I suppose. Come, Bliss, there's nothing to be gained. Suppose you could take Fallom away. Where could you then take her that would make her as happy as she is here? Would you take her back to Solaria where she would be killed quite pitilessly; to some crowded world where she would sicken and die; to Gaia, where she would wear her heart out longing for Jemby; on an endless voyage through the Galaxy, where she would think that every world we came across was her Solaria? And would you find a substitute for Daneel's use so that Galaxia could be constructed?"

Bliss was sadly silent.

Pelorat held out his hand to her, a bit timidly. "Bliss," he said, "I volunteered to have my brain fused with Daneel's. He wouldn't take it because he said I was too old. I wish he had, if that would have saved Fallom for you."

Bliss took his hand and kissed it. "Thank you, Pel, but the price would be too high, even for Fallom." She took a deep breath, and tried to smile. "Perhaps, when we get back to Gaia, room will be found in the global organism for a child for me-and I will place Fallom in the syllables of its name."

And now Daneel, as though aware that the matter was settled, was walking toward them, with Fallom skipping along at his side.

The youngster broke into a run and reached them first. She said to Bliss, "Thank you, Bliss, for taking me home to Jemby again and for taking care of me while we were on the ship. I shall always remember you." Then she flung herself at Bliss and the two held each other tightly.

"I hope you will always be happy," said Bliss. "I will remember you, too, Fallom dear," and released her with reluctance.

Fallom turned to Pelorat, and said, "Thank you, too, Pel, for letting me read your book-films." Then, without an additional word, and after a trace of hesitation, the thin, girlish hand was extended to Trevize. He took it for a moment, then let it go.

"Good luck, Fallom," he muttered.

Daneel said, "I thank you all, sirs and madam, for what you have done, each in your own way. You are free to go now, for your search is ended. As for my own work, it will be ended, too, soon enough, and successfully now."

But Bliss said, "Wait, we are not quite through. We don't know yet whether Trevize is still of the mind that the proper future for humanity is Galaxia, as opposed to a vast conglomeration of Isolates."

Daneel said, "He has already made that clear a while ago, madam. He has decided in favor of Galaxia."

Bliss's lips tightened. "I'd rather hear that from him. -Which is it to be, Trevize?"

Trevize said calmly, "Which do you want it to be, Bliss? If I decide against Galaxia, you may get Fallom back."

Bliss said, "I am Gaia. I must know your decision, and its reason, for the sake of the truth and nothing else."

Daneel said, "Tell her, sir. Your mind, as Gaia is aware, is untouched."

And Trevize said, "The decision is for Galaxia. There is no further doubt in my mind on that point."

104.

Bliss remained motionless for the time one might take to count to fifty at a moderate rate, as though she were allowing the information to reach all parts of Gaia, and then she said, "Why?"

Trevize said, "Listen to me. I knew from the start that there were two possible futures for humanity-Galaxia, or else the Second Empire of Seldon's Plan. And it seemed to me that those two possible futures were mutually exclusive. We couldn't have Galaxia unless, for some reason, Seldon's Plan had some fundamental flaw in it.

"Unfortunately, I knew nothing about Seldon's Plan except for the two axioms on which it is based: one, that there be involved a large enough number of human beings to allow humanity to be treated statistically as a group of individuals interacting randomly; and second, that humanity not know the results of psychohistorical conclusions before the results are achieved.

"Since I had already decided in favor of Galaxia, I felt I must be subliminally aware of flaws in Seldon's Plan, and those flaws could only be in the axioms, which were all I knew of the plan. Yet I could see nothing wrong with the axioms. I strove, then, to find Earth, feeling that Earth could not be so thoroughly hidden for no purpose. I had to find out what that purpose was.

"I had no real reason to expect to find a solution once I found Earth, but I was desperate and could think of nothing else to do. -And perhaps Daneel's desire for a Solarian child helped drive me.

"In any case, we finally reached Earth, and then the moon, and Bliss detected Daneel's mind, which he, of course, was deliberately reaching out to her. She described that mind as neither quite human nor quite robotic. In hindsight, that proved to make sense, for Daneel's brain is far advanced beyond any robot that ever existed, and would not be sensed as simply robotic. Neither would it be sensed as human, however. Pelorat referred to it as 'something new' and that served as a trigger for 'something new' of my own; a new thought.

"Just as, long ago, Daneel and his colleague worked out a fourth law of robotics that was more fundamental than the other three, so I could suddenly see a third basic axiom of psychohistory that was more fundamental than the other two; a third axiom so fundamental that no one ever bothered to mention it.

"Here it is. The two known axioms deal with human beings, and they are based on the unspoken axiom that human beings are the only intelligent species in the Galaxy, and therefore the only organisms whose actions are significant in the development of society and history. That is the unstated axiom: that there is only one species of intelligence in the Galaxy and that it is Homo Sapiens. If there were 'something, new:' if there were other species of intelligence widely different in nature, then their behavior would not be described accurately by the mathematics of psychohistory and Seldon's Plan would have no meaning. Do you see?"

Trevize was almost shaking with the earnest desire to make himself understood. "Do you see?" he repeated.

Pelorat said, "Yes, I see, but as devil's advocate, old chap-

"Yes? Go on."

"Human beings are the only intelligences in the Galaxy."

"Robots?" said Bliss. "Gain?"

Pelorat thought awhile, then said hesitantly-, "Robots have played no significant role in human history since the disappearance of the Spacers. Gaia has played no significant role until very recently. Robots are the creation of human beings, and Gaia is the creation of robots-and both robots and Gaia, insofar as they must be bound by the Three Laws, have no choice but to yield to human will. Despite the twenty thousand years Daneel has labored, and the long development of Gaia, a single word from Golan Trevize, a human being, would put an end to both those labors and that development. It follows, then, that humanity is the only significant species of intelligence in the Galaxy, and psychohistory- remains valid."

"The only form of intelligence in the Galaxy, " repeated Trevize slowly. "I agree. Yet we speak so much and so often of the Galaxy that it is all but impossible for us to see that this is not enough. The Galaxy is not the universe. There are other galaxies."

Pelorat and Bliss stirred uneasily. Daneel listened with benign gravity, his hand slowly stroking Fallom's hair.

Trevize said, "Listen to me again. Just outside the Galaxy are the Magellanic Clouds, where no human ship has ever penetrated. Beyond that are other small galaxies, and not very far away is the giant Andromeda Galaxy, larger than our own. Beyond that are galaxies by the billions.

"Our own Galaxy has developed only one species of an intelligence great enough to develop a technological society, but what do we know of the other galaxies? Ours may be atypical. In some of the others-perhaps even in allthere may be many competing intelligent species, struggling with each other, and each incomprehensible to us. Perhaps it is their mutual struggle that preoccupies them, but what if, in some galaxy, one species

gains domination over the rest and then has time to consider the possibility of penetrating other galaxies.

"Hyperspatially, the Galaxy is a point-and so is all the Universe. We have not visited any other galaxy, and, as far as we know, no intelligent species from another galaxy has ever visited us-but that state of affairs may end someday. And if the invaders come, they are bound to find ways of turning some human beings against other human beings. We have so long had only ourselves to fight that we are used to such internecine quarrels. An invader that finds us divided against ourselves will dominate us all, or destroy us all. The only true defense is to produce Galaxia, which cannot be turned against itself and which can meet invaders with maximum power."

Bliss said, "The picture you paint is a frightening one. Will we have time to form Galaxia?"

Trevize looked up, as though to penetrate the thick layer of moonrock that separated him from the surface and from space; as though to force himself to see those far distant galaxies, moving slowly through unimaginable vistas of space.

He said, "In all human history, no other intelligence has impinged on us, to our knowledge. This need only continue a few more centuries, perhaps little more than one ten thousandth of the time civilization has already existed, and we will be safe. After all," and here Trevize felt a sudden twinge of trouble, which he forced himself to disregard, "it is not as though we had the enemy already here and among us."

And he did not look down to meet the brooding eyes of Fallom-hermaphroditic, transductive, different-as they rested, unfathomably, on him.

FANTASTIC VOYAGE II - DESTINATION BRAIN

1. NEEDED

He who is needed must learn to endure flattery.

Dezhnev Senior

1.

"Pardon me. Do you speak Russian?" said the low voice, definitely contralto, in his ear.

Albert Jonas Morrison stiffened in his seat. The room was darkened and the computer screen on the platform was displaying its graphics with an insistence that had been lost on him.

He must have been more than half-asleep. There had definitely been a man on his right when he sat down. When had that man changed into a woman? Or risen and been replaced?

Morrison cleared his throat and said, "Did you say something, ma'am?" He couldn't make her out clearly in the dim room and the flashing light from the computer screen obscured rather than revealed. He made out dark hair, straight, hugging the skull, covering the ears -- no artifice.

She said, "I asked if you spoke Russian."

"Yes, I do. Why do you want to know?"

"Because that would make it easier. My English sometimes fails me. Are you Dr. Morrison? A. J. Morrison? I'm not certain in this darkness. Forgive me if I have made a mistake."

"I am A. J. Morrison. Do I know you?"

"No, but I know you." Her hand reached out, touching the sleeve of his jacket lightly. "I need you badly. Are you listening to this talk? You did not seem to be."

They were both whispering, of course.

Morrison looked about involuntarily. The room was sparsely filled and no one was sitting very close. His whisper grew lower just the same. "And if I'm not? What then?" (He was curious -- if only out of boredom. The talk had put him to sleep.)

She said, "Will you come with me now? I am Natalya Boranova."

"Come with you where, Ms. Boranova?"

"To the coffee shop -- so that we may talk. It is terribly important."

That was the way it began. It didn't matter, Morrison decided afterward, that he had been in that particular room -- that he had not been alert -- that he had been intrigued enough, flattered enough to be willing to go with a woman who said she needed him.

She would, after all, have found him wherever he had been and would have seized upon him and would have made him listen. It might not have been quite so easy under other circumstances, but it would all have gone as it did. He was certain.

There would have been no escape.

2.

He was looking at her in normal light now, and she was less young than he had thought. Thirty-six? Forty, perhaps?

Dark hair. No gray. Pronounced features. Heavy eyebrows. Strong jaws. Pleasant nose. Sturdy body, but not fat. Almost as tall as he was, even though she was wearing flat heels. On the whole, a woman who was attractive without being beautiful. The kind of woman, he decided, one could get used to.

He sighed, for he was facing the mirror and he saw himself there. Sandy hair, thinning. Blue eyes, faded. Thin face, thin body, stringy. Beaky nose, nice smile. He hoped it was a nice smile. But no, not a face you would want to get used to. Brenda had gotten entirely unused to it in a little over ten years, and his fortieth birthday would be five days past the fifth anniversary of the day his divorce had been made final and official.

The waitress brought the coffee. They had been sitting there, not talking but appraising each other. Morrison finally felt he had to say something.

"No vodka?" he said in an attempt at lightness.

She smiled and looked somehow even more Russian when she did so. "No Coca-Cola?"

"If that's an American habit, Coca-Cola is at least cheaper."

"For good reason."

Morrison laughed. "Are you this quick in Russian?"

"Let us see if I am. Let's talk Russian."

"We'll sound like a couple of spies."

Her last sentence had been in Russian. So had Morrison's reply. The change of language made no difference to him. He could speak and understand it as easily as English. That had to be so. If an American wished to be a scientist and keep up with the literature, he had to be able to handle Russian, almost as much as a Russian scientist had to be able to handle English.

This woman, Natalya Boranova, for instance, despite her pretence that she was not at home in English, spoke it readily and with only a faint accent, Morrison noticed.

She said, "Why will we sound like spies? There are hundreds of thousands of Americans speaking English in the Soviet Union and hundreds of thousands of Soviet citizens speaking Russian in the United States. These are not the bad old days."

"That's true. I was joking. But in that case, why do you want to speak Russian?"

"This is your country and that gives you a psychological advantage, does it not, Dr. Morrison? If we speak my language, it will balance the scales a bit."

Morrison sipped at his coffee. "As you wish."

"Tell me, Dr. Morrison. Do you know me?"

"No. I have never met you before."

"And my name? Natalya Boranova? Have you heard of me?"

"Forgive me. If you were in my field, I would have heard of you. Since I have not, I assume you are not in my field. Should I know you?"

"It might have helped, but we'll let it go. I know you, however. In fact, I know a great deal about you. When and where you were born. Your schooling. The fact that you are divorced and that you have two daughters that live with your ex-wife. I know about your university position and the research you do."

Morrison shrugged. "None of that would be hard to find out in our computer-ridden society. Should I be flattered or annoyed?"

"Why either?"

"It depends on whether you tell me that I am famous in the Soviet Union, which would be flattering, or that I have been the target of an investigation, which might be annoying."

"I have no intention of being anything but honest with you. I have investigated you -- for reasons that are important to me."

Morrison said coldly, "What reasons?"

"To begin with, you are a neurophysicist."

Morrison had finished his coffee and had absently signaled for a refill. Boranova's cup was half-empty, but she had apparently lost interest in it.

"There are other neurophysicists," Morrison said.

"None like you."

"Clearly you are trying to flatter me. That can only be because you don't know anything about me after all. Not the crucial things."

"That you are not successful? That your methods of brain wave analysis are not generally accepted in the field?"

"But if you know that, then why are you after me?"

"Because we have a neurophysicist in our country who knows your work, and he thinks it is brilliant. You have rather jumped into the unknown, he says, and you may be wrong -- but if you are, you are brilliantly wrong."

"Brilliantly wrong? How is that different from wrong?"

"It is his view that it is impossible to be brilliantly wrong without being not altogether wrong. Even if you are in some ways wrong, much of what you maintain will prove useful -- and you may be entirely right."

"What is the name of this paragon who has this view of me? I'll mention him with favor in my next paper."

"He is Pyotor Leonovich Shapiro. Do you know him?"

Morrison sat back in his chair. He had not expected this. "Know him?" he said. "I've met him. Pete Shapiro I called him. Our people here in the United States think he's as crazy as I am. If it turns out that he's backing me, that's just one more nail in my coffin."

-- Listen, tell Pete I appreciate his faith in me, but if he really wants to help me, please ask him not to tell anyone he's on my side."

Boranova looked at him disapprovingly. "You are not a very serious man. Is everything a joke to you?"

"No. Just me. I'm the joke. I've got something really great and I can't convince anyone of it. Except Pete -- I've now found out -- and he doesn't count. I can't even get my papers published these days."

"Then come to the Soviet Union. We can use you -- and your ideas."

"No, no. I'm not emigrating."

"Who said emigrate? If you wish to be an American, be an American. But you have visited the Soviet Union in the past and you can visit it once again and stay a while. Then return to your own country."

"Why?"

"You have crazy ideas and we have crazy ideas. Perhaps yours can help ours."

"What crazy ideas? I mean, yours. I know what mine are."

"It's not something to discuss until I know if you are perhaps willing to help us."

Morrison, still sitting back in his chair, was vaguely aware of the buzz about him, of people drinking, eating, talking -- most of them from the conference, he was sure. He stared at this intense Russian woman who admitted to crazy ideas and wondered what kind of--

He stiffened and cried out, "Boranova! I have heard of you. Of course. Pete Shapiro mentioned you. You're --"

In his excitement he was speaking English and her hand came down on his, her nails pressing hard against his skin.

He choked it off and she removed her hand, saying, "Sorry. I did not mean to hurt you."

He stared at the marks on his hand, one of which, he decided, was going to be slightly bruised. He said quietly in Russian, "You're the Miniaturizer."

3.

Boranova looked at him with an easy calm. "Perhaps a little walk and a bench by the river. The weather is beautiful."

Morrison held his lightly damaged hand in the other. There had been a few, he thought, who had looked in his direction when he had cried out in English, but none seemed to show any interest now. He shook his head. "I think not. I should be attending the conference."

Boranova smiled as though he had agreed that the weather was beautiful. "I don't think so. I think you'll find a seat by the river more interesting."

For one flashing moment, Morrison thought her smile might be intended to be seductive. Surely she wasn't implying --

He abandoned the thought almost before he had put it clearly to himself. That sort of thing was pass, even on holovision: "Beautiful Russian Spy Uses Sinuous Body to Dazzle Naive American."

To begin with, she wasn't beautiful and her body wasn't sinuous. Nor did she look as though anything of that nature could possibly be on her mind and he himself, after all, wasn't that naive -- or even interested.

Yet he found himself accompanying her across the campus and toward the river.

They walked slowly -- sauntered -- and she talked cheerfully about her husband Nikolai and her son Aleksandr, who was going to school and was, for some strange reason, interested in biology, even though his mother was a thermodynamicist. What's more, Aleksandr was a dreadful chess player, much to his father's disappointment, but he showed signs of promise on the violin.

Morrison did not listen. He occupied himself, instead, in trying to recall what he had heard about the Soviet interest in miniaturization and what possible connection there might be between that and his own work.

She pointed to a bench. "This one looks reasonably clean."

They sat down. Morrison stared over the river, watching, with eyes that did not really absorb it, the line of cars filing along the highway on their side and the parallel line on the highway on the other side -- while sculls, looking like centipedes, plied the river itself.

He remained silent and Boranova, staring at him thoughtfully, finally said, "You do not find this interesting?"

"Find what interesting?"

"My suggestion that you come to the Soviet Union."

"No!" He said it curtly.

"But why not? Since your American colleagues do not accept your ideas, and since you are depressed over this and are seeking a way out of the dead end at which you have arrived, why not come to us?"

"Given your investigations into my life, I am sure you know that my ideas are not accepted, but how can you possibly be sure that I am all that depressed over it?"

"Any sane man would be depressed. And one has only to talk to you to be certain."

"Do you accept my ideas?"

"I? I am not in your field. I know nothing -- or very little -- about the nervous system."

"I suppose you simply accept Shapirov's estimate of my ideas."

"Yes. And even if I did not -- desperate problems may require desperate remedies. What harm, then, if we try your ideas as a remedy? It will certainly leave us no worse off."

"So you have my ideas. They have been published."

She gazed at him steadily. "Somehow we don't think all your ideas have been published. That is why we want you."

Morrison laughed without humor. "What good can I possibly do you in connection with miniaturization? I know less about miniaturization than you do about the brain. Far less."

"Do you know anything at all about miniaturization?"

"Only two things. That the Soviets are known to be investigating it -- and that it is impossible."

Boranova stared thoughtfully at the river. "Impossible? What if I told you we had accomplished the task?"

"I would as soon believe you if you told me polar bears fly."

"Why should I lie to you?"

"I point out the fact. I'm not concerned about the motivation."

"Why are you so certain miniaturization is impossible?"

"If you reduce a man to the dimensions of a fly, then all the mass of a man would be crowded into the volume of a fly. You'd end up with a density of something like --" he paused to think -- "a hundred and fifty thousand times that of platinum."

"But what if the mass were reduced in proportion?"

"Then you end up with one atom in the miniaturized man for every three million in the original. The miniaturized man would not only have the size of a fly but the brainpower of a fly as well."

"And if the atoms are reduced, too?"

"If it is miniaturized atoms you are speaking of, then Planck's constant, which is an absolutely fundamental quantity in our Universe, forbids it. Miniaturized atoms would be too small to fit into the graininess of the Universe."

"And if I told you that Planck's constant was reduced as well, so that a miniaturized man would be encased in a field in which the graininess of the Universe was incredibly finer than it is under normal conditions?"

"Then I wouldn't believe you."

"Without examining the matter? You would refuse to believe it as a result of preconceived convictions, as your colleagues refuse to believe you?"

And at this, Morrison was, for a moment, silent.

"Not the same," he mumbled at last.

"Not the same?" Again she stared thoughtfully out over the river. "In what way not the same?"

"My colleagues think I'm wrong. My ideas are not theoretically impossible in their opinion -- only wrong."

"While miniaturization is impossible?"

"Yes."

"Then come and see. If it turns out that miniaturization is impossible, just as you say, then you'll at least have a month in the Soviet Union as a guest of the Soviet Government. All expenses will be paid. If there's a friend you would like to bring with you, bring her, too. Or him."

Morrison shook his head. "No thanks. I'd rather not. Even if miniaturization were possible, it is not my field. It would not help me or be of interest to me."

"How do you know? What if miniaturization gave you the opportunity to study neurophysics as you have never studied it before -- as no one has ever studied it before? And what if, in doing so, you might be able to help us? That would be our stake in it."

"How can you offer me a new way of studying neurophysics?"

"But, Dr. Morrison, I thought that was what we were talking about. You cannot really prove your theories because you cannot study single nerve cells in sufficient detail without damaging them. But what if we make a neuron as large as the Kremlin for you -- or even larger -- so that you can study it a molecule at a time?"

"You mean you can reverse miniaturization and make a neuron as large as you wish."

"No, we can't do that, as yet, but we can make you as small as we wish and that would amount to the same thing, wouldn't it?"

Morrison rose, staring at her.

"No," he said in half a whisper. "Are you insane? Do you think I am insane? Good-bye! Good-bye!"

He turned and strode away rapidly.

She called after him. "Dr. Morrison. Listen to me."

He made a sweeping gesture of rejection with his right arm and broke into a run across the drive, narrowly dodging the cars.

Then he was back into the hotel, puffing, almost dancing with impatience as he waited for the elevator.

Madwoman! he thought. She wanted to miniaturize him, attempt this impossibility on him. -- Or attempt the possibility of it on him, which would be infinitely worse.

4.

Morrison was still shaking when he stood at the door of his hotel room, holding the plastic rectangle of his key, breathing hard, and wondering if she knew his room number. She could find out, of course, if she were sufficiently determined. He looked down the length of the corridor each way, half-afraid he might see her running toward him, face contorted, hair flying, hands outstretched.

He shook his head. This was madness. What could she do to him? She could not carry him off bodily. She could not force him to do anything he didn't want to do. What childish terror was overcoming him?

Morrison took a deep breath and thrust his key into the door slit. He felt the small click as the key seated itself, then he withdrew it and the door swung open.

The man sitting in the wicker armchair at the window smiled at him and said, "Come in."

Morrison stared at him in astonishment, then twisted his head to look at the room number.

"No, no. It's your room, all right. Do come in and close the door behind you."

Morrison followed orders, staring at the man in silent astonishment.

He was a comfortably plump man, not quite fat, filling the chair from arm to arm. He wore a thin seersucker jacket and under it was a shirt so white that it seemed to glisten. He was not yet what one might call bald, but he was clearly on the way and what remained of his brown hair was crisply curly. He did not wear glasses, but his eyes were small and had a nearsighted look about them, which might be misleading -- or which perhaps meant he wore contacts.

He said, "You came back running, didn't you? I watched you --" he pointed out the window -- "sitting on the bench, then get up and come toward the hotel at the double. I was hoping you would come up to your hotel room. I didn't want to sit up here all day waiting for you."

"You were here in order to watch me from the window?"

"No, not at all. That was just an accident. You just happened to walk out with the lady to that bench. Convenient, but not really foreseen. It's all right, though. If I hadn't had the view from the window, there were others watching."

By that time Morrison had caught his breath and his mind had steadied itself to the point where he asked the question that should have had pride of place in the conversation. "Who are you, anyway?"

In response the man, smiling, took a small wallet from his inner jacket pocket and let it flip open. He said, "Signature, hologram, fingerprint, voiceprint."

Morrison looked from the hologram to the smiling face. The hologram was smiling, too. He said, "All right, so you're security. It still doesn't give you the right to break into my private quarters. I'm available. You could have called me from the lobby or knocked at my door."

"Strictly speaking, you're right, of course. But I thought it best to meet you as discreetly as possible. Besides, I presumed on old acquaintance."

"What old acquaintance?"

"Two years ago. Don't you remember? An international conference in Miami? You were presenting a paper and had a hard time of it --"

"I remember the occasion. I remember the paper. It's you I don't remember."

"That's not surprising, perhaps. I met you afterward. I asked you questions, and we actually had a few drinks together."

"I don't consider that old acquaintance. -- Francis Rodano?"

"That's my name, yes. You even pronounced it correctly. Accent on the second syllable. Broad a. Subliminal memory, obviously."

"No, I don't remember you. The name was on your identification. -- I'd rather you left."

"I would like to talk to you in my official capacity."

"Apparently everyone wants to talk to me. What about?"

"Your work."

"Are you a neurophysicist?"

"You must know I'm not. Slavic languages was my major. I minored in economics."

"Then what can we talk about? I'm good at Russian, but you're probably better.

And I know nothing about economics."

"We can talk about your work. As we did two years ago. -- Look, why don't you sit down? It's your room and I won't really take long. If you want the chair I'm sitting on, I'll be glad to give it to you."

Morrison sat down at the side of the bed. "Let's get this over with. What do you want to know about my work?"

"The same thing I wanted to know two years ago. Is there anything to your notion that there's a specific structure in your brain that's specifically responsible for creative thought?"

"Not quite a structure. It's not something you can cut out in the ordinary way. It's a neuron network. Yes, I think there's something to that. Obviously. The catch is that no one else thinks so because they can't locate it and have no evidence for it."

"Have you located it?"

"No. I reason backward from results and from my analysis of brain waves and I don't seem to be convincing. My analyses are not -- orthodox." He added bitterly, "Orthodoxy in this field has gotten them nowhere, but they won't let me be unorthodox."

"I am told that you use mathematical techniques in your electroencephalographic analyses that are not only unorthodox, but are flat wrong. To be unorthodox is one thing; to be wrong is quite another."

"The only reason they say I am wrong is that I cannot prove that I am right. The only reason I cannot prove that I am right is that I can't study an isolated brain neuron in sufficient detail."

"Have you tried to study them? If you work with a living human brain, don't you leave yourself open to severe lawsuits or to criminal trial?"

"Of course. I'm not mad. I've worked with animals. I have to."

"You told me all this two years ago. I take it, then, you have made no startling discoveries in the last two years."

"None. But I'm convinced I'm right just the same."

"Your being convinced doesn't matter if you can't convince anyone else. But now I have to ask you another question. Have you done something in the last two years that has managed to convince the Soviets?"

"The Soviets?"

"Yes. What is this attitude of surprise, Dr. Morrison? Haven't you spent an hour or two in conversation with Dr. Boranova? Isn't she the one whom you just left in a great hurry?"

"Dr. Boranova?" Morrison, in his confusion, could think of nothing better to do than play the parrot.

Rodano's face lost none of its pleasantness. "Exactly. We know her well. We keep half an eye on her whenever she is in the United States."

"You make it sound like the bad old days," mumbled Morrison.

Rodano shrugged. "No, not at all. There is no danger of nuclear war now. We are polite to each other, the Soviet Union and we. We cooperate in space. We have a cooperative mining station on the moon and freedom of entry into each other's space settlements. That makes these the good new days. But, Doctor, some things don't change entirely. We keep an eye on our polite companions, the Soviets, just to make sure they stay virtuous. Why not? They keep an eye on us."

Morrison said, "You keep an eye on me, too, it would seem."

"But you were with Dr. Boranova. We couldn't help seeing you."

"That won't happen again, I assure you. I have no intention of ever being in her vicinity again if I can help it. She's a madwoman."

"Do you mean that literally?"

"Take my word for it. -- Look, nothing of what she and I talked about is secret as far as I'm concerned. What she said I feel free to repeat. She's involved in some miniaturization project."

"We've heard of it," said Rodano easily. "They have a special town in the Urals devoted to miniaturization experiments."

"Are they getting anywhere as far as you know?"

"We wonder."

"She's tried to tell me they are, that they've succeeded in producing actual miniaturization."

Rodano said nothing.

Morrison, who had waited a moment to let him speak, then said, "But that's impossible, I tell you. Scientifically impossible. You must realize that, Or, since your field of expertise is Slavic languages and economics, take my word for it."

"I don't have to, my friend. There are many others who say it is impossible and yet, nevertheless, we wonder. The Soviets are free to play with miniaturization if they please, but we don't actually want them to have it unless we do also. After all, we don't know to what uses it might be put."

"To none! To none!" said Morrison fiercely. "There's no point in worrying about it. If our government really doesn't want the Soviet Union to get too far ahead in technology, it should encourage this miniaturization madness. Let the Soviets spend money on it -- and time and material -- and concentrate every atom of their scientific expertise on it. Everything will be wasted."

"And yet," said Rodano. "I don't think Dr. Boranova is mad or a fool, any more than I think that you are mad or a fool. -- Do you know what I was thinking as I watched the two of you in so intent a conversation on the park bench? It seemed to me that she wanted your help. Perhaps she thought that with your theories on neurophysics you could somehow help the Soviet push for miniaturization. Their peculiar theories and your peculiar theories might add up to something that is not at all peculiar. Or so I think."

Morrison's lips tightened. "I told you I have no secrets to keep, so I'm telling you that you're right. Just as you say, she wants me to go to the Soviet Union and help out in their miniaturization project. I won't ask how you know that, but I don't think it's just an idle guess and don't try to persuade me it is."

Rodano smiled and Morrison went on. "In any case, I said no. I refused absolutely. I stood up and left at once -- and in a hurry. You saw me hurry. That's the truth. I would have reported it if you had given me time to do so. And I'm reporting it now, as a matter of fact, to you. Nor is there any reason for you not to believe me because why, under any circumstances, would I take any part in a project that has absolutely no sense to it. Even if I wanted to work against my country, which I don't, I'm enough of a physicist not to try to do so by involving myself in anything as insane as working on a project without hope. They might as well be working on a perpetual motion machine, or antigravity, or faster-than-light travel, or --" He was perspiring freely.

And Rodano said gently, "Please, Dr. Morrison, no one doubts your loyalty. Certainly I don't. I'm not here because I am perturbed at your having had a discussion with the Russian woman. I am here because we had reason to think she might approach you and we feared you would not listen to her."

"What?"

"Now understand me, Dr. Morrison. Please understand. We would suggest -- in fact, we would very much want -- to have you go with Dr. Boranova to the Soviet Union."

5.

Morrison stared at Rodano, face pale, lower lip quivering slightly. He brushed at his hair with his right hand and said, "Why do you want me to go to the Soviet Union?"

"Not I, personally. The United States Government wants it."

"Why?"

"For the obvious reason. If the Soviet Union is engaged in miniaturization experiments, we would like to know as much about them as possible."

"You've got Madame Boranova. She must know a great deal. Grab her and beat it out of her."

Rodano sighed and said, "I know you're joking. We can't do that these days. You know that. The Soviet Union would retaliate at once in the most unpleasant ways and world opinion would be with them. So let's not waste time with jokes like that."

"All right. Granted, we can't do anything crude. I presume we have agents attempting to dig out the details."

"The operative word, Doctor, is attempting. We have our agents in the Soviet Union, to say nothing of sophisticated espionage equipment both Earthside and in space, just as they have agents here. But if they and we are very good at poking around quietly, we're also very good at keeping things secret. If anything, the Soviet Union is better at it than we are. Even though these are not what you call the bad old days, the Soviet Union

is still not quite an open society in our sense and they've had more than a century of practice in keeping things under the rug."

"Then what do you expect me to do?"

"You're different. The usual agent is sent into the Soviet Union or into some region in which the Soviet Union is operating under some cover which might possibly be penetrated. He -- or she -- must insinuate himself into a place where he is not really welcome and manage to elicit information that is secret. This isn't easy. He -- or she -- usually does not succeed and he -- or she -- is sometimes caught, which is always unpleasant all around. In your case, though, they're asking for you; they behave as though they need you. They will place you in the very midst of their secret installations. What an opportunity you will have."

"But they've just asked me to go in these last two hours. How do you know so much about it?"

"They've been interested in you for quite a while now. One of the reasons I made it my business to talk to you two years ago was because they seemed interested in you even at that time and we were wondering why that should be. So when they made their move, we were ready."

Morrison's fingers drummed on the arm of the chair, his nails making a rhythmic clicking noise. "Let me get this straight. I'm to agree to go with Natalya Boranova to the Soviet Union, presumably to the region where they are supposedly working on miniaturization. I am to pretend to help them --"

"You needn't pretend," said Rodano comfortably. "Help them if you can, especially if that means you get to know the process better."

"All right, help them. And then give you what information I have when I return."

"Exactly."

"What if there is no information? What if the whole thing is one gigantic bluff or if they're only kidding themselves? What if they're following some Lysenko type down into an empty hole?"

"Then tell us that. We would love to know that -- if it's a matter of knowing and not just thinking. After all, the Soviets, we are pretty certain, are under the impression that we are making progress on the matter of antigravity. Maybe we are and maybe we're not. They don't know for certain and we're not about to let them find out. Since we're not asking any Soviet scientist to come and help us, we're not giving them an easy entry. For that matter, there's some talk the Chinese are working on faster-than-light travel. Oddly enough, those are two items you mentioned as being theoretically impossible. I haven't heard that anyone's working on perpetual motion, however."

"These are ridiculous games the nations are playing," said Morrison. "Why don't they cooperate in these matters? We might as well be in the bad old days."

"Not quite. But being in the good new days does not mean we're in heaven. There is still residual suspicion and there are still attempts to take a giant step forward before someone else does. Maybe it's even a good thing. If we're driven by selfish motives of aggrandizement, as long as that doesn't lead to war, we may make more rapid progress."

To stop trying to steal a march on neighbors and friends might reduce us to indolence and decay."

"So if I go and am eventually in a position to assure you, authoritatively, that the Soviets are drilling a dry hole or that they are indeed making progress of such and such a nature, then I will be helping not only the United States, but the whole world, to remain vigorous and progressive even including the Soviet Union."

Rodano nodded. "That's a good way to look at it."

Morrison said, "I have to give you people credit. You're clever con artists. However, I don't fall for it. I favor cooperation among nations and I'm not going to play these dangerous twentieth-century games in the rational twenty-first. I told Dr. Boranova I wasn't going and I'm telling you I'm not going."

"Do you understand that it is your government that is asking this of you."

"I understand that you are asking me and I'm refusing you. But if it happens that you actually represent the government's views in this, then I am prepared to refuse the government as well."

6.

Morrison sat there, flushed, chin up. His heart was beating rapidly and he felt heroic.

Nothing can make me change my mind, he thought. What can they do? Throw me in jail? What for? They have to have a charge.

He waited for anger from the other. For a threat.

Rodano merely looked at him with an expression of quiet bemusement.

"Why do you refuse, Dr. Morrison?" he asked. "Have you no feelings of patriotism?"

"Patriotism, yes. Insanity, no."

"Why insanity?"

"Do you know what they plan to do with me?"

"Tell me."

"They intend to miniaturize me and place me in a human body to investigate the neurophysical state of a brain cell from the inside."

"Why should they want you to do that?"

"They imply it's to help me with my research, which they claim will also help them, but I certainly don't intend to submit to such an experiment."

Rodano scratched lightly at his fluffy hair, put it into a mild disarray, and quickly flattened it again as though anxious not to show too much pink skin.

He said, "You can't possibly be concerned over this. You tell me that miniaturization is flatly impossible -- in which case, they can't miniaturize you whatever their intentions or desires."

"They'll perform some sort of experiment on me. They say they have miniaturization, which means they are either liars or mad, and in either case I won't have them playing games with me -- either to do them pleasure, or to do you pleasure, or to do the whole American government pleasure."

"They're not mad," said Rodano, "and whatever their intentions, they know very well we'd hold them responsible for the well-being of an American citizen invited by them to their country."

"Thank you! Thank you! How would you hold them responsible? Send them a stiff note? Hold one of their citizens in reprisal? Besides, who says they'll execute me publicly in Red Square? What if they decide they don't want me to return and talk about their work on miniaturization? They'll have what they want of me -- whatever that may be -- and they'll decide that the American government need not benefit in their turn from any knowledge I may have gained from them. So they arrange a small accident. So sorry! So sorry! And they, of course, will pay reparations to my sorrowing family and send back a flag-draped coffin. No, thank you. I'm not the type for a suicide mission."

Rodano said, "You dramatize. You'll be a guest. You will help them if you can and you needn't be ostentatious about learning things. We're not asking you to be a spy; we will be grateful for anything you may pick up more or less unavoidably. What's more, we will have people there who will keep an eye on you if they can. We intend to see to it that you get back safely --"

"If you can," interposed Morrison.

"If we can," agreed Rodano. "We can't promise you miracles. Would you believe us if we did?"

"Do what you will, this is not a job for me. I'm not that courageous. I'm not planning to become a pawn in some crazy chess game, with my life very possibly at stake, just because you -- or the government -- ask me to."

"You frighten yourself unnecessarily."

"Not so. Fright has its proper role; it keeps one cautious and alive. There's a trick to staying alive when you're someone like me; it's called cowardice. It may not be admirable to be a coward if someone has the muscles and mind of an ox, but it's no crime for a weakling to be one. I am not so great a coward, however, that I can be forced to take on a suicide role, simply because I fear revealing my weakness. I reveal it gladly. I am not brave enough for the role. Now, please leave."

Rodano sighed, half-shrugged, half-smiled, and rose slowly to his feet. "That's it, then. We can't force you to serve your country if you don't wish to."

He moved toward the door, his feet dragging a little, and then, even with his hand reaching for the doorknob, he turned and said, "Still, it upsets me a little. I'm afraid I was wrong and I hate to be wrong."

"Wrong? What did you do? Bet someone five bucks I'd jump at the chance to give my life for my country?"

"No, I thought you would jump at the chance to advance your career. After all, you're not getting anywhere as things are. Your ideas are not listened to; your papers are

no longer published. Your appointment at your university is not likely to be renewed. Tenure? Forget it. Government grants? Never. Not after you have refused our request. After this year, you will have no income and no status. And yet you will not go to the Soviet Union, as I was sure you would as the one way of salvaging your career. Failing that, what will you do?"

"My problem."

"No. Our problem. The name of the game in this good new world of ours is technological advance: the prestige, the influence, the abilities that come with being able to do what other powers cannot. The game is between the two chief contestants and their respective allies; we and they, the U.S. and the S.U. For all our circumspect friendship, we still compete. The counters in the game are scientists and engineers and any disgruntled counter might conceivably be used by the other side. You are a disgruntled counter, Dr. Morrison. Do you understand what I'm saying?"

"I understand that you're about to be offensive."

"We have your statement that Dr. Boranova invited you to visit the Soviet Union. Did she, really? May she not have invited you to stay in the United States and work for the Soviet Union in return for support for your ideas?"

"I was right. You are offensive."

"It's my job to be so -- if I must. What if I'm right after all and you would jump at the chance of advancing your career. Only this is the way you intend to do it -- stay here and accept Soviet money or backing in return for giving them whatever information you can."

"That is wrong. You have no evidence suggesting that and you cannot prove it."

"But I can suspect it and so can others. We will then make it our business to keep you under constant surveillance. You will not be able to do science. Your professional life will be over -- entirely. -- And you can avoid all that, simply by doing as we ask and going to the Soviet Union."

Morrison's lips tightened and he said, out of a dry throat, "You're threatening me in a crude attempt at blackmail and I won't capitulate. I'll take my chances. My theories on the brain's thinking center are correct and that will someday be recognized -- whatever you or anyone does."

"You can't live on 'someday.'"

"Then I'll die. I may be a physical coward, but I'm not a moral one. Good-bye."

Rodano, with one last look, half-commiserating, left.

And Morrison, shaking in a spasm of fear and hopelessness, felt the spirit of defiance leak away, leaving nothing behind but despair.

2. TAKEN

If asking politely is useless, take.

Dezhnev Senior

7.

Then I'll die, thought Morrison.

He hadn't even bothered double-locking the door after Rodano left. He sat in the chair, lost in thought, face vacant. The westering sun slanted in through the window and he didn't bother to push the contact that would opacify the glass. He simply let it slant in. In fact, he found a distant hypnotic fascination in watching the dust motes dance.

He had fled from the Russian woman in fright, but he had stood up to the American agent, stood up with the courage of -- of despair.

And desperation -- minus the courage -- was all he felt now. What Rodano had said was, after all, true. His appointment would not be renewed for the coming year and none of the feelers he had sent out had twitched. He was poison at the academic box office and he lacked the kind of experience (or, more important, the kind of contacts) that would get him a job in the private sector, even if the quiet countervailing effort of an offended government were not taken into account.

What would he do? Go to Canada?

There was Janvier at McGill University. He had once expressed an interest in Morrison's ideas. Once! Morrison had not tried McGill, since he hadn't planned to leave the country. Now his plans were of no account. He might have to.

There was Latin America, where a dozen universities might welcome a Northerner who could speak Spanish or Portuguese -- at least after a fashion. Morrison's Spanish was poor; his Portuguese was nil.

What had he to lose? There were no family ties. Even his daughters were distant now, fading at the edges, somehow, like old photographs. He had no friends to speak of -- at least none that had survived the disasters of his research.

There was his program, of course, specially designed by himself. It had been built, in the first place, by a small firm according to his specifications. Since then he had modified it endlessly on his own. Perhaps he should patent it, except that no one but he was ever likely to use it. He would take it with him, of course, wherever he went. He had it with him now, in his left inner jacket pocket, within which it bulged like an oversize wallet.

Morrison could hear the roughness of his own breathing and he realized that he was escaping from the purposeless merry-go-round of his thoughts by falling asleep over

them. How could he interest others in anything, he thought bitterly, when he bored even himself?

He was aware that the sun no longer struck his window and that a gathering twilight encompassed his room. So much the better.

He became conscious of a polite buzz. It was the room telephone, he realized, but he didn't budge. Morrison let his eyes remain closed. It was probably this man, this Rodano, calling to make a final try. Let him ring.

Sleep closed in and Morrison's head lolled to one side in so uncomfortable a position that he didn't stay asleep long.

It was perhaps fifteen minutes later that he started awake. The sky was still blue, but the twilight in his room had darkened and he thought, with some guilt, that he had missed all the papers given in the afternoon. And then, rebelliously, he thought: Good! Why should I want to hear them?

Rebellion grew. What was he doing at the convention anyway? In three days he had not heard one paper that had interested him, nor had he met anyone who could do his sinking career one bit of good. What would he do the remaining three days except try to avoid the two people he had met whom he desperately did not want to meet again -- Boranova and Rodano.

He was hungry. He hadn't had a proper lunch and it was almost dinnertime. The trouble was that he was in no mood to eat alone in the hotel's plush restaurant and in less of a mood to pay its inflated prices. The thought of waiting in line for a stool at the coffee shop was even less appetizing.

That decided everything. He'd had enough. He might as well check out and walk to the train station. (It was not a long walk and the cool evening air would, perhaps, help clear the miseries out of his mind.) It would take him little more than five minutes to pack; he'd be on his way in ten.

He went about the task grimly. At least he would save half the hotel bill and he would get away from a place that, he was convinced, would bring him only misery if he stayed.

He was quite right, of course, but no prescient bell in his mind rang to inform him that he had already stayed too long.

8.

After quickly checking out at the desk downstairs, Morrison stepped out of the large glass doors of the hotel, glad to be free, but still ill at ease. He had carefully investigated the lobby to make sure that neither Boranova nor Rodano was in sight and now he looked up and down the line of taxis and studied the knots of people moving in and out of the hotel.

All clear -- it seemed.

All clear, except for an angry government, nothing accomplished, and endless trouble ahead. McGill University seemed more attractive every moment -- if he could get in.

He swung down the sidewalk in the darkening evening toward the train station, which was just too far away to be in sight. He would get home, he calculated, well past midnight and he would have no chance at all of sleeping on the train. He had a book of crossword puzzles that might occupy him -- if the light were good enough. Or --

Morrison wheeled around at the sound of his name. He did this automatically, though by rights, under the conditions that prevailed, he should have hurried onward. There was no one here he wanted to speak to.

"Al! Al Morrison! Good heavens!" The voice was high-pitched and Morrison didn't recognize it.

Nor did he recognize the face. It was round, middle-aged, smooth-shaven, and decorated with steel-framed glasses. The person it belonged to was well dressed.

Morrison at once felt the usual agony of trying to remember a person who clearly remembered him and who behaved as though they were good friends. His mouth fell open with the effort of riffling through his mind's card catalog.

The other man seemed to be aware of what was troubling Morrison and it didn't seem to bother him. He said, "You don't remember me, I see. No reason you should. I'm Charlie Norbert. We met at a Gordon Research Conference -- oh, years ago. You were questioning one of the speakers on brain function and did a good job. Very incisive. So it's no wonder I remember you, you see."

"Ah yes," mumbled Morrison, trying to remember when he had last been at a Gordon Research Conference. About seven years ago, wasn't it? "That's very flattering of you."

"We had a long talk about it that evening, Dr. Morrison. I remember because I was so impressed by you. No reason for you to remember, though. There's nothing impressive about me. Listen, I came across your name on the list of attendees. Your middle name, Jonas, brought you right back. I wanted to talk to you. I called your room about half an hour ago, but there was no answer."

Norbert seemed to be aware of Morrison's suitcase for the first time and said in obvious dismay, "Are you leaving?"

"Actually, I'm trying to catch a train. Sorry."

"Please give me a few minutes. I've been reading about your -- notions."

Morrison stepped back a little. Even expressed interest in his ideas was not enough at the moment. Besides, the other's after shave lotion was strong and invaded his personal space, as did the man himself. Nothing the other said brought back any memory of him.

Morrison said, "I'm sorry, but if you've been reading about my notions, you're probably the only one. I hope you don't mind, but --"

"But I do mind." Norbert's face grew serious. "It strikes me the field isn't properly appreciative of you."

"That fact struck me a long time ago, Mr. Norbert."

"Call me Charlie. We were on a first-name basis long ago. -- You don't have to go unappreciated, you know?"

"There's no compulsion about it. I just am and that's it. Well --" Morrison turned as if to leave.

"Wait, Al. What if I told you I could get you a new job with people who are sympathetic to your way of thinking?"

Morrison paused again. "I would say you were dreaming."

"I'm not. Al, listen to me -- boy, am I glad I bumped into you -- I want to introduce you to someone. Look, we're starting a new company, Genetic Mentalics. We've got lots of money behind us and big plans. The trick is to improve the human mind by means of genetic engineering. We've been improving computers every year, so why not our personal computer as well?" He tapped his forehead earnestly. "Where is he? I left him in the car when I saw you walk out of the hotel. You know, you haven't changed much in the years since I last saw you."

Morrison was untouched by that. "Does this new company want me?"

"Of course it wants you. We want to change the mind, make it more intelligent, more creative. But what is it we change in order to accomplish that? You can tell us."

"I'm afraid I haven't gotten that far."

"We don't expect offhand answers. We simply want you to work toward it. -- Listen, whatever your salary is now, we'll double it. You just tell us your present figure and we'll go to the small trouble of multiplying it by two. Fair enough? And you'll be your own boss."

Morrison frowned. "This is the first time I've ever met Santa Claus in a business suit. Smooth-shaven, too. What's the gag?"

"No gag. -- Where is he? -- Ah, he moved the car to get it out of the line of traffic. -- Look, he's my boss, Craig Levinson. We're not doing you a favor, Al. You'll be doing us a favor. Come with me."

Morrison hesitated only momentarily. It's always darkest before the dawn. When you're down, there's no direction but up. Lightning does strike sometimes. -- He was suddenly full of old saws.

He let himself be led by the other, hanging back only slightly.

Norbert waved and called out, "I found him! This is the fellow I told you about. Al Morrison. He's the one we need."

A grave middle-aged face looked out from behind the steering wheel of a late-model automobile, whose color was something uncertain in the gathering darkness. The face smiled, teeth gleaming whitely, and the voice that belonged to it said, "Great!"

The trunk door lifted upward as they approached and Charlie Norbert took Morrison's suitcase. "Here, let me unload you." He swung it into the trunk and closed the door.

"Wait," said Morrison, rather surprised.

"Don't worry, Al. If you miss this train, there's another. If you want, we'll hire a limousine to take you home -- eventually. Get in."

"Into the car?"

"Certainly." The back door had swung open invitingly.

"Where will we be going?"

"Look," said Norbert, his voice dropping half an octave and getting much softer.

"Let's not waste time. Get in."

Morrison felt something hard against his side and twisted in order to see what it was.

He felt it -- whatever it was -- push against him. Norbert's voice was a whisper now.

"Let's be very quiet, Al. Let's not make a fuss."

Morrison got into the car and was suddenly very frightened. He knew that Norbert was holding a gun.

9.

Morrison pushed himself across the back seat, wondering if he could reach the other door and get out again. Even if Norbert had a gun, would he want to use it in a hotel parking lot with a hundred people within thirty meters? After all, even if the gun were silenced, his sudden collapse would surely draw attention.

The possibility vanished quickly, however, when a third man got into the other door, a large one who grunted as he bent himself into the car and who looked at Morrison, if not malevolently, then certainly with an expression that was free of any trace of friendship.

Morrison found himself squeezed between a man on either side and was incapable of stirring. The car moved forward smoothly and picked up speed once it moved onto the highway.

Morrison said in a choked voice, "What is this all about? Where are we going? What are you going to do?"

Norbert's voice, without the falsetto and without the synthetic bonhomie, was grim. "No need to worry, Dr. Morrison. We have no intention of harming you. We just want you with us."

"I was with you back there." (He tried to point "back there," but the man on his right leaned against him and he could not free his right hand to do so.)

"But we want you to be with us -- somewhere else."

Morrison tried to sound threatening. "See here, you're kidnapping me. That's a serious offense."

"No, Dr. Morrison, let's not call it kidnapping. Let's call it being friendly in a rather forcible way."

"Whatever you call it, this is illegal. Or are you the police? If so, identify yourself and tell me what I've done and what this is all about."

"We are not charging you with anything. I told you. We just want you with us. I'd advise you to keep quiet, Doctor, and remain calm. It will be better for you."

"I can't remain calm if I don't know what's going on."

"Force yourself," said Norbert unsympathetically.

Morrison couldn't think of anything further to say that would help matters and, without actually becoming calm, fell silent.

The stars were out now. The night was as clear as the day had been. The automobile moved through traffic consisting of a thousand cars, each of which had someone behind the wheel who was going quietly about his or her ordinary business without any awareness that in a nearby car a crime was being committed.

Morrison's heart continued working overtime and his lips trembled. He couldn't help but be nervous. They said they meant him no harm, but how far could he trust them? So far, everything that this man on his left had told him had been a lie.

He tried to be calm, but to what organ of his body did he speak in order to achieve calmness? He closed his eyes and forced himself to breathe deeply and slowly -- and to think rationally. He was a scientist. He had to think rationally.

These must be Rodano's colleagues. They were taking him to headquarters, where the pressure to force him to undertake the mission would be increased. However, they couldn't succeed. He was an American and that meant he could be treated only according to certain established rules, certain legal procedures, and certain customary modes of action. There could be nothing arbitrary, nothing improvised.

He drew another deep breath. He merely had to keep saying no and they would be helpless.

There was a small lurch and his eyes flew open.

The car had turned off the highway onto a narrow dirt road.

Automatically, he said, "Where are we going?"

There was no answer.

The automobile bumped along for a considerable distance and then turned into a field, obscure and dark. In the glow of the car's headlights, Morrison made out a helicopter, its rotors turning slowly and its motor making only the slightest purr.

It was one of the new kind, its sound waves suppressed, its smooth surface absorbing, rather than reflecting, radar beams. Its popular name was the "hushicopter."

Morrison's heart sank. If they were using a hushicopter, which were extremely expensive and quite rare, then he was being treated as no ordinary prey. He was being treated as a big fish.

But I'm not a big fish, he thought desperately.

The automobile stopped and the headlights went out. There was still the faint purr and a few dim violet lights, hardly visible, marked the spot where the hushicopter sat.

The large man at Morrison's right threw open the car door and, again with a grunt, lowered his head and forced his way out. His large hand reached in for Morrison.

Morrison tried to shrink away. "Where are you taking me?"

The large man seized his upper arm. "Come out. Enough talking."

Morrison felt himself half-lifted, half-pulled out of the car. His shoulder hurt as it might be expected to do, considering that it had been nearly yanked out of its socket.

But he disregarded the pain. It was the first time he had heard the large man speak. The words were in English, but the accent was thickly Russian.

Morrison felt cold. These were not Americans who had him.

10.

Morrison had entered the hushicopter -- though that is not an accurate description of what took place. To enter implies a voluntary action and he had been much more nearly pushed into the vehicle.

It had pulsed its way through the darkness as he sat between the same two men between whom he had sat in the car. It was almost as though nothing had changed, although the whisper of the rotors was distinctly more hypnotic than the purr of the automobile engine had been.

After an hour -- or possibly less -- they came out of the darkness of the air and drifted downward toward the darkness of the ocean. Morrison could tell it was the ocean because he could smell it, was vaguely aware of the fog of droplets in the air, and because he could make out, very dimly, the dark bulk of a ship -- dark on dark.

How could the hushicopter make its way out to the ocean and pinpoint a ship? -- the right ship, he was sure. Even in his half-stupor of despair, Morrison's mind could not help searching for solutions. Undoubtedly, the hushicopter pilot had followed a shielded and pseudorandomized radio beam. The beam seemed random but, given the key, it could be found to have order and its source could be identified. Properly done, the pseudorandomness could not be penetrated even by quite an advanced computer.

Nor was the ship more than a temporary stopping place. He was allowed to use the head, given time for a hurried meal of bread and thick soup (which he found most welcome), and was then ushered -- with the unceremonious hustle he had begun to accept as a fact of life -- into a medium-sized airplane. It was a ten-seater (he counted automatically), but except for the two pilots and, sitting in the rear, the two men who had been on either side of him in the car and in the hushicopter, he was alone in the plane.

Morrison looked back at his guards, whom he just made out in the very dim light that filled the plane's interior. There was enough room in the plane so that they were not forced to hem him in. Nor did they need to do so out of fear that he might break and run for it. Here, he could break out only onto the deck of the ship. Once the plane took off, he could break out only into the open air with nothing beneath him but water of indefinite depth.

He wondered numbly why they were not taking off and then the door opened to admit another passenger. Despite the dimness, he recognized her at once.

He had met her for the first time only twelve hours before, but how could he have progressed from that first moment of meeting to the present moment in only twelve hours?

Boranova sat down in the seat next to his and said in a low voice, "I am sorry, Dr. Morrison." She was speaking in Russian.

And, as though that were the signal, the sound of the airplane's engines deepened and he felt himself pressed against his seat as the plane moved steeply upward.

Morrison stared at Natalya Boranova, trying to collect his thoughts. Dimly, he felt a desire to say something to her in a suave, imperturbable way, but there was no chance of that.

His voice was a creak and even after he cleared his throat, all he could say was "I've been kidnapped."

"That could not be helped, Dr. Morrison. I regret this. I really do. I have my duty, you understand. I had to bring you back by persuasion if I could. Otherwise --" She let the last word hang.

"But you can't behave in this fashion. This is not the twentieth century." He choked a little in his earnest attempt to stifle his sense of indignation to the point where he could speak sensibly. "I am not a recluse. I am not a derelict. I will be missed and American intelligence is perfectly aware that we spoke and they know that you wanted me to come to the Soviet Union. They will know I have been kidnapped -- they may know it already -- and your government will find itself in the middle of a kind of international incident it will want no part of."

"Not so," said Boranova earnestly, her dark eyes gazing levelly into his. "Not so. Of course your people know what has happened, but they have no objections. Dr. Morrison, the Soviet Union's intelligence operations are marked both by advanced technology and by over a century of close study of American psychology. I have no doubt that American intelligence is just as advanced. It is this equality of expertise, which is shared by several of the other geographical units of the planet, that helps to keep us in cooperation. Each of us is firmly convinced that no one else is far ahead on a road of its own."

"I don't know what you're driving at," said Morrison. The planet was arrowing through the night, speeding toward the eastern dawn.

"What concerns American intelligence most right now is our attempt at miniaturization."

"Attempt!" Morrison said with a note of sardonic amusement.

"Successful attempt. -- The Americans don't know that it is successful. They don't know if the miniaturization project may not be a mask behind which something altogether different is going on. They know we're doing something. I'm sure they have a detailed map of the area in the Soviet Union where the experiments are proceeding -- every building, every truck convoy. They undoubtedly have agents who are doing their best to penetrate the project.

"Naturally, we're doing our best to counter all this. We are not indignant. We know a great deal about the American experiments in antigravity and it would be naive to take the attitude that we can probe and that the Americans can't; that we can have our successes, but the American mustn't."

Morrison rubbed his eyes. Boranova's quiet, even voice was making him realize that his ordinary bedtime was past and that he was sleepy. He said, "What has this to do with the fact that my country will bitterly resent my kidnapping?"

"Listen to me, Dr. Morrison. Understand me. Why should they? We need you, but they can't be certain why. They have no reason to suppose there is anything of value in your neurophysical notions. They must think we are following a false trail and will get nothing out of you, but they can have no objection to getting an American into the miniaturization project. If this American finds out what it is all about, the information will prove valuable to them. -- Don't you think they might reason in this fashion, Dr. Morrison?"

"I don't know how they would reason," said Morrison carefully. "It is not a matter of interest to me."

"But you spoke to a Francis Rodano after you left me so suddenly. -- You see, we know even that. Would you care to tell me that he did not suggest that you play along with us and go to the Soviet Union in order to find out what you might find out?"

"You mean he wants me to play the spy?"

"Doesn't he? Didn't he make that suggestion?"

Again Morrison ignored the question. He said, "And since you are convinced I am to be a spy, you will have me executed after I do whatever it is you want me to do. Isn't that what happens to spies?"

"You've been viewing too many old-fashioned movies, Dr. Morrison. In the first place, we will see to it that you don't find out anything important -- anything at all. In the second place, spies are too valuable a commodity to destroy. They are useful as trading units for any agents of ours that may be in American hands -- or in foreign hands generally. I believe that the United States takes much the same attitude."

Morrison said, "To begin with, then, I am not a spy, madame. I am not going to be a spy. I know nothing about American intelligence operations. Also, I'm not going to do anything for you."

"I'm not at all sure about that, Dr. Morrison. I think you'll decide to work with us."

"What do you have in mind? Will you starve me till I agree? Beat me? Keep me in solitary confinement? Put me in a work camp?"

Boranova frowned and shook her head slowly in what seemed to be genuine shock. "Really, Doctor, what are these things you suggest? Are we back in the days when you were loudly proclaiming us to be an evil empire and inventing horror stories about us? I don't say that we might not be tempted to use strong measures if you intransigently refuse. Necessity drives sometimes, you know. -- But we won't have to. I'm convinced of that."

"What convinces you?" Morrison asked wearily.

"You're a scientist. You're a brave man."

"I? Brave? Lady, lady, what do you know about me?"

"That you have a peculiar viewpoint. That you have upheld it all this time. That you have watched your career go downhill. That you have convinced nobody. And that, despite all this, you cling to your view and do not budge from what you are certain is right. Is not this the act of a brave man?"

Morrison nodded. "Yes. Yes. It is a kind of bravery. Still, there are a thousand crackpots in the history of science who clung all their lives to some ridiculous view against logic, against evidence, against their own self-interest. I may be just another one of them."

"In that case, you might be wrong, but you would still be brave. Do you think bravery is entirely a matter of physical daring?"

"I know it is not. There are all kinds of bravery and perhaps," he said bitterly, "every one of those kinds of bravery is a mark of insanity or, at any rate, folly."

"Surely you do not consider yourself a coward?"

"Why not? In some ways, I flatter myself by saying that I am sane."

"But mad in your stubborn views concerning neurophysics?"

"I would not be surprised."

"But surely you think your views are correct."

"Certainly, Dr. Boranova. That would be part of my madness, would it not?"

Boranova shook her head. "You are not a serious man. I've said that before. My countryman Shapirov thinks you're right -- or, if not right, at least a genius."

"Next best thing, certainly. Part of his madness, too."

"Shapiro's opinion is very special."

"To you, I'm sure. -- Look, lady, I am tired. I am so groggy, I don't know what I'm saying. I'm not sure all this is real. I hope it isn't. Let me just -- just rest a little."

Boranova sighed and a look of concern entered her eyes. "Yes, of course, my poor friend. We wish you no harm. Please believe that."

Morrison let his head bow down on his chest. His eyes closed. Dimly, he felt himself pushed gently to one side and a pillow placed under his head.

Time passed. A dreamless time.

When he opened his eyes, he was still on the plane. There were no lights, but he knew without any doubt whatever that he was still on the plane.

He said, "Dr. Boranova?"

She replied instantly, "Yes, Dr. Morrison?"

"We're not being pursued?"

"Not at all. There are several of our own planes flying distant interference, but they have had nothing to do. Come, my friend, we want you and your government wants us to have you."

"And you still insist that you have miniaturization? That it is not madness? Or a hoax?"

"You will see for yourself. And you will see what a wonder it is, so that you will want to be part of it. You will demand to be part of it."

"And what will you be doing with it," asked Morrison thoughtfully, "assuming this is not an elaborate joke you are playing on me? Do you plan to make a weapon of it? Transport an army in a plane like this? Infiltrate each land with an invisible host? That sort of thing?"

"How revolting!" She cleared her throat as though she were tempted to spit with disgust. "Have we not enough land? Enough people? Enough resources? Have we not our large share of space? Are there not more important things to do with miniaturization? Can it be that you are so twisted and distorted that you do not see what it will mean as a research tool? Imagine the study of living systems that it will make possible; the study of crystal chemistry and solid-state systems; the construction of ultra-miniaturized computers and devices of all sorts. Think further of what we might learn of physics if we can alter Planck's constant to suit ourselves. What might we not learn of cosmology?"

Morrison struggled to sit upright. He was still woozy, but there was an incipient dawn outside the plane windows and he could see Boranova very dimly.

He said, "Is that what you wish to do with it, then? Noble scientific endeavors?"

"What would your government do with it if you had it? Try to achieve a sudden military superiority and restore the bad old days?"

"No. Of course not."

"So that only you are noble and only we are terribly evil? Do you honestly believe that? -- It may be, of course, that if miniaturization becomes sufficiently successful, the Soviet Union may achieve a lead in the development of a space-centered society. Think of transporting miniaturized material from one world to another, of sending a million colonists in a spaceship that would house only two or three human beings of normal size. Space will acquire a Soviet coloring, a Soviet tinge -- not because the Soviet people will dominate and be masters, but because Soviet thought will have won in the battle of ideas. And what is wrong with that?"

Morrison shook his head in the dimness. "Then I certainly won't help you. Why should you expect me to? I won't fasten Soviet thought on the Universe. I prefer American thought and tradition."

"You think you do and I don't blame you for it. But we will persuade you. You will see."

"You won't."

Boranova said, "My dear friend Albert -- if I may call you that. I have said that we will be admired for our progress. Do you think you will be immune? -- But let us leave such discussions for another time."

She pointed out the plane window at the gray sea beneath, which was just becoming visible.

"We are now over the Mediterranean," she said, "and soon we will be over the Black Sea and then across the Volga to Malenkigrad -- Smalltown, in English, eh? -- and the sun will have risen when we land. That will be symbolic. A new day. New light. I

predict you will be eager to help us establish this new day and I would not be surprised if you never wish to leave the Soviet Union again."

"Without your forcing me to stay?"

"We will fly you home freely if you ask us to -- once you have helped us."

"I won't help you."

"You will."

"And I demand now that I be returned."

"Now doesn't count," said Boranova cheerfully.

And they flew the last several hundred kilometers to Malenkigrad.

3. MALENKIGRAD

A pawn is the most important piece on the chessboard -- to a pawn.

Dezhnev Senior

11.

Francis Rodano was at his office early the next morning, which was Monday and the beginning of the week. That he had worked on Sunday was common enough not to surprise him. That he had slept at all during the night just completed did.

When he arrived, half an hour before the official start of the day, Jonathan Winthrop was already there. That did not surprise Rodano, either.

Winthrop walked into Rodano's office within two minutes of the latter's arrival. He leaned against the wall, the palms of his large hands hugging his elbows, his left leg crossing his right, so that the toe of his left shoe was digging into the carpet.

"You look worn-out, Frank," he said, his eyebrows hunching low over his dark eyes.

Rodano looked up at the other's shock of coarse gray hair, which routinely deprived him of any claim of his own to splendor of appearance, and said, "I feel worn-out, but I was hoping it didn't show." Rodano was very aware of having gone through the morning's rituals thoroughly and carefully and of having dressed with considerable judgment.

"It shows, though. Your face is the mirror of your soul. Some agent in the field you'd have made."

Rodano said, "We're not all made for the field."

"I know. And we're not all made for desk work, either." Winthrop rubbed his bulbous nose as though he were anxious to file it down to normal size. "I take it you're worried about your scientist, what's his name?"

"His name is Albert Jonas Morrison," said Rodano wearily. There was this pretense at the Department of not knowing Morrison's name, as though everyone was anxious to emphasize that the project wasn't theirs.

"Okay. I have no objection to your mentioning his name. I take it you're worried about him."

"Yes, I'm worried about him, along with a lot of other things. I wish I could see things more clearly."

"Who doesn't?" Winthrop sat down. "Look, there's no use worrying. You've handled this from the start, and I've been willing to let you do so because you're a good man. I'm perfectly satisfied you've done all you could to make this work because one thing about you is that you understand the Russkies."

Rodano winced. "Don't call them that. You've been watching too many twentieth-century movies. They're not all Russians, any more than we're all Anglo-Saxons. They're Soviets. If you want to understand them, try to understand how they think of themselves."

"Sure. Anything you say. Have you figured out what's so important about your scientist?"

"Nothing, as far as I know. No one takes him seriously except the Soviets."

"Do you think the Soviets know something we don't?"

"A few things, I'm sure, but I haven't any notion of what they see in Morrison. It's not the Soviets, either. It's one Soviet scientist -- a theoretical physicist named Shapiro. It's possible that he's the guy who worked out the method of miniaturization -- if the method has really been worked out at all. Scientists outside the Soviet Union are ambivalent about Shapiro. He's erratic and, to put it kindly, eccentric. The Soviets are all gung-ho on him, however, and he's all gung-ho on Morrison, though that may just be another sign of his eccentricity. Then the interest in Morrison recently graduated from curiosity to desperation."

"Ah? And how do you know that, Frank?"

"Partly from contacts inside the Soviet Union."

"Ashby?"

"Partly."

"Good agent."

"At it too long. Needs to be replaced."

"I don't know. Let's not retire a winner."

"In any case," said Rodano, unwilling to fight the point, "there was a sudden multiplication of interest in Morrison, on whom I'd been keeping tabs for a couple of years."

"This Shapiro, I suppose, had another brainstorm about Morrison and persuaded the Russ-- Soviets they needed him."

"Perhaps, but the funny thing is that Shapiro seems to have dropped out of the news recently."

"Out of favor?"

"No sign of that."

"Could be, Frank. If he's been feeding the Soviets a line of garbage about miniaturization and they've caught on to it, I wouldn't want to be in his shoes. These may be the good new days, but the Soviets have never learned to have a sense of humor about being made to look or feel foolish."

"It could be that he's gone underground because the miniaturization project is heating up. And that could also explain the sudden desperation about Morrison."

"What does he know about miniaturization?"

"Only that he's sure it's impossible."

"It makes no sense, does it?"

Rodano said carefully, "That's why we let him be taken. There's always the hope it will shake up the pieces and that they may then come together in a new way that will begin to make sense."

Winthrop looked at his watch. "He should be there by now. Malenkigrad. What a name! No news of any plane crash last night anywhere in the world, so I guess he's there."

"Yes -- and just the wrong person to send, too, except he was the one that the Soviets wanted."

"Why is he wrong? Is he shaky ideologically?"

"I doubt that he has an ideology. He's a zero. All last night I've been thinking that it's all a mistake. He lacks guts and he's not very bright, except in an academic sense. I don't think he can possibly think on his feet -- if he ever has to. He's not going to be smart enough to find out anything. I suspect he'll be in one long panic from beginning to end and I've been thinking for hours now that we'll never see him again. They'll imprison him -- or kill him -- and I've sent him there."

"That's just middle-of-the-night blues, Frank. No matter how dumb he is, he'll be able to tell us whether he watched a demonstration of miniaturization, for instance, or what it was they did to him. He doesn't have to be a shrewd observer. He need only tell us what happened and we will do the necessary thinking."

"But, Jon, we may never see him again."

Winthrop placed his hand on Rodano's shoulder. "Don't begin by assuming disaster. I'll see that Ashby gets the word. If something can be done, it will be done and I'm sure the Russ-- Soviets will hit a sane moment and let him go if we put on enough quiet pressure when the time comes. Don't make yourself sick over it. It's a move in a complex game and if it doesn't work, it doesn't work. There are a thousand other moves on the board."

12.

Morrison felt haggard. He had slept through much of Monday, hoping it would rid him of the worst of his jet lag. He had eaten gratefully of the food that had been brought in toward evening, had partaken even more gratefully of a shower. Fresh clothing was given him that fit rather indifferently -- but what of that? And he had spent Monday night alternately sleeping and reading.

And brooding.

The more he thought of it, the more convinced he was that Natalya Boranova was correct in her estimate that he was here only because the United States was satisfied to have him here. Rodano had urged him to go, had vaguely threatened him with further career troubles (how much deeper in trouble could he possibly get?) if he did not go. Why, then, should they object to his having been taken? They might object on principle

or feel there was the danger of setting an undesirable precedent, but apparently their own eagerness to have him go had overruled that.

What, then, would be the point in demanding to be taken to the nearest American consul or in making wild threats of American retaliation?

As a matter of fact, now that the deed had been done with American connivance -- surely with American connivance -- it would be impossible for the United States to take open action on his behalf or express any indignation whatever. Questions would inevitably arise as to how the Soviets had managed to spirit him off and there would be no answer other than American stupidity or American connivance. And surely the United States would not want to have the world come to either conclusion.

Of course, he could see why this had been done. It was as Rodano had explained. The American government wanted information and he was in an ideal position to get it for them.

Ideal? In what way? The Soviets would not be fools enough to let him get any information they didn't want him to have and if they thought that the information he managed to get (or couldn't avoid getting) was too much, they would not be fools enough to let him go.

The more he thought of that, the more he felt that, dead or alive, he would never see the United States again and that the American intelligence community would shrug its collective shoulders and write it all off as an unavoidable miss -- nothing gained but, then again, nothing much lost.

Morrison assessed himself -- Albert Jonas Morrison, Ph.D., assistant professor of neurophysics, originator of a theory of thought that remained unaccepted and all but ignored; failed husband, failed father, failed scientist, and now failed pawn. Nothing much lost.

In the depth of the night, in a hotel room in a town he didn't even know the location of, in a nation that for over a century had seemed the natural enemy of his own, however much a spirit of reluctant and suspicious cooperation might rule in the last few decades, Morrison found himself weeping out of self-pity and out of sheer childish helplessness -- out of a feeling of utter humiliation that no one should think him worth struggling for or even wasting regret over.

And yet -- and here a small spark of pride managed to surface -- the Soviets had wanted him. They had gone to considerable trouble to get him. When persuasion had failed, they had not hesitated to use force. They couldn't possibly have been certain that the United States would studiously look the other way. They had risked an international incident, however slightly, to get him.

And they were going to considerable trouble to keep him safe now that they had him. He was here alone, but the windows, he noted, had bars on them. The door was not locked, but when, earlier, he had opened it, two uniformed and armed men looked up from where they had been lounging against the opposite wall and asked him if he were in need of anything. He didn't like being in prison, but it was a measure, of sorts, of his value -- at least here.

How long would this last? Even though they might be under the impression that his theory of thought was correct, Morrison himself had to admit that it remained a fact that all the evidence he had gathered was circumstantial and terribly indirect -- and that no one had been able to confirm his most useful findings. What would happen if the Soviets found that they, too, could not confirm them or if, on closer consideration, they found it all too gaseous, too vaporous, too atmospheric to trouble with.

Boranova had said Shapirov had thought highly of Morrison's suggestions, but Shapirov was a notorious wild man who changed his mind daily.

And if Shapirov shrugged and turned away, what would the Soviets do? If their American trophy were of no use to them, would they return him contemptuously to the United States (one more humiliation, in a way) or hide their own folly in taking him, by imprisoning him indefinitely -- or worse.

In fact, it had been some Soviet functionary, some specific person, who must have decided to kidnap him and risk an incident and if the whole thing turned sour, what would that functionary do to save his own neck -- undoubtedly at the expense of Morrison's?

By dawn on Tuesday, when Morrison had been in the Soviet Union for a full day, he had convinced himself that every path into the future, every alternative route that could possibly be taken, would end in disaster for him. He watched the day break, but his spirits remained in deepest night.

13.

There was a brusque knock at his door at 8 a.m. He opened it a crack and the soldier on the other side pushed it open farther, as though to indicate who it was who controlled the door.

The soldier said, more loudly than necessary, "Madame Boranova will be here in half an hour to take you to breakfast. Be ready."

While he dressed hurriedly and made use of an electric razor of rather ancient design by American standards, he wondered why on Earth he had been faintly astonished at hearing the soldier speak of Madame Boranova. The archaic "comrade" had long passed out of use.

It made him feel irritable and foolish, too, since of what value was it to brood over tiny things in the midst of the vast morass in which he found himself? -- Except that that was what people did, he knew.

Boranova was ten minutes late. She knocked more gently than the soldier had and when she entered said, "How do you feel, Dr. Morrison?"

"I feel kidnapped," he said stiffly.

"Aside from that. Have you had enough sleep?"

"I may have. I can't tell. Frankly, madame, I'm in no mood to tell. What do you want of me?"

"At the moment, nothing but to take you to breakfast. And please, Dr. Morrison, do believe that I am as much under compulsion as you are. I assure you that I would rather, at this moment, be with my little Aleksandr. I have neglected him sadly in recent months and Nikolai is not pleased at my absence, either. But when he married me, he knew I had a career, as I keep telling him."

"As far as I'm concerned, you are free to send me back to my own country and spend all your time with Aleksandr and Nikolai."

"Ah, if that could be so -- but it cannot. So come, let us go to breakfast. We could eat here, but you would feel imprisoned. Let us eat in the dining room and you will feel better."

"Will I? Those two soldiers outside will follow us, won't they?"

"Regulations, Dr. Morrison. This is a high-security zone. They must guard you until someone in charge is convinced that it is safe not to guard you -- and it would be difficult to convince them of that. It is their job not to be convinced."

"I'll bet," said Morrison, shrugging himself into the jacket they had given him, which was rather tight under the armpits.

"They will in no way interfere with us, however."

"But if I suddenly break away or even just move in an unauthorized direction, I assume they will shoot me dead."

"No, that would be bad for them. You are valuable alive, not dead. They would pursue you and, eventually, seize you. -- But then, I'm sure you understand that you must do nothing that would be uselessly troublesome."

Morrison frowned, making little effort to hide his anger. "When do I get my own baggage back? My own clothes?"

"In time. The first order of business is to eat."

The dining room, which they reached by an elevator and a rather long walk along a deserted corridor, was not very large. It contained a dozen tables, each one seating six, and it was not crowded.

Boranova and Morrison were alone at their table and no one offered to join them. The two soldiers were at a table near the door and though they each ate enough for two, they faced Morrison and their eyes never left him for more than a second or two.

There was no menu. Food was simply brought to them and Morrison found he had no quarrel over the quantity. There were hard-boiled eggs, boiled potatoes, cabbage soup, and caviar, along with thick slices of dark bread. They were not given out in individual portions, but were placed in the center of the table where each person could help himself.

Perhaps, thought Morrison, they bring enough food to feed six and, since we two are the only ones here, we should only consume a third. And after a while, he had to admit that with a full stomach he felt a little mollified. He said, "Madame Boranova --"

"Why not call me Natalya, Dr. Morrison? We are very informal here and we will be colleagues for perhaps an extended period of time. The repeated 'madames' will give me a headache. My friends even call me Natasha. It could come to that."

She smiled, but Morrison felt stubbornly indisposed to be ingratiated. He said, "Madame, when I feel friendly, I will certainly act friendly, but as a victim and an involuntary presence here, I prefer a certain formality."

Boranova sighed. She bit off a sizable chunk of bread and chewed moodily. Then, swallowing, she said, "Let it be as you wish, but please spare me the 'madames.' Let me have my professional title -- and I don't mean 'academician.' Too many syllables. -- But I interrupted you."

"Dr. Boranova," said Morrison, more coldly than before. "You haven't told me what it is you want of me. You mentioned miniaturization, but you know and I know that that is impossible. I think that you spoke of it merely to mislead -- to mislead me and to mislead anyone overhearing us. Let us drop that, then. Surely here we have no need to play games. Tell me why I am really here. After all, eventually you must, since you apparently expect me to be of some use to you and I can't be that if I am left completely ignorant of what it is that you wish."

Boranova shook her head. "You are a hard man to convince, Dr. Morrison. I have been truthful with you from the start. The project is one of miniaturization."

"I cannot believe that."

"Why, then, are you in the city of Malenkigrad?"

"Small city? Little town? Tinyburg?" said Morrison, feeling a pleasure in hearing his own voice sound the phrases in English. "Perhaps because it is a small city."

"As I have had periodic occasion to say, Dr. Morrison, you are not a serious man. Still, you will not be in doubt long. There are a few people you should meet. One of them should, in fact, be here by now." She looked around with an annoyed frown. "So where is he?"

Morrison said, "I notice that no one approaches us. Every once in a while, the people at the other tables look at me, but then they look away if they catch my eye."

"They have been warned," said Boranova absently. "We will not waste your time with irrelevancies and almost everyone here is an irrelevancy as far as you are concerned. But some are not. Where is he?" She rose. "Dr. Morrison, excuse me. I must find him. I will not be gone long."

"Is it safe to leave me?" said Morrison sardonically.

"The soldiers will remain, Dr. Morrison. Please do not give them cause to react. Intellect is not their forte and they are trained to follow orders without the painful necessity of thinking, so they might easily hurt you."

"Don't worry. I'll be careful."

She left, moving hurriedly out the door after exchanging a few words with the soldiers as she passed.

Morrison watched her go, then glanced over the dining room morosely. Having found nothing of interest, he bent his eyes upon his clasped hands on the table and then stared at the still-sizable portions of unconsumed food before him.

"Are you all through, comrade?"

Morrison looked up sharply. He had decided "comrade" was an archaism, hadn't he?

-- A woman was standing, looking at him, with one balled fist on her hip in a negligent manner. She was a reasonably plump woman in a white uniform, slightly stained. Her hair was reddish-brown, as were her eyebrows, which arched disdainfully.

"Who are you?" asked Morrison, frowning.

"My name? Valeri Paleron. My function? Hardworking serving woman, but Soviet citizen and member of the party. I brought you this food. Didn't you notice me? Am I beneath your notice, perhaps?"

Morrison cleared his throat. "I'm sorry, miss. I have other things on my mind. -- But you had better leave the food. Someone else is supposed to be coming here, I think."

"Ah! And the Tsarina? She will be back, too, I suppose?"

"The Tsarina?"

"You don't think we have Tsarinas any longer in the Soviet Union? Think again, comrade. This Boranova, the granddaughter of peasants and a long line of peasants, considers herself quite a lady, I'm sure." She made a sound with her lips like a long "psh-sh-sh," redolent with contempt and a touch of herring.

Morrison shrugged. "I do not know her very well."

"You are an American, aren't you?"

Morrison said sharply, "Why do you say that?"

"Because of the way you speak Russian. With that accent, what would you be? The son of Tsar Nicholas the Tyrant?"

"What's wrong with the way I speak Russian?"

"It clashes as though you learned it in school. You can hear an American a kilometer away as soon as he says, 'A glass of vodka, please.' He is not as bad as an Englishman, of course. Him you can hear two kilometers away."

"Well, then, I'm an American."

"And you'll be going home someday?"

"I certainly hope so."

The serving woman nodded her head quietly, pulled out a rag, and wiped the table thoughtfully. "I would like to visit the United States someday."

Morrison nodded. "Why not?"

"I need a passport."

"Of course."

"And how does a simple, loyal serving woman get one?"

"I suppose you must apply for one."

"Apply? If I go to a functionary and I say, 'I, Valeri Paleron, wish to visit the United States,' he will say, 'Why?'"

"And why do you want to go?"

"To see the country. The people. The wealth. I am curious how they live. -- That would not be reason enough."

"Say something else," said Morrison. "Say you want to write a book about the United States as a lesson to Soviet youth."

"Do you know how many books --"

She stiffened and began to wipe the table again, suddenly absorbed in her work.

Morrison looked up. Boranova was standing there, her eyes hard and angry. She uttered a harsh monosyllable that Morrison didn't recognize but that he could have sworn was an epithet and not a very polite one, either.

The serving woman flushed dully. Boranova made a small gesture with her hand and the woman turned and left.

Morrison noticed that a man stood behind Boranova -- short, thick-necked, with narrowed eyes, large ears, and a broad-shouldered, muscular body. His hair was black, longer than usual for a Russian, and it was in wild disarray, as though he clutched at it a great deal.

Boranova made no move to introduce him. She said, "Was that woman talking to you?"

"Yes," said Morrison.

"She recognized you to be an American?"

"She said my accent made it obvious."

"And she said she wants to visit the United States?"

"Yes, she did."

"What did you say? Did you offer to help her go there?"

"I advised her to apply for a passport if she wanted to go."

"Nothing more?"

"Nothing more."

Boranova said with discontent, "You must pay no attention to her. She is an ignorant and uncultured woman. -- Let me introduce to you my friend, Arkady Vissarionovich Dezhnev. This is Dr. Albert Jonas Morrison, Arkady."

Dezhnev managed a clumsy bow and said, "I have heard of you, Dr. Morrison. Academician Shapirov has spoken of you often."

Morrison said coldly, "I am flattered. -- But tell me, Dr. Boranova, if that serving woman annoys you so much, it should be an easy task to have her replaced or transferred."

Dezhnev laughed harshly. "Not a chance, Comrade American -- which I expect is what she called you --"

"Not actually."

"Then she would have sooner or later, had we not interrupted you. That woman, I suspect, may be an intelligence operator and is one of those who keeps a close eye on us."

"But why --?"

"Because with an operation like this, no one can be trusted entirely. When you Americans are engaged in breakthrough science, are you not kept under close observation?"

"I don't know," said Morrison stiffly. "I have never been engaged in any breakthrough science that my government has been in the least interested in. -- But what I was going to ask is, why does that woman act as she does if she is an intelligence agent?"

"To be a provocateur, obviously. To say outrageous things and to see what she can trip someone else into saying."

Morrison nodded. "Well, it's your worry, not mine."

"As you say," said Dezhnev. He turned to Boranova. "Natasha, have you told him yet?"

"Please, Arkady--"

"Now come, Natasha. As my father used to say, 'If you must pull a tooth, it is mistaken kindness to pull it slowly.' Let's tell him."

"I have told him we're involved in miniaturization."

"Is that all?" said Dezhnev. He sat down, pulled his chair next to that of Morrison, and leaned toward him. Morrison, with his personal space invaded, automatically withdrew. Dezhnev came closer still and said, "Comrade American, my friend Natasha is a romantic and she is convinced that you will want to help us for love of science. She feels that we can persuade you to do gladly what must be done. She is wrong. You will not be persuaded any more than you were persuaded to come here voluntarily."

"Arkady, you are being boorish," snapped Boranova.

"No, Natasha, I am being honest -- which is sometimes the same thing. Dr. Morrison -- or Albert, to avoid formality, which I hate" -- he shuddered dramatically -- "since you won't be persuaded and since we have no time, you will do what we want by force, as you were brought here by force."

Boranova said, "Arkady, you promised you wouldn't --"

"I do not care. I have thought since I promised and I have decided that the American must know what he faces. It will be easier for us -- and it will be easier for him, too."

Morrison looked from one to another and his throat tightened so that it grew difficult to breathe. Whatever it was they planned for him, he knew he would be given no choice.

14.

Morrison continued to be silent while Dezhnev, unconcerned, proceeded to eat his own breakfast with relish.

The dining room had more or less emptied out and the serving woman, Valeri Paleron, was carrying off the remains and was wiping down the chairs and tables.

Dezhnev caught her eye, beckoned to her, and indicated that the table was to be cleared.

Morrison said, "So I have no choice. No choice in what?"

"Hah! Has Natasha not even told you that?" replied Dezhnev.

"She told me on several occasions that I was to be involved in miniaturization problems. But I know -- and you know -- that there is no miniaturization problem except that of trying to turn an impossibility into fact -- and I certainly can't help you in that. What I want to know is what you really have for me to do."

Dezhnev looked amused. "Why do you think miniaturization is impossible?"

"Because it is."

"And if I tell you that we have it?"

"Then I say show me!"

Dezhnev turned to Boranova, who drew a deep breath and nodded.

Dezhnev rose. He said, "Come. We will take you to the Grotto."

Morrison bit his lip in vexation. Small frustrations loomed large. "I do not know that Russian word you've used."

Boranova said, "We have an underground laboratory here. We call it the Grotto. It is one of our poetic words, not used in ordinary conversation. The Grotto is the site of our miniaturization project."

15.

Outside an air-jet awaited them. Morrison blinked, adjusting his eyes to the sunlight. He regarded the jet curiously. It lacked the elaboration of American models and seemed little more than a sled with small seats and with a complex engine in front. It would be absolutely useless in cold or wet weather and he wondered whether the Soviets had an enclosed version for those times. Perhaps this was just a summer runabout.

Dezhnev took the controls and Boranova directed Morrison into the seat behind Dezhnev, while she took the one to his right side. She turned to the guards and said, "Go back to the hotel and wait for us there. We will take full responsibility from this point." She handed them a printed slip of paper on which she scrawled her signature, the date, and, after consulting her wristwatch, the time.

When they arrived at Malenkigrad, Morrison discovered that it was a small town in fact, as well as in name. There were rows of houses -- each two stories high -- with a deadly sameness about them. The town had clearly been built for those who worked on the project -- whatever it was that they masked with the fairy tale of miniaturization -- and it had been built without undue expense. Each house had its own vegetable garden and the streets, although paved, had an unfinished look about them.

The little craft, riding on the jets of air pushing against the ground, blew up a small cloud of dust, which was, for the most part, left behind as they progressed smoothly

forward. Morrison could see that it was not comfortable for the pedestrians they passed who, one and all, took evasive action as it approached.

Morrison felt the discomfort in full when they passed an air-jet moving in the other direction and was inundated in the dust.

Boranova looked amused. She coughed and said, "Do not be concerned. We will be vacuumed soon."

"Vacuumed?" asked Morrison, coughing also.

"Yes. Not so much for us, for we can live with a little dust, but the Grotto must be reasonably dust-free."

"So must my lungs. Wouldn't it be better to have these air-jets enclosed?"

"They promise us shipments of more elaborate models and perhaps someday they will arrive. Meanwhile, this is a new town and it is built in the steppes, where the climate is arid. That has its advantages -- and its disadvantages, too. The settlers grow vegetables, as you saw, and they have some animals, too, but large-scale agriculture must wait until the community is larger and there are irrigation facilities. For now, it doesn't matter. It is miniaturization that concerns us."

Morrison shook his head. "You speak of miniaturization so often and with such a straight face, you might almost trick me into believing it."

"Believe it. You will have the demonstration Dezhnev arranged."

Dezhnev said from his seat at the controls, "And I had trouble doing so. Once again I had to speak to the Central Coordinating Committee -- may what is left of their gray hairs fall out. As my father used to say, 'Apes were invented because politicians were needed.' How it is possible to sit two thousand kilometers away and make policy --"

The air-jet glided smoothly forward to the rather sharp ending of the town and to the broad, low rocky massif that suddenly loomed before them.

"The Grotto," said Boranova, "is located inside that. It gives us all the room we want, frees us from the vagaries of weather, and is impenetrable from aerial surveillance, even from spy satellites."

"Spy satellites are illegal," said Morrison indignantly.

"It is merely illegal to call them spy satellites," shot back Dezhnev.

The air-jet banked as it made a turn, then landed in the shadow of a rocky cleft in the body of the massif.

"All out," said Dezhnev.

He moved forward, the other two following, and a door opened in the hillside. Morrison didn't see how it was done. It didn't look like a door; rather it seemed an integral part of the rocky wall. It opened just as the cavern of the Forty Thieves had with the utterance of the words "Open Sesame."

Dezhnev stepped to one side and gestured for Morrison and Boranova to move inside. Morrison went out of the brilliant morning sunshine into a rather dimly lit chamber to which his eyes took half a minute to adapt. It was no thieves' cave but an elaborately detailed structure.

Morrison felt as though he had stepped from the Earth onto the moon. He had never been on the moon, of course, but he was familiar, as was virtually everyone on Earth, with the appearance of the underground lunar settlements. This had precisely that other-worldly air about it somehow, except, of course, that gravity was Earth-normal.

4. GROTTTO

Small can be beautiful: An eagle may at times go hungry; a pet canary, never.

Dezhnev Senior

16.

In a large and well-lit washroom, Boranova and Dezhnev began to remove their outer clothing. Morrison, alarmed at the prospect, hesitated.

Boranova smiled. "You may keep your underclothing on, Dr. Morrison. Just toss everything else, except your shoes, into that bin. I presume there is nothing in your pockets. Place your shoes at the base of the bin. By the time we leave, it will all be cleaned and ready for use."

Morrison did as he was told, trying not to observe that Boranova had a most opulent figure, concerning which she seemed totally unaware. Amazing, he thought, what clothes will obscure when not designed to reveal.

They were washing now, with lavish application of soap -- faces to the ears and arms to the elbows -- then brushing savagely at their hair. Again Morrison hesitated and Boranova, reading his mind, said, "The brushes are cleaned after each use, Dr. Morrison. I don't know what you may have read of us, but some of us understand hygiene."

Morrison said, "All this just to go into the Grotto? Do you go through this every time?"

"Every time. That's why no one goes in just briefly. And even when staying within, there are frequent ablations. -- You may find the next step unpleasant, Dr. Morrison. Close your eyes, take a deep breath, and hold it if you can. It will take about a minute."

Morrison followed orders and found himself strongly buffeted by a swirling wind. He staggered drunkenly and collided with one of the bins. He held on tightly. Then, as suddenly as it started, it was over.

He opened his eyes. Dezhnev and Boranova looked as though they had put on fright wigs. He felt his own hair and knew he must look the same. He reached for his brush.

"Don't bother," said Boranova, "There's more we'll have to go through."

"What was that all about?" said Morrison. He found he had to clear his throat twice before he could speak.

"I mentioned that we'd have the dust vacuumed away from us, but that's only the first stage of the cleaning process. -- Through this door, please." She held it open for him.

Morrison emerged into a narrow but well-lit corridor, the walls glowing photoluminescently. He lifted his eyebrows. "Very nice."

"Saves energy," Dezhnev said, "and that's very important. -- Or are you referring to the technological advancement? Americans seem to come to the Soviet Union expecting everything to be kerosene lamps." He chuckled and added, "I admit we haven't caught up with you in every respect. Our brothels are very primitive compared with yours."

"You strike back without waiting to be struck," said Morrison. "That is a sure sign of an unclear conscience. If you were anxious to demonstrate advanced technology, I could point out that it would be very simple to pave the avenue going from Malenkigrad to the Grotto and to use closed air-jets. We would need less of this."

Dezhnev's face darkened, but Boranova put in sharply, "Dr. Morrison is quite right, Arkady. I don't like your feeling that it is not possible to be honest without being rude. If you cannot be both honest and polite, keep your tongue on your own side of your teeth."

Dezhnev grinned uneasily. "What have I said? Of course the American doctor is right, but is there anything we can do when decisions are made in Moscow by idiots who save small bits of money without counting the consequences? As my old father used to say, 'The trouble with economizing is that it can be very expensive.'"

"That's true enough," said Boranova. "We could save a great deal of money, Dr. Morrison, by spending on a better road and better air-jets, but it is not always easy to persuade those who hold the purse strings. Surely you have the same trouble in America."

She was motioning even as she talked and Morrison followed her into a small chamber. As the door closed behind them, Dezhnev held out a bracelet to Morrison. "Let me tie this around your right wrist. When we hold up our arms, you hold up yours."

Morrison felt his weight lighten momentarily as the chamber floor dropped.

"An elevator," he said.

"Clever guess," said Dezhnev. Then he clapped a hand to his mouth and said in a muffled tone, "But I mustn't be rude."

They stopped smoothly and the elevator door opened.

"Identification!" came a peremptory voice.

Dezhnev and Boranova raised their bands, at which Morrison did as well. Under the purplish light that suddenly suffused the elevator, the three bracelets glittered in patterns which were not, Morrison noted, exactly alike.

They were ushered down another corridor and into a room which was both warm and damp.

"We will have to have a final scrubdown, Dr. Morrison," said Boranova. "We are accustomed to this and stripping is routine for us. It is easier -- and timesaving -- to do it as a group."

"If you can stand it," said Morrison grimly, "I can."

"It is unimportant," said Dezhnev. "None of us are strangers to the sight."

Dezhnev scrambled out of his underclothes, stepped over to a portion of the wall where a small red knob was glowing, and placed his right thumb immediately above it. A

narrow panel in the wall slid open and revealed white garments hanging flaccidly to one side. He placed his underclothes at the bottom.

He seemed utterly unabashed about being nude. His chest and shoulders were dark with hair and there was a long-healed scar on his right buttock. Morrison wondered idly how that might have come about.

Boranova did the same as Dezhnev had done and said, "Pick a light that is on, Dr. Morrison. It will open to your thumbprint and then, when you touch it again, it will close. After that it will open only to your thumbprint, so please remember your locker number and you won't have to press every locker in order to find your own."

Morrison did as he was told.

Boranova said, "If you need to use the bathroom first, you can go there."

"I'm all right," said Morrison.

With that, the room was aswirl with a damp mist of water droplets.

"Close your eyes," called out Boranova, but it was unnecessary for her to say so. The initial sting of the water forced his eyes closed at once.

There was soap in the water or, at any rate, something that stung his eyes, tasted bitter in his mouth, and irritated his nostrils.

"Lift your arms," called out Dezhnev. "You needn't circle. It comes from all directions."

Morrison lifted his arms. He knew it came from all directions. It came from the floor, too, as he could tell by the slightly uncomfortable pressure on his scrotum.

"How long does this last?" he gasped.

"Too long," said Dezhnev, "but it is necessary."

Morrison counted to himself. At the count of 58, it seemed to him that the bitterness on his lips ceased. He squinted his eyes. Yes, the other two were still there. He continued to count and when he reached 126, the water stopped and he was bathed in uncomfortably hot and dry air.

He was panting by the time that stopped too and he realized he had been holding his breath.

"What was all that for?" he said, looking away uncomfortably at the sight of Boranova's large but firm breasts and finding little comfort in Dezhnev's hairy chest.

"We are dry," said Boranova. "Let's get dressed."

Morrison was eager but was almost immediately disappointed by the nature of the white clothes in the locker. They consisted of a blouse and pants of light cotton, the pants held by a cord. There was also a light cap to cover the hair and light sandals. Though the cotton was opaque, it seemed to Morrison that little or nothing was truly left to the imagination.

He said, "Is this all we wear?"

"Yes," said Boranova. "We work in a clean, quiet environment at even temperature and, with throwaway clothes, we can't expect much in the way of fashion or expense. Indeed, barring a certain understandable reluctance, we could easily work in the nude. But enough -- come."

And now at last they stepped into what Morrison recognized at once as the main body of the Grotto. It stretched away before him -- between and beyond ornate pillars to a distance he couldn't make out.

He could recognize none of the equipment. How could he? He was entirely a theoretician and when he worked in his own field, he used computerized devices that he had designed and modified himself. For a moment, he felt a stab of nostalgia for his laboratory at the university, for his books, for the smell of the animal cages, even for the stupid obstinacy of his colleagues.

There were people everywhere in the Grotto. There were a dozen nearby and others farther off and the impression was of the interior of a human ant hill crawling with machinery, with humanity, with purpose.

No one paid any attention to the newcomers or to each other. They went about their work in silence, their steps muffled by their sandals.

Again Boranova seemed to read Morrison's mind and when she spoke it was in a whisper. "We keep our council here. None of us knows more than it is good for him -- or her -- to know. There must be no leaks of significance."

"But surely they must communicate."

"When they must, they will -- minimally. It reduces the pleasure of camaraderie, but it is necessary."

"This kind of compartmentalization slows progress," said Morrison.

"It's the price we pay for security," said Boranova, "so if no one talks to you, it is not a personal matter. They will have no reason to talk to you."

"They'll be curious about a stranger."

"I have seen to it that they know you are an outside expert. That is all they need to know."

Morrison frowned. "How can they expect an American to be an outside expert?"

"They don't know you're an American."

"My accent will give me away at once as it did to the serving woman."

"But you will not talk to anyone, except for those to whom I will introduce you."

"As you wish," said Morrison indifferently.

He was still looking around. Since he was here, he might as well learn what he could, even if it should turn out to be trivial. When -- if -- he returned to the United States, he would surely be asked for every detail he had observed and he might as well have something to give them.

He said in Boranova's ear, "This must be an expensive place. What fraction of the national budget is expended here?"

"It's expensive," said Boranova, admitting nothing further, "and the government labors to limit the expense."

Dezhnev said sourly, "I had to work for an hour this morning to persuade them to allow a small additional experiment for your benefit -- may the Committee catch the cholera."

Morrison said, "The cholera no longer exists, even in India."

"May it be reinstated for the Committee."

Boranova said, "Arkady, if these supposedly humorous expressions of yours get back to the Committee, it will do you no good."

"I'm not afraid of those pigs, Natasha."

"I am. What will happen to next year's budget if you infuriate them?"

Morrison said, with sudden impatience, but speaking even more softly, "What concerns me is neither the Committee nor the budget, but the simple question of what it is I am doing here."

Dezhnev said, "You are here to witness a miniaturization and to be given an explanation of why we need your help. Will that satisfy you, Comrade Am-- Comrade Outside Expert?"

17.

Morrison followed the other two to something that looked like a small old-fashioned train carriage on very narrow-gauge tracks.

Boranova placed her thumb on a smooth patch and a door slid open smoothly and without noise. "Please get in, Dr. Morrison."

Morrison held back. "Where are we going?"

"To the miniaturization chamber, of course."

"By railroad? How big is this place?"

"It is large, Doctor, but not so large. This is a matter of security. Only certain individuals can use this device and only by using it can one penetrate into the core of the Grotto."

"Are your own people so untrustworthy?"

"We live in a complex world, Dr. Morrison. Our people are trustworthy, but we do not wish to subject large numbers to temptations they need not face. And if someone persuades one of us to go -- elsewhere, as we have persuaded you, it is safer if their knowledge is limited, you see. -- Please get in."

Morrison entered the compact vehicle with some difficulty. Dezhnev followed him with equal trouble, saying, "Another example of senseless cheese paring. Why so small? Because the bureaucrats spend billions of rubles on a project and they feel virtuous if they save a few hundred in odd places at the cost of making hardworking people miserable."

Boranova got into the front seat. Morrison could not see how she manipulated the controls or, for that matter, if there were controls to manipulate. It was probably controlled by a computer. The carriage began to move suddenly and Morrison felt the slight backward jar that resulted.

There was a small window at eye level on either side, but not of clear glass. Morrison could see a small section of the cavern outside in a streaky, wavy, poorly focused manner. Apparently, the windows were not meant for vision, but were merely

intended to reduce what might otherwise be an unacceptably tight enclosure to those with claustrophobic tendencies.

It seemed to Morrison that the individuals he could make out through the glass paid no attention to the moving carriage. Everyone here, he thought, is well-trained. To show any interest in any procedure with which you have nothing directly to do must apparently be a sign of discourtesy -- or worse.

It seemed to Morrison that they were approaching the wall of the cavern and the carriage, with another small jerk, slowed. A section of the wall slid aside and the carriage, with yet another jerk, picked up speed and moved through the opening.

It grew dark almost at once and the dim light in the carriage's ceiling did little more than change night to dusk.

They were in a narrow tunnel into which the carriage fit with apparently little room to spare, except on the left side where Morrison, peering past Dezhnev, thought he could make out another pair of rails. There must be at least two such carriages, he thought, with room to pass one another in the tunnel if both were in operation.

The tunnel was as dimly lit as the carriage and it was not straight. Either it had been carved through the hill in such a way as to follow lines of least resistance in order to save money or it was curved deliberately in some dim, atavistic search for making things more secure by making them more complicated. The darkness inside and outside the carriage might serve the same purpose.

"How long will this take -- uh --" asked Morrison.

Dezhnev looked at him with (in the dimness) an unreadable expression. "You don't know how to address me, I see. I do not have an academic title, so why not call me Arkady? Everyone does here and why not? My father always said, 'What counts is the person, not the name.'"

Morrison nodded. "Very well. How long will this take, Arkady?"

"Not long, Albert," said Dezhnev cheerfully -- and Morrison, having been lured into first-name informality, could not object to the return.

He surprised himself a little by finding he did not wish to object. Dezhnev, even with his father's aphorisms included, seemed to be uncomplicated, at least, and, under the circumstances, Morrison welcomed a chance of refraining from the perpetual fencing match to which Boranova seemed to subject him.

The carriage could not be moving at a speed faster than a leisurely walk, but there was a small lurch each time it took a curve on the track. Apparently, petty economies included leaving the curves unbanked.

Then, with absolutely no warning, light flooded in and the carriage ground to a stop.

Morrison blinked as he stepped out. The room they were now in was not as large as the one they had left and there was virtually nothing in it. There were only the tracks under the carriage that made a wide arc and then led back toward the section of the wall from which they had emerged. He could see another small carriage disappearing into the

opening and the wall closing behind it. The carriage in which they had arrived made a slow circuit of the arc and came to rest near the wall.

Morrison looked around. There were many doors and the ceiling was comparatively low. Without definite evidence of the fact, he felt that he was in a three-dimensional checkerboard, with numerous small rooms on several levels.

Boranova was waiting for him, seeming to observe his curiosity with a touch of disapproval. "Are you ready, Dr. Morrison?"

"No, Dr. Boranova," said Morrison. "Since I don't know where I'm going or what I'm doing, I'm not ready. However, if you will lead the way, I will follow."

"That is sufficiently ready. -- This way, then. There is someone else you must meet."

They passed through one of the doors and into another small room. This one was very well-lit and had its walls lined with thick cables.

In the room was a young woman who looked up when they came in, pushing aside something, that seemed, from its appearance, to be some kind of technical report. She was quite pretty in a pale and vulnerable way. Her flaxen hair was cut short but with enough of a wave in it to keep her from looking too severe. The scanty cotton uniform she wore, which Morrison already knew to be universal within the Grotto, showed her to be attractively slim and shapely enough, though without Boranova's opulence. Her face was marred or perhaps enhanced (according to taste) by a tiny mole just under the left corner of her mouth. Her cheekbones were high, her hands thin-fingered and graceful, and her expression did not appear as though she were much given to smiling.

Morrison smiled, however. For the first time since his kidnapping, it seemed to him that there might be a lighter side to this dismal situation in which he had been unwillingly plunged.

"Good day," he said. "It's a pleasure meeting you." He tried to give his Russian an educated sound and to get rid of what the serving woman had so easily detected as his American accent.

The young woman made no direct answer but, turning to Boranova, said in a voice that was slightly husky, "Is this the American?"

"It is," said Boranova. "He is Dr. Albert Jonas Morrison, professor of neurophysics."

"Assistant professor," said Morrison deprecatorily.

Boranova ignored the correction. "And this, Dr. Morrison, is Dr. Sophia Kahinin, who is our electromagnetics expert."

"She scarcely looks old enough," said Morrison gallantly.

The young lady did not seem amused. She said, "I look, perhaps, younger than I am. I am thirty-one years old."

Morrison looked abashed and Boranova cut in quickly, "Come, we are ready to begin. Please check the circuits and set matters in motion. -- And quickly."

Kahinin hurried out.

Dezhnev looked after her with a grin. "I'm glad she doesn't seem to like Americans. It cuts out a hundred million potential competitors at least. Now if she also didn't like Russians and would come to realize that I am as Karelo-Finnish as she is."

"You Karelo-Finnish?" said Boranova, forced into a smile. "Who would believe that, you madman?"

"She would -- if she were in the proper mood."

"This would require an impossible mood." Boranova turned to Morrison. "Please do not take Sophia's behavior personally, Dr. Morrison. Many of our citizens pass through an ultrapatriotic phase and feel it to be very Soviet to dislike Americans. It is more pose than reality. I'm sure, once we begin to work together as a team, that Sophia will let down her barriers."

"I understand completely. Things are similar in my country. As a matter of fact, at the moment, I'm not very fond of Soviets -- and understandably, I think. But" -- and he smiled -- "I could make an exception for Dr. Kahinin very easily."

Boranova shook her head. "American like you or Russian like Arkady, there is a peculiar masculine way of thought that transcends national boundaries and cultural differences."

Morrison was unmoved. "Not that I will be working with her -- or with anyone. I have grown tired of telling you, Dr. Boranova, that I don't accept the existence of miniaturization and that I cannot and will not be of assistance to you in any way."

Dezhnev laughed. "You know, one could almost believe Albert. He speaks so seriously."

Boranova said, "Observe, Dr. Morrison. This is Katinka."

She tapped a cage which Morrison, startled, now observed for the first time. Dr. Kahinin had rather absorbed his attention till now and even after she had left he had been idly keeping his eye on the door through which she had gone, waiting for her reappearance.

He focused on the cage of wire mesh. Katinka was, apparently, a white rabbit of moderate size and placid appearance, who was munching away at greenery with the rapt concentration of her kind.

Morrison was aware of the slight scrabbling noise she made and of the rabbit odor, which he must have noted, unconsciously, earlier and ignored.

He said, "Yes, I see her. A rabbit."

"Not just a rabbit, Doctor. She is a most unusual creature. Unique. She has made history to a far greater extent than has the catalog of war and disaster that usually is thought of by that name. If we exclude such purely incidental creatures as worms, fleas, and submicroscopic parasites, Katinka is the first living creature that has been miniaturized. In fact, she has been miniaturized on three separate occasions and would have been miniaturized dozens of times more if we had been able to afford it. She has contributed enormously to our knowledge of the miniaturization of life forms and, as you can see, her experiences have in no way adversely affected her."

Morrison said, "I do not wish to be insulting, but your bare statement that the rabbit has been miniaturized three times is not really evidence that this has indeed happened. I do not mean to cast doubt upon your integrity, but, in a case like this, I think you understand that nothing less than witnessing the fact is sufficiently convincing."

"Certainly. And it is for that reason that -- at considerable expense -- Katinka will now be miniaturized a fourth time."

18.

Sophia Kahinin swirled back in and turned to Morrison. "Are you wearing a watch or do you have anything metallic on you?" she asked crisply.

"I have no possessions on me at all, Dr. Kahinin. Nothing but the clothes I wear, the single pocket of which is empty. Even this identification bracelet that has been put on me seems to be of plastic."

"It is merely that there is a strong electromagnetic field and metal would interfere."

Morrison said, "Any physiological effects?"

"None. Or at least none have yet been detected."

Morrison, who was waiting for them to give up their pretense of miniaturization and wondering how long they could carry on the fraud (he was growing more censorious over the matter by the minute), said, with just a touch of malice, "Might not overexposure lead to birth defects should you ever get pregnant, Dr. Kahinin?"

Kahinin flushed. "I have a baby. She is perfectly normal."

"Were you exposed during pregnancy?"

"Once."

Boranova said, "Is the inquisition over, Dr. Morrison? May we begin?"

"You still maintain that you will miniaturize the rabbit?"

"Certainly."

"Then go ahead. I'm all eyes."

(How foolish of them, he thought sardonically. They would soon be claiming, of course, that something had gone wrong, but where would they go from there? What was it all about?)

Boranova said, "To begin with, Dr. Morrison, would you lift the cage?"

Morrison made no move to do so. He looked from one to the other of the three Soviets in suspicion and uncertainty.

Dezhnev said, "Go ahead. It won't hurt, Albert. You won't even get your hands dirty and, after all, hands were meant to become dirty at work."

Morrison put his hands on either side of the cage and lifted. It weighed about ten kilograms, he judged. He grunted and said, "May I put it down now?"

"Of course," said Boranova.

"Gently," said Kahinin. "Do not disturb Katinka."

Morrison lowered it carefully. The rabbit, which had momentarily stopped feeding when the cage was lifted, sniffed the air curiously and returned tentatively to its unhurried chewing.

Boranova nodded and Sophia moved to one side of the room where a bank of controls were all but hidden by the cables. She looked over her shoulder at the cage as though estimating its position, then walked over to move it slightly. She returned to the controls and closed a switch.

A whining sound made itself heard and the cage began to glitter and shimmer as though something, all but invisible, had interposed itself between it and themselves. The shimmer extended beneath the cage, separating it from the stone-top table on which it had been resting.

Boranova said, "The cage is now enclosed in the miniaturization field. Only the objects within the field will be miniaturized."

Morrison stared and a little worm of uncertainty began to stir within him. Were they going to try some clever illusion on him and make him think he had witnessed miniaturization? He said, "And how exactly did you produce that so-called miniaturization field?"

"That," said Boranova, "we do not intend to tell you. I think you understand what classified information is. Go ahead, Sophia."

The whine heightened in pitch and intensified somewhat. Morrison found it unpleasant, but the others seemed to endure it stolidly. In looking at them, he had taken his eyes off the cage. Now when he looked at it again, it seemed to have grown smaller.

He frowned and bent his head so as to line up one side of the cage with the vertical line of a cable on the opposite wall. He held his head steady, but the side of the cage shrank away from the reference line. There was no mistake, the cage was distinctly smaller. He blinked his eyes in frustration.

Boranova smiled narrowly. "It is indeed shrinking, Dr. Morrison. Surely your eyes tell you so."

The whine continued -- the shrinking continued. The cage was perhaps half its original linear measurement.

Morrison said, with obvious lack of conviction, "There are such things as optical illusions."

Boranova called out. "Sophia, stop the process for a moment."

The whine lowered into silence and the glitter of the miniaturization field dimmed and died. The cage sat on the table as before, a considerably smaller version than it had been. Inside was the rabbit still -- a smaller rabbit, but one that was proportioned in every way as the original had been, munching on smaller leaves, with smaller pieces of carrot distributed across the floor of the cage.

Boranova said, "Do you honestly think that this is an optical illusion?"

Morrison was silent and Dezhnev said, "Come, Albert, accept the evidence of your senses. This experiment consumed considerable energy and if you remain unconvinced,

our clever administrators will be annoyed with all of us for wasting money. What do you say, then?"

And Morrison, shaking his head in rueful confusion, said, "I don't know what to say."

Boranova said, "Would you lift the cage again, Dr. Morrison?"

Again Morrison hesitated and Boranova said, "The miniaturization field has not left it radioactive or anything like that. The touch of your unminiaturized hand will not affect it, nor will its state of miniaturization affect you. You see?" And she placed her hand, flatly and gently, on top of the cage.

Morrison's hesitation was not proof against that. Gingerly, he placed his hand on either side of the cage and lifted. He exclaimed in surprise, for it could not be much over a kilogram in mass. The cage trembled in his grip and the miniaturized rabbit, alarmed, hopped to one corner of the cage and huddled there in agitation.

Morrison put the cage down and, as nearly as he could estimate, did so in its original position, but Kahinin walked over and made a small adjustment.

Boranova said, "What do you think, Dr. Morrison?"

"It weighs considerably less. Is there some way you pulled a switch?"

"Pulled a switch? You mean replaced the larger object with a smaller while you were watching, the smaller exactly like the larger in everything but size. Dr. Morrison, please."

Morrison cleared his throat and didn't press the point. It lacked plausibility even to himself.

Boranova said, "Please notice, Dr. Morrison, that not only has the size been decreased, but the mass in proportion. The very atoms and molecules of which the cage and its contents are composed have shrunk in size and mass. Fundamentally, Planck's constant has decreased, so that nothing inside has changed relative to its own parts. To the rabbit, itself, its food, and everything within the cage seems perfectly normal. The outside world has increased in size relative to the rabbit, but, of course, it remains unaware of that."

"But the miniaturization field is gone. Why don't the cage and its contents revert to ordinary size?"

"For two reasons, Dr. Morrison. In the first place, the miniaturized state is metastable. That is one of the great fundamental discoveries that make miniaturization possible. At whatever point we stop in the process, it takes very little energy to maintain it in that state. And secondly, the miniaturization field is not entirely gone. It is merely minimized and drawn inward so that it still keeps the atmosphere within the cage from diffusing outward and normal molecules outside from diffusing inward. It also leaves the walls of the cage touchable by unminiaturized hands. -- But we are not finished, Dr. Morrison. Shall we continue?"

Morrison, troubled and unable to deny the direct experience, wondered for a moment if he had somehow been drugged into a kind of super-suggestibility that would

make him experience whatever he was told he was experiencing. In a choked way, he said, "You are telling me a great deal."

"Yes, we are, but only superficially. If you repeat this in America, you will probably not be believed and nothing you say will give the slightest hint as to the core of the miniaturization technique." Boranova lifted her hand and Kahinin again threw the switch.

The whine returned and the cage began once again to shrink. It seemed to be going faster now and Boranova, as though reading Morrison's mind, said, "The further it shrinks, the less mass there is to remove and the more rapidly it shrinks further."

Morrison found himself staring, in a state of near-shock, at a cage that was a centimeter across and still shrinking.

But Boranova raised her hand again and the whine died.

"Be careful, Dr. Morrison. It weighs only a few hundred milligrams now and it is a fragile object indeed to anyone on our scale. Here. Try this."

She handed him a large magnifying glass. Morrison, without saying a word, took it and held it over the tiny cage. He might not have managed to make out what the moving object within it was if he had come upon it without prior knowledge, for his mind would not have accepted such an incredibly tiny rabbit.

He had seen it shrink, however, and he stared at it now with a mixture of confusion and fascination.

He looked up at Boranova and said, "Is this really happening?"

"Do you still suspect an optical illusion or hypnotism or -- what else?"

"Drugs?"

"If it were drugs, Dr. Morrison, it would be a greater achievement than miniaturization. Look around you. Doesn't everything else look normal? It would be an unusual drug indeed that would alter your sense perception of a single object in a large room of unchanged miscellany. Come, Doctor, what you've witnessed is real."

"Make it larger," said Morrison breathlessly.

Dezhnev laughed and suppressed in a quick choke. "If I laugh, the wind may well blow away Katinka, whereupon Natasha and Sophia will both strike me with everything else in this room. If you wish it enlarged, you will have to wait."

Boranova said, "Dezhnev is right. You see, Dr. Morrison, you have witnessed a scientific demonstration, not magic. If it were magic, I could snap my finger and the rabbit would be its normal self again in a normal cage -- and then you would know you were witnessing an optical illusion. However, it takes considerable energy to decrease Planck's constant to a tiny fraction of its normal value, even over a relatively small volume of the Universe, which is why miniaturization is so expensive a technique. To enlarge Planck's constant once again must result in the production of energy equal to that which had been consumed originally, for the law of conservation of energy holds even in the process of miniaturization. We cannot deminiaturize then any faster than we can dispose of the heat produced, so that it takes considerable time to do it -- much more than it took to miniaturize."

For a while, Morrison was silent. He found the explanation involving conservation of energy more convincing than the demonstration itself. Charlatans would not have been so meticulous about obeying the constraints of physics.

He said, "It seems to me, then, that your miniaturization process can scarcely be a practical device. At most it would only serve as a tool, perhaps, to broaden and expand quantum theory."

Boranova said, "Even that would be enough, but don't judge a technique by its initial phase. We can hope that we will learn how to circumvent these large energy changes, how to find methods of miniaturization and deminiaturization that will be more efficient. Does all the energy-change have to pass from electromagnetic fields into miniaturization and then into heat on deminiaturization? Might not deminiaturization be somehow inveigled into releasing energy as electromagnetic fields again. That would be easier to handle, perhaps."

"Have you repealed the second law of thermodynamics?" asked Morrison with exaggerated politeness.

"Not at all. We don't expect an impossible 100 percent conversion. If we can convert 75 percent of the deminiaturization energy into an electromagnetic field -- or even only 25 percent -- that would be an improvement over the present situation. However, there is hope of a technique even more subtle and far more efficient and that is where you come in."

Morrison's eyes widened. "I? I know nothing about this. Why pick me out for your salvation? You would have done as well with a child out of kindergarten."

"Not so. We know what we are doing. Come, Dr. Morrison, you and I shall go to my office while Sophia and Arkady begin the tedious process of restoring Katinka. I will there show you that you know quite enough to help us make miniaturization efficient and therefore a commercially practical venture. In fact, you will see quite clearly that you are the only person who can help us."

5. COMA

Life is pleasant Death is peaceful. It is the transition that is troublesome.

Dezhnev Senior

19.

"This," said Natalya Boranova, "is my own portion of the Grotto."

She sat down in a rather battered armchair that (Morrison imagined) she found perfectly comfortable, having molded it to her body over the years.

He sat down in another chair, smaller and more austere, with a satin-covered seat that was less comfortable than it looked. He glanced over the surroundings with a sharp sensation of homesickness. There were ways in which it reminded him of his own office. There was the computer outlet and the large screen. (Boranova's was far more ornate than his own -- the Soviet style tended toward the curlicue and Morrison felt a momentary curiosity as to the reason and then put that aside as a trivial matter.)

There was also the same trend toward disorder in the piles of printouts, the same distinct odor they gave rise to, the same occasional old-fashioned book in among the film cassettes. Morrison tried to read the title of one that was too far off and too worn to be made out. (Books always had an ancient appearance, even when they were new.) He had the impression it was an English-language book, which would not have surprised him. He himself had several Russian classics in his laboratory for an occasional brush-up of the language.

Boranova said, "We are quite private here. We will not be overheard and we will not be disturbed. Later we can have lunch brought in."

"You are kind," said Morrison, trying not to sound sardonic.

Boranova seemed to take it at face value. "Not at all. And now, Dr. Morrison, I can't help having noticed that Arkady is on a first-name basis with you. He is, of course, to a certain extent an uncultured individual and is apt to presume. Still, may I ask again if, despite the conditions that brought you here, we might be pleasant and informal with each other?"

Morrison hesitated. "Well, call me Albert, then. But it will be merely a convenience and no sign of friendship. I am not likely to dismiss my kidnapping."

Boranova cleared her throat. "I did try to persuade you to come of your own free will. If necessity had not driven us so hard, we would have gone no farther than that."

"If you are embarrassed by what you have done, then return me to the United States. Send me back now and I will be willing to forget this episode and will make no complaint to my government."

Slowly Boranova shook her head. "You know that cannot be done. Necessity still drives. You will see what I mean, shortly. But meanwhile, Albert, let us talk together, without nonsense, as part of the global family of science that rises superior to questions of nationality and other artificial distinctions among human beings. -- Surely by now you have accepted the reality of miniaturization."

"I must accept it." Morrison shook his head, almost regretfully.

"And you see our problem?"

"Yes. It is far too expensive in energy."

"Imagine, however, if we lower the energy cost drastically. Imagine if we can bring about miniaturization by plugging a wire into a wall socket and consuming no more energy than we would if we were heating a toaster oven."

"Of course -- but apparently it can't be done. Or, at any rate, your people cannot do it. Why all the secrecy, then? Why not publish the findings you have already made and welcome the contributions of the rest of the family of science? Secrecy seems to imply the possibility that the Soviet Union is planning to use miniaturization as a weapon of some kind, one powerful enough to make it possible for your country to find it feasible to break the mutual understanding that has led to peace and cooperation throughout the world for the last two generations."

"That is not so. The Soviet Union is not trying to establish a world hegemony."

"I hope not. Still, if the Soviet Union seeks secrecy, it is understandable that other units of the global alliance would begin to wonder if it seeks conquest."

"The United States has its secrets, has it not?"

"I don't know. The American government does not confide in me. If it does have secrets -- and actually I suppose it does -- I disapprove of that, too. But tell me why there is any necessity for secrets? What does it matter if you develop miniaturization, or we, or both of us in combination -- or the Africans, for that matter? We Americans invented the airplane and the telephone, but you have both. We were the first to reach the moon, but you enjoy your full share of the lunar settlements. You, on the other hand, were the first to crack the problem of fusion power and the first to build a solar power station in space and we participate fully in both."

Boranova said, "All that you say is true. Nevertheless, for over a century, the world has taken it for granted that American technology is superior to Soviet technology. That is a constant irritant to us, and if, in something as basic and as thoroughly revolutionary as miniaturization, it is clearly established that the Soviet Union led the way, then that would be most desirable for us."

"And the global family of science that you appeal to? Are you a member of that or are you merely a Soviet scientist?"

"I am both," said Boranova with a touch of anger. "If it were my decision, then perhaps I would open our discoveries to the world. However, I do not make the decision. My government does and I owe them loyalty. Nor do you Americans make it easy for us to do otherwise. Your constant loud American assumption of superiority drives us into a defensive posture."

"But won't it spoil Soviet pride in their accomplishment to have to call upon an American such as myself to help out?"

"Well, yes, it does sour the milk a bit, but it will at least give the United States a share in the achievement, which we shall acknowledge, Albert. You will be showing yourself a true American patriot and will improve your own reputation if you help us."

Morrison smiled bitterly. "A bribe?"

Boranova shrugged. "If that is how you interpret it, I cannot stop you. But let us talk in a friendly manner and see what will come of it."

"In that case, start by giving me some information. Now that I am forced to believe that miniaturization is possible, can you tell me the basic physics behind it? I am curious."

"You know better than that, Albert. It would be dangerous for you to learn too much. How would we, then, be able to let you go back to your country? -- Besides, although I can operate the miniaturization system, even I don't know the basics. If I did, our government could scarcely risk having me visit the United States."

"You mean we might kidnap you as you kidnapped me. Do you think the United States engages in kidnapping?"

"I am absolutely certain it would when necessity drove sufficiently."

"And who are the people who do know the basics of miniaturization?"

"That also is not something that, in general, it is safe for you to know. However, I can lift the curtain just a bit in this matter. Pyotor Shapirov is one of them."

"Crazy Peter," said Morrison, smiling. "Somehow I'm not surprised."

"You shouldn't be. I am sure you say 'crazy' only as one of your jokes, but it was he who first worked out the basic rationale behind miniaturization. Of course," she added thoughtfully, "it may very well be that that required a certain insanity -- or, at any rate, a certain idiosyncrasy of thought. It is also Shapirov who first suggested a method of achieving miniaturization with a minimum expenditure of energy."

"How? The conversion of deminiaturization into an electromagnetic field?"

Boranova made a face. "I was merely giving you an example. Shapirov's method is far more subtle."

"Can it be explained?"

"Only roughly. Shapirov points out that the two great aspects of the unified theory of the Universe -- the quantum aspect and the relativistic aspect -- each depends on a constant that sets a limit. In quantum theory it is Planck's constant, which is very tiny but not zero. In relativity, it is the speed of light, which is very great but not infinite. Planck's constant sets a lower limit to the size of energy transfer and the speed of light sets an upper limit to the speed of information transmission. Shapirov maintains, furthermore, that the two are related. In other words, if Planck's constant is decreased, the speed of light would increase. If Planck's constant were reduced to zero, then the speed of light would be infinite."

Morrison said at once, "In which case, the Universe would be Newtonian in its properties."

Boranova nodded. "Yes. According to Shapirov, then, the reason for the enormous energy consumption of miniaturization is that the two limits are uncoupled, that Planck's constant is decreased without the speed of light being increased. If the two were coupled, then energy would flow from the speed-of-light limit into the Planck's constant limit during miniaturization and in the other direction during deminiaturization, so that the speed of light would go up as miniaturization proceeded and down again during deminiaturization. The efficiency should be nearly a hundred percent. Very little energy would then be required to miniaturize and re-expansion could take place very quickly."

Morrison said, "Does Shapirov know how miniaturization and deminiaturization can be carried through with the two limits coupled?"

"He said he did."

"Said? Past tense? Does that mean he has changed his mind?"

"Not exactly."

"Then what has he done?"

Boranova hesitated. "Albert," she said almost pleadingly, "do not go too fast. I want you to think. You know that miniaturization works. You know that it is possible, but not practical. You know that it would be a boon for humanity and I have assured you that it is not meant for destructive or warlike use. Once we know that our national precedence is recognized, which we want for psychological reasons I have presented to you quite frankly, I am sure we will share miniaturization with all divisions of the globe."

"Really, Natalya? Would you and your nation trust the United States if the situation were reversed?"

"Trust!" said Boranova and sighed heavily. "It doesn't come naturally to anyone. It is the weakness of humanity that we constantly read the worst into others. Yet trust must begin somewhere or the fragile mood of cooperation we have enjoyed for so long will shatter and we will be back to the twentieth century with all its horrors. Since the United States feels so strongly that it is the stronger and more advanced nation, should it not be the first to risk the act of trusting?"

Morrison spread out his arms. "I can't answer that. I am a private citizen and do not represent my nation."

"As a private citizen you can help us, knowing that you will not be harming your own country."

"I can't possibly know such a thing, since I only have your word for it and I don't believe you represent your nation any more than I represent mine. But all this is irrelevant, Natalya. Even if I wanted to, how on Earth can I help you make miniaturization practical, when I know nothing about the subject?"

"Be patient. In a while we will have lunch. Dezhnev and Kahinin will be through with the deminiaturization of Katinka by then and will join us, together with one other whom you must meet. Then, after lunch, I will take you to see Shapirov."

"I'm not sure about that, Natalya. You told me just a while ago that it would be dangerous for me to meet anyone who really understood miniaturization. I might learn

too much and this might raise problems with my return to the United States. Why, then, should I risk seeing Shapiro?"

Boranova said sadly, "Shapiro is an exception. I promise you that you will understand this when you see him -- and you will also understand why we must turn to you."

"That," said Morrison with all the conviction with which he had lately proclaimed the impossibility of miniaturization, "I will never understand."

20.

Lunch was in a well-lit room, for strips of the walls, together with the entire ceiling, were electroluminescent. Boranova had pointed it out with obvious pride and Morrison had refrained from making invidious comparisons with the United States, where electroluminescence was widespread.

Nor did he express his amusement over the fact that despite the electroluminescence there was a small but ornate chandelier centered in the ceiling. Its bulbs contributed nothing to the light, but it undoubtedly made the room seem less antiseptic.

As Boranova had predicted, a fifth person had joined them and Morrison was introduced to someone named Yuri Konev. "A neurophysicist like yourself, Albert," said Boranova.

Konev, who was darkly handsome and who seemed to be in his middle thirties, had an air of almost gawky youth about himself. He shook hands with wary curiosity and said, "I am most pleased to meet you," in creditable English, spoken with a distinct American accent.

"You have been in the United States, I imagine," said Morrison, also in English.

"I spent two years doing graduate work at Harvard University. It gave me a splendid opportunity to practice my English."

"Nevertheless," said Boranova in Russian, "Dr. Albert Morrison does very well in our language, Yuri, and we must give him a chance to practice it here in our country."

"Of course," said Konev in Russian.

Morrison had, indeed, almost forgotten that he was underground. There were no windows in the room, but that was common enough in large office buildings even aboveground.

The meal was not an ebullient one. Arkady Dezhnev ate with silent concentration and Sophia Kahinin seemed abstracted. She glanced occasionally at Morrison, but ignored Konev completely. Boranova watched everyone, but said very little. She seemed content to leave the floor to Konev.

Konev said, "Dr. Morrison, I must tell you that I have followed your work carefully."

Morrison, who had been eating the thick cabbage soup appreciatively, looked up with a quick smile. This was the first reference to his work, rather than to their work, since he had arrived in the Soviet Union.

"Thank you for your interest, but Natalya and Arkady call me Albert and I will have difficulty in responding to different names. Let us all be on a first-name basis for the brief time that remains before I am returned to my own land."

"Help us," said Boranova in a low voice, "and it will indeed be a brief time."

"No conditions," said Morrison in an equally low tone. "I wish to leave."

Konev raised his voice, as though to force the conversation back into the track he had chosen. "But I must admit, Albert, that I have been unable to duplicate your observations."

Morrison's lips tightened. "I have had this complaint from neurophysicists in the United States."

"Now, why should this be? Academician Shapirov is greatly intrigued by your theories and maintains that you are probably correct, at least in part."

"Ah, but Shapirov isn't a neurophysicist, is he?"

"No, he's not, but he has an extraordinary feel for what is correct. I have never known him to say, 'It seems to me that this must be right,' in which whatever he is discussing hasn't proved to be right -- at least in part. He says you are probably on the road to establishing an interesting relay station."

"A relay station? I don't know what he means by that."

"It's what he said once in my hearing. Some private thought of his own, no doubt." He cast a penetrating glance at Morrison, as though waiting for an explanation of the remark.

Morrison simply shrugged it away. "What I have done," he said, "is to establish a new kind of analysis of the cephalic waves originating in the brain and to have narrowed the search for a specific network within the brain devoted to creative thought."

"There you may be a little overoptimistic, Albert. I have not satisfied myself that this network of yours really exists."

"My results mark it out quite clearly."

"In dogs and monkeys. It is uncertain how far we can extrapolate such information to the much more complex structure of the human brain."

"I admit I haven't worked with the human brain anatomically, but I have analyzed human brain waves carefully and those results are at least consistent with my creative structure hypothesis."

"This is what I haven't been able to duplicate and what American researchers may not have been able to duplicate, either."

Again Morrison shrugged. "Adequate brain wave analysis is, at best, a monumentally difficult thing at the quinary level and no one else has given the years to the problem that I have."

"Or possesses the particular computerized equipment. You have designed your own program for the purpose of brain wave analysis, haven't you?"

"Yes, I have."

"And described it in the literature?"

"Certainly. If I achieved results with an undescribed program, they would be worth nothing. Who could confirm my results, lacking an equivalent computer program?"

"Yet I have heard, at the International Neurophysical Conference in Brussels last year, that you are continually modifying your program and complaining that the lack of confirmation stems from the use of insufficiently complex programming incapable of Fourier analysis to the proper degree of sensitivity."

"No, Yuri, that is false. Entirely false. I have modified my program from time to time, but I have carefully described each modification in Computer Technology. I have tried to publish the data in The American Journal of Neurophysics, but they haven't accepted my papers these last few years. If others confine their reading to the AJN and don't keep up with relevant literature elsewhere, that is not my fault."

"And yet --" Konev paused and frowned in what seemed to be uncertain thought. "I don't know if I ought to say this because it may be something else that will antagonize you."

"Go ahead. I have, in these last few years, learned to accept all kinds of remarks-- hostile, sarcastic, and -- worst of all -- pitying. I am quite hardened to it. -- This is good chicken Kiev, by the way."

"This is a guest meal," murmured Kahinin, almost under her breath. "Too buttery -- bad for the figure."

"Hah," said Dezhnev loudly. "Bad for the figure. That is an American remark that makes no sense in Russian. My father always said, 'The body knows what it needs. That's why some things taste good.'"

Kahinin closed her eyes in quite obvious distaste. "A recipe for suicide," she said.

Morrison noticed that Konev did not look at the young woman during this bit of byplay. Not at all.

He said, "You were saying, Yuri? About something that might antagonize me, you thought?"

Konev said, "Well, then, is it true, Albert, or not true that you actually gave your program to a colleague and that, using it in your computer, he was still unable to duplicate your results?"

"That's true," said Morrison. "At least my colleague, an able enough man, said he could not duplicate my results."

"Do you suspect he was lying?"

"No. Not really. It's just that the observations are so delicate that to attempt them while certain of failure may well lead, it seems to me, to failure."

"Might one not argue the other way around, Albert, and say that your certainty of success leads you to imagine success?"

"Possibly," said Morrison. "That has been pointed out to me several times in the past. But I don't think so."

"One more rumor," said Konev. "This I truly hate to repeat, but it seems so important. Is it true that you have claimed that in your analysis of brain waves you have occasionally sensed actual thoughts?"

Morrison shook his head vigorously. "I have never made such a claim in print. I have said to a colleague, once or twice, that in concentrating on the brain wave analysis there are occasionally times when I seem to find thoughts invading my mind. I have no way of telling whether the thoughts are entirely mine or whether my own brain waves resonate to those of the subject."

"Is such a resonance conceivable?"

"I suppose so. The brain waves produce tiny fluctuating electromagnetic fields."

"Ah! It is this, I suppose, that made Academician Shapirov make that remark about a relay station. Brain waves are always producing fluctuating electromagnetic fields -- with or without analysis. You don't resonate -- if resonance is what it is -- to the thoughts of someone in your presence, no matter how intensely he may be thinking. The resonance takes place only when you are busily studying the brain waves with your programmed computer. It presumably acts as a relay station, magnifying or intensifying the brain waves of the subject and projecting them into your mind."

"I have no evidence for that except for an occasional fugitive impression. That's not enough."

"It might be. The human brain is far more complex than any other equivalent piece of matter we know of."

"What about dolphins?" said Dezhnev, his mouth full.

"An exploded view," said Konev at once. "They're intelligent, but their brains are devoted too entirely to the minutiae of swimming to allow enough room for abstract thought on the human scale."

"I have never studied dolphins," said Morrison indifferently.

"Ignore the dolphins," said Konev impatiently. "Just concentrate on the fact that your computer, properly programmed, may act as a relay station, passing thoughts from the mind of the subject you are studying to your own mind. If that is so, Albert, we need you and no other person in the world."

Morrison said, frowning and pushing his chair away from the table, "Even if I can pick up thoughts by way of my computer -- a claim I have never made and which, in fact, I deny -- what can that possibly have to do with miniaturization?"

Boranova rose and looked at her watch. "It is time," she said. "Let us go and see Shapirov now."

Morrison said, "What he says will make no difference to me."

"You will find," said Boranova with a hint of steel in her voice, "that he will say nothing -- but will be utterly convincing just the same."

Morrison had kept his temper well so far. The Soviets were, after all, treating him as a guest and if he could overlook the small matter of his being carried off by force, he had little of which to complain.

But what were they getting at? One by one, Boranova had introduced him to others -- first Dezhnev, then Kahinin, then Konev -- for reasons he had not penetrated. Over and over, Boranova had hinted of his usefulness without actually saying what it might be. Now Konev talked of it and was equally uncommunicative.

And now they were to see Shapirov. Clearly this had to be a climax of sorts. From the first mention of him by Boranova at the convention two days ago, Shapirov had seemed to hover over the whole matter like a thickening fog. It was he who had worked out the miniaturization process, he who seemed to detect a connection between Planck's constant and the speed of light, he who seemed to value Morrison's neurophysical theories, and he who made the remark about the computer as relay station that had apparently set off Konev's conviction that Morrison -- and only Morrison -- could help them.

It remained for Morrison, now, to resist any blandishments or arguments that Shapirov could present. If Morrison insisted that he would not help them, what would they do when all the blandishments and arguments had failed?

Crude threat of force -- or torture?

Brainwashing?

Morrison quailed. He dared not put his refusal on the basis that he would not. He would have to persuade them that he could not. Surely that was a reasonable position on which to take his stand. What could neurophysics -- and a dubious, unaccepted bit of neurophysical work at that -- have to do with miniaturization?

But why didn't they see that for themselves? Why did they all act as though it were conceivable that a person like himself, who had never as much as thought of miniaturization until some forty-eight hours before, could do something for them -- them, the only experts in the field -- that they could not do for themselves?

It was a rather lengthy walk along corridors and, lost in his own uncomfortable thoughts, Morrison did not notice that they were fewer in number than he had thought.

He said to Boranova suddenly, "Where are the others?"

She said, "They have work to do. We do not have forever to do what we must, you know."

Morrison shook his head. Chatty, they were not. None of them seemed to scatter information. Always close-lipped. A long-standing Soviet habit, perhaps -- or something that was ground into them through their work on a secret project in which even the scientists dared not step outside the narrow limits of their immediate work.

Were they coming to him as a storybook American generalist? Nothing he had ever done, surely, would give anyone that impression. As a matter of fact, he was himself

a narrow specialist, knowing virtually nothing outside of neurophysics. -- This was a worsening disease of modern science, he thought.

They had entered another elevator, something he had scarcely bothered to notice, and they were now on another level. He looked around him and recognized characteristics that seemed to transcend national differences.

"Are we in a medical wing?" he asked.

"A hospital," said Boranova. "The Grotto is a self-contained scientific complex."

"And why are we here? Am I --" He stopped suddenly, as the horror of the thought smote him. Was he to be drugged or, by some other medical means, made more compliant?

Boranova had walked on for a moment, then stopped, looked back, and came toward him, saying snappishly, "Now what is frightening you?"

Morrison felt ashamed. Were his facial expressions that transparent? "Nothing is frightening me," he grumbled. "I am simply tired of walking aimlessly."

"What makes you think we are walking aimlessly? I said we were going to see Pyotor Shapirov. We are walking toward him now. -- Come, we have only a few steps left."

They turned a corner and Boranova beckoned him to a window.

He stepped to her side and looked in. It was a room and there were a number of people present. There were four beds, but only one was occupied and it was surrounded by equipment that he did not recognize. There were tubes and glassware extending toward the bed and Morrison counted a dozen functionaries, who might be doctors, nurses, or medical technicians.

Boranova said, "There is Academician Shapirov."

"Which one?" said Morrison, his eyes traveling from one of the figures to the other and finding no one who seemed similar in appearance to the scientist he recalled having met once.

"In the bed."

"In the bed? He's ill, then?"

"Worse than ill. He is in a coma. He has been in a coma for over a month and we strongly suspect it is an irreversible state."

"I'm terribly sorry to hear that. I presume that is why you referred to him in the past tense before lunch."

"Yes, the Shapirov we know is in the past tense, unless --"

"Unless he recovers? But you just said the coma is probably irreversible."

"That's true. But neither is he brain-dead. The brain is damaged certainly or he wouldn't be in a coma, but it is not dead and Konev, who has followed your work closely, thinks that some of his thinking network is still intact."

"Ah," said Morrison, the light breaking. "I begin to understand. Why didn't you explain this to begin with? If you had wanted to consult me on such a matter and had explained, I might have been willing to come here with you voluntarily. Yet, on the other

hand, if I were to study his cerebral functioning and tell you, 'Yes, Yuri Konev is right,' then what good will that do you?"

"That will do us no good at all. You don't yet begin to understand, you see, and I can't explain exactly what it is I want until you understand the problem. Do you quite realize what is buried there in the still-living portions of Shapirov's brain?"

"His thoughts, I suppose."

"Specifically, his thoughts of the interconnection of Planck's constant and the speed of light. His thoughts of a method for making miniaturization and deminiaturization rapid, low-energy, and practical. With those thoughts, we give humanity a technique that will revolutionize science and technology -- and society -- more than anything since the invention of the transistor. Perhaps more than anything since the discovery of fire. Who can tell?"

"Are you sure you're not being overdramatic?"

"No, Albert. Does it occur to you that if miniaturization can be tied in with a vast acceleration of the speed of light, a spaceship, if sufficiently miniaturized, can be sent to anywhere in the Universe at many times the ordinary speed of light. We won't need faster-than-light travel. Light will travel fast enough for us. And we won't need antigravity, for a miniaturized ship will have close to zero mass."

"I can't believe all that."

"You couldn't believe miniaturization."

"I don't mean I can't believe the results of miniaturization. I mean I can't believe that the solution of the problem is permanently locked in the brain of one man. Others will eventually think of it. If not now, then next year or next decade."

"It's easy to wait when you are not concerned, Albert. The trouble is we're not going to have a next decade or even a next year. This Grotto which you see all about you has cost the Soviet Union as much as a minor war. Each time we miniaturize anything -- even if it's just Katinka -- we consume enough energy to last a sizable town for a whole day. Already, our government leaders look askance at this expense and many scientists, who do not understand the importance of miniaturization or who are simply selfish, complain that all of Soviet science is being starved for the sake of the Grotto. If we do not come up with a device to save on energy -- an extreme saving, too -- this place will be shut down."

"Nevertheless, Natalya, if you publish what is now known of miniaturization and make it available to the Global Association for the Advancement of Science, then innumerable scientists will put their minds to it and quickly enough someone will devise a method for coupling Planck's constant and the speed of light."

"Yes," said Boranova, "and perhaps the scientist who will obtain the key of low-energy miniaturization will be an American or a Frenchman or a Nigerian or a Uruguayan. It is a Soviet scientist who has it now and we don't want to lose the credit."

Morrison said, "You forget the global fellowship of science. Don't cut it up into segments."

"You would speak differently if it were an American who was on the edge of the discovery and you were asked to do something that might possibly give the credit to one of us. Do you remember the history of the American reaction when the Soviet Union was the first to put an artificial satellite into orbit?"

"Surely we have advanced since then."

"Yes, we have advanced a kilometer, but we have not advanced ten kilometers. The world is not yet entirely global in its thinking. There remains national pride to a considerable extent."

"So much the worse for the world. Still, if we are not global and if national pride is something we are expected to retain, then I should have mine. As an American, why should I be disturbed over a Soviet scientist losing credit for the discovery?"

"I ask you only to understand the importance of this to us. I ask you to put yourself in our place for a moment and see if you can grasp our desperation to do what we can to find out what it is that Shapirov knows."

Morrison said, "All right, Natalya. I understand. I don't approve, but I understand. Now -- listen carefully, please -- now that I understand, what is it you want of me?"

"We want you," said Boranova intensely, "to help us find out what Shapirov's thoughts -- his still-living and existing thoughts -- are."

"How? There's nothing in my theory that makes that possible. Even granting that thinking networks do exist, and that brain waves can be minutely analyzed, and even granting that I occasionally get a mental image, possibly imaginary, possibly an artifact -- there remains no way in which the brain waves can be studied to the extent of interpreting them in terms of actual thoughts."

"Not even if you could analyze, in detail, the brain waves of a single nerve cell that was part of a thinking network?"

"I couldn't deal with a single nerve cell in anything approaching the necessary kind of detail."

"You forget. You can be miniaturized and be inside that single nerve cell."

And Morrison stared at her in sick horror. She had mentioned something like this at their first meeting, but he had put it aside as nonsense -- horrifying, but nonsense, since miniaturization, he was certain, was impossible. But miniaturization was not impossible and now the horror was undiluted and paralyzing.

22.

Morrison did not then, nor could he at any time afterward, clearly recall the events that immediately followed. It was not a case of everything going black as much as everything having blurred.

His next clear memory was that of lying on a couch in a small office with Boranova looking down at him and with the other three -- Dezhnev, Kahinin, and Konev -- behind her. Those three came into focus more slowly.

He tried to struggle into a sitting position, but Konev moved toward him and placed his hand on Morrison's shoulder. "Please, Albert, rest awhile. Gather your strength."

Morrison looked from one to another in confusion. He had been upset, but he did not clearly remember what he had been upset about.

"What happened? How -- how did I get here?" He looked around the room again. No, he hadn't been here. He had been looking through a window at a man in a hospital bed.

He said, puzzled, "Did I faint?"

"Not really," said Boranova, "but you weren't quite yourself for a while. You seemed to undergo a shock."

Now Morrison remembered. Again he tried to lift himself into a sitting position, more strenuously this time. He struck Konev's restraining hand out of the way. He was sitting up now, with his hands on the couch on either side of him.

"I remember now. You wanted me to be miniaturized. What happened to me when you said that?"

"You simply swayed and -- crumpled. I had you placed on a stretcher and brought here. It didn't seem to anyone that you needed medication, merely a chance to rest and recover."

"No medication?" Morrison looked vaguely at his arms, as though he expected to see needle marks through the sleeve of his cotton blouse.

"None. I assure you."

"I didn't say anything before I collapsed?"

"Not a word."

"Then let me answer you now. I'm not going to be miniaturized. Is that clear?"

"It is clear that you say so."

Dezhnev sat down on the couch next to Morrison. He had a full bottle in one hand and an empty glass in the other.

"You need this," he said and half-filled the glass.

"What is it?" asked Morrison, lifting his arm to ward it off.

"Vodka," said Dezhnev. "It's not medicinal, it's nourishing."

"I don't drink."

"There is a time for everything, my dear Albert. This is a time for a warming bit of vodka, even for those who do not drink."

"I don't drink out of disapproval. I can't drink. I have no head for alcohol, that's all. If I take two swallows of that, I will be drunk within five minutes. Completely drunk."

Dezhnev's eyebrows went up. "So? What other purpose is there in drinking? Come, if you are lucky enough to win your goal in a few inexpensive sips, thank whatever you find thankable. A very small amount will warm you, stimulate your peripheral circulation, clear your head, concentrate your thoughts. It will even give you courage."

Kahinin's voice sounded in half a whisper, but was distinctly audible. "Do not expect miracles of a little alcohol."

Morrison's head twisted sharply and he looked at her. She did not seem as pretty as he had thought her on their first meeting. There was a hard and unforgiving look about her.

Morrison said, "I have never represented myself as a courageous man. I have never presented myself as anything that would be of help to you. I have maintained from the beginning that I could not do anything for you. That I am here at all is the result of compulsion, as you all know. What do I owe you? What do I owe any of you?"

Boranova said, "Albert, you are shivering. Take a sip of the vodka. You will not be drunk on a sip and we won't force more on you."

Almost as though to show bravery in a small way, Morrison, after a moment's hesitation, took the glass from Dezhnev's hand and swallowed a bit of the liquor recklessly. He felt a burning sensation in his throat, which passed. The taste was rather sweetish than otherwise. He took a larger sip and handed the glass back. Dezhnev took it and placed it and the bottle on a small table on his side of the couch.

Morrison tried to speak, but he coughed instead. He waited, cleared his throat, and said breathily, "Actually, that's not so bad. If you don't mind, Arkady --"

Dezhnev reached for the glass, but Boranova said, "No. That's enough, Albert." Her imperious gesture stopped Dezhnev. "We do not want you drunk, Albert. Just a little warm so you will listen to us."

Morrison could feel the warmth rising within him, as it always had when, on rare occasions of social bonhomie, he had had some sherry or (once) a dry martini. He decided he could handle any argument she could produce.

"All right," he said, "say on," and set his lips into a firm and unyielding line.

"I don't say, Albert, you owe us anything and I'm sorry that all this came as such a shock to you. We are aware that you are not a reckless man of action and we tried to break it to you as gently as possible. I had hoped, in fact, that you would see what was essential on your own, without any necessity of explanation."

"You were wrong," said Morrison. "At no time would such a mad thing have occurred to me."

"You see our necessity, don't you?"

"I see your necessity. I don't see it as mine."

"You might feel you owe it to the cause of global science."

"Global science is an abstraction that I admire, but I am not likely to want to sacrifice my highly concrete body for an abstraction that doesn't seem to exist. The whole point of your necessity is that it is Soviet science that is at stake, not global science."

"Then consider American science," said Boranova, "If you help us, that will become an eternal part of the victory. It will become a joint Soviet-American victory."

"Will my part be publicized?" demanded Morrison. "Or will the thing be announced as purely Soviet?"

Boranova said, "You have my word."

"You cannot commit the Soviet Government."

"Horrible," said Kahinin. "He judges our government by his own."

Konev said, "Wait, Natalya. Let me talk to our American friend, man to man." He sat down by Morrison and said, "Albert, I appeal to your interest in your work. So far, you have achieved little in the way of results. You have convinced no one in your country and you don't have any chance of doing so as long as you are left with only the tools you have. We offer you a better tool, one whose worth you couldn't dream of three days ago and one which you'll never have again if you turn away from it now. Albert, you have the chance to graduate from romantic speculations to convincing evidence. Do this for us and you will become, at a bound, the most famous neurophysicist in the world."

Morrison said, "You're asking me to risk my life on an untried technique."

"That is not unprecedented. All through history, scientists have risked death to continue their investigations. They have gone up in balloons and have dipped under the seas in primitive armored spheres to make their measurements and observations. Chemists have risked dealing with poisons and explosives, biologists with pathogens of all types. Physicians have injected themselves with experimental sera and physicists, in attempting to establish a self-supporting nuclear reaction, knew well that the explosion that resulted might destroy them or, conceivably, the entire planet."

Morrison said, "You spin dreams. You would never let it be known that an American played a role. Not when you confess your desperation at the possibility that Soviet science would lose the credit."

Konev said, "Let's be honest with each other, Albert. We couldn't hide your share in this, even if we wished to. The American government knows we brought you here. We know they do. You know they do. They made no move to stop us because they want you here. Well, they will know -- or at least guess -- what we wanted you here for and what you did for us, once we announce our success. And they will see to it that American science, in your person, will get full credit."

Morrison sat silently, head bent, for a while. There was a flushed spot, high on each cheek, as a result of the vodka he had drunk. Without looking, he knew that four pairs of eyes were firmly fixed upon him and he suspected that four breaths were being held.

He looked up and said, "Let me ask you one question. How did Shapirov come to be in a coma?"

There was again a silence and three of the pairs of staring eyes shifted to Natalya Boranova.

Morrison, seeing that, also stared at her. "Well?" he said.

Boranova said, "Albert, I will tell you the truth, even if that would tend to defeat our aims. If we try to lie to you, you will be right not to believe anything we say. If you see we are truthful, then you can believe us in the future. Albert, Academician Shapirov is in a coma because he was miniaturized, as we hope you will be. There was a small accident during deminiaturizing that destroyed part of his brain, apparently permanently. That can happen, you see, and we are not hiding it from you. Now give us the credit for utter frankness and say you will help us."

6. DECISION

We are always certain that the decision we have just made is wrong.

Dezhnev Senior

23.

Now, finally, Morrison rose, feeling a trifle unsteady on his feet -- whether from the vodka, from the general tension of the day, or from this last revelation he did not know or care. He stamped his feet a little, as though to firm them, then deliberately walked the length of the small room and back.

He faced Boranova and said in a harsh voice, "You can miniaturize a rabbit and nothing seems to happen to it. Did it occur to you that the human brain is the most complex bit of matter we know and that, whatever else might survive, the human brain might not?"

"It did," said Boranova stolidly, "but all our investigations have shown us that miniaturization does not in the least affect the interrelationships within the object being miniaturized. In theory, even the human brain would not be affected by miniaturization."

"In theory!" said Morrison with contempt. "How is it possible that, based on theory alone, you would experiment with Shapirov, whose brain you seem to value so highly? And having failed with him, to your enormous loss, how can you be so mad as to propose experimenting with me to recover that loss? You'll simply fail with me, too, and I cannot accept that."

Dezhnev said, "Don't speak nonsense. We are not mad. Nothing we did was lightly undertaken. The fault was Shapirov's."

Boranova said, "In a way, it was. Shapirov had his eccentric ways. 'Crazy Peter' I believe you call him in English and that is perhaps not so far off. He was intent on having the miniaturization experience. He was getting old, he said, and he would not, like Moses, reach the Promised Land without entering it."

"He might have been forbidden to do so."

"By me? I would forbid Shapirov? You can't be serious."

"Not you. Your government. If the miniaturization process is so precious to the Soviet Union --"

"Shapirov threatened to abandon the project altogether if he did not have his way and that could not be risked. Nor is our government quite so high-handed as it once was in its pressures on troublesome scientists. It must take world opinion into greater account now, as your government must. It is the price of global cooperation. Whether that is for

the better or for the worse, I cannot say. In any case, Shapirov was eventually miniaturized."

Morrison muttered, "Absolutely mad."

"No," said Boranova, "for we did not move without precautions. Despite the fact that every exercise in miniaturization is costly and sends shivers through the Central Coordinating Committee, we insisted on a careful approach. Twice we miniaturized chimpanzees and twice we brought them back and could detect no changes in them -- either as a result of minute studies of their behavior or by magnetic resonance imaging of the brain."

"A chimpanzee is not a human being," said Morrison.

"Something we were aware of," said Boranova gravely. "Therefore, we miniaturized a human being next. A volunteer. Yuri Konev, to be precise."

Konev said, "It had to be me. It was I who felt most strongly that the human brain would not be affected. I am the neurophysicist of the project and it was I who made the necessary calculations. I would not ask another human being to risk his sanity on my calculations and my certainty. Life is one thing -- we all lose it sooner or later. Sanity is quite another."

"So brave," whispered Kahinin, looking at her fingertips, "the deed of a true Soviet hero." Her lip trembled, as though on the brink of a sneer.

Looking firmly at Morrison, Konev said, "I am a loyal Soviet citizen, but I did not do it for nationalist motives. They would be, in this case, irrelevant. I did it as a matter of decency and of scientific ethics. I had confidence in my analysis and of what worth was my confidence if I would not risk myself on it? And it is a matter of something else, too. When the history of miniaturization is recorded, I will be listed as the first human being ever to have been subjected to the process. That will eclipse the deeds of a great-grand-uncle of mine who was a general fighting the German Nazis in the Great Patriotic War. And I would be pleased with that, not out of vainglory but out of a belief that the conquests of peace should always be held superior to victories in war."

Boranova said, "Well, putting ideals to one side and passing on to the facts. Yuri was miniaturized twice. First, he was taken down to about half his height and was restored in perfect order. Then he was miniaturized to the size of a mouse and again was restored in perfect order."

Morrison said, "And then Shapirov?"

"And then Shapirov. He was by no means easy to control even this far. He argued vociferously for the chance to be the first person miniaturized. After Konev's first venture into the small, it was all we could do to persuade him to wait for a second and more drastic attempt. After that we could control him no more. Not only were we forced to miniaturize him, but he swore that he would abandon the project and somehow make his way out of the country to begin a miniaturization project elsewhere if we did not miniaturize him to a greater extent than we had Konev. We had no choice. If 'Crazy Peter,' as you call him, were mad enough to speak of emigrating, that would go beyond what

the government would be willing to allow even in these days. We didn't want him in prison, so we miniaturized him to the size of a cell."

"And that passed the limits of safety, did it?"

"No. We have every reason to think he was in perfect order, even miniaturized so far. He was being brought back and then at one point in the deminiaturization there was a misadventure. Deminiaturization took place a trifle too quickly and the temperature rose slightly in Shapirov's body. It had the effect of a high fever -- not enough to kill him, but enough to damage his brain permanently. It might have been reversed if we could have attended to him at once, but deminiaturization had to be completed and that took time. It was an appalling catastrophe and all that we can hope for is the chance to salvage what we need from what is left of his brain."

"There may be another misadventure, as you call it, if I were to be miniaturized. Isn't that so?"

"Yes," said Boranova, "that is so. I don't deny it. There have been failures and misadventures throughout the history of science. Surely you need no reminder that there were deaths of cosmonauts in space both on the American and Soviet sides. That did not prevent our present settlement of the moon -- and of space itself -- as a new home for humanity."

"That may be so, but all advances in space were made by volunteers. No one was launched into space against his will. And I am not volunteering."

Boranova said, "You need not be so frightened of it. We have done our best to make it as safe as possible and, by the way, you will not go alone. Konev and Shapirov did go alone and as bare as the rabbit, for they, like the rabbit, were in a miniaturization field that was encased in air. You, on the other hand, will be in a ship, a kind of modified submarine. It, too, has been miniaturized and deminiaturized without harm. It is a little less expensive to carry through the process with an inanimate object because it can stand a rise in temperature more easily. In fact, such a rise serves to test for the ruggedness and stability of all its components."

"I am not going, Natalya, either alone or with the Red Army."

Boranova ignored the remark. "With you on the ship," she said, "will be we four. Myself, Sophia, Yuri, and Arkady. That is why I have introduced each of them to you. We are all partners in this greatest of all exploring trips. We will not be crossing an ocean or penetrating the vacuum of space. We will instead enter a microscopic ocean and penetrate the human brain. Can you be a scientist -- a neurophysicist -- and resist that?"

"Yes. I can resist that. And easily. I will not go."

Boranova said, "We have your software, your program. You always carry it with you and you had it with you when you were brought here. We will have a computer on board the ship for you, one that is the exact model of the one you use in your laboratory. It should not be a long trip. We will all be miniaturized, taking our chances along with you. You will take your computer readings and record the sensations you receive and then we will all be deminiaturized and your part will be done with. Say that you will join us. Say you will do it."

And Morrison, fists clenched, said stubbornly, "I will not join you. I will not do it."

Boranova said, "I am so sorry, Albert, but that is the wrong answer. We will not accept it."

24.

Morrison felt his heart racing again. If this was going to be a straightforward contest of wills, he was not sure he was up to coping with this woman who, despite all her apparent softness, seemed made of alloy steel. Moreover, she had behind her the full apparatus of the Soviet Union and he himself was alone.

He said desperately, "Surely you know this whole thing is a trumped-up romantic notion. How do you know there is any connection between Planck's constant and the speed of light? All you have is some statement by Shapirov. Isn't that correct? Did he give you any details? Any evidence? Any explanations? Any mathematical analysis? -- It was nothing more than a statement -- an imaginative speculation -- wasn't it?"

Morrison tried to sound confident. After all, if Shapirov had given them anything substantive, they would not now be trying the desperate trick of rifling his brain for something useful. He held his breath, waiting for the response.

Boranova looked at Konev then said, with a shade of reluctance, "We will continue our policy of telling the flat and unadorned truth. We have nothing but some remarks Shapirov made, as you've guessed. He enjoyed keeping things to himself until he could spring them on us fully dressed, so to speak. He was more than a little childish in this respect. Perhaps that was an aspect of his eccentricity -- or of his genius -- or of both."

"But how can you tell, under those circumstances, that such an unsupported speculation would have any validity whatever?"

"When Academician Pyotor Shapirov said, 'I feel it will be thus and so,' that is how it turned out to be."

"Come on. Always?"

"Almost always."

"Almost always. He could have been wrong this time."

"I admit that. He could have been."

"Or if he had some notion which would really prove of use, it might have been localized in the part of the brain which has been destroyed."

"That is conceivable."

"Or if the notion is useful and is still in the intact portion of the brain, I might not be able to interpret the brain waves properly."

"That may well be."

"Putting it all together: Shapirov's suggestion may be wrong and, even if it isn't, it might be out of reach or, even if it isn't, I might not be able to interpret it. Considering that, what are the chances of success? And can't you see that we will be putting our lives into danger for something we will almost certainly fail to get?"

"Considering the matter objectively," said Boranova, "it would seem the chances are very small. However, if we do not hazard our lives, the chances of obtaining anything at all are zero -- flat zero. If we do risk our lives, the chances of success are very small, admittedly, but they are not zero. Under the circumstances, we must take the risk, even though the best we can say for our chances of success are that they are not zero."

"For me," said Morrison, "the risk is too great and the chances of success are too small."

Boranova placed one hand on Morrison's shoulder and said, "Surely that is not your final decision."

"Surely it is."

"Think about it. Think about the value to the Soviet Union. Think about the benefits to your own country that will result from your acknowledged participation, to the needs of global science, to your own fame and reputation. All this is in favor of doing it. Against it are your personal fears. These are understandable, but all achievement in life requires the overcoming of fear."

"Thinking about it won't change my mind."

"Think about it until tomorrow morning, anyway. That's fifteen hours and it's all we can spare you. After all, balancing fears against hopes can keep one irresolute for a lifetime and we don't have a lifetime. Poor Shapirov might linger on in coma for a decade, but we don't know how long what is left of his brain will retain his ideas and we dare not wait very long at all."

"I can not and will not concern myself with your problems."

Boranova seemed to hear none of his denials and refusals. She said in her unfailingly gentle voice, "We will not attempt to persuade you further right now. You may have a leisurely dinner. You may watch our holovision programs if you wish, view our books, think, sleep. Arkady will accompany you back to the hotel and if you have any more questions, you need only ask him."

Morrison nodded.

"And, Albert, remember, tomorrow morning you must give us your decision."

"Take it now. It will not change."

"No. The decision must be that you will join us and help us. See to it that you come to that decision -- for come to it you must -- and it will be easier for all of us if you do so gladly and voluntarily."

25.

It proved to be a quiet and thoughtful dinner for Morrison and not a very filling one -- for he found he could only pick at his food. Dezhnev seemed quite unaffected by the other's lack of appetite and reaction. He ate vigorously and spoke incessantly, drawing on what was apparently a large stock of funny stories -- in all of which his father played a key role -- and was clearly delighted to try them out on a new audience.

Morrison smiled faintly at one or two, more because he recognized from the other's raised voice that a punch line had been advanced than because he heard them with any interest at all.

Valeri Paleron, the waitress who had served them at breakfast, was still there at dinner. A long day -- but either that was reflected in her wages or it was required by her extracurricular duties. Either way, she glowered at Dezhnev each time she approached the table, perhaps (Morrison thought distantly) because she disapproved of his stories, which tended to be disrespectful of the Soviet regime.

Morrison did not particularly enjoy his own thoughts. Now that he was considering the distant possibility of getting away from the Grotto -- from Malenkigrad -- from the Soviet Union -- he was beginning to feel a perverse disappointment at what he might be missing. He found himself daydreaming just a little on the matter of miniaturization, of using it to prove the worth of his theories, of triumphing over the smug fools who had dismissed him out of hand.

He recognized the fact that, of all the arguments presented by Boranova, only the personal one had shaken him. Any reference to the greater good of science, or of humanity, or of this nation or that was just idle rhetoric. His own place in science was something more. That seethed within him.

When the serving woman passed near the table, he stirred himself to say, "How long must you stay on, waitress?"

She looked at him without favor. "Until you two grand dukes can bring yourselves to stir out of here."

"There's no rush," said Dezhnev as he emptied his glass. His speech was already slurred and his face was flushed. "I am so fond of the comrade waitress, I could stay on for as long as the Volga flows, that I might gaze on her face."

"As long as I don't have to gaze at yours," muttered Paleron.

Morrison filled Dezhnev's glass and said, "What do you think of Madame Boranova?"

Dezhnev gazed at the glass owlshly and did not offer to lift it immediately. He said with an attempt at gravity, "Not a first-class scientist, I am told, but an excellent administrator. Keen, makes up her mind quickly, and absolutely incorr-corruptible. A pain in the neck, I should think. If an administrator is incorr-- too infernally honest, it makes life hard in so many little ways. She is a worshipper of Shapirov, too, and she thinks him incorr-- no, incompre-- no, incontrovertible. That's it."

Morrison was not sure of the Russian word. "You mean she thinks he's always right."

"Exactly. If he hints that he knows how to make miniaturization cheap, she's sure he can. Yuri Konev is sure of it, too. He's another of the worshippers. But it's Bora-- Boranova who'll send you into Shapirov's brain. One way or another, she'll send you there. She has her ways. -- As for Yuri, that little shaver, he's the real scientist of the group. Very brilliant." Dezhnev nodded solemnly and sipped at his refilled drink gently.

"I'm interested in Yuri Konev," said Morrison, his eyes following the lifting of the glass, "and in the young woman, Sophia Kahinin."

Dezhnev leered. "A fine young piece." Then sadly, shaking his head, "But she has no sense of humor."

"She's married, I take it."

Dezhnev shook his head more violently than the occasion seemed to require.

"No."

"She said she had had a baby."

"Yes, a little girl, but it isn't the signing of the marriage book that makes one pregnant. It's the game of bed -- married or not."

"Does the puritanical Soviet Government approve of this?"

"No, but its approval was never asked, I think." He burst into laughter.

"Besides, as a scientist at Malenkigrad, she has her special dispen-pensations. The government looks the other way."

"It strikes me," said Morrison, "that Sophia is much interested in Yuri Konev."

"You see that, do you? It takes little shrewdness. She is so interested that she has made it quite clear that her child was the result of Yuri's collaboration in that little game I spoke of."

"Oh?"

"But he denies it. And very vigorously, too. I think it is rather humorous, in a bitter way, that he remains compelled to work with her. Neither one can be spared from the project and all he can do is pretend she doesn't exist."

"I noticed that he never looks at her, but they must have been friendly once."

"Very friendly -- if she is to be believed. If so, they were very discreet about it. But what's the difference? She doesn't need him to support the child. Her salary is a large one and the day-care center takes loving care of her daughter when she is at work. It is just a matter of emotion with her."

"What split them up, I wonder?"

"Who knows? Lovers take their disputes so seriously. I myself have never let myself fall in love -- not poetically. If I like a girl, I play with her. If I get tired, I move on. It is my good fortune that the women I engage are as prag-pragmatic -- isn't that a good word? -- as I am and make little fuss. As my father used to say, 'A woman who doesn't fuss has no faults.' Sometimes, to be truthful, they grow tired before I do, but even then, so what? A girl who is tired of me is not much good to me and, after all, there are others."

"I suppose Yuri is much like that, too, isn't he?"

Dezhnev had emptied his glass again and he held out his hand when Morrison made a move to refill it. "Enough! Enough!"

"Never enough," said Morrison calmly. "You were telling me about Yuri."

"What is there to tell? Yuri is not a man to fly from woman to woman, but I have heard --" He stared blearily at Morrison. "You know how one hears -- one tells another who tells another and who is to know whether what comes out of the funnel is anything like what went in. But I have heard that when Yuri was in the United States, being

educated Western-style, he met an American girl. In went La Belle Americaine, they say, and out went poor little Soviet Sophia. Perhaps that was it. Perhaps he came back different and perhaps he still dreams of his lost love across the sea."

"And is that why Sophia is so ill-disposed to Americans?"

Dezhnev stared at the glass of vodka and sipped a little of it. "Our Sophia," he said, "has never liked Americans. This is not surprising." He leaned toward Morrison, his breath heavy with food and drink. "Americans are not a lovable people -- if I may say so without offense."

"I'm not offended," said Morrison evenly, as he watched Dezhnev's head sink slowly and come to rest on his bent right arm. His breathing grew stertorous.

Morrison watched him for half a minute or so, then raised his hand to beckon the serving woman.

She came at once, her ample hips swinging. She stared at the unconscious Dezhnev with rather more than half a sneer. "Well, do you wish me to get a large pair of tongs and use them to carry our prince here to his bed?"

"Not just yet, Miss Paleron. As you know, I'm an American."

"As everyone knows. You have but to say three words and the tables and chairs in this room nod to each other and say, 'An American.'"

Morrison winced. He had always been proud of the purity of his Russian and this was the second time the woman had sneered at it.

"Nevertheless," he said, "I have been brought here by force, against my will. I believe it was done without the knowledge of the Soviet Government, which would have disapproved of and prevented the action if they had known. The people here -- Dr. Boranova, whom you have referred to as the Tsarina -- have acted on their own. The Soviet Government should be told of this and they will then act speedily to return me to the United States and prevent an international incident that nobody would want. Don't you agree?"

The waitress put her fists on her hips and said, "And of what matter is it to anyone either here or in the United States as to whether I agree or not? Am I a diplomat? Am I the reincarnated spirit of Tsar Peter the Great Drinker?"

"You can see to it," said Morrison, suddenly uncertain, "that the government learns of it. Quickly."

"What is it you think, American? That I have but to tell my lover, who is on the Presidium, and all will be well for you? What have I to do with the government? What's more -- and in all seriousness, Comrade Foreigner -- I do not wish you to talk to me in this fashion again. Many a fine, loyal citizen has been hopelessly compromised by foreign blabbermouths. I will, of course, report this to Comrade Boranova at once and she will see to it that you do not insult me in this fashion again."

She left in a flounce and with a scowl and Morrison stared after her in dismay. And then his head whirled in surprise and astonishment when he heard Dezhnev's voice saying, "Albert, Albert, are you satisfied, my child?"

Dezhnev's head was raised from his pillowing arm and, though his eyes were a little bloodshot, his voice seemed to have lost its fuzziness. He said, "I wondered why you were so anxious to fill my glass, so I gobbled a little and let myself collapse. It was all very interesting."

"You are not drunk?" said Morrison, goggling at the other in wonder.

"I have been more sober in my life, certainly," said Dezhnev, "but I am not unconscious, nor have I been. You non-drinkers have an exaggerated idea of the speed with which all accomplished Soviet citizen will fall unconscious with drink -- which shows the dangers of being a nondrinker."

Morrison still found himself in a state of disbelief over the failure of the waitress to cooperate. "You said she was an intelligence operator."

"Did I?" Dezhnev shrugged. "I think I said I suspected she was, but suspicions are often wrong. Besides, she knows me better than you do, my little Albert, and was probably under no illusion that I was drunk. I'll bet you ten rubles to a kopeck that she knew I was listening with both ears. What would you have her say in such circumstances?"

"In that case," said Morrison, taking heart, "she will have heard what I said and will nevertheless inform your government of the state of affairs. Your government, to avoid an international incident, will then order me set free, probably with an apology, and you people here will have some tall explaining to do. You had better free me and send me back to the United States of your own accord."

Dezhnev laughed. "You waste your time, my clever intriguer. You have too romantic a notion of our government. Conceivably, they may be willing to let you go someday but, regardless of possible embarrassment, not before you have been miniaturized and --"

"I don't believe anyone in authority knows you kidnapped me. They cannot approve once they find out."

"Maybe they don't know and maybe they will grind their teeth when they find out - but what can they do? The government has invested too much money in the project to let you go before you have had your chance to make it practical, so that it will repay all that has been spent -- and more in addition. Well? Doesn't that seem logical to you?"

"No. Because I won't help you." Morrison felt his heart harden once again. "I will not allow myself to be miniaturized."

"That will be up to Natasha. She will be furious with you, you know, and will have no pity. You realize that you callously attempted to have everyone in the project thrown into the government's bad graces, have some of us retired -- or worse. And this, after we had treated you with perfect consideration and kindness."

"You kidnapped me."

"Even that was done with perfect consideration and kindness. Were you hurt in any way? Mistreated? Yet you have tried to harm us. Natasha will repay you for that."

"How? Force? Torture? Drugs?"

Dezhnev turned his eyes up to the ceiling. "How little you know our Natasha. She doesn't do such things. I might, but she wouldn't. She's as much a gentle chicken-heart as you are, my wicked Albert -- in her own way. But she will force you to go along with us."

"Well? How?"

"I don't know. I can never quite make out how she does it. But she manages. You will see." His smile developed a wolfish edge. And when Morrison saw that smile, he finally realized there was no escape.

26.

The next morning Morrison and Dezhnev returned to the Grotto. They entered a large windowless ceiling-lit office, which Morrison had not seen before. It was clearly not Boranova's and it was very impressive, as anything with an ostentatious waste of space is bound to be.

Boranova sat behind a bulky desk and on the wall behind her was a portrait of the Soviet Executive, looking grave. In the corner to her left was a water cooler and in the one on the right a microfilm cabinet. On the desk was a small word processor. That was all. The room was empty otherwise.

Dezhnev said, "I have brought him, you see. The mischievous fellow tried to use the charming Paleron to effect an escape by intriguing with the government behind our back."

"I have received the report," said Boranova quietly. "Please leave, Arkady. I wish to be alone with Professor Albert Morrison."

"Is that safe, Natasha?"

"I think so. Albert is not, in my opinion, a man of violence. -- Will I be safe, Albert?"

Morrison spoke for virtually the first time that day. "Let's not play games," he said. "What is it you want, Natalya?"

Boranova gestured with her hand peremptorily and Dezhnev left. When the door closed behind him, she said, "Why have you done this? Why have you tried to intrigue with someone you thought was an intelligence agent watching us? Have we treated you so badly?"

"Yes," said Morrison angrily, "you have. Why can't any of you get it through your head that hijacking me to the Soviet Union is not something I am likely to appreciate? Why do you expect gratitude of me? Because you didn't break my head in the process? You probably would have -- if my head, unbroken, hadn't been valuable to you."

"If your head, unbroken, hadn't been valuable to us, we would have left you in peace. You know that and you know the necessity that drove us. We have explained it carefully. If you were simply trying to get away, I would understand, but your method of attempted escape might have destroyed our project and perhaps us as well -- if you had succeeded. You hoped our government would disapprove of our actions and be appalled. If that were so, what do you think would have happened to us?"

Morrison's lips tightened and he looked sullen. "I could think of no other way of escaping. You speak of driving necessities. My needs drive me, too."

"Albert, we have tried every reasonable way to persuade you to help us. There has been no force, no threats of force, no unpleasantness of any kind after you had arrived there. Isn't that true?"

"I suppose so."

"You suppose so? It is true. But it has all failed. You still refuse to help us, I think."

"I still refuse and I shall continue to refuse."

"Then I am forced, very much against my will, to take the next step."

A bit of fear stirred within Morrison and he felt his heart skip a beat, but he tried desperately to sound defiant, "Which is?"

"You want to get home, to go back to America. Very well, if all our persuasiveness fails, you shall return."

"Are you serious?"

"Are you surprised?"

"Yes, I'm surprised, but I accept. I take you at your word. When will I leave?"

"The very moment we settle upon the story we're going to tell."

"Where's the problem? Tell the truth."

"That would be a little difficult, Albert. It would embarrass my government, which would have to deny having given permission for my action. I would be in serious trouble. It would be unreasonable for you to expect me to do that."

"What can you say instead?"

"That you came here at your own request, in order to help us with our projects."

Morrison shook his head vehemently. "That would be at least as difficult for me as admitting the kidnapping would be for you. These may be the good new days, but old habits die hard and the American public would be more than a little suspicious of an American scientist who went to the Soviet Union to help them with their projects. Old competitions remain and I have my reputation to think of."

"Yes, there is that difficulty," admitted Boranova, "but from my point of view, I would rather you had the difficulty than that I did."

"But I won't allow it. Do you suppose I will hesitate to tell the truth in full detail?"

"But, Albert," said Boranova quietly, "do you suppose anyone would believe you?"

"Of course. The American government knows that you asked me to come to the Soviet Union and that I refused. I would have had to be kidnapped to get here."

"I'm afraid your American government won't want to admit that, Albert. Would they want to say that Soviet agents had plucked an American out of his comfortable hotel room and carried him off by land, sea, and air without the forces of American law being aware of this? Considering modern American high-tech, of which your people are all so proud, that would argue either incompetence or a little inside treason on the part of your intelligence. I think your government would prefer to have the world believe you went to

the Soviet Union voluntarily. -- Besides, they wanted you to go to the Soviet Union voluntarily, didn't they?"

Morrison was silent.

Boranova said, "Of course they did. They wanted you to find out as much about miniaturization as possible. You're going to have to tell them you refused to be miniaturized. All you'll be able to report will be that you watched a rabbit undergo miniaturization, which they will consider to have been a bit of flim-flam on our part. They will consider that we carefully hoodwinked you and you will have failed them badly. They will not feel bound to support you."

Morrison revolved the matter in his mind. He said, "Do you really intend to leave me in the position of being considered a spy and a traitor by my people? Is that what you're going to try to do?"

"No, indeed, Albert. We will tell all the truth we can. In fact, we would like to protect you, even though you showed no signs of wanting to protect us. We would explain that our great scientist Pyotr Shapirov is in a coma, that he had spoken highly of your neurophysical theories shortly before this tragedy had befallen him. We therefore called on you and asked you to use your theories and your expertise to see if you could bring him out of his coma. You can't object to that. It would hold you up to the world as a great humanitarian. Your government might well support this view. It would certainly protect them against possible embarrassment -- and our government as well. And it is all almost true."

"What about the miniaturization?"

"That is the one place where we must avoid the truth. We can't mention that."

"But what would keep me from mentioning it?"

"The fact that no one would believe you. Did you accept the existence of miniaturization until you saw it with your own eyes? Nor would your government want to spread the feeling that the Soviet Union has attained miniaturization. They would not want to frighten the American public until such time as they were certain the Soviet Union had the process and, better yet, that they had the process as well. -- But there you are, Albert. We will send you home with an innocuous story that doesn't mention miniaturization, doesn't embarrass either my country or yours, and relieves you of any suspicion of being a traitor. Are you satisfied?"

Morrison stared at Boranova uncertainly and rubbed his thin sandy hair till it stood up in vague tufts. "But why will you say you are sending me back? That has to be explained, too. You can't very well say that Shapirov recovered with my help unless he actually recovers so that you can produce him. Nor can you say that he died before I could get to him unless he actually does die soon, as otherwise you would have to explain why he is still in a coma or why, perhaps, he has come back to life. You can't hide the situation forever."

"That is a problem that worries us, Albert, and it is clever of you to see it. After all, we are sending you back within a few days of your arrival -- and why? The only logical reason, I'm afraid, is that we have found you to be a charlatan. We brought you here in

high hopes for our poor Shapiro, but in no time at all it turned out that your views were incoherent nonsense and, with bitter disappointment, we sent you back. That will do you no harm, Albert. Being a charlatan is not the same as being a spy."

"Don't play the innocent, Natalya. You can't do that." He had turned white with anger.

"But it makes sense, doesn't it? Your own peers don't take you seriously. They laugh at your views. They would agree with us that your neurophysical suggestions are incoherent nonsense. We'd be a little embarrassed for having been so credulous as to take you seriously, but it was really Shapiro who thought highly of you and he was, unbeknown to us, on the edge of a stroke and total mental breakdown, so that one could scarcely blame him for his mad admiration of you."

Morrison's lips trembled. "But you can't make a clown out of me. You can't ruin my reputation so."

"But what reputation are you talking about, Albert? Your wife has left you and some people think it was because having your career founder on your mad ideas was the last straw for her. We have heard that your appointment is not to be renewed and that you have not managed to find another place. You are finished as a scientist in any case and this story of ours would merely confirm what already exists. Perhaps you can find some other way of making a living -- outside of science. You would probably have had to do that anyway, even if we had never touched you. There's that consolation."

"But you're lying and you know you're lying, Natalya. Have you no code of ethics? Can a respectable scientist do this to an honorable brother scientist?"

"You were unmoved by abstractions yesterday, Albert, and I am unmoved by them today in consequence."

"Someday scientists will discover I was right. How will you look then?"

"We may all be dead by then. Besides, you know that that is not the way it works. Franz Anton Mesmer, though he discovered hypnotism, was considered a fraud and a charlatan. When James Braid rediscovered hypnotism, he got the credit and Mesmer was still considered a fraud and charlatan. Besides-are we truly lying when we call you a charlatan?"

"Of course you are!"

"Let's reason it out. Why do you refuse to venture into an experiment of miniaturization which may enable you to establish your theories and which is likely to increase your knowledge of the brain by whole orders of magnitude? Such refusal can only arise through your own certain knowledge that your theories are wrong, that you are either a fool or a fraud or both, and that you don't want this established beyond a doubt, as it would be if you subjected yourself to miniaturization."

"That is not so."

"Do you expect us to believe that you refuse miniaturization simply because you are frightened? That you turn down a chance at knowledge, glory, fame, victory, vindication after years of scorn -- all because you are scared? Come, we can't think so

little of you, Albert. It makes much more sense to believe you are a fraud and so we will have no hesitation in saying you are."

"Americans won't believe a Soviet libel against an American scientist."

"Oh, Albert, of course they will. When we release you, with our explanation, it will be in all your American newspapers at once. They will be full of it. They are the most enterprising in the world and the freest, as you are all so fond of saying, meaning they are a law unto themselves. They pride themselves on it and never tire of flaunting that in the eyes of our own more sedate press. This will be such a lovely story for them: 'American Faker Fools Stupid Soviets.' I can see the headlines now. In fact, Albert, you may make a great deal of money on your American lecture circuit. You know: 'How I Made Jerks of the Soviets.' Then you can tell them all the ridiculous things you persuaded us to believe before we caught on to you and the audiences will laugh themselves into hysterics."

Morrison said in a whisper, "Natalya, why do you do this to me?"

"I? I am doing nothing. You are doing it. You want to go home and since we've failed to get you to accept miniaturization, we have no choice but to agree. Once, though, we agree to send you home, then, step by step, everything else must logically follow."

"But in that case, I can't go home. I can't have my life destroyed beyond repair."

"But who would care, Albert? Your estranged wife? Your children, who no longer know you and can always change their names anyway? Your university, which is firing you? Your colleagues, who laugh at you? Your government, which has abandoned you? Take heart. No one would care. An initial raucous laugh across the whole country and then you would be forgotten forever. You'll die without an obituary notice eventually, except for those papers who might not object to the tastelessness of bringing back that old joke for one more spurt of laughter to follow you to your grave."

Morrison shook his head in despair. "I can't go home."

"But you must. Unless you are willing to help us, which you're not, you can't stay here."

"But I can't go home on your terms."

"But what is the alternative?"

Morrison stared at the woman, who was looking at him with such mild concern. He whispered, "I accept the alternative."

Boranova looked at him for a long minute. "I do not wish to be mistaken, Albert. Put your agreement into clear language."

"It's either consent to be miniaturized or consent to be destroyed. Isn't that it?"

Boranova thrust out her lips. "That's a harsh way of putting it. I prefer that you look at it this way. Either you agree to help us by noon or you will be on a plane to the United States by 2 p.m. What do you say? It is now nearly 11 a.m. You have over an hour to decide."

"What's the use? An hour won't change anything. I'll be miniaturized."

"We will be miniaturized. You will not be alone." Boranova reached out and touched a contact on her desk.

Dezhnev entered. "Well, Albert. You stand there looking so sad, so crumpled, that it strikes me you have decided to help us."

Boranova said, "You need make no sardonic remarks. Albert will help us and we will be grateful for his help. His decision was a voluntary one."

"I'm sure it was," said Dezhnev. "How you squeezed it out this time, Natasha, I can't say, but I knew you would. -- And I must congratulate you, too, Albert. It took her quite a bit longer than I thought it would."

Morrison could only stare at the two vacantly. He felt as though he had swallowed an icicle whole -- one that didn't melt but that, instead, reduced the temperature of his abdomen to the freezing point.

Certainly, he was shivering.

7. SHIP

No voyage is dangerous to the one who waves good-bye from the shore.

Dezhnev Senior

27.

Morrison felt numb all through lunch and yet in a way the pressure was off. There were no determined voices pressing on him, no intensity of explanations and persuasions, no smiles of intent, no heads closing in.

Of course, they made it quite clear, in a cool businesslike way, that he would no longer leave the Grotto till the deed was done and that from the Grotto there was, of course, no escape.

And then every once in a while a thought swirled into his mind. He had actually agreed to be miniaturized!

They took him to a room of his own in the Grotto where he could view book-films through a viewer provided for his personal use -- even English-language book-films if he wanted the inner familiarity of home to pass the next few hours. So he sat there with a book-film unreeling through the viewer strapped on his eyes and somehow it left his mind totally untouched.

He had actually agreed to be miniaturized!

He had been told that he could do as he pleased until someone came for him. He could do as he pleased, that is, provided he did not please to leave. There were guards everywhere.

The feeling of terror had, Morrison was aware, much diminished. That was the use of numbness and, of course, the more one repeats a sentence in one's mind, the more it loses meaning. He had actually agreed to be miniaturized, The more it rang in his mind like the tolling of a bell, over and over, the more the horror of it faded. And left a mere vacuum of non-sensation in its place.

He was distantly aware that the door of his room had opened. Someone, he presumed dully, had come for him. He removed his viewer, lifted his eyes languidly, and, for just a moment, felt a mild spark of interest.

It was Sophia Kahinin, looking beautiful even to his bleared senses. She said in English, "A good afternoon to you, gentleman."

He grimaced slightly. He would rather hear Russian than English delivered with quite so distorted an accent.

He said sullenly in Russian, "Please speak in Russian, Sophia."

His Russian might be as distressing to her, for all he knew, as her English was to him, but he didn't care. He was here by their doing and if his shortcomings troubled them, that was their doing, too.

She shrugged slightly and said in Russian, "Certainly -- if that is what pleases you."

Then she stared at him for a thoughtful while. He met that stare easily enough for, at the moment, he did not much care what he did and looking at her was not much different to him than looking at something else would have been -- or looking at nothing would have been. The momentary impression of beauty that had come with her entrance had faded.

She said finally, "I understand that you have now agreed to accompany us on our venture."

"Yes, I have."

"That is good of you. We are all grateful. In all honesty, I did not think you would do so, since you are an American. I apologize."

Morrison said with a far-off touch of regret and anger, "The decision to help you was not voluntary. I was persuaded -- by an expert."

"By Natalya Boranova?"

Morrison nodded.

"She is very good at persuading," said Kahinin. "Not very kind, usually, but very good. I, too, required persuasion."

"Why you?" said Morrison.

"I had other reasons -- ones that were important to me."

"Indeed? What were they?"

"But unimportant to you."

There was a short uncomfortable pause.

"Come, the task I have been given is to show you the ship," said Kahinin.

"The ship? How long have you been planning this? Have you had time to build a ship?"

"For the specific purpose of testing Shapirov's brain from within? Of course not. It was meant for other, simpler purposes, but it is the only thing we have that we can use. -- Come, Albert, Natalya thinks it will be wise for you to become acquainted with it, see it, feel it. It is possible that the down-to-earthness of the technology will reconcile you to the task."

Morrison held back. "Why must I see it now? Can't I have time to grow accustomed to the whole subject of personal miniaturization?"

"That is foolish, Albert. If you had more time to sit in your room and brood, you would have more time to feed your uncertainty. Besides, we have no time. How long do you suppose we can allow Shapirov to lie there deteriorating, with his thoughts diminishing with each moment? The ship embarks on its journey tomorrow morning."

"Tomorrow morning," muttered Morrison, his throat dry. Foolishly, he looked at his watch.

"You have few enough hours, but we'll keep track of the time for you so you need not consult your watch. Tomorrow morning the ship enters a human body. And you will be on the ship."

Then, without warning, she slapped his cheek hard. She said, "Your eyes were beginning to turn upward. Were you planning to faint?"

Morrison rubbed his cheek, grimacing with pain. "I wasn't planning anything," he mumbled, "but I might have fainted without planning it. Have you no gentler way of breaking the news?"

"Have I really caught you by surprise, when you already know that you have agreed to be miniaturized and it is self-evident that we have no time?"

She gestured peremptorily, "Now come with me."

And Morrison, still rubbing his cheek and seething with rage and humiliation, followed.

28.

It was back to the miniaturization area -- back to the busy people, each concerned with their own affairs and paying no attention to one another. Through them all, Kahinin walked with an erect carriage and maintained the aristocratic air that arises automatically when all defer to you.

She was one of the leading lights, Morrison could see (his hand still resting lightly on his cheek, which felt inflamed and which he hesitated to expose), and all who crossed or even neared her path nodded their heads in a kind of rudimentary bow and stepped a little backward, as though to make sure not to impede her path. No one acknowledged Morrison's presence at all.

On, on, through one room after another -- and everywhere the feel of pent-up energy held in bare check.

Kahinin must have sensed it too, familiar as she must be with it, for she muttered to Morrison with a certain pride, "There's a solar power station in space, a major part of whose output is reserved for Malenkigrad."

And then they were upon it before Morrison had a true chance to realize what he was looking at. It was not a very large room and the object within it was not of impressive bulk. Indeed, Morrison's first impression was that it was a piece of artwork.

It was a streamlined object not much larger than an automobile, certainly shorter than a stretch limousine, though taller. And it was transparent!

Automatically, Morrison reached out to feel it.

It was not cold to the touch. It felt smooth and almost moist, but when he removed his hand, his fingertips were perfectly dry. He tried it again and as he ran his fingertips across the surface, they seemed to stick slightly, but they left no sweaty mark. On impulse, he breathed upon it. There was the shadow of condensing moisture on the transparent material, but it disappeared quickly.

"It is a plastic material," said Kahinin, "but I don't know its composition. If I knew, it would probably come under the head of classified information anyway, but whatever it is, it is stronger than steel -- tougher and more resistant to shock -- kilogram for kilogram."

"Weight for weight, perhaps," said Morrison, for the moment his scientific curiosity drowning his uneasiness, "but such a thickness of plastic material could not possibly be as strong as the same thickness of steel. It could not be as strong, volume for volume."

"Yes, but where are we going?" said Kahinin. "There will be no pressure differential inside and outside the ship; there will be no meteoroids or even cosmic dust against which we must protect ourselves. There will be about us nothing but soft cell structure. This plastic will be ample protection and it is light. The two of us could perhaps lift it if we tried. That is what is important. As you can well understand, we must be sparing of mass. Every additional kilogram consumes considerable electromagnetic energy in miniaturization and delivers considerable heat in deminiaturization."

"Will it hold a large enough crew?" said Morrison, peering inside.

"It will. It is very compact, but it can hold six and we will only be five. And it contains a surprising amount of unusual gadgetry. Not as much as we would like, of course. The original plans -- But what can we do? There are always pressures for economy, even unwarranted ones, in this unjust world."

Morrison said with a twinge of strong uneasiness, "How much pressure for how much economy? Does everything work?"

"I assure you it does." Her face had lit up. Now that the settled melancholy had left (temporarily only, Morrison felt sure), Kahinin was unmistakably good-looking.

"Everything in it has been tested exhaustively, both singly and all together. Zero risk is impossible of attainment, but we have a reasonably close to zero risk here. And all with virtually no metal. What with microchips, fiber optics, and Manuisky junctions, we have all we want in a total of less than five kilograms of devices all together. That is why the ship can be so small. After all, voyages into the microcosm are not expected to last for more than some hours, so we don't need sleeping arrangements, cycling equipment, elaborate food and air supplies, anything other than quite simple devices for excretory functions, and so on."

"Who'll be at the controls?"

"Arkady."

"Arkady Dezhnev?"

"You seem surprised."

"I don't know why I should. I presume he's qualified."

"Completely. He's in engineering design and he's a genius at it. You can't go by the way he sounds -- No, you can go by the way he sounds. Do you suppose any of us could endure his crude humor and affectations if he weren't a genius at something? He designed the ship -- every part of it -- and all its equipment. He invented a dozen completely new ways of lowering mass and introducing compactness. You have nothing like it in the United States."

Morrison said stiffly, "I have no way of knowing what the United States may have or may not have in unusual devices."

"I am sure they don't. Dezhnev is an unusual person, for all his love of presenting himself as a boor. He is a descendant of Semyon Ivanov Dezhnev. You have heard of him, I suppose."

Morrison shook his head.

"Really?" Kahinin's voice turned icy. "He is only the famous explorer who, in the time of Peter the Great, explored Siberia to its easternmost centimeter and said there was a stretch of sea separating Siberia and North America decades before Vitus Bering, a Dane in Russian employ, discovered the Bering Strait. -- And you don't know Dezhnev. That's so American. Unless a Westerner did it, you never heard of it."

"Don't see insults everywhere, Sophia. I haven't studied exploration. There are many American explorers that I don't know -- and that you don't, either." He shook his finger at her, again remembering her slap and rubbing his cheek once more, "This is what I mean. You find things to feed hate on -- inconsequential things you should feel ashamed to grub up."

"Semyon Dezhnev was a great explorer -- and not inconsequential."

"I'm willing to admit that. I am glad to learn of him and I marvel at his achievement. But my not having heard of him is not a fit occasion for Soviet-American rivalry. Be ashamed of yourself!"

Kahinin's eyes fell, then lifted to his cheek. (Had she left a bruise there? Morrison wondered.) She said, "I'm sorry I struck you, Albert. It need not have been that hard, but I didn't want you to faint. At that moment, I felt I would have no patience to deal with an unconscious American. I did let unjustified anger guide me."

"I'll grant you meant well, but I, too, wish you had not struck so hard. Still, I will accept your apology."

"Then let us get into the ship,"

Morrison managed a smile. Somehow he felt a little better dealing with Kahinin than he would have with Dezhnev or Konev -- or even Boranova. A pretty woman, still quite young, does somehow distract a man's mind from his troubles more effectively than most things would. He said, "Aren't you afraid I might try to sabotage it?"

Kahinin paused. "Actually, I'm not. I suspect you have enough respect for a vessel of scientific exploration to avoid doing it any damage whatever. Besides -- and I say this seriously, Albert -- the laws against sabotage are excessively severe in the Soviet Union and the slightest mistake in handling anything in the ship will set off an alarm that will have guards here in a matter of seconds. We have strict laws against guards beating up saboteurs, but sometimes they tend to forget themselves in their indignation. Please don't even think of touching anything."

She put a hand on the hull as she spoke and presumably closed a contact, though Morrison didn't see how it was done. A door -- a rectangle curved at the edge -- opened. (The door's own edge seemed to be double. Would it also act as an air lock?)

The opening was compact. Kahinin, entering first, had to stoop. She held out a hand to Morrison. "Careful, Albert."

Morrison not only stooped, but turned sideways. Once inside the ship, he found that he could not quite stand upright. When he bumped his head gently, he looked up at the ceiling, startled.

Kahinin said, "We'll be doing our work sitting down for the most part, so don't be concerned about the ceiling."

"I don't think claustrophobes would like this."

"Are you claustrophobic?"

"No."

Kahinin nodded her relief. "That's good. We have to save space, you know. What can I tell you?"

Morrison looked around. There were six seats, in pairs. He sat down in the one nearest the door and said, "These are not exactly roomy, either."

"No," admitted Kahinin. "Weight lifters could not be accommodated."

Morrison said, "Obviously, this ship was built long before Shapirov went into his coma."

"Of course. We've been planning to have miniaturized personnel invade living tissue for a long time. That would be necessary if we wished to make truly important biological discoveries. Naturally, we expected that we would work with animals at the start and study the circulatory system in fine detail. It is for that project that this ship was built. No one could possibly have guessed that when the time came to carry out the first such microvoyage, the subject would not only be a human body but Shapirov himself."

Morrison was still studying the interior of the ship. It seemed bare. Detail was surprisingly difficult to make out in the situation of transparency-on-transparency and miniaturization of the old-type -- ordinary, but microscopic -- components.

He said, "There will be five on the ship: you and I, Boranova, Konev, and Dezhnev."

"That's right."

"And what will each of us be doing?"

"Arkady will control the ship. Obviously, he knows how to do that. It's the child of his hands and mind. He'll be in the left front seat. To his right will be the other male, who has a complete map of the neurocirculatory pattern of Shapirov's brain. He will be the pilot. I will sit behind Arkady and I will control the electromagnetic pattern of the ship's surface."

"An electromagnetic pattern? What's that for?"

"My dear Albert. You recognize objects by reflected light, a dog recognizes objects by emitted odor, a molecule recognizes objects by surface electromagnetic pattern. If we're going to make our way as a miniaturized object among molecules, we must have the proper patterns in order to be treated as friends rather than foes."

"That sounds complicated."

"It is -- but it happens to be my life study. Natalya will sit behind me. She will be the captain of the expedition. She will make the decisions."

"What kind of decisions?"

"Whatever kind are necessary. Obviously, those can't be predicted in advance. As for you, you will sit to my right."

Morrison rose and managed to shift his position along the narrow aisle on the door side of the seats and move one seat back. He had been in Konev's seat and now he was in what would be his own. He could feel his heart pounding as he imagined himself in that same seat on the following day, with the miniaturization process in progress.

He said in a muffled voice, "There is only one man, then -- Yuri Konev -- who was miniaturized and deminiaturized and was unharmed by the process."

"Yes."

"And he mentioned no discomfort in the process, no sickness, no mental disturbance?"

"Nothing of the sort was reported."

"Would that be because he is a stoic? Would he feel it would be beneath the dignity of a hero of Soviet science to complain?"

"Don't be foolish. We are not heroes of Soviet science and the one you speak of certainly isn't. We are human beings and scientists and, in fact, if there were any discomfort that we felt, we would be compelled to describe it in full detail, since it might be that with modifications of the process we could remove that discomfort and make future miniaturizations less difficult. Hiding any part of the truth would be unscientific, unethical, and dangerous. Don't you see that -- since you are a scientist yourself?"

"Yet there may be individual differences. Yuri Konev survived untouched. Pyotr Shapirov did not -- quite."

"That had nothing to do with individual differences," said Kahinin impatiently.

"We can't really tell, can we?"

"Then judge for yourself, Albert. Do you think we would take the ship into miniaturization without a final testing -- with and without human beings aboard? This ship was miniaturized, empty, during the course of this past night -- not to a very great extent, but enough to know that all is well."

At once Morrison struggled upward to get out of his seat. "In that case, if you don't mind, Sophia, I want to get out before it is tested with human beings aboard."

"But, Albert, it's too late."

"What!"

"Look out the ship at the room. You haven't once looked outside since you got in, which, I suppose, was a good thing. But look out now. Go ahead. The walls are transparent and the process is complete for now. Please! Look!"

Morrison, startled, did so and then, very slowly, his knees bent and he seated himself again. He asked (and even as he did so, he knew how foolish he must sound), "Do the ship's walls have a magnifying effect?"

"No, of course not. Everything outside is as it always is. The ship and I and you have been miniaturized to about half our linear dimensions."

29.

Morrison felt dizziness overcome him and he bent his head between his knees and breathed slowly and deeply. When he lifted his head again, he saw Kahinin watching him thoughtfully. She was standing in the narrow aisle, leaning slightly against a seat's armrest to allow the ceiling to clear her head.

"You might have fainted this time," she said. "It would not have disturbed me. We are being deminiaturized now and that will be more time-consuming than the miniaturization, which took no more than three or four minutes. It will take an hour or so for us to get back, so you will have ample time to recover."

"It was not a decent act to do this without telling me, Sophia."

"On the contrary," said Kahinin. "It was an act of kindness. Would you have entered the ship as freely and as easily as you did if you had suspected that we would be miniaturized? Would you have inspected the ship as coolly if you had known? And if you had been anticipating miniaturization, would you not have developed psychogenic symptoms of all sorts?"

Morrison was silent.

Kahinin said, "Did you feel anything? Were you even aware that you were being miniaturized?"

Morrison shook his head. "No."

Then, driven by a certain shame, he said, "You've never been miniaturized before any more than I have, have you?"

"No. Before this day, Konev and Shapirov have been the only human beings to have undergone miniaturization."

"And you weren't at all apprehensive?"

She said, "I wouldn't say that. I was uneasy. We know from our experience with space travel that, as you said earlier, there are individual differences in reaction to unusual environments. Some astronauts suffer episodes of nausea under zero gravity and some do not, for instance. I couldn't be sure how I would react. -- Did you feel nausea?"

"I didn't until I found out we had been miniaturized, but I suppose feeling queasy now doesn't count. -- Who planned this?"

"Natalya."

"Of course. I needn't have asked," he said drily.

"There were reasons. She felt we couldn't have you break down once the voyage began. We couldn't be expected to deal with hysteria on your part once we began miniaturizing."

"I suppose I deserve that lack of confidence," said Morrison, his eyes looking away in embarrassment from those of Kahinin. "And I imagine she assigned you to come with me for the precise purpose of distracting my attention while all this was going on."

"No. That was my idea. She wanted to come with you herself, but with her, by now, I thought you might be anticipating trickery."

"Whereas with you, I might be at my ease."

"At least, as you say, distracted. I am still young enough to distract men." Then, with a touch of bitterness, "Most men."

Morrison looked up, eyes narrowing. "You said I might be anticipating trickery."

"I mean, with Natalya."

"Why not with you? All I see now is that everything outside seems enlarged. How can I be sure that that is not an illusion, something designed to make me think I have been miniaturized and that it is harmless -- merely so that I step quietly into the ship tomorrow?"

"That's ridiculous, Albert, but let's consider something. You and I have lost half our linear dimension in every direction. The strength of our muscles varies inversely with their cross-sections. They are now half their normal width and half their normal thickness, so that they have half times half or one fourth the cross-section and, therefore, the strength they would normally have. Do you see what I mean? Do you understand?"

"Yes, of course," said Morrison, annoyed. "That is elementary."

"But our bodies as a whole are half as tall, half as wide, and half as thick, so that the total volume -- and mass and weight as well -- is half times half times half or one eighth what it was originally. -- If we are miniaturized, that is."

"Yes. This is the square-cube law. It's been understood since Galileo's time."

"I know, but you haven't been thinking about it. If I were to try to lift you now, I would be lifting one eighth your normal weight and I would be doing so with my muscles at one quarter their normal strength. My muscles compared to your weight would be twice as strong as they would appear to be if we were not miniaturized."

And with that, Kahinin thrust her hands under his armpits and, with a grunt, lifted. Up he moved from his seat.

She held him so while she gasped twice and then she lowered him. "It's not easy," she said, panting a bit, "but I could do it. And since you may be telling yourself, 'Ah yes, but this is Sophia, probably a Soviet weight lifter,' then do it to me."

Kahinin seated herself in the seat before him and held out her arms to either side and said, "Come, stand up and lift me."

Morrison rose to his feet and into the aisle. He moved forward, turned, and faced her. The slight bending enforced on him by the low ceiling made it an uncomfortable position. For a moment, he hesitated.

Kahinin said, "Come, seize me under the arms. I use deodorant. And you needn't be concerned about possibly touching my breasts. They have been touched before this. Come -- I'm lighter than you are and you're stronger than I am. Since I have lifted you, you should have no trouble at all lifting me."

Nor did he. He couldn't lift with his full strength because of his slight, uncomfortable stoop, but he automatically applied the force he judged, through years of experience, would be suitable for an object her size. She floated upward, however, almost as though she were weightless. Despite the fact that he had been somewhat prepared for the possibility, he almost dropped her.

"Do you consider that an illusion?" Kahinin asked. "Or are we miniaturized?"

"We are miniaturized," said Morrison. "But how did you do it? I never saw you make a move that looked as though you might be using miniaturization controls."

"I didn't. It's all done from outside. The ship is equipped with miniaturization devices of its own, but I wouldn't dare use them. That would be part of Natalya's job."

"And now the deminiaturization is being controlled from outside, too, isn't it?"

"That's right."

"And if the deminiaturization gets slightly out of hand, our brains will be damaged as Shapirov's was -- or worse."

"That's not really likely," said Kahinin, stretching her legs out into the aisle, "and it doesn't help to think about it. Why not just relax and close your eyes?"

Morrison persisted. "But damage is possible."

"Of course it's possible. Almost anything is possible. A three-meter-wide meteorite may strike two minutes from now, penetrate the mountain shell above us, flash into this room, and destroy the ship and us and perhaps the entire project in a few flaming seconds. -- But it's not likely."

Morrison cradled his head in his arms and wondered whether -- if the ship started warming -- he could feel the heat before his brain proteins denatured.

30.

Well over half an hour had passed before Morrison felt convinced that the objects he could see outside the ship were shrinking and were receding perceptibly toward their normal size.

Morrison said, "I am thinking of a paradox."

"What's that?" said Kahinin, yawning. She had obviously taken her own advice about the advisability of relaxing.

"The objects outside the ship seemed to grow larger as we shrink. Ought not the wavelengths of light outside the ship also grow larger, becoming longer in wavelength, as we shrink? Should we not see everything outside turn reddish, since there can scarcely be enough ultraviolet outside to expand and replace the shorter-wave visible light?"

Kahinin said, "If you could see the light waves outside, that would indeed be how they would appear to you. But you don't. You see the light waves only after they've entered the ship and impinged upon your retina. And as they enter the ship, they come under the influence of the miniaturization field and automatically shrink in wavelength, so that you see those wavelengths inside the ship exactly as you would see them outside."

"If they shrink in wavelength, they must gain energy."

"Yes, if Planck's constant were the same size inside the miniaturization field as it is outside. But Planck's constant decreases inside the miniaturization field -- that is the essence of miniaturization. The wavelengths, in shrinking, maintain their relationship to the shrunken Planck's constant and do not gain energy. An analogous case is that of the atoms. They also shrink and yet the interrelationships among atoms and among the subatomic particles that make them up remain the same to us inside the ship as they would seem to us outside the ship."

"But gravity changes. It becomes weaker in here."

"The strong interaction and the electroweak interaction come under the umbrella of the quantum theory. They depend on Planck's constant. As for gravitation?" Kahinin shrugged. "Despite two centuries of effort, gravitation has never been quantized. Frankly, I think the gravitational change with miniaturization is evidence enough that gravitation cannot be quantized, that it is fundamentally nonquantum in nature."

"I can't believe that," said Morrison. "Two centuries of failure can merely mean we haven't managed to get deep enough into the problem yet. Superstring theory nearly gave us our unified field at last." (It relieved him to discuss the matter. Surely he couldn't do so if his brain were heating in the least.)

"Nearly doesn't count," said Kahinin. "Still, Shapirov agreed with you, I think. It was his notion that once we tied Planck's constant to the speed of light, we would not only have the practical effect of miniaturizing and deminiaturizing in an essentially energy-free manner, but that we would have the theoretical effect of being able to work out the connection between quantum theory and relativity and finally have a good unified field theory. And probably a simpler one than we could have imagined possible, he would say."

"Maybe," said Morrison. He didn't know enough to comment beyond that.

"Shapirov would say," said Kahinin, warming to the task, "that at ultraminiaturization, the gravitational effect would be close enough to zero to be utterly ignored and that the speed of light would be so great that it might be considered infinite. With mass virtually zero, inertia would be virtually zero and any object, like this ship, for instance, could be accelerated with virtually zero energy input to any speed. We would have, practically speaking, antigravity and faster-than-light travel. Chemical drive, he said, gave us the Solar System, ion drive would give us the nearer stars, but relativistic miniaturization would give us the whole Universe at a bound."

"It's a beautiful vision," said Morrison, ravished.

"Then you know what we're looking for now, don't you?"

Morrison nodded. "All that -- if we can read Shapirov's mind. And if he really had something there and wasn't merely dreaming."

"Isn't the chance worth the risk?"

"I am on the point of believing so," said Morrison in a low voice. "You are terribly convincing. Why couldn't Natalya have used arguments of that sort, rather than those she did use?"

"Natalya is -- Natalya. She is a highly practical person, not a dreamer. She gets things done."

Morrison studied Kahinin as she sat, now in the seat to his left, looking straight ahead with an abstracted look that gave her profile the appearance of an impractical dreamer, at that -- but perhaps not one who, like Shapirov, dreamed of conquering the Universe. With her, it was something closer to home perhaps.

He said, "Your unhappiness is not my business, Sophia, as you've said -- but I have been told about Yuri."

Her eyes flashed. "Arkady! I know it was he. He is a -- a --" She shook her head. "With all his education and all his genius, he remains a peasant. I always think of him as a bearded serf with a vodka bottle."

"I think he's concerned about you in his own way, even if he doesn't express himself poetically. Everyone must be concerned."

Kahinin stared at Morrison fiercely, as if holding her words back.

He prodded her gently, saying, "Why don't you tell me about it? I think it will help and I am a logical choice, being the outsider of the party -- I assure you I am trustworthy."

Kahinin looked at him again, this time almost gratefully.

"Yuri!" she spat. "Everyone may be concerned, except Yuri. He has no feelings."

"He must have been in love with you at one time."

"Must he? I don't believe it. He has a -- a --" -- she looked up and spread her hands, which were shaking, as though groping for a word and having to settle for something inferior -- "vision."

"We're not always masters of our own emotions and affections, Sophia. If he has found another woman and dreams of her --"

"There's no other woman," said Kahinin, frowning. "None! He uses that as an excuse to hide behind! He loved me, if at all, only absently, because I was convenient at hand, because I satisfied a vague physical need, and because I was also involved in the project, so that he didn't have to lose much time dallying with me. As long as he had this project firmly in hand, he didn't mind having me -- quietly, unobtrusively -- at odd moments."

"A man's work --"

"Need not fill every moment of time. I told you he has a vision. He plans to be the new Newton, the new Einstein. He wants to make discoveries so fundamental, so great, that he will leave nothing for the future. He will take Shapirov's speculations and turn them into hard science. Yuri Konev will become the whole of the natural law and everyone else will be commentary!"

"Might that not be considered an admirable ambition?"

"Not when it makes him sacrifice everything and everyone else, when it makes him deny his own child. I? What do I matter? I can be neglected, denied. I am an adult. I can take care of myself. But a baby? A child? To deny her a father? To refuse her? To reject her? She would distract him from his work, she would make demands on him, she would consume a few moments of time here and there -- so he insists he is not the father."

"A genetic analysis --"

"No. Would I drag him to court and force a legal decision upon him? Consider what his denial implies? The child is not a virgin birth. Someone must be the father. He implies -- no, he states -- that I am promiscuous. He has not hesitated to give it as his opinion that I do not know the father of my child since I am lost among the numerous possibilities. Shall I labor to make a man as low as he is the legally proved father of my child against his will? No, let him come to me and admit he is the father and apologize for what he has done -- and I may allow him a glance, now and then, at the child."

"Yet I have a feeling you still love him."

"If I do, that is my curse," said Kahinin bitterly. "It shall not be my child's."

"Is that why you have had to be persuaded to undertake this miniaturization?"

"And work with him? Yes, that is why. But they tell me I cannot be replaced, that what we may do for science lies far above and beyond any conceivable personal feeling -- any anger, any hate. Besides --"

"Besides?"

"Besides, if I abandon the project, I lose my status as a Soviet scientist. I lose many privileges and perquisites, which do not matter, and so does my daughter -- which matters a great deal."

"Did Yuri have to be persuaded, too, to work with you?"

"He? Of course not. The project is all he knows and sees. He does not look at me. He does not see me. And if he dies in the course of this attempt --" She held out her hand in appeal to him. "Please understand that I do not for a moment believe that this will happen. It is just a stupidly romantic notion that I torture myself with for the love of pain, I suppose. If he should die, he would not even be aware that I would die with him."

Morrison felt himself tremble. "Don't talk like that," he said. "And what would happen to your daughter in that case? Did Natalya tell you that?"

"She did not have to. I know that without her. My daughter would be reared by the state, as the child of a Soviet martyr to science. She might be better off so." Sophia paused and looked around. "But it's beginning to look quite normal out there. We should be out of the ship soon."

Morrison shrugged.

"You will have to spend much of the rest of the day being medically and psychologically examined, Albert. So will I. It will be very boring, but it has to be done. How do you feel?"

"I'd feel better," said Morrison in a burst of honesty, "if you hadn't talked about dying. -- Listen! Tomorrow, when we make the trip into Shapiro's body, how far will we be miniaturized?"

"That will be Natalya's decision. To cellular dimensions at the very least, obviously. Perhaps to molecular dimensions."

"Has anyone ever done that?"

"Not to my knowledge."

"Rabbits? Inanimate objects?"

Kahinin shook her head and said again, "Not to my knowledge."

"How, then, does anyone know that miniaturization to such an extent is possible? Or that, if it is, any of us can survive?"

"The theory says it is and that we can. So far, every bit of experimentation has fit in with the theory."

"Yes, but there are always boundaries. Wouldn't it be better if ultraminiaturization were tested on a simple bar of plastic, then on a rabbit, then on a --"

"Yes, of course. But persuading the Central Coordinating Committee to allow the energy expenditure would be an enormous task and such experiments would have to be dribbled out over months and years. We have no time! We must get into Shapirov immediately."

"But we're going to be doing something unprecedented, crossing into an untested region, with only the maybes of theory to --"

"Exactly, exactly. Come, the light is flashing and we must emerge and accompany the waiting physicians."

But for Morrison the marginal euphoria of a safe deminiaturization was seeping away. What he had experienced today was in no way indicative of what he must face the next day.

The terror was returning.

8. PRELIMINAIRES

The greatest difficulty comes at the start. It's called "getting ready."

Dezhnev Senior

31.

Later that evening, after a long -- and tedious -- medical exam, he joined the four Soviet researchers for dinner. The Last Supper, Morrison thought grimly.

Sitting down, he burst out, "No one told me the results of my examination!" He turned to Kahinin. "Did they examine you, Sophia?"

"Yes, indeed, Albert."

"Did they tell you the results?"

"I'm afraid not. Since it is not we who pay them, I suppose they don't feel they owe us anything."

"It doesn't matter," said Dezhnev jovially. "My old father used to say, 'Bad news has the wings of an eagle, good news the legs of a sloth.' If they said nothing, it was because they had nothing bad to report."

"Even the bad news," said Boranova, "would have been reported to me -- and only to me. I am the one who must decide who will accompany us."

"What did they tell you about me?" asked Morrison.

"That there is nothing important wrong with you. You will be coming with us and in twelve hours the adventure will begin."

"Is there anything unimportant wrong with me, then, Natalya?"

"Nothing worth mentioning, except that you display, according to one doctor, a 'typical American bad temper.'"

"Huh!" said Morrison. "One of our American freedoms is that of being bad-tempered when doctors show a typical Soviet lack of concern for their patients."

Nevertheless, his apprehension over the state of his mind ebbed and, as it did so, inevitably the apprehension over his impending miniaturization rose higher.

He lapsed into silence, eating slowly and without much of an appetite.

32.

Yuri Konev was the first to rise from the dinner table. For a moment he remained standing, leaning forward over the table, a slight frown on his intense, youthful face.

"Natalya," he said, "I must take Albert to my office. It is necessary that we discuss tomorrow's task and prepare for it."

Boranova said, "You will remember, please, that we must all have a good night's sleep. I don't wish you to forget the passage of time. Do you want Arkady to go with you?"

"I don't need him," said Konev haughtily.

"Nevertheless," said Boranova, "there will be two guards at your office door and you will call out if you need them."

Konev turned from her impatiently and said, "I won't need them, Natalya, I'm sure. Come with me, Albert."

Morrison, who had been watching them both from under lowered eyebrows, rose and said, "Is this going to be a long trip? I'm tired of being shuttled from point to point in the Grotto."

Morrison knew well he was being ungracious, but it didn't seem to bother Konev, who responded just as ungraciously, "I should think a professor would be used to plunging back and forth across a university campus."

Morrison followed Konev out the door and together they tramped along the corridor in silence. Morrison was aware that at a certain point two guards fell in behind them. He heard additional footsteps keeping time with his own. He looked back, but Konev did not.

Morrison said impatiently, "Much longer, Yuri?"

"That is a foolish question, Albert. I have no intention of walking you past our destination. When we get there, we will be there. If we are still walking, it is because we are not there yet."

"I should think, with all this walking, you might arrange golf carts or something of the sort for the corridors."

"Anything to allow the muscles to atrophy, Albert? Come, you are not so old that you cannot walk or so young that you must be carried."

Morrison thought, If I were that poor woman with his child, I would shoot off fireworks to celebrate his denial of fatherhood.

They reached Konev's office at last. At least Morrison assumed it was his office when Konev barked the word "Open" and the door slid smoothly open in response to his voiceprint. Konev strode through first.

"What if someone imitates your voice?" asked Morrison curiously. "You don't have a very distinctive voice, you know."

Konev said, "It also scans my face. It will not respond to either separately."

"And if you have a cold?"

"One time when I had a bad one, I could not get into my office for three days and I finally had to have the door opened mechanically. If my face were bruised or scarred by accident, I might also have trouble. Still, that is the price of security."

"But are the people here so -- inquisitive -- that they would invade your privacy?"

"People are people and it is not wise to overtempt even the best of them. I have things here unique to myself and they may be viewed only when I decide to allow it. This, for instance." His slim hand (very well cared-for and manicured, Morrison noticed -- he might neglect other things for his work, but not himself) rested on an extraordinarily large and thick volume, which, in turn, rested on a stand that had been clearly designed for it.

"What is that?" asked Morrison.

"That," said Konev, "is Academician Shapirov -- or at least the essence of him." He opened the book and flipped the pages. Page after page (all of them, perhaps) were filled with symbols arranged in diagrammatic fashion.

Konev said, "I have it on microfilm, of course, but there are certain conveniences to having it in a printed volume." He patted the pages almost lovingly.

"I still don't understand," said Morrison.

"This is the basic structure of Shapirov's brain, translated into a symbolism of my own devising. Fed into the appropriate software, it can reconstitute a three-dimensional map of the brain in intimate detail on a computer screen."

"Astonishing," said Morrison, "if you are serious."

"I am serious," said Konev. "I have spent my entire career on this task: translating brain structure into symbols and symbols into brain structure. I have invented and advanced this science of cerebrography."

"And you used Shapirov as your subject."

"By incredible good fortune, I did. Or perhaps it was not good fortune, but merely inevitable. We all have our small vanities and it seemed to Shapirov that his brain was worth preserving in detail. Once I began working on this field under his direction -- for there was the feeling that we might someday want to explore animal brains at least -- he insisted on having his own brain analyzed cerebrographically."

Morrison said with a sudden excitement, "Can you get his theories out of the recorded cerebral structure of his brain?"

"Of course not. These symbols record a cerebral scanning that was carried through three years ago. That was before he had evolved his recent notions and, in any case, what I have preserved here is, unfortunately, only the physical structure and not the thoughts. Still, the cerebrograph will be invaluable to us in tomorrow's voyage."

"I should think so -- but I have never heard of this."

"I'm not surprised. I have published papers on this, but only in the Grotto's own publication -- and these remain highly classified. No one outside the Grotto, not even here in the Soviet Union, knows of them."

"That is bad policy. You will be overtaken by someone else who will publish and who will be granted priority."

Konev shook his head. "At the first sign that significant advances in this direction are being made elsewhere, enough of my early work will be published to establish priority. I have cerebrographs of canine brains that I can publish, for instance. But never mind that. The point is that we have a map of Shapirov's brain to guide us, which is a

matter of incredible good fortune. It was made without the knowledge that we might need it someday to guide us through that very cerebral jungle."

Konev turned to a computer and, with practiced flips of his wrist, inserted five large discs.

"Each one of these," he said, "can hold all the information in the Central Moscow Library without crowding. It is all devoted to Shapiro's brain."

"Are you trying to tell me," said Morrison indignantly, "that you could transfer all that information, all of Shapiro's brain, into that book you have here?"

"Well, no," said Konev, glancing at the book. "In comparison with the total code, that book is only a small pamphlet. However, it does hold the basic skeleton, so to speak, of Shapiro's neuron structure and I was able to use it as a guide by which to direct a computer program that mapped it out in greater detail. It took months for the best and most advanced computer we have to do the job.

"And even so, Albert, all we have reaches merely to the cellular level. If we were to map the brain down to the molecular level and try to record all the permutations and combinations -- all the conceivable thoughts that might arise from a particular human brain like Shapiro's; all the creativity, actual and potential -- I suppose it would take a computer the size of the Universe working for a much longer time than the Universe has existed. What I have, however, may be enough for our task."

Morrison, entranced, asked, "Can you show me how it works, Yuri?"

Konev studied the computer -- which was turned on, as one could tell by the soft whisper of its cooling mechanism -- then pushed the necessary keys. On the screen there appeared the side view of a human brain.

Konev said, "This can be viewed at any cross-section." He pressed a key and the brain began to peel as though it were being continually sliced by an ultrathin microtome some thousands of slices per second. "At this rate," he said, "it would take an hour and fifteen minutes to complete the task, but I could stop it at any chosen point. I could also cut off thicker slices or cut off one thick calculated slice to bring me at once to any wanted cross-section."

As he spoke, he demonstrated. "Or I could orient it in another direction or rotate it along any axis. Or I can magnify it to any extent down to the cellular level, either slowly or, as you see, quickly." As he said this, the material of the brain spread outward in all directions from a central point -- dizzily -- so that Morrison was forced to blink his eyes and then look away.

Konev said, "This is now at the cellular level. Those small objects are individual neurons and if I expanded the image still further, you would see the axons and dendrites. If one wishes, we could follow a single axon through the cell into a dendrite and across a synapse to another neuron and so on, traveling, by computer, through a brain three-dimensionally. Nor is the matter of three dimensions just a manner of speaking. The computer is outfitted for holographic imaging and it can present a three-dimensional appearance quite literally."

Morrison said challengingly, "Then why do you need miniaturization? Why do you need to send ships into the brain?"

Konev briefly allowed a look of contempt to cross his face. "That is a foolish question, Albert, and I suppose it is inspired only by your fear of miniaturization. You are groping for any excuse to eliminate it. What you see here on the screen is a three-dimensional mapping of the brain, but only three-dimensional. It has caught it at what is, essentially, an instant of time. In effect, we see unchanging material -- dead material. What we want to be able to detect is the living activity of the neurons, the changing activity with time. We want a four-dimensional view of the electric potentials that rise and fall, the microcurrents that travel along the cells and cell fibers, and we want to interpret them into thoughts. That's your task, Albert. Arkady Dezhnev will manipulate the ship along the routes I have chosen and you will give us the thoughts."

"On what basis have you chosen the routes?"

"On the basis of your own papers, Albert. I have chosen the regions you had decided must represent the neuron network for creative thought and, using this book, with its coded representation of Shapirov's brain as my initial guide, I calculated centers where more or less direct pathways could be found to several portions of the network. I then located them more accurately on the computer and it is to one or more of those centers that we will penetrate tomorrow."

Morrison shook his head. "I'm afraid I can't guarantee that we will be able to determine actual thoughts, even if we find the centers in which thinking takes place. It's as though we might reach a place where we can hear people's voices, but if we don't know the language, we are still left in ignorance of what they are saying."

"We can't know that in advance. The varying electric potentials in Shapirov's mind must resemble those in ours and we may simply be aware of his thoughts without knowing how we are aware. In any case, we can't tell unless we go in and try."

"In that case, you will have to be ready for possible disappointment."

"Never," said Konev with the utmost seriousness. "I intend to be the person to whom the human brain will finally yield its secrets. I will solve, completely, the ultimate physiological mystery of humanity, perhaps of the Universe -- if we are the most advanced thinking devices that exist anywhere. So we will work together, you and I, tomorrow. I want you to be ready for it, to help guide me by studying carefully the brain waves we encounter. I want you to interpret Shapirov's thoughts and, most particularly, his thoughts on combining quantum theory and relativity so that trips such as ours tomorrow can become routine and we can begin the study of the brain in all earnestness."

He stopped and stared at Morrison intently, then said, "Well?"

"Well, what?"

"Does none of this impress you?"

"Of course it impresses me, but . . . I have a question. Today when I watched the rabbit being miniaturized, there was a pronounced whine during the process -- and a rumble when it was deminiaturized. There was nothing of the sort when I was subjected to it -- or I would have known what was happening."

Konev raised a finger, "Ah. The noise is apparent when you are in real space, but not when you are in miniaturized space. I was the first to realize that was so when I was miniaturized and I reported it. We still don't know why the miniaturization field seems to stop sound waves when it doesn't stop light waves, but then we expect to learn new aspects of the process as we go on."

"As long as we don't discover fatal aspects," muttered Morrison. "Are you afraid of nothing, Yuri?"

"I'm afraid of not being able to complete my work. That would be true if I died tomorrow or if I refused to undergo miniaturization. Being stopped by death, however, is only a small possibility, but if I refuse to undergo miniaturization, then I am stopped certainly. That is why I much prefer to risk the former than take the latter way out."

"Does it bother you that Sophia will be undergoing miniaturization with you?"

Konev frowned. "What?"

"If you don't remember her first name, it may help if I refer to her as Kahinin."

"She is part of the group and will be on the ship. Yes."

"And you don't mind?"

"Why should I?"

"After all, she feels you have betrayed her."

Konev frowned darkly and a dull flush rose to his face. "Has her madness gone so far as to force her to confide her incoherencies to strangers? If she weren't needed on this project --"

"I'm sorry. She didn't sound incoherent to me."

Morrison didn't know why he was pushing the matter. Perhaps he felt diminished at fearing a task the other so ardently welcomed and he therefore wished to diminish in turn. "Were you never her -- friend?"

"Friend?" Konev's face mirrored his contempt. "What is friendship? When I joined the project, I found her here; she had joined a month earlier. We worked together, we were new and untried together. Of course, there was what one might call friendship, a physical need for intimacy. What of it? We were young and unsure of ourselves. It was a passing phase."

"But it left something behind. A child."

"That was not my doing." And his mouth closed with a snap.

"She says --"

"I have no doubt she would like to saddle me with the responsibility, but it won't work."

"Have you considered genetic analysis?"

"No! The child is adequately cared for, I imagine, and even if genetic analysis seemed to indicate I might be the parent, I would refuse all efforts to tie me to the child emotionally, so what would the woman have to gain?"

"Are you so coldhearted?"

"Coldhearted! What do you imagine I have done -- corrupted a young, innocent virgin? She took the initiative in everything. In the sad story that I suppose she told you,

did she happen to mention that she'd been pregnant before, that she had had an abortion some years before I met her? I don't know who the father was then or who it is now. Perhaps neither does she -- either time."

"You are being unkind to her."

"I am not. She is being unkind to herself. I have a mistress. I have a love. It is this project. It is the human brain in the abstract, its study, its analysis, and all that that might lead to. The woman was, at best, a distraction -- at worst, a destruction. This little talk we are having -- that I did not ask for -- that she goaded you into undertaking, no doubt --"

"She did not," interdicted Morrison.

"Goads are not necessarily noticed. This discussion may cost me a night's sleep and make me that much less sharp tomorrow when I will need all my sharpness. Is that your intention?"

"No, of course not," Morrison said quietly.

"Then it is surely hers. You have no idea in how many different ways she has attempted interference and how often she has succeeded. I don't look at her, I don't speak to her, yet she will not leave me alone. Her imaginary wrongs seem as fresh in her mind as they were when I first broke away. Yes, I do mind her being on the ship with me and I have said so to Boranova, but she says that both of us are needed. Are you satisfied?"

"I'm sorry. I didn't mean to upset you so."

"What did you mean? Simply to have a quiet conversation? 'Say, what about all those betrayals and dirty tricks you have committed?' Just a friendly talk?"

Morrison remained silent, bowing his head slightly against the other's rage. Three out of five on the ship -- himself and the two ex-lovers -- would be laboring under a sense of unbearable wrong. He wondered if, on careful questioning, Dezhnev and Boranova would prove similarly disabled.

Konev said harshly, "You had better go. I brought you here to bury your fear of the project by providing you with a blaze of enthusiasm. Obviously, I have failed. You are more interested in prurient gossip. Go, the guards outside this door will take you to the quarters assigned you. You will need to sleep."

Morrison sighed. Sleep?

33.

Yet on this, his third night in the Soviet Union, Morrison slept.

Dezhnev had been waiting outside Konev's room with the guards, his broad face grinning and his large ears all but flapping with merriment. After the shadowed intensity of Konev's personality, Morrison found himself welcoming Dezhnev's chatter on all subjects but the morrow's miniaturization.

Dezhnev urged a drink on him. "It is not vodka, not alcohol," he had said, "It is milk and a little sugar and flavoring. I stole it from the commissary where it is used, I think,

for animals, because all those officials find human beings more easily replaceable than the animals. It is the curse of overpopulation. As my father used to say, 'To get a human being takes a moment of pleasure, but to get a horse costs money.' But drink. It will settle the stomach. I promise you."

The drink was in a can which Morrison punctured. He poured it into a cup that Dezhnev proffered and it tasted fairly good. He thanked Dezhnev almost cheerily.

When they got to Morrison's room, Dezhnev said, "Now the important thing for you to do is to sleep. Sleep well. Let me show you where everything is." And as he did so, he rather resembled a large and slightly unkempt mother hen. With a hearty "Good night. Be sure to get plenty of sleep," Dezhnev left the room.

And Morrison slept. Almost as soon as he worked himself into his favorite position - stomach down, left leg bent, knee outward -- he began to feel sleepy. Of course, he had little sleep the last two nights, but he suddenly guessed that there had been a mild sedative in the cup into which he had poured the drink. Then came the thought that perhaps Konev should take such a sedative. Then -- nothing.

When he woke, he could not even remember having had any dreams.

Nor did he wake of his own accord. Dezhnev was shaking him, as cheerful as he had been the evening before, as wide awake, and even as spruced up as it was possible for that animated haystack to be.

He said, "Awake, Comrade American, for it is time. You must shave and wash. There are fresh towels, combs, deodorants, tissues, and soap in the bathroom. I know because I have delivered them myself. Also a new electric razor. And on top of that, new cotton clothes for you to wear with a reinforcement in the crotch so you will not feel so exposed. They actually have them, the rotten bureaucrats, if you know how to ask -- with a fist." And he raised his fist while twisting his face into a look of ferocity.

Morrison stirred and sat up on the bed. It took him a moment to place himself and to weather the shock of realization that it was Thursday morning and that miniaturization was just ahead.

Half an hour or so later, when Morrison stepped out of the bathroom again -- satisfactorily bathed, dried, deodorized, shaved, combed, and reaching for his two-piece cotton uniform and his slippers -- Dezhnev said, "Satisfactory elimination, my lad? No constipation?"

"Quite satisfactory," said Morrison.

"Good! I don't ask out of idle curiosity, of course. I am not fascinated by excrement. It is just that the ship is not ideally suited for such things. Better we all go in empty. I didn't trust to nature, myself. I took a bit of a laxative."

"How long will we stay miniaturized?" asked Morrison.

"Perhaps not long. An hour if we are very lucky, perhaps twelve if we're not."

"But, look," said Morrison. "I can count on a well-behaved colon, but I can't go for twelve hours without urinating."

"Who can?" asked Dezhnev jovially. "Each seat in the ship is equipped for the eventuality. There is a recess, a removable cover. A built-in toilet, so to speak. I designed it myself. But it will be a struggle and, if you're sensitive, embarrassing. Someday, though, when the energy-free miniaturization process is a fact, we can build ocean liners for miniaturization and live in them like tsars of old."

"Well, let's hope the expedition is not unnecessarily extended." (He found it odd that, for a moment, his apprehension shifted from fears of death or mental disability to the details of how to manipulate the toilet lid and how to proceed as unobtrusively as possible. -- It occurred to him that there must have been many grossnesses and indelicacies, involved in the great exploratory trips of the past, items that had gone undetailed and, therefore, unnoted.)

He was in his cotton clothes and had stepped into his slippers when Dezhnev, dressed in slightly larger versions of the same (also with refinement in the crotch), said, "Let us now go to breakfast. We will have good food, high calories, and low bulk, for there will be no eating on board the ship. There'll be water, of course, and fruit juices, but no real beverages of any kind. The sweet Natasha made a terrible face when I suggested we might need a drop of vodka now and then. There were a lot of uncalled-for comments about sots and drunkards. Albert, Albert, how I am persecuted -- and unjustly, too."

Breakfast was indeed plentiful, but not exactly filling. There was gelatin and custard, thick slabs of white bread with butter and marmalade, fruit juices, and several varieties of pills to be sluiced down.

The talk over the breakfast table was moderately animated and, for the most part, dealt with the local chess tournament. There was no mention of the ship or of miniaturization. (Was it bad luck to mention the project?)

Morrison did not object to the direction of comment. He even made a few comments about his own adventures as a chess player of marked lack of renown.

And then, all too soon, the table was being cleared and it was time.

They left for the ship.

34.

They walked in single file, with space between themselves. Dezhnev was first, then Kahinin, then Boranova, then Morrison, and finally Konev.

Almost at once, Morrison understood the purpose. They were on view and they were being individualized. Along the edges of the corridor were men and women -- employees of the project, obviously -- watching eagerly.

They, at least, must know what was going on, even if the rest of the Soviet Union (let alone the world) did not.

Dezhnev, in front, waved eagerly to the right and left, rather in the fashion of a kindly and popular monarch, and the crowds responded appropriately, shouting, waving, and calling out his name.

Each name was called at various times, for obviously each prospective crew member was known to all. The two women were restrained in their acknowledgement and Konev (as Morrison could see when he looked behind him) was, not unexpectedly, moving along, eyes forward and unresponsive.

And then Morrison was surprised when he distinctly heard the cry, in English, "Hurrah, the American!"

He looked in the direction of the outcry and automatically waved, at which, just as automatically, there was a loud and enthusiastic shout and the words were picked up until "Hurrah, the American!" drowned out all else.

Morrison found himself unable to maintain his earlier sullen resignation. He had never been the object of mob jubilation and he took to it immediately and without trouble, waving and grinning madly. He caught Boranova's gravely amused expression and saw Dezhnev pointing his finger at him in an ostentatious that's-the-American gesture, but allowed neither action to disturb him.

And then they passed out of the line of observers and into the large room in which Shapirov was resting in his mental cocoon of coma. The ship was also in the room.

Morrison looked around with astonishment. He said, "There's a camera crew out there."

Kahinin was now standing next to him. (How beautiful her breasts are, Morrison thought. They were veiled but not hidden by the thin cotton and he could see why Konev had referred to her as a distraction.) She said, "Oh yes, we'll be on television. Every significant experiment is carefully recorded and there are reporters at each occasion so that it might be described. There was even a camera present when you and I were miniaturized yesterday, but we kept it out of sight since you weren't to know you were to undergo the process."

"But if this is a secret project --"

"It will not always be secret. Someday, when we have reached full success, the details of our progress will be revealed to our people and to the world. -- Sooner, if it seems some other nation is making progress on its own in the same direction."

Morrison shook his head. "It isn't good, this primary concern with priority. Progress would be much faster if additional brains and resources were put on the job."

Kahinin said, "Would you willingly give up priority in your own field of research?"

Morrison was silent. It was the obvious retort.

Kahinin, noting this, said with a shake of her head, "I thought so. It is easy to be generous with someone else's money."

Boranova, meanwhile, was talking to someone whom Morrison judged to be a reporter, one who was listening eagerly. Morrison transferred his attention and found himself listening eagerly, too.

Boranova was saying, "This is the American scientist, Albert Jonas Morrison, who is a professor of neurophysics, which is, of course, Academician Konev's field. He is here serving as both an American observer and as an assistant to Academician Konev."

"And there will be five who will be on the ship?"

"Yes. And there will never be so remarkable a five again -- or so remarkable an event -- if miniaturization lasts a million years. Academician Konev is the very first human being ever to have undergone miniaturization. Dr. Sophia Kahinin is the first woman and Professor Albert Morrison is the first American ever to have undergone miniaturization. Kahinin and Morrison represent the first multiple miniaturization and were the first to be miniaturized in the ship. And as for today's voyage, this will represent the first miniaturization of five human beings at once and it will be the first occasion on which a miniaturized ship and its crew will be inserted into a living human being. The human being into whom we will be inserted is, of course, Academician Pyotr Shapirov, who was the second human being to be miniaturized and the first to be a casualty of the process."

Dezhnev, who was suddenly at Morrison's side, whispered hoarsely into his ear, "There you are, Albert. You are now an indelible footnote in history. You might have imagined until now that you were a failure, but not so. No one can take from you the fact that you were the first American ever to be miniaturized. Even if your countrymen work out the miniaturization process on their own and miniaturize an American, that American can be no better than second."

Morrison had not thought of that. He was tasting this newfound and permanent personal statistic (if the Soviets would someday release Natalya's statement, undistorted and unrewritten) and he found it savory.

Yet he was not satisfied. "It is not what I want to be remembered for."

"Do a good job on this journey we are to take and you will end up being known for much more," said Dezhnev. "Besides, as my old father used to say, 'It is good to be at the head of the table, even if only one other sits with you and there is but a bowl of cabbage soup to share.'"

Dezhnev stepped away and now Kahinin was again at Morrison's side. She tugged at his sleeve and said, "Albert."

"Yes, Sophia?"

"You were with him after dinner last night, weren't you?"

"He showed me a map of Shapirov's brain. Marvelous!"

"Did he say anything about me?"

Morrison hesitated. "Why should he have?"

"Because you are a curious man, trying to escape your own private devils. You would have asked."

Morrison winced at her characterization of him. He said, "He defended himself."

"How?"

"He mentioned an earlier pregnancy -- and -- and abortion. It was not something I would believe, Sophia, unless you admitted it."

Kahinin's eyes became bright with gathering tears. "Did he---did he describe the circumstances?"

"No, Sophia. Nor did I ask."

"He might have told you. I was forced when I was seventeen. It had undesirable consequences and my parents took legal measures."

"I understand. Perhaps Yuri chooses not to believe this."

"He may choose to think that I asked for it, but it is all on the record and the rapist is still in prison. Soviet law is hard on offenders of this type, but only if the situation can be thoroughly proven. I recognize the fact that women can falsely accuse men of rape, but this was not one of those situations and Yuri knows it. How cowardly of him to state the fact without the extenuation."

Morrison said, "Nevertheless, now is not the time to be concerned about this, although I understand how deeply it must affect you. We will have a complicated job to do inside the ship and it will need all our concentration and skill. I assure you, though, that I am on your side and not on his."

Kahinin nodded and said, "I thank you for your kindness and sympathy, but don't be afraid of me. I will do my job."

At this point, Boranova called out, "We are now to enter the ship in the order in which I call your names: Dezhnev -- Konev -- Kahinin -- Morrison -- and myself."

Boranova moved immediately into position behind him and murmured, "How do you feel, Albert?"

"Terrible," said Morrison. "Did you expect any other answer?"

"No," said Boranova. "But, nevertheless, I expect you to do your work as though you didn't feel lousy. Do you understand?"

"I will try," said Morrison through stiff lips and, following Kahinin, he entered the ship a second time.

35.

One by one, they had to adjust themselves into their seats in the arrangement that Kahinin had described the day before. Dezhnev was front left at the controls, Konev front right, Kahinin mid-left, Morrison mid-right, and Boranova rear left.

Morrison blinked his eyes and blew his nose into a tissue he found in one of his pockets. What if he needed more tissues than had been supplied him? (A silly thing to worry about, but it was a more comfortable worry than some he might have.) His forehead felt damp. Was that because of the closeness? Would five people breathing -- hyperventilating, perhaps -- into a skimpy volume raise the humidity to maximum? Or would there be sufficient ventilation?

He thought suddenly of the first astronauts of a century before -- even more constricted, more helpless -- but going into a space that was somewhat known and understood, not into a microcosm that was utterly virgin territory.

Yet, as Morrison sat down, he felt the edge of terror dulled. He had, after all, been in the ship before. He had even been miniaturized and deminiaturized and was none the worse for it. It didn't hurt.

He looked around to see how the others were taking it. Kahinin, to his left, looked coldly blank. A rather icy loveliness. It might have been impressive that she was showing

no fear, no anxiety, but (as she had said of him) she was probably sitting there fighting her private devils.

Dezhnev was looking back, perhaps trying to weigh reactions as Morrison was, and very likely for different reasons. Morrison was trying to bolster what little inner courage he could find by borrowing from that of others, whereas Dezhnev (Morrison thought) was weighing responses in order to measure the possible success of the mission.

Konev faced directly forward and Morrison could see only the back of his neck. Boranova was just seating herself and was straightening her flimsy cotton costume.

Dezhnev said, "Friends. Fellow-travelers. Before we can leave, we must each inspect our equipment. Once we start, telling me something doesn't work is not going to strike me as an uproarious joke. As my father used to say, 'The truly wise trapeze artist does not inspect his nails in mid-jump.' It will be my job to make sure that the ship's controls are in order, as I am particularly certain they are, since I designed them myself and supervised the construction.

"As for you, Yuri, my friend, your cereb-whatever-you-call-it -- Or your brain map, as anyone with sense would call it -- has been transferred point for point into the software of your computer behind the plate before you. Please make sure that you know how to operate the plate and then see if the brain map is functional in all respects.

"Sophia, my little dove, I don't know what it is you do except that you make electricity, therefore make sure you can make it in the style you will find suitable. Natalya," his voice lifted slightly, "are you all right back there?"

Boranova said, "I am perfectly all right. Please check Albert. He needs your help most."

"Of course," said Dezhnev. "I have left him for last, so that he can get my full attention. Albert, do you know how to operate the panel before you?"

"Of course not," Morrison snapped. "How should I know?"

"In two seconds, you will know. This contact is to open and that contact is to close. Albert, open! -- Ah, you see, it slides open noiselessly. Now close! Perfect. Now you know. -- And have you seen what is inside the recess?"

"A computer," said Morrison.

"Perfect again, but do me a favor and see if it is a computer equivalent to yours. Your programmed software is in the recess to the side. Please check it out, make sure it fits the computer, and make sure it works as it is supposed to work. I will rely on you to tell me if it is working properly. Please! If you have any doubts, any suspicion, the tiniest hint that something is not just so, we will delay until it is fixed to your entire satisfaction."

Boranova said, "Please, Arkady, no dramatics. There is no time."

Dezhnev ignored her. "But if you tell me that something is wrong that really isn't wrong, my good Albert, Yuri will find out, I assure you, and neither he, nor I, nor anyone will be pleased. So if it occurs to you that inventing a trouble may delay the trip or even cancel it, let it unoccur to you at once."

Morrison could feel his face flushing and he hoped that it would be interpreted as the result of a generous anger over the thought that he might be dishonest in this fashion and not as guilt over a foiled plot.

Actually, as he hovered over his computer, he thought again of what his design and repeated redesign of his program had done. Now and then, these most recent designs of his had brought him -- feelings. It was not something he could identify, but it felt as though his own thought centers were being directly stimulated by the brain waves he was analyzing. He had not reported these, but he had occasionally talked about it and the word had gotten out. Shapirov had called his program a relay station because of that -- if Yuri was to be believed. Well, then, how could he now check if that were working well, when at best he had had the sensation only a few times and at unpredictable occasions?

Or might it all be simply the will-to-believe, the same will that had led Percival Lowell to see canals on Mars?

He realized that it hadn't actually even occurred to him to try to stymie the voyage by saying his program wasn't working. Dearly as he longed to avoid the risk, he could not do so at the cost of vilifying his program.

And then there was suddenly cause for a bit of fresh panic within Morrison's heart. What if the program had been damaged somehow in transit? How could he persuade them that there was truly something wrong and that he was not simply pretending?

But it all worked beautifully, at least as far as he could tell without it being in actual contact with a skull behind which an active brain existed.

Dezhnev said, as he watched Morrison's hands working, "We have placed new batteries in it. American batteries."

"Everything is working properly," said Morrison, "as far as I can see."

"Good. Is everyone satisfied with the equipment? Then lift your pretty rears from your seats and check the sliding panels there. Do they work? Believe me, you would all be very unhappy if they didn't."

Morrison watched Kahinin open and close the panel (covered with a thin layer of upholstery) that she was sitting on. His own worked similarly when he imitated her motions.

Dezhnev said, "It will take solid wastes, too, within reason, but let us hope we will have no occasion to check that out. In case the worst comes to the worst, there is a small roll of tissue just under the edge of your seat, where you can reach it easily. As we miniaturize, everything loses mass, so excretions would float. There will, however, be a downward current of air to prevent that. Don't let the draft startle you. There is a liter of water in a tiny refrigerator under the side of your seat. It is only for drinking. If you get dirty or sweaty or smelly, just make up your mind to stay that way. No washing until we get out. And no eating. If we lose a few ounces, so much the better."

Boranova said dryly, "If you lost seven kilograms, Arkady, so much the better. And we would consume less energy in the miniaturization."

"The thought has occurred to me at times, Natasha," replied Dezhnev coolly. "I will now test the controls of the ship and if all responds properly, as I'm sure it will, we will be ready to begin."

There was what seemed to Morrison to be a tense wait in utter silence, except for a soft whistle between the teeth on the part of Dezhnev, as he bent over his controls.

Then Dezhnev sat up, wiped his forehead with his sleeve, and said, "All is well. Comrade ladies, Comrade gentleman, and Comrade American, the fantastic voyage we face is about to begin." He fixed an auditor in his left ear, raised a tiny microphone before his mouth, and said, "All is operational within. Is all operational outside? -- Very well, then, wish us good fortune, comrades all."

Nothing seemed to happen and Morrison cast a quick look at Kahinin. She was still immobile, but she seemed to be aware of Morrison's head turning toward her, for she said, "Yes, we are miniaturizing."

The blood roared in Morrison's ears. This was the first time he was consciously miniaturizing.

9. ARTERY

If the current flow is taking you where you want to go, don't argue.

Dezhnev Senior

36.

Morrison's eyes remained, for the most part, focused on the recess before him, on the computer, and on the software he had inserted. The software -- the one material object of the long ago.

Long ago? It was less than a hundred hours ago that he was half-dozing his way through a dull talk on his last day at the conference and wondering whether there was any way to save his position at the university. And now a hundred subjective years had passed in those hundred objective hours and he could no longer clearly visualize the university at all or the life of sad frustration he had been leading there toward the end.

He would have given a great deal to have broken out of the dull cycle of useless striving a hundred hours ago. He would give a great deal more -- a great deal more -- to break back into it now, to wake up and to find the last hundred hours (or years) had never taken place.

He glanced through the transparent wall of the ship, there at his right elbow, his eyes half-closed as though he were really reluctant to see anything. He was reluctant. He did not want to see anything larger than it should be. It would interfere with his wild hope that the miniaturization process had broken down or that the whole thing had -- somehow -- been an illusion.

But a man walked into his view -- tall, over two meters tall. But then, perhaps he was actually that tall.

Others appeared. They couldn't all be that tall.

He shrank down into his seat and looked no more. It was enough. He knew that the miniaturization process was going its inexorable way.

The silence inside the ship was oppressive, unbearable. Morrison felt he had to hear a voice, even if only his own.

Kahinin, at his left side, was the one to whom he could speak most easily and she might be the best of a difficult choice, perhaps. Since Morrison did not want Dezhnev's misplaced jocular, or Boranova's one-dimensional concentration, or Konev's dark intensity, he turned to Kahinin's frozen sorrow.

He said, "How will we get into Shapirov's body, Sophia?"

It took a while, it seemed, for Kahinin to hear him. When she did, her lips moved pallidly and she said in a whisper, "Injection."

Then, as though with a supreme effort, she apparently decided that she must be companionable, so she turned to him and said, "When we are small enough, we will be placed into a hypodermic needle and injected into Academician Shapiro's left carotid artery."

"We'll be shaken up like dice," said Morrison, appalled.

"Not at all. It will be complex, but the problems have been thought through."

"How do you know? This has never been done before. Never in a ship. Never in a hypodermic needle, Never into a human body."

"True," said Kahinin, "but problems like this -- much simpler ones, of course -- have been planned for a long time and we have had extended seminars over the last few days on this mission. You don't think that Arkady's announcements before miniaturization began -- the ones about toilet tissue and so on -- were new to us, do you? We have heard it all before, over and over. It was for your benefit, actually, since you have attended no seminars, and for Arkady's, too, since he loves his moment in the sun."

"Tell me, then, what will happen?"

"I will explain events as they occur. For now we do nothing until we are in the centimeter range. It will take another twenty minutes, but not everything will be so slow. The smaller we get, the faster we can miniaturize, in proportion. -- Have you felt any bad effects yet?"

Morrison mentally subtracted the rapid beating of his heart and the panting of his lungs and said, "None." Then, feeling that to be an unduly optimistic remark, he added, "At least so far."

"Well, then?" said Kahinin and closed her eyes as though to indicate that she was tired of talking.

Morrison thought that might not be such a bad idea and closed his as well.

He might have actually fallen asleep or he might simply have gone into a protective state of semi unconsciousness, withdrawing from reality, for it seemed that no time had passed when he was brought to by a slight jar.

He opened his eyes wide and found himself a centimeter or so above the seat. He had the odd sensation of drifting with each vagrant puff of wind.

Boranova had moved over to the seat behind him and placed her hands on his shoulders. She pushed down gently and said, "Albert, put on your seat belt. Sophia, show him how. I'm sorry, Albert -- we should have gone over all of this -- everything -- before we started, but we had little time and you were nervous enough as it was. We did not wish to reduce you to utter helplessness by flooding you with information."

To his own surprise, Morrison had not been feeling helpless. He had rather enjoyed the sensation of sitting on air.

Kahinin touched a spot on her seat edge between her knees and a belt around her waist flipped away. It had not been there, Morrison was sure, when he had closed his eyes and now it was again no longer there, for it disappeared, with a snap, into a recess in the seat to her left. She twisted toward Morrison and said, "This, here to your left, is your belt

ejector." Morrison couldn't help noticing that, now unbound, she lifted up from her seat slightly as she moved toward him.

She pressed the ejector -- a somewhat darker circle in a light background -- and a flexible network of clear plastic shot out with a faint hiss, wrapped itself about him, and buried its triple tip into the seat at his other side. He found himself held, elastically, in a kind of lacework.

"If you want to free yourself, there is the belt release there, just between your knees." Kahinin leaned farther toward him to indicate the place and Morrison found the pressure of her body against his to be pleasurable.

She did not seem to be aware of it and, having completed her task, she pulled herself back into her chair and re-belted herself.

Morrison glanced quickly around, squeezing upward and forward as far as the belt would let him, and peered, with difficulty, over Konev's shoulder. All five were belted.

He said, "We've miniaturized to the point where we have very little weight, is that it?"

"You only weigh about twenty-five milligrams now," said Boranova, "so that you might as well consider yourself weightless. Then, too, the ship is being lifted."

Morrison looked at Kahinin accusingly and Kahinin shrugged slightly and said, "I told you I'd describe things as they happened, but you seemed to be asleep and I thought it wiser to let you stay that way. The jar of the clamp woke you and lifted you out of the seat."

"The clamp?" He looked to one side. He had been conscious of a shadow on both sides, but walls were supposed to be opaque and he had dismissed the sensation. Now he suddenly remembered that the ship's walls were transparent and realized that the light on either side was blocked.

Kahinin nodded. "A clamp is gripping us and helping to keep us steady so that we are not shaken up unnecessarily. It looks enormous, but it is a very small and delicately padded clamp. And we are being put into a small tank of saline solution. We are also being held steady by an airstream being sucked upward into a blunt nozzle. That pushes us against the nozzle so that, with the clamps, we are held three ways."

Morrison looked out again. Objects outside the ship that might have been visible through portions of the wall not blocked by the clamp or by the overhead nozzle were, nevertheless, not visible. Morrison could see occasional shifting of light and shadow and realized that whatever existed out there was too large to make out clearly with his tiny eyes. If the photons that approached the ship were not themselves miniaturized as they entered the field, they would behave as though they were long radio waves and he would have seen nothing at all.

He felt the ship suddenly jar again as the clamps withdrew, although he couldn't actually see them withdraw. One moment they were there and the next they weren't. The movement -- on his scale -- was too rapid to see.

Then he felt himself rising slightly against the belt that bound him in and he interpreted that as a downward movement of the ship. There followed a slow bobbing sensation.

Dezhnev pointed to a dark horizontal line that moved slowly up and down against the wall of the ship and said with satisfaction, "That's the surface of the water. I thought the motions would be worse. Apparently, there are engineers in this place who are almost as good as I am."

Boranova said, "Actually, engineering has little to do with it. We're being held in place by surface tension. That will only work while we're at the surface of a fluid. It will not affect us once we're in Shapiro's body."

"But this ripple effect, Natasha? This up-and-down movement. Is that affecting it at all?"

Boranova was studying her instruments and, in particular, a small screen on which a horizontal line seemed to be playing out forever, without budging from the center.

Morrison, twisting and lifting until his back ached, could just make it out.

Boranova said, "It's as steady as your hand when you are sober, Arkady."

"No better than that, eh?" Dezhnev's laugh boomed out.

(He sounds relieved, thought Morrison uneasily and wondered what the "it" was that Dezhnev had felt might be affected.)

"What happens now?" asked Morrison.

Konev spoke for the first time, as far as Morrison could remember, since miniaturization had begun. "Must everything be explained to you?"

Morrison answered with spirit. "Yes! You have had everything explained to you. Why should I not have it explained as well?"

Boranova said quietly, "Albert is perfectly correct, Yuri. Please hold your temper and be reasonable. You will need his help soon enough and I hope he will not be so discourteous as to snap at you."

Konev's shoulders twitched, but he said nothing in reply.

Boranova said, "The cylinder of a hypodermic syringe will pick us up, Albert. It will be under remote control."

And, as though that cylinder were waiting to hear her say so, a shadow encased them from behind, swallowing them almost at once. Only in front was there a circle of light visible for a moment and then that disappeared, too.

Boranova said calmly, "The needle has been clamped on. Now we will have to wait a while."

The interior of the ship, which had become quite dark, was suddenly suffused with a white light, rather softer and more restful than before, and Boranova said, "From now on there will be no more light from the outside until our journey is over. We will have to rely on our own internal illumination, Albert."

Puzzled, Morrison looked around for the source of the light. It seemed to be in the transparent walls themselves.

Kahinin, interpreting his glance, said, "Electroluminescence."

"But what is the source of power?"

"We have three microfusion engines." She looked at him proudly. "Of a type that's the best in the world." Then she repeated, "In the world."

Morrison let it go. He had the impulse to talk of the American microfusion engines on the latest space vessels, but what would be the point? Someday the world would be freed of its nationalist fervors, but that day had not yet arrived. Still, as long as those fervors did not express themselves in violence or threat of violence, matters were bearable.

Dezhnev, leaning back in his seat with his arms behind his neck and apparently addressing the gently illuminated wall before him, said, "Someday what we will do is expand a hypodermic syringe, place that around a full-sized ship, and miniaturize the whole thing. Then we won't have this small-scale maneuvering."

Morrison said, "Oh, can you do the other thing, too? What do you call it? Maximization? Gigantization?"

"We don't call it anything," said Konev crisply, "because it can't be done."

"Maybe someday, though."

"No," said Konev. "Never. It is physically impossible. It takes a lot of energy to miniaturize, but more than an infinite amount to maximize."

"Even if you hooked it up to relativity?"

"Even so."

Dezhnev made an inelegant sound with his lips. "That for your physically impossible. Someday you will see."

Konev relapsed into indignant silence.

Morrison said, "What is it we are waiting for?"

Boranova said, "The last-minute preparation of Shapirov and then the moving up of the needle and its insertion into the carotid."

As she spoke, the ship was jarred forward.

"Is that it?" asked Morrison.

"Not yet. They were merely removing the air bubbles. Don't worry, Albert. We'll know."

"How?"

"Why, they'll tell us. Arkady is in contact with them. It's not difficult. Radio wave photons miniaturize as they cross the boundary from there to here and deminiaturize as they cross in the other direction. There's very little energy involved -- even less than in the case of light."

Dezhnev said, "It's time to move up to the base of the needle."

"Then go ahead," said Boranova. "We might as well test the motive power under miniaturization."

There was a gathering rumble that reached a low peak and then settled down into a buzzing murmur. Morrison twisted his head in order to look as nearly backward as he could against his restraining belt.

Water was churning behind them as though paddle wheels were turning. In the absence of any real reference point outside, it was impossible to judge how quickly they were moving, but progress seemed slow to Morrison.

"Are we moving much?" he asked.

"No, but we don't need to," said Boranova. "There's no use wasting energy trying to move faster. After all, we're pushing against normal-sized molecules, which means high viscosity on our scale."

"But with microfusion motors --"

"We have many energy needs for matters other than propulsion."

"I'm just wondering how long it will take us to get to key points in the brain."

"Believe me," said Boranova grimly, "I'm wondering, too, but we will have an arterial current taking us as close as possible."

Dezhnev cried out, "We're there! See?"

Right ahead, in the forward light beam of the ship, a round circle could be seen. Morrison had no trouble translating that into the base of the needle.

On the other end of that needle, they would find Pyotr Shapirov's bloodstream and then they would actually be within a human body.

37.

Morrison said, "We're too large to go through the needle, Natalya."

He felt a peculiar amalgam of emotions at the thought. Uppermost was a feeling of hope that perhaps the whole experiment had failed. This might be as small as they could get and it wasn't small enough. They would have to deminiaturize and it would all be over.

Under that thought, well-hidden, was a little sigh of disappointment. Having come so far, might it not be as well to get into the body and experience the interior of a nerve cell? Ordinarily, being no darer of dangers, no scaler of heights, Morrison would have turned away in horror at the thought -- he did turn away in horror -- but having miniaturized, having reached this point, having survived the fright so far, was it possible that he might want to go farther?

But above these contradictory urges came a bit of realism. Surely these people were not such fools as to deal with a ship that could not be reduced to a size that would pass through the needle it was supposed to pass through. No conceivable stupidity in these very intelligent people could reach that pitch.

And Boranova, as though she were resonating with that thought, said, almost indifferently, "Yes, we are too large now, but we will not stay too large. That is my job here."

"Yours?" said Morrison blankly.

"Of course. We have been reduced to this point by our central miniaturization device. Now the fine adjustments will be made by me."

Kahinin murmured, "That is one of the things we must save our microfusion motors for as much as possible."

Morrison looked from one to another. "Do we have enough energy on board ship for further miniaturization? Surely the impression I got was that a vast quantity of energy was needed for --"

"Albert," said Boranova, "if gravitation were quantized, then it would take the same enormous amount of energy to reduce a mass by half, regardless of the original value of that mass. To reduce the mass of a mouse by half would take the same energy as was required to reduce the mass of an elephant by half. But the gravitational interaction is not quantized and, therefore, neither is mass loss. That means that the energy required for mass loss decreases with that loss -- not entirely in proportion, but to an extent. We have so little mass now that it takes much less energy to miniaturize further."

Morrison said, "But since you've never miniaturized anything as large as this ship through so many orders of magnitude, you are depending on the extrapolation of data obtained for a much different size range."

(They're not speaking to an infant, he thought indignantly. I am their equal.)

"Yes," said Boranova. "We are taking the chance that the extrapolation will hold, that something new and unexpected will not surprise us. Still, we live in a Universe that faces us with uncertainties now and then. That can't be helped."

"But we all face death if something goes wrong."

"Didn't you know that?" said Boranova calmly. "Have you been uneasy about this fantastic voyage of ours simply for the pleasure of being uneasy? But we are not alone in this. If things go wrong and the stored energy of miniaturization is released, it will not only destroy us, but it may damage the Grotto to some extent. I'm sure that many an unminiaturized person out there is holding his or her breath and wondering if he or she will survive an explosion. You see, Albert, even those who are not undergoing the risks of miniaturization are not altogether safe."

Dezhnev turned and grinned widely. Morrison noted that one of his upper molars was capped and did not match the rather yellowish tint of his other teeth.

Dezhnev said, "Concentrate on the thought, my friend, that if something goes wrong, you will never know. My father used to say, 'Since we all must die, what better can we ask for than a quick and sudden death?'"

Morrison said, "Julius Caesar said the same thing."

Dezhnev said, "Yes, but we won't even have time to say, 'Et tu, Brute.'"

"There will be no death," said Konev sharply, "and it is foolish to speak of it. The equations are correct."

"Ah," said Dezhnev. "There was a time of superstition when people relied on the protection of God. Thank Equations we now have Equations to rely on."

"Not funny," said Konev.

"I didn't mean to be funny, Yuri. -- Natasha, they're ready out there for us to proceed."

Boranova said, "Then there will be no further need to speculate. Here we go."

Morrison gripped his seat tightly, preparing himself, but he felt nothing happen. Up front, though, the round circle he had made out expanded and grew dimmer and dimmer as it moved very slowly backward until it could no longer be made out.

"Are we moving?" he asked automatically. It was the kind of question one was unable to refrain from asking, even though the answer was obvious.

"Yes," said Kahinin, "and we are expending no energy in doing so. We are not battling the water molecules. We are being carried along by the water flow in the needle as the cylinder presses in slowly."

Morrison was counting to himself. It kept his mind more efficiently occupied than studying the second hand of his watch would have done.

When he reached a hundred, he said, "How long will it take?"

"How long will what take?" asked Kahinin.

"When do we reach the bloodstream?"

Dezhnev said, "A few minutes. They are going very slowly, just in case there is some kind of microturbulence. As my father once said, 'It is slower, but better, to creep along the downward path than to leap over the cliff.'"

Morrison grunted, then said, "Are we still miniaturizing?"

Boranova answered from behind him. "No. We are down in the cellular range and that is far enough for our needs now."

Morrison was surprised to find that he was trembling. After all, so much was happening and so many new things existed to think about that he had somehow lacked the room to remain in terror. He was not terrified, at least not to an acute stage -- yet for some reason he continued to tremble.

He attempted to will himself to relax. He tried to let himself droop, but that required more than an effort of will. It needed gravitational pull and there was none to speak of. He closed his eyes and slowed his breathing. He even tried humming, under his breath, the choral singing from Beethoven's Ninth Symphony.

Finally he felt himself forced into comment on the matter. "I'm sorry," he said. "I seem to be shaking."

Dezhnev snickered. "Aha! I wondered who would be the first to mention it."

Boranova said, "It's not you, Albert. We are all shaking slightly. It's the ship."

Morrison was at once elevated into fright. "Is something wrong with it?"

"No. It's just a matter of size. It's small enough to feel the effect of Brownian motion. You know what that is, don't you?"

It was a purely rhetorical question. Boranova would surely expect a high school student of physics to know what Brownian motion was, let alone Morrison, and yet Morrison found himself explaining it in his own mind -- not in words, but as a flash of concept.

Every object suspended in a liquid is bombarded on all sides by the atoms or molecules of the liquid. These particles strike randomly and therefore unevenly, but the unevenness is so small compared to the total that it is unnoticeable and has no measurable effect. As an object grows smaller, however, the unevenness becomes

greater among the smaller and smaller number of particles striking the object in a given time. The ship was small enough now to respond to the slight excesses of collisions -- first in one direction, then in another -- randomly. It moved slightly in consequence, a random trembling.

Morrison said, "Yes, I should have thought of that. It will get worse if we continue to become smaller."

"Actually, it won't," said Boranova. "There will be other counteracting effects."

"I don't know of any," said Morrison, frowning.

"Nevertheless, there will be such effects."

"Leave it to the Equations," said Dezhnev in an affectedly pious tone. "The Equations know."

Morrison said, "I think this could make us seasick."

"It certainly would," said Boranova, "but there is a chemical treatment for that. We have been dosed with the same chemical that cosmonauts use against space sickness."

"Not I," said Morrison indignantly. "Not only haven't I been treated, I haven't even been forewarned."

"We told you as little as possible of the discomforts and dangers out of concern for your comfort, Albert. As for treatment, you consumed your dose with your breakfast. -- How do you feel?"

Morrison, who had begun to feel a bit squeamish with all this talk about sickness, decided that he felt fine. Astonishing, he thought, the tyranny exerted over the body by the mind.

He said in a low voice, "Tolerable."

"Good," said Boranova, "because we are now in Academician Shapiro's bloodstream."

38.

Morrison stared through the transparent wall of the ship.

Blood?

His first impulse was to expect redness. What else?

He peered out, squinting his eyes slightly, but could see nothing, even in the gleaming light of the ship. He might as well have been in a rowboat, drifting down the calm surface of a pond on a dark and cloudy night.

Morrison's thoughts suddenly veered. In the absolute sense, the light within the ship had the wavelength of gamma rays -- and very hard gamma rays at that. Yet the wavelengths were the result of miniaturizing ordinary visible light and to the equally miniaturized retinas and optic lobes of the people within the ship they were still light rays and had the property of light rays.

Outside, just beyond the hull of the ship, where the miniaturization field ended, the miniaturized photons enlarged to ordinary light-wave photons and those that were

reflected back to the ship were miniaturized again when the field boundary was crossed. The others might be accustomed to this paradox-ridden situation, but to Morrison the attempt to grasp the effect of a miniaturized bubble within a sea of normality was dizzying. Was the boundary visible, marking off the miniaturized from the normal? Was there a discontinuity somewhere?

Following his line of thought, he whispered to Kahinin, who was bent over her instrument, "Sophia, when our light leaves the miniaturization field and expands, it must give off heat energy, and when it's reflected back into the ship it must absorb energy in order to be miniaturized and the energy must come from us. Am I right?"

"Perfectly, Albert," said Kahinin without looking up. "Our use of light results in a small but steady loss of energy, but our motors can supply that. It is not a significant drain."

"And are we really in the bloodstream?"

"Never fear. We are. Natalya will probably dim the internal lights in a while and you'll see the outside more clearly then."

Almost as though that were a signal, Boranova said, "There! Now we can relax for a few moments." The lights dimmed.

At once, objects outside the ship came dimly into view. He could not make them out clearly yet, but they were immersed in something heterogeneous, something with objects floating in it, as would be true of blood.

Morrison stirred uneasily, straining at the constraint of his seat belt. He said, "But if we are in the bloodstream, which is at a temperature of thirty-seven degrees Celsius, we'll --"

"Our temperature is conditioned. We'll be quite comfortable," said Kahinin. "Really, Albert, we've thought of these things."

"Perhaps you have," said Morrison, slightly offended, "but I haven't been privy to those thoughts, have I? How can you condition the temperature when you don't have a cold sink?"

"We don't have one here, but there's outer space, isn't there? The microfusion motors give off a thin drizzle of subatomic particles which, under miniaturized conditions, have a mass of very nearly zero. They therefore travel at virtually the speed of light, penetrating matter as easily as neutrinos do and carrying off energy with them. In less than a second they are in outer space, so that the effect is of transferring heat from within the ship into outer space and we keep cool. Do you see?"

"I see," muttered Morrison. It was ingenious -- but perhaps obvious, after all, to those used to thinking in terms of miniaturization.

Morrison noticed that the controls of the ship, immediately under Dezhnev's hands, were luminous, as were the instruments before Kahinin. He struggled to raise himself in his seat and managed to see a corner of the computer screen in front of Konev. It contained what Morrison thought might be a map of the circulatory system of the neck. For a moment, before his body ceased its fight against the webbing of the belt and he

sank down into his seat again, he saw a small red dot on the screen, which, he deduced, was a device to mark the position of the ship in the left internal carotid artery.

He was panting a little from his effort and had to wait a few moments to regain control of his breath. The recess in which his own computer rested was illuminated and he shielded that bit of light from his face by raising his left hand. Then he looked out.

Far in the distance, Morrison could see something that looked like a wall, a barrier of some sort. It receded, then approached, then receded again, over and over, rhythmically. Automatically, he looked at his watch for a few seconds. It was clearly the pulsation of the arterial wall.

He said to Kahinin in a low voice, "Obviously the passage of time is not affected by miniaturization. At least the pulsation of the heart is -- just what it ought to be, even though I view it with miniaturized eyes and time it with a miniaturized watch."

It was Konev who answered. "Time isn't quantized apparently, or at least it isn't affected by the miniaturization field, which may be the same thing. That's convenient. If we had to take a shifting time flow into account, things might become unbearably complicated."

Morrison silently agreed and turned his thoughts in other directions.

If they were inside an artery, and if the ship were merely being swept forward by the current, the forward movement would have to be in spurts, one spurt for each contraction of the distant heart (the very distant heart -- on the scale of their present size). And if that were so, he ought to feel those spurts of motion.

He closed his eyes and tried to hold as still as possible, to move not at all except for the trembling of the Brownian motion -- which, after all, he could in no way control.

Ah, he could feel it. A slight but distinct push backward as the spurt started, a slight push forward as it came to an end.

But why was the spurt not more energetic? Why was he not yanked backward and forward in a sickening fashion?

And then he thought of the mass he no longer possessed. With his remaining mass so tiny, his inertia was similarly tiny. The viscosity of the normal fluid of the bloodstream exerted an enormous cushioning effect, so that the spurts were all but lost in the Brownian motion.

And, ever so slightly, Morrison felt himself relax. He felt something inside himself untighten a bit. The miniaturized environment was unexpectedly benign.

He looked through the ship's transparent hull again, his eyes focusing on the volume between himself and the arterial wall. He could see bubbles, faintly outlined. No, not bubbles, but things of substance -- many of them. Some turned slowly and changed apparent shape as they did so, so they were not spheres. They were disks, he now realized.

The truth burst in on him and shamed him. Why was he so slow in identifying them, since he knew he was in a bloodstream? -- But then he knew the answer to that, too. He could not really conceive of himself as being in a bloodstream; it was too easy to suppose he was in a submarine making its way through an ocean. He would naturally expect to see

the familiar sights of an ocean and would be foolishly puzzled at anything he saw that did not fit his assumption.

He would see the red corpuscles of the blood -- the erythrocytes -- and fail to recognize them.

Of course, they weren't red but faintly yellowish. Each one absorbed some shortwave light to produce that color. Get them in bulk, though, millions and billions of them, and they would absorb enough such light to appear red -- in arterial blood, anyway, and they were in an artery now. Once the cells withdrew the oxygen carried by the red corpuscles, the individual corpuscle would seem faintly bluish, and, in bulk, blue-purple.

He watched the erythrocytes with interest and saw them quite clearly now that he had recognized them for what they were.

They were biconcave discs, the centers depressed on each side. To Morrison, they were enormous, considering that, under normal conditions, they were microscopic, perhaps seven and a half micrometers in diameter and a little over two micrometers thick. Now here they were, swollen objects the size of his hand.

There were many of them in sight and they had a tendency to pile together in roulettes. These weren't static, however. Some corpuscles would peel off the roulettes and others would add on and there were always some single corpuscles in view. Those that were in sight tended to stay in sight; they weren't moving relative to the ship.

"I take it," said Morrison, "that we're simply going with the flow."

"That's right," said Kahinin. "It saves energy."

But, at that, the red corpuscles weren't entirely stationary relative to the ship. Morrison noticed one corpuscle drifting slowly toward the ship, carried perhaps by a bit of microturbulence or by a random push of Brownian motion. The corpuscle flattened slightly and momentarily against the plastic of the ship and then rebounded.

Morrison turned to Kahinin. "Did you see that, Sophia?"

"The red corpuscle nudging us? Yes."

"Why didn't it miniaturize? Surely it entered the field."

"Not quite, Albert. It bounced off the field, which extends a small distance beyond any miniaturized object, such as our ship, in every direction. There's a certain repulsion between normal matter and miniaturized matter, and the greater the extent of miniaturization, the stronger the repulsion. That's why very tiny objects such as miniaturized atoms or subatomic particles go through matter without interacting with it. It's also that which keeps the miniaturized state metastable."

"How do you mean?"

"Any miniaturized object is always surrounded by normal matter, unless it is in deep space. If nothing served to keep normal matter out of the field, such matter would forever be miniaturizing and, in the process, absorbing energy from the miniaturized object. The drain would be significant and the miniaturized object would quickly deminiaturize. In fact, it would be impossible to induce miniaturization in the first place, since the energy crammed into the miniaturizing object would leak away at once. What

we would then be trying to do, in effect, would be to miniaturize the entire Universe. -- Of course, the repulsion isn't extremely strong at our size. If a red corpuscle collided with sufficient force, the colliding surface might undergo some miniaturization."

Morrison turned back to the view and, almost at once, something that was obviously a shredded red corpuscle drifted into view.

"Ah," said Morrison, "is that an example of one that approached us too forcefully?"

Kahinin bent toward Morrison to get a better view in the direction he was pointing. She shook her head. "I don't think so, Albert. Red corpuscles have a limited life of about a hundred and twenty days. The poor things wear out and break down. In the volume of blood we can see, several dozen would break down every minute, so that torn and damaged red corpuscles would be a common sight. -- And that is a good thing, too, for it means that if we were to use our power and rush through the bloodstream, breaking up a few red corpuscles, or even a few million, it would make no difference to Shapirov. We couldn't possibly break down red corpuscles at a rate even approaching that of natural breakdown."

Morrison said, "What about platelets?"

"Why do you ask?"

"That must be a platelet I see there." He pointed. "It's lentil-shaped and only half the size of the red corpuscles."

A pause and then Kahinin nodded. "Ah yes, I see it now. That's a platelet. There should be one of them to every twenty red corpuscles."

That was about right, Morrison thought. If he were on a carousel, reaching out for rings as he passed, and each red corpuscle were an ordinary iron ring, the occasional platelet would represent the coveted brass ring.

Morrison said, "My point, Sophia, is that platelets are more fragile than red corpuscles and when they break they start the clotting process. If we break a few, we'll start a clot forming in the artery. Shapirov will then have another stroke and surely die."

Boranova, who had been listening to the exchange between Morrison and Kahinin, interposed at this point. "In the first place," she said, "platelets are not as fragile as all that. They can strike us lightly and rebound without harm. The danger of another stroke lies at the arterial wall. The platelets are moving much faster relative to the inner wall of the carotid artery than they are relative to us. And the inner wall of the artery may be layered with cholesterol and lipid plaques of all kinds. That surface is therefore much rougher and uneven than the smooth plastic hull of our ship. It's at the arterial wall that the clots might form -- not here. And even that isn't too enormous a danger. A single platelet -- or even a few hundred of them -- might be broken and still be insufficient to start the clotting process in a way that doesn't damp out. Massive quantities of platelets must break to turn the trick."

Morrison watched a platelet that vanished, now and then, behind the numerous red corpuscles. He wanted to see if it would make contact with the ship and, if it did, what would happen. The platelet, however, did not oblige but remained at a distance.

It then occurred to Morrison that the platelet appeared to be as large as his hand. How could that be if they were half the diameter of the red corpuscles and the red corpuscles were themselves as large as his hand? His eyes sought out a red cell and, sure enough, it seemed considerably larger than his hand.

He said, troubled, "The objects out there are getting larger."

"We're still miniaturizing, obviously," called out Konev, apparently annoyed at Morrison's seeming inability to draw the proper conclusion from an observed fact.

Boranova said, "That's right, Albert. The coronary is narrowing as we progress and we want to keep pace with it."

"We don't want to get stuck in the pipe," said Dezhnev genially, "by being too fat." Then, as another thought struck him, he added, "You know, Natasha, I've never been this thin in my life."

Boranova said, unmoved, "You are as fat as ever, Arkady, on the scale of Planck's constant."

Morrison was in no mood for airy banter. "But how far do we miniaturize, Natalya?"

"Down to molecular size, Albert."

And all of Morrison's apprehensions surged up again.

39.

Morrison felt foolish at his failure to realize at once that they were still miniaturizing and, at the same time, bitterly resentful at Konev for making it plain he recognized that folly. The trouble was that all these others had been living and thinking miniaturization for years and he himself, a newcomer to the concept, was still trying to cram it into his reluctant brain. Couldn't they sympathize with his difficulties?

He studied the red corpuscles moodily. They were distinctly larger. They were wider across than his chest and their boundaries were becoming less sharp. Their surfaces quivered, as though they were canvas bags full of syrup.

He said in a low voice to Kahinin, "Molecular size?"

Kahinin looked quickly at him, then turned away and said, "Yes."

Morrison said, "I don't know why that should bother me, considering the small size to which we have already miniaturized, but there's something rather frightening about being as small as a molecule. How small a molecule, do you suppose?"

Kahinin shrugged. "I don't know. That's up to Natalya. A virus molecule, perhaps."

"But this sort of thing has never been tried."

Kahinin shook her head. "We're charting unknown territory."

There was a pause and then Morrison said uneasily, "Aren't you afraid?"

She looked at him furiously, but continued to whisper. "Of course I'm afraid. What do you think I am? It isn't sensible not to be afraid when you have rational reason for it. I was afraid when I was violated. I was afraid when I was pregnant and deserted. I've spent half my life being afraid. Everyone does. That's why people drink as much as they do, to

wipe out the fear that grips them." She was virtually hissing through clenched teeth. "Do you want me to be sorry for you because you're afraid?"

"No," muttered Morrison, taken aback.

"There's nothing remarkable about being afraid," she went on, "as long as you don't act afraid -- as long as you don't let yourself be twisted into doing nothing because of fear, into having hysterics because of fear, into failing --" She interrupted herself in a bitter, whispered self-accusation. "I've had hysterics in my time." Her glance flickered in the direction of Konev, whose back was straight, stiff, and motionless.

"But now," she went on, "I intend to do my part, even if I am half-dead with fear. No one will tell from my actions that I'm afraid. And that had better be your case, too, Mr. American."

Morrison swallowed hard and he said, "Yes, of course," but it sounded very unconvincing, even to him.

His eyes flicked backward, then forward. There was no use whispering in those close quarters. There was no whisper so low it would not be overheard.

Boranova, behind Kahinin, was obviously busy with her miniaturization mechanism, but there was a tiny smile on her face. Approval? Contempt? Morrison couldn't tell.

As for Dezhnev, he turned his head and called out, "Natasha, it is continuing to narrow. Should you hasten the miniaturization?"

"I'll do what is needed, Arkady."

Dezhnev's eye caught Morrison's and he winked, with a grin. "Don't believe little Sophia," he said, pretending to whisper. "She is not afraid. Never afraid. She just doesn't want you to be alone with your uneasiness. She has a very soft heart, our Sophia, as soft as her --"

"Keep quiet, Arkady," said Sophia. "Surely your father must have told you that it is not wise to beat the empty teapot you call your head with the rusty spoon you call your tongue."

"Ah," said Dezhnev, rolling his eyes, "that was harsh. What my father did say was that no knife could be honed as sharp as a woman's tongue. -- But, Albert, seriously, reaching molecular size is nothing. Wait until we have learned to attach relativity to quantum theory and then, with a tiny puff of energy, we will reduce ourselves to subatomic size. Then you will see."

"What will I see?" said Morrison.

"You would see instant acceleration. We would simply take off --" He removed his hands from the controls momentarily in order to make a whizzing gesture with them, accompanied by a shrill whistle.

Boranova said calmly, "Hands on the controls, Arkady."

"Of course, my dear Natasha," said Dezhnev, "A moment of excusable drama, no more." Then to Morrison, "Instantly we would go at nearly the speed of light, the much faster speed of light under such conditions. In ten minutes we could be across the Galaxy, in three hours at the Andromeda, in two years at the nearest quasar. And if that's not fast

enough, we can get smaller still. We have faster-than-light travel, we have antigravity, we have everything. The Soviet Union will lead the way to it all."

Morrison said, "And how would you guide the flight, Arkady?"

"What?"

"How would you guide it?" said Morrison seriously. "As soon as the ship swoops down to the proper sizelessness and masslessness, it will, in effect, radiate outward at hundreds of light-years per second. That means that if there were trillions of ships, they would shoot out in every direction with spherical symmetry -- like sunlight. But since there would only be one ship, it would move outward in one particular direction, but in an absolutely unpredictable one."

"That's a problem for the clever theoreticians -- like Yuri."

Konev had not indicated any interest in the conversation up to that point, but now he snorted loudly.

Morrison said, "I'm not sure that it's wise to develop the traveling and carelessly assume the steering. Wouldn't your father say: 'A wise man does not build the roof of a house first.'"

"He might," said Arkady, "but what he once did say was this: 'If you find a gold key without a lock, don't throw it away. The gold is also sufficient.'"

Boranova stirred in her seat behind Morrison and said, "Enough with the saws and sayings, my friends. -- Where are we, Yuri? Are we making progress?"

Konev said, "In my opinion we are, but I would like the American to support my judgment, or correct it."

"How can I do either?" snapped Morrison. "I'm strapped in."

"Then unstrap," said Konev. "if you float a bit, at least you can't float very far."

For a moment, Morrison fumbled at his seat belt, having forgotten the location of the appropriate contact. Kahinin's hand moved quickly and he was free.

"Thank you, Sophia," he said.

"You will learn," she replied indifferently.

"Lift yourself so that you can see over my shoulder," said Konev.

Morrison did so and, inevitably, pushed too hard against the back of the seat ahead. As a result of his insignificant inertia, he moved upward explosively and struck his head against the roof of the ship. Had this happened at the same speed under unminiaturized conditions, he might well have suffered the blinding pain of a concussion, but the very lack of mass and inertia that had sent him shooting upward had bounced him back almost once with no sensation of pain and virtually none of pressure. He was as easy to stop as he had been to start.

Konev clicked his tongue. "Gently. Just lift your hand upward edgewise, turn it slowly, then push it down flatwise, slowly. Do you get it?"

Morrison said, "I understand."

He followed Konev's suggestion and moved up slowly. He caught at Konev's shoulder and stopped himself.

Konev said, "Now, look here at the cerebrograph. Do you see where we are at this moment?"

Morrison found himself looking at an enormously complex network, with a distinct three-dimensional effect. It consisted of sinuous rills branching outward in such a way as to form an exceedingly intricate tree. In one of the larger branches there was a small red dot, moving slowly and progressively.

Morrison said, "Can you give me a broader view so that I can place this section?"

Konev, with another click of his tongue, one that might have signified impatience, expanded the view. "Does this help?"

"Yes, we're on the edge of the brain." He could recognize the individual convolutions and fissures. "Where do you plan to go?"

The picture magnified somewhat. Konev said, "We'll curve off here into the interior of the neuron layer -- the gray matter. And where I'd like to head for, by this route" -- he named the areas in Russian rapidly and Morrison struggled to translate them in his mind into English -- "is this area here which, if I have read your papers correctly, is a crucial node of the neuron network."

"No two brains are exactly alike," said Morrison. "I can pin down nothing with certainty, all the more so if the particular brain in question is one I have never studied. Still, I would say the area you're heading for looks hopeful."

"Good, as far as that goes. And if we get to my destination, will you be able to tell more accurately whether we are at a crossroads where several branches of the network meet or, if not, in what direction and how far such a crossroads might be?"

"I can try," said Morrison cautiously, "but please remember that I have made no guarantees as to my abilities in this connection. I have not offered you any promises. I have not volunteered --"

"We know that, Albert," said Boranova. "We ask only that you do what you can."

"In any case," said Konev, "that's where we're going as a first approximation and we'll get there before long, even though the current is slowing. We are, after all, almost down to capillary size. -- Strap yourself in, Albert. I'll let you know if I need you."

Morrison managed to operate the seat belt without any help, proving that even small triumphs can be sweet.

Almost to capillary size, he thought, and looked out through the walls of the ship.

The vessel wall was still at a comfortable distance, but it had changed in appearance. Earlier, the steadily pulsating walls had been rather featureless. Now, however, Morrison could make out no pulsing and the walls were beginning to look faintly tiled. The tiling, Morrison realized, consisted of the cells that made up the thinning walls.

He could not actually get a clear look at the tiling, either, for the red corpuscles were in the way. They were now soft bags nearly the size of the ship. Occasionally, one ballooned past the ship at close quarters and was pushed elastically inward at the point of contact, without undergoing any visible harm.

One time a small smear was left behind. Perhaps the contact had been just a little too forceful and a line of miniaturized molecules had been formed against the hull, Morrison thought. The smear lifted off quickly, however, and dissolved in the surrounding fluid.

The platelets were another story, since by their very nature they were much more fragile than the red corpuscles.

One made a head-on collision with the ship. Or perhaps it had been slowed by a collision with a red corpuscle so that the ship had overtaken it. The prow of the ship penetrated deeply and the skin of the platelet punctured. Its contents oozed out slowly, mixing with the plasma and then forming into two or three long strings that tangled with each other. They clung to a portion of the ship's hull for quite a time, trailing behind.

Morrison waited to see any evidence of a clot forming. None did.

Minutes later Morrison saw, up ahead, a milky fog that seemed to fill the blood vessel from wall to wall, pulsating and undulating. Inside it were dark granules that moved steadily from one side to the other. To Morrison, it looked like a malignant monster and he couldn't help but cry aloud in a moment of terror.

10. CAPILLARY

If you want to know whether water is boiling, don't test it by hand.

Dezhnev Senior

40.

Dezhnev turned his head, startled, and said, "It's a white cell, Albert, a leucocyte. It is nothing to be bothered about."

Morrison swallowed and felt distinctly annoyed. "I know it's a white cell. It just caught me by surprise. It's bigger than I thought it would be."

"It's nothing," said Dezhnev. "A piece of pumpnickel, really, and no bigger than it should be. We're just smaller. And even if it were as big as Moscow, so what? It's just floating along in the bloodstream as we are."

"As a matter of fact," said Kahinin gently, "it doesn't even know we're here -- I mean, that we're anything special. It thinks we're a red corpuscle."

Konev seemed to be addressing the air in front of him in an abstracted sort of way, saying, "White cells do not think."

A flash of resentment crossed Kahinin's face, flushing it slightly, but her voice remained even. "By saying 'think,' Albert, I am merely using a figure of speech. What I mean is that the white cell's behavior toward us is that which it would display toward a red corpuscle."

Morrison cast another look toward the large billowing cell up ahead and decided that, harmless or not, he found its appearance distasteful. He looked with much appreciation at the contrast made by Kahinin's pretty high-cheekboned face, and wondered why she had never had that little mole under the left corner of her lip removed. Then he wondered if it didn't add just the right trifle of piquancy to a face that might otherwise be considered too pretty to possess character.

That moment of beside-the-point speculation effectively removed the uneasiness that the white cell's appearance had introduced and Morrison returned, in his mind, to Kahinin's statement.

"Does it act as though we're a red corpuscle because we're the right size for it?"

"That may help," said Kahinin, "but it's not the real reason. You judge a red corpuscle to be a red corpuscle because you see it. The white cell judges a red corpuscle to be one because it senses the characteristic pattern of the electromagnetic pattern on its surface. White cells are trained -- that is just another figure of speech -- let us say, adapted -- to ignore that."

"But this ship doesn't have the electromagnetic pattern of a red corpuscle . . . Ah, but I guess you've taken care of that."

Kahinin smiled in gentle self-satisfaction. "Yes, I have. It is my speciality."

Dezhnev said, "That is it, Albert. Our little Sophia knows, completely in her head" - he tapped his right temple -- "the exact electromagnetic pattern of every cell, every bacterium, every virus, every protein molecule, every --"

"Not quite," said Kahinin, "but those I forget, my computer can supply. And I have a device here that can use the energy of the microfusion motors to place positive and negative electric charges on the ship in whatever pattern I choose. The ship has the charge pattern of a red corpuscle on itself as best as I can duplicate it, and that is close enough to cause the white cell to react -- or, rather, not to react -- accordingly."

"When did you do that, Sophia?" asked Morrison with interest.

"When we were reduced to the size that would make us a potential object of interest for a white cell or for the immune apparatus generally. We don't want antibodies swarming over us, either."

A thought occurred to Morrison. "Since we're talking about being reduced in size, why hasn't the Brownian motion gotten worse? I should think it would batter us more as we got smaller."

Boranova put in from behind, "So it would if we were unminiaturized objects of this size. Since we are miniaturized, there are theoretical reasons that prevent Brownian motion from getting very bad. It's nothing to worry about."

Morrison thought about it, then shrugged. They weren't going to tell him anything they thought might make him too knowledgeable in the matter of miniaturization and what did that matter? The Brownian motion had not grown worse. In fact, it had grown less troublesome (or was he just getting used to it?) and he had no objection to that. That made it, as Boranova said, nothing to worry about.

His attention shifted back toward Kahinin. "How long have you been training in this field, Sophia?"

"Since my graduate days. Even without Shapiro's coma, we all knew the time would come when a trip through a bloodstream would become necessary. We've been planning something like this for a long time and we knew that this skill of mine would be needed."

"You might have planned an automated crewless ship."

"Someday, perhaps," said Boranova, "we will, but not yet. We cannot, even now, make the automation equivalent to the versatility and ingenuity of a human brain."

"That's true," said Kahinin. "An automated pattern maker would place us in the red corpuscle pattern as a way of following the path of least resistance, and it would do little more than that. After all, it would be a useless expense and perhaps an impractical exercise altogether to try to instill in an automated pattern maker the ability to change appropriately in response to all sorts of improbable conditions. When I am present, however, I have the capacity to do almost anything. I can change the pattern to meet an unlikely emergency, to test the value of something earlier unthought of, or simply to suit a

whim. -- For instance, I could change the ship's pattern to that of an E coli bacterium and the white cell would attack at once."

"I'm sure of that," said Morrison, "but don't do it, please."

"No fear," said Kahinin. "I won't."

But Boranova's voice sounded in sudden -- and uncharacteristic -- excitement. "On the contrary, Sophia, do that!"

"But, Natalya --"

"I mean it, Sophia. Do it. We haven't tested your instrument under field conditions, you know. Let's try it."

Konev muttered, "That's a waste of time, Natalya. Let us first get to where we're going."

Boranova said, "It won't do us any good to get there -- if we can't enter a cell. Here is an immediate opportunity at hand to see if Sophia can control the behavior of a cell."

"I agree," said Dezhnev boisterously. "This has been a remarkably uneventful trip so far."

"That's the best kind, I should think," said Morrison.

But Dezhnev held up a disapproving hand. "My old father used to say: 'To want peace and quiet above all else is to hope for death.'"

"Go ahead, Sophia," Boranova said firmly. "We waste time."

Kahinin hesitated a bare moment -- the time required, perhaps, to remember that Boranova was captain of the ship -- then her hand flickered over the controls of her device and the configurations upon the television screen altered markedly. (Morrison admired, in an apprehensive sort of way, the speed with which she did it.)

Morrison lifted his eyes to the white cell ahead, and for a moment he saw no change. And then it seemed as though a fit of trembling overtook the monster and Dezhnev whispered, "Aha, it recognizes the presence of its prey."

At the extreme forward end of the white cell, its substance seemed to bulge toward and all around them in an uneven circle. At the same time, the substance in the center retreated as though it were being sucked in. Morrison envisioned a monster's jaws preparing for a meal.

Konev said, "It works, Natalya. That creature ahead is preparing to envelop and engulf us."

Boranova said, "So it is. Very well, Sophia, restore us to the red cell mode."

Again Kahinin's fingers flickered and the configurations on the screen returned (as nearly as Morrison's memory could judge) to what they had earlier been.

This time, however, the white cell remained unaffected. Its outer rim was shooting past the ship, which was now heading into the deep central concavity.

Morrison was appalled. The entire ship was encased by something that looked precisely like fog -- a gritty granular fog, within which a multi-lobed object, faintly denser than the rest, writhed its way around them. Morrison knew that this must be the nucleus of the white cell.

Konev snapped out angrily, "Apparently, once the white cell gears itself for engulfment, the rest is automatic and nothing will stop it. -- What now, Natalya?"

Boranova replied quietly, "I admit I hadn't expected this. The fault is mine."

"What's the difference?" said Dezhnev, frowning. "It's no matter. What can this blob do to us? It cannot crush us. It is not a boa constrictor."

Konev said, "It can try to digest us. We're in a food vacuole right now and digestive enzymes are pouring in around us."

"Let them pour," said Dezhnev. "I wish them the joy of the attempt. The ship's wall is not digestible to anything a white cell has. After a while, it will reject us as indigestible residue."

"How will it know?" asked Kahinin.

"How will it know what?" snapped Dezhnev.

"How will it know we are indigestible residue? It was spurred into activity by our bacterial charge pattern."

"Which you removed."

"Yes, but as someone remarked, the white cell, once stimulated, apparently has to go through its whole cycle of activity. It is not a thinking device; it is entirely automatic." Kahinin was frowning now and looking around at the others. "It seems to me that the white cell will continue trying to digest us until it is given the appropriate stimulus that will put its engulfment mechanism into reverse and allow it to eject us."

Boranova said, "But we now have the charge pattern of a red corpuscle again. Don't you think that would stimulate rejection? It doesn't eat red cells."

"I think it's too late for that," said Kahinin a little diffidently, as though nervous about standing up to Boranova. "The red corpuscle pattern keeps it unengulfed, but once it is engulfed by some means, it would seem that the pattern alone is insufficient to spark ejection. After all, here we are; we are not being ejected."

Her eyes -- all five pairs of eyes, in fact -- uneasily surveyed the wall of the ship. They were trapped in the cloudy cell.

"I think," Kahinin went on, "that there's a charge pattern to the kind of indigestible residue left by the bacteria the white cell is designed to engulf and that that alone would be a trigger for ejection."

"In that case," said Dezhnev, "give it the pattern it wants, Sophia, my little chicken."

"Gladly," said Kahinin, "if you will tell me what it is because I don't know. I can't just try patterns at random. The number of possible patterns is astronomical."

"As a matter of fact," said Konev, "can we be sure the white cell ejects anything at all? Perhaps indigestible residue becomes part of its granular material and remains within it until it is removed and dismantled in the spleen."

Boranova said sharply (perhaps weighed down with the knowledge that she was responsible for their present situation, thought Morrison), "There is no point in babbling. Is there a constructive suggestion?"

Dezhnev said, "I can turn on the microfusion motors and bore a way out of the white cell."

"No," said Boranova sharply. "Do you know the direction which we are heading at this moment? Inside this food vacuole we may be slowly turning or the vacuole itself may be drifting through the cell's substance. If you smash your way outward, you may damage the wall of the blood vessel and the brain itself."

Konev said, "For that matter, white cells can wiggle out of a capillary, working their way between the cells that make up the capillary wall. Since the path we have taken has led us into an arteriole branch that has narrowed to just about capillary size, we can't even be sure that we're still in the bloodstream."

"Yes, we can," said Morrison suddenly. "The white cell can pinch itself small, but it can't pinch us small. If it squeezes out of the vessel, it would be forced to leave us behind. -- And that would be a good thing, except that it hasn't done it."

"There you are," said Dezhnev. "I should have thought of it sooner. Natasha, make us bigger and crack the white cell open. Give it indigestion like it has never had."

Again a sharp negative from Boranova. "And crack the blood vessel open, too? The blood vessel is fairly small now, not much wider than the white cell."

Kahinin said, "If Arkady will get in touch with the Grotto, someone there might have an idea."

There was silence for a moment and then Boranova said in a half-strangled way, "Not just yet. We have done something foolish -- well, I have -- and you know as well as I do that it would be better for all of us if we didn't need help."

"We can't wait forever," said Konev restlessly. "The fact is that I don't know where we are by now. I can't rely on the white cell drifting with the bloodstream or with maintaining any given speed, for that matter. Once we are lost, it may take considerable time to locate ourselves and we may need help from the Grotto to do it, too. In that case, how do we explain being lost?"

Morrison said, "How about the air-conditioning?"

There was a pause and Boranova said, "What do you mean, Albert?"

"Well, we're sending miniaturized subatomic particles out of the ship and into interplanetary space. They carry heat away from the ship, I was told, so that we remain cool even in the all-pervasive warmth of the body we're in. That coolness must be something the white cell is not designed to tolerate. If we turn up the air-conditioning and become colder still, there may come a time when the white cell will be uncomfortable enough to eject us."

Boranova mulled this over and said evenly, "I think -- possibly -- that might work."

Dezhnev said, "Don't bother thinking. I've turned up the air-conditioning to maximum. Let's see if anything happens besides all of us getting frostbite."

Morrison watched the fog outside. He was well aware that he was as tense as the others. He was not in agony over an unfortunate decision -- an ill-advised experiment. Nor was he biting his nails over the fate of Shapirov and yet -- Tapping his own emotions, it occurred to him that having come thus far, having been miniaturized and finding himself in a small cerebral arteriole, he suddenly had an urge to check out his theories. Had he come this far in order to turn back and spend the rest of his life, holding up an imaginary thumb and forefinger nearly in contact and saying in the depth of his mind, "Missed it by that much"?

Very well, then. He had passed from desperately not wanting to attempt the project to a definite reluctance to abort it.

Dezhnev's voice broke in on his thoughts. "I don't think this little animal likes what's happening."

Morrison was conscious of a biting chill, and shivered as he became aware that the thin cotton uniform he wore was a totally inadequate shield against this sudden onset of winter.

And perhaps the white cell "thought" this, too, for the fog thinned and a rift appeared in it. Then, in another moment or two, the surroundings were clear and the white cell was a ball of fog to their rear, drifting away -- or perhaps crawling away -- amoeba-like, from an unpleasant experience.

Boranova said (sounding a little dumbfounded), "Well, it's gone."

Dezhnev waved both hands high in the air. "A toast -- if we had a small swallow of vodka with us -- to our American hero. It was an excellent suggestion."

Kahinin nodded at Morrison and smiled. "It was a good idea."

"As good as mine was bad," said Boranova, "but at least we know that your technique can do what it should, Sophia -- as long as we know enough. And as for you, Arkady, ease the air-conditioning intensity before we all catch pneumonia. -- So you see, Albert, we have already done well to take you with us."

"Perhaps," said Konev tightly, "but in the meanwhile, I think the white cell took us on an excursion. We are not where we were and I do not know exactly where we are."

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Boranova's lips tightened and she asked with some difficulty, "How can you not know where we are? We were inside the white cell only a few minutes. It couldn't have moved us into the liver, could it?"

Konev seemed at least equally upset. "No, we're not in the liver, Madame." (He came down heavily on the honorific, giving it the French pronunciation.) "But I suspect the white cell, dragging us with it, has turned into a branching capillary so that we are

now out of the mainstream of the arteriole -- which was not yet quite a capillary -- that we were carefully following."

"Which capillary did it turn into?" asked Boranova.

"That is what I don't know. There are a dozen capillaries it might have turned into and I don't know which one it was."

"Doesn't your red marker --" began Morrison.

"My red marker," said Konev at once, "works by dead reckoning. If I know where we are and the speed at which we're progressing, it will move along with us, turning when I tell it to turn."

"You mean," said Morrison incredulously, "it only marks your position insofar as you know your position -- no more than that?"

"It is not a magical marker, no," said Konev freezingly. "It acts to mark our place and keep track of it, lest we lose it in the confusion of the three-dimensional complexity of the bloodstream and the neuron networks, but we have to guide it. At this stage, it's not complex enough to guide itself. In an emergency, we can be located from outside, but that's a time-consuming process."

It seemed to be time for someone to ask a classically foolish question and that someone turned out to be Dezhnev. He said, "Why should the white cell have turned off into a capillary?"

Konev turned red. Speaking so rapidly that Morrison could hardly make out the Russian, he said, "And how should I know that? Am I privy to the thought processes of a white cell?"

"That's enough," said Morrison sharply. "We're not here to fight with each other." (He noted the quick look that Boranova had shot toward him and he chose to interpret it as representing gratitude.)

"Actually," he went on, "the solution is simple. We're in a capillary. Very well. The current is at a creeping pace in capillaries, so where is the difficulty in making use of the famous microfusion engines? If you put them into reverse, we will just back out of this capillary and eventually -- not a very long eventually, either -- we will be back at the junction point and in the arteriole again. Then we continue onward until we get to the proper turnoff and into the proper capillary. We'll have lost a little time and spent a little power, that's all."

Morrison's statement was greeted with solemn stares. Even Konev, who generally spoke -- when he did -- with his face steadfastly forward, turned now, his angry frown concentrated on Morrison.

Morrison said uneasily, "Why are you all looking at me like that? It's a perfectly natural course of procedure. If you had been driving a car and accidentally turned into a narrow alley and found it the wrong one, wouldn't you back out?"

Boranova was shaking her head. "Albert, I'm sorry. We have no reverse."

"What?" Morrison stared at her blankly.

"We have no reverse. We have only a forward drive. Nothing more."

Morrison said, "How is it possible to -- No reverse gear at all?"

"None."

Morrison looked around at the other four faces and then burst out, "Of all the stupid, incompetent, maddening situations. It's only in the Sov--"

He stopped.

Boranova said, "Finish the thought. You were going to say that it's only in the Soviet Union that such a situation would be allowed to arise."

Morrison swallowed, then said grumpily, "I was going to say that, yes. It might be an ill-tempered statement, but I'm angry -- and the statement may be true, at that."

"And do you think we're not angry, Albert?" said Boranova with her glance level upon him. "Do you know how long we've been working on a ship like this? Years! Many years! Since miniaturization first seemed to become a practical possibility, we have been thinking of entering a bloodstream someday and exploring the working mammalian body -- if not the human body -- from within."

"But the more we planned and the more we designed, the more expensive the project grew, and the more stubborn the budgeteers in Moscow became in response. I can't blame them; they had to balance the expense of this project against other expenses in areas that were far less problematical than miniaturization was. So, as a result, the ship grew simpler and simpler in concept, as we cut out first this, then that, then the other thing. Do you remember when you Americans were building your first shuttles? What you planned and what you got?"

"In any case, we ended up with an unpowered craft, fit for observation only. We planned to enter the bloodstream and let the current carry us where it would. When we had all the information we could get, we would slowly deminiaturize. This would kill the animal which we had been studying -- it would only be an animal, of course, but even so some of us agonized over that. That was all this ship was planned for. Nothing more. We had no way of knowing that we would suddenly be faced with a situation in which we had to invade a human body, in which we had to get to a specific spot in the brain, in which we would have to emerge without killing the body. In which we had to -- and all we had was this ship, which was not meant for the job at all."

The anger and contempt on Morrison's face had vanished into a frown of concern. "What did you do?"

"We worked as fast as we could. We improved the microfusion motors and a few other things, frightened that at any moment Shapirov would die, and equally frightened -- or more so -- that our hurry would cause us to make some fatal mistake. Well, I don't think we made any fatal mistakes, but still the microfusion motors we ended up with were to be used for acceleration only when absolutely necessary -- they had originally been designed only for lighting, air-conditioning, and other low-energy uses. Of course, we lacked the time to do a complete job, so -- no reverse gear."

"Didn't anyone point out that there might just be a chance you would want to go into reverse?"

"That would mean more money and there was none to be had. After all, we had to compete with space, which was a going concern, with the realistic needs of agriculture,

commerce, industry, crime control, and half a hundred other departments of government all clutching at the national purse. Of course we never had enough."

Dezhnev sighed and said, "And so here we are. As my good father used to say: 'Only simpletons go to fortune-tellers. Who else would be in such a hurry to hear bad news?'"

"Your father is telling me nothing I don't know, Arkady. At least with that remark. I'm afraid to ask, but can we simply turn the ship?" Morrison asked.

Dezhnev said, "You are wise to be afraid. In the first place, the capillary is too narrow. The ship has no room to turn."

Morrison shook his head impatiently. "You don't have to do it in the ship's present size. Shrink it a bit. Miniaturize it. You're going to have to miniaturize anyway before getting inside a cell. Do it now and turn it."

Dezhnev said mildly, "And in the second place, we can't turn it any more than we can go backward. We have a forward gear and that is all."

"Unbelievable," whispered Morrison to himself. Then aloud, "How could you consent to begin this project with so inadequate a ship?"

Konev said, "We had no choice and we were not counting on playing games with white cells."

Boranova, her face expressionless, her voice toneless, said, "If the project fails, I will take full responsibility."

Kahinin looked up and said, "Natalya, assigning blame will not help us. Right now, we have no choice. We must go ahead. Let us move on, miniaturize if we have to, and find some likely cell to enter."

"Any cell?" said Konev in a stifled fury, and addressing no one. "Any cell? What good will that do?"

"We might find something useful anywhere we go, Natalya," said Kahinin.

When Konev made no response, Boranova said, "Is there any objection to that, Yuri?"

"Objection? Of course there's objection." He did not turn, but his very back seemed stiff with anger. "We have ten billion neurons in the brain and someone is suggesting that we wander among them blindly and choose one at random. It would be an easier task to drive along Earth's roads in an automobile and randomly choose some human being on the wayside in the hope that he might be a long-lost relative. Much easier. The number of human beings on Earth is a little more than half the number of neurons in the brain."

"That is a false analogy," said Kahinin, carefully turning her face toward Boranova. "We are not engaged in a blind search. We are looking for Pyotr Shapirov's thoughts. Once we detect them, we need only move in the direction in which the thoughts strengthen."

"If you can," said Morrison, shaking his head. "If your single forward gear happens to be carrying you in the direction in which the thoughts weaken, what do you do then?"

"Exactly," said Konev. "I had plotted out a course that would have taken us directly to an important junction in the particular neuron network that is related to abstract thought -- according to Albert's researches. The bloodstream would have carried us there and whatever tortuous path it took, the ship would have followed. And now --" He lifted both his arms and shook them at the unresponsive Universe.

"Nevertheless," said Boranova, her voice strained, "I don't see that we have any choice but to do what Sophia suggests. If that fails, we must find a way out of the body and perhaps try again another day."

"Wait, Natalya," said Morrison. "There just may be another way to remedy the situation. Is it at all possible for one of us to get outside the ship and into the bloodstream?"

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Morrison did not expect an affirmative answer. The ship, which had seemed to him earlier to be a marvelous example of high technology, had now shrunk in his imagination to a stripped-down scow of which nothing at all could be expected.

It seemed to him best, from any practical standpoint, to do as Kahinin had suggested -- to try any brain cell they could reach. But if that failed, it would mean getting out of the body and trying again, as Boranova had just said, and Morrison did not feel he would be physically capable of going through this again. He would try any wild scheme to prevent that.

"Is it possible to get out of this ship, Natalya?" he asked again as she looked at him, dazed. (The others were no more responsive.) "-- Look, don't you understand? Suppose you want to collect samples? Do you have a dredge, a scoop, a net? Or can someone get outside and go scuba diving?"

Boranova finally seemed to overcome her surprise at the question. Her heavy eyebrows lifted into an attitude of wonder. "You know, we do. One diving suit for reconnoitering, the plans say. It should be under the back row seats. Under here, in fact."

She unclasped herself and went into a slow float, then managed to pull herself into a horizontal position, her light cotton clothing billowing.

"It's here, Albert," she said. "I presume it has been checked -- I mean, against gross errors. There would be no leaks, no obvious flaws. I don't know that it's been field-tested."

"How could it be?" said Morrison. "I take it this is the first time the ship -- or anything -- has been in a bloodstream."

"I imagine it must have been checked in warm water adjusted to the proper viscosity. I blame myself for not checking on this, but of course there was no thought at any time of anyone leaving the ship. I had even forgotten the suit existed."

"Do you at least know if the suit has an air supply?"

"Indeed it does," said Boranova with some asperity. "And it has a power supply that makes it possible for it to have a light of its own. You mustn't think of us as utter incompetents, Albert. --Though," she said with a rueful shrug, "I suppose we -- or, at least, I -- have given you some reason to think so."

"Does the suit have flippers?"

"Yes, on both hands and feet. It is meant for maneuvering in fluid."

"In that case," said Morrison, "there is perhaps a way out."

"What are you thinking of, Albert?" asked Kahinin.

Morrison said, "Suppose we miniaturize a bit further so that the ship can turn easily without scraping the capillary walls. Someone then gets into the suit, moves outside the ship -- assuming you have an air lock of some sort -- and, propelling himself by means of the flippers, turns the ship. Once the ship is turned, the person gets back into the ship, which is now facing in the correct direction. The motor is started and we push our way back against the feeble capillary current to the joining with the arteriole and thus back to our original path."

Boranova said thoughtfully, "A desperate remedy, but our condition, too, is desperate. Have you ever done any scuba diving, Albert?"

"Some," said Morrison. "That's why I thought of this."

"And none of us have -- which is why we didn't think of it. In that case, Albert, unclasp yourself and let us get this suit on you."

"On me?" Morrison sputtered.

"Of course. It is your idea and you're the one with experience."

"Not in the bloodstream."

"No one has experience in the bloodstream, but the rest of us don't even have it in water."

"No," said Morrison savagely. "This thing is your baby -- you four. I've done the thinking that got you out of the white cell and I've just done the thinking that could get you out of your present fix. That's my share. You do the doing. One of you."

"Albert," said Boranova. "We're all in this together. In here, we are neither Soviets nor Americans; we are human beings trying to survive and to accomplish a great task. Who does what depends on who can do what best, and nothing more."

Morrison caught Kahinin's eye. She was smiling very slightly and Morrison thought he could read admiration in that smile.

Groaning softly at the folly of being influenced in so childish a manner by a hunger for admiration, Morrison knew he would agree to this madness of his own suggestion.

44.

Boranova had the suit out. Like the ship itself, it was transparent, and, except in the head portion, it lay wrinkled and flat. To Morrison, it looked unpleasantly like a life-sized caricature of a human being drawn in outline by a child.

He reached out to touch it and said, "What is it made of? Plastic wrap?"

Boranova said, "No, Albert. It is thin, but it is not weak and it is exceedingly tough and inert. No foreign material will cling to it and it should be perfectly leakproof."

"Should be?" echoed Morrison sardonically.

Dezhnev interrupted. "It is leakproof. I seem to recall it was tested some time ago."

"You seem to recall it."

"I blame myself for not having checked it personally in going over the ship, but I, too, forgot its existence. There was no thought --"

Morrison bitterly exclaimed, "I'm sure your father must have told you once that self-blame is a cheap penalty for incompetence, Arkady."

Dezhnev replied, graspingly, "I am not incompetent, Albert."

Boranova cut in, "We will have our fights when this is all over. Albert, there is nothing to worry about. Even if there were a microscopic leak, the water molecules in the plasma outside are far larger in comparison to the suit than they would be under normal conditions. A leak in a normal suit might let in normal water molecules, but that same leak in a miniaturized suit would not allow those same water molecules, now giants in comparison, to enter."

"That makes sense," muttered Morrison, looking for solace.

"Of course," said Boranova. "We can insert a standard oxygen cylinder right here - - small size, but you won't be out there for long -- an absorption canister for carbon dioxide here, and a battery for the light. So, you see, you will be equipped."

"Just the same," said Konev, turning to look at Morrison dispassionately, "you had better do it as quickly as possible. It's warm out there -- thirty-seven degrees Celsius -- and I don't think the suit has a cooling mechanism."

"No cooling mechanism?" Morrison looked at Boranova questioningly.

Boranova shrugged. "It is not easy to cool an object in an isothermal medium. This entire body, which is as large as a mountain to us, is all at a constant temperature of thirty-seven. The ship itself can be cooled by means of the microfusion engines. We can't build an equivalent device into the suit, but then, as we keep saying, you won't be out for very long. -- Still, you had better take off the suit you're wearing now, Albert."

Morrison demurred. "It's not heavy, just a thin layer of cotton."

"If you perspire with it on," said Boranova, "you will be sitting in wet clothes when you return to the ship. We have no spare clothing we can offer you."

"Well, if you insist," Morrison said. Then he removed his sandals and tried to strip his one-piecer off his legs, something which proved surprisingly difficult in his nearly weightless state.

Boranova, noting his discomfort, said, "Arkady, please help Albert into the suit."

Dezhnev worked his way, with difficulty, over the back of his seat to where Morrison floated, in a cramped posture, against the hull of the ship.

Dezhnev helped Morrison into the legs of the suit one at a time, though the two, working together, were scarcely less clumsy than Morrison alone had been. (Everything about us, Morrison thought, is designed to work in the presence of gravity.)

Dezhnev maintained a running commentary as they struggled. "The material of this suit," he said, "is precisely that of the ship itself. Entirely secret, of course, though, for all I know, you have a similar material in the United States -- also secret, I am sure." He paused on a small note of inquiry.

"I wouldn't know," muttered Morrison. His bare leg worked its way into a sheath of thin plastic. It didn't stick to his leg, but moved smoothly along, yet it somehow gave the impression of being cold and wet without, in reality, being either. He had never encountered a surface quite like that of the plastic suit and he didn't know how to interpret the sensation.

Dezhnev said, "When the seams close, they become virtually a single piece of material."

"How do they open again?"

"The electrostatics can be neutralized once you're back in the ship. For now, most of the exterior of the suit has a mild negative charge, balanced by a positive one on the inner surface. Any portion of the suit will cling to any positively charged area on the ship's surface, but not so strongly that you can't pull loose."

Morrison said, "What about the rear end of the ship where the engines are?"

"You need not be concerned about them. They are working at minimum power for our cooling and illumination and any particles emerging from them will pass through you without noticing your presence at all. The oxygen cylinders and waste absorption work automatically. You will produce no bubbles. You need only breathe normally."

"One must be grateful for some technological blessings."

Dezhnev frowned and said darkly, "It is well-known that Soviet spacesuits are the best in the world and the Japanese are second."

"But this is not a spacesuit."

"It is modeled on one in many ways." Dezhnev made as though to pull the headpiece down.

"Wait," said Morrison. "What about a radio?"

Dezhnev paused. "Why would you need a radio?"

"To communicate."

"You will be able to see us, and we will be able to see you. Everything is transparent. You can signal to us."

Morrison drew a deep breath. "In other words, no radio."

Boranova said, "I am sorry, Albert. It is really only a very simple suit for small tasks."

Morrison said sourly, "Still, if you do a thing, it's worth doing well."

"Not to bureaucrats," said Dezhnev. "To them, if you do a thing, it's worth doing cheaply."

There was one advantage of irritation and annoyance, thought Morrison; it did tend to wipe out fear. He said, "How do you plan to get me out of the ship?"

Dezhnev said, "Right where you're standing, the hull is double."

Morrison turned sharply to look and, of course, went floundering. He could not seem to remember for three seconds running that he was essentially weightless. Dezhnev helped him control his body at some cost to himself (We must look like a pair of clowns, Morrison thought.)

Morrison found himself staring, at last, at the indicated portion of the hull. Now that his attention was drawn to it, it did seem faintly less transparent than the other portions, but that might well have been his imagination.

Dezhnev said, "Hold still, Albert. My father used to say: 'It is only when a child has learned to hold still that it can be considered a creature of sense.'"

"Your father was not considering zero-gravity conditions."

"The air lock," said Dezhnev, ignoring Morrison's comment, "is modeled on the type we have in our lunar surface enclosures. The inner layer of the lock will peel back, then move around you and seal. Most of the air between the layers will be sucked out -- we can't afford to waste air -- which will give you a strange feeling, no doubt. Then the outer layer will peel open and you will be outside. Simple! -- Now, let me close your helmet."

"Wait! How do I get back?"

"The same way. In reverse."

Now Morrison was closed in completely and a definite claustrophobic sensation helped unsettle him, as the coldness of fear began to wipe out the saving sensation of anger.

Dezhnev was pushing him against the hull and Konev, having managed to turn about in his seat, was helping. The two women remained calmly in their seats and were staring intently.

Morrison did not for a moment feel that they were staring at his body; he wished they were, in fact. That would be relatively benign. He was absolutely certain they were watching to see if the air lock would work, if his suit would work, if he himself would remain alive for more than a few minutes once he was outside the ship.

He wanted to cry out and call off everything, but the impulse to do so remained only an impulse.

He felt a slippery motion behind him and then the whipping of a transparent sheet before him. It was like the seat belt clasp itself around his waist and chest, but here the sheet enclosed him entirely, head to toe, side to side.

It clung to him more and more tightly, as the air between was pumped out. The material of his suit seemed to strain outward as the air inside it pushed against the developing vacuum outside.

And then the outer layer of the hull behind him whipped away and he felt a soft thrust that sent him tumbling outward and into the blood plasma within the capillary.

He was out of the ship and on his own.

11. DESTINATION

Going there may be most of the fun -- but only if you get there in the end.

Dezhnev Senior

45.

Immediately, Morrison felt the enveloping warmth and gasped. As Konev had said -- the temperature was 37 degrees Celsius. It was the heat of a sweltering summer day and there was no escape. No shade, no breeze.

He looked around, getting his bearings. Clearly, Boranova had miniaturized the ship further while he had clumsily clambered into the suit. The tiled wall of the capillary was farther away. He could see only a bit of it, for between himself and the wall was a huge cloudy object. A red corpuscle, of course. Then a platelet went slipping between the red corpuscle and the wall, but very slowly.

All of them -- red corpuscle, platelet, himself, the ship -- were moving along with the small creeping current within the capillary, if one judged by the slow drifting motion of the tilings in the wall.

Morrison wondered why he felt the Brownian motion as little as he did. There was indeed the sensation of movement and the other objects in sight appeared to tremble. Even the tile marks of the capillary walls seemed to shift somehow, in a rather peculiar manner.

But there was no time to be keenly analytical. He had to get things done and get back within the ship.

He was a meter or so from the ship. (A meter? Purely subjective. How many micrometers -- how many millionths of a meter was he separated from the ship in real measurements? He didn't pause to try to work out an answer to the question.) He twiddled his flippers to get back to the ship. The plasma was distinctly more viscous than seawater -- unpleasantly so.

The heat continued, of course. It would never stop while the body he was in remained alive. Morrison's forehead was getting moist. -- Come, he had to get started.

His hand reached out to the place where he had left the ship, but it touched nothing. It was almost as though it were pushing into a soft rubbery cushion of air, although his eyes told him there was nothing between that portion of the hull of the ship and his suited hand except, at best, a film of fluid.

A moment of thought and he saw what was happening. The outer skin of his suit carried a negative electric charge. So did that portion of the hull he was touching. It was repelling him.

There were other portions of the hull, however. Morrison slid his hands along until he was aware of touching the plastic. That was not in itself enough, however, for his hands moved along the area as though it were infinitely slippery.

And then, almost with a click, his left hand froze. It had passed a region of positive charge and remained in place. He tried to pull free first by a gentle backward push and then more frantically. He might as well have been riveted to the spot. He felt farther along with his right hand. Anchor that and he might be able to pull his left hand free.

Click. Anchored now by his right hand, he pulled at his left. Nothing happened. He clung to the hull, crucified there.

Drops of perspiration rolled down his forehead and collected in his armpits.

He shouted uselessly, wiggling his legs in an ecstasy of effort.

They were looking at him, but how could he gesture to his trapped hands? The red corpuscle that had been companion to the ship since he had emerged from it drifted closer and nudged him against the hull. His chest, however, did not cling. Luckily, it was not up against a positively charged region.

Kahinin was looking toward him. Her lips were moving, but he could not lip-read -- not Russian, at any rate. She did something with her computer and his left arm pulled free. Presumably, she had weakened the intensity of the charge.

He nodded his head in what he hoped would be interpreted as a gesture of thanks. Now it would only be necessary to work his way back, positively charged area by positively charged area, until he reached the rear of the ship.

He began the motion and found himself more or less pinned, but not so much this time by the harsh pull of the electromagnetic interaction as by the soft, pillowy push of the red corpuscle.

"Get back!" shouted Morrison, but the red corpuscle knew nothing of shouts. Its role was purely passive.

Morrison thrust at it with his hands and used his leg flippers to push harder. The elastic surface film of the red cell gave and bellied inward, but resisted more strongly, the more it gave until, finally, Morrison was pushing uselessly and, as he tired, was forced back against the ship.

He paused to catch his breath, which was difficult, hot and sweat-drenched as he was. He wondered whether he would be disabled first by dehydration or by the fever which would surely come over him if he could not get rid of the heat his own body was producing -- and all the more so because of the effort he was making to free himself of the red corpuscle.

He lifted his arm again and brought it down, the plastic flipper held edgewise. It sliced through the pellicle of the corpuscle, puncturing it like a balloon. The surface tension of the film pulled the opening wider and wider. Matter exuded -- a thin cloud of granules -- and the red corpuscle began to shrink.

Morrison felt as though he had killed an inoffensive living creature and experienced a pang of guilt -- then decided that there were trillions of others in the circulatory system and that a red corpuscle only had 120 days of functioning anyhow.

Now he could pull back toward the rear.

No fog collected on the inner surface of his suit. Why should it? The surface was as warm as he was and nothing would cling to the plastic anyway. What would have been fog was probably collecting as little pools of sweat in this corner and that of the suit, rolling around as he did.

He was back at the rear now, back where the ship's streamlining failed because the jets of each of the three microfusion engines broke the smooth lines. Here he was as far from the center of gravity of the ship as possible. (With luck, the other four would move as close to the front of the ship as they could. -- He wished he had thought to make that explicit before getting into the suit.) What he had to do was to find positively charged areas that would hold his hands back and then -- push!

He was feeling a little dizzy. Physical? Psychological? The effect was the same, either way.

He took another deep breath and blinked his eyes as perspiration leaked into them (there was no way he could brush it away and again he felt a spasm of fury against the fools who had designed a suit only microscopically better than none at all).

He found the handholds against the hull and paddled his feet. Would this work? The mass he was trying to turn was only micrograms in quantity, but he had at his disposal -- what? Microergs? He knew that the square-cube law gave him a tremendous advantage, but how much efficiency could he put into his push?

But the ship moved. He could tell that by the motions of the tiling on the capillary wall. He could now reach that wall with his feet, so the ship must be lying across the capillary. He had turned it 90 degrees.

When his feet touched the capillary wall, he pushed with perhaps injudicious savagery. If he were to punch a hole in the wall, the results might be incalculably bad, but he was aware he had little time left and he could not think beyond that. Fortunately, his feet rebounded as though they had sunk into spongy rubber and the ship turned a bit faster.

Then stuck.

Morrison looked up blearily, squinting and willing himself to see. (He was almost past the ability to breathe in the squalid damp heat of the suit's interior.) It was another red corpuscle. Surely it was another red corpuscle. They were as closely spaced in capillaries as -- as cars on a busy city street.

This time he did not wait. The flipper on his right hand came down at once, carving open a vast swath, and this time he did not spend a microsecond of worry over the murder of an innocent object. His legs worked again and the ship moved.

He hoped it was shifting in the same direction as before. What if he had managed to twist himself upside down in his mad attack on the red corpuscle and he was simply pushing the ship back into the wrong direction? He was almost beyond caring.

The ship was now parallel to the long axis of the capillary. Gasping, he tried to study the tiles. If they were moving forward toward the prow of the ship, then the ship was moving backward with the current and it was facing the junction of the arteriole.

He decided it was. No, he didn't care. Right way, wrong way, he had to get back into the ship.

He was not ready to sell his life for success.

Where? Where?

His hands were sliding along the walls of the ship. Sticking here. Sticking there.

Vaguely he saw the dim figures on the other side of the wall. Motioning. He tried to follow the gestures.

They were fading out.

Up? Signaling up? How could he clamber up? He had no strength.

His last truly sane thought, for a while, was that he needed no strength. Up meant no more than down for a weightless, massless body.

He wriggled upward, forgetting why, and a fog of darkness came down upon him.

46.

The first thing Morrison sensed was cold.

A wave of cold. Then a touch of cold.

Then light.

He was staring at a face. For an interval of time, he did not grasp the fact that it was a face. It was just a pattern of light and shade at first. Then a face. Then the face of Sophia Kahinin.

She said softly, "Do you know me?"

Slowly, creakily, Morrison nodded.

"Say my name."

"Sophia," he croaked.

"And to your left?"

His eyes turned, and difficulty focusing, then he turned his head. "Natalya," he said.

"How do you feel?"

"Headache." His voice sounded small and far away.

"It will go away."

Morrison closed his eyes and surrendered to the peace of nonstruggle. Just to do nothing was the highest good. To feel nothing.

Then he felt a cool stroke over his groin and his eyes opened again. He discovered that the suit had been removed and he was naked.

He felt arms holding him down and heard a voice say, "Don't worry. We can't give you a shower. There's no water for that. But we can use a damp towel. You need to be cooled -- and cleaned."

". . . undignified," he managed, struggling over the syllables.

"Foolish. We'll dry you now. A little deodorant. Then back into your one-piece." Morrison tried to relax. It was only when he felt cotton against his body that he spoke again. He asked, "Did I turn the ship properly?"

"Yes," said Kahinin, nodding her head vigorously, "and fought off two red corpuscles most savagely. You were heroic."

Morrison said hoarsely, "Help me up." He pushed down with his elbows against his seat and, of course, drifted into the air.

He was brought down.

"I forgot," he muttered. "Well, strap me in. Let me sit and recover."

He fought down the dizzy feeling, then said, "That plastic suit is worthless. A suit for use in the bloodstream of a warm-blooded animal must be cooled."

"We know," said Dezhnev from his seat at the controls. "The next one will be."

"The next one," spat Morrison bitterly.

"At least," said Dezhnev, "you did what was necessary and the suit made that possible."

"At a cost," said Morrison, who then slipped into English in order to express his feelings more accurately.

"I understood that," said Konev. "I lived in the United States, you know. If it will make you feel better, I'll teach you how to say every one of those words in Russian."

"Thanks," said Morrison, "but they taste better in English." He licked his dry lips with a dry tongue and said, "Water would taste still better. I'm thirsty."

"Of course," said Kahinin. She held a bottle to his lips. "Suck at it gently. It won't pour when it has no mass to speak of. -- Slowly, slowly. Don't waterlog yourself."

Morrison drew his head away from the bottle. "Do we have enough water?"

"You must replace what you lost. We'll have enough."

Morrison drank more, then sighed. "That's much better. -- There was something I thought of when I was out in the capillary. Just a flash. I wasn't sufficiently myself to understand my own thought." He bent his head and, covered his eyes with his hands. "I'm not sufficiently myself to remember it now. Let me think."

There was silence in the ship.

And then Morrison said with a sigh and a rather massive clearing of his throat.

"Yes, I remember it."

Boranova sighed also. "Good, then you have your memory."

"Of course I have," said Morrison pettishly. "What did you think?"

Konev said coldly, "That a loss of memory might be an early sign of brain damage."

Morrison's teeth clicked as his mouth snapped shut. Then he said, feeling a chill in the pit of his stomach. "Is that what you thought?"

"It was possible," said Konev. "As in Shapirov's case."

"Never mind," said Kahinin insinuatingly. "It didn't happen. What was your thought, Albert? You still remember." It was half-confident statement, half-hopeful question.

"Yes, I do remember. We're pushing upstream now, aren't we? So to speak?"

"Yes," said Dezhnev. "I'm using the motors -- expending energy."

"When you reach the arteriole, you'll still be heading upstream and you can't turn. You'll be heading back the way you came. The ship will have to be turned again from outside. It can't be me. Do you understand? It can't be me!"

Kahinin put her arm around his shoulder. "Shh! It's all right. It won't be you."

"It won't be anyone, Albert, my friend," said Dezhnev jovially. "Look ahead. We're coming to the arteriole now."

Morrison looked up and felt a twinge of pain. He must have grimaced, for Kahinin put a cool hand on his forehead and said, "How is your headache?"

"Getting better," said Morrison, shaking her hand off rather querulously. He was peering forward and relieved to find that his vision seemed normal. The cylindrical tunnel up ahead was widening somewhat and beyond an elliptical lip he could see a distant wall in which the tiling was much less pronounced.

Morrison said, "The capillary comes off the arteriole like the branch of a tree at an oblique angle. We go through that opening up ahead and we'll be pointed three quarters of the way upstream -- and once we nudge the far wall, we'll bounce off and be moving fully upstream."

Dezhnev chuckled. "My old father used to say: 'Half an imagination is worse than none at all.' Watch, little Albert. See, I will wait until we are almost at the opening and I will throttle down the motor so that we make our way up the current very slowly. Now our ship sticks its snout out of the capillary -- a little more -- a little more -- and now the main stream of arteriole blood catches us and pushes against the nose and turns us -- and I push out a little more -- and it turns us a bit more -- and I come out the whole way -- and behold I've been turned, I am heading downstream once more, and I cut the motors."

He grinned triumphantly. "Wasn't that well-done?"

"Well-done," said Boranova, "but impossible without what Albert had done first."

"True enough," said Dezhnev, waving his hand. "I give him full credit and the Order of Lenin -- if he will take it."

Morrison felt infinite relief. He would not have to go out again. He said, "Thank you, Arkady." Then, rather bashfully, he added, "You know, Sophia, I'm still thirsty."

At once she handed him the bottle, but he hesitated. "Are you sure I'm not drinking more than my share, Sophia?"

"Of course you are, Albert," said Kahinin, "but more than your share is your share. Come, water is easily recycled. Besides, we have a small additional supply. You did not fit into the air lock neatly. An elbow stuck well out and we had to crack the inner layer and pull it in -- which meant the entry of some plasma. Not much, thanks to its viscosity. It's been miniaturized of course and is being recycled now."

"Once miniaturized, it can't amount to more than a droplet."

"That's all it does amount to," said Kahinin, smiling, "but even a droplet is an extra supply and since you brought it in, you deserve an extra supply. Logic is logic."

Morrison laughed and sucked up additional water greedily, squeezing it out of the flexible container astronaut-style. He was beginning to feel comparatively normal -- more than that. He was feeling the kind of dreamy contentment that comes from being freed from the intolerable.

He tried to concentrate, to gain some sense of reality. He was still in the ship. He was still the size of a bacterium, more or less. He was still in the bloodstream of a man in a coma. His chance of living another few hours was still problematical. -- And yet, even as he told himself all this, he nevertheless couldn't flog himself out of the feeling that the mere absence of unbearable heat, the mere being with others, the mere existence of a woman's care was, in itself, a touch of heaven.

He said, "I thank not only Arkady but all of you for pulling me in and caring for me."

"Don't bother," said Konev indifferently. "We need you and your computer program. If we had left you out there, the project would be a failure, even if we found the right cell."

"That may be so, Yuri," said Boranova, clearly indignant, "but at the time we were bringing Albert in, I did not think of that, but only of saving his life. I cannot believe that even you were cold-blooded enough to feel no anxiety for a human being who was risking his life to help us, except insofar as we needed him."

"Obviously," muttered Konev, "plain reason is not wanted."

Plain reason was certainly what Morrison wanted. Since the mention of brain damage, he had been testing himself, thinking, trying to come to conclusions. He said, "Arkady, when the microfusion engines are working, you are converting miniaturized hydrogen into miniaturized helium, and some of the helium escapes along with miniaturized water vapor or other materials designed to produce thrust."

"Yes," said Arkady warily. "And if that is so, what follows?"

"And the miniaturized particles -- atoms and less -- simply escape through Shapirov and through the Grotto and through the Earth and end in outer space, as you told me."

"Again -- what follows?"

"Surely," said Morrison, "they do not stay miniaturized. We are not initiating a process, are we, in which the Universe will gradually be filled with miniaturized particles as humanity proceeds to make use of miniaturization more and more?"

"If we did, what harm? All human activity for billions of years could not add a significant quantity of miniaturized particles to the Universe. But it is not so. Miniaturization is a metastable condition, which means that there is always a chance that a miniaturized particle will snap out, spontaneously, to true stability, that is, to the unminiaturized state." (Out of the corner of his eye, Morrison saw Boranova raise a warning hand, but Dezhnev was always hard to stop when in oral flood.)

"Naturally," he went on, "there is no predicting when a particular miniaturized particle will snap out of it, but it is a good wager that almost all will be beyond the moon

when it happens. As for the few -- there are always a few -- who snap out of miniaturization almost at once, Shapiro's body can absorb them --"

He then seemed to see Boranova's gesture, which had grown peremptory, and he said, "But I'm boring you. As my old father said on his deathbed: 'My proverbs may have bored you, but now you can look forward to hearing them no more, so that you will mourn me less and, therefore, suffer less.' The old man would have been surprised -- and disappointed, perhaps -- to know how much we children mourned him, even so -- but I think I won't risk it with my companions in this ship --"

"Exactly," snapped Konev, "so please stop, especially since we are now approaching the capillary that we should be entering. Albert, lean over and study the cerebrograph. Do you agree?"

Kahinin, carefully addressing Boranova, said, "Albert is in no condition to be badgered with cerebrographs."

"Let me try," said Morrison, struggling with his seat belt.

"No," said Boranova with authority. "Yuri can make this decision his own responsibility."

"Then I so make it," said Konev, looking sullen. "Arkady, can you get near the wall on our right and catch the current that turns into the capillary?"

Arkady said, "I've been racing the red corpuscles and I have caught one that is drifting toward the right wall. It will push us -- or the small eddy that is pushing it will also push us. -- Ah, you see, it is taking place, just as it did in the previous cases where we had to branch off. Each time I managed to use the natural current correctly." A broad grin creased his happy face as he said, "Applause, everybody. Say, 'Well-done, Arkady.'"

Morrison obligingly said, "Well-done, Arkady," and into the capillary the ship went.

47.

Morrison had recovered sufficiently to be tired of invalidism. Outside the transparent hull of the ship, the wall of the capillary was strongly tiled and seemed fairly close on all sides. It looked very much like the other capillary, the one in which he had turned the ship around.

He said, "I want to see the cerebrograph."

He flung open his seat belt, the first really decisive movement he had made since returning to the ship, and stared rebelliously at the perturbed Kahinin as he did so.

He pushed himself gently upward into a float, holding himself in position to look over Konev's shoulders by repeated corrections -- first up, then down. He said, "How do you know you are in the right one, Yuri?"

Konev looked up and said, "Counting and dead reckoning. See here. If we cut down the scale of the cerebrograph, this is the arteriole we've been following off the carotid. We took this branch and that one, and then it's a matter of counting the capillaries as they branch off on the right."

"We had our run-in with the white cell right here and in the time the white cell had at its disposal, this capillary was the only one it could reasonably have reached. Once we were turned around and got back to the arteriole, we followed its narrowing structure and matched what we saw against the cerebrograph. The pattern of branch points outside matched almost exactly the pattern described by the cerebrograph and that alone assures me we were following the right path. Now we have gone into this capillary."

Morrison's left hand slipped off the smooth texture of the back of Konev's seat and his attempt to make up for that twisted him into a comic handstand on the outspread fingers of his right hand. He labored to right himself even as he thought, savagely, that another improvement that must be introduced in later versions of the ship would be handholds on the seats and in other strategic areas.

He said, panting, "And where will this capillary take us?"

Konev said, "Directly to one of the centers which you believe to be a crossroad for the processes of abstract thought. -- Let's cut down the scale of the cerebrograph again. Right here."

Morrison nodded. "Please remember that I've located them in human beings only indirectly, judging from my findings in animal brains. Still, if I'm correct, that should be the superior external skeptic node."

Konev said, "According to you, there should be eight such nodes, four on each side. This one, however, is the largest and most intricate on the left side and therefore stands the best chance of giving us the data we need. Am I right?"

"I think so," said Morrison cautiously, "but please remember that my reasoning has not been accepted by the scientific community."

"And do you begin to doubt it now, too, Albert?"

"Caution is a reasonable scientific attitude, Yuri. My concept of the skeptic node makes sense in the light of my observations, but I have never been able to test the matter directly -- that's all -- and I do not wish it said later that I misled you."

Dezhnev snickered. "Skeptic node! No wonder your countrymen are skeptical of the whole notion, Albert. My father used to say: 'People are ready enough to laugh at you. Don't make funny faces in order to encourage them.' -- Why didn't you call it 'thought node' in simple Russian? It would have sounded much better."

"Or 'thought node' in simple English," said Morrison patiently. "But science is international and one uses Greek or Latin when possible. The Greek word for 'thought' is 'skeptis.' It has given us 'skeptical' both in English and in Russian to indicate a habitual doubting attitude. That's because the very act of doubt implies thought. Surely you all know that the most efficient way of accepting the foolish dogmas foisted on us by social orthodoxy is to refrain from thinking."

There was an uncomfortable silence at that, whereupon Morrison (having left it there for just long enough, out of a faint malice -- he owed them that much) said, "As human beings in all nations know."

The atmosphere lightened perceptibly at once and Dezhnev said, "In that case, we will see how skeptical we need be of the skeptic node, when we reach it."

"I hope," said Konev with a scowl, "that you don't think this is something to joke about, you clown. That node is where we can hope to detect Pyotr Shapiro's thoughts. Without that, this venture will come to nothing."

Dezhnev said, "To each his own job. I will take you there, with my expert handling of the ship. Once there, you will get the thoughts -- or Albert will, if you cannot. And if you do as well with the thoughts as I do with the ship, you will have nothing to be unhappy about. My father used to say --"

"Your father is better off where he is," said Konev. "Don't dig him up again."

"Yuri," said Boranova sharply, "that was an unbearably rude remark to make. You must apologize."

"That's all right," said Dezhnev. "My father used to say: 'The time for offense is when a man, once he has cooled down, repeats an insult he has offered in his rage.' I am not sure that I can always follow that advice, but in honor of my father, I will pass over Yuri's stupid remark this time." He bent over his controls, his face grim.

Morrison had listened to the altercation (just Konev being nasty -- obviously because he was under a great strain) with only half an ear. His mind slipped back to something else, to Dezhnev's carefree chatter and Boranova's warning hand.

He lowered himself into his seat, clasping himself in for stability, and turned his head toward Boranova. "Natalya! A question!"

"Yes, Albert?"

"Those miniaturized particles released into the normal, unminiaturized Universe --"

"Yes, Albert?"

"Eventually, they deminiaturize."

Boranova hesitated. "As Arkady told you, they do."

"When?"

She shrugged. "Unpredictably. Like the radioactive breakdown of a single atom."

"How do you know?"

"Because it's so."

"I mean, what experiments have been conducted? Nothing has ever been miniaturized to the extent that we are now miniaturized, so surely you can't know what happens to such miniaturized particles by direct observation."

Boranova said, "We've observed events at miniaturizations we have reached and in that way determined what seem to be the laws of behavior of miniaturized objects. We extrapolate --"

"Extrapolations aren't always trustworthy when they go well outside the realm of direct study."

"Granted."

"You compared spontaneous deminiaturization to radioactive breakdown. Is there a half-life of deminiaturization? Even if you can't tell when a particular miniaturized particle will deminiaturize, can you tell when half of a particular large quantity of them will?"

"We have half-life figures and we think they are expressions of first-order kinetics, as radioactive half-lives are."

Morrison said, "Can you generalize from one type of particle to another?"

Boranova pursed her lips and, for a moment, seemed lost in thought. Then she said, "It would seem that the half-life of a miniaturized object varies inversely with the intensity of miniaturization and also with the normal mass of the object."

"So that as we are miniaturized to smaller and smaller sizes, the less time we are likely to remain miniaturized, and the smaller we are to begin with, the less time we are likely to remain miniaturized."

"That's right," replied Boranova stiffly.

Morrison looked at her gravely. "I admire your integrity, Natalya. You're not anxious to tell me things. You don't volunteer information. Still, you draw the line at misinforming me."

Boranova said, "I am a human being and I tell lies on occasion out of necessity or out of defects in my emotions or personality. But I am also a scientist and I would not twist scientific fact for any but the most compelling reasons."

"Then what it amounts to is this. Even this ship, although it is much more massive than a helium nucleus, has a half-life."

"A very long one," put in Boranova quickly.

"But the fact that we are so intensely miniaturized has curtailed this very long half-life."

"Still leaving it long."

"And what about the individual components of the ship? The molecules of water that we drink, the molecules of air we breathe, the individual atoms that make up our body? They could have -- must have -- very short --"

"No!" said Boranova forcefully, seeming to find relief in being able to deny something. "The miniaturization field overlaps where it deals with particles sufficiently close together, and that are at rest, or nearly at rest, relative to each other. An extended body -- such as the ship and everything it contains -- is treated as a large but single particle and has a half-life of deminiaturization to match. There miniaturization differs from radioactivity."

"Ah," said Morrison, "but when I was out of the ship and out of contact with it, could it be that I was then a separate particle with a much smaller mass than the ship and its contents and that I had a miniaturization half-life much smaller than we have now?"

"I'm not sure," said Boranova, "whether the distance between yourself and the ship was great enough to make you a separate body. Possibly it did, for the time you were not in contact."

"And I then had a shorter half-life -- much shorter."

"Possibly -- but then you were out of contact only a matter of minutes."

"Well, then, what is the half-life of this ship at the present level of miniaturization?"

"We can't really speak of the half-life of a single object."

"Yes, because half-lives are statistical. For any particle, deminiaturization can come, spontaneously, at any time, even after a very short time and even though the half-life of a large number of similar particles would be quite long."

"For spontaneous deminiaturization to come after a very short time when the statistical half-life is long is extremely improbable."

"But not impossible, is it?"

"No," said Boranova. "It is not impossible."

"So we can suddenly deminiaturize in five minutes, or even in one minute, or even as I take my next breath."

"In theory."

"Did you all know?" His eyes darted around the ship. "Of course you all knew. Why was I not told?"

Boranova said, "We are volunteers, Albert, working for science and for our nation. We know all the dangers and accept them. You have been forced into this and you don't have the motives that drive us. It seemed possible that if you knew all the dangers, you would have refused to enter the ship voluntarily under any persuasion or that, being brought on board ship by force, you would be altogether useless to us out of sheer --" She paused.

"Out of sheer fright, you were going to say," said Morrison. "Surely I have a right to be afraid. There is reason for fear."

Kahinin interrupted, her voice a little shrill. "It is time to stop harping on Albert's fear, Natalya. It is he who left the ship in an inadequate suit. It is he who turned the ship around at the risk of his life. Where was his fear then? If he felt it, he bottled it inside and didn't let it prevent him from doing what had to be done."

Dezhnev said, "And yet it was you who did not hesitate to say, in the past, that Americans were all cowardly."

"Then I was wrong. I was speaking unfairly and I ask Albert's pardon."

It was at this point that Morrison caught Konev's eye. The man was twisting around in his seat and glowering at him. Morrison did not pretend to be a master at reading facial expressions, but felt that he could, at a glance, tell what was ailing Konev. The man was jealous -- furiously and quite impressively jealous.

48.

The ship continued its slow way along the capillary toward the destination Konev had marked out: the skeptic node. It was not depending on the current now, which was slow indeed. The engines were going, as Morrison could tell, in two different ways. First, it steadied the ship to have it move along actively, rather than drift passively, and it further deadened the already surprisingly small effect of Brownian motion. Second, the ship was overtaking one red corpuscle after another.

In most cases these were nudged to one side and the red corpuscles then rolled backward between the ship and the wall. Occasionally, a red corpuscle would be met too near dead-center and it would then be pushed forward for a while until it burst. The debris would flow backward, leaving the ship's hull unmarked. With at least five million corpuscles in every cubic millimeter of blood, it didn't matter how many were disrupted and Morrison had become hardened to the carnage.

Morrison deliberately thought of the red cells, rather than of the chance of spontaneous deminiaturization. He knew there was no appreciable chance of exploding outward in the next few moments and, even if it happened, it would simply mean blackout. Death by fried brain would take place so quickly that there would be no conceivable way of sensing it.

Not long before, he had been heating much more slowly in the bloodstream itself. He had felt himself dying. After that, instantaneous death had no terrors.

But he preferred to think of other things just the same.

Konev's look! What was seething within him and tearing him apart? He had abandoned Sophia with the utmost cruelty. Did he really think the child was not his? People needed no reason to come to an emotional conclusion and the suspicion of being wrong just bolted the conclusion defensively and immovably in place. Pathological. Think of Leontes in *The Winter's Tale*. Shakespeare always got these things right. Konev would push her away and hate her for the wrong he had done her. He would push her into another man's arms and hate her for being pushed -- and be jealous in addition.

And she? Did she know of the jealousy and play upon it? Would she deliberately turn to Morrison, an American, to tear Konev into strips? Tenderly patting the American with the wet towel. Defending him at every step. With Konev, of course, a witness to everything.

Morrison's lips tightened. He didn't like to be a tennis ball, batted from one to another in order to produce maximum pain.

It was none of his business, after all, and he shouldn't take sides. But how was he going to not take sides? Sophia Kahinin was an attractive woman who reacted with silent sorrow. Yuri Konev was a frowning nasty man who reacted with a compressed boiling of anger. He could neither help liking Sophia nor help disliking Yuri.

He then noted Boranova staring at him gravely and wondered if she were misinterpreting his thoughtfulness and silence. Did she feel he was brooding about the possibility of death by miniaturization -- which he was manfully trying not to do?

It seemed so, when Boranova suddenly said, "Albert, none of us are reckless. I have a husband. I have a son. I want to go back to them alive and I intend to get us all back alive. I want you to understand that."

"I'm sure your intentions are good," said Morrison, "but what can you do against a possibility of deminiaturization that is spontaneous, unpredictable, unstoppable?"

"Spontaneous and unpredictable, I agree, but who said unstoppable?"

"Can you stop it, then?"

"I can try. We each have our jobs here. Arkady maneuvers the ship. Yuri directs it to the destination. Sophia gives the ship its electric pattern. You will study the brain waves. As for me, I sit back here and make decisions -- my major decision up to now was a mistake, I admit that -- and I watch the heat flow."

"The heat flow?"

"Yes. Before the deminiaturization takes place, there is a small evolution of heat, characteristic in pattern. It is that emission that is destabilizing; it is what tips the delicate balance and, after a small delay, starts the process of deminiaturization. When that happens, if I am fast enough, I can intensify the miniaturization field in such a way as to reabsorb the heat and reestablish the metastability."

Morrison said dubiously, "And has that ever been done -- actually been done under field conditions -- or is it simply theory?"

"It has been done -- under much smaller intensities of miniaturization, of course. Still, I have trained at this and my reflexes are sharpened. I hope not to be caught short."

"Was it spontaneous deminiaturization that put Shapirov into a coma, Natalya?"

Boranova hesitated. "We don't really know whether it was an unfortunate encounter with the laws of nature or human error -- or both. It may have been a slightly greater wobble from the metastable point of equilibrium than usual and nothing more than that. It is not something I can analyze in detail with you, for you don't have the needed background in the physics and mathematics of miniaturization, nor would I be permitted to give you that background."

"I understand. Classified material."

"Of course."

Dezhnev broke in, "Natasha, we have reached the skeptic node -- or so Yuri says."

"Then come to a halt," ordered Boranova.

49.

Coming to a halt took a while.

Morrison noted, with some mild surprise, that Dezhnev did not seem concerned in the process. He was checking his instruments but was making no effort to control the motion of the ship.

It was Kahinin who was deeply involved now. Morrison looked to his left, studying her as she bent over her instrument, her hair falling forward but not long enough to get in her way, her eyes intent, her slim fingers caressing the keys of her computer. The graphic patterns on the screen she was watching made no sense to Morrison, of course.

"Arkady," she said, "move forward just a little."

The feeble current in the capillaries barely stirred the ship. Dezhnev supplied a small burst of power. (Morrison felt his almost massless body move slightly backward, since there wasn't sufficient inertia to give it a real jerk.) The nearest red corpuscles between the ship and the farther wall of the capillary drifted backward.

"Stop, stop," said Kahinin. "Enough."

"I can't stop," said Dezhnev. "I can only cut the motors and that I've done."

"It's all right," said Kahinin. "I have it now," then added the all-but-inevitable saving afterthought of "I think." Then: "Yes, I do have it."

Morrison felt himself sway forward very slightly. Then he noted the nearby red corpuscles, together with an occasional platelet, drift forward and pass by lazily.

In addition, he became aware of a total cessation of the Brownian motion, that faint tremble he had grown so used to that he was able to ignore it -- until it stopped. Now its absence was noticeable and it produced the same sensation within Morrison as the sudden cessation of a continuous low hum would have. He stirred uneasily. It was as though his heart had stopped, even though intellectually he knew it had not.

He asked, "What's happened to the Brownian motion, Sophia?"

She replied, "We're affixed to the wall of the capillary, Albert."

Morrison nodded. If the ship was one piece with the capillary wall, so to speak, the bombarding water molecules that produced the Brownian motion would lose their effect. Their impacts would work toward moving an entire section of comparatively inert wall, instead of a tiny ship the size of a blood platelet. Naturally, the trembling would cease.

"How did you manage to affix the ship, Sophia?" he asked.

"The usual electrical forces. The capillary wall is partly protein, partly phospholipid in character. There are positively and negatively charged groups here and there. I had to detect a pattern sufficiently compact, and then produce a complementary pattern on the ship; negative where the wall is positive and vice versa. The trouble is that the ship is moving with the current, so that I have to detect it a little ahead and produce the complementary pattern before we pass it. I missed three such occasions and then we hit a region where there were no suitable patterns at all, so I had to get Arkady to move us ahead a bit into a better region. -- But I made it."

"If the ship had a reverse gear," said Morrison, "there would have been no problem, would there?"

"True," said Kahinin, "and the next ship will have one. But for now, we have only what we have."

"Quite so," put in Dezhnev. "As my father used to say: 'On tomorrow's feast, we can starve today.'"

"On the other hand," said Kahinin, "if we had a motor that could do all we would want it to do, we would have a strong impulse to use it lavishly and that might not be so good for poor Shapirov. And it would be expensive besides. As it is, we used an electric field which is more sparing of energy than a motor would be and the price is only a little more work for me -- and what of that?"

Morrison was quite certain she wasn't talking for his benefit. He said, "Are you always so philosophical?"

For a moment, her eyes widened and her nostrils tightened, but only for a moment. Then she relaxed and said with a small smile, "No, who could be? But I try."

Boranova interjected, impatiently, "Enough chat, Sophia. -- Arkady, you are clearly in touch with the Grotto. What's the delay?"

Arkady held up a large hand, half-twisting in his seat to present its palm toward Boranova. "Patience, my captain. They want us to stay exactly where we are for two reasons. First, I'm sending out a carrier wave in three directions. They are locating each and using them to locate us in order to see if the location they determine jibes with what Yuri says it is by dead reckoning."

"How long will that take?"

"Who can say? A few minutes, at any rate. But then my carrier waves are not very intense and the location must be precise, so they may have to repeat the measurement several times and take a mean and calculate limits of error. After all, they have to be correct, for as my father used to say: 'Almost right is no better than wrong.'"

"Yes yes, Arkady, but that depends on the nature of the problem. What is the second reason we are waiting?"

"They're going through some observations on Pyotr Shapirov. His heartbeat has become slightly irregular."

Konev looked up, his mouth failing open slightly and his thin cheeks looking gaunt under his high cheekbones. "What! Do they say it's anything we're doing?"

"No," said Dezhnev. "Do not become a tragedian. They say nothing of the sort. And what can we be doing to Shapirov that is of any importance? We are merely a red corpuscle among red corpuscles in his bloodstream, one among trillions."

"Well, then, what's wrong?"

"Do I know?" said Dezhnev, clearly irritated. "Do they tell me? Am I a physician? I just maneuver this vessel and they pay me no mind except as a pair of hands on the controls."

Kahinin said with a touch of sadness, "Academician Shapirov clings but weakly to life in any case. It is a wonder that he has remained in stable condition so long."

Boranova nodded. "You are right, Sophia."

Konev said savagely, "But he must continue to remain so. He can't let go now. Not now. We haven't made our measurements yet."

"We will make them," said Boranova. "An irregular heartbeat is not the end of the world, even for a man in a coma."

Konev pounded the arm of his seat with a clenched fist. "I will not lose a moment. Albert, let's begin."

Morrison was startled. He said, "What can be done here in the bloodstream?"

"A neural effect may be felt immediately outside the nerve cell."

"Surely not. Why would the neurons have axons and dendrites to channel the impulse if it was going to spread and weaken into space beyond? Locomotives move along rails, telephone messages along wires, neural impulses --"

"Don't argue the case, Albert. Let's not accept failure by some fine process of reasoning. Let's test the matter. See if you can detect brain waves and if you can analyze them in the proper fashion."

Morrison said, "I'll try, but don't order me around in that bullying tone."

"I'm sorry," said Konev, not sounding sorry at all. "I want to watch what you do." He unclasped himself, turned in his seat, holding on tightly, muttering, "We must have more room the next time."

"An ocean liner, certainly," said Dezhnev. "Next time."

"What we have to do first," said Morrison, "is to discover whether we can detect anything at all. The trouble is, we are surrounded by electromagnetic fields. The muscles are rich in them and each molecule, almost, is the origin point of a --"

"Take all that as known," said Konev.

"I am only filling in the time while I carry my device through some necessary steps. The neural field is characteristic in several ways and by adjusting the computer to eliminate fields without those characteristics, I leave only what the neurons produce. We blank out all microfields like so and we deflect the muscle fields in this manner --"

"In what manner?" demanded Konev.

"I describe it in my papers."

"But I didn't see what you did."

Wordlessly, Morrison repeated the maneuver slowly.

"Oh," said Konev.

"And by now we should be detecting only neural waves if any are present here to detect -- and there aren't."

Konev's right fist clenched. "Are you sure?"

"The screen shows a horizontal line. Nothing else."

"It's quivering."

"Noise. Possibly from the ship's own electric field, which is complex and not entirely like any of the natural fields of the body. I've never had to adjust a computer to filter out an artificial field."

"Well, then, we have to move on. -- Arkady, tell them we can wait no longer."

"I can't do that, Yuri, unless Natasha tells me to. She's the captain. Or had you forgotten?"

"Thank you, Arkady," said Boranova coldly. "You, at least, have not. We'll forgive Konev his lapse and put it down to overzealousness in pursuit of his work. My orders are not to move until the Grotto gives us the word. If this mission fails because of anything that goes wrong with Shapirov, there must be no opportunity for anyone to say it was because we did not follow orders."

"What if some disaster happens because we did follow orders? That can happen, too, you know." Konev's voice rose to near-hysteria.

Boranova replied, "The fault will then lie with those who gave the orders."

"I can find no satisfaction in apportioning blame, whether to myself or to anyone else. It is results that count," said Konev.

"I agree," said Boranova, "if we are dealing with fine-spun theory. But if you expect to continue working on this project past the time of a possible catastrophe, you will find that the manner of allotting blame is all-important."

"Well, then," said Konev, stuttering slightly in his passion. "Urge them to let us move as soon as possible and then we'll -- we'll --"

"Yes?" said Boranova.

"And then we'll enter the cell. We must."

12. INTERCELLULAR

In life, unlike chess, the game continues after checkmate.

Dezhnev Senior

50.

A heavy silence fell upon the five shipmates. Konev's silence was the least quiet. He was quivering with unrest and his hands would not keep still.

Morrison felt a dim sympathy. To have reached the destination, to have done just as planned, through difficulties, to imagine one's self at the point of snatching success, and to have to fear that it will be moved away from the eagerly grasping fingers even now -- he knew the feeling. No longer quite as sharply perhaps, as once, now that he was ground down and dulled by frustration, but he remembered the early occasions. Experiments that raised hope, but were somehow never quite conclusive. Colleagues who smiled and nodded, but were never convinced.

He leaned forward and said, "Look, Yuri, just watch the red corpuscles. They're creeping ahead, one after the other, steadily -- and that means the heart is beating and is doing so fairly normally. As long as the red corpuscles move steadily ahead, we're safe."

Dezhnev said, "There's the blood temperature, too. I've got it monitored at all times and it will have to start dropping slowly, but with determination, if Shapiro lets go. Actually, the temperature is at the upper edge of normal."

Konev grunted, as though scorning consolation and pushing it to one side, but it seemed to Morrison that he was noticeably quieter after that.

Morrison sank back in his seat and let his eyes close. He wondered if he was experiencing hunger and decided that he was not. He also wondered if there was a distinct sensation of bladder pressure. There wasn't but that did not relieve him much. One could always postpone eating for a considerable length of time, but the necessity of urination did not lend itself to quite the same flexibility of choice.

He was suddenly aware that Kahinin had addressed him but he had not been listening. "Pardon me. What did you say?" he asked, turning toward her.

Kahinin looked surprised. She said softly, "I ask your pardon. I interrupted your thoughts."

"They were worth interrupting, Sophia. I ask your pardon for being inattentive."

"In that case, I asked what it is you do in your analysis of brain waves. I mean, what is it you do that is different from what others do? Why was it necessary for us --" She paused, clearly uncertain as to how to proceed.

Morrison finished her thought without difficulty. "Why was it necessary for me to be abstracted forcibly from my country?"

"Have I made you angry?"

"No. I presume you did not advise the action."

"Of course not. I knew nothing of it. In fact, that is why I am asking you my question. I know nothing about your field except that there are electroneural waves; that electroencephalography has become an intricate study, and an important one."

"Then if you ask me what is special about my own views, I'm afraid I can't tell you."

"Is it secret, then? I thought it might be."

"No, it is not secret," said Morrison, frowning. "There are no secrets in science, or there should be none -- except that there are struggles for priority so that scientists are sometimes cautious about what they say, and I am guilty of that, too, sometimes. In this case, though, I mean it literally. I can't tell you because you lack the basis for understanding."

Kahinin considered, her lips compressed as though in aid to thought. "Could you explain a bit of it?"

"I can try, if you're willing to hear simple assertions. I can't very well describe the entire field. -- What we call brain waves are a conglomeration of all sorts of neuron activity -- sense perceptions of various kinds, stimuli of various muscles and glands, arousal mechanisms, coordinations, and so on. Lost among all these are those waves that control, or result from, constructive and creative thought. Isolating those skeptic waves, as I call them, from all the rest is an enormous problem. The body does it without any difficulty, but we poor scientists are, for the most part, at a total loss."

"I'm having no difficulty understanding this," said Kahinin, smiling and looking pleased. (She is remarkably pretty, thought Morrison, when she manages to get rid of her air of melancholy.)

"I haven't gotten to the hard part yet," he said.

"Please do, then."

"About twenty years ago, it was demonstrated that there was what seemed a random component in the waves that no one had ever picked up because the instruments that had been used until then did not pick up what we now call 'the twinkle.' It's a very rapid oscillation of irregular amplitude and intensity. That's not a discovery I made, you understand."

Kahinin smiled again. "I imagine that twenty years ago you would have been too young to make the discovery."

"I was an undergraduate then, making the discovery that young women were not entirely unapproachable, which is by no means an unimportant thing to find out. In fact, each person may have to rediscover it now and then, I think. -- But never mind that."

"A number of people speculated that the twinkle might represent thought processes in the mind, but no one managed to isolate it properly. It would come and go, be detectable at times and not at others, and the general feeling was that it was

artificial, a matter of working with instruments that were too delicate for the thing they were measuring so that one picked up what was, essentially, noise.

"I thought not. In time I developed a computer program that made it possible for me to isolate the twinkle and to demonstrate it was always present in the human brain. For that I got some credit, though few people were able to duplicate my work. I used animals for types of experimentation that were too dangerous to perform on human beings and used the results to further sharpen my program of analysis. But the sharper I made the analysis and the more significant I thought the results, the less others were able to duplicate them and the more they insisted that I was misled by my animal experimentation.

"But even isolating the twinkle was a long way from demonstrating that it was a representation of abstract thought. I have amplified it, intensified it, modified my program over and over, and have convinced myself that I am studying thought, the skeptic waves themselves. Still, no one can duplicate the crucial points of my work. I have, on several occasions, allowed someone to use my program and my computer -- the sort of thing I'm using now -- and they invariably fail."

Kahinin was listening gravely. She said, "Can you imagine why no one can duplicate your work?"

"The easiest explanation is that there is something wrong with me, that I am a crank -- if not a madman. I believe that some of my colleagues suspect that to be the answer."

"Do you think you're a madman?"

"No, I don't, Sophia, but even I waver sometimes. You see, after you isolate the skeptic waves and amplify them, it is conceivable that the human brain itself might become a receiving instrument. The waves may transfer the thoughts from the thinker you are studying directly to you. The brain would certainly be an extraordinarily delicate receiver, but it would also be an extraordinarily individual one. If I improved my program so that I could sense the thoughts better, that would mean I improved it to suit my own individual brain. Other brains might not be affected and, in fact, might be less affected, the closer I adjusted it to mine. It would be like a painting. The closer a painting is made to look like me, the less it looks like anyone else. The more I can make my program produce sensible self-consistent results, the less anyone else can."

"Have you actually sensed thought?"

"I'm not sure. There are times I have thought I did, but I'm never quite convinced it's not my imagination. Certainly no one else -- with my program or any other -- has sensed anything. I have used the twinkle to track down the skeptic nodes in the brains of chimpanzees and from that reasoned out where they would be in human brains, but that is not accepted either. It is considered the overenthusiasm of a scientist oversold on his own unlikely theory. And even using leads into the skeptic nodes -- on animals, of course -- I couldn't be sure."

"With animals it would be difficult. Have you published these -- sensations of yours?"

"I haven't dared," said Morrison, shaking his head. "No one would accept such subjective findings. I've mentioned it in passing to several people -- foolish of me -- and the news spread and merely convinced my colleagues all the more firmly that I am, shall we say, unstable. It was only last Sunday that Natalya told me that Shapirov took me seriously, but he is considered, at least in my country, to be unstable, too."

"He is not," said Kahinin firmly, "or was not."

"It would be nice to think he wasn't, obviously."

Konev, from in front of Morrison, said suddenly, without turning around, "It was your sensations of thought that impressed Shapirov. I know! He discussed it with me. He said on a number of occasions that your program was a relay station and he would like to try it himself. If you were inside a neuron, a key neuron of the skeptic node, things would be different. You would sense thoughts unmistakably. Shapirov thought so and I think so. Shapirov thought it possible you might even have sensed thoughts unmistakably as it was, but were not ready to let the world know. Is that so?"

How they harped on secrecy, all of them, thought Morrison. Then he caught the look on Kahinin's face. Her mouth was partly open, her eyebrows drawn together, her finger hovering near her lips. It was as though she wanted to ask him to be quiet with a kind of agonizing intensity, without quite daring to do so openly.

But then he was distracted by Dezhnev's voice, joyfully loud. "Enough babble, my children. The Grotto has located us and we are, to their enormous astonishment, exactly where we say we are."

Konev threw up both hands and his voice sounded almost boyish. "Exactly where I say we are."

Dezhnev said, "Let us have communal responsibility. Where we say we are."

"No," said Boranova. "I ordered Konev to make the decision on his own responsibility. The credit is therefore his."

Konev was not mollified. He said, "You would not have so quickly demanded communal responsibility, Arkady Vissarionovich" -- he used the patronymic in a style long out of fashion in the Soviet Union, as though to emphasize the fact that Dezhnev was the son of a peasant, among whom, only, the style remained in fashion -- "had we proved to be in the wrong capillary."

Dezhnev's smile became an uncomfortable one and his somewhat yellow upper incisors caught at his lower lip.

Boranova said in her masterful contralto, cutting off any retort Dezhnev might have made, "And Shapirov. What of him?"

"That," said Dezhnev, "has passed. An injection of some sort steadied the heartbeat."

Konev said, "Well, then, are we ready to go?"

"Yes," said Boranova.

"In that case -- out of the bloodstream at last."

Boranova and Kahinin were bent over their instruments. Morrison watched them for a few moments, but, of course, knew nothing of what was going on. He turned to Dezhnev, who sat in a relaxed position (unlike Konev, whose body was tense, almost ridged with muscle), and said, "What will be done, Arkady? We can't very well just blast our way out of a blood vessel in the brain."

"We'll sneak out once we're small enough. We're miniaturizing again. Look around you."

Startled, Morrison did. He realized that every time the outside world seemed to stabilize, he quickly learned to take it for granted and to pay no attention to it.

The current had picked up speed. Or, rather, it hadn't, but the ship had shrunk in size once more and objects moving by took correspondingly less time to pass, so that the mind, insisting on considering the ship's size unchanged, interpreted what was seen as a faster current.

A red cell passed by, moving as it had (or seeming to move as it had) in the carotid artery, but despite its speed, it billowed past for a long time, like a quivering whale passing a rowboat. It had grown faint indeed. It was almost transparent now and its edge was fuzzy with Brownian motion. There was a grayish dimness about it, so that it looked like an angry thundercloud spreading its way over the heavens. It had lost most of its oxygen by this time, of course, giving it up to the avid brain cells which, without motion or visible signs of life, consumed one quarter of all the oxygen carried by the blood to the various organs of the body. For all that the brain seemed to simply sit there, sense perception, response, and thought, all of it coordinated with a complexity that no human computer could come within an astronomical distance of duplication -- might never duplicate -- did not come cheap.

To make up for the spreading of the red cells, the platelets, and the comparatively rare white cells that had grown into monsters that were now too large to grasp, the blood plasma was becoming far less featurelessly liquid.

It had started to turn grainy and now the grains were slowly expanding as they shot past with gradually increasing speed. Morrison knew he was looking at protein molecules and, after a while, it seemed to him that through their whirling and flexing he could make out the helical arrangements of their atoms in fuzzy manner. Some had a miniature forest of lipid molecules partially encasing them.

He was becoming aware also of movement, not the tremble of Brownian motion but a lurching that was becoming more pronounced.

He turned his head to look out the other side at the capillary wall to which they were attached.

The tiling was gone -- or at least one tile (or cell, as he might as well think of it now) had expanded to the point where it was the only one to be seen. Slipping off behind was the bulge of the nucleus of the cell, large and thick and growing larger and thicker.

The ship lurched as part of it slid away from the wall and then lurched again as it slid back.

"What's happening?" said Morrison, looking at Kahinin, who shook her head impatiently. She was totally absorbed in her work.

Dezhnev said, "Sophia is trying to neutralize the ship's electric charge here and there so that it lets go before the tension damages the wall. And she has to find new areas of attachment to keep from losing the wall altogether. It's not easy, having to miniaturize and, at the same time, staying attached to the wall."

Morrison said, alarmed, "How far will we miniaturize?"

His words were overborne by Kahinin's shrill command. "Arkady, move it forward. Gently! Just put forward pressure on the ship."

"Yes, Sophia -- but tell me when to stop." To Morrison, he added, "My father used to say: 'Between not enough and too much is a hair's breadth.'"

"More, more," said Kahinin. "All right. Now we'll try." The ship seemed to stick and strain and then it suddenly slid forward and Morrison felt himself thrust gently back against his seat.

"Good," said Kahinin. "Just a little less now."

The cell came to an end. Beyond it was another cell. Thin cells, as cells went, a mere film of cells, fitted together to make a tiny tube, with the ship and its crew of five clinging to the inner surface by minute attractions of electric charge.

The space between the adjoining cells seemed ropy, with cables stretching from inside one cell to the other. They were not all intact and there were stumps visible like the remains of a felled forest. It seemed to Morrison that there were narrow gaps in that felled forest, but he couldn't see clearly from the angle at which he viewed them.

He said again, "How far will we miniaturize, Arkady?"

"Eventually to the size of a small organic molecule."

"But what would the chances be of spontaneous deminiaturization at that size?"

"Appreciable," said Dezhnev. "Much more than it was when we were the size of a red corpuscle or even of a blood platelet."

"Still not enough to worry about," said Boranova. "I assure you."

"Exactly," said Dezhnev and raised his hand slightly with the first two fingers crossed so that Morrison could just see it and Boranova, farther back, could not. That American gesture had become universal and Morrison, knowing exactly what it meant, felt himself growing cold inside.

Dezhnev was looking straight ahead, but he might have sensed Morrison's grimace or heard his soft grunt. He said, "Don't worry about it, young Albert. It is always wise to have but one worry at a time and right now let us worry about squeezing out of the blood vessel. -- Sophia, my loved one."

"Yes, Arkady," she said.

"Weaken the field in the rear of the ship and when I move grope for one ahead."

"I will do so, Arkady. Didn't your father once say: 'There is no point in trying to teach a thief to steal'?"

"Yes, he did. Steal, then, little thief, steal."

Morrison wondered whether Dezhnev and Kahinin were deliberately being lighthearted in the face of the possibility of sudden death as a way of cheering him up? Or were they showing contempt for his cowardice? He chose the former. Surely when an action might equally well be interpreted as friendly or hostile, one might as well choose the friendly. Perhaps Dezhnev's father would have agreed. With that thought, he felt cheered.

The ship's rear seemed to be hanging loosely and to remain several centimeters (several picometers in real measure?) from the wall of the capillary. Morrison studied it closely and could see the serried ranks of protein and lipid molecules that made up that wall.

He thought, What are we doing ignoring this? Here is our opportunity to study tissues with greater precision than the best scanning electron microscope can -- and to study them while alive; to see not only position but living change and motion. We have passed through the bloodstream and narrowed in on a capillary wall without looking at anything in any real scientific sense. We are only passing through, with no more interest than we would show if we were in a subway, barreling through an underground tunnel. -- All to study oscillations that might be produced by thought . . . and might not.

The ship was inching along (an old word, thought Morrison suddenly, antedating the metric system, but he'd never heard anyone say "centimetering along") as though it were somehow feeling its way. Perhaps, between Dezhnev's motors and Kahinin's flickering electric fields, that was precisely what it was doing.

"We're approaching the junction, little Sophia," said Dezhnev in a curiously tight voice. "Make sure your hold is firm in front, while I move forward another meter or so."

"I suspect from the appearance and electrical behavior," said Kahinin, "that we have a clump of arginines toward the junction. That represents a strong region of positive charge and I can handle that as smoothly as sour cream."

But Boranova said sternly, "No overconfidence, Sophia. Keep a firm watch. If you miss and the ship tears loose, there will be much to do over."

"Yes, Natalya," said Sophia, "but with all respect, the warning is not really needed."

Dezhnev said, "Sophia, do exactly what I say. Keep only the prow of the ship attached to the wall, but strongly. Release everything else."

"Done," said Sophia faintly.

Morrison found himself holding his breath. The rear of the ship had spun away from the wall, but it held in front. The bloodstream caught the detached rear end and pushed the ship into a position at right angles to the current, while the capillary wall, where the ship still held, moved outward like a pimple.

Morrison said tightly, "Watch out. We'll pull a section out of the wall."

"Quiet, all!" thundered Dezhnev. Then, in an ordinary voice, "Sophia, I shall increase the engine push slowly. Get yourself in position to break all remaining attraction. The ship is to be entirely neutral -- but not until I say so."

Sophia cast a quick look toward Boranova, who said in her quiet way, "Do exactly as you're told, Sophia. For this, Arkady's word is absolute."

Morrison imagined he felt the ship straining forward. The section of the capillary wall to which it was attached stretched farther and farther.

Sophia said urgently, "Arkady, either the field will snap or the wall will."

"Another moment, dear one, another moment. -- Now."

The wall snapped back and the ship bounded forward in a great leap that rocked Morrison gently backward. The forward end of the ship buried itself in the cement stuff between the two cells of the capillary wall.

52.

For the first time, Morrison was aware of the laboring of the microfusion engines. There was a subliminal throbbing as the ship worked its way through the joint with what seemed increasing difficulty. There was nothing to see up ahead. The thickness of the capillary wall, very thin though it was in normal terms, was far thicker than the length of the ship.

The ship was now totally immersed in the joint and Dezhnev, beads of sweat on his forehead, turned his head and spoke to Boranova. "We're using up energy faster than we should."

Boranova said, "Then stop the ship and let's consider."

Dezhnev said, "If I do that, there is a chance that the natural elasticity of this material will pop us out of the joint and back into the bloodstream."

"Slow the engines down, then. Choose a level that will be enough to keep us in place."

The throbbing came to an end.

Dezhnev said, "The joint is exerting considerable pressure on the ship."

"Enough to crush us, Arkady?"

"Not now. But who can say for the future if the pressure continues."

Morrison burst out. "This is ridiculous. Didn't someone say we're the size of a small organic molecule?"

"We're the size of a glucose molecule," said Boranova, "which is made up of twenty-four atoms altogether."

"Thank you," said Morrison freezingly, "but I know how many atoms there are in a glucose molecule. As it happens, small molecules drift through the capillary walls constantly by diffusion. Diffusion! That's the way the body works. Why aren't we diffusing through?"

Boranova said, "Diffusion is a statistical proposition. There are twenty-four billion trillion glucose molecules in the bloodstream at any given time. They move around randomly and some manage to hit in such places and in such ways as to move through a joint, or to move into the membrane of a capillary wall cell, into the cell, and out the other

side. A very small percentage succeed at any given second, but that is enough to ensure proper tissue functioning. However, by chance, a particular glucose molecule may remain in the bloodstream for a month without diffusing. Can we wait a month for a chance to do its work?"

"That's no argument, Natalya," said Morrison impatiently. "Why don't we simply do deliberately what a real glucose molecule would do by chance? Especially now, when we're part way through the joint. Why are we stuck in position?"

Konev said, "I'm on Albert's side. Diffusion probably isn't a passive leakage. There's some sort of interaction between the diffusing object and the barrier through which the diffusion takes place -- except that no one knows what the interaction might be exactly. Especially here, where we face the blood-brain barrier."

"We're here at the barrier," said Dezhnev. "You're the brain expert. Can you look around and tell us how this diffusion works?"

"No, I can't. But glucose is one molecule that gets through the blood-brain barrier easily. It must because it is the brain's sole fuel for energy. The trouble is that while the ship is as small as a glucose molecule, it isn't a glucose molecule."

"Are you getting at something, Yuri," said Boranova, "or is this a lecture?"

"I'm getting at something. We had the ship become uncharged in order to lunge into the joint, but why leave it uncharged now? Can it be given the charge pattern of a glucose molecule? If so, it will be a glucose molecule as far as Shapirov's body is concerned. I suggest you order it done, Natalya."

Kahinin did not wait for the order. She said, "It is done, Natalya."

(They each addressed Boranova, Morrison noted. Each still maintained the fiction of the other's nonexistence.)

Dezhnev said, "And the joint's pressure decreases at once. It recognizes a friend, so it bows politely and steps aside. My father's mother, long may I keep her memory, would have cried out, 'Black magic,' and at once would have hidden beneath the bed."

"Arkady," said Boranova, "increase the power of the engines and pass through before the joint notices that underneath the glucose pattern is something that is not glucose."

"Yes, Natalya," said Dezhnev.

Morrison said, "This one is yours, Yuri. Your suggestion was just right. In hindsight I see that I should have thought of that, too, but the fact is, I didn't."

Konev said gruffly, as though finding praise something he couldn't handle, "It was nothing. Since the brain lives on glucose, we got down to glucose size. Eventually, we would have had to have a glucose pattern, and as soon as you asked the question why we weren't diffusing when we should have been, I realized we needed the pattern already."

Dezhnev said, "Members of the expedition, we are through the joint. We are out of the bloodstream. We are in the brain."

In the brain, thought Morrison, but not in a brain cell. So far they had only passed from the intercellular space between the cells of the capillary wall, into the intercellular spaces of the brain where the support structures existed that maintained the form and interrelationships of the nerve cells, or neurons. Remove them and the cells would squash into amorphous masses, pulled together by gravity and unable to maintain any sensible function.

It was a jungle, made up of thick viny threads of collagen. (This was the nearly universal animal connective protein that fulfilled the function of cellulose in plants, less cheaply, since it was protein rather than carbohydrate, but far more flexibly.) Through the eye of ultraminiaturization, those collagen threads, totally invisible without an electron microscope, looked like tree trunks, leaning this way and that in a world in which gravity was of little importance.

There were finer and still finer threads. Morrison knew that some of them might be elastin and that the collagen itself might come in subtly different varieties. If he could see the whole in a wider view, from a less-miniaturized standpoint, he would have been able to detect order and structure. At this level, however, it was chaotic. One couldn't even see far in any direction; the overlapping fibers blocked vision.

Morrison became aware that the ship was moving very slowly. The four others were each staring around in wonder. Either they had not expected this (Morrison hadn't, for he had been too interested in the electrical properties of the brain to think much concerning its microanatomy) or, if they had, they had nevertheless failed to visualize it.

Morrison said, "How do you expect to find your way to a neuron? Does anybody know?"

Dezhnev was the first to answer, "The ship can only move straight ahead, so we move straight ahead until we get to a cell."

"How do we move straight ahead through this jungle? If we can't steer the ship, how do we move around obstacles?"

Dezhnev rubbed his chin thoughtfully. "We don't move around, we push around. The ship will move past one of those objects and there will be more friction on the contact side than on the other, so our path bends, like a comet rounding the sun." He smiled. "Cosmonauts do that when they use gravity to skim around a satellite or planet. We'll do it to skim around those things."

Konev said morosely, "Those things are collagen fibers."

Morrison said, "Some of them are pretty thick. You won't always pass by. You'll hit one head-on and stay there and if you can only move forward, what will you do? This ship was designed only for the bloodstream. We're helpless out of it with nothing to carry us along."

Boranova interposed. "Arkady, you have three microfusion engines and the jets, I know, are arranged at the rear at the apices of an equilateral triangle. Can you fire only one of them?"

"No. One contact controls all three."

"Yes, Arkady, that is how it is now. But you designed the ship and you know the details of its controls. Is there anything you can do to modify them so that you can fire them one at a time?"

Dezhnev took a deep breath. "Everyone told me over and over again that I must cut corners, that I must save the budget, that I must do nothing to irritate the bureaucrats."

"Aside from that, Arkady, is there anything you can do?"

"Let me think. It means jury-rigging. It means finding something to make switches out of, and extra wire, and who knows if it will work or how long it will work if it does, and if we won't end up worse than we are. I see what you mean, though. If I can fire only one of the engines, it will set up an unbalanced thrust."

"You'll be able to steer then, depending on which you fire."

"I'll try, Natalya."

Morrison said angrily, "Why didn't you think of this when we were in the wrong capillary? It might have saved me the small trouble of nearly dying trying to turn the ship by hand."

Dezhnev said, "If you hadn't so promptly suggested turning the ship by hand, we might have thought of it -- but it wouldn't have been a good idea."

"Why not?"

"We were in the current of the bloodstream. The ship is carefully streamlined to take advantage of it and its surface is designed to allow water to flow past it without turbulence, which makes it all the harder to turn out of the current. It would have taken much longer than turning by hand -- and very much more energy. The narrow confines of the capillary must be remembered, too. Here, there is no current and because we've been so miniaturized there is a great deal of room."

"Enough," said Boranova. "Get to work, Arkady."

Dezhnev did so, rummaging through a tool chest, removing a cover plate and studying the control details within, maintaining through it all a kind of incoherent muttering.

Konev, his hands clasped behind his neck, said, without turning, "Albert, tell us about those sensations you receive."

"Sensations?"

"You were telling us about them just before we got the news from the Grotto that we were located in the correct capillary. I'm talking about the sensations you experienced when you were trying to analyze the thought waves."

"Ah," said Morrison and caught Kahinin's eye.

Very slightly, she shook her head. Very tentatively, a warning finger crossed her lips.

Morrison said, "Nothing to tell. I had vague sensations I couldn't describe in any objective way. It could well have been my imagination. Certainly those whom I tried to tell about it were convinced it was."

"And you never published anything about them?"

"Never. I merely mentioned it in passing at conventions and that was bad enough. If Shapiro and you heard of it, it was through word of mouth only. If I had published, that would have come as near to scientific suicide as I would ever want to be."

"Too bad."

Morrison looked briefly toward Kahinin. She had nodded very slightly, but said nothing. Clearly, she couldn't say anything without being overheard by the entire ship.

Morrison looked around carelessly. Dezhnev was lost in his work, clucking to himself. Konev stared straight ahead, lost in whatever tortuous thoughts he happened to have. Boranova, behind Kahinin, was studying the screen of her computer carefully and was making notes. Morrison did not try to read them -- he could read English upside down, but he hadn't come to that pitch of ease with Russian.

Only Kahinin, to his left, was looking at him.

Morrison pressed his lips together and then shifted his computer into a word-processing mode. It did not have a Cyrillic adjunct, but he spelled out the Russian words in phonetic Roman lettering. WHAT IS WRONG?

She hesitated, probably not very much at home in Roman.

Then her own fingers flashed and the neat Cyrillic on her screen read: DON'T TRUST HIM. SAY NOTHING. It was erased at once.

Morrison wrote: WHY?

Kahinin said: NOT EVIL, BUT PRIORITY, CREDIT. WILL DO ANYTHING, ANYTHING, ANYTHING.

The words were gone and she looked away firmly.

Morrison considered her thoughtfully. Was it only the vengefulness of a woman betrayed?

It didn't matter, in any case, for he had no intention of talking about anything that he hadn't already given away, either in a paper or by word of mouth. He himself was not evil, but where priority and credit were concerned, he might not do anything, anything, anything, but he would do a great deal.

Still, there was nothing to be done at that moment. Or one thing, perhaps, which was completely aside from the point, but which was beginning, just beginning, to occupy his mind to the exclusion of other things.

He turned to Boranova, who was still staring at her instrument and tapping her fingers softly against the arm of her seat in thoughtful concentration.

"Natalya?"

"Yes, Albert?" She did not look up.

"I hate to introduce a note of ugly realism, but" -- his voice lowered to near-soundlessness -- "I'm thinking of urinating."

She looked up at him, a corner of her lips twitching very slightly, but avoiding the smile. She did not lower her voice. "Why think of it, Albert? Do it."

Morrison felt like a little boy raising his hand for permission to leave the room -- unreasonably so, he knew. "I don't like to be the first."

Boranova frowned, almost as though she were the teacher in the case. "That is quite silly and, in any case, you are not. I have already taken care of such a need in myself." Then, with a faint shrug, "Tension tends to increase urgency, I have frequently found."

Morrison had frequently found that, too. He whispered, "It's all very well for you. You're there in the back seat alone." And he nodded slightly in the direction of Sophia.

"So?" Boranova shook her head. "Surely you don't wish me to improvise a curtain for you? Shall I place my hand over her eyes." (Kahinin looked in their direction in surprise.) "She will ignore you, I'm sure, out of decency and out of a feeling that in short order she will wish you to ignore her."

Morrison was keenly embarrassed, for Kahinin was now looking at him with obvious understanding. She said, "Come, Albert, I held you naked in my lap. What room need one make for modesty now?"

Morrison smiled weakly and made a little thank-you gesture.

He tried to remember how to manage the waste lid on his seat, but once he remembered, he found that it slid open with a small but definite click. (Those irritating Soviets! Backward always in small ways. It might easily have been designed to open noiselessly.)

He also managed to loosen the electrostatic seam along his crotch and then found himself worrying whether he would manage to close it unobtrusively afterward.

Morrison felt the current of air at the moment the waste lid opened and it felt uncomfortably cold against his bare skin. He sighed with a tremendous relief when he was done, then he managed to close the seal along the crotch and sat there, panting. He realized that he must have been holding his breath.

"Here," said Boranova brusquely. He stared, for a moment, at what she was holding, then recognized it as a small sealed towel. He tore open the seal, found the towel within moistened and scented and rubbed his hands with it. (The Soviets were learning small elegances, obviously -- or decadences, depending on whether finickiness or impatience won the battle for domination within you.)

And then Dezhnev's throaty voice sounded loudly, very loudly, in Morrison's ear after all the whispering he had been engaged in. "That's done now."

"What's done?" asked Morrison angrily, automatically assuming the reference was to his bodily functions.

"The individual firing of the motors," said Dezhnev, making a there-you-are gesture with both hands in the directions of the ship's controls. "I can fire any one, or two, or all three, if I wish. Absolutely certain -- I think."

"Which is it, Arkady?" said Boranova waspishly. "Is it quite certain or is it a matter of opinion?"

"Both," said Dezhnev. "It is my opinion that I am absolutely certain. The trouble is that my opinion isn't always right. My father used to say --"

"I think we ought to try it out," said Konev, cutting off Dezhnev's father, perhaps in the full realization he was doing so.

"Of course," said Dezhnev. "That goes without saying, but as my father used to say" -- he raised his voice as though determined not to be again subverted -- "the sure thing about anything that goes without saying is that someone is bound to say it. -- And you might as well know --"

He paused momentarily and Boranova said, "What might we as well know?"

"Several things, Natasha," said Dezhnev. "In the first place, steering will take a lot of energy. I've done my best, but the ship is not designed for this. For another -- well, I can't communicate with the Grotto now."

"Can't communicate?" said Kahinin, her voice rising to a near squeak in what was either surprise or indignation.

Boranova's voice marked her as definitely indignant. "What do you mean, we can't communicate?"

"Come, Natasha, I can't wire up the motors separately without wires, can I? The best engineer in the world can't make wires out of nothing and can't manufacture silicon chips out of nothing, either. Something had to be dismantled and the one thing I could dismantle without disabling the ship was communications. I told them that out in the Grotto and there was a lot of shrieking and complaining, but how could they stop me? So now we can steer, I think -- and we can't communicate, I know."

54.

There was silence as the ship began to move. The surroundings were utterly different now. In the bloodstream, there had been a heaving medley of objects -- some crawling ahead of the ship, some slowly drifting behind, depending on eddies and streamlining, Morrison supposed. There was the feeling of movement, if only because the markings on the walls -- fatty plaques in the arteries, tiling in the capillaries, slipped steadily backward.

Here, in intercellular space, however, there was stasis. No motion. No feeling of life. The tangle of collagen fibers seemed a forest primeval, built up of trunks only, without leaves, without color, without sound, without motion.

Once the ship pushed forward through the viscous intercellular fluid, however, everything began to move backward. The ship slipped toward and through a V-shaped meeting of fibers and, as they passed through, Morrison had the plain impression of a loose spiral making its way upward along each collagen fiber, the spiral being more marked on the thinner of the two.

Up ahead was a thicker fiber still, a monarch of the collagen jungle.

"You'll have to turn, Arkady," said Konev. "Now's the time to test it."

"All right, but I'll have to lean over. I don't have the controls neatly at my fingertips. There's a limit to improvisation." He leaned forward, groping at a level about that of his calves. "I do not relish the thought of having to do this constantly. It is hard on a man of portly habit."

"You mean a man who is fat," said Konev ill-naturedly. "You have let yourself go flabby, Arkady. You should lose weight."

Dezhnev straightened up. "Very well. I will stop right now, go home, and begin to lose weight. Is this a time, Yuri, to lecture me?"

"It is not a time for you to get emotional either, Arkady," said Boranova. "Steer!"

Dezhnev bent over, suppressing a grunt. Slowly, the ship turned rightward in a gentle arc; or, to judge more literally by appearance, the thick collagen fiber drifted leftward as it approached -- as did everything else.

"You will hit it," said Konev. "Turn more sharply."

"It won't turn more sharply," said Dezhnev. "Each motor is only so far off-center and I can't change that."

"Well, then, we will hit it," said Konev, an edge of anxiety in his voice.

"Then let us hit," said Boranova angrily. "Yuri, do not go into panic over inconsequential. The ship is tough plastic; that fiber is undoubtedly rubbery."

And as she spoke, the prow of the ship began to pass the collagen fiber, with little room to spare. Watching through the port side of the ship, it was clear that the broadening beam of the ship would make contact. When the fiber was nearly level with Kahinin's seat, it happened. There was no scraping sound, only a very soft hiss could be detected. Not only was the fiber rubbery, as Boranova had said, so that it compressed slightly under the force of the collision, then rebounded, pushing the ship a trifle away -- but the slimy intercellular fluid served as a cushion and a friction reducer.

The ship continued to move and turned leftward in the direction of the fiber.

Dezhnev said, "I shut off the motor as soon as I saw we were about to make contact. This leftward turn we're going through now is a friction turn."

"Yes," said Konev, "but what if you had wanted to turn in the other direction?"

"Then I would have used the motor. Or, considerably earlier in our progress, I would have made a turn toward a graze with the fiber to the right. That fiber would have turned us rightward. The main thing, in any case, is to use the motors as little as possible and the fibers as much as possible. In the first place, we don't want to consume our supply of energy too rapidly. In the second place, the rapid output of energy increases the chances of spontaneous deminiaturization."

"What!" cried Morrison. He turned to Boranova. "Is that true?"

"It's not an important effect," said Boranova, "but it's true. The chances go up a bit. I should say that conservation is the more important of the two reasons for saving energy."

But Morrison could not repress his anger. "Don't you see how ridiculous -- no, criminal -- this whole situation is? We're in a ship that simply isn't up to the task and everything we do makes it worse."

Boranova shook her head. "Albert, please. You know we have no choice."

"Besides," said Dezhnev, grinning, "if we manage to do the job in this unsuitable ship, think how much more remarkable that will make us. We will be heroes. Authentic heroes. We will surely get the Order of Lenin -- each one of us. It will be a foregone

conclusion. And if we fail, it is comforting to think that we will be able to explain it as the ship's fault."

"Yes. Soviet heroes, win or lose, all of you," said Morrison. "And what will I be?"

Boranova said, "Remember, Albert, you will not be neglected if we succeed. The Order of Lenin has been given to foreigners on a number of occasions, including many Americans. Even if you should not want the honor for some reason, the success of your theories will be established and you may receive a Nobel Prize before any of us do."

"We're in no position to count our chickens," said Morrison. "I shall refrain from composing my Nobel acceptance speech for just a while, thank you."

"Actually," said Kahinin, "I wonder if we're in a position to reach a neuron."

"What's the difficulty?" asked Dezhnev. "We can move and steer and we're outside the capillary and in the brain. Just out there is a neuron, any number of them, billions of them."

"Just out where?" Kahinin asked. "I don't see any neurons. Just collagen fibers."

Dezhnev said, "How much of this intercellular fluid do you think there is?"

"A microscopic thickness," said Kahinin, "if we were normal in size. However, we're the size of a glucose molecule and, relative to ourselves, there may be a kilometer's distance or more to the nearest neuron."

"Well, then," said Dezhnev, "we'll move our ship a kilometer. It may take a little time but it can be done."

"Yes, if we could move in a straight line, but we're in the middle of a dense jungle. We have to turn and twist around this fiber and that and, in the end, we may travel fifty kilometers by our own measurement and find ourselves back at our starting point. We're just going to be blundering through a maze and we won't reach a neuron except by sheerest accident."

"Yuri has a map," said Dezhnev, sounding a little nonplussed. "Yuri's cerebro-whatever--"

Konev, frowning, shook his head. "My cerebrograph shows me the circulatory network of the brain and the cell pattern, but I can't expand it to the point where it will indicate our position in the intercellular fluid between cells. We don't know that sort of fine detail and we can't get out of cerebrography any more than we can put into it."

Morrison looked through the wall of the ship. In all directions, the collagen fibers could be made out, overlapping and blocking them in. In no direction could the eye see through them very far and in no direction was there any sign of anything but fiber upon fiber.

No nerve cells! No neurons!

13. CELL

The wall that says "Welcome, stranger" has never been built.

Dezhnev Senior

55.

Boranova's nostrils flared slightly and her dark eyebrows hunched together, but her voice remained calm.

"Arkady," she said, "You will travel forward in as straight a line as possible. Curve to a minimum extent and, if you can, curve left and right alternately. And, since we're in a three-dimensional situation, up and down alternately."

"It would get confusing, Natasha," said Dezhnev.

"Of course it will, but perhaps it won't get completely confusing. We may not be able to travel ruler-straight, but maybe we won't go in circles, spirals, or helixes either. And sooner or later we should reach a cell."

"Perhaps," said Dezhnev, "if you deminiaturize the ship a little bit --"

"No," said Boranova.

"Wait, Natasha. Think about it. If we deminiaturize a bit, then there will be less space to travel. We grow larger, the space between blood vessel and neuron grows smaller." He made eloquent gestures with his hands. "You understand?"

"I understand. But the larger we get, Arkady, the more difficult it will be to pass between the fibers. The neurons of the brain are well-protected. The brain is the only organ to be completely encased in bone and the neurons themselves, which are the most irregular in the body, are well-packed with intercellular material. Look for yourself. It's only if we're down to the size of a glucose molecule that we can make our way through and around the collagen without, perhaps, doing drastic damage to the brain."

At this point, Konev committed the unusual act of turning in his seat, looking upward as he turned to his left so that his glance passed over Kahinin before meeting Boranova's eyes. He said, "I don't think we have to travel onward completely blind -- completely at random."

"How otherwise, Yuri?" asked Boranova.

"Surely the neurons give themselves away. Each has nerve impulses running its length periodically and at very short intervals. That might be detected."

Morrison frowned. "The neurons are insulated."

"The axons are -- not the cell bodies."

"But it is the axons where the nerve impulse is strongest."

"No, it is the synapses where the nerve impulse may be strongest and they are not insulated, either. The synapses ought to be sparking all the time and you ought to be able to detect it."

Morrison said, "We couldn't in the capillary."

"We were on the wrong side of the capillary wall at the time. -- Look, Albert, why are you arguing the matter? I'm asking you to try to detect brain waves. That's why you're here, isn't it?"

"I was kidnapped," said Morrison violently. "That's why I'm here."

Boranova leaned forward. "Albert, whatever the reason, you're here and Yuri's suggestion is a reasonable one. -- And, Yuri, must you always be confrontational?"

Morrison found himself shaking with anger and for a moment he wasn't sure why. Konev's suggestion was indeed reasonable.

Then it occurred to him that he was being asked to put his theories to the test under conditions which would allow him no escape. He was on the very border of a brain cell that was magnified with respect to himself to mountainous proportions. He might be asked next to make his test inside, actually inside, such a cell. And if he did -- and if he failed -- under what blanket of argument and excuse could he hide from the fact that his work was wrong and had always been wrong?

He was angry, surely, at being thrust into this uncomfortable corner by circumstance and not at Konev particularly.

He was aware of Boranova waiting for him to say something and of Konev maintaining his incandescent stare.

Morrison said, "If I detect signals, I will detect them from all sides. Except for the capillary we have just left, we're surrounded by uncounted numbers of neurons."

"But some are closer than others," said Konev, "and one or two would be closest of all. Can't you detect the direction from which the signals will be the strongest? We can home in on that signal."

"My receiving device isn't equipped to determine directional signals."

"Ah! Then Americans, too, make use of devices that are equipped for specific purposes and do not prepare for emergency needs. It is not merely the ignorant Soviets who --"

"Yuri!" said Boranova sternly.

Konev swallowed. "I suppose you'll tell me I'm confrontational again. In that case, Natalya, you tell him to think of a way of devising something that will tell him the direction from which the strongest signals are coming."

"Please, Albert, make the attempt," said Boranova. "If you fail, we shall just have to blunder our way through this collagen jungle and hope we come upon something before too long."

"We're blundering onward even as we speak," put in Dezhnev almost cheerfully, "but I still see nothing."

Still angry, Morrison activated his computer and put it into the brain wave reception mode. The screen flickered, but it was only noise -- though the noise was more prominent than it had been within the capillary.

Until now, he had always used leads that involved micropositioning inside a nerve. Where was he to put the leads now? He had no nerve to put them into -- or, rather, he was already inside the brain, which made the whole matter of positioning anomalous. Perhaps, though, if he let the leads (made as stiff as possible) rise in the air and spread apart like a pair of antennae, they might play the part. At their present size, the spread would be tiny and could scarcely be useful but --

He doubled and redoubled the leads and they stood up in long loops, looking very much like the insect antennae that had first given them their names. He then focused and sharpened reception as well as he could and the flickering on the screen suddenly broke into deep narrow waves -- but only for a moment. Involuntarily, he let out a cry.

"What happened?" said Boranova, startled.

"I received something. Just a flash. But it's gone."

"Try again."

Morrison looked up. "Listen. All of you. Quiet. Working this thing is difficult and I manage best when I can concentrate entirely. Understood? No noise. Nothing."

"What was it you received?" said Konev softly.

"What?"

"Like a flash. You received something like a flash. May we know what it was?"

"No. I don't know what I received. I want to listen again." He looked behind him to the left. "Natalya, I'm in no position to give orders, but you are. I am not to be disturbed by anyone, particularly by Yuri."

"We will all be quiet," said Boranova. "Proceed, Albert. -- Yuri, not one word."

Morrison looked sharply to his left, for there had been a soft touch on his hand. Kahinin was looking at him keenly and there was a small smile on her face. She mouthed words in an exaggerated fashion and he managed to catch the Russian: "Pay no attention to him. Show him! Show him!"

Her eyes seemed to glitter. Morrison could not help but smile warmly in response. She might be motivated entirely by a desire for vengeance against the man who had abandoned her, but he enjoyed the look of assurance and faith that was present in her eyes.

(How long ago had it been since a woman had looked at him with pride and with trust in his abilities? How many years ago had it been since Brenda had lost hers?)

A spasm of self-pity shook him and he had to wait for a moment.

Back to the device. He tried to shut out the world, shut out his condition, think only of his computer, only of the tiny fluctuations in the electromagnetic field produced by the interchange of sodium and potassium ions across the neuron membrane.

The screen flashed again, steadied, and resolved into a pattern of low peaks and valleys. Carefully, barely daring to touch the keys, Morrison threw in an expansion

directive. The peaks and valleys spread out, the edges sliding off the screen. On the single peak and valley left remaining, there was a fuzzy smaller wiggle.

It's recording the waves, he thought, afraid to say so, afraid even to think it with any intensity, lest the slightest physical or mental effect suffice to blank it out.

The minor wiggle -- the skeptic waves, as he called them -- went out of focus and back in, never quite sharpening.

Morrison wasn't surprised. He might be detecting the fields of a number of cells that didn't quite duplicate each other. There was also the insulating effect of the plastic wall of the ship. There was the eternal shaking of Brownian motion. There might even be the interfering charge of atom groupings outside the miniaturization field.

The wonder was that he had gotten waves at all.

Slowly he made hand contact with the antennae -- slid his fingers up and down, first one hand, then the other, then both in unison, then both in opposite directions. Then he bent the antennae gently, this way and that. There were sharpening and fuzzing of the skeptic waves, but he didn't know, for certain, exactly what he was doing that resulted in the sharpening.

And then, at a certain point, the tiny waves sharpened acutely. A little to one direction and another they fuzzed, but in one particular direction they were sharp. He tried to keep his hands from trembling.

"Arkady," he said.

"Yes, my American magician," said Dezhnev.

"Curve left and a little upward. I don't want to talk too much."

"I'll have to curve around the fibers."

"Curve slowly. Too fast and I'll lose the focus."

Morrison fought to keep his eyes from flickering leftward toward Kahinin. Just one look at her face and one inevitable thought of her prettiness would be distraction enough to fuzz out the screen. Even the thought of distraction was itself distracting enough for the thought wave to flicker.

Dezhnev was curving the ship in the gentle arc that was all that the offset motors would manage and slowly Morrison shifted the antennae to suit. Occasionally he muttered a brief whispered direction: "Up and right," "Down," "A little left."

Finally he gasped, "Straight ahead."

It should get easier, he thought, as they got closer, but he couldn't relax until a neuron was actually in sight. And, through the obscuring collagen thicket, that was not likely to be until they were nearly on top of it.

Concentrating on only one subject was as tiring as clenching a muscle and leaving it clenched. He had to introduce just a bit of quick variation. He had to think of something else, but something neutral, something that would, for a while, leave his mind unclenched. So he thought of his broken family because he had thought of them so often that the image had faded and lost effect somehow. It was a photograph that was growing bent and gray and he could snap out of it quickly and return to the single-minded contemplation of the skeptic waves.

Then -- without warning and overwhelmingly -- another thought invaded his mind. It was a sharp mental picture of Sophia Kahinin, looking younger, prettier, and happier than she had ever seemed to him in the short time he had known her. And with that picture came a tumbling of love and frustration and jealousy that left him weak.

He had not been consciously aware of any of these feelings, but who knew what unconscious thoughts and emotions might be hidden there in his own brain cells? Kahinin? Did he feel that way about her? So quickly? Or was it the abnormal tensions of this fantastic voyage into the brain that had brought about fantastic responses?

It was only then that he noticed that the screen had fuzzed out completely. He was about to shout a warning to Dezhnev to stop the motors while he concentrated and tried to recapture the waves when Dezhnev's voice boomed out.

"There it is, Albert. You guided us to the cell like a bloodhound. Congratulations!"

"Also," said Boranova, gazing at Konev's lowering countenance, "congratulations to Yuri for coming up with the idea and persuading Albert to make the effort."

Konev's face relaxed and Dezhnev said, "But now, how do we get inside?"

56.

Morrison stared at the vista ahead with interest. What he saw was a vast ridged wall stretching up and down, right and left, as far as the ship's light made it possible to see. The ridges were themselves broken up into domes so that, on closer inspection, the wall seemed to be a checkerboard with each square bulging outward. There were ragged extensions jutting outward between the bulges, like thick, short, and branching ropes that gave the wall an appearance of being tattered.

Morrison, with some effort, allowed for his own miniaturization and grasped the fact that the bulges were the ends of molecules (of phospholipids, he assumed) that made up the cell membrane. He realized with some dismay just what it meant for the ship to be the size of a glucose molecule. The cell was an enormous object; by present ship measure, it must be many kilometers across.

Konev had been staring at the cell membrane also, but emerged from his thoughtful contemplation sooner than Morrison did.

"I'm not sure," said Konev, "that this is a brain cell -- or, at least, a neuron."

"What else can it be?" said Dezhnev. "We're in the brain and that's a cell."

Konev made no visible attempt to smother the disgust in his expression as he said, "There is more than one kind of brain cell. The neuron is the important cell, the chief agent of the mind. There are ten billion of them in the human brain. There are also some ten times as many glial cells of several kinds, which serve supporting and subsidiary functions. They are considerably smaller than the neurons. On the basis of chance, then, it is ten to one that this is a glia. The thought waves are in the neurons."

Boranova said, "We can't be guided simply by chance, Yuri. Can you tell in some definitive way whether this is glia or a neuron without involving statistics?"

"Not just by looking at it, no. From this size, all I see is a small section of a cell membrane and in such a case one cell looks like another. We'll have to become larger and get a more panoramic view. I presume we can become larger now, Natalya. After all, we're through what you called the collagen jungle."

"We can deminiaturize, if necessary," said Boranova, "but increasing size is more tedious and risky than decreasing it. An increase means the generation of heat and must be done slowly. Is there any alternative?"

Konev said tartly, "We might try Albert's instrument again. Albert, can you tell us if the skeptic waves you can detect are coming from straight ahead or from a slightly different direction?"

Morrison hesitated. Before his instrument had fuzzed out at a time just before the cell had been sighted, there had been the Kahinin vision and he didn't want it back. It was too embarrassing, too upsetting. Surely, if his mind hid and suppressed emotions, it was because they were better hidden and suppressed.

He said uncertainly, "I'm not sure --"

"Try it," said Konev and all four Soviets were now looking at Morrison earnestly.

With an inward shrug, Morrison put his computer into action. After some consideration, he said, "I get the waves, Yuri, but not as strongly as I did on the way here."

"Do they get stronger in another direction?"

"Slightly, from a more upward direction, but I must warn you again that the directional abilities of my device are very primitive."

"Yes, like this ship you complain about. -- Here is what it seems to me has happened, Natalya. Coming here, we were able to detect a neuron directly above the top of a glia that lay before it. When he saw the glia, Arkady naturally steered for it and its bulk now masks the neuron and we get the thought waves more dimly."

"In that case," said Boranova, "we must go over the glia to the neuron."

"And in that case," said Konev, "I say again that we must deminiaturize. At our present glucose size, the distance we must pass in moving over the glia may well prove to be a hundred or a hundred and fifty kilometers. If we increase in length ten times, say to the size and mass of a small protein molecule, we would reduce the apparent distance to merely ten or fifteen kilometers."

Kahinin said in an abstracted voice, as though what she had to say bore no relationship to what had just been said, "We will have to be our present size to get into the neuron, Natalya."

And, after a short pause, as though disengaging himself from the possibility of directly answering the remark, Konev said, "Of course. Once we reach the neuron, we readjust our size to whatever seems best."

Boranova sighed and seemed lost in her own thought.

Konev said with unaccustomed gentleness, "Natalya, we'll have to change size eventually. We can't stay glucose size forever."

"I hate to deminiaturize oftener than I must," said Boranova.

"But we must in this case, Natalya. We cannot spend hours cruising along a cell membrane. And deminiaturizing tenfold at this stage involved a very low absolute energy change."

Morrison said, "Is it that starting the deminiaturizing process might initiate an uncontrolled and explosive continuation?"

Boranova said, "There's nothing wrong with your intuition, Albert. Without knowing anything about miniaturization theory, you manage to grasp the point. Once started, it is safest to allow the deminiaturization to continue. Stopping it involves a certain risk."

"So does remaining at glucose size for hours longer than we need," said Konev.

"True," said Boranova, nodding her head.

Dezhnev said, "Shall we put it to a vote and come to a people's democratic decision?"

At this, Boranova's head snapped up and her dark eyes seemed to flash. Her heavy jaws set firmly and she said, "No, Arkady. It is my responsibility to make the decision and I will increase the size of the ship." Then, abandoning the air of majesty, she said, "Of course you can wish me well."

Dezhnev said, "And why not? It would be the same as wishing all of ourselves well."

Boranova bent over her controls and Morrison grew quickly tired of trying to watch. He couldn't actually see what she was doing, wouldn't understand that she was doing if he did see it, and there was the mundane fact that his neck was beginning to ache with the effort to keep it turned. He looked forward and found Konev peering at him over his shoulder.

"About the skeptic wave detection," said Konev.

"What about the skeptic wave detection?" said Morrison.

"When we were making our way to this cell through the collagen jungle --"

"Yes yes, what about it?"

"Did you get any -- images?"

Morrison remembered that tearing vision of Sophia Kahinin. Nothing like it existed in his mind now. Even when he thought of it as it had then been, it now roused no response. Whatever it was in his mind, it seemed to have been reached only under the intense stimulation of concentrated skeptic waves; and whatever it was, he was not going to describe it to Konev -- or to anyone else, for that matter.

He temporized, "Why should I have sensed any images?"

"Because you did on occasion when you analyzed skeptic waves at normal-size intensities."

"You're assuming that analysis during miniaturization would produce greater intensities or possess greater image-producing powers."

"It's a reasonable assumption. But did you or didn't you? The question doesn't involve theorizing. I'm asking about an observation. Did you get any images?"

And Morrison sighed inwardly and said, "No."

Konev continued his sidewise peering (under which Morrison felt himself grow a little restless and rather more than a little irate), then said softly, "I did."

"You did?" Morrison's eyes widened in honest surprise. Then, more cautiously, "What did you sense?"

"Not much, but I thought you might have gotten it more clearly. You were actually holding and manipulating your detector and it is probably more adapted to your brain than mine."

"Just what was it you got? Can you describe it at all?"

"A kind of flicker that moved into and out of awareness. It seemed to me that I saw three human figures, one larger than the others."

"And what did you make of that?"

"Well, Shapirov had a daughter whom he adored and she had two children whom he also adored. I imagine that in his coma he may have been thinking of them, or remembering them, or being under the delusion that he was seeing them. Who knows what goes on in a coma?"

"Do you know his daughter and his grandchildren? Did you recognize them?"

"I was seeing them, as it were, through translucent glass in the twilight. It was all I could do to sense three figures." He sounded disappointed. "I had hoped you would see it more clearly."

Morrison, thinking hard, said, "I neither saw, nor sensed, anything like that."

Konev said, "Of course, things should be sharper once we are inside a neuron. It is not images we must sense, in any case. We want to hear words."

"I've never heard words," said Morrison, shaking his head.

"Of course not," said Konev, "since you worked with animals who don't use words."

"True," said Morrison. "Just the same, I once managed to run some tests on a human being, though I never reported it. I sensed no words then or images either."

Konev shrugged it off.

Morrison said, "You know, under the circumstances, it might be natural for Shapirov's mind to be full of family -- if we accept your interpretation of what you thought you sensed. What would the chances be that he would be thinking of some esoteric extension of miniaturization mathematics?"

"He was a physicist. Even his family came second to that. If we can sense words out of those skeptic waves, they'll be words dealing with physics."

"You think that, do you?"

"I am positive."

The two fell quiet and for a few minutes there was no sound in the ship. Then Boranova said, "I've deminiaturized the ship to protein size and I have brought the process to a halt."

A moment passed and then Dezhnev, with an unaccustomed tightness to his throaty voice, said, "Are things all right, Natasha?"

Boranova said, "The mere fact that you can ask the question, Arkady, is an answer in the positive. Deminiaturization has stopped without incident."

She smiled, but there was a definite trace of perspiration glistening at her hairline.

57.

The surface of the glial cell still stretched out as far as the eye could see into the dimness beyond the reach of the ship's light, but it had changed in character. The domes and ridges had faded out into a fine texture. The ropes that had extended from between the domes had become threads nearly impossible to see as the ship sped along the surface.

Morrison's attention was, for the most part, on his computer, as he watched to see that the skeptic waves did not decline in intensity, but, periodically, he could not help but drift away from that and gaze at the panorama outside.

Occasionally, there would emerge from the surface of the cell the typical dendritic processes of a nerve cell -- even one that was merely a subsidiary glial cell. They branched and sub-branched like a tree in winter, growing out of the cell membrane.

Even at the new and larger size of the ship, the dendrites were large when they emerged from the cell. They were like tree trunks, which, however, narrowed rapidly and were clearly flexible. Lacking the rigidity of the cartilage fibers, they swayed in the eddies set up by the ship's progress through the extracellular fluid. They swayed, indeed, at the ship's approach and Dezhnev rarely had to do anything to avoid them. They would bend out of line and the ship would pass them safely.

Collagen fibers were fewer in the immediate neighborhood of the cell and, thanks to the larger size of the ship, were much thinner and more fragile. On one occasion, Dezhnev either did not see one looming directly ahead of the ship or did not care that it was. The ship brushed past it in a way that brought it just outside Morrison's seat. He flinched at the grating collision, but the ship was in no way damaged. It was the collagen fiber that bent, then snapped and dangled free. Morrison's head turned and his eyes followed the broken fiber for the second or so that it remained in view before floating away.

Boranova must have seen it, too, and watched Morrison's reaction, for she said, "There's no reason for concern. There are trillions of those fibers scattered through the brain, so that one more or less doesn't matter. Besides, they heal -- even in a brain as badly damaged as poor Shapirov's."

"I suppose so," said Morrison, "yet I can't help but think we are crashing without any right through an infinitely delicate mechanism not meant for technological invasion."

"I appreciate your feeling," said Boranova, "but hardly anything in the world seems to have been brought into being by geological and biological processes with any apparent pre-vision of human interference. Humanity does a great deal of wrong to Earth and to life, some of it wittingly. -- Incidentally, I'm thirsty. Are you?"

"Definitely," said Morrison.

"You'll find a cup in the little recess under your right armrest. Pass it back."

She distributed water to all five, saying matter-of-factly, "There's no shortage of water, so if you want seconds, say so."

Dezhnev looked at his cup distastefully, while keeping one hand on the controls. He sniffed at it and said, "My father used to say: 'There is no drink like pure water, provided one realizes that it is alcohol that is the purifying agent.'"

"Yes, Arkady," said Boranova. "I am quite sure your father purified his water frequently, but here on the ship, with your hands on the controls, you will have your water unpurified."

"We must all go through privations now and then," said Dezhnev, who then downed his water and made a face.

It might have been the taste of the water that caused Kahinin to fumble between her legs. It took a moment for Morrison to realize that it was her turn to urinate and he turned his head toward the window and waited to see if another collagen fiber might go flying.

Boranova said, "I suppose, strictly speaking, it's lunchtime, but we can do without. Still --"

"Still what?" asked Dezhnev. "A good plate of piping hot borscht with sour cream?"

Boranova said, "What I have smuggled in against regulations are bits of chocolate -- high-calorie, zero-fiber."

Kahinin, who had disposed of her small damp paper towel and was shaking her hands to dry them, said, "It will rot our teeth."

"Not immediately," said Boranova, "and you can rinse your mouth with a little water to reduce the sugar residue. Who wants one?"

Four hands went up, Kahinin's not the last. Morrison welcomed his gladly. He was fond of chocolate in any case and sucked at it to make it last longer. The taste reminded him poignantly of his boyhood in the outskirts of Muncie.

The chocolate was gone when Konev said to Morrison in a low voice, "Have you sensed anything while we've been skimming past the glial cell?"

"No," said Morrison. (He hadn't.) "Have you?"

"I thought I did. The phrase 'green fields' crossed my mind."

Morrison could not prevent himself from saying "Hmm" and for a while remained lost in thought.

"Well?" said Konev.

Morrison shrugged. "Phrases go through one's mind all the time. You hear something out of the corner of your ear, so to speak, and sometime later it penetrates your consciousness; or some stream-of-consciousness thoughts invade your mind and one phrase surfaces; or you can have an auditory hallucination of some sort."

"It crossed my mind when I was looking at your instrument and concentrating."

"You wanted to be aware of something, I suppose, and something promptly obliged by flitting through your mind in response. You get the same effect in dreams."

"No. This was real."

"How can you tell, Yuri? -- I didn't sense any such thing. Did anyone else sense it, do you suppose?"

"They wouldn't. No one else was concentrating on your machine. Perhaps no one else in the ship had a brain sufficiently like yours to sense on your wavelength, so to speak."

"You're just guessing. Besides, what does the phrase mean?"

"Green fields? Shapirov had a house out in the country. He would remember the green fields."

"He might have merely supplied the image. You would supply the words."

Konev frowned, paused a moment, then said in a clearly hostile manner, "Why are you so opposed to the possibility of getting a message?"

Morrison allowed himself to be equally hostile. "Because I've been burned by reporting such sense perceptions. I've been ridiculed long enough and I have become cautious. An image of a woman and two children doesn't tell us anything. Neither does a phrase like 'green fields.' If you report it, how can you possibly tell it from a self-generated image or phrase? Now listen, Yuri, a hint, to be useful, must, however vaguely and indirectly, tie in with the quantum-relativity relationship. That we can report. Anything less than that is not compelling; it won't force belief. It will only succeed in hurting us. I speak from experience."

Konev said, "What, then, if you succeed in hearing something vital, something that bears on our project? Will you perhaps keep it to yourself?"

"Why should I? If I sense something in physics relating to miniaturization, I would lack the background to understand it and keeping it to myself would get me nowhere. If some useful result is shared between us, this computer remains my machine and it is activated by my theory. I am the one who will get the major share of the credit. I won't keep it to myself, Yuri. Both my self-interest and my honor as a scientist will keep me from doing that. -- And what about you?"

"Of course I'll share whatever I sense. I have been doing so just now."

"I don't mean 'green fields.' That is nonsense. Suppose you sense something very significant and I don't. Might it not occur to you that the knowledge would be a state secret, as miniaturization itself is? Would you then tell me that knowledge and risk the wrath of your Central Coordinating Committee."

They had been speaking in whispers, heads together, but Boranova's ears picked up the key word. "Politics, gentlemen?" she asked frostily.

Konev said, "We're discussing the possible uses of Albert's instrument, Natalya. If I learn something of importance from Shapirov's skeptic waves and Albert does not, he thinks I will keep it from him under the excuse that it is a state secret."

Boranova said, "It well may be."

Konev said mildly, "We need Albert's cooperation. It is his machine and his program and I am sure he knows how to work it at less than perfect efficiency. If he is not completely assured of our honesty and goodwill, he may arrange to have us sense nothing. I am willing to share anything that I sense if he will do the same."

"The Committee may disapprove, as Albert himself pointed out," said Boranova.

"Let it. I don't concern myself with it," said Konev.

"I'll prove I love you, Yuri," interposed Dezhnev with a chuckle. "I won't quote you."

Kahinin said, "Natalya, I agree that we should be honest with Albert, since we must ask him to be honest with us. Using his own device with which he has experience, he is far more likely to come up with something useful than we are. A policy of quid pro quo is likely to be far more to our advantage than to his. -- Isn't that so, Albert?"

Morrison nodded. "I've been thinking precisely that and would have mentioned it if it looked as though you were going to tell me that it was against government policy to be honest with me."

Boranova said, "Well, let us await events." The tension died down.

Morrison remained busy with his own thoughts, watching his machine only in abstraction.

And then Dezhnev said, "There's another cell just ahead -- a kilometer or two. It looks as though it might be larger than the one we've been passing. Is that a neuron, Yuri?"

Konev, who seemed to have been in a brown study of his own, snapped to attention. "Albert, what does your machine say? Is that a neuron?"

Morrison was already handling his device. "It must be," he said. "I've never seen the skeptic waves this sharp."

"Good!" said Dezhnev. "Now what?"

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Kahinin looked thoughtfully at the cell surface below. She said, "Natalya, we'll have to miniaturize to glucose size again. Arkady, get us in among the dendrites so that we can get down to the surface of the cell body."

Morrison watched the surface also. The dendrites were much more elaborate than those on the glia. The nearest one branched and branched again until it looked like a fuzzy frond vanishing beyond the reach of ship's light. Others, farther away, were fuzzier and smaller.

Morrison suspected that the fuzziness was at least partly the result of Brownian motion. Surely there couldn't be much of that, however. Probably each final strand of the branchings -- each twig -- met a similar twig or some neighboring neuron to form that intimate near-touch called a synapse. The wavering of the twig would not be strong enough to break the contact or the brain couldn't do its work.

Dezhnev had the ship approach the surface of the cell body, slowly slithering past the nearest dendrite (he was learning to handle the unbalance of the individual engines with a certain finesse, Morrison thought) -- and, as he did so, it seemed to Morrison that the surface of the neuron was changing character.

Of course, it had to, for the ship was miniaturizing again. The ridges in the cell surface were becoming more prominent and were dividing into domes. Between the phospholipid domes the hairs were becoming ropier. Receptors, thought Morrison. Each one of them was designed to link on to a particular molecule that would be useful to the neuron and certainly glucose would be the most useful of those.

The downward change was considerably more rapid than the upward change. Absorbing energy was simple, while the energy release of deminiaturization was dangerous. Morrison understood that well by now.

Kahinin said, frowning in concern, "I don't know which receptors are for glucose, but a great many of them must be. Skim across them slowly, Arkady -- very slowly. If we're caught, I don't want to tear loose -- or to tear them loose, either."

"No problem, little Sophie," said Dezhnev. "If I shut off the motors, the ship stops at once. It can't push through the giant atoms that surround us at all easily. Too viscous. So I just give it a touch of energy, enough to shoulder our way past the molecules of water, and we'll tiptoe across the receptors."

"Through the tulips," said Morrison, looking at Konev.

"What?" said Konev, looking both annoyed and puzzled.

"It's a phrase that went through my head. There's an old show tune called 'Tip Toe Through the Tulips With Me,' In English, the words are --"

"What nonsense are you speaking?" snapped Konev.

"I'm trying to point out that whenever someone says 'tiptoe' to me, I automatically hear the phrase 'through the tulips' in my mind. If I happen to be concentrating on my computer when someone says 'tiptoe,' I will still hear the phrase in my mind and it will not mean that I am getting it from the skeptic waves on the computer. Do you take my meaning?"

"You're talking emptily," said Konev. "Leave me alone."

But he looked shaken, Morrison thought. He had taken the meaning.

They were now moving parallel to the surface of the neuron. The receptors were moving gently and Morrison realized that he couldn't tell which were empty and which had attached themselves to some of the molecules moving through the extracellular fluid with them.

He tried to concentrate on those molecules. There seemed to be glitterings in the fluid which might have been the light of the ship's beacon reflected from molecules, but none of it showed up well. Even the surface of the cell membrane wasn't actually clear if you looked at it directly. It was more the surrealistic impression of a surface than an actual one -- too few photons were being reflected and too few were reaching them on their small scale.

Still, by the glitter, he could make out a kind of grittiness in the fluid they were passing through (water molecules, surely) and among them, now and then, something wormy-twisting, turning, closing up, then opening again. The immediate neighborhood of the ship was, of course, within the miniaturization field, so that atoms and molecules of the standard-size world were constantly shrinking as they entered -- and expanding again as they left. The number of atoms doing so must be enormous but the energy change that resulted, even totaled over that number, were small enough so that it did not drain the ship perceptibly, or bring about spontaneous deminiaturization, or do any damage. -- Or, at least, it seemed to do no damage.

Morrison tried not to think about it.

Boranova said, "I don't mean to question your ability, Sophia, but please check and make sure the ship has the electrical pattern of glucose."

"I assure you it does," said Kahinin.

And as though to give notice that that was indeed so, the ship seemed to twist in mid-fluid, judging by the sudden shift in view through the walls.

Under ordinary conditions, such a twist would have thrown every person on the ship hard against the wall or the seat arm. Mass and inertia, however, were at virtually zero and there was only a faint swaying, hardly distinguishable from that which they associated with Brownian motion.

Kahinin said, "We've attached ourselves to a glucose receptor."

"Good," said Dezhnev. "I've turned off the motor. Now what do we do?"

"Nothing," said Kahinin. "We let the cell do its work and we wait."

The receptor did not actually make contact with the ship. This was good, for had it come any closer it would have entered the miniaturization field and its tip would have collapsed. As it was, there was a close meeting of electrical fields only, negative to positive and positive to negative. The attractions were not the full attractions but the lesser ones that resembled hydrogen bonds. It was enough to hold, but weak enough to allow the ship to pull away somewhat, as though it were connected to the receptor by rubber bands rather than by grappling hooks.

The receptor stretched the length of the ship and was irregular in outline, as though it were embracing a pattern of bulges along the plastic hull. The hull was smooth and featureless to the eye, of course, but Morrison was quite certain that there was an electric field that bulged in just the locations where the hydroxyl groups would be in the glucopyranose structure, the bulges taking on just the shapes they would in the natural molecule.

Morrison looked out again. The receptor virtually blanked out vision on the side of the ship along which it lay. If he looked beyond the receptor, however, he could see a farther stretch of the neuron's surface, seemingly without end, for it vanished beyond the reach of the ship's light.

The neuronic surface seemed to be heaving slightly and he could see greater detail. Among the regular domes of the rank and file of phospholipid molecules, he caught occasional glimpses of an irregular mass, which he guessed to be a protein

molecule that ran through the thickness of the cell membrane. It was to these molecules that the receptors were attached, which did not surprise Morrison. He knew that the receptors must be peptides -- chains of amino acids. They were part of the thread of a protein backbone, sticking outward, each different receptor made up of different amino acids in a specific order so designed as to possess an electric field pattern matching (in opposing attractions and physical shape) that of the molecule it was designed to pick up.

Then, even as he watched, it seemed to him that the receptors were moving toward him. He could see them now in greater numbers and could also see that those numbers were still increasing. The receptors and the protein molecules to which they were attached seemed to be swimming through the phospholipid molecules (with a film of cholesterol molecules underneath, Morrison knew), which opened before and closed behind.

"Something's happening," said Morrison as he felt the ship's own motion through the tiny drag of inertia that remained to them at their thoroughly negligible mass.

59.

Kone said, "The surface is gathering us in."

Dezhnev nodded. "It looks like its doing this." He held up his thick and callused hand, cupping it.

"Exactly," said Konev. "It will invaginate, make a deeper and deeper cup, narrowing the neck and finally closing it, and we will be inside the cell." He seemed quite calm about it.

So was Morrison. They wanted to be inside the cell and this was the way it was done.

The receptors continued coming together, alongside each one of them some molecule -- some real molecule -- and in among them the feigning molecule of the ship. The cell's surface, like Dezhnev's cupped hand, closed upon them entirely and drew them in.

"Now what?" said Dezhnev.

"We're in a vesicle inside the cell," said Kahinin. "It will grow more acid and the receptor will then detach itself from us. It and all the receptors will then return to the cell membrane."

"And we?" persisted Dezhnev.

"Since we are recognized by our electric field as a glucose molecule," said Kahinin, "the cell will try to metabolize us -- break us up into smaller fragments and extract energy from us."

Even as she spoke, the peptide receptor fell away, uncoiling.

"Is that a good idea, having it metabolize us?" asked Dezhnev.

"It won't," said Morrison. "We'll be attached to an appropriate enzyme molecule which will find that we don't react as expected. We won't take on a phosphate group, so it will be helpless and will probably release us. We're not really a glucose molecule."

"But if the enzyme molecule releases us, won't another enzyme molecule of the same type attach itself to us and try again -- and so on indefinitely."

"Now that you mention it," said Morrison, rubbing his chin and absently noticing the bristles grown since his morning shave, "it may be that the first molecules won't let us go, I suppose, if we won't do the expected."

"A fine situation," said Dezhnev indignantly, slipping into his local dialect of Russian, as he always seemed to do when excited, and which Morrison always had a bit of difficulty in following. "The best we can expect is that an enzyme molecule either holds us forever all by himself or holds us forever in a relay race as we pass from one enzyme to another indefinitely. -- My father used to say: 'To be saved from the jaws of a wolf by a hungry bear is no great cause for gratitude.'"

"Please notice," said Kahinin, "that no enzyme molecule has attached itself to us."

"Why is that?" asked Morrison, who had, indeed, noticed that.

"Because of a slight change in electric charge pattern. We had to mimic a glucose molecule to get into the cell, but once in, we don't have to be one anymore. In fact, we must mimic something else."

Boranova leaned forward. "Won't any molecule we mimic be liable to metabolic change, Sophia?"

"Actually, no, Natalya," said Kahinin. "Glucose -- or any other simple sugar in the body -- belongs to a certain molecular configuration, so that we call it D-glucose. I've simply altered the pattern to its mirror image. We have become L-glucose and there isn't an enzyme that will touch us now, any more than any of us are likely to put a right shoe on a left foot. -- Now we can move about freely."

The vesicle which had formed on their introduction to the cellular interior had broken up and Morrison gave up as hopeless any attempt to follow what was going on. Fragments around him were enveloped by much larger enzyme molecules that seemed to embrace them and then relax. Presumably, an altered victim of the enzymatic squeeze was set free to be embraced again by another enzyme.

It was all happening at once and, Morrison knew, this was only the anaerobic portion of the process (in which no molecular oxygen was used.) It would end by breaking up the glucose molecule, with its six carbon atoms, into two three-carbon fragments.

A little energy would be produced in this fashion and the fragments would be shunted to the mitochondria for the completion of the process with the use of oxygen; a process in which the universal energy-transfer molecule, adenosine triphosphate (or ATP, for short) would be invested in order to get things started and, in the end, be produced once more in quantities substantially greater than the investment.

Morrison felt the urge to drop everything and to find a way into a mitochondrion, the small energy factory of the cell. After all, the fine details of mitochondrial processes had still not been worked out -- but then he pulled away almost angrily at the thought.

The skeptic waves came first. He shouted that to himself, as though trying to force a realization of priorities onto an overly curious brain that was threatening to diffuse its interests.

Apparently, the same thought occurred to Konev, for he said, "We're finally inside the neuron, Albert. Let's not be tourists. What do you find in the way of skeptic waves now?"

14. AXON

Those who say "A penny for your thoughts" are usually being overgenerous.

Dezhnev Senior

60.

Morrison bristled at Konev's order. (It had definitely been that.)

He indicated his resentment by refusing to respond at all for a while. He continued to stare out into the interior of the neuron and could distinguish nothing he recognized. He could see fibers, convoluted plates, hulks of uncertain size and of no clear shape. What's more, he had a strong feeling that there was a skeletal presence in the cell that held the larger objects -- the organelles -- in place, but that the ship was slipping past it all too quickly, as though it were in a river racing downstream. The feeling of motion was far stronger here than in the bloodstream, for though there were small objects (debris?) that moved along with them, there were larger objects that apparently remained in place and that they passed rapidly.

Finally Morrison said, "Look, Yuri, we're moving so quickly that the motion is likely to distort the skeptic waves badly."

Konev snarled, "Are you mad? We're not moving quickly at all. We're just drifting with the intracellular stream that serves to make certain that the small molecules are all made available to the organelle structure of the cell. The movement is very slow on the normal scale; it seems fast only on our miniaturized scale. Do I have to teach you cellular physiology?"

Morrison bit his lips. Of course. He had again forgotten how miniaturization distorted his perception. And again Konev was completely right.

"It might be better, though," said Morrison, fighting for self-respect, "if we changed back to D-glucose and allowed an enzyme to snatch us up. The combined size would slow us down and make it easier to pick up the waves."

"We don't have to slow down. The nerve impulse travels at a minimum of two meters per second in real velocity and in apparent velocity at our size that's about seventy times the real speed of light. As compared with that, our speed, however great it seems, is trivial. Even if we are moving at the apparent speed of a rocket ship, to the nerve impulse we seem virtually motionless."

Morrison lifted his arm in surrender and felt furious with Konev. There was such a thing as being too right. He cast a quick sidewise glance at Kahinin, with the uncomfortable feeling that she would be showing her contempt. She met his glance

soberly and with no trace of a sneer. In fact, her shoulders lifted slightly as though to say (Morrison imagined), "What do you expect of a savage?"

Boranova (Morrison glanced over his left shoulder) seemed oblivious to the exchange. She was busy with her instrument and Morrison wondered what she could be so intent on, considering that the ship's engines were off and they were merely drifting with the current.

As for Dezhnev -- with the engines off -- he was the one crew member who, in truth, had nothing to do at the moment (except to keep half an eye at the material up ahead in case of an unexpected emergency).

He said, "Come, Albert, study the skeptic waves and give us some answers. Then we can leave this place. It's extremely exciting being inside a cell for those who like it, but already I am quite certain I have seen enough. My father used to say: 'The most exciting part of any trip is reaching home again.'"

Boranova said, "Arkady --"

"Yes, Natasha."

"Save a few words for tomorrow." Morrison noticed the trace of a smile on her lips.

"Certainly, Natasha. I suspect an attempt at sarcasm, but I shall do as you say." And though he snapped his mouth shut with an exaggerated click of his teeth, he began to hum very quietly to himself, a tune in the minor mode.

Morrison felt a little astonished. They had been in the ship now for a little less than five hours -- but it felt the equivalent number of days, perhaps years. Yet, unlike Arkady and despite his earlier feelings of terror, he was not ready to leave Shapirov's body. He felt a strong urge to explore the cell and his thoughts rested on the possibility.

Kahinin must have been thinking along similar lines, for she said in a soft, introspective tone, "What a shame to be the first people inside the most complex of all living cells and to do nothing at all about investigating it properly."

"That is exactly --" began Morrison, then thought better of it and let the words dangle.

Konev swung his arm as though he were driving off hordes of insects. "I can't understand this. We are in the cell and we came here for a specific purpose. Albert, focus on the skeptic waves."

"I am doing so," said Morrison sharply. "In fact, I have done so. -- Look!"

Konev twisted his head, then unclapped himself, so that he could turn around and peer over the back of his seat. He stared at Morrison's small screen and said, "The waves seem sharper."

"They are sharper. They're more intense and they show finer oscillations than I've ever seen. Come to think of it, I wonder how fine they can get. Sooner or later, an oscillation, if fine enough, will represent the wobbling of a single electron -- and then we have to take into account the uncertainty principle."

"You forget. We're miniaturized and Planck's constant is nine orders of magnitude smaller for us than it is under standard conditions."

"You forget," protested Morrison, eager to catch the other in a misstep this time, "that the waves are reduced by that much before they reach us. Those waves are exactly where they should be relative to the uncertainty principle, therefore."

Konev hesitated a bare moment. "It doesn't matter. We're looking at something now and there's no perceptible uncertainty blurring. What does it mean?"

"It supports my theory," said Morrison. "This is exactly what I ought to see inside a cell if my interpretation of skeptic wave activity is correct --"

"That's not what I mean. We began with the assumption that your theory was correct. Now it's no longer an assumption, it's a demonstrated fact, and I congratulate you. But what does it mean? What do those skeptic waves show Shapirov to be thinking?"

Morrison shook his head. "I have no data -- zero data -- on the correlation of such waves and specific thoughts. It would take years to gather such a correlation, if it could be done at all."

"But perhaps the skeptic waves, when this clear and intense, produce an inductive effect on your brain. Are you getting any of your famous images?"

Morrison thought for a moment, then shook his head, "None!"

From behind him came a quiet voice, "I'm getting something, Albert."

Morrison turned. "You, Natalya?"

"Yes, it's odd -- but I am."

Konev demanded, "What are you getting, Natalya?"

Boranova hesitated, concentrating. "Curiosity. Well, it's not exactly an image of anything. Just an impression. I feel curiosity."

"And so you might," said Morrison. "It needs no impression from outside to produce such a feeling under these circumstances."

"No, no. I know what my own thoughts and impressions are like. This is imposed from outside."

Morrison said, "Do you feel it right now?"

"Yes. It comes and goes a little, but I feel it right now."

"All right. What about now?"

Boranova looked surprised. "It stopped suddenly. -- Did you turn off your machine?"

"I turned it down. Now, you tell me when you feel the sensation and when you don't." He turned to look at Kahinin, intending to tell her to say or do nothing that would indicate when he turned the machine down or up, but she was staring out at the cell, obviously lost in the marvel of watching the interior of a neuron. He wondered if, at the moment, she heard -- or cared -- what was going on.

He turned away and said, "Natalya, close your eyes and concentrate. Just say 'on' when you get the sensation and 'off' when you don't."

For several minutes, she complied with his suggestion.

Morrison said to Konev, "Does the machine make a noise when it is turned down or up? Is there anything you can hear or sense?"

Konev shook his head. "I'm not aware of anything."

"Then there's no mistake. She's getting the sensation only when the machine is on."

Dezhnev, who, unlike Kahinin, had followed everything, said. "But why?" His eyes narrowed. "The brain waves are there whether your machine detects them or not. She should get the feeling of curiosity all the time."

"No no," said Morrison. "My device filters out all the components but the actual skeptic waves. Without the machine, she just gets a confused mass of sensations, responses, correlations, and miscellany of all kinds. With the machine, she gets only the skeptic waves, which further demonstrates the usefulness of my theory."

"I don't get anything at all," said Dezhnev, frowning. "Doesn't that destroy your theory?"

Morrison shrugged. "Brains are complicated mechanisms. Natalya gets it. You don't. For that matter, neither do I. Maybe this particular skeptic wave component fits something in Natalya's brain, not in ours. I'm not going to be able to explain everything at once. -- Do you get anything, Konev?"

"No," he answered, as discontented as Dezhnev had been. "Yet I obtained impressions when we were outside the neuron."

Morrison shook his head and said nothing.

Konev burst out, "Can't you get anything but just a vague feeling of curiosity, Natalya?"

Boranova, "No, Yuri, I can't. Not at this moment. But you remember Pyotr Shapirov. He was curious about everything."

"I remember, but that doesn't help. Albert, in what direction are we moving?"

Albert said, "Downstream. It's the only direction in which we can move."

"No, no." Then, in sudden anger, "Is that a joke? Are you trying to be funny?"

Morrison said, "Not at all. You asked in what direction we were going. What other answer could I have given you? Surely the compass directions have no meaning here."

Konev said, "All right. Sorry. The stream goes this way here. On the other side of the cell, it goes the other way. It's a circulation. But the nerve impulse goes one way only, from the dendrites to the axon. Are we on the side of the cell that's taking us in the same direction as the nerve impulse or in the other direction?"

"Does it matter?" said Morrison.

"I think it does. Can your device tell you in which direction the impulse is traveling?"

"Yes, certainly. There should be a slight shift in the shape of the waves, depending on whether they are meeting the device head-on or from the rear."

"And?"

"And we're moving in the direction of the impulse."

"Good! A stroke of luck. We're heading for the axon, then."

"So it would seem."

Boranova said, "And if we are heading for the axon?"

Konev said, "Natalya, think! The skeptic waves travel along the surface of the cell. The cell here is wide and relatively large. The skeptic waves spread out over a large surface and are weakened in intensity. As the cell approaches the axon, it narrows. The axon itself is long, a very long tube compared to the cell -- and very narrow. The waves must concentrate enormously as they race along that tube and they must grow more intense. What's more, the axon is insulated by a thick myelin sheath, so that the wave energy will not be lost to the outside, but will be kept tightly within the axon."

Boranova said, "You think, then, that we can receive more effectively in the axon?"

"Much more effectively. If you can detect curiosity now, it should be overwhelming in the axon. And you might be able to detect what Shapirov is curious about."

"It may turn out to be totally unimportant," said Morrison thoughtfully. "What if he's curious about why he should be lying there and not moving?"

"No," said Konev sharply, "that would not interest him. I knew Shapirov well. You didn't."

Morrison nodded. "That's true enough."

"All his waking time was consumed with the miniaturization process," said Konev. "All his dreams, too, I suspect. And toward the end, in the last few weeks before the -- the accident took place, he was working, thinking, dreaming of the connection between quantum and relativity, thinking of how to make miniaturization and deminiaturization energy-free and stable."

"Surely," said Morrison, "if that were the case, he must have given some hints as to some of the details of his thinking."

"No, he was a child in some ways. We knew what he was thinking of, but not whether he was making progress or in what direction. What he loved to do was to present it to us whole, complete. -- Remember, Natalya, how he loved to do that? He did that with miniaturization itself. When he finally wrote his paper -- it was a young book --"

Morrison said casually, "Where was it published?"

Konev sneered. "You know it wasn't published. It had a limited circulation to those who had to know. It's nowhere where you're likely ever to see it."

Boranova said, "Yuri, don't be needlessly insulting. Albert is a fellow crew member and a guest. He is not to be treated as a spy."

Konev said, "If you say so, Natalya. Nevertheless, if Shapirov is curious, so intensely curious that Natalya gets that message, it can be only about the quantum-relativity connection. If we can get some details about that, any details at all, we'll have a starting point and can continue."

"And you think we'll get those details in the axon?"

"Yes, I'm sure of it." Konev clenched both fists as though preparing to get a stranglehold on the facts.

Morrison looked away. He was not sure of it. Increasingly, it was beginning to look to him as though matters were moving in another direction altogether and that that was just as well--

He tried not to show it, but he was as excited as Konev was.

Dim objects to either side loomed up ahead, drifted to one side, left or right, and fell behind. Ribosomes? Golgi apparatus? Fibrils of one sort or another? Morrison could not tell. From the vantage point of small molecule size, nothing, not even the sharpest, most familiar intracellular object, would look familiar, let alone recognizable.

They were racing through a strange land of indefiniteness and Morrison could not, no matter how he tried, picture his surroundings as those with which he was familiar from electron micrography.

He wondered if, somewhere beyond where the light of the ship's beam extended, there would be the endless volume of the cell's nucleus. Imagine being within submicroscopic distance of it and yet never seeing it.

He concentrated on the immediate surroundings. It seemed to him, once again, that he ought to make out the water molecules that made up 98 percent of all the molecules in the cell, that huge percentage being the direct consequence of the fact that they were just about the smallest molecules there.

He could not be sure. Focus his eyes though he did and as tightly as he could, what he saw was only a faint glitter -- a photon, perhaps, bouncing off such a molecule and flashing back toward his eye. At best, he would only see one or two from any given water molecule.

He was suddenly aware of Kahinin's head, bending toward his. Her hair brushed his face and he noticed, as he had once or twice before, the fresh scent of her shampoo.

She said, "This is terrible, Albert."

Her breath was a little strong and Morrison flinched before he could stop himself.

She noticed, for her fingers came up sharply, covering her mouth, and she mumbled, "I'm sorry."

Morrison shook his head slightly, "My own breath isn't exactly a bed of roses. -- Tension, nothing much to eat. A drink of water might help, Natalya."

One drink set off everybody, of course, in a chain reaction.

Kahinin fingered a small white pellet. "Peppermint drop?"

Morrison held out his hand and smiled. "Is it permitted?"

Kahinin's eye flickered back toward Boranova and she gave a Who-cares shrug. Having passed the drop to Morrison, Sophia popped another in her mouth.

Then she said again, "This is terrible, Albert."

"What is, Sophia?"

"How can we pass through this cell without examining it in detail?"

"We have a specific mission."

"Yes, but no one may be back within a brain cell for many years. Perhaps, never. When, in the future, someone will read that this ship and this crew merely raced through, looking neither to right or left, what barbarians they will think we must have been."

She was whispering very softly and their heads were bent close together. Morrison found himself rather enjoying it.

Had he grown so calloused to the threat of the situation -- the constant skirting along the edge of the abyss of spontaneous deminiaturization, the possibility of split-second death at any moment -- that he could take joy from the trivial fact that his lips were so close to the pretty face of a woman?

Well, why quarrel with that? Let the nearness anesthetize him, so that he might for a moment forget.

Morrison remembered the sharp image he had had so brief a time before of a happy, smiling, beautiful girl. He had not recognized the thought as his own, so unexpectedly had it come out of nowhere, and it didn't return, even now, but he remembered it distinctly and the memory squeezed at his heart with a warm feeling.

He had the momentary impulse to kiss her lightly, just a touch upon the cheekbone with his lips -- and fought it down. If she decided to take it amiss, he would feel like an incredible fool.

Morrison said gently, "The people of the future will know we have a mission. They will understand."

"I wonder," Sophia said, then paused and sent a quick and almost fearful look in the direction of Konev, who as always sat stiff and detached at ally sign of speech or even motion from Kahinin.

She turned to her computer, switched it to the word-processor mode, and tapped out in rapid Russian: YURI IS A FANATIC WHO SACRIFICES EVERYTHING TO HIS MANIA. THERE IS NO CHANCE OF READING THOUGHTS, BUT HE PERSUADES EVERYONE. She blanked it, then tapped out: WE ARE HIS VICTIMS and blanked it at once.

For "we," read "I," thought Morrison sadly. He looked at his own instrument hesitantly. It seemed to him that the thought waves, which he had dimmed to low, were growing more intense. Morrison looked out as though he might be able to tell just how near the axon they now were, but, of course, there was no way of knowing.

He blanked the radiation, switched to word-processing, and printed out in Roman-lettered Russian: HE, TOO, IS HIS VICTIM.

Kahinin at once printed savagely: NO. I DON'T BELIEVE PEOPLE ARE THEIR OWN VICTIMS.

Morrison thought sadly of his one-time wife, his two children, his own inability to present his theory persuasively, or, alternatively, to walk away from it, and tapped out: I BELIEVE WE ARE EACH OF US MORE A VICTIM OF OURSELVES THAN OF ANYONE ELSE and returned it quickly to the thoughtwave mode.

He sucked in his breath sharply. The waves on his screen had risen high in intensity despite the fact that the device was still at low.

Morrison opened his mouth to comment on the fact, but Dezhnev made that unnecessary. "Yuri," he said, "the cell membrane is curving in and we're curving in with it."

That would account for it, thought Morrison. The cell was narrowing in toward the axon and the skeptic waves were being enormously concentrated. His device, having

filtered out everything else, would radiate the wave function of the skeptic waves throughout the interior of the ship. And with what results?

Konev said with delight, "We'll see what happens now. Albert, keep your machine working at top intensity."

Boranova said, "I hope that whatever happens gives us our answer or at least a start to our answer. I have grown tired waiting."

"I don't blame you," said Dezhnev. "As my father used to say: 'The longer it takes to get to a point, the blunter it turns out to be.'"

It seemed to Morrison that every line of Konev's stiff body now betokened excitement and expectant triumph -- but Morrison did not join in that expectation.

62.

Morrison stared outward. They were well into the axon now and being carried along it by the fluid stream within the cell.

In the real world, the axon was an excessively thin fiber, but in the microminiaturized world of the ship, it might be the equivalent of a hundred kilometers across. As for its length, it was much, much longer than the cell itself. Going from one end to the other of the axon might very well be the equivalent of a trip from the Earth to the moon and back a couple of dozen times over. On the other hand, their apparent speed on the microminiaturized scale must seem, to themselves, to be a respectable fraction of the speed of light.

There was no indication of that incredibly rapid speed, however. The ship was moving with the current and there was far less in the way of macromolecules or organelles in the axon than there had been in the cell body. If there were structural fibers withstanding the current and remaining motionless with respect to the cell membrane, the current swept them past those too rapidly for them to be visible, even if a sizable number of photons were reflected from them -- which, of course, they were not.

So he gave up. There was nothing to look at outside.

He ought, in any case, to be looking at his screen. The skeptic waves were becoming even more intense, he could see. It had grown difficult to wipe out the nonskeptical material. It was so strong that it flooded the computer's receiving capacity.

What's more, the tight, elaborate vibration of the skeptic waves had become a series of irregular spikes. Even at full expansion, it was clear he wasn't getting all the detail that existed. Morrison had a clear vision of the necessity of a laser printout clear enough to be placed under a microscope.

Konev had unclasped himself and had half-lifted himself over the back of his seat so that he might stare at the screen.

He said, "I haven't seen it like that before."

Morrison replied, "Nor have I and I have been studying skeptic waves for nearly twenty years. Nothing like this."

"I was right, then, about the axon?"

"Absolutely, Yuri. The waves have concentrated themselves beautifully."

"And the meaning, then?"

Morrison spread out his hands helplessly. "There you have me. Since I have never seen anything like this, I obviously can't interpret it."

"No no," said Konev impatiently. "You keep concentrating on the screen and I keep thinking about induction. Our own minds are the true receptors -- by way of your machine. What do you receive? Images? Words?"

"Nothing," said Morrison.

"That's impossible."

"Are you getting anything?"

"It's your machine. Adjusted to you."

"You've had images before, Yuri."

Dezhnev's voice broke in dryly, "My father used to say: 'If you want to hear, you must begin by listening.'"

Boranova said, "Dezhnev Senior is correct. We can receive nothing if we fill our minds with contention and shouts."

Konev drew a deep breath and said with a softness that was most uncharacteristic of him, "Very well, then, let us concentrate."

An unnatural quiet fell over the ship's crew.

Then Kahinin said, breaking the silence rather timidly, "There is no time."

"No time for what, Sophia," said Boranova.

"I mean that's the phrase I sensed: 'There is no time.'"

Morrison said, "Are you saying that you received it from Shapirov's skeptic waves?"

"I don't know. Is that possible?"

Boranova said, "A moment before I had the same thought. It occurred to me that a better way of tackling the problem might be to study the recorded skeptic waves on the screen and to wait for sudden changes. It might be the change of pattern rather than the pattern itself that would produce an image. But then I thought that the waiting might be an enormously long drawn-out affair and for that we lacked the time."

"In other words," said Morrison, "you thought, 'There is no time.'"

"Yes," said Boranova, "but it was my own thought."

"How can you know, Natalya?" said Morrison.

"I know my own thoughts."

"You also know your own dreams, but sometimes dreams arise out of external stimuli. Suppose you receive the thought 'There is no time.' Because you are not accustomed to receiving thoughts, you quickly build up a line of free association that makes it reasonable for you to feel that you have had the thought yourself."

"That may be so, but how does one tell, Albert?"

"I'm not sure, but Sophia apparently sensed the same phrase and we might ask if she were thinking something independently that would give rise to the phrase as a matter of course."

"No, I was not," said Kahinin. "I was trying to keep my mind empty. It just came in."

"I didn't sense anything," said Morrison. "How about you, Yuri?"

Konev shook his head, frowning ferociously at his failure. "No, I didn't."

"In any case," said Morrison thoughtfully, "it needn't mean anything. Natalya felt it might be an idle thought that arose out of a series of previous thoughts in a natural way and with none but the most superficial meaning. Even if the thought had arisen in Shapiro's mind, it might be equally superficial there."

"Perhaps," said Konev, "but perhaps not. His whole life and mind were bound up in the problems of miniaturization. He would be thinking of nothing else."

"You keep saying that," said Morrison, "but, actually, that is romantic nonsense. No one thinks of nothing else. The most lovesick Romeo in history could not concentrate on his Juliet forever. A twinge of colic, a distant sound, and he would be distracted at once."

"Nevertheless, we must take anything Shapiro says as possibly significant."

"Possibly," said Morrison. "But what if he were trying to work out the extension of the miniaturization theory and decided to moan he had no time, that there was insufficient time to complete his work?"

Konev shook his head, more, it seemed, to brush off distraction than in a clear negative. He said, "How about this? What if it seemed to Shapiro that any miniaturization that involved an increase in the speed of light proportional to the decrease in Planck's constant would involve a change that was instantaneous, that took no time. And, of course, as the speed of light increased vastly, so would the inevitable speed of a massless -- or nearly massless -- object. He would, in effect, abolish time and could say to himself proudly, 'There is no time.'"

Boranova said, "Very farfetched."

"Of course," said Konev, "but worth thinking about. We must record every impression we get, however dim, however apparently meaningless."

"I plan to do precisely that, Yuri," said Boranova.

Konev said, "Then quiet again. Let's see if we can get anything more."

Morrison concentrated fiercely, his eyes half-buried under jutting eyebrows, but those same eyes were fixed on Konev, who sighed and said in a whisper, "I get something over and over -- 'nu times c equals m sub s.'"

Morrison said, "I got that, too, but I thought it was 'm times c square.'"

"No," said Konev tightly. "Try again."

Morrison concentrated, then, quite abashed, said, "You're right. I get it, too: 'nu times c equals m sub s.' What does it mean?"

"Who can say at first glance? However, if this is in Shapiro's mind, it means something. We can assume that nu is radiational frequency, c the speed of light, and m

sub s is the standard mass -- that is, the mass at rest under ordinary conditions. In the light of --"

Boranova's arms lifted with an admonitory forefinger upraised. Konev stopped short and said uncomfortably, "But that is neither here nor there."

Morrison grinned, "Classified material, eh, Yuri?"

And then Dezhnev's voice sounded with an unaccustomed petulance to it. "How is it," he said, "that you are hearing all these things about time and standard mass and whatnot and I sense nothing? Is it that I am not a scientist?"

Morrison said, "I doubt that that has anything to do with it. Brains are different. Maybe they come in different types the way blood does. Blood is blood but you can't always transfuse one person's blood into another. Your brain may be sufficiently different from Shapirov's so that there is no sensory crossover."

"Only mine?"

"Not only yours. There may be billions of minds that can pick up nothing from Shapirov. You'll notice that Sophia and Natalya can pick up the same things, which Yuri and I cannot -- and vice versa."

"Two men and two women," grumped Dezhnev, "and I am what?"

Konev said impatiently, "You are wasting our time, Arkady. Let's not endlessly discuss every tiny thing we pick up. We have more to hear and little time to do it in. If you concentrate a little harder, Arkady, you, too, may sense something."

Silence!

It was broken occasionally by a soft murrur from one or another who reported sensing an image or a scrap of words. Dezhnev contributed only one thing: "I sense a feeling of hunger, but it may be my own."

"Undoubtedly," said Boranova dryly. "Console yourself with the thought, Arkady, that when we get out of here, you will be allowed seconds and thirds of every dish and unlimited vodka."

Dezhnev grinned almost lasciviously at the thought.

Morrison said, "We don't seem to come across anything mathematical or even out of the ordinary. I insist that even Shapirov must have the great majority of his thoughts concerned with trivia."

"Nevertheless," grunted Konev under his breath, "we listen."

"For how long, Yuri?"

"Till the end of the axon. Right down to the end."

Morrison said, "Do you then intend to run into the synapses or will you double back?"

"We will go as close to the synapses as possible. That will bring us into the immediate neighborhood of the adjoining nerve cell and the skeptic waves may be even more easily sensed at that crucial point of transfer than anywhere else."

Dezhnev said, "Yes, Yuri, but you are not the captain. -- Natasha, little flower, is that what you wish, too?"

Boranova said, "Why not? Yuri is right. The synapse is a unique spot and we know nothing about it."

"I ask only because half our power supply has now been consumed. How long dare we continue to remain within the body?"

"Long enough," said Boranova, "to reach the synapse, certainly."

And silence fell once more.

63.

The ship continued to move along the enormous length of the axon and Konev dictated the actions of the others more and more.

"Whatever you get, report. It doesn't matter whether it makes sense or not, whether it's one word or a paragraph. If it's an image, describe it. Even if you think it's your own thought, report it if there's the slightest doubt."

"You'll have meaningless chatter," said Dezhnev, apparently still annoyed at his non-receiving brain.

"Of course, but two or three meaningful hints will pay all. And we won't know what's meaningful until we examine everything."

Dezhnev said, "If I sense something I think isn't mine, do I throw it in, too?"

"You, especially," said Konev. "If you're as insensitive as you seem to think, anything you do get may be particularly important. Now, please, no more talk. Every second of conversation may mean we miss something."

And there began a period of disjointed phrases out of which, in Morrison's opinion, it was impossible to make sense.

One surprise came when Kahinin said suddenly, "'Nobel Prize!'"

Konev looked up sharply and almost responded -- then, as though realizing who had said it, he subsided.

Morrison said, trying not to sound mocking, "Did you get that, too, Yuri?"

Konev nodded. "At almost the same time."

"That's the first crossover between a man and woman," said Morrison. "I suppose Shapirov had his mind on it in connection with his extension of miniaturization theory."

"Undoubtedly. But his Nobel Prize was sure for what he had already done in miniaturization."

"Which is classified and therefore unknown."

"Yes. But once we perfect the process, it will no longer be unknown."

"Let's hope so," said Morrison sardonically.

Konev snapped, "We are no more secretive than you Americans."

"All right. I'm not arguing," but Morrison grinned broadly at Konev, who was peering over his shoulder at him, and that seemed to irritate the younger man even further.

At one point, Dezhnev said, "'Hawking.'"

Morrison's eyebrows lifted in surprise. He had not expected this.

Boranova said, looking displeased, "What is this, Arkady?"

"I said, 'Hawking,'" said Dezhnev defensively. "Out of nowhere it popped into my mind. You told me to tell you anything that did."

"It is an English word," said Boranova, "that means 'spitting.'"

"Or 'selling,'" said Morrison cheerfully.

Dezhnev said, "I don't know enough English to know that word. I thought it was someone's name."

"So it was," said Konev uncomfortably. "Stephen Hawking. He was a great English theoretical physicist of over a century ago. I was thinking of him, too, but I thought it was my own thought."

Morrison said, "Good, Arkady. That might be useful."

Dezhnev's face split with a grin. "I'm not altogether useless, then. As my father used to say: 'If the words of a wise man are few, they are nevertheless worth listening to.'"

An interminable half hour later, Morrison said gently, "Are we getting anywhere at all? It seems to me that most of the phrases and images tell us nothing. 'Nobel Prize' tells us, reasonably enough, that Shapirov thought of winning one, but we know that. 'Hawking' tells us that that physicist's work was significant, perhaps, in connection with the extension of miniaturization, but it doesn't tell us why."

It was not Konev who rose to the defense, as Morrison would have expected, but Boranova. Konev, who might have been readying himself for a response, seemed willing, on this occasion, to let the captain bear the weight.

Boranova said, "We are dealing with an enormous cryptogram, Albert. Shapirov is a man in a coma and his brain is not thinking in a disciplined or orderly fashion. It is sparking wildly, those parts of it that remain whole, perhaps randomly. We collect everything without distinction and it will all be studied by those of us with a deep understanding of miniaturization theory. They may see meaning where you see none. And a bit of meaning, in one corner of the field, may be the start of an illumination that will spread to all parts of it. What we are doing makes sense and it is the proper thing to do."

Konev then said, "Besides, Albert, there is something else we can try. We are approaching a synapse. This axon will end eventually and split up into many fibers, each of which will approach but not join with the dendrite of a neighboring neuron."

"I know that," said Morrison impatiently.

"The nerve impulse, including the skeptic waves, will have to jump the tiny gap of the synapse and, in doing so, the dominant thoughts will be less attenuated than the others. In short, if we jump the synapse, too, we will reach a region where we may, for a while at least, detect what we want to hear with less interference from trivial noise."

"Really?" asked Morrison archly. "This notion of differential attenuation is new to me."

"It's the result of painstaking Soviet work in the area."

"Ah!"

Konev fired up at once, "What do you mean, 'Ah!'? Is that a dismissal of the value of the work?"

"No, no."

"Of course it is. If it's Soviet work, it means nothing."

"I just mean that I haven't read or heard anything about it," Morrison said in defense."

"The work was done by Madame Nastiaspenskaya. I presume you've heard of her."

"Yes, I have."

"But you don't read her papers, is that it?"

"Yuri, I can't keep up with the English-language literature, let alone with --"

"Well, when this is over, I'll see that you get a collection of her papers and you may educate yourself."

"Thank you, but may I say that on the face of it I think the finding is an unlikely one. If some types of mental activity survive a synapse better than others, then, considering that there are many hundreds of billions of synapses in the brain, all constantly in use, the final result would be that only a tiny proportion of thoughts would survive at all."

"It's not as simple as that," said Konev. "The trivial thoughts are not wiped out. They continue at a lower level of intensity and don't decline indefinitely. It's just that, in the immediate neighborhood of a synapse, the important thoughts are, for a time, relatively strengthened."

"Is there evidence for this? Or is it only a suggestion?"

"There's evidence of a subtle nature. Eventually, with miniaturization experiments, that evidence will be hardened, I'm sure. There are some people among whom this synapse effect is much stronger than average. Why else can creative individuals concentrate so hard and so long, if they are not less distracted by trivia? And why, on the contrary, are brilliant scholars traditionally absentminded?"

"Very well. If we find something, I won't quarrel with the rationale."

Dezhnev said, "But what happens when we come to the end of the axon? The stream of fluid we're riding will just make a U-turn at that point and carry us back again against the opposite wall of the axon. Do I force my way through the membrane?"

"No," said Konev. "Of course not. We'd damage the cell. We'll have to take on the electric charge pattern of acetylcholine. That carries the nerve impulse pattern across the synapse."

Boranova said, "Sophia, you can give the ship an acetylcholine pattern, can't you?"

"I can," said Kahinin, "but aren't the acetylcholine molecules active on the outside of the cell?"

"Nevertheless, the cell may have a mechanism for ejecting them. We'll try."

And the trip along the seemingly endless axon continued.

Suddenly the end of the axon was in sight. There was no hint, no warning. Konev noticed it first. He was watching and he knew what he was watching for, but Morrison gave him full credit. He himself was watching, too, and knew what he was watching for, and yet did not see it when it came.

To be sure, Konev was in the front seat, while Morrison had to stare past Konev's head. That was not much of an excuse either.

In the curiously ineffective light of the ship's beacon, it was clear that there was a hollow ahead and yet the current was beginning to veer away from it.

The axon was beginning to break off into branches, into dendrites like those at the other end of the neuron, at the end where the nucleated cell body was. The axonian dendrites at the far end of the cell were fewer and thinner, but they were there. Undoubtedly, a portion of the cellular stream flowed into it, but the ship was in the main stream that curved away and they could take no chances.

They would have to push into the first dendrite encountered -- if it could be done.

"There, Arkady, there," cried Konev, pointing, and it was only then that all the rest realized they were reaching the end of the axon. "Use your motors, Arkady, and push over."

Morrison could make out the soft throbbing of the motors as they edged the ship toward the side of the stream. The dendrite toward which they aimed was a tube that was slipping sideways, a huge tube at their size scale, so huge they could only see a small arc of its circumference.

They continued to edge closer to it and Morrison found himself leaning toward the dendrite, as though adding body English could improve matters.

But it was not a matter of reaching the tube itself, merely moving over an eddying section of fluid, a rushing of water molecules that quieted into gentle circles and then slipped beyond into another stream that was curving off in another direction.

The ship made the transition and was suddenly plunging forward into the tube opening.

"Turn off the motors," said Konev excitedly.

"Not yet," grumbled Dezhnev. "We may be too near the countercurrent emerging from this thing. Let me slip over a bit closer to the wall."

He did so, but that did not take long. They were now essentially moving with the current, not against it. And when Dezhnev did finally shut off the engine and pushed back his damp, graying hair, he heaved a great breath and said, "Everything we do consumes a ton of energy. There's a limit, Yuri, there's a limit."

"We'll worry about that later," said Konev impatiently.

"Will we?" said Dezhnev. "My father always said: 'Later is usually too late.' -- Natalya, don't leave all this to Yuri. I don't trust his attitude toward our energy supply."

"Calm yourself, Arkady. I will take care to override Yuri if it becomes necessary. -- Yuri, the dendrite is not very long, is it?"

"We will come to the ending in short order, Natalya."

"In that case, Sophia, please see to it that we are ready to adopt the acetylcholine pattern at a moment's notice."

"You'll give me the signal, then?" said Kahinin.

"I will not have to, Sophia. I'm sure that Yuri will whoop like a Cossack when the end is in sight. Shift the pattern to acetylcholine at that moment."

They continued sliding along the final tubular remnant of the neuron they had entered a considerable time before. It seemed to Morrison that, as the dendrite continued to narrow, he could see the wall arc above him, but that was illusion. Common sense told him that even at its narrowest, the tube would appear to be a few kilometers across at their present molecular size.

And, as Boranova had foreseen, Konev lifted his voice in a great cry, probably quite unaware that he was doing so. "The end is ahead. Quick. Acetylcholine before we're swept around and back."

Kahinin's fingers flickered over the keyboard. There was no indication from inside the ship that anything about it had changed, but somewhere up ahead was an acetylcholine receptor -- or, more likely, hundreds of them -- and the patterns meshed, positive to negative and negative to positive, so that the attraction between ship and receptor was sharp and great.

They were pulled out of the stream and melted into and through the wall of the dendrite. For a few minutes they continued to be pulled through the intercellular medium between the dendrite of the neuron they had just left and the dendrite of the neighbor neuron.

Morrison saw almost nothing. The ship, he felt, was sliding along -- or through -- a complex protein molecule and then he noticed the formation of a concavity, as when the ship had first entered the first neuron.

Konev had unclasped himself so that he could stand up. (Quite obviously, he was too excited to feel this was something he could do sitting down.)

He said, almost stuttering, "Now, according to the Nastiaspenskaya hypothesis, the filtering out of the important thoughts is most evident immediately after the synapse. Once the cell body is approached, the difference fades. So once we are in the neighboring dendrite, open your minds. Be ready for anything. Say whatever you hear out loud. Describe any images. I'll record everything. You, too, Arkady. Albert, you, too. -- We're in now. Begin!"

15. ALONE!

Good company robs even death of some of its terrors.

Dezhnev Senior

65.

Morrison watched what followed with a certain detachment. He did not intend to participate actively. If something forced itself into his mind, he would respond and report it. It would be unscientific not to.

Kahinin, at his left, looked grim and her fingers were idle. He leaned toward her and whispered, "Have you got us back as L-glucose?"

She nodded.

He said, "Are you aware of this Nastiaspenskaya hypothesis?"

She said, "It's not in my field. I've never heard of it."

"Do you believe it?"

But Kahinin was not to be trapped. She said, "I'm not qualified either to believe or disbelieve, but he believes it. -- Because he wants to."

"Do you sense anything?"

"Nothing more than before."

Dezhnev was, of course, silent. Boranova occasionally produced a crisp word or two, which, however, seemed to Morrison's ears to lack conviction.

Only Konev seemed to maintain enthusiasm. At one point, he cried out, "Did anyone get that? Anyone? 'Circular rhythm.' 'Circular rhythm.'"

There was no direct answer and, after a while, Morrison said, "What does that mean, Yuri?"

Konev did not answer. -- And even he grew quiet after a while and was reduced to staring blankly ahead as the ship moved onward in the fluid stream.

Boranova asked, "Well, Yuri?"

Konev said rather hoarsely, "I do not understand it."

Dezhnev said, "Yuri, little son, it may be this is a bad neuron and isn't doing much thinking. We'll have to try another and maybe another. The first one may have been simply beginner's luck."

Konev looked at him angrily. "We don't work with single cells. We're in a group of cells -- a million of them or more -- that are a center of creative thought by Albert's theory. What one of them thinks, they all think -- with minor variations."

Morrison said, "That's what I believe I have shown."

Dezhnev said, "Then we don't go looking from cell to cell?"

"It would be no use," said Morrison.

"Good," said Dezhnev heavily, "because we don't have the time and we don't have the energy. So what do we do now?"

In the silence that followed, Konev said again, "I do not understand it. Nastiaspenskaya could not be wrong."

And now Kahinin, with great deliberation, unclasped herself and stood up.

She said, "I want to say something and I don't want to be interrupted. Natalya, listen to me. We have gone far enough. This is an experiment that perhaps had to be done, even though, in my opinion, it was sure to fail. Well, it has failed."

She pointed a slim finger briefly at Konev, without looking at him. "Some people want to alter the Universe to their liking. Whatever is not so, they would make so by sheer force of will -- except that the Universe is beyond any person's will, squeeze he ever so hard.

"I don't know if Nastiaspenskaya is correct or not. I don't know if Albert's theories are correct or not. But this I know-what they think, and what any neuroscientist thinks about the brain generally, must be about a reasonably normal brain. Academician Shapirov's brain is not reasonably normal. Twenty percent of it is nonfunctioning-dead. The rest must be distorted in consequence and the fact that he has been in a coma for weeks shows that.

"Any reasonable human being would realize that Shapirov cannot be thinking in normal fashion. His brain is an army in -- in disarray. It is a factory in which all the equipment has been jarred loose. It is sparking randomly, emitting broken thoughts, scattered pieces, splinters of memory. Some men" -- she pointed again -- "won't admit it because they believe that if they only insist loudly enough and strongly enough, the obvious will retreat and the impossible will somehow come into being."

Konev had now also unclasped and was also standing. He turned slowly and looked at Kahinin. (Morrison was astonished. Konev was actually looking at her. And on his face there was no visible sign of anger or hatred or contempt. It was a hangdog look, with a touch of self-contempt in it. Morrison felt sure of this.)

Yet Konev's voice was steady and hard as he looked away from Kahinin and turned to Boranova, addressing her.

"Natalya, was this point made before we embarked on this voyage?"

"If you mean, Yuri, did Sophia say all this to me before this moment? She did not."

"Is there any reason we should be plagued with crew members who have no faith in our work? Why should such a person have agreed to come on this voyage?"

"Because I am a scientist," shot back Kahinin and she, too, addressed Boranova.

"Because I wanted to test the effect of artificial electrical patterns on biochemical interaction. That has been done, so that for me the voyage was a success, and for Arkady, since the ship has handled as it should, and for Albert, since the evidence for his theories is stronger now, I gather, than it was before we came here, and for you, Natalya, since you brought us down here and, presumably, will bring us back safely again. But for one" -

- pointing at Konev -- "it has been a failure and the mental stability of he who has failed would be greatly helped by the frank admission of that failure."

(She's getting back at him with a vengeance, thought Morrison.)

But Konev did not crumple under Kahinin's forceful attack. He remained surprisingly calm and he said, still to Boranova, "That is not so. That is the reverse of what is true. It was clear from the start that we could not expect Shapirov to think as he did when he was in full health. It was entirely likely we would get bits and pieces of meaning intermingled with meaninglessness and trivialities. That we did. I was hoping to get a higher percentage of meaning in this new neuron immediately past the synapse. There we failed. That makes the task before us more difficult, but not impossible.

"We've got well over a hundred phrases and images we've salvaged from Shapirov's thinking. Don't forget 'nu times c equals m sub s,' which must be significant. There's no possible reason to think of that simply as a triviality."

Boranova said, "Have you thought, Yuri, that it is possible that that fragment of a mathematical expression represents something Shapirov tried and found wanting?"

"I have thought of it, but why should it stick in his mind, in that case? It is certainly worth investigating. And how much of what seems to be trivial or meaningless would not be so if even one phrase or image gave us a necessary hint. With each step forward, other things might more easily fall into place. We certainly have no reason as yet to declare this voyage a failure -- or any part in it."

Boranova nodded slightly. "Well, let's hope you're right, Yuri, but, as Arkady has already asked, what do we do now? What, in your opinion, ought we to do now?"

With great deliberation, Konev said, "There's one thing we haven't tried yet. We've tried detection outside the neuron, inside the neuron, inside the axon, inside the dendrites, past the synapse, but, in every single case, we have tried it inside the ship, inside its presumably insulating walls."

"In that case, then," said Boranova, "are you suggesting that we make the attempt outside the ship and within the cell fluid itself? Remember, such an observer would still be inside a plastic suit."

"A plastic suit is not as thick as a plastic ship and the insulating effect would presumably be less. Besides, the computer itself need not be inside the suit."

Morrison said with gathering alarm, "Who do you have in mind for this?"

Konev looked at him coolly. "There is only one possibility, Albert. The computer is your design and is made to match your brain. You are, of necessity, the most sensitive to Shapirov's thoughts. It would be foolish in the highest degree to send out anyone else. I have you in mind for this, Albert."

66.

Morrison's stomach clenched tightly. Not that! He couldn't be asked to do it again!

He tried to say so, but his mouth seemed to have dried completely and instantaneously and he could make no sound other than a throaty hiss. It flashed through his mind that he had been beginning to enjoy the feeling of not being a coward, of wandering, by ship, through the brain cell fearlessly -- but he was a coward, after all.

"Not that!" he cried out, but it wasn't his voice; it was higher by an octave. It was Kahinin.

She had turned around to face Boranova, holding herself down in her seat with knuckles standing out whitely.

"Not that, Natalya," she cried again passionately, her chest heaving in excitement. "It's a cowardly suggestion. Poor Albert has been out there once already. He nearly died and if it hadn't been for him we might still be lost in the wrong capillary and we might never have reached this cell block at all. Why should he have to do that again? It is surely someone else's turn and since he wants it done" -- no one questioned who "he" was -- "let him do it. He should not ask it of someone else."

Morrison, beneath his own fright, wondered faintly if Kahinin's emotion was due to a growing affection for him or a determination to oppose at every point any strong wish of Konev's. There was a corner of Morrison's mind that was pragmatic enough to be certain it was the latter.

Konev's face had grown slowly redder as Sophia spoke. He said, "There's no cowardice here." (He spat out the word, making it quite plain that that was what had most offended him.) "I am making the only possible suggestion. If I go out there, which I am perfectly willing to do, it can only be with Albert's device, which won't work as well for me as it would for him. We cannot choose this one or that one according to whim. It must be the one who can get the best results and there is no question, in that case, who it must be."

"True," said Morrison, finding his voice now, "but there is no reason to suppose that reception will be better outside the ship than inside."

Konev said, "There is no reason to think the reverse, either. And as Dezhnev will tell you, our energy supply -- and therefore our time -- is decreasing. There is no room for delay. You'll have to leave the ship as you did before -- and now."

Morrison said in a low voice, which he hoped would make the remark final, "I'm sorry. I will not leave the ship."

But Boranova had apparently made up her mind. "I'm afraid you'll have to, Albert," she said gently.

"No."

"Yuri is right. Only you and your device can give us the information we need."

"I am certain there'll be no information."

Boranova held out her two hands, palms upward. "Perhaps not, but we can't leave that a matter of conjecture. Let us find out."

"But --"

Boranova said, "Albert, I promise you that if you do this one thing for us, your part in all this will be reported honestly when the time comes for open publication. You will be

known as the man who worked out the correct theory of thought, the man who developed the device that could exploit that theory properly, the man who saved the ship in the capillary, and the man who detected Shapirov's thinking by bravely venturing into the neuron, as earlier he had ventured into the bloodstream."

"Are you implying that the truth will not be told if I refuse?"

Boranova sighed. "You force me to play the role of villainess openly. I would rather you had been satisfied with the implication. -- Yes, the truth need not be told. That, after all, is the only weapon I hold against you. We cannot very well turn you out of the ship by force, since there is no advantage in your merely being outside. You must also sense poor Shapirov's thought and for that we must have your willing cooperation. We will reward you for that, but only for that."

Morrison looked around at his crewmates' faces, searching for help. Boranova -- steadily studying him. Konev -- staring him down imperiously. Dezhnev -- looking awkward, not willing to commit himself either way. And Kahinin . . . his only hope.

Morrison gazed at her thoughtfully and said, "What do you think, Sophia?"

Kahinin hesitated, then said in a voice that did not tremble, "I think it is wrong to threaten you in this way. A task like this should be performed voluntarily and not under duress."

Dezhnev, who had been humming very softly to himself, now said, "My old father used to say: 'There is no duress like one's own conscience and it is that which makes life so needlessly bitter.'"

"My conscience doesn't trouble me in this matter," said Morrison. "Shall we put it to a vote?"

"It wouldn't matter," said Boranova. "I am the captain and in a case like this I alone have the vote."

"If I am out there and sense nothing, would you believe me?"

Boranova nodded. "I would. After all, you might so easily invent something that would sound useful if you wished us to be suitably grateful. If you come back with nothing or with trivia, I believe I would have a greater tendency to believe that than if you instantly claimed you had heard something of great importance."

Konev said, "I am not likely to be fooled. If he comes in with something that seems important, I will be able to tell if it truly is. And now, surely, we have had enough discussion. Let's go!"

And Morrison, his heart beating and his throat tightening, managed to say, "Very well, I will go -- but only for a brief time."

67.

Morrison, of his own accord, stripped himself of his cotton garment. The first time (was it really only a couple of hours before?) it had seemed to be a violation of modesty; this second time it was almost routine.

He was quite aware, as with Kahinin's help he struggled into the suit, how easily he could suck in his abdomen. Despite a good breakfast, ample water, and a piece of chocolate, his stomach was empty and he was glad it was. He felt a twinge of nausea as the suit enclosed more and more of his body and to throw up, once enclosed, would have been unbearable. Just before enclosure, he refused another piece of chocolate with what was almost a shudder.

They put his computer into his sheathed hands and Boranova said to him loudly, "Can you work it?"

Morrison heard her without too much difficulty. He knew he wouldn't hear her once he was outside the ship. He balanced the essentially weightless computer in one hand and struck the keys carefully and rather gracelessly with the other. He shouted back, "I think I can manage."

Then, rather clumsily, they tied the computer to both his wrists with firm knots of tough plastic twine (probably the same material of which the suit and the ship itself were made).

"So you don't lose it," Boranova called out.

Out into the air lock he went. He felt himself embraced by it, then pressured as the air in it was withdrawn, and then he was outside the ship.

Outside again. For only a brief time, he had warned the rest, but what good was that? How could he enforce that, if the others within the ship refused to let him back in? Already, he was sorry he had let himself be talked out of the ship by any threat, but dared not articulate the thought. It would do him no good.

Morrison tucked the computer under his left arm, partly because he did not entirely trust the plastic twine that secured it and partly because he wanted to protect it from the cellular contents as much as possible. He felt the surface of the ship for some spot where the electric charge on his suit would adhere to a charge of opposite nature on the ship's hull.

Morrison found one that allowed him to keep his back on the ship. The electric field did not hold him tightly and there was considerable give. Still, he was the size of an atom and it might be difficult to concentrate electric charge on a portion of him.

Or would it be? Wouldn't the electrons that were the source of the charge be microminiaturized as well? He felt -- and resented keenly -- his ignorance of miniaturization theory.

He was little aware of his motion along the intracellular stream, for everything was moving along with him. He found himself, however, the center of a shifting and ever-changing panorama. With the thinner plastic of the suit between himself and the scene, with the beacon of his own suit turning here and there as he moved his head and felt the headpiece twist (a little resistantly) with it, he could make out more.

There was the knobiness of the water molecules rubbing against each other, like dimly seen balloons. He could see them brush past him slowly, this way or that, and largely ignore him. Occasionally, one would cling for a moment, an electric charge meeting an opposite charge on his suit, so that they clutched at him and released their

hold only lingeringly. It was almost as though a molecule occasionally yearned for him but couldn't manage to turn the wish into deed.

Among these were larger molecules, some as large as the ship, some far larger still. He could see them only because light glinted off them here and there in changing, prismatic fashion. He did not see them; his mind built them up out of what he could glimpse. That he could do this at all was the result of his knowing a good deal about the contents of the cell to begin with, or thought he did. It might also, he thought, simply be his imagination.

It even seemed to Morrison that he could make out the skeleton of the cellular interior; the large structures that remained in place while the fluid stream passed them and that gave the cell its more or less fixed shape. These structures seemed to go by so quickly he could barely take note of them before they were gone. They alone gave him the impression of the rapid movement of the intercellular stream that carried the ship and him along with it as it weaved in gentle swoops around those fixed structures.

All this observation had not taken very long, but it was enough. It was time that he now turned his attention to his computer.

Why? It would detect nothing. Morrison was sure of it, but he couldn't act on that belief, however strongly he felt it. He might be wrong, perhaps, and he owed it to the others -- and to himself, too -- to make the effort.

He tried clumsily to adjust the computer to maximum sensitivity, barely able to handle the keys correctly and relieved that the self-contained power pack in the computer worked properly. He concentrated hard in order to sense and tap the currents of thought passing by.

The device did its work. The water molecules drifted by it as gently and untouchingly as they drifted by him and, disregarding them, his computer portrayed the skeptic waves more purely etched, more steep and clear, more finely detailed, than he had ever before seen them. But for all that, he sensed nothing but a faint hissing whisper that produced neither words nor images but only sadness.

Wait! How did he know the whisper was sad? Surely that was merely a subjective judgment on his part. Or was he detecting an emotion? Was the partially brain-dead, totally comatose Shapirov sad? Would it be surprising if he were?

Morrison looked over his shoulder, back at the ship. Surely what he was detecting was enough. He was registering sad nothingness and nothing more. Should he signal now to be pulled in? Would they be willing to do so? And if they brought him in and if he told Boranova that he had sensed nothing, would not Konev tell him angrily that he had been out there only two minutes, that he hadn't given it a chance? Would Konev not demand he go out again?

And if he waited longer?

Actually, he could wait longer. At this stage of miniaturization (or for whatever cause), he did not feel any particular heat.

But if he waited longer -- another two minutes, or five minutes, or an hour, for that matter -- Konev would still say, "Not enough."

He could make out Konev looking out toward him, his expression dark and glowering. Kahinin was directly behind him, since she had unclasped herself and moved over into what had been Morrison's seat. She was staring outward anxiously.

He caught her eyes and she seemed about to signal to him, but Boranova leaned forward and pushed her shoulder firmly. Kahinin moved back to her own seat at once. (She had to, Morrison told himself, for her job was to keep an eye on the charge patterns of the ship and of himself right now and she could not -- must not -- abandon that job, no matter what her anxiety over him.)

For the sake of completeness, Morrison tried to catch Dezhnev's eye, but the angle required was too great for the twisting ability of his headpiece. He caught, instead, Konev motioning in what seemed, clearly, an interrogative gesture.

Morrison looked away petulantly, making no attempt to give information, and became aware of something in the distance looming toward him at a great speed. He could make out no details, but he automatically winced as he waited for the current to carry the ship and himself around it.

It came straight on like a juggernaut and Morrison cowered toward the hull of the ship.

The ship did evade the object, but not by much and as the looming monster passed him Morrison felt himself drawn outward and toward it.

It flashed through his mind that Kahinin had put some random electric charge on his suit and that whatever it was he was passing, by the most miserable of coincidences, had a charge that exactly complemented his own.

Under normal circumstance, that would not have mattered. The ship and the structure passed each other at such a speed that no attraction could have sufficed to rip him loose, but he was a tiny object with neither mass nor inertia and, for a moment, he felt -- stretched -- as though the structure and the ship disputed ownership. The ship, it seemed to his appalled eyes, briefly faltered and then was pushed loose by the current.

Morrison had been peeled off by the object and the ship, still continuing with the current, moved off so rapidly that it was lost to sight at once. One second it was with him, the next second it was totally gone.

Before he had time to realize what had happened, he was alone and helpless -- an atom-sized object in a brain cell. His only faint attachment to life and reality -- the ship -- was forever gone.

68.

Some minutes must have been lost to Morrison. During that time, he had no conception of where he was or of what had happened. He was conscious only of absolute panic, of the conviction that he was on the point of death.

When life continued, Morrison was almost sorry. If that moment had been death, it would have been all over. Now he still had to wait for it.

How long would his air last? Would heat and humidity crawl on, even if more slowly than before, inexorably, just the same, perhaps. Would his light give out before he did and would he have to die in utter darkness as well as utterly alone? He thought, quite madly, How will I know when I'm dead if it's absolutely dark before and absolutely dark thereafter? (He thought of Ajax's prayer to Zeus that if he had to meet death, let it be in the light of day. And, with this, Morrison thought hopelessly, And with one person, at least, to hold one's hand.)

What to do, then?

Just wait?

What had gone wrong, anyway?

Ah, he was not yet dead. The fear had receded enough to allow room for a little curiosity -- and a will to fight and live.

Could he somehow get loose from this thing? It seemed disgraceful, somehow, to die like a fly stuck in amber. -- And every moment the ship was getting farther away. Almost at once he thought, It's already too far away for me to be caught, no matter what I do.

The thought drove him to frenzy and Morrison writhed with all his might, trying to break loose. It did no good and it occurred to him that he was wasting energy and increasing the heat within the suit.

He slid his hands upward along the misty structure that held him, but his hands bounced away. Like charges repel each other.

He reached along it -- right, left, up, down. Somewhere there was the opposite charge. He might be able to seize hold then and try to tear the structure apart. (Why were his teeth chattering? Fright? Desperation? Both?)

His right hand clicked shut as it was attracted to a portion of the structure. He clenched hard, trying to push past the mere charge and tear at the atomic arrangement itself -- if there was any atomic arrangement that had meaning aside from the charge itself.

For a moment, Morrison felt the structure resist a too-tight grip with a kind of rubbery rebound. And then, without warning, it crumbled in his hand. He stared in amazement at his hand, trying to make out what had happened. There was no tearing, ripping, or wrenching sensation. It seemed to him that a portion of the structure had simply disappeared.

Morrison tried again, groping here and there, until another portion vanished. What was happening?

Wait awhile! The miniaturization field extended beyond the ship slightly, Boranova had said. It would extend beyond the suit, too. When he squeezed as hard as he might, some of the atom he was touching would miniaturize and, in so doing, it would lose its normal architecture and break loose from the atoms to which it had formerly been bonded. Anything he touched -- if he could touch it hard enough -- would miniaturize.

Any atom or portion thereof that he miniaturized in this way would become a point-sized particle with far less mass than an electron. It would take off at nearly the speed of light, pass through matter as though that matter weren't there, and be gone.

Could this be so? It had to be so. Nothing else he could imagine would make sense.

And even as he thought this, Morrison began to push his hands and feet violently against the imprisoning material -- and broke loose.

He was no longer glued to the structure. He was an independent body coursing along the intercellular stream.

It didn't stop the ship from being forever out of reach, but he was at least on its trail. (Foolish! Foolish! What good was it to be on its trail? On his own scale, he was dozens of kilometers from the ship -- if not scores.)

Another thought struck him and staggered him. He had been miniaturizing atoms to get free, but such miniaturization required an input of energy. Not much at this stage, since there was so little mass to remove, but where would the energy come from?

It had to come from the suit's own miniaturization field. Every atom that miniaturized weakened the field, therefore. How much had he weakened it, then, by getting loose?

And was that why he wasn't feeling the heat? Had the miniaturization of his surroundings soaked up some of the heat as well as of the energy of the miniaturization field? No, that couldn't be so, for he hadn't felt much in the way of heat even before he began breaking loose.

Yet another thought struck him, making his position more desperate still. If he had broken loose from the structure at the expense of the energy of his field -- if his field had been weakened -- then he would have deminiaturized slightly. Was that the reason for spontaneous deminiaturization?

Boranova had talked of the possibility of such spontaneous deminiaturization. The possibility of that increased, the smaller the miniaturized object was. -- And he was now small.

As long as he had been on the ship, he had been part of the overall miniaturization field of the ship. He was part of a molecule-sized object. While he was part of the cytoskeleton of the cell, he was part of an even larger object. But now he was alone, separate, part of nothing beyond himself. He was an atom-sized object.

He was much more likely, now, to deminiaturize spontaneously, except that it wouldn't be spontaneous -- it would be the weakening of the field by the miniaturization of surrounding normal objects.

How could he tell if he were deminiaturizing? If he were, the process would proceed at an exponential rate. He would be deminiaturizing slowly at first, but as he grew larger he would affect a larger volume of surrounding material and he would grow larger at a faster rate, then still faster, and finally it would be an explosion and he would die.

But what did it matter if he were deminiaturizing? If he were, then, in a brief time -- seconds merely, at most -- he would be dead and it would happen too quickly to make any impression upon him. One moment he would be alive and the next moment there would be nothingness.

How could he ask for a better death? Why should he want to know a second earlier that it was going to happen?

Because he was alive and he was human -- and wanting to know was what made an object alive and human.

How could he tell?

Morrison stared at the dim glinting around him, at the moving swell of the water molecules, turning and shifting around him in a kind of slow motion as both he and they moved along the intercellular stream.

If he were increasing in size, they should seem to be decreasing, and vice versa.

Morrison stared. They were decreasing in size, getting smaller. Was this death? Or his imagination?

Wait, were the water molecules increasing in size? Swelling? Getting larger? Ballooning? If so, it must follow that he was getting smaller.

Would he shrink to the size of a subsubatomic particle? A subelectron? Would he go streaking off at the speed of light and explode when he was halfway to the moon, dying in a vacuum before he had time to know he was in a vacuum?

No, the molecules were shrinking, not expanding -- Morrison closed his eyes and took a deep breath. He was going mad. Or was he beginning to experience brain damage?

Better to die, then. Better death altogether than a dead brain and living body.

Or were the water molecules pulsating? Why should they pulsate?

Think, Morrison, think. You're a scientist. Find an explanation. Why should they pulsate?

He knew why the field might weaken -- its tendency to miniaturize the surroundings. Why should it strengthen?

It would have to gain energy to strengthen. From where?

What about the surrounding molecules? They had more random heat energy per volume than he had because they were at a higher temperature. Ordinarily, heat should flow from the surroundings into his suit until his suit and he himself would be at blood temperature and he would die of his own inability to rid himself of the heat he had accumulated, as he almost had on his earlier venture outside the ship.

But there was not only the heat energy intensity of his body; there was also the energy of the miniaturization field. And, as he was struck randomly by the water molecules, energy need not flow into him in the form of heat, but in the form of miniaturization activation. The field would grow more intense and he would shrink.

This must be true at all times when a miniaturized object was surrounded by normal objects of higher temperature. The energy might flow from the surroundings to the miniaturized object either as heat or as field intensity. And it must be that the smaller

the object, the more intensely miniaturized, the more it was the field that gained the energy and not the object itself.

Probably the ship, too, was pulsating, growing larger and smaller constantly, but to an extent not great enough to notice. Still, that was why the Brownian motion hadn't increased as far as it might have and that was why the air-conditioning could perform its function with less strain. The miniaturization field formed a cushion in both cases.

But he -- Morrison, alone in the cell -- was much smaller, possessing less mass, and for him the energy inflow went far more into miniaturization than heat.

Morrison's fists clenched helplessly. He let go of the computer and didn't care. Undoubtedly, the others, Boranova and Konev certainly, knew of this and might have explained it to him. Once again they let him go into danger without warning him.

And now that he had worked it out for himself -- what good did it do him?

He opened his eyes suddenly. Yes, there were pulsations. Now that he knew what to expect, he saw them. The water molecules were expanding and contracting in an irregular rhythm as they gave up energy to the field and then extracted energy from it.

Morrison watched it with a stupefied swaying rhythm and he found himself muttering soundlessly: "Larger, smaller, larger, smaller, larger, smaller."

It could only get so large, he thought. The expansion mirrored his own contraction and there was only so much energy to be pushed into him to power that contraction. The cellular contents had a temperature only so high. On the other hand, they could take large quantities of energy from him, and once they took enough, what was left would go more and more quickly, and he would explode.

Therefore, when the water molecules expanded in size (and he himself was growing smaller) he was safe. He would not grow very small. When the water molecules contracted in size, however (and he himself was growing larger), he was not safe. If the water molecules continued to contract until they were too small to see that meant he would be expanding toward instantaneous explosion.

"Larger, smaller -- smaller -- stop contracting!"

Morrison let his breath go, for the molecules were expanding again.

Over and over! Each time -- would the contraction stop?

It seemed to be playing with him and it didn't matter anyway. No matter if it brought him to the brink of destruction, then snatched him away, and if it did it a million times over, it wouldn't matter. Sooner or later, his air would be gone and he would die a slow, suffocating death.

Better a quick death, surely.

69.

Kahinin was screaming. She was the first to realize what had happened and she choked on her words.

"He's gone! He's gone!" she shrieked.

Boranova was unable to stop herself from asking the obvious question. "Who's gone?"

Kahinin turned wide eyes on her and said, "Who's gone? How can you ask who's gone? Albert is gone."

Boranova stared blankly out at the spot where Morrison had been and now wasn't. "What happened?"

Dezhnev muttered hoarsely, "I'm not sure. We cut a corner closely. Albert, attached to the outside of the ship, introduced an asymmetry, perhaps. I tried to steer the ship away from -- from whatever it was, but it didn't respond properly."

"A fixed macromolecular organelle," said Konev, who looked up now after having buried his face in his hands, "scraped him off. We've got to get back to him. He may have the information we need."

Boranova by now clearly understood the situation. She unclasped herself with a quick movement and stood up. "Information?" she said tightly. "Is that what you feel the loss of, Yuri? Information? Do you know what's going to happen now? Albert's miniaturization field is isolated and he's only atom-sized. The chance of his undergoing spontaneous deminiaturization is at least fifty times ours. Given enough time, the chance will become too good. Information or not, we must get him. If he deminiaturizes, he will kill Shapirov and he will kill us."

Konev said, "We're just arguing motivation. We both want him back. The reasons why are secondary."

"We should never have sent him out," said Kahinin. "I knew it was wrong to do so."

"It is done," said Boranova gruffly, "and we must proceed from that point. Arkady!"

"I'm trying," said Dezhnev. "Don't teach a drunkard to hiccup."

"I'm not trying to teach you anything, old fool. I'm ordering you. Turn around. Back! Back!"

"No," said Dezhnev. "Let this old fool tell you that's ridiculous. Do you want me to make a U-turn and buck the current? You want me to try to force my way upstream?"

Boranova said, "If you just stand still, the stream will bring him to us."

"He is adhering to something. He will not be brought to us," said Dezhnev. "What we must do is turn to the other side of the dendrite and let the return stream carry us back."

Boranova put both hands to her head and said, "I apologize for calling you an old fool, Arkady, but if we go back by the counterstream we'll miss him."

"We have no choice," said Dezhnev. "We lack the energy to try to make our way against the stream we're in."

Konev said, sounding a bit weary but reasonable, "Let Arkady do as he wishes, Natalya. We will not lose Albert."

"How can you know that, Yuri?"

"Because I can hear him. -- Or, rather, sense him. -- Or, rather, sense Shapiro's thoughts by way of his instrument, bare and uninsulated in the cell."

There was a momentary silence. Boranova, clearly astonished, said, "Are you getting something?"

"Of course. In that direction," said Konev, pointing.

"You can tell the direction?" said Boranova. "How?"

"I'm not sure how. I just feel. It's in that direction!"

Boranova said, "Arkady, do as you were planning."

"I am doing it regardless of what you say, Natasha. You may be captain, but I am navigator with death staring me in the face. What have I to lose? As my old father would say: 'If you are dangling from a rope over an abyss, don't bother snatching at a coin that falls out of your pocket.' -- It would be better if I had a real steering mechanism than this system of trying to maneuver three off-center engines."

Boranova had stopped listening. She peered into the darkness uselessly and said, "What is it you hear, Yuri? Shapiro's thoughts tell us -- what?"

"Nothing at the moment. It is just noise. Anguish."

Kahinin muttered, as though to herself, "Do you suppose part of Shapiro's mind knows he's in a coma? Do you suppose part of his mind feels trapped and is clamoring to get out? Like Albert -- trapped? Like we ourselves -- trapped?"

Boranova said sharply, "We are not trapped, Sophia. We can move. We will find Albert. We will get out of this body. Do you understand, Sophia?" She reached for the other woman's shoulders, her fingers digging deeply.

Kahinin winced. "Please. I understand."

Boranova turned to Konev. "Is that all you get? Anguish?"

"But strongly." Then, curiously, staring at Boranova, "Do you sense nothing?"

"Nothing at all."

"But it is so strong. Stronger than anything I felt when Albert was in the ship. It was right for him to move outside."

"But can't you make out any actual thoughts? Words?"

"Perhaps I am too far. Perhaps Albert hasn't got his machine properly focused. And you really sense nothing?"

Boranova shook her head decisively and glanced briefly at Kahinin, who said in a low voice (rubbing one shoulder), "I sense nothing, either."

And from Dezhnev came a discontented, "I never get any of these mysterious messages."

"You got 'Hawking.' Albert suggested there might be different brain types as there are different blood types and that he and I might be of the same type. He may be right," said Konev.

Boranova said, "From what direction does the sensation come now?"

"From there." This time Konev pointed much closer to the fore end of the ship. He said, "You are turning, aren't you, Arkady?"

"I am," said Dezhnev, "and I'm now fairly close to the doldrums between the two streams. I am planning to edge only slightly into the counterstream so that we head back, but not too quickly."

"Good," said Boranova. "We don't want to miss him. -- Yuri, can you judge the intensity? Is it getting stronger?"

"Yes, it is." Konev seemed a bit surprised, as though he had not noticed the rise in intensity until Boranova had mentioned it.

"Is it imagination, do you think?"

"It might be," said Konev. "We haven't really gotten any closer to him. We're just making a turn. It's almost as if he's approaching us."

"Perhaps he's washed off whatever he adhered to or forced himself loose. In that case, the current would carry him to us, if we're forcing a turn and staying essentially in the same place."

"Perhaps."

"Yuri," said Boranova vehemently, "you just concentrate on the sensation. Keep Arkady aware at all times of the direction from which it comes, which means you will have to be pointing toward Albert steadily. -- Arkady, as you get closer to Albert, you will have to turn toward the original stream again and get into it as close to his position as possible. Then once we're moving together, it will be easy to drift closer by use of our motors."

"Easy for one who's not controlling the motors," growled Dezhnev.

"Easy or difficult," said Boranova, her formidable eyebrows hunching low, "do it. If not -- No, there is no 'If not.' Do it."

Dezhnev's lips moved, but no sound came and silence fell upon the ship -- except for the unheard flood of sensation that entered Konev's mind but left the other minds empty.

Konev remained standing, facing in the direction from which it seemed to him the sensation was coming. He muttered once, "Definitely stronger." Then, after several moments, "It seems to me I can almost sense words. Maybe, if he comes close enough --"

His expression grew even more strained, as though it were trying to force the sensation, to cram it into his mind, while taking the noise apart and separating it into words. His finger kept pointing rigidly and he said finally, "Arkady, begin curving back into the doldrums and be ready to plunge into the original stream. -- Quickly. Don't let him pass us."

"As quickly as the motors will let me," said Dezhnev. Then, in a lower voice, "If I could maneuver this ship by the same magic with which the rest of you hear voices --"

"Head straight for the membrane," said Konev, ignoring the remark.

It was Kahinin who saw the spark of light first. "There he is!" she cried out. "That's the light of his suit."

"I don't have to see it," said Konev to Boranova. "The noise is like a volcanic eruption in Kamchatka."

"Still noise, Yuri? No words?"

"Fright," said Konev, "incoherent fright."

Boranova said, "If I were aware in any way of being trapped in a comatose body, it would be precisely how I would feel. -- But how has he come to realize it now? Earlier we did make out words and even quiet and peaceful images."

Dezhnev said, panting a little in the excitement of the chase, which had him unconsciously holding his breath, "It may be something we've done with this ship. We've stirred up his brain."

"We're too small," said Konev with contempt. "We can't even stir up this one cell noticeably."

"We're coming up to Albert," said Dezhnev.

"Sophia," said Boranova, "can you detect his electrical pattern?"

"Faintly, Natalya."

"Well, throw everything you've got into something complementary that will attract him tightly."

"He seems a little large. Natalva."

"He's oscillating, I'm sure," said Boranova grimly. "Once you attach him to the ship, he'll become part of our general miniaturization field and his size will adjust. Quickly, Sophia."

There was a slight bump as Morrison was electronically pulled against the side of the ship.

16. DEATH

Once the sun sets, it grows dark; don't let that catch you by surprise.

Dezhnev Senior

70.

Morrison could not later recall anything that took place -- either just before or just after his return to the ship. Try as he might, he did not remember seeing the ship coming for him at any time, nor did he recall the moment of transfer, nor the removal of his plastic suit.

Going far enough back, he remembered the despair and loneliness of waiting to explode and die. Going far enough forward, he remembered looking up at the concerned face of Sophia Kahinin bending over him. There was nothing in between.

Hadn't this happened already? The two incidents, joined by Kahinin's care for him, were separated by several hours in time, but melted into one.

He said in a hoarse and almost unintelligible voice, "Are we headed in the right direction?" He said it in English.

Kahinin hesitated, then answered slowly, also in English and with a moderately heavy accent, "Yes, Albert, but that was some time ago, when we were in the capillary. You came back and then went out a second time. We are in a neuron now. Remember?"

Morrison frowned. What was all this?

Slowly, in bits, his memory returned. He closed his eyes and tried to get it all straight. Then he said, "How did you find me?" He spoke in Russian now.

Konev said, "I sensed -- quite strongly -- the thought waves of Shapirov as it came through your instrument."

"My computer! Is it safe?"

Konev said, "It was still attached to you. Did you make out actual thoughts?"

"Actual thoughts?" Morrison stared at him fuzzily. "What actual thoughts? What are you talking about?"

Konev was clearly impatient, but he set his lips tightly together and then said, "I could make out Shapirov's thought waves reaching me across the cell by way of your device, but there were no actual words or images."

"What did you sense, then?"

"Anguish."

Boranova said, "The rest of us sensed nothing at all, but it seemed to us that what Yuri described was the anguish of a mind that knew it was in a comatose trap, that knew it was a prisoner. Did you sense anything more specific than that?"

"No." Morrison looked down upon himself and realized that he was sprawled across two seats, his head was in the crook of Kahinin's arms, and that he was in his one-piece cotton suit. He tried to struggle upright. "Water, please."

He drank thirstily, then said, "I don't recall hearing anything or sensing anything. In my position --"

Konev said sharply, "What has your position to do with it? Your computer was transmitting information. I sensed it at a considerable distance. How would it be possible for you not to sense anything?"

"I had other things to think about, Yuri. I was lost and I was sure of death. Under the circumstances, I paid no attention to anything else."

"I can't believe that, Albert. Don't lie to me."

"I am not lying to you. -- Madame Boranova." He managed to pronounce the name very formally. "I demand that I be treated in a courteous manner."

"Yuri," said Boranova sharply. "Don't make accusations. If you have questions to ask, ask them."

Konev said, "Then let me put it this way. I sensed a great deal of emotion, even though I was far from the instrument in terms of our miniaturized state. You, Albert, were right on top of your device and it was keyed to your brain, not mine. Our brains are of similar type, presumably, but they are not identical and you can sense on your instrument more sharply than I can. How is it possible, then, that I could sense so much and that you should nevertheless claim to have sensed nothing?"

Morrison said strenuously, "Do you think I had time or inclination for sensing? I was swept away from the ship. I was separated, alone, lost."

"I understand that, but you need make no special effort to sense. The sensations would invade your mind despite anything that might be taking place."

"I received no sensations just the same. What filled my mind was that I was alone and I was going to die. How is it possible you don't understand that? I thought I would heat up and die, as I almost did the first time." A sudden doubt assailed him and he looked across at Kahinin. "There were two times, weren't there?"

"Yes, Albert," she said softly.

"And then I realized I wasn't heating up. Instead, it seemed to me that I was growing larger and smaller -- oscillating. I was involved in some sort of miniaturization transfer in place of heat transfer. Is that possible, Natalya?"

Boranova hesitated, then said, "That effect follows naturally from the field equations of miniaturization. It has never been tested, but apparently you confirmed it while out there."

"It seemed to me that my surroundings were oscillating in size, that the water molecules all around me were expanding and contracting, and it seemed to me to be more logical that it was I who was oscillating, rather than that everything else was."

"You were correct and what you report is valuable. One might argue from this that the turmoil of the event to you was not without its compensation in a larger sense."

Konev said indignantly, "Albert, you tell us that you were perfectly capable of careful and rational thought out there -- and yet you expect us to believe that you sensed nothing?"

Morrison raised his voice, "Can't you understand, you monomaniac, that it was this very careful and rational thought, as you call it, that filled my mind to the exclusion of everything else? I was in absolute terror. I expected, with each contraction of the molecules around me, that contraction would continue indefinitely, which would mean, in actual fact, that I would expand indefinitely; that, in other words, I would undergo spontaneous deminiaturization and explode and die. I was not in the least concerned with sensing thought waves at that moment. If any had forced themselves on me, I would, in my condition then, have ignored them. That is the truth."

Konev twisted his face into an expression of scorn. "If I had an important job to do and if a firing squad had their weapons trained on me, then in the few moments before they fired, I would still concentrate on my job."

Dezhnev muttered, "As my father used to say: 'Anyone can hunt a bear fearlessly when the bear is absent.'"

Konev turned on him fiercely, "I've had enough of your father, you old drunkard."

Dezhnev said, "Repeat that to me when we are safely back in the Grotto and you will then find you are hunting the bear when the bear is present."

Boranova said, "Not another word, Yuri. Are you intent on quarreling with everyone?"

"Natalya, I'm intent on doing my job. Albert must go out again."

"No," said Morrison in terror. "Never."

Dezhnev, who glared at Konev less than lovingly, said, "A hero of the Soviet Union is heard from. He must do his job, so Albert must go out into the cell again."

Boranova said, "Dezhnev is right, Yuri. You boast that even a firing squad would not interrupt your duty. Go out once, then, as Albert has done twice."

Konev said, "It is his machine. It is keyed to his brain."

"So I understand," said Boranova, "but you, as you yourself say, have the same brain type. At least you could sense what he sensed. Certainly you sensed the skeptic waves when he was lost in the intercellular current. And you were at a distance. With the machine in your very hand and yourself outside, you would gather data of your own, which should be more valuable to us, in any case. Of what use would it be to have Albert's keener perception if you insist on disbelieving whatever he says?"

All were staring at Konev now. Even Kahinin managed to look at him at intervals through her long lashes.

Then Morrison coughed slightly and said, "I'm afraid I urinated into the suit. A little. Not much, I think. Terror has its price."

"I know," said Boranova. "I've drained it and cleaned it as well as I could. That shouldn't stop Yuri. A little bit of urine residue will surely not stop the dedication to duty of a man like him."

Konev said, "I resent this clumsy sarcasm on the part of all of you, but I'll go out into the cell. Do you really think I'm afraid of doing that? My only thought to the contrary has been that Albert is the best receiver. Still, I am second-best, certainly, and if he will not do it, then I will, provided --"

He paused and Dezhnev said, "Provided the bear is not there, eh, Yuri, my hero."

Konev said bitterly, "No, old sot, provided that I am held firmly to the ship. Albert was torn loose because he was attached feebly, a poor job on the part of the one in charge of that department. I want no poor jobs done on me."

Kahinin said to no one, her eyes on her fingertips, "Albert must have struck a structure in such a way as to exactly fit it, electrically speaking. The chance of that happening was very low. Even so, I shall try to make use of an odd pattern on the ship and the suit in order to reduce the odds as far as I can manage."

Konev nodded. "I'll accept that," he said to Boranova. Then, to Morrison, "You say there is no heat transfer?"

Morrison said, "None that I could detect. Just size oscillation."

"Then I won't bother removing my garment."

Boranova said, "You understand, Yuri, that you won't stay out long. We cannot stretch the risk of deminiaturization indefinitely."

"I understand," said Konev and with Morrison's help he clambered into the suit.

71.

Morrison looked through the hull of the ship and watched Konev.

Twice it had been the other way around. He had been outside looking in. (And for a while, that second time, he had been nowhere looking nowhere.)

Morrison felt a little chagrined that Konev seemed so composed. Konev did not turn to look into the ship. He held Morrison's computer in his hands, following Morrison's hasty instructions on the elementary aspects of expanding and focusing. He seemed entirely intent on his job. Was he really that icily brave? Would he continue to concentrate even if he were ripped loose as Morrison had been? Probably -- and Morrison felt ashamed of himself.

He looked at the others on the ship.

Dezhnev remained at his controls. He had to stay near the membrane of the cell. He had suggested moving into the doldrums between the two streams. Nearly motionless as they would then be (probably turning in a slow eddy, actually), they would not risk the kind of accident that had torn Morrison loose. Konev had vetoed that at once. It was along the membrane that the skeptic waves moved and he wanted to be near them.

Dezhnev had also suggested turning the ship upside down. Up and down made no difference here in the cell, any more than it did in outer space. By turning upside down, the air lock would be on the side of the ship away from the membrane and that might keep Konev away from cytoskeletal structures.

That merely angered Konev. He pointed out that such structures might be anywhere in the cell and that, in any case, he did not want the bulk of the ship between himself and the membrane.

So he was out there, in just the way he wanted, and Dezhnev, paying close attention to his controls, whistled very softly to himself.

Boranova watched her instrument, looking up only occasionally to gaze thoughtfully at Konev. Kahinin was fidgety. It was the only word. Her eyes shifted toward Konev a hundred times and they shifted away as many times.

Boranova said suddenly, "Albert, it's your instrument. Do you think Yuri can work it? Do you think he's getting anything?"

Morrison smiled briefly. "I preset it for him. There isn't much further for him to do and I explained the focusing. Just the same, I know he isn't getting anything, Natalya."

"How can you know that?"

"If he were to sense something, I would overhear it -- or oversense it, perhaps I should say -- as he oversensed me when I was out in the stream. I sense nothing; absolutely nothing."

Boranova looked surprised. "But could that be? If he sensed something when you held it, why shouldn't he sense something when he holds it?"

"Perhaps conditions have changed. Consider that all this agony that Konev says he detected when he followed my machine's broadcast of Shapiro's thoughts to me. That was not characteristic of what we heard before."

"I know. It had been almost idyllic before. Green fields. Mathematical equations."

"Can it be, then, that the living part of Shapiro's brain, if it is capable of consciousness, has just recently recognized its comatose position, that it has done so in the last hour, perhaps --"

"Why should that have happened in the last hour? That's too much of a coincidence that it should do so now, just as we are in the brain."

"Perhaps we have stimulated the brain by actually being in it, and brought the realization about in consequence. Or, perhaps it is a coincidence. The funny thing about coincidences is that they do happen. -- And perhaps the realization that struck him with anguish not long ago has now caused him to sink into silent apathy."

Boranova looked uncertain. "I still can't believe that. Do you really think Yuri's not getting anything?"

"Nothing of any significance. I am quite certain."

"Perhaps I should call him in."

"I would if I were you, Natalya. He's been out nearly ten minutes. If he isn't getting anything, that's time enough."

"But what if he's getting something?"

"Then he'll refuse to come in. You know Konev."

Boranova said, "Tap on the hull of the ship, Albert. You're nearest his face."

Morrison did so and Konev looked in their direction. His face was blurred through the plastic headpiece but he wore an unmistakable frown. Boranova gestured for him to come in.

Konev hesitated, then nodded, and Morrison said to Boranova, "There's your proof."

Konev was brought in and they could see his face was flushed. They unbuckled his helmet and he drew in a deep breath.

"Whew! That's good. It was getting a little warm out there. Since I was attached to the ship, the size oscillation was less than I expected and the heat transfer was perceptible. -- Help me get the rest of this plastic armor off."

Boranova said in a sudden small spasm of hope, "Is that why you were ready to come in? The heat?"

"That was certainly the chief reason."

"Did you sense anything, Yuri?"

And Konev scowled and said, "No. Not a thing. Nothing."

Morrison lifted his head. A muscle in his right cheek twitched briefly, but he did not smile.

72.

"Well, Natasha, little captain," said Dezhnev with an air of faded bonhomie. "What do we do next? Any ideas?"

He received no answer, In fact, no one seemed to notice that he had spoken.

Konev was still mopping away at his chest and at the back of his neck. His look at Morrison had no bonhomie in it at all. His dark eyes smoldered. "There was a great deal of transmission out there when you were outside the ship."

"If you say so," said Morrison coldly, "but I told you that I don't remember a thing about it."

"Maybe it does make a difference who holds the device."

"I don't believe that."

"Science is not a matter of belief, but of evidence. Why don't we see what happens when you go out holding your own device exactly as I did? We'll have you bound firmly so that you don't come loose again and you can stay out the same ten minutes I did. No more."

Morrison said, "I won't do it. That's already been tried."

"And I sensed Shapirov's thoughts -- even if you say you didn't."

"You did not sense his thoughts. You sensed only emotion. There were no words."

"Because you let go of the device. You admitted that yourself. Try it now, without letting go."

"No. It won't work."

"You were frightened because you were torn loose. This time you will not be torn loose, as I was not. You will not be frightened."

"You underestimate my capacity for terror, Yuri," said Morrison, shrugging.

Konev looked disgusted. "Is this a time to joke?"

"I'm not joking. I'm easily terrified. I lack your -- whatever.

"Courage?"

"All right. If you want an admission I lack courage, I'll admit it."

Konev turned to look at Boranova. "Natalya. You are the captain. Direct Albert to try once more."

"I don't think I can direct him under these conditions," said Boranova. "As he himself has said, what good will it do if we combine our strength, force him into the suit, and shove him out? If he is incapable of doing anything, we'll get nothing out of it. However, I can ask him. -- Albert."

"Save your breath," said Morrison wearily.

"Once more. Not more than three minutes by the clock unless you get a transmission."

"We won't. I'm convinced we won't."

"Then only three minutes to prove the point."

Morrison said, "To what end, Natalya? If I get nothing, Yuri will say I am deliberately misadjusting my computer. If there is no trust between us, we will accomplish nothing in any case. How would it be, for instance, if I displayed Konev's conviction that to disagree is to lie? I say I sensed nothing of either Shapirov's thoughts or emotions when I was alone in the intracellular stream. Konev said he sensed a great deal. Who else did? Did you, Natalya?"

"No. I sensed nothing."

"Sophia?"

Kahinin shook her head.

"Arkady?"

Dezhnev said in an aggrieved tone, "I do not seem to be able to sense very much."

Morrison said, "Well, then, Yuri stands alone. How are we to know he really sensed anything? I shall not be as unkind as he is. I shall not accuse him of lying -- but isn't it possible that his wild desire to sense something caused him to imagine he had?"

Konev's face was white with anger, but his voice, except for a slight tremor, was cool enough. "Forget all that. We have spent hours in this body and I'm asking for one last observation, one last experiment, that may justify all that has gone before."

"No," said Morrison. "Last pays all. I've heard that before."

Boranova said, "Albert, this time there will be no mistake. One last experiment."

Dezhnev said, "It would have to be a last experiment. Our power supply is lower than I would like it to be. Finding you was costly, Albert."

"Yet we did find you," said Konev, "and without counting the cost. I found you." He suddenly smiled tightly and fiercely. "And I wouldn't have found you if I did not detect

the transmissions emanating from your device. It would have been impossible. There's the proof that what I sensed was not imaginary. And since I found you, pay me back."

Morrison's nostrils flared. "You came after me because my explosion would have killed you all in a matter of minutes, perhaps. What payment do you expect for your anxiety to save your own li-"

The ship rocked violently without warning. It swayed heavily and Konev, who had been standing, tottered and caught at the back of his seat.

"What was it?" called out Boranova, clutching with one hand at her own control device.

Kahinin bent over her computer. "I caught a glimpse, but you can't tell in this light. It may have been a ribosome."

"A ribosome," repeated Morrison in astonishment.

"Why not? They're scattered all over the cell. They're the protein-manufacturing organelles."

"I know what they are," said Morrison indignantly.

"So it landed us a blow. Or rather, as we skimmed along, we landed it a blow. It doesn't matter which way you look at it; we just had a giant piece of Brownian motion."

"Worse than that," said Dezhnev, pointing outward in horror. "We're not getting heat transfer, we're getting field oscillation."

Morrison, staring in despair, recognized the phenomenon he had seen when alone in the cell. The water molecules were expanding and contracting -- visibly so.

"Stop it! Stop it!" shouted Konev.

"I'm trying to," said Boranova through tight lips. "Arkady, shut off the jets and make all the power available to me. -- Shut off the air-conditioning, lights, everything!"

Boranova bent over the tiny glow that marked her battery-powered computer.

Morrison could see nothing except for the light from Boranova's computer and, in the seat next to him, Kahinin's. He could not see, in the otherwise total darkness of a cell buried in the interior of a brain, the water molecules swelling and subsiding.

There was no uncertainty about it, however. He could feel the jarring in the pit of his stomach. It was not the water molecules that were oscillating, after all. It was the miniaturization field that was -- and the objects that were buried in it -- and he himself.

Each time the ship expanded (and the water molecules seemed to contract), the field converted some of its energy to heat and he could feel the flush that swept over him. Then, as Boranova forced energy into the field, squeezing it into contraction, the heat vanished. For a while, he could feel the oscillations slow and subside.

But then they began to grow wilder and he knew that Boranova was failing. She could not fend off the spontaneous deminiaturization that was on the way and, in ten seconds, he knew he would be dead. He -- and all of them, and the body in which they were buried -- would be an exploding puff of water vapor and carbon dioxide.

He felt dizzy. He was going to faint and, in his pusillanimous way, he would thus anticipate death by a second and his last recognizable emotion would be one of intense shame.

73.

The seconds passed and Morrison didn't faint. He stirred a little. He should be dead by now, shouldn't he? (It was inevitable that the next thought should come: Can there be an afterlife after all? -- He dismissed the possibility quickly.)

He was aware of someone sobbing. No! It was harsh breathing.

He opened his eyes (he hadn't realized they were closed) and found himself staring at Kahinin in the dim light. Since all the energy available was being pumped into the effort to keep the ship from deminiaturizing, he saw her only by the glow of her own computer. He could make out her head bent over it, her hair in disarray and her breath whistling sharply through her parted lips.

He looked around in a sudden renewal of hope and thought and life. The ship's oscillations seemed less extreme. They were settling downward into a kind of peace even as he watched.

And then cautiously, Kahinin stopped and looked up sidewise at him, her face twitching into a painful smile. "It is done," she said in a hoarse whisper.

The light within the ship brightened slowly, almost tentatively, and Dezhnev uttered a huge shuddering sigh. "If I am not dead now," he said, "I hope to live yet a little while. As my father once said: 'Life would be unbearable if death were not worse yet.' -- Thank you, Natasha. You may be my captain forever."

"Not I," said Boranova, her face looking very old -- to the point where Morrison would not have been surprised to see white streaks in her black hair. "I simply couldn't pump enough energy into the ship. Was it something you did, Sophia?"

Kahinin's eyes were closed now, but her breasts were still heaving. She stirred a little, as though reluctant to answer, reluctant to do anything but savor life for a time. Then she said, "I don't know. Maybe."

Boranova said, "What did you do?"

Kahinin said, "I couldn't just wait for death. I made the ship the electric duplicate of a D-glucose molecule and hoped the cell would do the normal thing and interact with a molecule of ATP -- adenosine triphosphate. In doing so, it gained a phosphate group and energy. The energy, I hoped, would go into reinforcing the miniaturization field. I then neutralized the ship and the phosphate group fell off. D-glucose again, another gain in energy, then neutral, and so on, over and over." She stopped to pant a bit. "Over and over. My fingers were working so fast, I didn't know if I were hitting the right keys or not -- but I must have. And the ship gained enough energy to stabilize the field."

Boranova said, "How did you come to do that? No one has ever suggested in my hearing that this might --"

"Nor in mine," said Kahinin. "Nor in mine. I was just wondering this morning before we got on the ship what I would do -- or what anyone could do -- if spontaneous deminiaturization began. We'd need energy, but if the ship couldn't pump up enough -- I thought, Could the cell itself supply the energy? If it did, it would only be through ATP, which every cell has. I didn't know if it would work. I had to spend energy, forcing the electrical pattern on and off the ship, and I knew I might spend more than I got from ATP. Or the energy of the ATP might simply not affect the ship in such a way as to counter the deminiaturization. It was all such a gamble."

Dezhnev said -- softly, almost as though to himself, "As my old father would say: 'If you have nothing to lose, gamble freely.'" Then, briskly, he said, "Thank you, little Sophia. My life is yours from now on. I will give it to you at your need. I will go farther. I will even marry you if that would strike you as convenient."

"A chivalrous offer," said Kahinin, smiling faintly, "but I wouldn't ask marriage of you. Your mere life -- at need -- would be quite enough."

Boranova was entirely herself now and she said, "This will be cited in detail in the final report. Your quick thinking and your quick action saved everything."

Morrison couldn't trust himself to make any speech at all. (Unaccountably, he felt near tears. -- In gratitude for life? In admiration for Kahinin?) All he could do was reach for Kahinin's hand, put it to his lips, and kiss it. Then, after clearing his throat vigorously, he said with extraordinary mildness, "Thank you, Sophia."

She looked embarrassed, but did not draw her hand away immediately. She said, "It might not have worked. I didn't think it would work."

"Had it not," said Dezhnev, "we would be no deader."

Through all this, only Yuri Konev had not said a word and Morrison turned to look at him. He sat as he usually sat, very upright and very much turned away from them.

Morrison, finding his voice suddenly -- and his anger -- said, "Well, Yuri, what have you to say?"

Konev looked over his shoulder briefly and said, "Nothing."

"Nothing? Sophia saved the expedition."

Konev shrugged, "She did her job."

"Her job? She did much more than her job." Morrison leaned forward and reached wildly for Konev, grabbing his shoulder. "She invented the technique that saved us. And in doing so, she saved your life, you idiot. She's the reason you're still alive. You can at least thank her."

"I'll do as I please," said Konev, twitching his shoulder and then writhing out of Morrison's grasp.

Morrison's hands found their way around Konev's throat. "You miserable, egotistical barbarian," he grunted out, squeezing desperately. "You love her in your own insane way and you won't give her a kind word. Not one kind word, you piece of dirt."

Again Konev pulled himself loose and then the two were pummeling each other clumsily. They were half-trapped by the seats from which they had partly risen and neither could maneuver properly under zero-gravity conditions.

Kahinin screamed, "Don't hurt him!"

He won't hurt me, thought Morrison, striving mightily. He had not been engaged in this kind of physical combat since he was sixteen and, he thought in embarrassment, he wasn't doing any better now.

Boranova's voice rang out sharply. "Stop it. Both of you."

And they did. Both of them.

Boranova said, "Albert, you are not here to teach anyone manners. And Yuri, you need not labor to be a boor, it comes natural to you. If you do not wish to acknowledge Sophia's --"

Sophia said with an obvious effort, "I'm not asking for thanks -- from anyone."

"Thanks?" said Konev angrily. "Let us all say thanks. Before the deminiaturization started, I was trying to get this American coward to thank us for rescuing him. I didn't want thanks in words. This isn't a dance floor. We needn't bow and curtsy. I wanted him to show his thanks by getting out there and trying to sense some of Shapirov's thoughts. He refused. Who is he to teach me how and when to say thanks?"

Morrison said, "I said before the deminiaturization that I wouldn't do it and I repeat that now."

Dezhnev interrupted and said, "We beat a dead horse here. We have consumed our energy supply as though it were vodka at a wedding. Between pursuits and deminiaturizations, we have very little to spare for the task of deminiaturizing under controlled conditions. We must get out now."

Konev said, "It would take very little energy to have this man go out for a couple of minutes and come in again. Then we can leave."

For a moment, Konev and Morrison stared at each other hostilely and then Dezhnev said in a voice that seemed drained of some of its life, "My poor old father used to say: 'The most frightening phrase in the Russian language is "That's odd."'"

Konev turned angrily and said, "Shut up, Arkady."

Dezhnev replied, "I mentioned that only because it is now time for me to say it: That's odd."

74.

Boranova pushed her dark hair back from her forehead (a bit wearily, Morrison thought, and noted the hair itself was clearly damp with perspiration). She said, "What is odd, Arkady? Let us not play games."

"The current flow of the cellular material is slowing."

There was a brief silence, then Boranova said, "How can you tell?"

Dezhnev said heavily, "Natasha, dear, if you sat in my seat you would know that there are fibers criss-crossing the cell --"

"The cytoskeleton," put in Morrison.

"Thank you, Albert, my child," said Dezhnev with a grand wave of his hand. "My father used to say: 'It is more important to know the thing than the name.' Still, never mind. The whatever - you - call - it doesn't stop the cell flow and it doesn't stop the ship, but I can see it glint past. Well, it's glinting past more slowly now. I assume the fibers don't move, so I take it we're slowing. And since I'm not doing anything to slow the ship, I assume that it is the intracellular flow that is really slowing. -- This is called logic, Albert, so you don't have to educate me on that point."

Kahinin said in a small voice, "I think we have damaged the cell." She sounded conscience-stricken.

Morrison took it so and said, "One brain cell gone, more or less, won't hurt Shapirov in any way, especially in the condition he's in. I wouldn't be surprised if the cell were gone, though. After all, the ship came after me in a furious race, I imagine -- and I thank you all again for that -- and it probably vibrated itself nearly to death and must have vibrated the entire cell as well."

Konev said, frowning darkly, "That's mad. We're molecule-sized -- and a small molecule at that. Do you suppose anything we can do, whether moving or jiggling, is going to damage an entire cell?"

Morrison said, "We don't have to reason it out, Yuri. It's an observed fact. The intracellular stream is stopping and that isn't normal."

"In the first place, that's just Arkady's impression," said Konev, "and he's no neurologist --"

"Do I have to be a neurologist to have eyes?" demanded Dezhnev hotly, one arm raised as though to strike at the younger man.

Konev cast a brief glance at Dezhnev, but made no other acknowledgment of his remark. He said, "And besides, we don't know what is normal in a living brain cell from this level of observation. There may be calms and eddies in the flow, so that even if something like this is observed, it might be only temporary."

"You're whistling past the graveyard, Yuri," said Morrison. "The fact is, we can't use this cell any more and we don't have sufficient remaining energy to wander around searching for another cell."

Konev ground his teeth. "There must be something we can do. We can't give up."

Morrison said, "Natalya, make the decision. Is there any point in investigating this cell any further? And are we in a position to seek out another cell?"

Boranova raised her hand and bowed her head in a moment of thought. The others turned to look at her and Konev seized the opportunity to grasp Morrison by the upper arm and pull him closer. His eyes were dark with hostility. He whispered, "How is it you think I am in love with --" he jerked his head in Kahinin's direction. "What gives you the right to think so? Tell me that."

Morrison looked at him blankly.

At this point, Boranova spoke, but it was not to answer Morrison's question. She said mildly, "Arkady, what is it you are doing?"

Dezhnev, who was bent over his controls, lifted his head. "I am rearranging the wiring back to what it was. I am hooking up communications again."

Boranova said, "Have I told you to do that?"

Dezhnev said, "Necessity has told me to do that."

Konev said, "Does it occur to you it will be impossible to steer?"

Dezhnev growled and said in sullen irony, "And does it occur to you that there may be no more steering to do?"

"What is the necessity that drives you, Arkady?" said Boranova patiently.

Dezhnev said, "I don't think it's this cell alone that is out of order. The temperature around us is going down. -- Slowly."

Konev sneered. "By your measurements?"

"No. By the ship's measurements. By the background infrared radiation we're getting."

"You can't tell anything by that," said Konev. "At our size, we get very few infrared photons. The level would vary all over the lot."

Dezhnev nodded at Konev and said, "Like this." His hand waved up and down frenetically. "Still, it can wave up and down like a rowboat in a typhoon and yet do so at a lower and lower average level." And his hand sank ever lower as it continued its trembling.

Boranova said, "Why should the temperature be dropping?"

Morrison smiled grimly. "Come on, Natalya. I think you know why. I know that Yuri knows why. Arkady must find out and for that reason necessity is forcing him to put back communications."

An uncomfortable silence fell, except for Dezhnev's occasional grunts and muttered expletives as he struggled with the ship's wiring.

Morrison gazed out at the surroundings, which he could once again see in the usual unsatisfactory fashion now that ship's lighting had been restored. There were the usual dim glitter of molecules, large and small, that traveled with them. Now that Dezhnev had mentioned it, he saw the occasional reflection of light from a line that stretched across the path before them and then moved over (or under) and behind at express speed.

These were, undoubtedly, very thin collagen fibers that preserved the shape of the irregular neuron and kept it from converting itself into a roughly spherical blob under the pull of its own surface tension. Had he been watching for it, he would have noticed it before. It occurred to him that Dezhnev, as navigator, had to watch for everything and, in the entirely unprecedented situation in which the ship found itself, Dezhnev had had no guide, no instruction, no experience to let him know what to watch for. There was no question but that Dezhnev's task had placed him under greater tension than the others had allowed for.

Certainly, to Morrison himself, Dezhnev had been taken for granted as the least of the five. Not fair, Morrison thought now.

Dezhnev had straightened up now. He had an earphone in one ear canal and said, "I should be able to establish communication." He said, "Are you there? Grotto. -- Grotto."

Then he smiled. "Yes. We are, to this point, safe. -- I'm sorry, but as I told you, it was either communicate or steer. -- How is it at your end? -- What? Repeat that, more slowly. -- Yes, I thought so."

He turned to the others. "Comrades," he said, "Academician Pyotr Leonovich Shapirov is dead. Thirteen minutes ago, all vital signs ceased and our task now is to leave the body."

17. EXIT

If trouble were as easy to get out of as into -- life would be one sweet song.

Dezhnev Senior

75.

A gray silence fell over the ship.

Kahinin buried her face in her hands and then, after a long moment, broke the silence by whispering, "Are you sure, Arkady?"

And Dezhnev, blinking hard to hold back tears, said, "Am I sure? The man has been on the brink of death for weeks. The cellular flow is slowing, the temperature is falling, and the Grotto, which has him wired with every instrument ever invented, says he is dead. What is there to be but sure?"

Boranova sighed. "Poor Shapirov. He deserved a better death."

Konev said, "He might have held out another hour."

Boranova said with a frown, "He did not pick and choose, Yuri."

Morrison felt chilled. Until now he had been conscious of some surrounding red corpuscles, of a specific speck of intercellular region, of the interior of a neuron. His environment had been circumscribed to the immediate.

Now he looked out of the ship, through its transparent plastic walls, at what appeared to him, for the first time, to be thickness upon thickness of matter. On their present scale, with the ship the size of a glucose molecule and himself not much more than the size of an atom, the body of Shapirov was larger than the planet Earth.

Here he was, then, buried in a planetary object of dead organic matter. He felt impatience over the pause for mourning. Time for that later, but meanwhile -- He said in a voice that was perhaps a little louder than it ought to have been, "How do we get out?"

Boranova looked at him in surprise, eyes widening. (Morrison was certain that in her grief for Shapirov the thought of leaving had been momentarily buried.)

She cleared her throat and made a visible effort to be her usual businesslike self. She said, "We must deminiaturize to some extent, to begin with."

Morrison said, "Why only to begin with? Why not deminiaturize all the way to normality right now?" Then, as though to forestall the inevitable objection, "We will inflict damage on Shapirov's body, but it is a dead body and we are still alive. Our needs come first."

Kahinin looked at Morrison reproachfully. "Even a dead body deserves respect, Albert, especially the dead body of a great scientist like Academician Pyotr Shapirov."

"Yes, but surely not to the intent of risking five lives." Morrison's impatience was growing. Shapirov was only someone he had known by distant reputation and peripherally -- to Morrison he was not the demigod he seemed to be to the others.

Dezhnev said, "Aside from the question of respect, we are enclosed by Shapirov's cranium. If we expand to fill that cranium and then try to crumble the cranium by the effect of our miniaturization field, we will lose too much energy and deminiaturize explosively. We must first find our way out of the cranium."

Boranova said, "Albert is right. Let's begin. I will deminiaturize to cell size. Arkady, have the people in the Grotto determine our exact position. Yuri, make sure you locate that position accurately on your cerebrograph."

Morrison stared out the hull at the distant cell membrane -- a brighter and more continuous sparkle, one that was visible through the occasional flicker of light from the intervening molecules.

The first indication of deminiaturization was the fact that the molecules -- subsided. (It was the only word Morrison could think of to describe what happened.)

It was as though the little curved swellings that filled the space around them -- and which Morrison's brain constructed out of twinklings rather than saw directly -- shrank. It was for all the world as though they were balloons with the air being let out of them until the surroundings seemed relatively smooth.

But even as the liquid around them grew smooth, the large macromolecules in the distance -- the proteins, the nucleic acids, the still larger cellular structures -- also shrank and, in doing so, grew more distinct. The sparks of light they reflected were more closely spaced.

The cell membrane itself seemed to be approaching and it, too, could be seen more clearly. It came closer still and yet closer. The ship was, after all, in a narrow dendrite that projected from the cell body itself and if the ship was going to enlarge to the size of a cell, it would have to grow much larger than this mere projection.

It was clear that the membrane was going to collide with the ship and Morrison automatically clenched his teeth and steeled himself for the shock of impact.

There was none. The membrane came closer and closer and then simply separated and was not there. It was too thin a structure and too lightly bound to withstand the consequences of being forced into a miniaturization field. Though the ship was deminiaturizing to an extent, it was still far, far smaller than the normal world around it and the molecules of the membrane, on entering the field and shrinking, lost contact with each other so that the integrity of the whole vanished.

Morrison watched everything after that with fascination. The surroundings seemed chaotic until, as objects continued to shrink, he began to recognize the intercellular jungle of collagen that they had encountered before entering the neuron. That jungle continued to shrink, in its turn, until the collagen trunks and cables became nothing more than twine.

Boranova said, "And that is all. We will want to be able to fit within a small vein."

Dezhnev grunted. "That is all under any circumstances. Our remaining energy supply is not great."

Boranova said, "It will last until we find our way out of the cranium, surely."

Dezhnev said, "We can hope so. However, you're only the captain of the ship, Natasha; you are not the captain of the laws of thermodynamics."

Boranova shook her head as though in reproof and said, "Arkady, have them determine our position -- and don't lecture me."

Konev said, "I'm certain, Natalya, that it is not terribly important to determine our position. It cannot be measurably different from what it was when we left the capillary. All our wanderings since have merely taken us to a nearby neuron and from that to a neighboring neuron. The difference in position on even an ordinary microscopic scale is scarcely measurable."

And then, after a wait of several minutes, the position came through and Konev said, "As I told you."

Morrison said, "What's the good of the position, Yuri? We don't know which way we're headed and we can only go in whatever direction that might be. Now that communications are restored, we can't steer."

Konev said, "Well, then, since there is only one way in which we can head, we will head in that direction. I'm sure that Arkady's father had a saying concerning that."

Dezhnev said at once, "He used to say: 'When only one course of action is possible, there is no difficulty in deciding what to do.'"

"You see?" said Konev. "And we will find that whatever direction we go in, we will find a way out. Move ahead, Arkady."

The ship moved forward, ploughing through the now fragile threads of collagen, splashing through a neuron, and cutting across a thin axon. (It was hard to believe they were recently inside one of those axons and that it had seemed like a highway a hundred kilometers across.)

Morrison said dryly, "Suppose that Shapirov was still alive when it became necessary for us to leave his body. What would we have done?"

"What do you mean?" said Boranova.

"I mean, what alternative is there to this? Would we not have had to determine our position? And to do that, would we not have had to establish communications? And once that was done, would we not have been able to move in only one direction -- forward? Would we not have had to deminiaturize in order not to have to travel the equivalent of tens of thousands of kilometers, but merely the equivalent of a few kilometers? In short, in order to get out, would we not have had to push our way through the living neurons of a living Shapirov, as we are now pushing our way through dying and dead ones?"

Boranova said, "Well -- yes."

"Where, then, is the respect for a living body? After all, we actually hesitated to violate the integrity of a dead one."

"You must understand, Albert, that this is an emergency operation with an inadequate ship. We have no choice. And, in any case, it is not like your suggestion that

we deminiaturize completely in the brain, smashing the cranium and leaving Shapirov headless. Our present course, even if Shapirov was alive, would destroy a dozen neurons - or possibly a hundred -- and that would not have been likely to make Shapirov's condition appreciably worse. Brain neurons are continually dying throughout life -- like red corpuscles."

"Not quite," said Morrison grimly. "Red corpuscles are continually replaced. Neurons never are."

Konev interrupted, his voice rather loud, as though he were impatiently overriding the idle talk of others. "Arkady, stop. We need another position determination."

There was at once a dead silence within the ship, one that continued -- as though any speech might interfere with the measurements being made in the Grotto or might hamper the concentration of those making the measurement.

Finally Dezhnev whispered the measurements to Konev, who said, "Confirm them, Arkady. Make sure you have them right."

Morrison unclashed himself. He was still virtually without mass, but there was distinctly more of it than there had been when they were maneuvering within the cell. He pulled himself cautiously upward, so that he could see the cerebrograph over Konev's shoulder.

There were two red spots on it, with a thin red line connecting them. The map displayed on the screen condensed a bit, the two dots shrinking toward each other, and then it expanded again in a different orientation.

Konev's fingers worked busily over the computer keys and the map grew double and uninterpretable. Morrison knew, however, that Konev could view it through a device that would render it stereoscopic, displaying a third dimension.

Konev laid down that device and said, "Natalya, this time chance is on our side. Wherever we are and in whatever direction we were traveling, we'd be bound to encounter a small vein sooner or later. In this case, it is sooner. We are not far away and we will strike it in such a way that we will be able to enter."

Morrison heaved an internal sigh of relief, but could not help saying, "And what would you have done if chance had dictated a vein very far away?"

Konev said coolly, "Then I would have had Dezhnev break communications again and steer to a closer one."

Dezhnev, however, turned to stare at Morrison, made a grimace of disagreement, and mouthed the words, "Not enough energy."

"Move forward, Arkady," said Boranova peremptorily, "and get to the vein."

After a few minutes, Dezhnev said, "Yuri's map is right, which I wouldn't have bet on with any enthusiasm. That's it ahead."

Morrison found himself staring at a curving wall reaching into the indefinite haze upward and downward and with just a faint suggestion of tiling to it. If it was a vein, it was as yet not very far removed from a capillary. Morrison wondered uneasily if the ship would be able to fit inside it.

Boranova said, "Is there any way, Sophia, that you can give the ship an electric charge pattern that will slip us into the vein?"

Kahinin looked doubtful and Morrison, holding up his hand, said, "I don't think so, Natalya. The individual cells may not be entirely dead even now, but certainly the organization within them has been destroyed. I don't think any cell in the body can take us in by pinocytosis or by any other means.

"What do I do, then?" said Dezhnev unhappily, "Force my way in?"

"Of course," said Konev. "Lean against the vein wall. A small bit of it will then miniaturize and disintegrate and you can move in. You won't have to use your motors much."

"Ah," said Dezhnev, "the expert speaks. The vein will miniaturize and disintegrate at the expense of our field and that would take energy, too -- more energy than forcing our way in would."

"Arkady," said Boranova, "don't be angry. This is not the time for it. Use your motors moderately and take advantage of the first weakening of the vein wall through miniaturization to burst through. Using both techniques will consume less energy than either separately."

"We can hope so," said Dezhnev, "but saying so doesn't make it so. When I was little, my father said to me once: 'Vehemence, my little son, is no guarantee of truth.' He told me this when I swore with great earnestness that I had not broken his pipe. He asked me if I understood the statement. I said I didn't and he explained it to me very carefully. Then he walloped me."

"Yes, Arkady," said Boranova, "but move in now."

Konev said, "It's not as though you're going to flood the brain with blood. It wouldn't matter now that Shapirov is dead, but, as it happens, the blood isn't flowing now. Virtually nothing will leak."

"Ah," said Dezhnev, "this raises an interesting point. Ordinarily, once we enter a vein, the blood flow would carry us in a particular direction. Without blood flow, I must use my engines -- but in which direction must we go?"

"Once we penetrate at this point," said Konev calmly, "you will turn to the right. So my cerebrograph says."

"But if there is no current to turn me to the right and if I enter at an angle to the left?"

"Arkady, you will enter at an angle to the right. My cerebrograph tells me that, too. Just push in, will you?"

"Go ahead, Arkady," said Boranova. "We have no choice but to rely on Yuri's cerebrograph."

The ship moved forward and, as the prow touched the vein wall, Morrison could feel the slight vibration of the laboring motors. And then the wall simply gave and pulled away in all directions and the ship was inside.

Dezhnev stopped the motors at once. The ship moved in at a rapidly slowing pace, rebounded off the far wall (maintaining contact so briefly as to cause no damage that Morrison could see), and straightened out with the long axis of the ship along the enormous tunnel of the vein. The ship's width was better than half the width of the blood vessel.

"Well," said Dezhnev, "are we pointed in the right direction? If we're not, there's nothing to be done. I can't back up. We fit the vein too tightly for Albert to get out and turn us around and we have an insufficient remaining supply of energy to miniaturize further and make such a turn possible."

"You're pointed in the right direction," said Konev sternly. "Just get moving and you'll find out soon enough. The vessel will get larger as we move."

"Let's hope it does. -- And if it does, how far do we have to travel before we can move out of the body?"

"I can't say yet," said Konev. "I have to follow the vein on my cerebrograph, consult with the people in the Grotto, and arrange for the insertion of a hypodermic needle into the vein as close as possible to the position in which we'll be when we emerge from within the cranium."

Dezhnev said, "May I explain that we cannot move on forever. What with miniaturizing and deminiaturizing, with steering at very low efficiency, with wrong capillaries, and with chasing after Albert when he was lost, we have used up much more energy than we had counted on using. We had much more energy than we thought we'd need, but, even so, we've almost used it all."

Boranova said, "Do you mean we're out of energy?"

"Just about. Haven't I been telling you this for quite a while?" said Dezhnev. "Haven't I been warning you we were running low?"

"But how low are we? Are you saying we don't have enough to carry us out of the cranium?"

"Ordinarily, we would have plenty for that, even now. If we were in a living vein, we could count on a blood current sweeping us along. But there is no current. Shapirov is dead and his heart isn't beating. That means I'll have to force my way through the bloodstream with my motors going and the cooler the stream gets, the more viscous it will become, the harder the motors will have to work, and the more rapidly the energy supply will run out."

Konev said, "We have only a few centimeters to go."

Dezhnev said furiously, "Only a few? Less than the width of my palm? Really? At our present size, we've got kilometers to go."

Morrison said, "Should we deminiaturize further, then?"

"We can't." Dezhnev was now speaking very loudly. "We don't have the energy for it. Uncontrolled deminiaturization takes no energy; it releases energy. But controlled deminiaturization -- Look, Albert, if you jump out of a high window, you will reach the ground without effort. But if you want to survive the ordeal and if you want to be lowered slowly while you hang on to a rope, that takes a great deal of effort. Understand?"

Morrison muttered, "I understand."

Kahinin's hand stole to his and squeezed it gently. She said in a low voice, "Don't mind Dezhnev. He grumbles and howls, but he'll get us there."

Boranova said, "Arkady, if vehemence doesn't guarantee truth, as you told us just now, neither does it guarantee a cool head and a solution. Rather, the reverse. So why don't you just push your way along the vein and perhaps the energy will last until we reach the hypodermic."

Dezhnev scowled and said, "It's what I will do, but if you want me to keep a cool head, you must let me get rid of some heat."

The ship began to move and Morrison thought to himself: Every meter we go is a meter closer to the hypodermic needle.

It didn't make much sense as a comforting thought, since to fail to reach the needle by a small distance might be as fatal as to fail by a large distance. Yet it worked to slow the beat of his heart and it gave him a sense of accomplishment as he watched the wall slide rapidly backward.

The red corpuscles and platelets seemed far more numerous now than they had been in the arteries and capillaries on the way in. Then there had been a blood flow and there had been only the relatively few objects in their immediate neighborhood that had moved along the flow with them. Now the various formed bodies were largely motionless and the ship moved past what seemed countless numbers, squeezing them right and left and leaving them behind, bobbing, in their wake.

They even passed an occasional white cell, large and globular and quiescent. Now, though, they were totally unresponsive to the presence of a foreign object speeding by. In one case, the ship simply whipped through a white cell and left it sprawling behind.

Konev said, "We are going in the right direction. The vein is now distinctly wider than it was."

And so it was. Morrison had noticed that without managing to grasp the significance. He had been too intent on simply moving.

He felt a small surge of hope. To have been going in the wrong direction would have been total disaster. The vein would have narrowed and burst, leaving them adrift in gray matter with, perhaps, insufficient fuel to find and reach another vein.

Konev was taking down something that Dezhnev was repeating to him. He nodded and said, "Have them confirm those figures, Arkady. -- Good!"

He spent some time with his cerebrograph and then said, "Listen, they know the vein we're in and they will be inserting a hypodermic needle at a specific spot that I have marked off on the cerebrograph. We will reach it in half an hour or a little less. -- Can you keep going for half an hour, Arkady?"

"More likely a little less. If the heart was beating --"

"Yes, I know, but it isn't," said Konev. Then he said, "Natalya, may I have whatever records you have concerning what we have sensed of Shapirov's thought processes? I am going to send the raw data -- complete out to the Grotto."

Boranova said, "You mean in case we don't make it out."

"That's exactly what I mean. This material is what we went in for and there's no reason to have it perish with us if we can't get out."

"That's a proper attitude, Yuri," said Boranova.

"Provided," said Konev, his voice suddenly taking on a tinge of anger, "the data has any value at all." Briefly, he glared at Morrison.

Konev then bent toward Dezhnev and together the two began electronically transmitting the information they had collected, computer to computer, from tiny to large, from inside a vein to the outside world.

Kahinin was still holding Morrison's hand, perhaps as much for comfort to herself as to him, Morrison thought.

He said in a low voice, "What happens, Sophia, if we run out of energy before we reach the needle?"

She lifted her eyebrows briefly and said, "We'll just have to remain passively in place. The people in the Grotto will try to reach us wherever we are."

"We won't deminiaturize explosively as soon as the energy is gone, will we?"

"Oh no. Miniaturization is a metastable state. You remember we explained that. We'll stay as we are indefinitely. Eventually -- sometime -- this chance pseudo-Brownian motion of expanding and contracting will set up spontaneous deminiaturization, but that might not be for -- Who knows?"

"Years?"

"Possibly."

"That won't do us any good, of course," said Morrison. "We'll die of asphyxiation. Without energy, we won't be able to recycle our air supply."

"I said the people in the Grotto would try to reach us. Our computers will still be working and they can home in on us, cut to the vein and into it, and spot us electronically -- or even visually."

"How can they find one cell among fifty trillion?"

Kahinin patted his hand. "You are in a pessimistic mood, Albert. We're an easily recognizable cell -- and a broadcasting one."

"I think I would feel better if we find the hypodermic needle now and they don't have to look for us."

"So would I. I am merely pointing out that running out of energy and not finding the needle is not the ultimate end."

"And if we do find it?"

"Then we are drawn out and the Grotto's own energy sources will be applied to the task of deminiaturizing us."

"Can't they do it now?"

"We're too closely surrounded by masses of unminiaturized material and it would be too difficult to focus the deminiaturizing field with sufficient accuracy. Once we are out and visible to them, the conditions will be entirely different."

At this point, Dezhnev said, "Have we transmitted everything, Yuri?"

"Yes. Everything."

"Then it is my duty to tell you that I have only enough energy to continue moving this ship for five minutes. Perhaps less, but certainly not more."

77.

Morrison, Kahinin's hand still in his, squeezed convulsively and the young woman winced.

Morrison said, "I'm sorry, Sophia."

He released her hand and she rubbed it vigorously.

Boranova said, "Where are we, Yuri? Can we get to the needle?"

"I should say yes," said Konev. "Slow down, Arkady. Conserve what energy you have."

"No, believe me," said Dezhnev. "At the present speed, I am cutting through the blood with comparatively little turbulence, thanks to the streamlining and surface characteristics of the ship. If I slow down, there'll be more turbulence and energy waste."

Konev said, "But we don't want to overshoot the mark."

"We won't. Any time you want me to cut the motors, we begin to slow down at once because of the blood viscosity. As we slow down, the turbulence builds, we slow down faster, and in ten seconds we're motionless. If we had our normal mass and inertia, the rapid pace of slowing would plaster us all up against the front of the ship."

"Stop when I tell you, then."

Morrison had risen and was looking over Konev's shoulder again. The cerebrograph, he judged, must be at enormous expansion, perhaps at maximum. The thin red line that had marked the path of the ship by dead reckoning was now thick and was approaching a small green circle, which, Morrison surmised, must represent the position of the hypodermic needle.

But it was dead reckoning and it could be off a bit. Konev was alternating his gaze between the cerebrograph and the view up ahead of the ship.

"We should have aimed for an artery," Morrison said suddenly. "They're empty after death. We wouldn't have had to waste energy on viscosity and turbulence."

Konev said, "Useless idea. The ship cannot progress through air." He might have gone on, but at this point he stiffened and cried out, "Stop, Arkady! Stop!"

Dezhnev hit a knob hard with the heel of his hand. It moved inward and Morrison felt himself sway gently forward as the ship slowed and stopped almost at once.

Konev pointed. There was a large circle, glowing with an orange light. He said, "They're using fiber optic methods to make sure the tip glows. They said I wouldn't miss it."

"But we have missed it," said Morrison tightly, "We're looking at it, but we're not there. To get into it, we have to turn -- and that means that Dezhnev has to unhook communications again."

"No use," said Dezhnev. "I have enough power in my engines to have kept us going another forty-five seconds maybe, but I certainly do not have enough to start us moving from scratch. We are at this moment dead in the water and cannot move again."

"Well, then?" began Morrison with what was almost a wail.

"Well, then," said Konev, "there is another kind of motion that is possible. That hypodermic needle has intelligence at the other end. Arkady, tell them to push it in very slowly."

The orange circle expanded slowly, becoming slightly elliptical.

Morrison said, "It's going to miss us."

Konev made no reply to that, but leaned over toward Arkady to speak directly into the transmitter. The orange ellipse became, for a moment, more markedly elliptical, but this ceased after a bark from Konev. It became nearly circular after that. The needle was close now and was pointing at them.

And then there was sudden motion everywhere. The faint outlines of the red corpuscles and the occasional platelet, moved, and converged toward and through the circle. And the ship was moving, too.

Morrison looked up and around as the orange circle moved past them neatly on all sides, then slipped behind the ship, shrank rapidly, and disappeared.

Konev said with grim satisfaction, "They've sucked us in. From this point on, we sit quietly. They will handle everything."

78.

Now Morrison did his best to wash away thought, to close his mind. Either he would be brought back to the standard world, to normality, to reality, or he would die in a microblink and the rest of the Universe would go on without him -- as it would do, in any case, in twenty years, or thirty, or forty.

He shut his eyes firmly and tried to respond to nothing, not even to the beating of his heart. At one point he felt a light touch on his left hand. That would have to be Kahinin. He withdrew his hand -- not suddenly in rejection, but slowly, as though simply to say: "Not now."

At another point, he heard Boranova say, "Tell them, Arkady, to evacuate Section C, to put in strictly long-distance controls. If we go, there is no point in carrying anyone with us."

Morrison wondered if Section C were indeed evacuated. He would evacuate if he were ordered to or even if he were not ordered to, but there might be those lunatics who would be anxious to be on the spot when the first crew to explore a living body returned safely. -- So they could tell their grandchildren, he supposed.

What happened to such people, he wondered, if they ended up not having grandchildren -- if they died too young to see them -- if their children chose never to have children -- if the --

Dimly, he was aware that he was deliberately immersing himself in nonsense and trivia. One can't really think of nothing and especially not if one has spent a lifetime devoting one's self to thought, but one can think of something utterly unimportant. There are, after all, so many more possible thoughts that are unimportant rather than important, trivial rather than vital, nonsensical rather than sensible, that --

He might even have fallen asleep. Thinking about it afterward made him feel certain he had. He wouldn't have thought it would be possible to be so cold-blooded, but it wasn't cold blood; it was weanness, relief from tension, the feeling that someone else was making decisions, that he himself might be totally relaxed at last. And perhaps (although he didn't want to admit it), it had all been too much and he had simply passed out.

And again he felt a light touch on his left hand and this time it did not go away. He stirred and opened his eyes on something that looked like ordinary illumination. Too ordinary -- it hurt his eyes. He blinked rapidly and they watered.

Kahinin was looking down at him. "Wake up, Albert!"

He wiped at his eyes, began to make the natural interpretation of his surroundings, and said, "Are we back?"

"We are back. All is well. We are safe and we're waiting for you. You're nearest the door."

Morrison looked back at the open door and started to his feet, rising a few inches and sinking back. "I'm heavy. "

Kahinin said, "I know. I feel like an elephant myself. Just get up slowly. I'll help you."

"No no, that's all right." He fended her off. The room was crowded. His vision had cleared to the point where he could see the crowd, face upon face, looking toward him, smiling, watching. He did not want them -- Soviet citizens, all -- to see the sole American helped to his feet by a young Soviet woman.

Slowly, a little drunkenly but by himself, he rose to his feet, stepped sidewise to the door and very carefully let himself down to a small flight of stairs. Half a dozen pairs of arms reached out to help him, utterly disregarding his words: "It's all right. I don't need help."

Then he said sharply, "Wait!"

Before stepping to solid ground, he turned and looked past Kahinin, who was right behind him.

"What is it, Albert?" she asked.

He said, "I was just taking a last look at the ship because I don't intend ever to see it again -- not at a distance, not in films, not in any form of reproduction."

Then he was on normal ground again and the others followed. It was with relief that Morrison saw that every one of them was helped down.

There would then have been some sort of impromptu celebration, but it was Boranova who stepped forward, looking distinctly disheveled and much unlike her usual

calm, well-cared-for self -- all the more so since she was wearing the thin cotton coverall that did very little to hide the mature lines of her body.

"Fellow workers," she said, "I'm sure there will be appropriate ceremonies at some reasonable time to mark this fantastic voyage of ours, but please, we are in no condition to join you now. We must rest and recover from an arduous time and we beg your indulgence."

They were all led off to wild shouts and frantic waving and only Dezhnev had the presence of mind to take a glass offered to him that contained something that was either water or vodka and Morrison, for one, had no doubt as to which of the alternatives was, in fact, the case. The broad smile on Dezhnev's damp face as he sipped made it certain.

Morrison said to Kahinin, "How long were we on the ship?"

"I think it was over eleven hours," said Kahinin.

Morrison shook his head. "It seemed more like eleven years."

"I know," she said, smiling slightly, "but clocks lack imagination."

"One of Dezhnev Senior's aphorisms, Sophia?"

"No. One of my own."

"What I want," said Morrison, "is a chance at the bathroom, and a shower, and fresh clothes, and a good dinner, and a chance to shout and scream, and a good night's sleep. In that order, I think, especially with the bathroom coming first."

"You'll have it all," said Kahinin, "as will the rest of us."

And they did and the dinner seemed to Morrison to be particularly satisfactory. Throughout their stay on the ship, tension had managed to suppress his appetite, but such things are merely deferred and hunger was gnawing with a vengeance once Morrison felt truly safe, truly comfortable, truly clean, and truly clothed.

The main course at the dinner was a roast goose of enormous size which Dezhnev carved, saying, "Be abstemious, my friends, for as my father used to say: 'Eating too much kills more quickly than eating too little.'"

Having said this, he served himself a much larger helping than he served anyone else.

The one outsider present was a very blond tall man, who was introduced as the military commander of the Grotto, something which could be seen at once, since he was in full uniform with a spate of decorations. The others seemed extraordinarily polite to him and extraordinarily uncomfortable at the same time.

Throughout the meal, Morrison felt the tension returning. The commander looked at him often, with unsmiling gravity, but said nothing to him directly. Because of the commander's presence, he felt unable to ask the important question and then, finally, when he might have raised it after the commander's departure, he suddenly found himself too sleepy. He would not be able to argue it out properly if there were any complications.

And when he finally managed to tumble into bed, his last semiconscious thought was that there would be complications.

Breakfast was late and Morrison found that it was for two. Only Boranova joined him.

He was mildly disappointed, for he had looked forward to the presence of Sophia Kahinin, but when she failed to appear, he decided not to ask after her. There were other questions he would have to ask.

Boranova looked tired, as though she had not had enough sleep, but she looked happy, too. Or perhaps (Morrison thought) "happy" was too strong a word. Contented, rather.

She said, "I had a good talk with the commander last night and there was a two-way video call with Moscow. Carefully shielded. Comrade Rashchin himself spoke with me and was clearly pleased in the highest degree. He is not a demonstrative man but he told me that he had been in touch with events all yesterday and that, during the interval in which we were not in communication with the outside world, he had been unable to eat or to do anything but pace back and forth. That, perhaps, was an exaggeration. He even said he had wept with joy at hearing that we were all safe and that may be true. Undemonstrative men can be emotional when the dam breaks."

"It sounds good for you, Natalya."

"For the whole project. You understand that, according to the tentative schedule under which we had worked, we were not expected to launch a voyage into a living human body for at least five years. To have done so with a grossly inadequate ship and to have come out of it alive is viewed as a great triumph. Even the bureaucracy in Moscow understood the emergency under which we labored."

"I doubt that we really got what we were after."

"You mean Shapirov's thoughts? That was, of course, Yuri's dream. On the whole, it was fortunate that he talked us all into following that dream. We would never have attempted the voyage otherwise. Nor does the failure of the dream dim our feat. Had we failed to return alive, we can be sure that there would have been much criticism of our folly in attempting the matter. As it is, though, we are the first to have entered a living human body and to have returned alive -- a Soviet first that will stand forever in history. There will be no non-Soviet feat of the sort for years and our Soviet leadership is well-aware of that and very satisfied. We are assured of the money we will need for a considerable time, I imagine, provided we can come up with a spectacular feat now and then."

She smiled broadly at this and Morrison nodded and smiled politely with her. He cut away at the ham omelet he had requested and said, "Would it have been diplomatic to emphasize that an American was one of the crew? Was I mentioned at all?"

"Come, Albert, don't think so ill of us. Your feat in turning the ship by hand at the risk of your life was mentioned with emphasis."

"And Shapirov's death? That will not be blamed on us, I hope?"

"The death is understood to have been unavoidable. It is well-known that he was kept alive as long as he was by advanced medical methods only. I doubt that it will be mentioned to any great extent in the records."

"In any case," said Morrison, "the nightmare is over."

"The nightmare? Come, give yourself a month or two and it will seem an exciting episode that you'll be glad you experienced."

"I doubt it."

"You'll see. If you live to witness other such voyages, you'll be delighted to say, 'Ah, but I was on the very first,' and you'll never tire of telling the story to your grandchildren."

That's the opening, thought Morrison. Aloud, he said, "I see you assume that I will see my grandchildren someday. What happens to me once we're finished with breakfast, Natalya?"

"It will be out of the Grotto for you and back to the hotel."

"No no, Natalya. I want more than that. What follows that? I warn you that if the miniaturization project is going to go public and if there's a parade in Red Square, I don't intend to be part of it."

"Parades are out of the question, Albert. We're a long way from going public, although we're closer to it by far than we were the day before yesterday. "

"Let me put it baldly then. I want to go back to the United States. Now."

"As soon as possible, certainly. I imagine there will be pressure from your government."

"I should hope so," said Morrison dryly.

"They would not have been willing to have you back before you had a chance to help us or" -- her eyes looked into his rather sternly -- "from their point of view, spied on us. But now that you have done your part -- and I'm sure they will be aware of that somehow -- they will demand you back."

"And you must send me back. You promised that over and over."

"We will keep our promise."

"Nor need you think I have spied on you, I have seen nothing you have not let me see."

"I know that. Yet, when you return to your own country, do you imagine that you will not be questioned exhaustively on what you have seen?"

Morrison shrugged. "That was the consequence you must have accepted when you brought me here."

"True and we won't let it keep us from returning you. It is quite certain you won't be able to tell your people anything they don't already know. They poke their noses into our affairs carefully and skillfully --"

"As your people poke their noses into ours --" said Morrison with some indignation.

"Undoubtedly," said Boranova with a negligent wave of her hand. "Of course, you will be able to tell them of our success, but we don't really object to their knowing. To this

day, Americans insist on believing that Soviet science and technology is second-class. It will do us good to teach them a lesson in this. One thing, though --"

"Ah," said Morrison.

"Not a large thing, but a lie. You must not say we brought you here by force. In any public mention of this matter, you must state -- if the question arises -- that you came here voluntarily, in order to test your theories under conditions not available to you elsewhere in the world. It is a totally likely thing. Who would disbelieve you?"

"My government knows otherwise."

"Yes, but they will themselves urge you to tell the lie. They are as little eager as we are to plunge the world into a crisis over this. Aside from the fact that crises between the United States and the Soviet Union would instantly antagonize the rest of the world against both of us in these so-called good new days, the United States will no more wish to admit they had let you be taken than we would to admit we had taken you. Come, Albert, it is a small thing."

Morrison sighed. "If you return me now, as you say you will do, I will keep quiet about this small matter of kidnapping."

"You use the conditional. You say 'if.'" Boranova was grim. "You clearly find it troublesome to believe me to be a person of honor. Why? Because I am a Soviet. Two generations of peace, two generations of getting along, and your old habits persist. Is there to be no hope for humanity?"

"Good new days or not, we still don't like your system of government."

"Who gives you the right to judge us? We don't like yours, either. -- But never mind. If we begin to quarrel, that will spoil what should be a happy day for you -- and what is a happy day for me."

"Very well. We will not quarrel."

"Then let us say good-bye now, Albert, and someday we will meet again under more normal circumstances I am sure." She held out her hand to him and he took it. She went on, "I have asked Sophia to escort you back to the hotel and to make the arrangements for your leaving. You will not object to that, I'm sure."

Morrison pressed her hand strongly. "No. I rather like Sophia."

Boranova smiled. "I had sensed that somehow."

80.

It was a happy day for Boranova and her exhaustion did not prevent her from enjoying it.

Exhaustion! How many days of rest, how many nights of sleep, how long a stretch at home with Nikolai and Aleksandr would it take to cure that?

But she was alone now and for a period of time there would be nothing to do. Seize the moment!

Boranova stretched out luxuriously on the couch in her office and gave herself over to a curious jumble of thought -- now a commendation from Moscow, with a promotion, all mixed up with days on the beach at Crimea with her husband and son. It became almost real as she slept and dreamed that she was pursuing little Aleksandr as he marched firmly into the cold waters of the Black Sea in heedless lack of concern over the possibility of drowning himself. She was carrying a drum that she was beating wildly in order to attract the attention he stubbornly refused to give her.

And the vision broke apart and faded and the drumbeat was a hammering at the door.

She rose with a confused effort, smoothed the blouse she was wearing, and strode to the door in hasty concern. This turned to fury when she threw it open and found Konev frowning darkly, his fist raised to renew his assault.

"What is this, Yuri?" she said indignantly. "Is this your way of announcing yourself? There are signals."

"Which no one answered, though I knew you to be within."

Boranova motioned him in with a quick gesture of her head. She was not anxious to see him and he was not a pleasant sight.

She said, "Haven't you slept at all? You look awful."

"I haven't had time. I've been working."

"At what?"

"At what do you suppose, Natalya? At the data we obtained yesterday in the brain."

Boranova felt her anger seep away. After all, it was Konev whose dream this had been. The success of survival was sweet for everyone but Konev. Only he felt the failure.

She said, "Sit down, Yuri. Try to face it. The thought analysis didn't work -- and it couldn't. Shapirov was too far gone. Even as we went in, he was on the point of death."

Konev looked at Boranova blankly, as though totally disregarding her words. "Where is Albert Morrison?"

"There's no use in hounding him, Yuri. He did what he could, but Shapirov's was a dying brain. -- Listen to me. It was a dying brain."

Again that blank look. "What are you talking about, Natalya?"

"The data we got. The supposed data that you're struggling with. Let it go. The voyage has been a marvelous success even without it."

Konev shook his head. "A marvelous success without it? You don't know what you're saying. Where is Morrison?"

"He's gone, Yuri. It's finished. He's on his way back to the United States. As we promised."

Konev's eyes opened wide. "But that's impossible. He can't go. He mustn't go."

"Well, now," said Boranova calmly. "What are you talking about?"

Konev rose to his feet. "I went over the data, you stupid woman, and it's all plain. We must keep Morrison. At all costs, we must keep him."

Boranova's face reddened. "How dare you insult me, Yuri? Explain yourself at once or I will have you suspended from this project. What is this new mad fixation of yours on Albert?"

Konev lifted his hands halfway upward, as though impelled by an overwhelming desire to strike out at something, with nothing present to strike at.

He gasped, "I'm sorry, I'm sorry. I withdraw the adjective. But you must understand. All through our stay in the brain -- all the time we were trying to tap Shapirov's thoughts -- Albert Morrison was lying to us. He knew what was happening. He must have known and he carefully led us in the wrong direction. We must have him, Natalya, and we must have his device. We can never let him go."

18. RETURN

The trouble with triumph is that you may be on the other side.

Dezhnev Senior

81.

Morrison was doing his best to keep his feelings under control. There was a natural elation. He was going to go home. He was going to be free. He was going to be safe. Much more than that, he would --

But he dared not think of that climactic bit as yet. Yuri Konev was fearfully intelligent and already suspicious. Morrison's thoughts, if Konev concentrated on them, might give themselves away in his facial expressions somehow.

-- Or were they just playing with him? That was the other side of the coin.

Were they planning to break his spirit and turn him to their own uses? It was an old trick, to raise hopes and then dash them -- far worse than having no hope at all at any time.

Would Natalya Boranova do such a thing? She had not hesitated to take him forcibly when he would not come willingly. She had not hesitated to threaten to destroy his reputation forever to get him on the ship. How much farther would she go? Would she stop at nothing?

His heart bounded with a marked relief when Sophia Kahinin appeared. Surely she would not be party to such a deception.

He believed that even more firmly when she smiled at him, looking happier than he had ever seen her. She took his hand and tucked it under her arm.

"You'll be going home now. I'm so glad for you," she said and Morrison could not make himself believe that those words -- their intonation, her expression -- were all part of a careful lie.

Nevertheless, he said cautiously, "I hope I'm going home."

And she said, "You are. -- Have you ever been on a skimmer?"

For a moment, Morrison stumbled on the Russian word, then used a translated English phrase. "Do you mean an SPF -- a solar-powered flyer?"

"This is a Soviet design. Much better. It has light engines. You can't always trust the sun."

"But why a skimmer, then?" They were moving briskly toward the passageway that would lead them out of the Grotto.

"Why not? We'll be at Malenkigrad in fifteen minutes and since you've never been in a Soviet skimmer, you'll love it. It will be one more way of celebrating your return."

"I'm a little nervous of heights. Will it be safe?"

"Absolutely. Besides, I couldn't resist. We're in a wonderful situation now and I don't know how much longer it will last. Whatever we want we get for the moment. I said, 'A skimmer is what we will want,' and they smiled all over their faces and said, 'Why, certainly, Dr. Kahinin. It will be waiting for you.' Day before yesterday, I would have had to fill out a proof-of-need form for a plate of borscht. Today I am a hero of the Soviet Union -- unofficially, as yet. We all are. You, too, Albert."

"I hope I won't be expected to stay for the official ceremonies," said Morrison, still cautious.

"The official ceremonies will be confined to the Grotto, of course, and won't be elaborate at all. Your scroll will undoubtedly be forwarded to you. Perhaps our ambassador can give it to you in a quiet Washington ceremony."

"Not necessary," said Morrison. "I would appreciate the honor, but getting it in the mail is all I really want."

They had turned down a corridor that Morrison had not taken before and then walked long enough to make him wonder uneasily where they might be going. No need to have worried, Morrison thought as they emerged into a small airfield.

There was no mistaking the skimmer. It had long wings, glittering with a layer of photovoltaic cells along their entire upper surface, very much as American SPFs had. The American planes, however, relied on the solar panels entirely. The skimmer he saw had small rotors -- gasoline-powered, no doubt -- as assists. Kahinin might present that as a Soviet improvement but Morrison suspected that the Soviet photovoltaic cells were not as efficient as the American ones.

A mechanic was standing near the skimmer and Kahinin approached him with long, confident strides. "How does it test out?"

"Sweet as a dream," said the mechanic.

She smiled and nodded, but as he stepped away she muttered to Morrison, "I'll check it out anyway, of course. I've seen dreams that turned into nightmares."

Morrison studied the skimmer with a mixture of interest and apprehension. It looked like the skeleton of a plane, with everything somehow thinner and longer than it should be. The cockpit was tiny, like a soap bubble under the huge flap of wings and the long backward extension of a thin skeletal structure.

Kahinin had to bend herself nearly double to climb in. Morrison watched her as she fiddled with the controls. Then, after what seemed a considerable lapse of time, she taxied it down the field, turned it, and came back. She raised the rotors and let them turn slowly and eventually everything was shut down and she got out.

"It's working nicely," she said. "The fuel supply is adequate and the sun is shining brilliantly. One couldn't ask for more."

Morrison nodded and looked around. "One could ask for the pilot. Where is he?"

Kahinin froze at once. "Where is he? Is there some sexual requirement for the task? I pilot my own skimmer."

"You?" exclaimed Morrison quite automatically.

"Yes, !! Why not? I have my license and I qualify as a master pilot. Get in!"

"I'm sorry," stammered Morrison. "I -- I rarely fly and piloting anything through the air is almost a mystical thing to me. I just assumed that a pilot didn't do anything but piloting and that if someone did anything else, he couldn't be a pilot. Do you know what I mean?"

"I'm not even going to try to figure it out, Albert. Get in."

Morrison climbed in, following her directions and doing his best not to damage his head on any portion of the skimmer -- or, perhaps, damaging the skimmer.

He sat in his seat, staring in horror at the skimmer's open side to his right. "Isn't there a door to close?"

"Why do you want a closed door? It would spoil the wonderful feeling of flight. Strap yourself in and you'll be perfectly safe. -- Here, I'll show you how. -- Are you ready now?" She was in the seat beside him, looking quite confident and pleased with herself. They were crowded into contact and that much at least Morrison found rather soothing.

"I'm resigned," he said. "That's as close as I can get to ready."

"Don't be silly. You're going to love this. We'll use the motors to rise."

There was a high-pitched throb of the small engine and a rhythmic slap as the rotors began to spin. Slowly the skimmer rose and -- as slowly -- it turned. It canted to one side while turning and Morrison found himself leaning out over the open side and straining precariously against the strap that held him. He barely managed to fight off the strong impulse to throw his arms around Kahinin for nothing more than utterly non-erotic security.

The skimmer straightened and Kahinin said, "Now, listen," as she turned off the engine and threw in a switch labeled, in Cyrillic, SOLAR. The throb ceased and the rotors slackened as the forward propeller began to turn. The skimmer moved slowly and almost silently forward.

"Listen to the quiet," whispered Kahinin. "It's like drifting on nothing."

Morrison looked down uneasily.

Kahinin said, "We won't fall. Even if a cloud passed over the sun or if a circuit failure put the photovoltaic cells out of action, there is enough power in the storage components to bring us across kilometers, if necessary, to a safe landing. And if we ran out of power, the skimmer is more than half a glider and it would still settle down to a safe landing. I don't think I could force the craft into a crash even if I tried. The only real danger is a strong wind and there's none of that now."

Morrison swallowed and said, "It's a gentle motion."

"Of course. We're not going much faster than an automobile would go and the sensation is much pleasanter. I love it. Try to relax and look at the sky. There's nothing as peaceful as a skimmer."

He said, "How long have you been doing this?"

"When I was twenty-four, I got my master's license. So did Yu-- so did he. Many a peaceful summer afternoon we spent in the air in a skimmer like this. Once we each had a racing skimmer and marked out lover's knots in the air." Her face twisted slightly as she

said that and it occurred to Morrison that she had obtained a skimmer for the short hop to Malenkigrad only for the sake of a momentary reliving of memories and for no other reason.

"That must have been dangerous," he said.

"Not really -- if you know what you're doing. Once we skimmed along the foothills of the Caucasus and that might have been dangerous. A wind squall can easily smash you into a hillside and that wouldn't be fun at all, but we were young and carefree. -- Though I might have been better off if that had happened."

Her voice trailed away and for a moment her face darkened, but then an inner thought seemed to illuminate her into a smile.

Morrison felt his distrust mounting again. Why did the thought of Konev make her so happy, when she could not bear to look at him when they were together in the miniaturized ship?

Morrison said, "You don't seem to mind talking about him, Sophia." Then, deliberately, he used the forbidden word, "About Yuri, I mean. It even seems to make you happy. Why is that?"

And Kahinin said between her teeth, "It's not sentimental memories that makes me happy, I assure you, Albert. Anger and frustration and -- and heartbreak can make a person vicious. I want revenge and I am mean-spirited enough -- well, human enough -- to enjoy it when it comes."

"Revenge? I don't understand."

"It's simple enough, Albert. He deprived me of love and my daughter of a father when I had no way of striking back. That did not bother him as long as he had his dream of bringing miniaturization to practical low-energy fruition so that he might become, at a bound, the most famous scientist in the world -- or in history."

"But he failed at that. We didn't get the necessary information from Shapirov's brain. You know we didn't."

"Ah, but you don't know him. He never gives up; he's driven by the Furies. I've seen him, fleetingly, looking at you, after the voyage through Shapirov's body was done. I know his looks, Albert. I can tell his thoughts even from the droop of an eyelid. He thinks you have the answer."

"Of what was in Shapirov's brain? I don't. How could I?"

"It doesn't matter whether you do or not, Albert. He thinks you do and he wants you and your device with a greater yearning than he ever wanted anything in his life; certainly more than he wanted me or his child. And I'm taking you away from him, Albert. With my own hands I am taking you out of the Grotto and will watch you leave for your own country. And I will see him sicken to death of frustrated ambition."

Morrison stared at her in astonishment as the skimmer moved along in response to her rock-steady hand at the controls. He had not thought that Kahinin was capable of wearing an expression of such consuming and malignant joy.

Boranova had listened to Konev's emotional and breathless account and felt herself carried along by the wave of his utter conviction. That had happened before, when he had been convinced that Shapirov's dying mind could be tapped and that Morrison, the American neurophysicist, was the key to doing that. She had been swept along then and she tried to resist it now.

She said finally, "That sounds quite mad."

Konev said, "What's the difference what it sounds like if it's true?"

"Ah, but is it true?"

"I am certain."

Boranova muttered, "We need Arkady here to tell us that his father assured him that vehemence was no guarantee of truth."

"Neither is it a guarantee of the reverse. If you accept what I say, you must also see that we can't let him go. Certainly not now and possibly not ever."

Boranova shook her head violently. "It's too late. There's nothing to be done. The United States wants him back and the government has agreed to let him go. The government can't very well backtrack now without bringing about a world crisis."

"Considering what is at stake, Natalya, we must surely risk it. The world crisis will not explode. There will be loud talk and much posturing for a month or two and then if we have what we want, we might let him go if absolutely necessary -- or we might arrange an accident --"

Boranova rose to her feet angrily. "No! What you are suggesting is unthinkable. This is the twenty-first century, not the twentieth."

"Natalya, whatever century this is, we face the question of whether the Universe is to be ours -- or theirs."

"You know you're not going to convince Moscow that that is what is at stake. The government has what it wants, a safe voyage into and out of a body. At the moment it's all they want. They never understood that we wanted to read Shapirov's mind. We never explained that."

"That was a mistake."

"Come, Yuri. Do you know how long it would have taken to persuade them that Albert would have to be taken forcibly if he did not come voluntarily? They would not have wanted to risk a crisis -- even as much a crisis as they now face, which is a minor one indeed. You will now be asking them to face a much larger one. Not only will you fail but you will encourage them to look into the matter of the arrival of Albert here and I don't think we can afford that."

"The government is not all one piece. There are many high officials who are convinced that we are too eager to give in to the Americans, that we pay too high a price for the occasional pat on the head we receive. I have people to whom I have entry --"

"I have long known that you have. That's a dangerous game you play, Yuri. Better men than you have been caught up in that sort of intrigue and have come to deplorable ends."

"It's the chance I must take. In a case like this, I can turn the government around. But we must have Albert Morrison in our own hands if we're to do it. Once he's gone, it will be all over. -- When is he supposed to be leaving?"

"Nightfall. Sophia and I agreed that, for the sake of avoiding obtrusiveness and of needlessly provoking those who tend to be against accommodation with the Americans, night is better than day."

He stared at her, eyes opening widely enough so that they almost seemed protuberant. "Sophia?" he said harshly. "What's she got to do with it?"

"She's in charge of the details of returning Albert. She requested it."

"She requested it?"

"Yes. I imagine she wished to be with him for an additional while." With a touch of spite, she added, "Perhaps you didn't notice it, but she rather likes the American."

Konev sneered in disgust. "Not a bit of it. I know that devil. I know her if I know anything at all -- every thought in her head. She's getting him away from me. Sitting right next to him in the ship, watching his every move, she must have guessed his importance and she means to deprive me of him. She won't wait for nightfall. She'll hurry him off at once."

He rose and left the room at a run.

"Yuri," Boranova called after him. "Yuri, what do you intend to do?"

"Stop her," floated back the answer.

She gazed after him thoughtfully. She could stop him. She had the authority. She had the means. And yet -- What if he was right? What if what was at stake was indeed nothing less than the Universe? If she stopped him, everything -- everything -- might be handed over to the Americans. If she let him go, there might be a crisis of an intensity that hadn't been dreamed of in generations.

She had to come to a decision at once.

She began again.

If she stopped him, she would have done something. If he then turned out to have been right, the blame for having stopped him and having lost the Universe would rest squarely on her. If he turned out to be wrong after being stopped -- her action would be forgotten. There is nothing dramatic about a mistake that is not made.

If she did nothing to stop him, however, then all was on Konev's head. If he somehow prevented Morrison's return to the United States and if the government were then humiliatingly forced to release him, it would be Konev who would be blamed. Boranova would lose nothing, for he had dashed off without telling her what he was going to do and she could reasonably claim she had not dreamed he would try to subvert the known intention of the government. She would be in the clear. If, on the other hand, he prevented Morrison's return and proved to be right and the government won the

battle of wills that followed, she could claim the credit of having done nothing to stop him. She could say that it had been with her permission that he had worked.

Well, then, if she stopped him, the worst was blame, the best was neutral. If she did nothing, the best was credit, the worst was neutral.

So Boranova did nothing.

83.

Morrison decided that Kahinin was right. As the minutes passed, he grew less uncomfortable in the skimmer and even began to experience a feeble pleasure.

He could see the ground clearly through the open latticework that made up the chassis of the craft. It was about thirty meters below (he judged) and moving smoothly backward.

Kahinin sat at the controls, completely absorbed, though it didn't seem to Morrison that she had much to do. Presumably, it was skill and patient observation that made it possible for her to keep the skimmer on track without minute-by-minute adjustment.

He said, "What happens if you find yourself moving into a headwind, Sophia?"

She said without taking her eyes from the controls, "Then I would have to use the engine and waste fuel. If it were a fresh wind, it wouldn't pay to use a skimmer at all. Fortunately, today is ideal skimmer weather."

Morrison began to feel something that was almost well-being for the first time since having left the United States -- no, since a considerable length of time before that. He began to picture himself back in the United States; it was the first time he had dared to do so.

He asked, "What happens after we reach the hotel in Malenkigrad?"

"Car to an airport," said Kahinin crisply, "and then you'll board a plane to America."

"When?"

"Tonight, according to schedule. I'll try to get it done more quickly."

Morrison said with what was almost joviality, "Anxious to get rid of me?"

And to his surprise, the answer came back at once. "Yes. Exactly."

He studied her face in profile. The look of studied hatred had long since vanished, but there was a settled anxiety about her expression that caused Morrison to quiver. The picture of himself back in the United States began to fade around the edges.

He said, "Is anything wrong, Sophia?"

"No, nothing wrong now. It's just that I expect that -- he will come after us. The wolf is in pursuit, so I must get you away quickly if I can."

The city of Malenkigrad lay below them, although it was not exactly a city. Small in name, it was small in fact and it raveled off in all directions into the flat countryside.

It was the bedroom community for the people working on the miniaturization project and during the day -- now -- it seemed all but deserted. There was a moving vehicle here and there, occasionally a pedestrian, and, of course, children playing in the dusty streets.

It occurred to Morrison that he had no way of knowing where, in the mighty stretch of land that made up the Soviet Union, Malenkigrad and the Grotto might be. It wasn't in the birch forest or in the tundra. The early summer was warm and the ground looked semiarid. He might be in central Asia or in the steppes near the European side of the Caspian. He could not say.

The skimmer was dropping now, more gently than an elevator. Morrison would not have believed that so soothing a descent could be possible. Then the wheels touched the ground and they braked to a nearly instant halt. They were in the rear of the hotel, a hotel the small size of which he could appreciate when it was seen from the air.

Kahinin left the skimmer with a lively jump and motioned to Morrison, who emerged more sedately.

He said, "What happens to the skimmer now?"

She answered carelessly, "I'll pick it up on my return and take it back to the Grotto field if the weather holds. Come, let's go around to the front and I'll get you into your room, where you can rest a little and where we can plan the next step."

"The room with the soldiers watching me, you mean."

She said impatiently, "There'll be no soldiers watching you. We're not afraid of your trying to escape now." Then, with a quick glance around, she added, "Though I'd rather have the soldiers, actually."

Morrison looked about, too, a bit anxiously and decided he'd rather not have the soldiers. It occurred to him that if Konev came to reclaim him, as Kahinin clearly feared he might do, he might easily come with soldiers at his back.

And then Morrison thought: Or is this really something to fear? She has a thing about Yuri. She'll believe anything of him.

The thought did not quiet him, however.

Morrison had not seen the hotel in broad daylight from outside; he had not had the leisure to study it in any case. It occurred to him that it was probably used only by visiting officials and special guests -- such as he himself, if he could lay claim to the category. He wondered if, small as it was, it was ever full. Certainly, the two nights he had spent here had been quiet indeed. He recalled no noise in the corridors and the dining room, when he had eaten there, had been all but empty, too.

It was at the moment he thought of the dining room that they approached the front entrance and there, to one side, sitting in the sun and poring over a book, was a stoutish woman with reddish-brown hair. She was wearing half-spectacles, perched low on

her nose. (Morrison was surprised at that bit of archaism. It was rare to see glasses in these days when eye-molding was routine and normal vision had truly become normal.)

It was the glasses and the studious look on her face that changed her appearance so that Morrison might easily not have recognized her. He would not have, perhaps, if he had not just thought of the dining room. The woman was the waitress to whom he had appealed for help three evenings before and who had failed him -- Valeri Paleron.

He said austere, "Good morning, Comrade Paleron." His voice was stiff and his expression unfriendly.

She did not seem discomfited by this. She looked up, removed her glasses, and said, "Ah, Comrade American. You are back safe and sound. Congratulations."

"For what?"

"It is the talk of the town. There has been an experiment that was a great success."

Kahinin, her face like thunder, said sharply, "That should not be the talk of the town. We need no wagging tongues."

"What wagging tongues?" said the waitress with spirit. "Who here does not work at the Grotto or have a relative there? Why should we not know of it and why should we not speak of it? And can I fail to hear? Must I stop my ears? I cannot carry a tray and put my fingers in my ears, too."

She turned to Morrison. "I hear that you did very well and are greatly praised for it."

Morrison shrugged.

"And this man," the waitress said, turning to the frowning and increasingly impatient Kahinin, "wished to leave before he had the chance to participate in the great deed. He turned to me for help in his scheme to leave -- to me, a waitress. I reported him at once, of course, and that made him unhappy. Even now, see how he glares at me." She wagged her finger at him. "But consider the favor I did you. Had I not prevented you from doing whatever it was they were trying to have you do, you would not now be the great success you are, the toast of Malenkigrad and perhaps even of Moscow. And the little Tsaritsa here surely loves you for it."

Kahinin said, "If you do not stop this impudence immediately, I shall report you to the authorities."

"Go ahead," said Paleron, her hands on her hips and her eyebrows lifting. "I do my work, I am a good citizen, and I have done nothing wrong. What can you report? -- And there is a fancy car here for you, too."

"I saw no fancy car," said Kahinin.

"It is not in the parking lot, but on the other side of the hotel."

"What makes you think it is for me?"

"You are the only important persons to approach the hotel. For whom, then, should it be? For the porter? For the desk clerk?"

"Come, Albert," said Kahinin. "We are wasting our time." She brushed past the waitress, doing this so closely that she stepped on her foot -- perhaps not by accident. Morrison followed meekly.

"I hate that woman," muttered Kahinin as they walked up the flight of stairs to Morrison's second-floor room.

"Do you think that she is an observer of this place on behalf of the Central Coordinating Committee?" asked Morrison.

"Who knows? But there is something wrong with her. She is possessed by a devil of impudence. She does not know her place."

"Her place? Are there class distinctions, then, in the Soviet Union?"

"Don't be sarcastic, Albert. There are supposedly none in the United States, either, but you have them surely. And so do we. I know what the theory is, but no person can live by theory alone. If Arkady's father didn't say that, he should have."

They walked up one flight of stairs to what had been Morrison's room earlier in the week and apparently still was. Morrison viewed it with mild distaste. It was a room without charm, though the sunlight made it seem less gloomy than he remembered it to be and, of course, the prospect of returning home was enough to add glitter to anything.

Kahinin sat in the better of the two armchairs in the room, her legs crossed, the upper leg swinging in short arcs. Morrison sat down on the side of the bed and watched her legs thoughtfully. He had never had good occasion to admire his own calmness under pressure and it seemed to him rather unusual to watch someone be more nervous than he himself was.

He said, "You seem greatly troubled, Sophia. What is wrong?"

She said, "I told you. That woman Paleron troubles me."

"She can't upset you that much. What's wrong?"

"I don't like waiting. The days are long now. It will be nine hours until sunset."

"It's amazing that it's only a matter of hours. The diplomatic maneuvering could have continued for months." He said so lightly enough, but the thought gave him a cold feeling in the pit of his stomach.

"Not in a case like this. I've seen it work before, Albert. The Swedes are involved. It's not an American plane that's coming. Having an American plane land deep in Soviet territory is still something our government shies away from. But the Swedes -- Well, they serve as an intermediary between the two nations by common consent and they tend to work hard to defuse any possibility of friction."

"In the United States, we consider Sweden lukewarm toward us at the best. I think we'd prefer to have Great Britain --"

"Oh come, you might as well say Texas. As it is, Sweden may be lukewarm toward you, but she is considerably less than that toward us. In any case, it's Sweden and their principle always is that if it is necessary to defuse a situation, it is best to defuse it swiftly."

"It seems quite swift to me. Certainly, I'm the one who should be in the greater hurry, since it is I who am most anxious to leave. Why should a few hours matter to you?"

"I've told you. He is after us." She ground out the pronoun.

"Yuri? What can he do? If your government is giving me up --"

"There are elements in the government who might easily not wish to give you up and our -- friend -- knows some of these well."

Morrison raised a finger to his lips and looked around.

Kahinin said, "Are you worried about being bugged? That's another American spy novel myth. Bugs are so easily detected these days and so easily scrambled -- I carry a small detector myself and I've never spotted one."

Morrison shrugged. "Then say what you wish."

"Our friend is not a political extremist himself, but he finds he can use those in high office who are. There are extremists in America, too, I suppose. "

"Those who think our policy toward the Soviet Union is too mild?" Morrison nodded. "I've met a few."

"Well, then, there you are. His ambition consumes him and if extremism will advance his plans, then he is prepared to be an extremist."

"Surely you don't think he can arrange some sort of coup in Moscow and put the diehards in control and do it all in time to stop me from leaving for home this evening?"

"You've got it the wrong way around, Albert. If he could somehow prevent you from leaving and precipitate a crisis, he may be able to persuade some in the government to stand firm and delay your leaving for a long time. He can be very persuasive, our friend, when he is in the full grip of his mania. He can sway even Natalya."

Kahinin fell into a silence and bit at her lower lip. Finally she looked up and said, "He hasn't given up on you and he won't. I'm sure of it. I've got to get you away."

She rose suddenly and paced up and down the room with short, quick steps, looking as though she were trying to force the Universe into turning her way. She stopped in front of the door, listened, then jerked it open suddenly.

Valeri Paleron, her bland expression shifting rapidly into surprise, had one fist raised, as though she were about to knock.

"What do you want?" said Kahinin tightly.

"I?" said the waitress. "I want nothing. It is a question of whether you do. I have come to ask if you would like some tea."

"We have not asked for any."

"I did not say you have. I come out of courtesy."

"Then go out of courtesy. And do not return."

Paleron, reddening, looked from Kahinin to Morrison and said between her teeth, "Perhaps I interrupt a tender moment."

"Leave!" said Kahinin. She closed the door, waited long enough to count to ten in a deliberate manner (her lips moving soundlessly), and then flung it open again. No one was there.

She closed the door and locked it, walked to the opposite end of the room, and said in a low voice, "She had been out there, probably, for quite some time. I heard feet shuffling."

Morrison said, "If high-tech bugging is pass,, then I suppose there is a premium on old-fashion eavesdropping."

"Ah, but for whom?"

"Do you suppose she does it for Yuri? It doesn't seem likely that he would have the money to hire spies -- or does he?"

"It might not take much money. A woman like that might do it for pleasure."

There was silence for a moment and then Morrison said, "If it's possible that you're beset by spies, Sophia, why not come to America with me?"

"What?" She seemed not to have heard him.

"You might be in trouble for getting me out, you know."

"Why? I have official papers that will place you on the plane. I am under orders."

"That might not save you if a scapegoat is needed. Why not just get on the plane with me, Sophia, and come to America?"

"Just like that? What would happen to my child?"

"We'll send for her afterward."

"We'll send for her? What are you suggesting?"

Morrison flushed slightly. "I'm not sure. We can be friends, certainly. You'll need friends in a new country."

"But it can't happen, Albert. I appreciate your kindness and concern -- or pity -- but it can't happen."

"Yes, it can. This is the twenty-first century, not the twentieth, Sophia. People may move about freely anywhere in the world."

"Dear Albert," said Kahinin, "you do tend to live in theory. Yes, people can move about, but every nation has its exceptions. The Soviet Union will not allow a highly trained scientist with experience in miniaturization-related fields to leave the country. Think about it and you'll see that that's reasonable. If I do accompany you, there will be an immediate Soviet protest, a sure claim that I have been kidnapped, and there will be a loud howl from all corners of the world that I be sent back in order to avoid a crisis. Sweden will act as quickly for me as she has for you."

"But in my case, I was kidnapped."

"There'll be many who will believe I was -- or who might prefer to believe it -- and I will be sent back by the United States, as you are being sent back by the Soviet Union. We've papered over, in this fashion, dozens of crises over the last six decades or so -- and isn't that better than war?"

"If you say, firmly and frequently, that you want to stay in the United States --"

"Then I never see my child again and my life may be at risk, too. Besides, I don't want to go to the United States."

Morrison looked surprised.

Kahinin said, "Do you find that hard to believe? Do you want to stay in the Soviet Union?"

"Of course not. My country --" He stopped.

She said, "Exactly. You talk endlessly about humanity, about the importance of a global view, but if we scrape you down to your emotions, it's your country. I have a country also, a language, a literature, a culture, a way of life. I don't want to give it up."

Morrison sighed. "As you say, Sophia."

Sophia said, "But I cannot endure it here in this room any longer, Albert. There's no use waiting. Let us get into the car and I'll drive you to where the Swedish plane is waiting."

"It probably won't be there."

"Then we'll wait at the airport, rather than here, and we'll at least be certain that as soon as it arrives you can board it. I want to see you safely gone, Albert, and I want to see his face afterward."

She was out the room and clattering down the stairs. He followed hastily. He was, in truth, not sorry to be going.

They strode along a carpeted corridor and through a door that led directly out to the side of the hotel.

There, pulled up close to the wall, was a highly polished black limousine.

Morrison, a little breathless, said, "They're certainly supplying us with deluxe transportation. Can you drive that thing?"

"Like a dream," said Kahinin, smiling -- and then came to a full and sudden halt, her smile forgotten.

Around the corner of the hotel stepped Konev. He, too, halted and for long moments they did not stir, either of them -- as though they were a pair of Gorgons, each of whom had frozen into stone at the glance of the other.

85.

Morrison was the first to speak. He said a little huskily, "Have you come to see me off, Yuri? If so, good-bye. I'm leaving."

The phrases sounded false in his own ears and his heart was pounding.

Yuri's eyes shifted just enough to glance quickly at Morrison and then moved back to their original position.

Morrison said, "Come, Sophia."

He might as well have said nothing. When she spoke -- finally -- it was to Konev. "What do you want?" she demanded harshly.

"The American," said Konev in a tone no softer than hers.

"I'm taking him away."

"Don't. We need him. He has deceived us." Konev's voice was becoming quieter.

"So you say," said Kahinin. "I have my orders. I am to take him to a plane and see that he gets in. You cannot have him."

"It's not I who must have him. It's the nation."

"Tell me. Go on and tell me. Say that Holy Mother Russia needs him and I'll laugh in your face."

"I'll say no such thing. The Soviet Union needs him."

"You care only for yourself. Step out of my way."

Konev moved between the two others and the limo. "No. You don't understand the importance of his staying here. Believe me. My report has already gone to Moscow."

"I'm sure and I can guess to whom it's going, too. But old gruff-and-grumble won't be able to do anything. He's a blowhard and we all know that. He won't dare say a word in the Presidium and if he does, Albert will be long gone."

"No. He's not going."

Morrison said, "I'll take care of him, Sophia. You open the limo door." He felt himself trembling slightly. Konev was not a large man, but he looked wiry and he was clearly determined. Morrison did not believe himself to be a successful gladiator under any conditions and he certainly didn't feel like one now.

Kahinin lifted her hand, palm turned toward Morrison. "Stay where you are, Albert." She then said to Konev, "How do you intend to stop me. Do you have a gun?"

Konev looked surprised. "No. Of course not. Carrying a hand weapon is illegal."

"Indeed? But I have one." She drew it from her jacket pocket, a small thing almost enclosed in her fist, its small muzzle gleaming as it edged through the space between her first and second fingers.

Konev backed away, eyes widening. "That's a stunner."

"Of course. Worse than a gun, isn't it? I thought you might interfere, so I'm prepared."

"That's also illegal."

"Then report me and I'll plead the need to fulfill my orders against your criminal interference. I will probably get a commendation."

"You won't. Sophia --" He took a step toward her.

She took a step back. "No closer. I'm ready to shoot and I might do so even if you stand where you are. Just keep in mind what a stunner does. It scrambles your brain. Isn't that what you once told me? You'll be unconscious and you'll wake up with partial amnesia and it may take you hours to recover or even days. I've even heard that some people never quite recover. Imagine if your magnificent brain should not quite regain its fine edge."

"Sophia," he said again.

She said, through almost closed lips, "Why do you use my name? The last time I heard you use it, you said, 'Sophia, we will never speak again, never look at each other again.' You are now speaking to me, looking at me. Go away and keep your promise, you miserable --" (She used a Russian word that Morrison didn't understand.)

Konev, white to his lips, said a third time, "Sophia -- Listen to me. Believe that every word I have ever said is a lie, but listen to me now. That American is a deadly threat to the Soviet Union. If you love your country --"

"I'm tired of loving. What has it gotten me?"

"And what has it gotten me?" whispered Konev.

"You love yourself," said Kahinin bitterly.

"No! You kept saying that, but it's not so. If I have some regard for myself now, it is because only I can save our country."

"You believe that?" said Kahinin, wondering. "You really believe that? -- You are mad to do so."

"Not at all. I know my own worth. I couldn't let anything deter me -- not even you. For the sake of our country and my work, I had to give you up. I had to give up my child. I had to tear myself in two and throw the better half of myself away."

"Your child?" Kahinin said. "Are you claiming responsibility?"

Konev's head bent. "How else could I drive you away? How else could I be sure I would work unimpeded? -- I love you. I have always loved you. I have known all along it was my child and that it could be no one else's."

"Do you want Albert so much?" Her stunner did not waver. "Are you willing to say that it is your child -- say you love me -- believe I will, for that, give you Albert -- and then deny it all again? How low an opinion you must have of my intelligence."

Konev shook his head. "How can I convince you? -- Well, if I deliberately threw it all away, I can't expect to get it back again, can I? Will you, in that case, give me the American for the sake of our nation and then throw me away? Would you let me explain the need for him?"

"I wouldn't believe the explanation." Kahinin threw a quick glance in Morrison's direction. "Do you hear this man, Albert?" she said. "You don't know with what cruelty he cast my daughter and me aside. Now he expects me to believe that he loved me all along."

And Morrison heard himself say, "That much is true, Sophia. He loves you and he has always loved you -- desperately."

Kahinin froze for a moment. Her free left hand gestured at Morrison while her eyes remained fixed on Konev. "How do you know that, Albert? Did he lie to you, too?"

But Konev shouted in excitement, "He knows. He admits it. Don't you see? He sensed it with his computer. If you now let me explain, you will believe everything."

Kahinin said, "Is this true, then, Albert? Do you confirm Yuri?"

And Morrison, too late, clamped his mouth shut, but his eyes gave him away.

Konev said, "My love has been unwavering, Sophia. As much as you have suffered, so much have I. But give me the American and there will be no more of it. I will no longer ask that I be spared any chance of hindrance. I will do my work and have you and the child, too, whatever the cost may be -- and may I be cursed if I don't manage both."

Kahinin stared at Konev, her eyes suddenly swimming in tears. "I want to believe you," she whispered.

"Then believe. The American has told you."

As though she were sleepwalking, she moved toward Konev, holding the stunner out to him.

Morrison shouted, "Your orders -- to the plane!" He rushed wildly at them.

But as he did so, he collided heavily with another body. Arms were around him, holding him closely, and a voice in his ear said, "Take it easy, Comrade American. Do not attack two good Soviet citizens."

It was Valeri Paleron, who held him in a strong and unbreakable grip.

Kahinin clung as closely to Konev, though with different effect, the stunner still gripped loosely in her right hand.

Paleron said, "Academician, Doctor, we could become conspicuous here. Let us go back to the American's room. Come, Comrade American, and come quietly or I will be compelled to hurt you."

Konev, catching Morrison's eye, smiled tightly in absolute triumph. He had it all -- his woman, his child, and his American -- and Morrison saw his dream of returning to America pop like a soap bubble and vanish.

19. TURNAROUND

In the true triumph, however, there are no losers.

Dezhnev Senior

86.

Morrison sat in the hotel room that he had, for some fifteen minutes, thought he would never see again. He was close to despair -- closer, it seemed to him, than he had been even when he was alone and lost in the cellular stream of the neuron.

What was the use? Over and over again, he thought this, as though the phrase were reverberating in an echo chamber. He was a loser. He had always been a loser.

For a day or so, he had thought that Sophia Kahinin had been attracted to him, but, of course, she hadn't. He had been nothing more than her weapon against Konev and when Konev had called to her -- beckoned to her -- she had returned to him and had then no further use for her weapons, either for Morrison or for her stunner.

He looked at them dully. They were standing together in the sunlight streaming through the window -- they in the sunlight, he in the shadow, as it must always be.

They were whispering together, so lost in each other that Kahinin seemed unaware that she was still holding the stunner. For a moment, her knees bent as though she was going to get rid of its weight by dropping it on the bed, but then Konev said something and she was all attention and again unaware of the stunner's existence.

Morrison called out hoarsely, "Your government will not endure this. You have orders to release me."

Konev looked up, his eyes brightening slightly, as though he were being persuaded, with difficulty, to pay attention to his captive. It was not, after all, as though he had to watch Morrison in any physical sense. The waitress, Valeri Paleron, was doing that most efficiently. She stood a meter from Morrison and her eyes (somehow amused -- as though she enjoyed the job) never left him.

Konev said, "My government need not concern you, Albert. It will change its mind soon enough."

Kahinin raised her left hand as though to object, but Konev enclosed it in his.

"Do not be concerned, Sophia," he said. "Information at my disposal has been forwarded to Moscow. It will make them think. They will get back to me on my personal wavelength before long and when I tell them we have safely secured Morrison, they will take action. I am sure they will have the persuasive power to make the Old Man see reason. I promise you that."

Kahinin said in a troubled voice, "Albert!"

Morrison said, "Are you getting ready to tell me that you are sorry, Sophia, that you crossed me out of existence at one word from the man you seemed to have hated?"

Kahinin reddened. "You are not crossed out of existence, Albert. You will be well-treated. You will work here as you would have worked in your own country, except that here you will be truly appreciated."

"Thank you," said Morrison, finding some small reservoir of the sardonic inside himself. "If you feel happy for me, of what importance is my feeling for myself?"

Paleron intervened impatiently, "Comrade American, you talk too much. Why do you not sit down? -- Sit down. " (She pushed him into a chair.) "You may as well wait quietly, since there is nothing else you can do."

She then turned to Kahinin, around whose shoulders Konev's right arm was protectively placed. "And you, little Tsaritsa," she said, "are you still planning to place this fine lover of yours out of action that you hold this stunner so menacingly in your hand? You will be able to embrace him the more tightly if both arms are free."

Paleron reached for the stunner Kahinin was holding and Kahinin gave it up without a word.

"Actually," said Paleron, looking curiously at the stunner, "I am relieved at having it. In the paroxysm of your newfound love, I feared you might shoot in all directions. It would not be safe in your hands, my little one."

She moved back to the vicinity of Morrison, still studying the stunner and turning it in various ways.

Morrison stirred uneasily. "Don't point it in my direction, woman. It may go off."

Paleron looked at him haughtily. "It will not go off if I don't want it to, Comrade American. I know how to use it."

She smiled in the direction of Konev and Kahinin. Relieved of the weapon, Kahinin now had both arms around Konev's neck and was kissing him with quick, gentle touches of her lips against his. Paleron said in their direction, but not really to them, for they weren't listening, "I know how to use it. Like this! And like this!"

And first Konev, then Kahinin crumpled.

Paleron turned toward Morrison. "Now help me, you idiot, we must work quickly." She said it in English.

87.

Morrison had difficulty understanding. He simply stared at her.

Paleron pushed his shoulder as though she were trying to awaken him from a deep sleep. "Come on. You grab the feet."

Morrison obeyed mechanically. First Konev and then Kahinin were lifted onto the bed, from which Paleron had stripped the thin blanket. She stretched both of them out along the narrow confines of the single mattress, then searched Kahinin in a quick, practiced way.

"Ah," she said, staring at a sheet of folded paper, whose close-set print marked it indelibly as something written in governmentese. She flipped it into the pocket of her white jacket and continued the search. Other items came to light -- a pair of small keys, for instance. Quickly she went over Konev, plucking a small metallic disc from the inner surface of his lapel.

"His personal wavelength," she said and placed that, too, into her pocket.

Finally she retrieved a black rectangular object and said, "This is yours, isn't it?"

Morrison grunted. It was his computer program. He had been so far gone he had not been aware that Konev had taken it from him. He clutched at it frantically now.

Paleron turned Kahinin and Konev toward each other, propping them so that they would not fall apart. She then placed Konev's arm around Kahinin and covered the two with the blanket, tucking it in under each to help keep them in place.

"Don't stare at me like that, Morrison," she said when she was done. "Come on." She seized his upper arm in a firm grip.

He resisted. "Where are we going? What's happening?"

"I'll tell you later. Not a word now. There is no time to lose. Not a minute. Not a second. Come." She ended with soft fierceness and Morrison followed her.

Out of the room they went, down the stairs as softly as she could manage (he following and imitating), along the carpeted corridor, and out to the limousine.

Paleron opened the front door on the passenger side with one of the keys she had obtained from Kahinin's pocket and said brusquely, "Get in."

"Where are we going?"

"Get in." She virtually hurled him into the limo.

She settled quickly behind the wheel and Morrison resisted the impulse to ask her if she knew how to drive. It had finally gotten through to his stunned mind that Paleron wasn't simply a waitress.

That she had played the part of one, however, was made plain by the faint odor of onions still clinging to her and mixing rather infelicitously with the richer and pleasanter odor of the limo's interior.

Paleron started the engine, looked around the parking area, which was deserted except for a cat going about some business of its own, and moved out over a sandy patch to the path that led to the nearby road.

Slowly the limo picked up speed and when it finally reached the ninety-five kilometer-per-hour mark, it was moving along a two-lane highway on which, occasionally, an automobile, moving in the other direction, passed them. Morrison found himself capable of thinking normally again.

He glanced back earnestly through the rear window. A car, far behind them, was turning off at an intersection they had passed some moments before. No one appeared to be following them.

Morrison then turned to watch Paleron's profile. She seemed competent but grim. It was clear to him now that she was not only no waitress by true profession but was very

likely no Soviet citizen. Her English had a strong urban accent that no European would learn in school or could pick up in a way that would be true enough to fool Morrison's ear.

He said, "You were waiting there outside the hotel, reading a book, so that you would see Sophia and myself when we came."

"You got it," said Paleron.

"You're an American agent, aren't you?"

"Shrewder and shrewder."

"Where are we going?"

"To the designated airport where the Swedish plane will pick you up. I had to get the details on that from Kahinin."

"And you know how to get there?"

"Yes, indeed. I've been in Malenkigrad for considerably longer a period than your Kahinin has been here. -- But tell me, why did you tell her this man, Konev, was in love with her? She was just waiting to hear that from a third person. She wanted it confirmed and you did that for her. In that way, you handed over the whole game to Konev. Why did you do it?"

"For one thing," said Morrison mildly, "it was the truth."

"The truth?" Paleron, looking bemused, shook her head. "You don't belong in the real world. You sure don't. I'm surprised no one knocked you on the head and buried you long ago -- just for your own good. Besides, how do you know it's the truth?"

Morrison said, "I know. -- But I was sorry for her. She saved my life yesterday. She saved all our lives yesterday. For that matter, Konev saved my life, too."

"You all saved each other's life, I suppose."

"Yes, as a matter of fact."

"But that was yesterday. Today you started fresh and you shouldn't have let yesterday influence you. She would never have taken up with him again if it weren't for your dumb remark. He could have sworn himself purple about loving her and all the rest of that rubbish and she wouldn't have believed him. She dared not. Be made a fool of again? Never! She would have stunned him to the ground in another minute and then you told her, 'Why, yes, kid, that there guy loves you,' and that's all she needed. I tell you, Morrison, you shouldn't be out without your keeper."

Morrison stirred uneasily, "How do you know all this?"

"I was on the floor in the back seat of this car, ready to go with you and Kahinin and to make sure she took you there. And then you pulled your dumb trick. What was there to do but grab you and keep you from being stunned down, then get you back to the room where we could have some privacy, and after that get hold of the stunner somehow?"

"Thank you."

"That's all right. -- And I made them look like a loving couple, too. Anyone coming in will be bound to say, 'Excuse me,' and leave quickly -- and that will give us more time."

"How long will it be before they're conscious again?"

"I don't know. It depends on how accurately I placed the radiation and what each state of mind was and who knows what else. But when they do come back, it will take them some time to remember what happened. I'm hoping that in their position, the first thing they'll remember is that they're in love. That would preoccupy them for a while. Then when they do get around to remembering you and what it was that was being done with Moscow, it will be too late."

"Are they going to be permanently damaged?"

Paleron cast a quick look at Morrison's concerned face. "You're worried about them, aren't you? Why? What are they to you?"

"Well . . . shipmates."

Paleron made an inelegant sound. "I guess they'll recover okay. They might be better off if some of that supersensitive edge is ground off. They can get together and make a nice family then."

"And what's going to happen to you? You'd better get on the plane with me."

"Don't be a jackass. The Swedes wouldn't take me. They've got orders to take one guy and they'll test you to make sure you're the right one. They'll have records of your fingerprints and your retina pattern, right out of the files of the Population Board. If they take the wrong person or an additional person, that'll be a new incident and the Swedes are too smart for that."

"But then what will happen to you?"

"Well, for starters, I'll say you got hold of the stunner and rayed them both, then held the stunner on me and made me take you to the airport because you didn't know its location. You ordered me to stop outside the gates, then stunned me down and tossed the stunner into the car. Early tomorrow, I'll make my way back to Malenkigrad, like I was coming out of a stunning."

"But Konev and Kahinin will deny your story."

"They weren't looking at me when they were stunned and almost no one remembers the actual moment of stunning, anyway. Besides, the Soviet Government knows that they ordered you returned and if you are returned, then anything Konev will tell them about you will do him no good. The government will accept the fait accompli. It's rubles to kopeks or, better, dollars to kopeks that they'll prefer to forget the whole thing -- and I'll just go back to waitressing."

"There's bound to be some suspicion clinging to you."

"Then we'll see," she said. "Nichevo! What will be, will be." She smiled faintly.

They continued to travel along the highway and Morrison finally said with a touch of diffidence, "Shouldn't we to speed it up a little?"

"Not even by a kilometer per hour," said Paleron firmly. "We're going at just under the speed limit and the Soviets have every centimeter of the highway radarized. They have no sense of humor about the speed limit and I don't intend to spend hours trying to get out of a police station because I wanted to save fifteen minutes reaching the plane."

It was past noon now and Morrison was beginning to feel the mild, premonitory pinches of hunger. He said, "What was it that Konev told Moscow about me, do you suppose?"

Paleron shook her head. "Don't know. Whatever it was, he got a response on his personal wavelength. It signaled about twenty minutes ago. You didn't hear?"

"No."

"You wouldn't last long in my business. -- Naturally, they got no answer, so whoever Konev was talking to in Moscow will try to find out why. Someone will find them and then they'll figure you're on the way to the airport and someone will chase out after us to see if you can be headed off. Like Pharaoh's chariots."

"We don't have Moses to part the Red Sea for us," muttered Morrison.

"If we get to the airport, we'll have the Swedes. They won't give you up to anybody."

"What can they do against the Soviet military?"

"It won't be the Soviet military. It will be some functionary, working for an extremist splinter group, who will try to bluff the Swedes. But we have official papers giving you up to them and they won't be bluffed. We just have to get there first."

"And you don't think we should go faster?"

Paleron shook her head firmly.

Half an hour later, Paleron pointed and said, "There we are and we have the breaks. The Swedish plane is in early and has landed."

She stopped the car, pressed a button, and the door flew open on his side. "You go on alone. I don't want to be seen, but listen --" She leaned toward him. "My name is Ashby. When you get to Washington, tell them that if they think it's time for me to get out -- I'm ready. Got it?"

"I've got it."

Morrison got out of the car, blinking in the sunlight. In the distance, a man in uniform -- not a Soviet uniform, as nearly as he could tell -- waved him forward.

Morrison broke into a run. There were no speed limits on running and though he could see no one in pursuit he would not have been surprised to see someone rise out of the ground to stop him.

He turned, waved a last time in the direction of the car, thought he saw an answering wave, and continued to run.

The man who had gestured to him advanced, first at a walk, then at a run, and caught him as he all but fell forward. Morrison could see now that he was wearing a European Federation uniform.

"May I please have your name?" said the man in English. His accent, to Morrison's infinite relief, was Swedish.

"Albert Jonas Morrison," he said and together they walked toward the plane and the small group waiting to check his identity.

88.

Morrison sat at the plane window, tense and exhausted, staring downward at the land fleeing east. A lunch, consisting largely of herring and boiled potatoes, had soothed the inner man but scarcely the inner mind.

Had the miniaturized trip through the bloodstream and brain yesterday (only yesterday?) twisted him forever into a mental attitude of apprehension of imminent disaster? Would he never again be able to accept the Universe as friendly? Would he never walk through it in serene consciousness that no one and no thing wished him harm?

Or had there merely been insufficient time for him to recover?

Of course, common sense told him that there was reason not to feel completely safe yet. That was still Soviet earth under the plane.

Was there still time for Konev's ally in Moscow, whoever he might be, to send out planes after the Swedes? Was he powerful enough to do so? Would Pharaoh's chariots take to the air and continue the pursuit?

For a moment, his heart failed him when he actually saw a plane in the distance -- then another.

He turned to the stewardess, who sat across the aisle from him. He did not have to ask the question. She apparently read his anxious expression accurately.

"Federation planes," she said, "as escort. We've left Soviet territory. The planes are Swedish-crewed."

Then, when they passed over the English Channel, American planes joined the escort. Morrison was safe from the chariots, at any rate.

His mind did not let him rest, however. Missiles? Would someone actually commit an act of war? He tried to calm himself. Surely no man in the Soviet Union, not even the Soviet Executive himself, could make such a move without consultation and no consultation would take less than hours or perhaps days.

It couldn't be.

Still, it wasn't until the plane had landed on the outskirts of Washington that Morrison could allow himself to feel that it was over and that he was safely in his own country.

89.

It was Saturday morning and Morrison was recovering. He had attended to his creature needs. He had had breakfast and had washed. He was even partly dressed.

Now he lay in bed on his back, arms behind his head. It was cloudy outside and he had only half-clarified the window because he wanted a sense of privacy. In the hours after he had disembarked from the plane and had been rushed to his present place of concealment, there had been enough official crowding around him to make him wonder a bit if he was any better off in the United States than he had been in the Soviet Union.

The doctors had finally finished their probing, the initial questions had been asked and answered, even during dinner, and they had finally left him to his sleep in a room that was, in turn, inside something that resembled a fortress for the depth of its security.

Well, at least he didn't have to face miniaturization. There was always that thought to comfort him.

The door signal flashed and Morrison reached over his head, feeling the bedboard for the button that would clarify the one-way patch on the door. He recognized the face that appeared and pushed another contact that allowed the door to be opened from the outside.

Two men entered. The one whose familiar face had been at the one-way patch said, "You remember me, I hope."

Morrison made no move to get out of bed. He was the center now around which all revolved, at least temporarily, and he would take advantage of that. He simply raised his arm in casual greeting and said, "You're the agent who wanted me to go to the Soviet Union. Rodano, isn't it?"

"Francis Rodano, yes. And this is Professor Robert G. Friar. I imagine you know him."

Morrison hesitated and then courtesy swung his feet off the bed and lifted him to his feet. "Hello, Professor. I know of you, of course, and have seen you on holovision often enough. I'm pleased to make your personal acquaintance."

Friar, one of the "visible scientists" whose photographs and HV appearances had made him familiar to most of the world, smiled tightly. He had a round face, pale blue eyes, an apparently permanent vertical crease between his eyebrows, ruddy cheeks, a sturdy body of average height, and a way of looking around him restlessly.

He said, "You, I take it, are Albert Jonas Morrison."

"That's right," said Morrison easily. "Mr. Rodano will vouch for me. Please sit down, both of you, and forgive me if I continue to relax on the bed. I have about a year's relaxation to catch up on."

The two visitors sat down on a large couch and leaned toward Morrison. Rodano smiled a bit tentatively. "I can't promise you much relaxation, Dr. Morrison. At least for a while. Incidentally, we have just received word from Ashby. Do you remember her?"

"The waitress who turned the tables? Yes, indeed. Without her --"

"We know the essentials of the story, Morrison. She wants you to know that your two friends have recovered and are apparently fond of each other still."

"And Ashby, herself? She told me she was ready to leave if Washington thought it best. I reported that last night."

"Yes, we'll get her out one way or another. -- And now I'm afraid we must bother you again."

Morrison frowned. "How long will this keep up?"

"I don't know. You must take it as it comes. -- Professor Friar, won't you take over?"

Friar nodded. "Dr. Morrison, do you mind if I take notes. -- No, let me rephrase that. I am going to take notes, Morrison."

He plucked a small computer keyboard of advanced design out of his briefcase.

Rodano said mildly, "Where will these notes go, Professor?"

"To my recording device, Mr. Rodano."

"Which is where, Professor?"

"In my office at Defense, Mr. Rodano," Then, with some irritation under the other's continuing stare, "Into my safe in my office at Defense and both the safe and the recording device are well-coded. Does that satisfy you?"

"Proceed, Professor."

Friar turned to Morrison and said, "Is it true that you were miniaturized, Morrison. You, personally?"

"I was. At my smallest, I was the size of an atom while part of a ship the size of a glucose molecule. I spent better than half a day inside a living human body, first in the bloodstream, then in the brain."

"And this is true? No chance of an illusion or trickery?"

"Please, Professor Friar. If I were tricked or hypnotized, my testimony now would be worthless. We can't proceed unless you recognize the fact that I am in my right mind and can be relied on to report events that correspond reasonably well with reality."

Friar's lips pressed together and then he said, "You are right. We must make assumptions to begin with and I will assume you are sane and reliable -- without prejudice to further reconsideration of such assumptions."

"Of course," said Morrison.

"In that case" -- and Friar turned to Rodano -- "we begin with one great and important observation. Miniaturization is possible and the Soviets do indeed have it and make use of it and can miniaturize even living human beings without apparent harm to them."

He turned back to Morrison. "Presumably, the Soviets claim to miniaturize by reducing the size of Planck's constant."

"Yes, they do."

"Of course they do. There's no other conceivable way of doing it. Did they explain the procedure by which that was done?"

"Certainly not. You might as well make the assumption that the Soviets scientists I dealt with are as sane as we are. They wouldn't carelessly give away anything they don't want us to know."

"Very well, then. Assumption made. Now tell us exactly what happened to you in the Soviet Union. Do not tell it as an adventure story, but only as the observations of a professional physicist."

Morrison began to talk. He was not entirely sorry to do so. He wanted to exorcise it and he didn't want the responsibility of being the only American to know what he knew. He told the story in detail and it took hours. He did not finish until they were sitting at a lunch delivered by room service.

Over dessert, Friar said, "Let me summarize, then, as best I can from memory. To begin with, miniaturization does not affect time flow, nor the quantum interactions -- that is, the electromagnetic, weak and strong interactions. The gravitational interaction is affected, however, and decreases in proportion to mass, as it naturally would. Is that so?"

Morrison nodded.

Friar went on. "Light -- and electromagnetic radiation, generally -- can cross into and out of the miniaturization field, but sound cannot. Normal matter is weakly repelled by the miniaturization field but, under pressure, normal matter can be made to enter it and be itself miniaturized, at the expense of the energy of the field."

Morrison nodded again.

Friar said, "The more miniaturized an object becomes, the less energy is required to miniaturize it further. Do you know if the energy requirement decreases in proportion to the mass remaining at any particular stage of miniaturization?"

"That would certainly seem logical," said Morrison, "but I don't recall anyone mentioning the quantitative nature of that phenomenon."

"To go on, then. The more miniaturized an object, the greater the chance of its spontaneous deminiaturization -- and that refers to the entire mass within the field, rather than to any component part. You, as a separated individual, were more likely to deminiaturize spontaneously than you would as part of the ship. Is that right?"

"That was my understanding."

"And your Soviet companions admitted that it was impossible to maximize and to make things more massive than they are in nature."

"Again, that was my understanding. You must realize, Professor Friar, that I can only repeat what I was told. They might have deliberately misled me or they may have been wrong because they had insufficient knowledge themselves."

"Yes yes, I understand. Do you have any reason to believe they were deliberately misleading you?"

"No. It seemed to me they were being honest."

"Well, perhaps. Now, the most interesting thing to me is that Brownian motion was in balance with miniaturization oscillation and that the greater the degree of miniaturization, the greater the shift in balance toward oscillation and away from ordinary Brownian motion."

"That is an actual observation of my own, Professor, and doesn't rest merely on what I was told."

"And that shift of balance has something to do with the rate of spontaneous deminiaturization."

"That is my own thought. I cannot state it as fact."

"Hmm." Friar sipped thoughtfully at his coffee and said, "The trouble is that all this is superficial. It tells us about the behavior of the miniaturization field, but nothing about how the field is produced. -- And in decreasing the value of Planck's constant, they leave the speed of light untouched, you say?"

"Yes, but that, as I emphasized, means that maintaining the miniaturization field costs enormously in energy. If they can couple Planck's constant with the speed of light, increasing the latter as they decrease the former -- But they don't have that yet."

"So they say. It was in Shapiro's mind, supposedly, but you were unable to get it out."

"That's right."

Friar remained lost in thought for a few minutes, then shook his head. "We'll go over everything you've said and deduce what we can from it, but I fear it won't help."

"Why not?" asked Rodano.

"Because none of it goes to the heart. If someone who had never seen a robot or heard anything about any of its component parts were to report a robot in operation, he could describe how the head and limbs moved, how the voice sounded, how it obeyed orders, and so on. Nothing he could observe would tell him how a positronic brain-path works or what a molecular valve is. He would not even have an inkling that either exists, nor would those scientists who would work from his observations have any."

"The Soviets have some technique to produce the field and we know nothing about it, nor does anything Morrison can tell us help us there. They might have published material that led up to it, not aware that something crucial was in the making -- that was what happened in the mid-twentieth century, when early work on nuclear fission was published before it was understood that it ought to be kept secret. The Soviets didn't make that mistake with miniaturization, however. Nor have we succeeded in retrieving information concerning the matter through espionage or by the luck of having some key personnel on the other side defect and come to us."

"I will consult with my colleagues on the Board, but on the whole, Dr. Morrison, I'm afraid that your adventure in the Soviet Union, however daring and praiseworthy has -- except for your confirmation that miniaturization does exist -- been useless. I'm sorry, Mr. Rodano, but it might as well not have happened."

90.

Morrison's expression did not change as Friar advanced his conclusion. He poured himself a little more coffee, added cream judiciously, and drank it without haste.

Then he said, "You're quite wrong, you know, Friar."

Friar looked up and said, "Are you trying to say that you know something about the production of the miniaturization field? You had said that --"

"What I'm going to say, Friar, has nothing at all to do with miniaturization. It has everything to do with my own work. The Soviets took me to Malenkigrad and the Grotto in order that I might use my computer program to read Shapiro's mind. It failed at that, which is perhaps not surprising, considering that Shapiro was in a coma and near death. On the other hand, Shapiro, who had a remarkably penetrating mind, referred to my

program as a 'relay station' after he had read some of my papers. That's what it turned out to be."

"A relay station?" Friar's face took on a look of puzzled distaste. "What does that mean?"

"Instead of tapping Shapiro's thought, my programmed computer, once inside one of Shapiro's neurons, was acting as a relay, passing thought from one of us to another."

Friar's expression became one of indignation. "You mean it was a telepathic device."

"Exactly. I first experienced that when I was aware of an intense emotion of love and sexual desire for a young woman who was on the miniaturized ship with me. Naturally, I assumed it was my own feeling, for she was a very attractive woman. Nevertheless, I was not aware of any conscious feeling of that sort. It was not until several other instances of the sort that I realized I was receiving the thoughts of a young man on board ship. He and the young lady were estranged, but the passion between them existed, nevertheless."

Friar smiled tolerantly. "Are you sure you were in condition, on board the ship, to interpret these thoughts properly? After all, you were under tension. Did you also receive similar thoughts from the young lady?"

"No. The young man and I exchanged thoughts, involuntarily, on several occasions. When I thought of my wife and children, he thought of a woman and two youngsters. When I was lost in the bloodstream, it was he who picked up my sensations of panic. He assumed he had detected Shapiro's miseries by way of my machine -- which remained in my possession when I was adrift -- but those were my feelings, not Shapiro's. I did not exchange thoughts with either woman on board, but they exchanged thoughts with each other. When they tried to catch Shapiro's thoughts, they detected similar words and feelings -- from each other, of course -- which the young man and myself did not."

"A sexual difference?" said Friar skeptically.

"Not really. The pilot of the ship, a male, received nothing at all, either from the women or from the other men, though on one occasion, he did seem to get a thought. I couldn't say from whom. My own feeling is that there are brain types, as there are blood types -- probably only a few -- and that telepathic communication can be most easily established among those of the same brain type."

Rodano interposed softly, "Even if all this is so, Dr. Morrison. What of it?"

Morrison said, "Let me explain that. For years I've worked to identify the regions and patterns of abstract thought within the human brain with some unremarkable success. Occasionally, I would catch an image, but I never interpreted that properly. I thought it was coming from the animal on whose brain I was working, but I now suspect that they came when I was fairly close to some human being who was in the grip of strong emotion or deep thought. I never noticed that. My fault."

"Nevertheless, having been stung by the general indifference and downright disbelief and ridicule of my colleagues, I never published the matter of catching images, but modified my program in an attempt to intensify it. Some of those modifications were never published, either. Thus, I entered Shapiro's bloodstream with a device that could more nearly serve as a telepathic relay than anything I had ever had before. And now that, at last, my thick head has absorbed exactly what it is that I have, I know what to do to improve the program. I am sure of that."

Friar said, "Let me get this straight, Morrison. You are telling me that, as a result of your fantastic voyage into Shapiro's body, you are now certain you can so modify your device as to make telepathy practical?"

"Practical to an extent. Yes."

"That would be an enormous thing -- if you could demonstrate it." The skepticism in Friar's voice did not disappear.

"More enormous than you perhaps think," said Morrison with some asperity. "You know, of course, that telescopes, whether optical or radio, can be built in parts over a wide area and, if they are coordinated by computer, can achieve the function of a single large telescope, one much larger than can practically be built in a single piece."

"Yes. But what of that?"

"I mention it as an analogy. I am convinced that I can demonstrate something of the same sort in connection with the brain. If we were to have six men united telepathically, the six brains would, for the time, act as one large brain and, in fact, be beyond human in intelligence and in the capacity for insight. Think of the advances in science and technology that could be made, advances in other fields of human endeavor as well. We would, without going through the tedium of physical evolution or the danger of genetic engineering, create a mental superman."

"Interesting, if true," said Friar, obviously intrigued and as obviously unconvinced.

"There is a catch, though," said Morrison. "I performed all my experiments on animals, placing leads from my computer into the brain. That was -- and as I see now, must be -- not at all precise. No matter how we refine it, we will have only a crude telepathic system at best. What we need is to invade a brain and place a miniaturized and property programmed computer in a neuron, where it can act as a relay. The telepathic process will then be sharpened enormously."

"And the poor person on whom you inflict this damage," said Friar, "will eventually explode when the device deminiaturizes."

"An animal brain is much inferior to the human brain," said Morrison earnestly, "because of the fact that the animal brain has fewer neurons, less intricately ordered. The individual neuron in a rabbit's brain may, however, not be significantly inferior to a human neuron. A robot could be used as a relay."

Rodano said, "American brains working in tandem could, then, work out the secret of miniaturization and perhaps even beat the Soviets at the task of coupling Planck's constant to the speed of light."

"Yes," said Morrison enthusiastically, "and one Soviet scientist, Yuri Konev, who was the shipmate who shared thoughts with me, caught on to this, as I did. It was for that reason that he tried to hold on to me and to my program in defiance of his own government. Without me and my program, I doubt that he can duplicate my work for a long time, perhaps not for many years. This is not really his field."

"Continue," said Rodano. "I'm beginning to get a feeling for this."

Morrison said, "This is the situation, then. Right now, we've got a kind of crude telepathy. Even without miniaturization, it may help us forge ahead of the Soviets, but it may not. Without miniaturization -- and without the establishment of a properly programmed computer in an animal neuron as a relay -- we can't be sure of accomplishing anything."

"The Soviets, on the other hand, have a crude form of miniaturization. They may, in the ordinary course of investigation, find a way of linking quantum theory and relativity theory to make a truly efficient miniaturization device, but that might take a very long time."

"So if we have telepathy but not miniaturization, and if they have miniaturization but not telepathy, it may be that we may win after a long period of time -- or they may win. The nation that wins has, in a sense, an unlimited speed of travel and the Universe will belong to it. That nation that loses will wither -- or at least its institutions will wither. It would be good for us if we win the race, but it is they who may win and the process of racing may force the breakdown of two generations of an uneasy peace and lead to an all-destructive war."

"On the other hand, if we and the Soviets are willing to work together and, both of us, to use telepathy as refined and strengthened by a miniaturized relay station in a living neuron, we may achieve, in combination and in a very short time, what amounts to antigravity and infinite speed. The Universe will belong to both the United States and the Soviet Union; indeed, to the whole globe, to Earth, to humanity."

"Why not, gentlemen? No one would lose. Everyone would gain."

Friar and Rodano stared at him in wonder. Friar finally said, swallowing hard, "You make it sound good, if indeed you have telepathy."

"Do you have the time to listen to my explanation?"

"I have all the time you want," said Friar.

It took some hours for Morrison to explain his theory in detail. Then he leaned back and said, "It's almost dinnertime. Now I know that you -- and others as well -- will be wanting to interview me and that you will all want me to set up a system which will demonstrate the practicality of telepathy and that that will keep me busy for -- well, for the rest of my life, for all I know, but I must have one thing now."

"What's that?" asked Rodano.

"Some time off to begin with. Please. I've gone through enough. Give me twenty-four hours -- from now until dinnertime tomorrow. Let me read, eat, think, rest, and sleep. Just one day, if you don't mind, and thereafter I will be at your service."

"Fair enough," said Rodano, rising. "I will arrange that if I can and I suspect I can. The twenty-four hours is yours. Make the most of it. I agree that you'll have precious little time to yourself thereafter. And from now on, for quite a while, resign yourself to being the most strictly guarded person in America, not excluding the President."

"Good," said Morrison. "I'll call for a dinner for one."

91.

Rodano and Friar had finished their own dinner. It had been an unusually silent meal in an isolated and guarded room.

Once it was over, Rodano said, "Tell me, Dr. Friar, do you think Morrison is right in this matter of telepathy?"

Friar sighed and said cautiously, "I will have to consult with some of my colleagues who are more knowledgeable concerning the brain than I am, but I feel he is right. He is very convincing. -- And now I have a question for you?"

"Yes?"

"Do you think Morrison was correct as to the necessity of cooperation between the United States and the Soviet Union in this matter?"

There was a lengthy pause and finally Rodano said, "Yes, I think he's right there, too. Of course, there'll be howls from every direction, but we can't risk the Soviets getting there first. Everyone will see that. They'll have to."

"And the Soviets? Will they see it, too?"

"They'll have to, also. They can't risk us getting there first. Besides, the rest of the world will undoubtedly get wind of what is going on and they will clamor for a piece of the action and demand that no new cold war be started. It may take some years, but in the end we will cooperate."

Rodano then shook his head and said, "But do you know what really strikes me as peculiar, Professor Friar?"

Friar said, "What in this whole course of events can possibly strike you as not peculiar?"

"Nothing, I suppose, but what strikes me as most peculiar is this. I met Morrison last Sunday afternoon to urge him to go to the Soviet Union. At the time, my heart sank. He struck me as a man without guts, as a zero, as a wimp, as someone who wasn't even bright except in an academic sense. I didn't think he could be relied on to accomplish anything. I was simply sending him to his death. So I thought -- and so I said to a colleague the next day -- and, so help me, so I still think. He's nothing and it's simply a miracle that he survived and that's only thanks to others. And yet --"

"And yet?"

"And yet he returned, having made an incredible scientific discovery and having set in motion a process whereby the United States and the Soviet Union will both be forced, against their separate wills, to cooperate. And, to top it off, he has made himself

the most important and, once we publicize these events, the most famous scientist in the world -- possibly of all time.

"He has, in a sense, destroyed the political system of the world and built a new one -- or at least initiated the process of building a new one -- and he has done it all between the afternoon of last Sunday and the afternoon of today, Saturday. He has done it in six days. Somehow that's a frightening thought."

Friar leaned back and laughed aloud. "It's more frightening than you think. He plans to rest on the seventh day."